Hudson River Superfund Site
Facility Siting
Data Summary Report
Site-Specific Field Investigations of
Final Candidate Sites

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Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 2

and

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Executive Summary

Site-specific field studies were conducted on the seven Final Candidate Sites (FCSs) as a component of the facility siting process for the Hudson River PCBs Superfund Site Project. The process of facility siting and the criteria used have been described in the *Hudson River PCBs Superfund Site Facility Siting Concept Document* (Ecology & Environment [E & E] 2002).

The field studies followed the procedures presented in the August 2003 *Hudson River PCBs Superfund Site Facility Siting Work Plans* (Master Work Plan). The scope of these studies was presented in the September 2003 *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plans: Site-Specific Field Investigations of the Final Candidate Sites* (E & E 2003).

This Data Summary Report provides the findings of the field studies of each of the FCSs. The field studies involved several types of investigative activities within the identified boundaries of each of the FCSs. Intrusive field studies were not completed on the Bruno property (two parcels) and the State of New York parcel due to access restrictions. The following field studies were completed, as appropriate, at each FCS:

- Phase I Environmental Site Assessments (ESAs)
- Phase II ESAs and Baseline Sampling
- Geotechnical Assessments
- Utilities Assessments
- Survey of Terrestrial Archaeological and Architectural Resources (STAAR) - Phase I Investigations
- Wetland Assessments
- Floodplain Assessments
- Coastal Management Area Assessments
- Habitat and Threatened and Endangered Species Assessments.

Specifically, the field studies were conducted to:

- Develop more detailed knowledge of site features and conditions in order to characterize each FCS sufficiently to enable the United States Environmental Protection Agency (EPA) to recommend a group of sites to the Remedial Design Team;

- Identify and define the Group 3 site-specific siting criteria (as defined in the Concept Document); and

- Evaluate and screen the FCSs in order to select the Suitable Sites.

Table ES-1 identifies which of these field studies resulted in a recommendation for additional study as well as where site characteristics were identified during the field studies that may potentially pose limitations on facility design. Sites where additional study is recommended are identified with an "AS" under the appropriate investigation area. Sites where conditions or features were identified that may affect the design of the sediment processing/transfer facility are identified with a "DI" (design issue) under the appropriate investigation area. In summary, additional studies and/or design issues have been identified.

Table ES-1 Summary of Site-Specific Field Investigations of the Final Candidate Sites

	Energy Park/ Longe/ NYSCC	Old Moreau Dredge Spoils Area/NYSCC	Georgia Pacific/NYSCC	Bruno/Brickyard Associates/Alonzo	NYSCC/Allco/ Leyerle	State of NY/ First Rensselaer/ Marine Management	OG Real Estate
Phase I ESA							
Phase II ESA and Baseline Sampling		AS		AS		AS	
Geotechnical Assessment							
Utilities Assessment							
STAAR - Phase I Investigations	AS	AS	DI	AS	AS		
Wetland Assessment	DI	DI	DI	DI	DI		
Floodplain Assessment	DI	DI	DI	DI	DI	DI	DI
Coastal Management Area Assessment						AS	AS
Habitat and T & E Species Assessments				AS	AS	AS	AS

Key:

NYSCC = New York State Canal Corporation.
ESA = Environmental Site Assessment.
STAAR = Survey of Terrestrial Archaeological and Architectural Resources.
T & E = Threatened and Endangered.
AS = Additional Study.
DI = Design Issue.

List of Abbreviations and Acronyms

APE	Area of Potential Effect
ASC	Analytical Services Center
bgs	below ground surface
AST	aboveground storage tank
cfs	cubic feet per second
CLP	Contract Laboratory Program
CMP	Coastal Management Program
CRDL	Contract-required reporting limit
CWA	Clean Water Act
dbh	diameter at breast height
DPT	direct push technology
EDD	electronic data deliverable
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act/Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FCS	Final Candidate Site
FID	flame ionization detector
HRI	Historic Resource Inventory
ID	inner diameter
LWRP	Local Waterfront Revitalization Program
MCL	maximum contaminant level
NGVD	National Geodetic Vertical Datum
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NWI	National Wetland Inventory
NYSCC	New York State Canal Corporation
NYSDEC	New York State Department of Environmental Conservation

List of Abbreviations and Acronyms (cont.)

NYSHPO	New York State Historic Preservation Office
OD	outer diameter
PAH	polycyclic aromatic hydrocarbon
PCS	Preliminary Candidate Site
PID	photo-ionization detector
ppb	parts per billion
ppm	parts per million
PVC	polyvinyl chloride
QA/QC	Quality assurance/quality control
QAPP	Quality Assurance Project Plan
RD	Remedial Design
ROW	right-of-way
RPD	relative percent difference
SCS	Soil Conservation Service
SDG	sample delivery group
SPT	standard penetration test
SVOC	semivolatile organic compound
TAGM	Technical and Administrative Guidance Memorandum
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TIC	tentatively identified compound
TPH	total petroleum hydrocarbons
USACE	U.S. Army Corps of Engineers
VOC	volatile organic compound
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1. Introduction

Site-specific field studies were conducted on the seven Final Candidate Sites (FCSs) as a component of the facility siting process for the Hudson River PCBs Superfund Site Project. The purpose of facility siting is to identify locations within the facility siting study area that meet the requirements for sediment processing/transfer facilities. The process of facility siting and the criteria used have been described in the *Hudson River PCBs Superfund Site Facility Siting Concept Document* (Ecology and Environment, Inc. 2002). The U.S. Environmental Protection Agency (EPA) identified the FCSs when issuing the Facility Siting Update (September 2003) for public review and hosting public forums on September 23 and 24, 2003 in Fort Edward and Troy, New York, respectively.

Specifically, the field studies were conducted to:

- Develop more detailed knowledge of site features and conditions in order to characterize each FCS sufficiently that the EPA could recommend a group of sites to the Remedial Design Team;

- Identify and define the Group 3 site-specific siting criteria (as defined in the Concept Document); and

- Evaluate and screen the FCSs in order to select the Suitable Sites.

The field studies followed the procedures presented in the August 2003 *Hudson River PCBs Superfund Site Facility Siting Work Plans* (Master Work Plan). The scope of these studies was presented in the September 2003 *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plans: Site-Specific Field Investigations of the Final Candidate Sites* (Ecology and Environment, Inc.).

This Data Summary Report summarizes the findings of the field studies of each of the FCSs. The FCSs (see Figure 1-1) are:

- Energy Park/Longe/New York State Canal Corporation;

- Old Moreau Dredge Spoils Area/New York State Canal Corporation;

- Georgia Pacific/ New York State Canal Corporation;

- Bruno/Brickyard Associates/Alonzo;

- New York State Canal Corporation/Allco/Leyerle;

- State of New York/First Rensselaer/Marine Management; and

- OG Real Estate.

The field studies involved several kinds of investigative activities within the identified boundaries of each of the FCSs. Intrusive field studies were not completed on the Bruno property (two parcels) and the State of New York property (five parcels) due to access restrictions. The following is a summary of each task completed:

- **Phase I Environmental Site Assessments (ESAs).** These investigations included records searches, site reconnaissance visits, and interviews with those knowledgeable about each FCS. The information was used to develop summaries of potential environmental issues and to provide the basis for the work scopes of the Phase II ESAs.

- **Phase II ESAs and Baseline Sampling.** These were designed to provide an overall assessment of possible on-site constituents that may be present as a result of historic and/or current land uses. Based upon the potential environmental issues identified during the Phase I ESAs, multimedia samples (e.g., surface and subsurface soil, groundwater, and surface water) were collected and submitted for analytical laboratory testing.

- **Geotechnical Assessments.** Geotechnical assessments were performed to identify subsurface conditions that would significantly limit development of the FCSs. The assessments included characteristics of soil, depth to bedrock (if encountered within boring depths of 25 feet), and depth to groundwater via drilled soil borings. Subsurface soil samples were collected for geotechnical laboratory testing (e.g., moisture content, grain size analysis).

- **Utilities Assessments.** These assessments were performed to identify utilities at each FCS. The assessments included collecting information from the Public Service Commission, Dig Safely New York, and identified utility providers. Field observations also involved looking for on-site and nearby off-site utilities.

- **Survey of Terrestrial Archaeological and Architectural Resources - Phase I Investigations.** The purpose of this investigation was to continue the identification and evaluation of archaeological, architectural, and/or historical resources that are located on or in the vicinity of the FCSs. The investigation included data searches, review of aerial photographs, file searches, interviews, site reconnaissance, development of an initial assessment, and a Phase I investigation for each FCS.

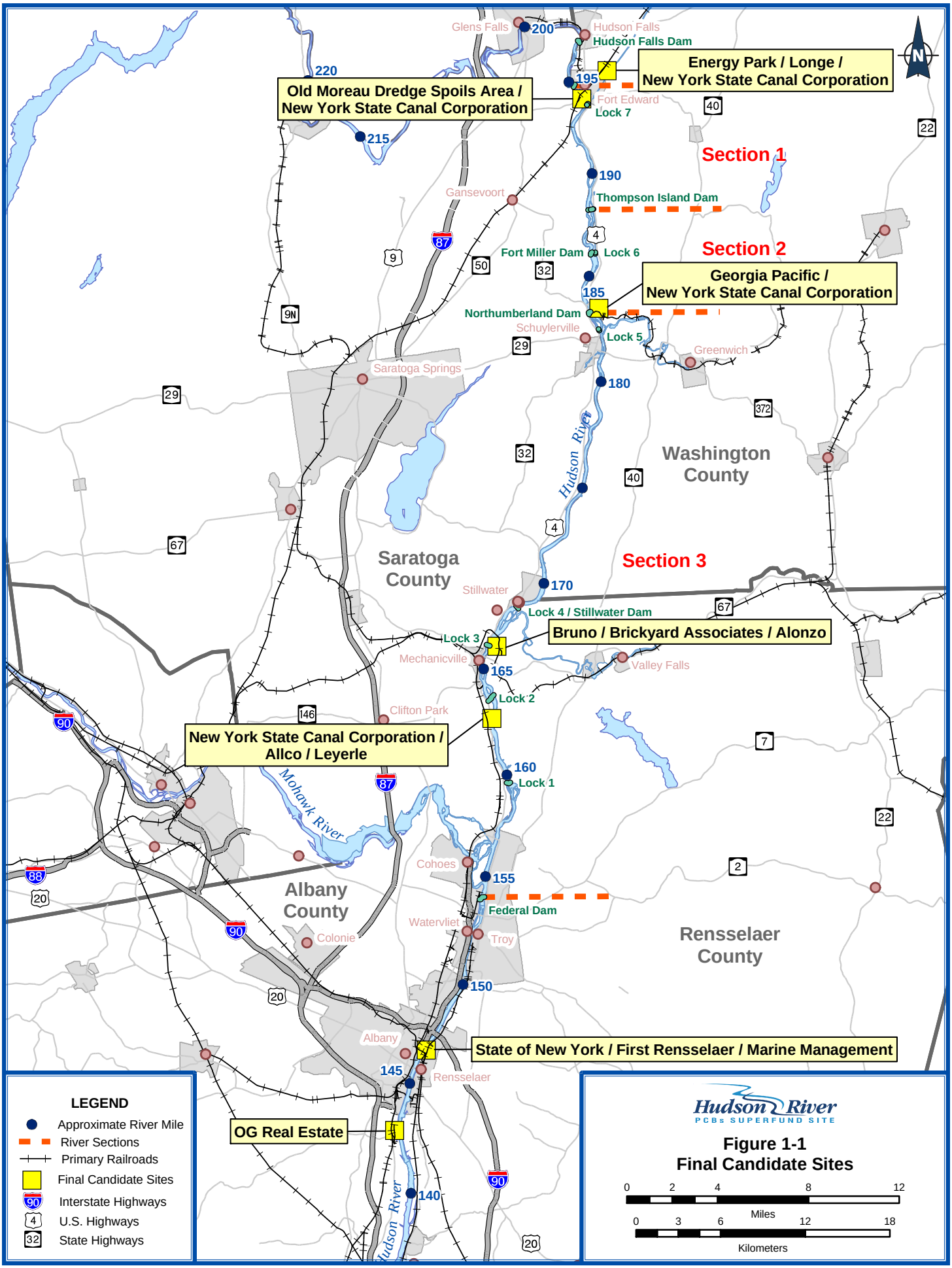
- **Wetland Assessments.** Wetland assessments were performed to determine whether wetland resources occur within the boundaries of the FCSs. The assessments included data gathering, base map preparation, and field delineations.

- **Floodplain Assessments.** The purpose of the floodplain assessments was to determine the presence, extent, and locations of floodplains at each of the FCSs. These assessments involved a review of the Federal Emergency Management Agency's (FEMA) 100-year and 500-year floodplains, available flood insurance studies, and New York State Canal Corporation, National Weather Service, and U.S.

Geological Survey river stage data. Once the sites are selected for Phase 1 and Phase 2 dredging, EPA will perform the final floodplain assessment using the 500-year floodplain, which is considered the critical action floodplain and is used per CERCLA actions (EPA 1985).

- **Coastal Management Area Assessments.** These assessments were performed to maintain procedural compliance with the Coastal Management Program Policies of New York State. These assessments involved a review of the New York State Coastal Management Area boundaries relative to the boundaries of the FCSs.

- **Habitat and Threatened and Endangered Species Assessments.** These assessments were performed to identify and describe the existing habitats and endangered species in the vicinity of each FCS. The assessments involved data gathering and field surveys of existing habitats. Habitat identification and mapping followed the convention provided by the Ecological Communities of New York State (Edinger et al. 2002). This information will be integrated, as applicable, into the threatened and endangered species assessments, which have been conducted to maintain compliance with the Endangered Species Act of 1972. The potential impacts of facility siting on specific habitat types and threatened and endangered species will be assessed and this information will be integrated into the planning and evaluation process of facility siting.


Glens Falls
200
Hudson Falls
Hudson Falls Dam
Energy Park / Longe / New York State Canal Corporation
220
Old Moreau Dredge Spoils Area / New York State Canal Corporation
195
Fort Edward
Lock 7
215
Section 1
190
Gansevoort
Thompson Island Dam
Fort Miller Dam
Lock 6
Section 2
Georgia Pacific / New York State Canal Corporation
185
Northumberland Dam
Schuylerville
Lock 5
Greenwich
Saratoga Springs
180
Hudson River
Washington County
Saratoga County
Section 3
Stillwater
170
Lock 4 / Stillwater Dam
Bruno / Brickyard Associates / Alonzo
Lock 3
Mechanicville
165
Valley Falls
Lock 2
Clifton Park
New York State Canal Corporation / Allco / Leyerle
160
Lock 1
Mohawk River
Cohoes
155
Federal Dam
Albany County
Watervliet
Troy
Rensselaer County
Colonie
150
Albany
State of New York / First Rensselaer / Marine Management
145
Rensselaer
OG Real Estate
140
Hudson River
N
LEGEND
Approximate River Mile
River Sections
Primary Railroads
Final Candidate Sites
Interstate Highways
U.S. Highways
State Highways
Hudson River
PCBs SUPERFUND SITE
Figure 1-1
Final Candidate Sites
0 2 4 8 12
Miles
0 3 6 12 18
Kilometers

Energy Park/Longe/New York State Canal Corporation Site
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Energy Park/Longe/New York State Canal Corporation Site

2. Phase I Environmental Site Assessment

2.1 Site Location, Description, and Environmental Setting

The Energy Park/Longe/New York State Canal Corporation (NYSCC) Final Candidate Site (FCS) is located in the Hudson-Mohawk Lowland physiographic province. The topography of this province has been produced primarily by erosion along outcrop belts of sedimentary rocks that lie between the Catskills and the metamorphosed shale hills of the Taconics. The province generally has low relief and elevation and is underlain by Ordovician shales that have been exposed by the erosion of Silurian and Devonian limestones (University of the State of New York 1966). The site is composed of three parcels of different ownership. Site photos are found in Appendix A.

2.1.1 Energy Park

The Energy Park parcel is 50.9 acres located in Fort Edward, Washington County, New York (see Figure 2-1). The property is currently zoned agricultural and is leased to a farmer that uses the land as a cornfield for livestock feed. The parcel is part of a larger (300-acre) complex of relatively undeveloped land (including the adjacent Longe parcel described below). Land use within a 1-mile radius of the site includes light industrial, residential, farmland, and the Champlain Canal.

The topography across the property and surrounding area is relatively flat. The eastern edge of the property is wooded (approximately 225 to 375 feet wide) and abuts the NYSCC parcel. Access to the parcel is via Towpath Road, then a dirt access road through the Environmental Soil Management, Inc. of New York (ESMI) treated-soil stockpile yard, and then over the railroad. An active Canadian Pacific Railway rail line/rail yard is adjacent to the west side of the property. The Champlain Canal (which is approximately 100 to 150 feet wide) is located approximately 225 to 450 feet southeast of the Energy Park property and is separated from the property by NYSCC property. Key site features are presented on Figure 2-1.

2.1.2 Longe

The Longe parcel is 28.1 acres and is located in Fort Edward, Washington County, New York (see Figure 2-1). It is the location of a former sand mining operation and borders the west side of Energy Park. The property is currently owned by a private citizen who has leased it to a farmer that uses the land as a cornfield for livestock feed. The parcel is part of a larger (300-acre) complex of relatively undeveloped land (including the adjacent Energy Park parcel). Land use within a 1-mile radius of the property includes light industrial, residential, farmland, and the Champlain Canal.

Topography is relatively flat. The eastern edge of the property is wooded (approximately 30 to 150 feet wide). Access to the parcel is via Towpath Road, then through the ESMI treated-soil stockpile yard, across the railroad, and through the Energy Park parcel. An active rail line/rail yard is adjacent to the west side of the property. The Champlain Canal is located approximately 350 feet east of the site. Surface water flow within the

canal was observed to reverse during filling and emptying of Lock 8. A road located along the west side of the Champlain Canal leads to Lock 8. Key site features are presented on Figure 2-1.

2.1.3 New York State Canal Corporation

The NYSCC property is 24.9 acres and is located on the northwest side of the Champlain Canal in Fort Edward, Washington County, New York (see Figure 2-1). The Champlain Canal parallels the property to the east. The property contains two creeks (approximately 25 to 40 feet wide) that run north-south, parallel to one another and to the Champlain Canal. One of the creeks drains the old Champlain Canal, which is located about 1,000 feet northeast of the parcel. The easternmost creek is an overflow from Lock 8; it turns southeast and empties into the canal. A road located along the west side of the Champlain Canal leads to Lock 8. The parcel is predominantly forested, with maintained grassed areas. Examination of aerial photographs indicated a borrow pit in the northern portion of the property. Access to the property is via the canal or East Street. Key features are presented on Figure 2-1.

2.2 Historical Use Information

2.2.1 Energy Park

The property was previously a topsoil mine. The former topsoil mine areas are being reclaimed by filling in low areas and creating an organic soil zone by applying manure. Figure 2-1 shows the site before the filling activities. ESMI and Energy Park Associates have the same owner.

2.2.2 Longe

The property was previously a topsoil mine. The property is currently privately owned and leased to a farmer that uses part of the land for growing corn for livestock feed. Figure 2-1 shows the site before the filling activities.

2.2.3 New York State Canal Corporation

According to NYSCC, the only use of the property has been bulk material stockpiling (gravel and wood chips) in the northern portion of the property. It is unknown whether dredge spoils were historically placed on-site.

2.3 Summary of Previous Studies

NYSCC provided historic subsurface data that may be useful to the Remedial Design (RD) Team with further clarification from the NYSCC.

3. Phase II Investigation

3.1 Field Investigations

The initial phase of the environmental assessment consisted of collecting environmental and geotechnical samples. Results of the geotechnical sampling are provided in Section 4 of this report. Site photographs are found in Appendix A. Boring logs and supplemental geotechnical information are found in Appendix B. Environmental samples were

collected from surface soil, surface water, sediment, subsurface soil, and groundwater. Surface and subsurface soil samples were collected in historic fill areas and areas of the sites where construction operations would be expected to occur if the site is selected. Surface water samples were collected along present site runoff flow pathways such as the stream bordering the eastern boundary of the Energy Park parcel. Sediment samples were collected in the same areas as surface water samples. Upgradient and downgradient groundwater samples were collected to provide an indication of overall environmental conditions.

All environmental field investigations were performed in accordance with the August 2003 *Hudson River PCBs Superfund Site Facility Siting Work Plan* (Ecology and Environment, Inc.) and the September 2003 addenda to that plan, the *Site-Specific Field Investigations of the Final Candidate Sites* (Ecology and Environment, Inc.). Investigations at this site were performed in September and October 2003. A summary of investigation activities and dates is provided in Table 3.1-1.

Deviations from the Work Plan

The only deviation from the work plan was moving Geoprobe boring EPL-GP05 approximately 100 feet west of the planned location to accommodate rig access (i.e., uneven terrain and a dense wooded area).

3.2 Environmental Sampling Program

3.2.1 Temporary Well Installation and Groundwater Flow

Five temporary 1-inch polyvinyl chloride (PVC) wells were installed via direct push technologies (DPT). Well construction information is provided in Table 3.2-1. Before groundwater sampling, each temporary well was purged three times the volume of water standing in the casing or to dryness (whichever occurred first). Water quality parameters measured in the field during purging are presented in Table 3.2-2. Groundwater sample results are described below.

Groundwater elevations were measured from each temporary well upon well completion and at two separate times following completion of the sampling program. In addition, a surface water elevation was obtained from the creek along the eastern border of the Energy Park parcel via a stream gauge. The top of each temporary well and a reference mark on the stream gauge were surveyed so that an accurate elevation could be obtained. Table 3.2-3 summarizes the recorded elevations. Based on the limited information available from this study (five wells spaced more than 1,000 feet apart), groundwater flow beneath the Energy Park site appears to be to the southeast towards the Champlain Canal (see Figure 3-1). Localized flow in the surrounding area may vary in direction due to the proximity of the Hudson River to the south.

3.2.2 Field Sampling and Surveying

The environmental investigations at this site included collecting nine surface soil samples; three surface water/sediment samples; subsurface soil sampling via DPT at seven locations; groundwater sampling from five temporary monitoring wells; geotechnical soil testing at five locations; and installation of one stream gauge for

hydrologic monitoring purposes. Table 3.2-4 summarizes the total number of field and quality assurance/quality control (QA/QC) samples collected and the parameters for which they were analyzed; Figure 3-2 illustrates all environmental investigation locations. All sample locations and stream gauges were surveyed for both horizontal and vertical positions. Survey data is presented in Appendix C. All samples were collected in accordance with the project work plans. Field chemistry data recorded from surface water sample locations are presented in Table 3.2-2. Results from each sample medium are described below.

3.2.3 Data Usability

Soil, sediment, surface water, and groundwater samples were collected from various locations at each FCS (see Section 3.3). The samples were submitted to several environmental analytical laboratories for analytical testing as directed by EPA. Appendix D provides the complete analytical results, field quality control (QC) samples, and data qualification. The specific data usability concerns regarding each FCS are still under evaluation as part of a detailed review of the hard copy data assessment reports. The following is a summary of general information regarding data usability determined from the electronic data review.

Out of a total of 4,344 reported values, 499 values were qualified during the data validation process. The data points that were qualified as estimated, bias low, or non-detect are considered useable for the purposes of this project. A total of three values were flagged as unusable resulting in a completeness of more than 99.9%. Further evaluation of the data will include determining potential limitations of other qualified data and the impact of rejected data. In general, potential data limitations for the site are minor, as noted below:

- Low levels of several volatiles and pesticides were flagged "U" as non-detected. The results were generally below the reporting limit and, therefore, the data qualification has no impact on the data usability.

- Data qualified as unusable are for compounds that are generally highly reactive and not typically found during site investigations.

- Field blanks, including trip blanks, rinseates, and field duplicates, were collected to be applicable to all FCSs. The results are summarized in Appendix D. The results demonstrate good overall sampling and analysis precision and no significant field contamination.

- The laboratory reported tentatively identified compounds (TICs) for volatile and semivolatile compounds on the hard copy data package. TIC values are reported as "NJ" with presumptive evidence that the compounds are present and concentrations are considered highly estimated. The TICs are being reviewed to determine any indications of significant contamination not identified by the results for the known target compounds.

3.3 Environmental Sample Results and Evaluation

State and federal standards, criteria, and guidances were used for preliminary screening purposes during review of the analytical sample results for surface soil, subsurface soil, surface water, sediment, and groundwater. Exceedances of the criteria (with the exception of metals) are noted in Table 3.3-1 through 3.3-5 by shading the values that exceeded the criteria.

Metals cannot be directly compared to the criteria without additional evaluation (including evaluation of background levels) because metals occur naturally in the environment. Additionally, turbidity in surface water and groundwater samples can cause interference with metals analysis. These factors were considered in the evaluation of the significance of detected compounds.

The criteria were selected based on a review of available EPA and NYSDEC standards, criteria, and guidances for the various media sampled. The applicability of these preliminary screening criteria to the FCSs will be determined as part of further evaluation by EPA in consultation with NYSDEC and the New York State Department of Health (NYSDOH).

The following discussion identifies the samples, by medium, with compounds exceeding the screening criteria. Those compounds without appropriate screening criteria also are identified. Where available, pertinent information for comparison purposes is provided.

Soil (Surface and Subsurface)

New York State Department of Environmental Conservation (NYSDEC), *Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels* (1994) and subsequent amendments (December 20, 2000) (TAGM 4046). The recommended soil cleanup objectives and typical eastern USA background concentrations for metals contained in TAGM 4046 were used as preliminary screening guidance for soil. Where specific guidance values were available for surface and subsurface soils (such as for polychlorinated biphenyls [PCBs]) they were applied based on the depth of the samples collected. TAGM 4046 assumes a total organic carbon (TOC) of 1%.

Surface Water

NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998). These standards and guidance provide values for various water classes. Since the majority of the surface water samples were collected from unnamed ditches and ponded water areas at the site, the surface water samples collected are assumed to be Class D waters. Class D waters are best used for fishing. However, due to natural conditions such as intermittent flow, water conditions may not be conducive to fish propagation. Surface water standards and guidance values are calculated for some inorganics based on water hardness.

Sediment
NYSDEC, *Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments* (1999). This guidance requires organic contaminants in sediments to be calculated based on sample TOC. TOC data were collected and used to calculate these screening values. Various criteria for bioaccumulation and acute and chronic toxicity are presented in this document for protection of human health, benthic aquatic life, and wildlife. The benthic aquatic life chronic toxicity protection level for sediment was selected as the preliminary screening value for all collected sediment samples.

Groundwater
NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998) provides Class GA standards and guidance values. The *National Primary and Secondary Drinking Water Regulations, Current Drinking Water Standards* (2002) maximum contaminant levels (MCLs) were used for preliminary screening for groundwater samples collected from the temporary wells.

3.3.1 Surface Soil

Volatile Organic Compounds (VOCs)
No VOCs exceeding screening criteria were detected in surface soil samples (see Table 3.3-1).

A compound not having screening criteria that was detected was 1,1,2-trichloro-1,2,2-trifluoroethane (1 µg/kg [J]) (see Table 3.3-1). This constituent is a Freon compound that may be present in the sample as a laboratory artifact. Therefore, the presence of this constituent is not of concern.

Semivolatile Organic Compounds (SVOCs)
Exceedances of screening values (see Table 3.3-1) occurred in only one sample: EPL-SS01 (benzo(a)pyrene 180 µg/kg [J]).

Compounds not having screening criteria that were detected were acetophenone (110 µg/kg[J]), atrazine (91 µg/kg[J]), and benzaldehyde (180 µg/kg[J]).

Pesticides
No pesticides that exceed the screening criteria were detected.

Herbicides
No herbicides that exceed the screening criteria were detected.

Compounds detected without screening criteria include only atrazine, which was detected in the SVOC scan. This herbicide was detected only in EPL-SS07 (see Table 3.3-1). This sample is located in the farm field on the Energy Park parcel. Since atrazine is a common herbicide used in cornfields, it is not of concern at this site.

PCBs
No PCBs that exceed the screening criteria were detected.

Hexane Extractable Materials (Total Petroleum Hydrocarbons [TPHs])
TPHs were detected in sample EPL-SS01 (composite sample adjacent to the railroad) at a concentration of 1,540 mg/kg) (see Table 3.3-1). There are no screening criteria for TPHs.

Inorganics
Arsenic, beryllium, calcium, chromium, copper, iron, magnesium, mercury, nickel, vanadium, and zinc were detected above screening criteria (see Table 3.3-1). Metals are naturally occurring constituents of soil that often exceed criteria. Except for vanadium, the levels of these metals are within or very close to the eastern USA background range. Therefore, the presence of these metals is not of concern. Although vanadium was detected in EPL-SS08 (599 mg/kg) at twice the common range (1 to 300 mg/kg) and was an order of magnitude higher than most of the site samples, it was also noted in EPL-SS09 at 208 mg/kg. Both of these samples were in the undisturbed portions (wooded areas) of the site and are more indicative of site background, since the other samples were collected in fill areas. Therefore, the vanadium may also be naturally occurring.

Very low levels of cyanide were detected in six of the surface soil samples see (Table 3.3-1). There are no criteria for cyanide in surface soils. Since the levels are so low, it is not of concern for this site.

3.3.2 Subsurface Soil

VOCs
No VOCs exceeding screening criteria were detected in subsurface soil samples (see Table 3.3-1).

Compounds without screening criteria that were detected include methyl tert-butyl ether (1 µg/kg[J]) and trichlorofluoromethane (1 µg/kg [J]) in EPL-GP02 (see Table 3.3-1). Trichlorofluoromethane is a Freon compound that may be present in the sample as a laboratory artifact. Therefore, the presence of this constituent is not of concern.

SVOCs
No SVOCs exceeding screening criteria were detected in subsurface soil samples (see Table 3.3-1).

Acetophenone, a compound without screening criteria, was detected at 100 µg/kg (J) in EPL-GP02 (see Table 3.3-2).

Pesticides
No pesticides that exceed the screening criteria were detected..

Herbicides
Herbicides were not specifically tested, and no herbicides were detected under the SVOC scan.

PCBs
No PCBs were detected.

Hexane Extractable Materials (Total Petroleum Hydrocarbons [TPHs])
TPHs were not tested.

Inorganics
Beryllium, calcium, chromium, copper, iron, magnesium, nickel, and zinc were detected above screening criteria (see Table 3.3-2). Metals are naturally occurring constituents of soil that often exceed criteria. The levels of these metals are within or very close to the eastern USA background range. Therefore, the presence of these metals is not of concern.

3.3.3 Surface Water

VOCs
No VOCs exceeding screening criteria were detected in surface water samples (see Table 3.3-1).

The compound 1,1,2-trichloro-1,2,2-trifluoroethane , which has no screening criteria, was detected at 1 µg/kg (J) in EPL-SW01 (see Table 3.3-3). This constituent is a Freon compound that may be present in the sample as a laboratory artifact. Therefore, the presence of this constituent is not of concern.

SVOCs
No SVOCs exceeding screening criteria were detected in subsurface soil samples (see Table 3.3-1).

Bis(2-ethylhexyl)phthalate, a compound without screening criteria, was detected at 8 µg/L (J) in EPL-SW01 (see Table 3.3-3). This constituent is typically detected at low concentrations in environmental samples as an artifact from the use of protective gloves both in the field and laboratory. Therefore, the presence of this constituent is not of concern.

Pesticides
No pesticides were detected in the surface water.

PCBs
No PCBs were detected in the surface water.

Anions
Chloride, nitrate-N, and sulfate were detected in all surface water samples (see Table 3.3-3). Anion concentrations were relatively uniform in all the surface water samples.

Inorganics
Only iron was detected above screening criteria in EPL-SW01 (1,670 µg/L), EPL-SW02 (1,740 µg/L), and EPL-SW03 (2,470 µg/L) (see Table 3.3-3). Iron is a naturally occurring constituent of surface waters that often exceeds criteria. Therefore, the presence of iron is not of concern.

Cyanide was detected only in EPL-SW03 (8 µg/L) below its screening criteria (see Table 3.3-3). Therefore, the presence of cyanide is not of concern.

Hardness
Hardness concentrations are relatively uniform across the site and ranged between 270 and 285 mg/L (see Table 3.3-3).

3.3.4 Sediment

VOCs
No VOCs exceeding screening criteria were detected in sediment samples (see Table 3.3-4).

Trichlorofluoromethane, a compound without screening criteria, was detected at 3 µg/kg (J) in sediment sample EPL-SE03 (see Table 3.3-4). This constituent is a Freon compound that may be present in the sample as a laboratory artifact. Therefore, the presence of this constituent is not of concern.

SVOCs
No SVOCs exceeding screening criteria were detected in sediment samples (see Table 3.3-4).

Acetophenone, a compound without screening criteria, was detected in EPL-SE01 (120 µg/L [J]), EPL-SE02 (120 µg/L [J]), and EPL-SE03 (190 µg/L [J]) (see Table 3.3-4).

Pesticides
No pesticides exceeding screening criteria were detected in sediment samples (see Table 3.3-4).

Compounds without screening criteria that were detected include 4,4'-DDE in EPL-SE02 (2.7 µg/kg [J]) and EPL-SE03 (9 µg/kg [J]) (see Table 3.3-4).

PCBs
No PCBs exceeding screening criteria were detected in sediment samples (see Table 3.3-4).

Inorganics
Only iron (20,200 mg/kg) was detected at slightly above the lowest effect screening criteria (20,000 mg/kg), but it did not exceed the severe effect criteria (40,000 mg/kg) (see Table 3.3-4). Iron is a naturally occurring common constituent that often exceeds criteria. Therefore, the presence of iron is not of concern.

Cyanide was detected only in EPL-SE02 (0.35 mg/kg) at a very low level (see Table 3.3-4). Although there are no screening criteria for cyanide, its presence at this low level is not of concern.

Total Organic Carbon (TOC)
Total organic carbon concentrations ranged between 9,200 and 62,000 mg/kg (see Table 3.3-4).

3.3.5 Groundwater

VOCs
No VOCs were detected in groundwater samples.

SVOCs
No SVOCs were detected in groundwater samples.

Pesticides
No pesticides were detected in groundwater samples.

PCBs
No PCBs were detected in groundwater samples.

Inorganics
Aluminum, iron, manganese, and sodium were each detected in at least one well above screening criteria. These metals are naturally occurring constituents of groundwater that often exceed criteria. Therefore, the presence of these metals is not of concern.

4. Geotechnical Assessment

A subsurface field investigation was conducted at the Energy Park/Longe/New York State Canal Corporation site to obtain geotechnical information. The primary purpose of collecting this data was to determine if there are geotechnical limitations associated with the use of the site for a sediment processing/transfer facility. Data collection included:

- Review of available subsurface information from previous studies;
- Soil borings installation (which included logging the subsurface geology and obtaining standard penetration test [SPT]data); and
- Submitting soil samples for geotechnical testing.

Presented below is a summary of the site geologic and geotechnical data collected.

Subsurface soil investigation locations were selected to provide general coverage of the site. Additionally, locations were selected based on the possible presence of fill in areas that may be used to construct the sediment processing/transfer facility. Figure 3-1 shows the locations of five geotechnical boreholes (EPL-GT01 through EPL-GT05) installed during this study. At each geotechnical boring location a continuous vertical soil profile was developed from the ground surface to a depth of approximately 26 feet below ground surface (bgs) in 2-foot increments. A 2-inch outer diameter (OD) by 24-inch long split spoon sampler was advanced through 4.25-inch inner diameter (ID) hollow stem augers to collect the samples. Standard penetration tests using a split spoon sampler were conducted per ASTM Method D1586-99. Blow count data were recorded on boring logs and are presented in Appendix B. Granular soil density and cohesive soil consistency were classified using SPT n-values, which are the sums of the blows recorded over the second and third 6-inch penetration intervals of the tests.

One soil sample from each geotechnical boring was collected and submitted for Atterberg limits, particle size, and moisture content analysis. The overall goal of sample collection from geotechnical borings was to collect at least one soil sample from each soil horizon encountered within the top 25 feet of overburden. At two boreholes, one soil sample from each depth interval also was collected and submitted for moisture content testing, creating a continuous moisture profile from the ground surface to the bottom of the borehole. Particle size gradation curves and their respective summary sheets, which also list Atterberg limit data and moisture content data, are presented in Appendix B.

In addition to the geotechnical borings, subsurface geology was also recorded at seven other locations (EPL-GP01 through EPL-GP07) during subsurface investigation activities completed for environmental sampling. These soil investigation activities were conducted using direct-push technology (DPT); a 4-foot soil collection interval was used to collect a continuous soil profile from the ground surface to approximately 25 feet bgs. DPT soil boring logs are also presented in Appendix B.

The subsurface data indicates that site soils generally consist of silty sands underlain by sand with trace amounts of gravel starting at a depth of 10 feet bgs. Silt content decreased with depth starting at approximately 12 feet bgs, while the coarser fraction of unstratified sands correspondingly increases with depth. Site SPT n-values generally ranged from 4 to 11 in granular soils, indicating a soil density of loose to moderately dense. One exception is the 8.5- to 9.5-foot interval in the northwest area, where moderately dense sands yielded an n-value of 24. Clay was encountered along the west-central portion of the site at depths of approximately 18 and 21 feet bgs, indicating its consistency was very soft, based on recorded SPT n-values.

Auger refusal and/or weathered shale in the split spoon sampler (possible bedrock) were encountered at depths of approximately 23 to 25 feet bgs in the central and southwestern portions of the site. Adjacent to the west bank of the Champlain Canal, a thin (<1-foot

thick) peat layer located at a depth of approximately 14 feet bgs overlies a clay layer that extends to a depth greater than 26 feet bgs.

Farming of treated soils on much of this site has resulted in minimally consolidated soils containing mixtures of organic matter, silt, and very fine-grained sand. In the northern and eastern parts of the site, SPT n-values of 2 were recorded in at least one interval in the uppermost 10 feet of each geotechnical boring location. Based on these SPT n-values, the density of these granular soils is classified as very loose.

Malcolm Pirnie (1985) reports site soil borings installed by NYSDEC indicate that bedrock lies between 59 and 82 feet below grade in the central part of the site. A wet layer of peat was encountered from 6 to 9 feet bgs and is underlain by a wet clay that extends to the top of bedrock. Borings installed along the western side of the site indicated that an approximately 4-foot thick layer of fine silt and sand lies at the surface. Coarse sandy gravel underlies this medium sand down to a depth of 21 feet bgs, where clay is present. Clay was also found at the site's north end; it reportedly extends from 17 bgs feet down to 40 feet bgs.

5. Utility Assessment

5.1 Preliminary Assessment

A preliminary utility assessment was completed as part of the site-specific field investigation of the Final Candidate Sites. Major site utilities identified on-site are shown on Figure 2-1. The assessment included the following steps:

1) Observations of site surface utilities such as overhead power or telephone lines, electrical transformers, manholes, sewer outfalls, and water hydrants were made.

2) Dig Safely New York (Dig Safe) was contacted as part of the utility clearance process before subsurface/intrusive work activities, including direct communication with various utility operators, as needed. Operators of on-site utilities provided information.

3) Available site maps were reviewed. Maps were obtained from various sources, including property owners.

It is anticipated that further utility assessments will be completed at the Recommended Sites. Further assessment may include contacting local municipal offices for information, opening manholes to determine flow paths, and dye testing. Further assessment may be conducted as part of the design evaluation process or during other additional investigation of Recommended Sites.

5.2 Findings and Observations

Utilities identified at the Energy Park/Longe/NYSCC include one telecommunications line located in the railroad right-of-way that parallels the western site border of the site. It is operated by Level 3 Communications, Inc.

6. Survey of Terrestrial Archaeological and Architectural Resources (STAAR)

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effect that facility siting may have on cultural resources that are listed or are eligible for listing on the National Register of Historic Places (NRHP). Phase IB field investigations continued the cultural resources studies and are specifically designed to determine the presence and extent of cultural resources within the Energy Park/Longe/NYSCC site (see *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plan: Site-Specific Field Investigations of the Final Candidate Sites*). Field activities involved archaeological, geomorphological, and architectural investigations.

6.1 Archaeological Investigation

Initial field reconnaissance and records investigations were conducted in July 2003 and field investigations were performed on-site between October 6 and October 13, 2003. A total of 271 shovel test pits were excavated within this 103.9-acre site (see Figure 6-1). No cultural features or artifacts were found.

6.2 Geomorphological Investigation

Fieldwork was conducted on October 13, 15, and 16, 2003. Six trenches excavated by backhoe totaled 54.5 meters in length. Trench dimensions varied slightly but were generally 1.3 meters in depth and ranged from 4 meters to 13 meters in length.

Because a considerable amount of rain had fallen the night before and the day of trenching, three of the trenches quickly filled with water.

Prehistoric Site Sensitivity

A relict stream channel was discovered in two of the trenches. Areas adjacent to stream channels are known to have been favored by Native Americans and have high archaeological potential. However, no artifacts or paleosols (i.e., prehistoric buried surfaces) were found. However, the presence of a relict stream channel is notable since Native Americans were known to have inhabited the banks of stream channels. It is possible that paleosols and artifacts were not found at this present-day location because the stream channel may have migrated over time. Because of the near-surface location of the stream channel, it is likely that this is a young stream channel. However, the age of the stream channel could not be readily determined.

6.3 Architectural Assessment

Fieldwork was conducted in July 2003 and on October 16, 2003. No structures are located within any of the three properties that comprise this site. No New York State Historic Resource Inventory (HRI) forms are being completed for this site. A train yard is visible adjacent to the northwest edge of the site. A small working farm is situated immediately south of the site. All structures associated with this farm, which include a residence and several agricultural outbuildings, appear to be less than 50 years old.

Structures located across the canal are shielded by vegetation. There are no architectural or viewshed concerns associated with this site.

7. Wetland Assessment

7.1 Determination and Delineation Methods

Wetland determinations and delineations of the Energy Park/Longe/NYSCC site on September 17-18, 2003 followed the routine approach noted in the U.S. Army Corps of Engineers (USACE) 1987 *Wetland Delineation Manual*, as outlined in Section 3.6.2.2 of the *Hudson River PCBs Superfund Site Facility Siting Work Plans* (Master Work Plans) (Ecology and Environment, Inc. August 2003). Applicable data (e.g., soil surveys, National Wetland Inventory [NWI] mapping, etc.) were reviewed beforehand to provide background information (see the Master Work Plans, Section 3.6.2.1). Determination and delineation activities were limited to those areas previously identified as potential wetlands through data review (i.e., NWI and NYSDEC mapping) and previous site reconnaissance efforts.

All three parcels have been disturbed as a result of fill placement or material stockpiling. The Energy Park parcel was previously used as a topsoil mine. The pits were recently filled by the site owner (Energy Park Associates) with thermally treated nonhazardous waste soils. Logging has also recently modified the Energy Park parcel. By comparing the forested area shown on the 2001 aerial with the field-delineated tree line it is evident that the tree line has been moved between 100 to 120 feet east. According to NYSCC, use of their property has been limited to bulk material stockpiling (gravel and wood chips) in the northern portion of the property. The field survey of this site indicated evidence of what appeared to be past fill storage, particularly in the northern portion where large amounts of shale fragments were noted at the surface.

The Longe property was also previously used as a topsoil mine and the pits recently filled with thermally treated nonhazardous waste soils. This parcel also has experienced some disturbance caused by logging activities along the eastern edge of the forested portion of the parcel.

7.2 Review of Existing Information

Review of NWI wetland mapping indicated the presence of approximately 28.4 acres of wetland on this site. Approximately 11.9 acres of PFO1/SS1Cd (palustrine, forested, scrub-shrub, broadleaved deciduous, seasonally flooded, partially drained/ditched) wetland were mapped on the Energy Park parcel (see Figure 7-1). An additional 12.2 acres of PFO1/SS1Cd and 4.3 acres of PEM1/SS1Cd (palustrine, emergent/scrub-shrub, broadleaved deciduous, seasonally flooded, partially drained/ditched) were mapped on the NYSCC parcel. Review of NYSDEC wetland mapping indicated no NYSDEC wetlands have been previously identified on these properties.

Although NWI wetland maps identify the Champlain Canal as a lacustrine wetland, sample plots and determinations along the shoreline were limited to areas that exhibited

wetland characteristics and occurred above the ordinary high water mark. Determination and delineation efforts did not extend into the canal.

The Washington County Soil Survey was reviewed to determine the soil types mapped on this site (U.S. Department of Agriculture 1974). The mapped soil types within the site boundaries are Claverack loamy fine sand, orthents and psamments, and Wallington silt loam, sandy substratum. The Claverack soil type is pervasive across the Longe parcel and the western and northern portion of the Energy Park site. This soil is deep and moderately well drained. However, the recent mining and filling activities likely have modified this preexisting soil type. The soil type mapped within the forested wetland on Energy Park is Wallington silt loam, sandy substratum. This soil type is prone to slow runoff and may contain poorly or somewhat poorly drained inclusions. In the spring and during wet periods, the water table within this soil type is typically perched on a slowly permeable sublayer. This condition may lead to a high seasonal water table. The NYSCC site is mapped as being entirely orthents and psamments. This soil type is dredge material from the Hudson River and Champlain Canal (U.S. Department of Agriculture 1974). It consists of fine gravel, sand, silt, and clay. Field observations noted high shale content on the surface layer along the western portion of the site.

7.3 Results of the Wetland Assessment

Field determination procedures resulted in the delineation of approximately 8.42 acres of wetland almost entirely on the Energy Park parcel (see Table 7-1 and Figure 7-1). A number of observation plots were completed, which led to the determination and delineation of one large wetland area representing three wetland community types (Figure 7-1). The presence of a PFO (palustrine, forested) wetland with a PEM (palustrine, emergent) component was confirmed along the eastern boundary of the Energy Park parcel. This area encompasses approximately 8.4 acres, which represents a reduction of 3.5 acres relative to the wetlands mapped by NWI. This discrepancy may have been caused by alterations to the landscape due to logging and filling activities. NWI mapping is primarily conducted using remote sensing techniques (i.e., photo interpretation) and therefore does not necessarily represent an accurate depiction of wetlands on a site but is, rather, a basis for further investigation.

Table 7-1 Wetland Delineation Summary

Wetland ID	Community Type	Acreage
EP/L/NYSCC (1)	PEM (drainage)	0.09
	PEM	1.31
	PFO	7.02
Total Acreage		**8.42**

Key:

PEM = Palustrine, emergent.
PFO = Palustrine, forested.

The PFO component of the delineated wetland comprises green ash (*Fraxinus pennsylvanica*), slippery elm (*Ulmus rubra*), northern cottonwood (*Populus deltoides*), and northern prickly ash (*Zanthoxylum americanum*). Predominant species within the

herbaceous layer included swamp jack-in-the-pulpit (*Arisaema triphyllum*), spotted jewelweed (*Impatiens capensis*), New England aster (*Aster novae-angliae*), giant goldenrod (*Solidago gigantea*), and false nettle (*Boehmeria cylindrica*). Common species within the emergent community included broadleaf cattail (*Typha latifolia*), wool grass (*Scirpus cyperinus*), joe-pye weed (*Eupatorium maculatum*), soft rush (*Juncus effusus*), and shallow sedge (*Carex lurida*). Species found along the stream channel included joe-pye weed, rice cutgrass (*Leersia oryzoides*), false nettle (*Boehmeria cylindrica*), arrow-leaf tearthumb (*Polygonum sagittatum*), broadleaf cattail (*Typha latifolia*), spotted jewelweed (*Impatiens capensis*), *Carex* spp., and sensitive fern (*Onoclea sensibilis*).

The common presence of upland indicator trees and shrubs (prickly ash, bitternut hickory (*Carya cordiformis*) in the northern portion of the forested wetland within an area dominated by an herbaceous layer indicative of wet conditions may be due to the nature of the soil composition in the area and an indication of changing hydrology in this area. The soils are composed of a shallow organic layer on top of a sandy loam substratum. The sand component in the soil increases with greater depth. This would allow relatively rapid percolation of any water input into the wetland, holding water long enough for the creation of wetland conditions yet being well drained enough to allow the establishment of an upland overstory. The fill activity west of the wetland raised the surrounding topography, possibly impounding any input from floodwater and increasing overland flow from the surrounding field. This altered drainage pattern may have increased the hydrological input into this low area, changing a predominantly upland area into a wetland over time.

A drainage channel that appears to be manmade separates the Energy Park and NYSCC parcels (see Figure 7-1). Review of an 1866 map of the parcel indicates that a stream used to flow through the middle of this parcel. The flow of the stream may have been altered when the Champlain Canal was constructed. Channel flow slows in the vicinity of the Energy Park-NYSCC property lines, becoming nearly stagnant at low water levels. Trees and debris have dammed portions of the channel, reducing the flow, which has allowed the formation of an emergent fringe in many areas along the banks of the channel.

NWI mapping showed approximately 16.3 acres of wetland on the NYSCC site, excluding the lacustrine wetland along the canal. However, during the field investigation no wetlands were located on this property, with the exception of the PEM wetland located in the drainage channel between the Energy Park and NYSCC parcels. Conditions on this site indicated that previous material stockpiling and disturbance might be the reason for this discrepancy. The resulting alteration of the site topography has resulted in increased elevations and altered drainage. The vegetation communities on the site were indicative of a historically disturbed area.

8. Floodplain Assessment

An initial floodplain assessment was conducted on the Energy Park/Longe/NYSCC site in order to determine the presence, extent, and orientation of Federal Emergency Management Agency (FEMA)-mapped floodplains within site boundaries. Flood magnitudes and historic river stages from gauging stations as close as available to the site also were examined to obtain an initial sense of the characteristics of on-site flooding. Appendix E describes the methodology and assumptions involved in this assessment.

8.1 Location and Orientation of the Floodplain

Figure 8-1 shows that the Energy Park/Longe/NYSCC site in not located within the 100-year and 500-year floodplains. The floodplain mapping was obtained from Flood Hazard Boundary Maps and the Town of Fort Edward Flood Insurance Study (June 1982) from FEMA's Federal Insurance Administration.

The site is located along the Champlain Canal, approximately 1.4 miles northeast of the Hudson River, in the Town of Fort Edward. The total approximate area of the site is 103.9 acres (see Table 8-1). The site is not located within the base floodplain, and the closest 100-year floodplain is approximately 0.65 mile away from the site. Canal frontage of the site is approximately 3,040 feet.

Table 8-1 Summary of Energy Park/Longe/NYSCC Site and Floodplain Characteristics

Is a portion of the site in the base (100-year) floodplain?	No
Total area of the site	103.9 acres (4,524,303 ft^2)
Area of the site within the base (100-year) floodplain	0 acres
Percentage of the site area within the base (100-year) floodplain	0%
Perimeter of the site (total length)	9,489 ft
Perimeter of the site bordering the Champlain Canal (canal frontage)	~3040 ft
Greatest width between the outer boundary of the base floodplain and the Champlain Canal boundary	0 ft

8.2 100-year Flood

The FEMA maps show the 100-year flood elevation in the closest 100-year floodplain (~0.65 mile southwest of the site) to be 131 feet National Geodetic Vertical Datum (NGVD). A brief examination of site topography and the FEMA mapping suggests that site elevation characteristics have not changed significantly since the FEMA floodplain modeling and mapping occurred.

The closest U.S. Geological Survey (USGS) gauge station is in Fort Edward, 0.4 mile upstream from the bridge over State Highway 197. The gauge station is approximately 1.1 miles upstream of the Champlain Canal/Hudson River boundary. Because of its proximity, values of the 100-year flood at the gauge station will be similar to those associated with the Energy Park/Longe/NYSCC site. The National Weather Service

flood stage at the Fort Edward gauge station is 127 feet. At 127 feet, water floods River Road in Northumberland, reaches camps in Lake Luzerne, and may result in flooding in Stillwater (National Weather Service Advanced Hydrologic Prediction Service, http://ahps.erh.noaa.gov/cgi-bin/ahps.cgi?aly&Hudson%20River).

Flood magnitudes were calculated using statistical methods from twenty-six years of modern flow data at the gauge station, after the Fort Edward dam was removed. Based on this data, the 100-year flood stream flow is 47,772 cubic feet per second (cfs). A flood of this magnitude has not occurred in the twenty-six years of modern data. In that time, there have been two flow events greater than 10-year floods (May 3, 1983 and January 10, 1998).

The Flood Insurance Study for the Town of Fort Edwards notes that "a flood occurring on April 2, 1976 was determined to have a recurrence interval of approximately 100 years. The flood resulted from heavy rains north of Fort Edward, compounded by snowmelt and higher than normal outflows from the Sacandaga Reservoir."

8.3 Site Flooding

Historic water level data (1916 to 2000) is available from NYSCC Lock 7, which is located approximately 1.4 miles southwest of the site boundary. The highest water level at the downstream side of Lock 7 was 131.37 feet NGVD on April 13, 1922. Spot elevations surveyed in the vicinity of the canal edge of the site boundary range from 131.0 to 132.9 feet NGVD. Therefore, the greatest water level at the downstream side of Lock 7 (131.37) exceeded the low end of the site elevation range. However, given that the site location is 1.4 miles upstream and the closest 100-year flood stage is 131 feet approximately 0.6 mile away, it is unlikely that this site experienced a 100-year flood for this event.

Given the location, the distance to the canal, site topographic characteristics, and the fact that the site is outside the 100-year floodplain, the site is not likely to experience major flooding. Based on the NYSCC water level data on the downstream side of Lock 7, there is also no evidence that flooding occurs on a smaller scale at this site with the exception of localized soil saturation and inundation within the identified wetland area. Only one of the peak annual water levels between 1916 and 2000 was above the ground elevation at this site, as noted above.

The 10-year flood profile for the site is not available from the Town of Fort Edward Flood Insurance Study because the modeled area concludes approximately 50 feet from the site boundary. The Flood Insurance Study indicates that "the flood of 1913 was the only recorded flood to cause significant damage in the community."

9. Coastal Management Area Assessment

The Energy Park/Longe/NYSCC site is not located in the state-designated coastal zone. Therefore, no direct impacts are expected as a result of the potential use of this site. EPA will prepare an additional phase of its coastal zone consistency assessment and

subsequent coastal zone consistency determination, covering potential indirect and cumulative impacts from the operation of sediment processing/transfer facilities, once the Phase 1 and Phase 2 dredging facility locations are selected.

10. Baseline Habitat and Threatened and Endangered Species Assessment

10.1 Site Habitat Description

The Energy Park/Longe/NYSCC site description is presented in the *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plans: Site-Specific Field Investigations of the Final Candidate Sites* (Ecology and Environment, Inc. September 2003). In brief, the disturbance from historic and current land uses have greatly influenced the availability, extent, and diversity of on-site habitats. The site was formerly used as a sand mine. Over the past several years, the site has been the receptor of treated non-hazardous soils from a soil treatment facility adjacent to the site. Over the past two growing seasons, corn has been planted over most of the site, and non-forested locations of the site are still being filled in with treated waste soils. The site also appears to be disturbed from logging on portions of the site. Given the historic and current site uses, the majority of the site consists of cropland and successional northern hardwood community types. The vegetation within the non-agricultural areas are represented by early successional (less than 20 years) to mid-successional (20 to 60 years) communities.

Figure 10-1 shows the habitat community types, as defined by Edinger et al. (2002) that are present on the site. Field investigations were conducted on September 17 and 18, 2003 to determine habitat availability within the site and to provide descriptions of existing habitat structure, diversity, and condition. Twelve community types are found on this 104-acre site. No significant or unique habitats were among them. Cropland temporarily covers approximately 61% of the site. The predominant communities (relative to total cover across the site) are briefly described below. A description of the different community types from Edinger et al. is presented in Appendix F.

Successional Northern Hardwood

The successional northern hardwoods (SNH) and wetlands are the second and third most abundant communities types (16% and 8% of the site area, respectively). The majority of the riverfront (Champlain Canal) property (NYSCC parcel) is composed of mowed lawn and SNH types.

Predominant tree species in the SNH include burr oak, red maple, black cherry, box elder, cottonwood, quaking aspen, American basswood, and red oak. Other tree species located within this community type include black cherry, sumac, paper birch, American elm, shagbark hickory, red maple, butternut, Eastern white pine, and American beech. Some locations contain larger, older trees (diameter at breast height [dbh] of 12 to 27 inches) that are isolated amongst early to middle-aged stands. The shrub layers are dominated by honeysuckle, dogwoods, green ash, white ash, and prickly ash, depending upon location on the site. The SNH herb and vine layers are dominated by Virginia creeper, poison ivy, wild grape, goldenrods, white snakeroot, blackberries, sedges, and American bittersweet.

Other Communities
The dredge spoils/SNH community type contains successional species similar to the SNH community type. However, American elm and prickly ash are the dominant species. In addition, signs of dredge spoils are apparent throughout the community. The successional shrubland community, which is adjacent to this community, contained similar species but is dominated by early successional species (i.e., shrubs).

Aquatic communities occur on the site, including ditch/marsh headwater stream and canal (Figure 10-1). Wetland communities are described in further detail in Section 7 of this report. The shoreline community is characteristic of the channelized portions of the Champlain Canal, with boulder-lined riprap along the entire waterfront boundary. A portion of the shoreline contains an outfall from the upstream portion of Lock 8. This outfall originates from an open water area and canal that drains from the east. The ditch/marsh headwater stream community type separates the cropland community from the Champlain Canal and adjacent habitats. This stream community appears to have been channelized at one time and is heavily silted in with the emergent vegetation that is abundant in many locations.

Common vegetation species and community structure have an influence on wildlife occurrence on-site. The cropland provides food for ungulates (i.e., whitetail deer) and a variety of avian species. Forested and wetland communities occur adjacent to cropland areas. These communities provide cover, nesting, and additional feeding areas for wildlife species. Additional incidental wildlife observations included coyote, white-footed mouse, bull frog, green frog, raccoon tracks, turkey vulture, mallards, American crow, and other common songbirds.

10.2 Endangered Species Act Issues

Correspondence with the U.S. Fish and Wildlife Service and NYSDEC indicates that there are no threatened or endangered species issues associated with this site. Wintering bald eagles may migrate through the area but are not known to use the site. A biological assessment will be prepared that will examine the potential impacts associated with the construction and operation of a sediment processing/transfer facility for each of the Suitable Sites.

Table 3.1-1 Summary of Activities, Hudson River PCBs Superfund Site

	Energy Park/Longe/ NYS Canal Corporation Site	Old Moreau Dredge Spoils Area/NYS Canal Corporation Site	Georgia Pacific/ NYS Canal Corporation Site	NYS Canal Corporation/ Allco/Leyerle Site	Bruno/Brickyard Associates/ Alonzo Site	State of New York/First Rensselaer/ Marine Management Site	OG Real Estate Site
Environmental Investigation – Environmental Sampling	09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
Environmental Investigation – Temporary Well Installation	09/29/03 - 10/01/03	10/02/03	10/08/03	10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	10/07/03
Environmental Investigation – Temporary Well Sampling	10/16/03	10/14/03 - 10/16/03	10/13/03 - 10/14/03	10/15/03	10/15/03 - 10/16/03	10/10/03 - 10/15/03	10/15/03
Surveying	10/01/03 - 11/11/03	10/08/03 - 11/11/03	10/09/03 - 10/29/03	10/21/03 - 10/31/03	10/15/03 - 10/29/03	10/21/03 - 11/10/03	11/11/03 - 11/13/03
Geotechnical Investigation	09/29/03 - 10/01/03	NA	10/08/03	10/07/03 - 10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	NA
Utilities Assessment	09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
STAAR	10/06/03 - 10/16/03	10/13/03 - 10/30/03	10/11/03 - 10/28/03	10/23/03 - 11/13/03	10/17/03 - 11/05/03	10/25/03 - 11/14/03	11/15/03
Wetland Assessment	09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Floodplain Assessment	09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Coastal Management Areas	09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Baseline Habitat Assessment	09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Threatened and Endangered Species Assessment	09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
IDW Disposal	TBD	TBD	TBD	TBD	TBD	TBD	TBD

Key:

IDW = Investigation-derived waste.
NYS = New York State.
PCBs = Polychlorinated biphenyls.
STAAR = Survey of Terrestrial Archaeological and Architectural Resources
TBD = To be determined.

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/ Screen I.D. (inches)	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
EPL	EPL-GP01	9/29/03	9/29/03	N	10/16/03	25.4	135.11	1	27.4	137.2	15.4-25.4	5-25.4	2-5	2.0
	EPL-GP02	9/29/03	9/29/03	N	10/16/03	25	137.91	1	27.4	140.42	15-25	4-25	2-4	2.4
	EPL-GP03	9/29/03	9/29/03	N	10/16/03	25.1	135.52	1	27.51	137.99	15.1-25.1	4-25.1	0.6-4	2.41
	EPL-GP04	10/1/03	10/1/03	N	10/16/03	25	129.47	1	27.3	131.79	15-25	4-25	2-4	2.3
	EPL-GP05	10/1/03	10/1/03	N	10/16/03	25	132	1	27.5	134.53	15-25	4-25	2-4	2.5
OM	OM-GP01	10/2/03	10/2/03	N	10/16/03	25	157.67	1	27.4	160.19	15-25	4-25	2-4	2.4
	OM-GP02	10/2/03	10/2/03	N	10/16/03	25.4	141.79	1	27.62	144.2	15.3-25.3	4-25.3	2-4	2.32
	OM-GP03	10/2/03	10/2/03	N	10/15/03	25	155.84	1	27.3	158.37	10-25	4-25	2-4	2.3
	OM-GP04	10/2/03	10/2/03	N	10/15/03	25	143.5	1	22.5	146	10-20	4-25	0-4	2.5
	OM-GP05	10/2/03	10/2/03	N	10/14/03	25	133.43	1	27.5	135.93	15-25	4-25	0-4	2.5
GPS	GPS-GP01	10/9/03	10/9/03	N	10/13/03	25	108.4	1	28.15	111.60	15-25	4-25	2-4	3.15
	GPS-GP02	10/8/03	10/8/03	N	10/14/03	9.3	108.68	1	11.8	111.19	4.3-9.3	3-9.3	0.5-3	2.5
	GPS-GP03	10/8/03	10/8/03	N	10/14/03	25.5	102.76	1	27.55	104.76	15.5-25.5	4-25.5	2-4	2.05
	GPS-GP04	10/8/03	10/8/03	N	10/14/03	25.7	112.02	1	28.2	114.48	15.7-257	4-25.7	2-4	2.5
	GPS-GP05	10/8/03	10/8/03	N	10/13/03	25	100.71	1	27.45	103.31	14.85-24.85	4-25	2-4	2.6
	GPS-GP06	10/9/03	10/9/03	N	10/14/03	25	110.76	1	17.5	113.24	5-15	3-15 [A]	1-3	2.5
	GPS-GP07	10/9/03	10/9/03	N	10/14/03	25	112.98	1	22.4	115.38	10-20	3-20[B]	0.5-3	2.4
	GPS-GP08	10/8/03	10/8/03	N	10/13/03	18.5	113.36	1	19.7	114.74	8.5-18.5	3-18.5	1-3	1.2
NCC	NCC-GP01	10/9/03	10/9/03	N	10/15/03	25	48.53	1	25.5	51.02	13-23	4-23[C]	2-4	2.5
	NCC-GP02	10/7/03	10/7/03	N	-	6.9	52.5	Dry hole - no well constructed						
	NCC-GP03	10/9/03	10/9/03	N	10/15/03	22.9	43.56	1	23.65	46.2	11-21	4-22.9	2-4	2.65
	NCC-GP04	10/3/03	10/3/03	N	-	2	65.89	Not accessible by rig, boring was hand-augered						
	NCC-GP05	10/7/03	10/7/03	N	-	11	51.52	Dry hole - no well constructed (same as boring NCC-GT01)						
BBA	BBA-GP01	10/10/03	10/10/03	N	10/15/03	25	131.88	1	18.6	134.39	6-16	4-16 [D]	0.5-4	2.6
	BBA-GP02	10/10/03	10/10/03	N	10/16/03	25	144.41	1	18.55	146.87	6-16	4-18 [E]	0.5-4	2.55
	BBA-GP03	10/9/03	10/9/03	N	10/15/03	18.3	76.45	2	19.62	77.77	3.8-13.8	2.8-18.3	0-2.8	1.32
	BBA-GP04	10/10/03	10/10/03	N	10/15/03	14	77.57	1	16.8	80.38	3.5-13.5	2-14	0.5-2	2.8

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
MM	MM-GP01	10/6/03	10/6/03	N	10/10/03	25	18.73	1	27.4	20.52	15-25	4-25	2-4	2.4
	MM-GP02	10/3/03	10/3/03	N	10/10/03	25	5.87	1	27.6	7.75	15-25	4-25	2-4	2.6
	MM-GP04	10/6/03	10/6/03	N	10/15/03	25	15.50	1	27.4	17.22	14.5-24.5	4-24.5	2-4	2.9
OG	OG-GP01	10/7/03	10/7/03	N	10/15/03	25	10.28	1	17.70	12.94	5.35-15.35	3-16 [E]	1-3	2.35
	OG-GP02	10/7/03	10/7/03	N	10/15/03	25.1	14.26	1	27.35	16.46	15.1-25.1	4-25.1	2-4	2.25
	OG-GP03	10/7/03	10/7/03	N	10/15/03	25	17.95	1	27.45	20.4	15-25	4-25	2-4	2.45

[A] Hole was allowed to collapse to 10.15 feet BGS.
[B] Hole was allowed to collapse to 20 feet BGS.
[C] Hole was allowed to collapse to 23 feet BGS.
[D] Hole was allowed to collapse to 18 feet BGS.
[E] Hole was allowed to collapse to 16 feet BGS.

Key:

AGS = Above ground surface.
AMSL = Above mean sea level.
BBA = Bruno/Brickyard Associates/Alonzo Site.
BGS = Below ground surface.
EPL = Energy Park/Longe/NYS Canal Corporation Site.
GP = Geoprobe temporary well location.
GPS = Georgia Pacific/NYS Canal Corporation Site.
I.D. = Inner diameter.
MM = State of New York/First Rensselaer/Marine Management Site
N = Northstar Drilling.
NCC = NYS Canal Corporation/Allco/Leyerle Site.
NYS = New York State.
OG = OG Real Estate.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PVC = Polyvinyl chloride.
TOIC = Top of inner casing.

Table 3.2-2 Groundwater and Surface Water Field Measurements
Energy Park/Longe/NYS Canal Corporation Site

Sample ID	Date	pH (s.u.)	Temerature (°C)	Conductivity (µS/cm)	Turbidity (NTU)
Groundwater					
EPL-GP01-GW	10/16/03	6.79	10.9	453.4	30.0
EPL-GP02-GW	10/16/03	6.59	11.6	356.4	46.0
EPL-GP03-GW	10/16/03	6.26	11.3	393.4	70.0
EPL-GP04-GW	10/16/03	6.13	10.8	329.3	70.1
EPL-GP05-GW	10/16/03	6.63	11.5	332.7	31.8
Surface Water					
EPL-SW01	9/30/03	7.06	15.1	301.7	17.9
EPL-SW02	9/30/03	6.94	16.0	300.1	42.9
EPL-SW03	9/30/03	6.91	14.1	287.1	17.6

Key:

°C = Degrees Celsius.
EPL = Energy Park/Longe/NYS Canal Corporation Site.
GP = Boring location.
GW = Groundwater sample.
ID = Identification.
µS/cm = MicroSiemens per centimeter.
NTU = Nephelometric turbidity units.
NYS = New York State.
s.u. = Standard units.
SW = Surface water sample.

Table 3.2-3 Summary of Water Level Elevations Energy Park/Longe/NYS Canal Corporation Site

Well/ Stream Gauge ID	Ground Elevation (ft AMSL)	Reference Elevation (ft AMSL)[a]	10/16/2003		10/23/2003		11/6/2003	
			Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)
EPL-GP01	135.11	137.20	9.12	128.08	9.26	127.94	7.83	129.37
EPL-GP02	137.91	140.42	12.79	127.63	12.92	127.50	11.90	128.52
EPL-GP03	135.52	137.99	11.10	126.89	11.17	126.82	10.24	127.75
EPL-GP04	129.47	131.79	5.11	126.68	5.24	126.55	4.56	127.23
EPL-GP05	132.00	134.53	7.48	127.05	7.62	126.91	7.03	127.50
EPL-SG01	NA	127.84	NM	NM	3.26	125.63	3.13	125.76

[a] Reference elevation is TOIC for borings and 3-foot mark on gauge for stream gauges.

Key:

AMSL = Above mean sea level.
EPL = Energy Park/Longe/NYS Canal Corporation Site.
ft = Feet.
GP = Boring location.
NA = Not applicable.
NM = Not measured.
NYS = New York State.
SG = Stream gauge location.
TOIC = Top of inner casing.

Table 3.2-4 Energy Park/Longe/NYS Canal Corporation Site Sample Listing, Hudson River PCBs Superfund Site Facility Siting

							CLP										Non-CLP							Geotechnical Analyses			
							Organics			Inorganics																		
Media	Date	Sample Location	CLP Number	Matrix Code	Depth A	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.2)	Hexane Extractable Material (9071B)	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Particle Size (ASTM_D422-63)	Atterberg Limits (ASTM_D4318-00)	Moisture Content (ASTM_D2216-98)	Area of Interest
Surface Soil	09/29/03	EPL-SS01	B14R0	SO	0-2 in	N	X	X	X	X	X	X	X				X							Composite sample of 3 locations (A, B, C) adjacent to railroad tracks (VOA portion was a discrete sample from aliquot B location)
	09/29/03	EPL-SS02	B14R1	SO	0-2 in	N		X	X	X	X	X												Fill in formerly disturbed area
	09/29/03	EPL-SS03	B14R2	SO	0-2 in	N		X	X	X	X	X												Coverage
	09/29/03	EPL-SS04	B14R3	SO	0-2 in	N		X	X	X	X	X												Filled sand pit
	09/29/03	EPL-SS05	B14R4	SO	0-2 in	N		X	X	X	X	X												Fill in formerly disturbed area
	09/29/03	EPL-SS06	B14R5	SO	0-2 in	N		X	X	X	X	X												Fill in former sand pit
	09/29/03	EPL-SS07	B14R6	SO	0-2 in	N		X	X	X	X	X												Fill/waste lime in former sand pi
	09/29/03	EPL-SS08	B14R7	SO	0-2 in	N		X	X	X	X	X												Coverage in wooded area
	09/29/03	EPL-SS09	B14R8	SO	0-2 in	N		X	X	X	X	X												Coverage in wooded area
Surface Water	09/30/03	EPL-SW01	B14R9	SW	-	M	X	X	X	X	X			X		X								Western creek-upstream
	09/30/03	EPL-SW02	B14S0	SW	-	N	X	X	X	X	X			X		X								Western creek-central
	09/30/03	EPL-SW03	B14S1	SW	-	N	X	X	X	X	X			X		X								Western creek-downstream
Sediment	09/30/03	EPL-SE01	B14Q7	SE	0-2 in	M	X	X	X	X	X	X			X									Western creek-upstream
	09/30/03	EPL-SE02	B14Q8	SE	0-2 in	N	X	X	X	X	X	X			X									Western creek-central
	09/30/03	EPL-SE03	B14Q9	SE	0-2 in	N	X	X	X	X	X	X			X									Western creek-downstream
Geoprobe Borehole Subsurface Soil	09/29/03	EPL-GP01-SB	B14S2	SO	10.2-12	N	X	X	X	X	X	X												Coverage
	09/30/03	EPL-GP02-SB	B14S3	SO	9-10.9	N	X	X	X	X	X	X												Sand pit
	09/30/03	EPL-GP03-SB	B14S4	SO	9.6-11	N	X	X	X	X	X	X												Coverage
	10/01/03	EPL-GP04-SB	B14S5	SO	4-6	N	X	X	X	X	X	X												Coverage
	10/01/03	EPL-GP05-SB	B14S6	SO	5-8	N	X	X	X	X	X	X												Wooded area
	10/01/03	EPL-GP05-SB/D	B1504	SO	5-8	FD	X	X	X	X	X	X												Wooded area
	10/01/03	EPL-GP06-SB	B14S7	SO	9.4-11	N	X	X	X	X	X	X												Sand pit
	10/01/03	EPL-GP07-SB	B14S8	SO	7-9	N	X	X	X	X	X	X												Sand pit/Lime waste disposal area
Geoprobe Temporary Well Groundwater	10/16/03	EPL-GP01-GW	B14S9	GW	15.4-25.4	N	X	X	X	X	X													Coverage
	10/16/03	EPL-GP02-GW	B14T0	GW	15-25	N	X	X	X	X	X													Sand pit
	10/16/03	EPL-GP03-GW	B14T1	GW	15.1-25.1	N	X	X	X	X	X													Coverage
	10/16/03	EPL-GP04-GW	B14T2	GW	15-25	M	X	X	X	X	X													Coverage
	10/16/03	EPL-GP05-GW	B14T3	GW	15-25	N	X	X	X	X	X													Fringe of wooded area

Key at the end of Table

							CLP														Geotechnical Analyses			
							Organics				Inorganics	Non-CLP													
Media	Date	Sample Location	CLP Number	Matrix Code	Depth A	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.2)	Hexane Extractable Material (9071B)	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Particle Size (ASTM_D422-63)	Atterberg Limits (ASTM_D4318-00)	Moisture Content (ASTM_D2216-98)	Area of Interest
Geotechnical Boring Subsurface Soil	09/29/03	EPL-GT01-SB	-	SO	0-26 [B]	N															X	X	X	Facility
	09/30/03	EPL-GT02-SB	-	SO	22-24	N															X	X	X	Railyard
	09/30/03	EPL-GT03-SB	-	SO	11-12	N															X	X	X	Facility
	10/01/03	EPL-GT04-SB	-	SO	0-26 [B]	N															X	X	X	Railyard
	10/01/03	EPL-GT05-SB	-	SO	6-8	N															X	X	X	Near Canal
IDW (optional)	TBD	EPL-WA01	-	WA	-	N												X	X	X				General
	TBD	EPL-WW01	-	WS	-	N												X	X	X				General

[A] Depth in feet below ground surface unless otherwise specified.

[B] Continuous sampling for moisture content analysis. The 4-6 and 0-2 foot BGS depth intervals were used for the particle size and Atterberg Limits analyses for EPL-GT01 and EPL-GT04, respectively.

Key:

CLP = Contract Laboratory Protocol
/D = duplicate sample
EPL = Energy Park/Longe/NYS Canal Corporation Site
FD = field duplicate (Type)
GP = Geoprobe boring location
GT = geotechnical boring location
GW = groundwater sample
IDW = investigation-derived waste
in = inch
M = matrix spike/matrix spike duplicate (Type)
N = original sample (Type)
NYS = New York State
PCB = polychlorinated biphenyl
QA = quality assurance
QC = quality control
SB = subsurface soil
SE = sediment sample
SO = soil sample
SS = surface soil
SVOCs = semivolatile organic compounds
SW = surface water
TBD = to be determined
TCL = target compound list
TCLP = toxicity characteristic leachate procedure
TOC = total organic carbon
VOCs = volatile organic compounds
WA = IDW solid waste
WW = IDW waste water

Key at the end of Table

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: / Date: / Depth:	EPL-SS01 9/29/2003 0 - 2 in	EPL-SS02 9/29/2003 0 - 2 in	EPL-SS03 9/29/2003 0 - 2 in	EPL-SS04 9/29/2003 0 - 2 in	EPL-SS05 9/29/2003 0 - 2 in	EPL-SS06 9/29/2003 0 - 2 in	EPL-SS07 9/29/2003 0 - 2 in	EPL-SS08 9/29/2003 0 - 2 in	EPL-SS09 9/29/2003 0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)												
1,1,2-Trichloro-1,2,2-Trifluoroethane	6000	NA		1 J	- -	- -	- -	- -	- -	- -	- -	- -
TCL Semivolatile Organic Compounds (µg/Kg)												
Acetophenone	NA	NA		110 J	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Atrazine	NA	NA		490 U	390 U	400 U	380 U	400 U	400 U	91 J	630 U	550 U
Benzaldehyde	NA	NA		490 U	390 UJ	400 UJ	380 UJ	400 UJ	400 UJ	410 UJ	180 J	550 UJ
Benzo(a)anthracene	224 or MDL	NA		200 J	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Benzo(a)pyrene	61 or MDL	NA		**180 J**	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Benzo(b)fluoranthene	1100	NA		340 J	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Benzo(g,h,i)perylene	50000	NA		130 J	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Benzo(k)fluoranthene	1100	NA		320 J	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Bis(2-Ethylhexyl)Phthalate	50000	NA		490 U	390 U	400 U	380 U	400 U	480	410 U	510 J	550 U
Chrysene	400	NA		300 J	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Fluoranthene	50000	NA		220 J	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Indeno(1,2,3-cd)pyrene	3200	NA		200 J	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Pyrene	50000	NA		230 J	390 UJ	400 UJ	380 UJ	400 UJ	400 UJ	410 UJ	630 UJ	550 UJ
TCL Pesticide and PCBs (µg/Kg)												
4,4'-DDE	2100	NA		3.6 J	3.9 U	4 U	3.8 U	4 U	4 U	4.1 U	7.7	2.6 J
Aroclor-1254	1000	NA		93 J	39 U	40 U	38 U	40 U	40 U	41 U	150	57 J
Aroclor-1260	1000	NA		49 U	39 U	40 U	38 U	500	40 U	41 U	63 U	55 U
Dieldrin	44	NA		4.9 U	3.9 U	4 U	3.8 U	3.1 J	4 U	4.1 U	6.3 U	5.5 U

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: / Date: / Depth:	EPL-SS01 9/29/2003 0 - 2 in	EPL-SS02 9/29/2003 0 - 2 in	EPL-SS03 9/29/2003 0 - 2 in	EPL-SS04 9/29/2003 0 - 2 in	EPL-SS05 9/29/2003 0 - 2 in	EPL-SS06 9/29/2003 0 - 2 in	EPL-SS07 9/29/2003 0 - 2 in	EPL-SS08 9/29/2003 0 - 2 in	EPL-SS09 9/29/2003 0 - 2 in
TAL Metals and Mercury (mg/Kg)												
Aluminum	SB	NA		7220	8630	7630	11000	8340	8620	8600	12600	12400
Arsenic	7.5 or SB	3-12 (NYS BG)		1 U	1.3 B	1.2 B	4.9	2.1 B	2.7	2.8	13.1	9.7
Barium	300	15-600		47.7	44.4 B	33.5 B	75.5	28.8 B	61	66.5	88.6	83
Beryllium	0.16 or SB	0-1.75		0.33 B	0.4 B	0.28 B	0.48 B	0.49 B	0.42 B	0.41 B	3.1	1.6
Cadmium	1 or SB	0.1-1		0.18 B	0.12 U	0.12 U	0.11 U	0.12 U	0.11 U	0.69 B	0.17 U	0.15 U
Calcium	SB	130-35000 (NYS BG)		4300	9940	3740	49400	2970	33000	47200	4990	3130
Chromium	10 or SB	1.5-40 (NYS BG)		9.5 J	10 J	6.7 J	14.7 J	8.1 J	13.7 J	12.4 J	43.5 J	31.4 J
Cobalt	30 or SB	2.5-60 (NYS BG)		3.3 B	4.1 B	2.8 B	7.5 B	2.8 B	6.3 B	7.4 B	5.7 B	12.6 B
Copper	25 or SB	1-50		13.3	18.9	13.1	25	13.7	22.9	33.7	18.8	18.5
Iron	2000 or SB	2000-550000		7150	8980	6010	18100	10000	12900	13800	96800	99900
Lead	SB or 200-500	200-500		18.7	17.1	8.5	61.4	10.9	63.4	21	44.6	50.8
Magnesium	SB	100-5000		1360	2690	1880	5000	1510	4750	7070	1340 B	1550
Manganese	NA	50-5000		113	123	51.4	379	47.9	283	342	302	592
Nickel	13 or SB	0.5-25		6.8 B	7.3 B	5.3 B	14.8	5.9 B	13.8	13.4	17	17
Potassium	SB	8500-43000 (NYS BG)		360 B	830 B	347 B	2060 J	257 B	1750 J	1920 J	525 B	388 B
Selenium	2 or SB	0.1-3.9		0.43 U	0.44 U	0.45 U	0.53 BJ	0.7 BJ	0.43 U	0.77 BJ	1.6 BJ	0.56 U
Sodium	SB	6000-8000		185 B	278 B	160 B	376 B	188 B	345 B	334 B	183 U	161 U
Thallium	SB	NA		0.97 B	0.98 U	0.99 U	0.95 U	1 U	0.94 U	0.93 U	2 B	1.2 U
Vanadium	150 or SB	1-300		14.9	15	10.5 B	27.2	32.1	18.6	22.4	599	208
Zinc	20 or SB	9-50		43.7	45.4	36.8	92.6	33.1	87.5	74.4	37.5	58.7
Mercury	0.1	0.001-0.2		0.05 U	0.07 B	0.06 U	0.06 U	0.06 U	0.05 U	0.09 B	0.19	0.16
Total Cyanide (mg/Kg)												
Cyanide	NA	NA		0.17 U	0.14 U	0.15	0.2	0.23	0.33	0.14 U	0.94	1.2
Total Petroleum Hydrocarbons (mg/Kg)												
N-Hexane Extractable Material	NA	NA		1540	- -	- -	- -	- -	- -	- -	- -	- -

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Energy Park/Longe/NYS Canal Corporation Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BG = Background.
/D = Duplicate sample.
EPL = Energy Park/Longe site/NYS Canal Corporation Site.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL = Method Detection Limit
mg/Kg = Milligrams per kilogram.
NA = Not applicable/available.
NYS = New York State.
NYSDEC = New York State Department of Environmental Conservation.
PCB = Polychlorinated biphenyl.
R = The data is unusable.
SB = Site background.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.

Source: Ecology and Environment, Inc., 2004

Table 3.3-2 Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	EPL-GP01-SB	EPL-GP02-SB	EPL-GP03-SB	EPL-GP04-SB	EPL-GP05-SB	EPL-GP05-SB/D	EPL-GP06-SB	EPL-GP07-SB
			Date:	09/29/03	09/30/03	09/30/03	10/01/03	10/01/03	10/01/03	10/01/03	10/01/03
			Depth:	10.2 - 12 ft	9 - 10.9 ft	9.6 - 11 ft	4 - 6 ft	5 - 8 ft	5 - 8 ft	9.4 - 11 ft	7 - 9 ft
TCL Volatile Organic Compounds (µg/Kg)											
1,1,2-Trichloro-1,2,2-Trifluoroethane	6000	NA		10 U	0.8 J	10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-Butyl Ether	NA	NA		10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.6 J
Trichlorofluoromethane	NA	NA		10 U	1 J	10 U	10 U	10 U	10 U	10 U	10 U
TCL Semivolatile Organic Compounds (µg/Kg)											
Acetophenone	NA	NA		400 U	100 J	390 U	390 U	410 U	410 U	370 U	390 U
Bis(2-Ethylhexyl)Phthalate	50000	NA		400 U	420 U	86 J	390 U	410 U	410 U	370 U	390 U
Di-n-octylphthalate	50000	NA		400 U	420 U	390 U	390 U	100 J	410 U	370 U	390 U
TCL Pesticide and PCBs (µg/Kg)											
beta-BHC	200	NA		2 U	2.2 U	2 U	2 U	2.1 U	2.1 U	1.9 U	2.8
TAL Metals and Mercury (mg/Kg)											
Aluminum	SB	NA		3840	12500	5170	2110	3090	3570	2850	2450
Arsenic	7.5 or SB	3-12 (NYS BG)		1.1 U	5.2	0.99 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U
Barium	300	15-600		20 B	94.7	33.1 B	7.4 B	17.2 B	20.8 B	11.3 B	10.8 B
Beryllium	0.16 or SB	0-1.75		0.12 B	0.59 B	0.25 B	0.12 B	0.18 B	0.2 B	0.13 B	0.16 B
Calcium	SB	130-35000 (NYS BG)		1500	36000	1550	1270	2150	9460	1320	1660
Chromium	10 or SB	1.5-40 (NYS BG)		3 J	17.1 J	5.7 J	2.3 B	3.3	7.1	6.7	2.2 B
Cobalt	30 or SB	2.5-60 (NYS BG)		2.1 B	9.2 B	3.5 B	2.1 B	2.8 B	2.9 B	2.4 B	2.5 B
Copper	25 or SB	1-50		5.3 B	28.3	8.5	3.6 B	7.2	8.5	4.2 B	4.4 B
Iron	2000 or SB	2000-550000		4260	18700	5620	3350	3810	5050	3810	3920
Lead	SB or 200 - 500	200-500		2.1 J	43.1	5	1.6 J	2.2 J	14.6	2.5 J	1.6 J
Magnesium	SB	100-5000		1430	5370	1820	1240 B	1260	2260	1280	1270
Manganese	NA	50-5000		25.7	409	33.3	22.3	25.2	57.3	23.1	21.6
Nickel	13 or SB	0.5-25		3.7 B	16.2	4.6 B	3 B	4 B	6.7 B	4.2 B	3 B
Potassium	SB	8500-43000 (NYS BG)		227 B	3020 J	592 B	141 B	185 B	339 B	237 B	104 B
Selenium	2 or SB	0.1-3.9		0.46 U	0.44 U	0.43 U	0.48 U	0.47 U	0.97 BJ	0.43 U	0.48 U
Sodium	SB	6000-8000		131 U	402 B	151 B	137 U	134 U	158 B	125 U	138 U
Vanadium	150 or SB	1-300		7.4 B	29.7	12.1	5.3 B	7.6 B	9.7 B	5.4 B	6.6 B
Zinc	20 or SB	9-50		32.9	90.3	34.5	21.7	28.3	35.3	20.9	21.9
Mercury	0.1	0.001-0.2		0.06 U	0.07 B	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U

Source: Ecology and Environment, Inc., 2004

Table 3.3-2 Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the Energy Park/Longe/NYS Canal Corporation Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BG = Background.
/D = Duplicate sample.
EPL = Energy Park/Longe site/NYS Canal Corporation Site.
ft = Feet.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL = Method Detection Limit
mg/Kg = Milligrams per kilogram.
NA = Not applicable/available.
NYS = New York State.
NYSDEC = New York State Department of Environmental Conservation.
PCB = Polychlorinated biphenyl.
R = The data is unusable.
SB = Site background.
-SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.

Source: Ecology and Environment, Inc., 2004

Table 3.3-3 Analytical Data Summary of Detected Analytes for Surface Water Samples from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	NYSDEC CLASS D (1)	Sample ID: Date:	EPL-SW01 9/30/2003	EPL-SW02 9/30/2003	EPL-SW03 9/30/2003
TCL Volatile Organic Compounds µg/L)					
1,1,2-Trichloro-1,2,2-Trifluoroethane	NA		1 J	10 U	10 U
TCL Semivolatile Organic Compounds (µg/L)					
Bis(2-Ethylhexyl)Phthalate	NA		8 J	10 U	10 U
TAL Metals and Mercury (µg/L)					
Aluminum	NA		458	510	560
Barium	NA		25.2 B	22.1 B	28.8 B
Calcium	NA		30900	30800	30000
Chromium	CV		1.7 B	1.9 B	2.6 B
Cobalt	110 for A(A) (g)		1.7 B	1.4 U	3.1 B
Copper	CV		3.5 B	3.6 B	5.8 B
Iron	300		1670	1740	2470
Magnesium	NA		9130	9320	9100
Manganese	NA		78.8	107	163
Nickel	CV		3 B	3 B	4.1 B
Potassium	NA		3990 B	4040 B	3930 B
Selenium	NA		1.9 U	3.1 B	1.9 U
Sodium	NA		15700 J	14400 J	15200 J
Vanadium	190 for A(A)		1.8 B	2.1 B	4.2 B
Zinc	CV		26.4 J	24.4 J	35 J
Total Cyanide (µg/L)					
Cyanide Total	22 for A(A)		5 U	5 U	8
Anions (mg/L)					
Chloride	NA		26.6	26	23.2
Fluoride	CV		0.102	0.121	0.107
Nitrate-N	NA		0.396	0.388	0.726
Sulfate	NA		23	24.1	23.6
Hardness (mg/L)					
Hardness (As $CaCO_3$)	NA		275	270	285

Source: Ecology and Environment, Inc., 2004

Table 3.3-3 Analytical Data Summary of Detected Analytes for Surface Water Samples from the Energy Park/Longe/NYS Canal Corporation Site

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class D Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

(g) Guidance value used.

Key:

A(A) = Standard/guidance value is for the protection of fish survival (fresh waters).

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

CV = Value calculated based on hardness as per NYSDEC TOGS 1.1.1, 1998.

/D = Duplicate sample.

EPL = Energy Park/Longe site/NYS Canal Corporation Site.

H(FC) = Standard/guidance value is for the protection of human consumption of fish (fresh waters).

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

mg/L = Milligrams per liter.

NA = Not applicable/available.

NYS = New York State.

NYSDEC = New York State Department of Environmental Conservation.

SW = Surface water sample.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/L = Micrograms per liter.

Source: Ecology and Environment, Inc., 2004

Table 3.3-4 Analytical Data Summary of Detected Analytes for Sediment Samples from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	NYSDEC Screening Criteria (1), (2)		Sample ID: Date:	EPL-SE01 09/30/03	EPL-SE02 09/30/03	EPL-SE03 09/30/03
TCL Volatile Organic Compounds (µg/Kg)						
Trichlorofluoromethane	NA			10 U	17 U	3 J
TCL Semivolatile Organic Compounds (µg/Kg)						
Acetophenone	NA			120 J	120 J	190 J
TCL Pesticide and PCBs (µg/Kg)						
4,4'-DDE	NA			4.3 U	2.7 J	9 J
alpha-Chlordane	CV			2.2 U	3.1 U	1.7 J
Aroclor-1254	CV			43 U	77	75
Endosulfan I	CV			2.2 U	3.1 U	1.1 J
Analyte	**NYSDEC Screening Criteria (1) Lowest effect (2)**	**Severe effect (2)**	**Sample ID: Date:**	**EPL-SE01 09/30/03**	**EPL-SE02 09/30/03**	**EPL-SE03 09/30/03**
TAL Metals and Mercury (mg/Kg)						
Aluminum	NA	NA		4630	9330	9230
Arsenic	6.0	33		1.2 U	4.1	1.5 U
Barium	NA	NA		28.4 B	64	80.5
Beryllium	NA	NA		0.31 B	0.82 B	0.82 B
Calcium	NA	NA		2170	3740	4660
Chromium	26	110		6.9 J	16.3 J	16.4 J
Cobalt	NA	NA		3.6 B	7.5 B	5.5 B
Copper	16	110		7.1	11.5	13.3
Iron	20000	40000		7760	20200	13300
Lead	31	110		7.2	14	11.9
Magnesium	NA	NA		1930	2580	2280
Manganese	460	1100		47.6	195	108
Nickel	16	50		7.2 B	12.1	9.2 B
Potassium	NA	NA		335 B	455 B	414 B
Selenium	NA	NA		0.52 U	1 BJ	0.65 U
Sodium	NA	NA		149 U	212 B	327 B
Vanadium	NA	NA		17.7	76.8	80.8
Zinc	120	270		38.9	54.5	45.8
Total Cyanide (mg/Kg)						
Cyanide	NA	NA		0.18 U	0.35	0.23 U
Total Organic Carbon (mg/Kg)						
Total Organic Carbon	NA	NA		9200	33000	62000
Percent Solids (%)						
Percent Solids	NA	NA		66	54	51

Source: Ecology and Environment, Inc., 2004

Table 3.3-4 Analytical Data Summary of Detected Analytes for Sediment Samples from the Energy Park/Longe/NYS Canal Corporation Site

(1) New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments, 1999. The benthic aquatic life chronic toxicity protection level was used.
(2) As per the 1999 NYSDEC Guidance, the screening criteria for organic contaminants in sediments are calculated based on sample Total Organic Carbon concentration. However, two levels of risk are established for metals contamination in sediments (Lowest Effect Level and Severe Effect Level).

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
CV = Value calculated based on total organic carbon as per NYSDEC Guidance.
/D = Duplicate sample.
EPL = Energy Park/Longe site/NYS Canal Corporation Site.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified." The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NA = Not applicable/available.
NYS = New York State.
NYSDEC = New York State Department of Environmental Conservation.
PCB = Polychlorinated biphenyl.
R = The data is unusable.
SE = Sediment sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
% = Percent.

Source: Ecology and Environment, Inc., 2004

Table 3.3-5 Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the Energy Park/Longe/NYS Canal Corporation Site

Analyte	NYSDEC Class GA (1)	Sample ID: Date: EPA MCLs (2)	EPL-GP01-GW 10/16/2003	EPL-GP02-GW 10/16/2003	EPL-GP03-GW 10/16/2003	EPL-GP04-GW 10/16/2003	EPL-GP05-GW 10/16/2003
TAL Metals and Mercury (µg/L)							
Aluminum	NA	50-200 (s)	244	324	275	149 B	182 B
Barium	1000	2000	36.3 B	39.2 B	68.3 B	19.3 B	25.3 B
Beryllium	3 (g)	4	0.1 U	0.1 U	0.1 B	0.1 U	0.12 B
Calcium	NA	NA	47000	42300	42500	35600	40200
Chromium	50	100 (4)	2.3 B	1 U	1 U	1 U	1.2 B
Cobalt	NA	NA	2.9 B	1.3 U	1.7 B	1.3 U	1.3 U
Copper	200	1300 (a)	2.1 B	1 U	1.3 B	1.5 B	1 U
Iron	300 (3)	300 (s)	4840	6550	2390	4060	3530
Lead	25	15 (a)	2.2 U	2.2 U	3.1	2.2 U	2.2 U
Magnesium	35000 (g)	NA	9680	9110	7900	8530	9300
Manganese	300 (3)	50 (s)	119	176	119	121	164
Nickel	100	NA	8.6 B	2.9 B	5 B	2.3 U	2.3 U
Potassium	NA	NA	4710 B	4480 B	12300 J	1310 B	1100 B
Selenium	10	50	3.8 U	3.8 U	3.8 U	5	3.8 U
Sodium	20000	NA	34700 J	9890 J	19300 J	12100 J	6900 J
Vanadium	NA	NA	1.3 B	3.8 B	0.9 U	1.7 B	2 B
Zinc	2000 (g)	5000 (s)	26.8	33.9	29.9	27.5	20.8

Source: Ecology and Environment, Inc., 2004

Table 3.3-5 Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the Energy Park/Longe/NYS Canal Corporation Site

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class GA Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

(2) EPA National Primary and Secondary Drinking Water Standards, 2002.

(3) Screening value is for sum of Iron and Manganese is 500 µg/L.

(4) Screening value for total chromium.

(a) Action level is used in lieu of MCL.

(g) Guidance value used.

(s) Secondary standard used.

Key:

B = The reported value was was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

/D = Duplicate sample.

EPA = Environmental Protection Agency.

EPL = Energy Park/Longe site/NYS Canal Corporation Site.

GP = Boring.

GW = Groundwater sample.

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

MCL = Maximum Contaminant Level.

NA = Not applicable/available.

NYS = New York State.

NYSDEC = New York State Department of Environmental Conservation.

TAL = Target Analyte List.

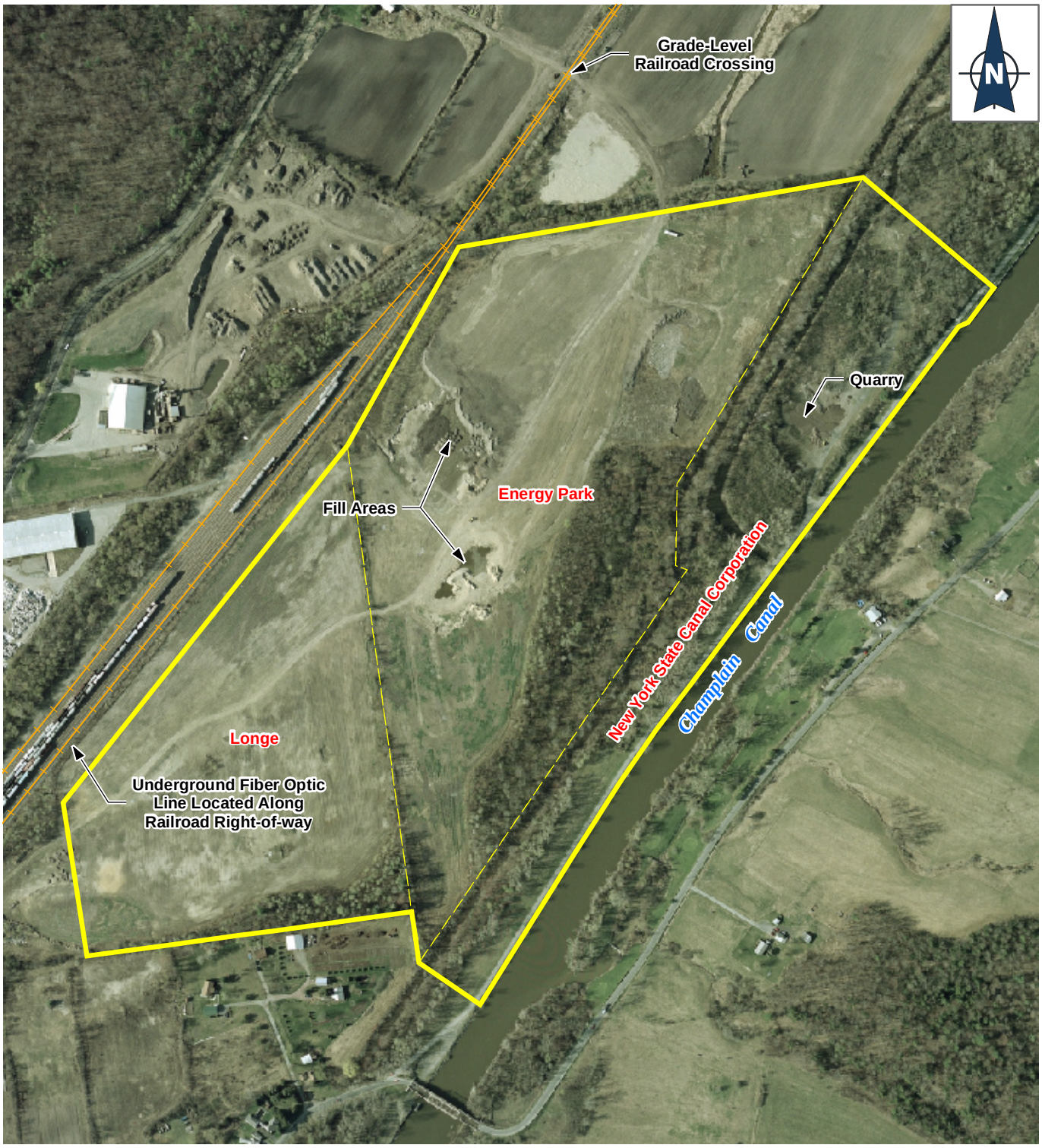
U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/L = Micrograms per liter.

Source: Ecology and Environment, Inc., 2004

SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Approximate Site Boundary
- Tax Parcel Boundary
- Active Railroad

Hudson River
PCBs SUPERFUND SITE

Figure 2-1
Key Site Features
Energy Park / Longe / New York State Canal Corporation

500 250 0 500 1,000
Feet

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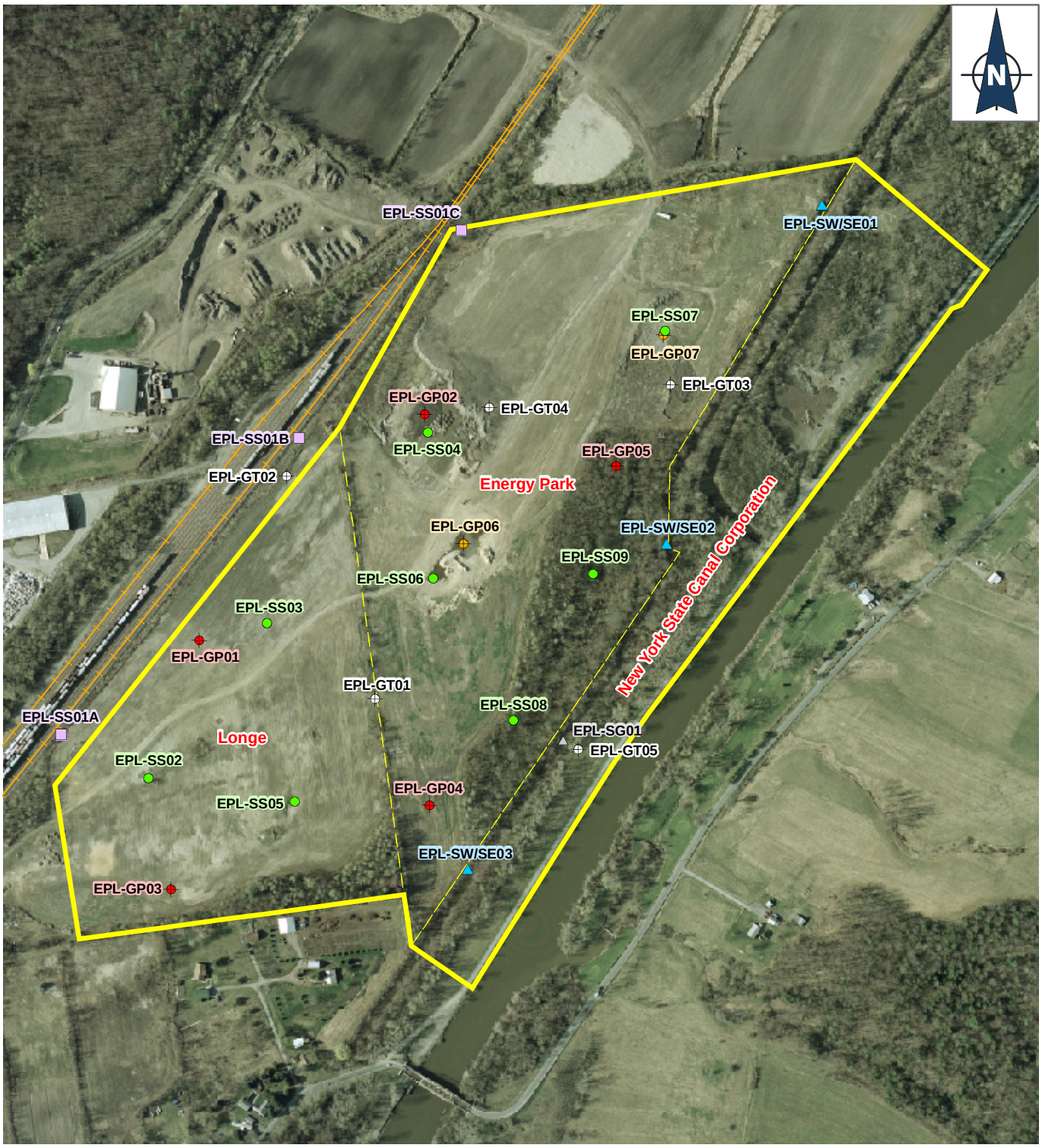

LEGEND

- Geoprobe Soil Boring
- Geoprobe Soil Boring & Temporary Well
- Geoprobe & Geotechnical Boring
- Geotechnical Boring
- Surface Soil
- Soil Sample Adjacent to Railroad
- Surface Water / Sediment
- Stream Gauge
- Railroad
- Potential Site Boundary

Hudson River
PCBs SUPERFUND SITE

Figure 3-1
Sample Locations
Energy Park / Longe / New York State Canal Corporation

500 250 0 500 1,000
Feet

02.001515.HR03.08.04 - 12/16/03
L:\Buffalo\Hudson_River\Maps\Mxd\FinalCandidateSites\Samples\Energypark_Longe_Samples.MXD - GIS

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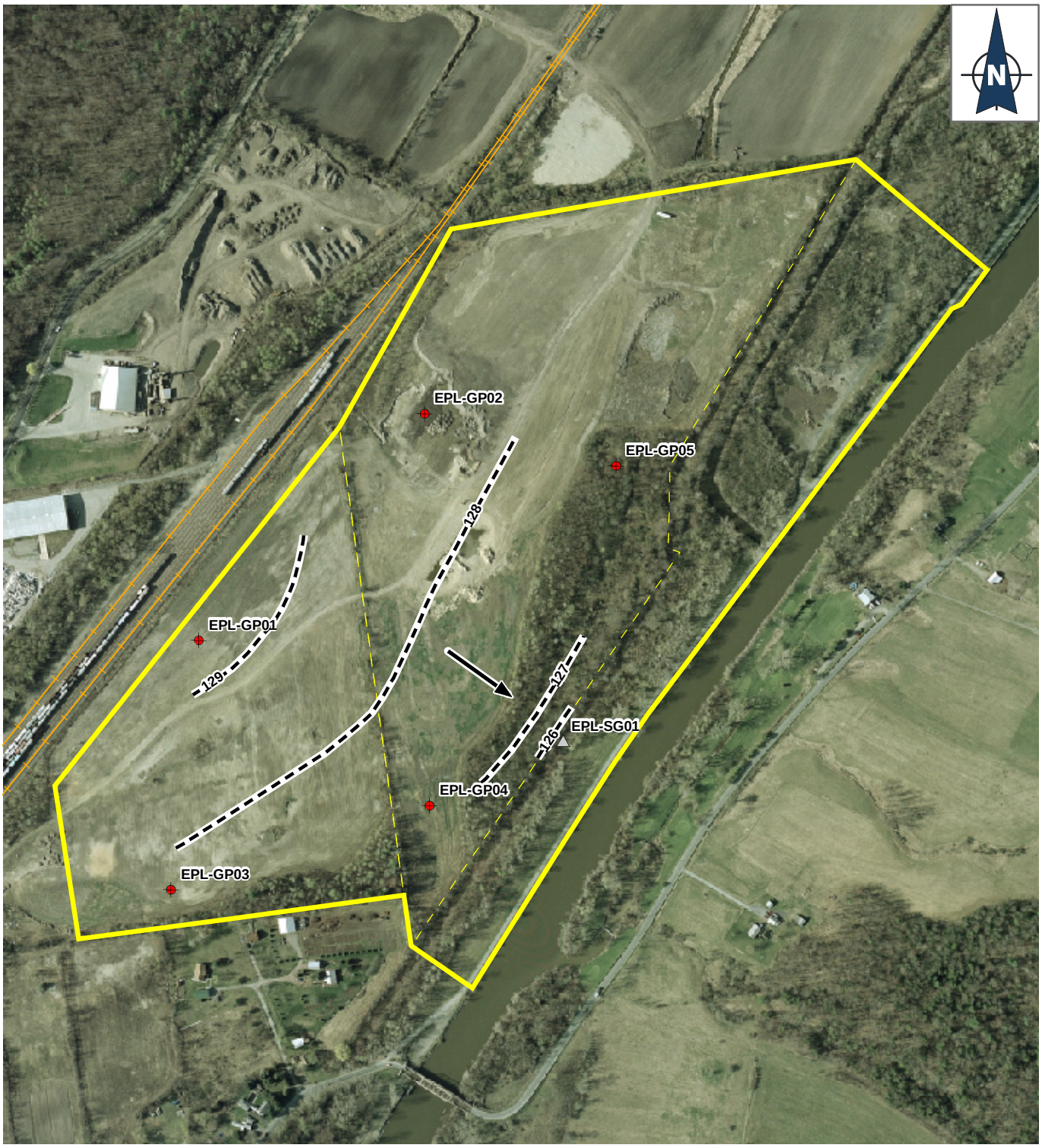

LEGEND

- Groundwater Contour
- Temporary Well
- Stream Gauge
- Railroad
- Potential Site Boundary
- Direction of Groundwater Flow

Water Level Elevations Measured on 11/6/2003
1 ft. Contour Interval

Hudson River
PCBs SUPERFUND SITE

Figure 3-2
Overburden Groundwater Contour Map
Energy Park / Longe / New York State Canal Corporation

500 250 0 500 1,000
Feet

02.001515.HR03.08.04 - 04/22/04
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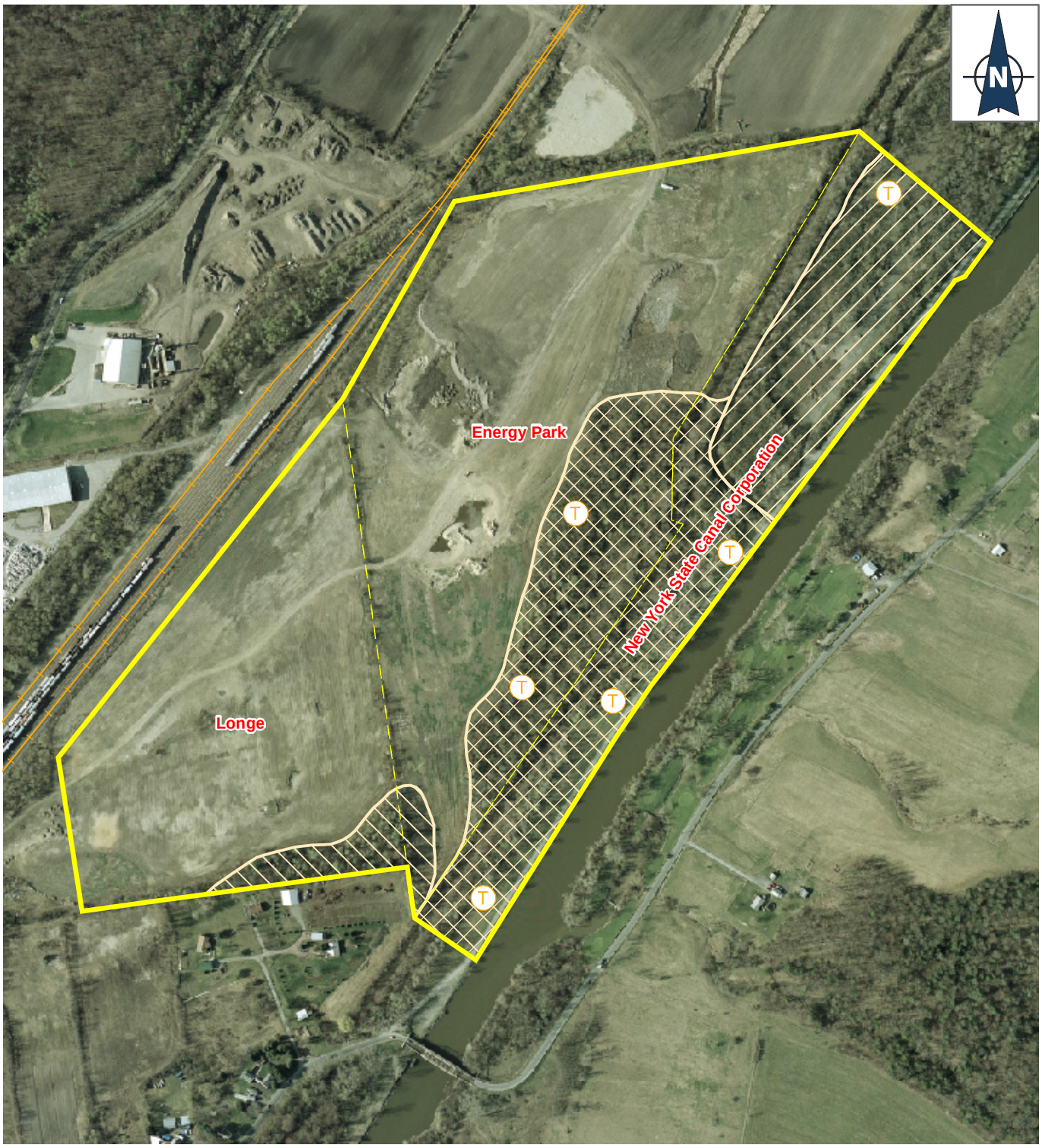

LEGEND

- Potential Site Boundary

Archaeological Testing Method

- Backhoe Test
- Shovel Test
- Backhoe & Shovel Test
- (T) Backhoe Trench Locations

Hudson River PCBs SUPERFUND SITE

Figure 6-1
Field Sampling Areas
Phase I B Cultural Resources Investigation
Energy Park / Longe / New York State Canal Corporation

500 250 0 500 1,000 Feet

02:001515.HR03.08.04 - 12/19/03
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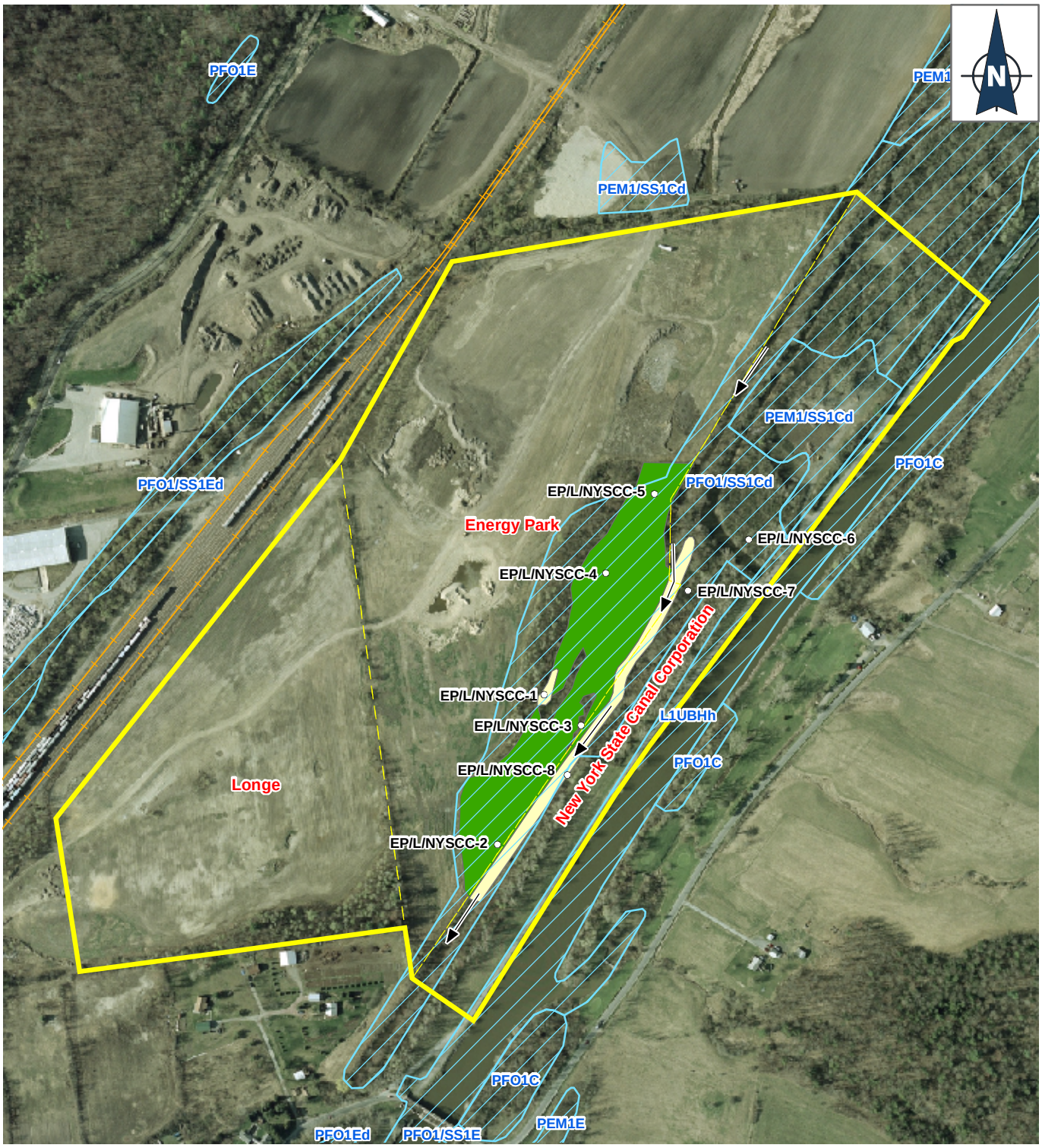

LEGEND

- NYS DEC Mapping
- National Wetland Inventory Mapping

Delineated Wetlands

- Emergent
- Forested
- Observation Plots
- Direction of Drainage Flow

Hudson River PCBs SUPERFUND SITE

Figure 7-1
Wetland Locations
Energy Park / Longe / New York State Canal Corporation

500 250 0 500 1,000 Feet

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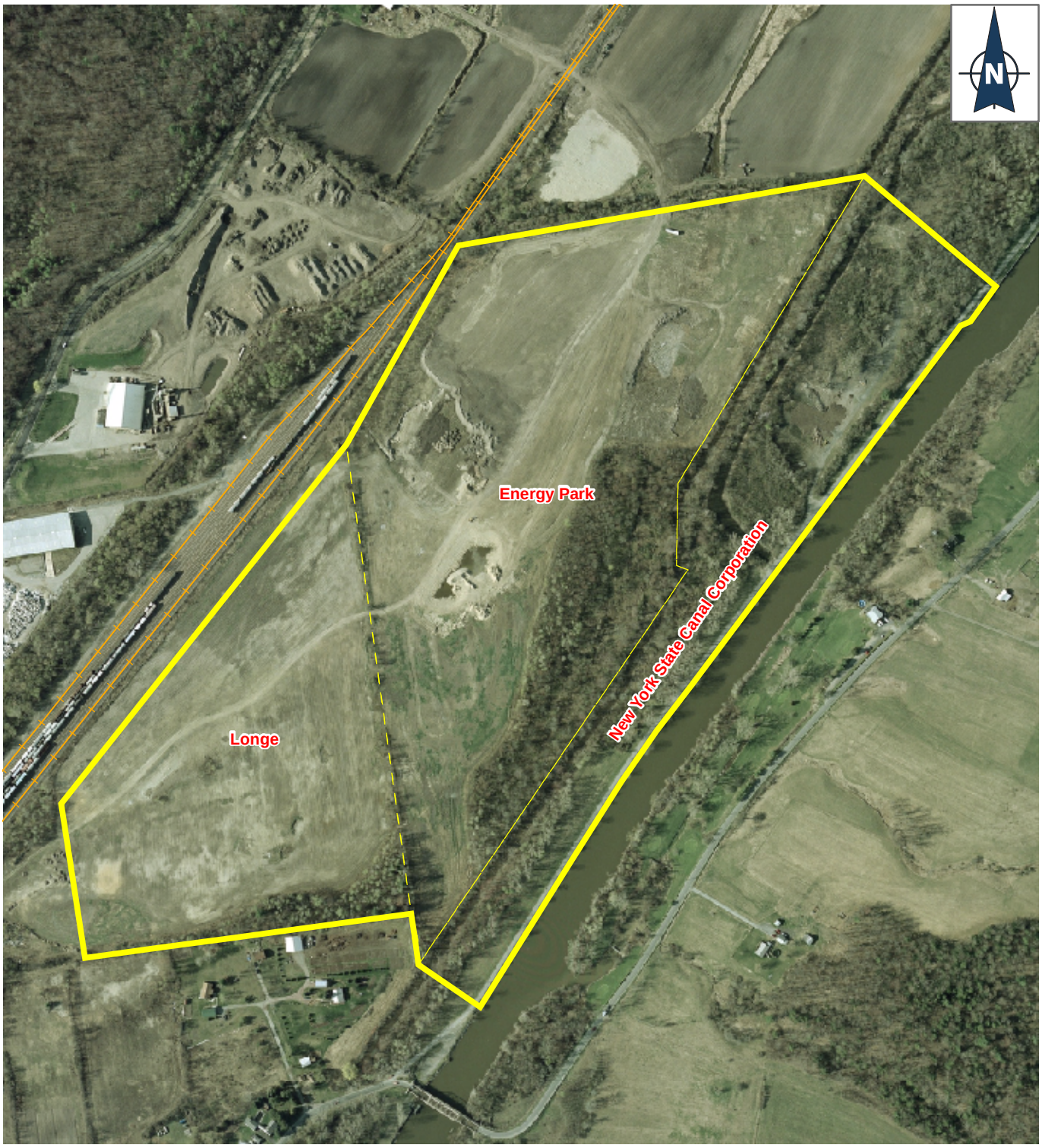

LEGEND

- Potential Site Boundary
- Tax Parcels

FEMA Floodplain

- 100 Year Floodplain
- 500 Year Floodplain

Hudson River PCBs SUPERFUND SITE

Figure 8-1
FEMA Floodplain Mapping
Energy Park / Longe / New York State Canal Corporation

500 250 0 500 1,000 Feet

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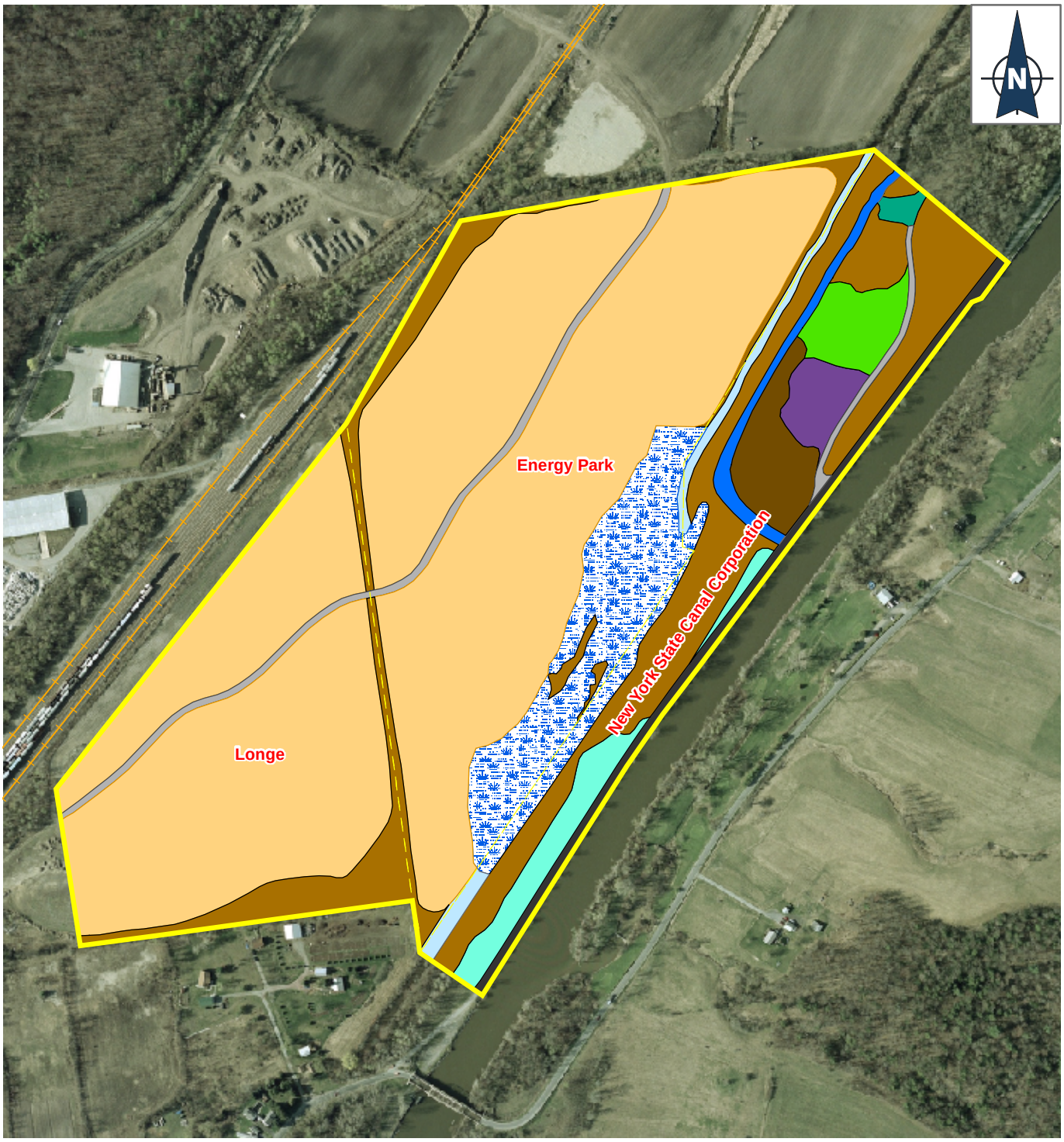

Ecological Communities

- Paved Road
- Unpaved Road
- Wetland
- Successional Northern Hardwoods (SNH)
- Dredge Spoils / SNH
- Successional Shrubland
- Ditch / Marsh Headwater Stream
- Canal
- Construction / Road Maintenance Spoils
- Cropland
- Mowed Pathway
- Mowed Roadside

Hudson River PCBs SUPERFUND SITE

Figure 10-1
Site Ecological Communities
Energy Park / Longe / New York State Canal Corporation

500 250 0 500 1,000 Feet

02.001515.HR03.08.04 - 12/19/03
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Old Moreau Dredge Spoils Area/
New York State Canal Corporation Site
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Old Moreau Dredge Spoils Area/
New York State Canal Corporation Site

2 Phase I Environmental Site Assessment

2.1 Site Location, Description, and Environmental Setting

The Old Moreau Dredge Spoils Area/New York State Canal Corporation (NYSCC) Final Candidate Site (FCS) is located in the Hudson-Mohawk Lowland physiographic province. The topography of this province has been produced primarily by erosion along outcrop belts of sedimentary rocks that lie between the Catskills and the metamorphosed shale hills of the Taconics. The province generally has low relief and elevation and is underlain by Ordovician shales that have been exposed by the erosion of Silurian and Devonian limestones (University of the State of New York 1966). The site comprises two parcels of different ownership. Site photos are found in Appendix A.

2.1.1 Old Moreau Dredge Spoils Area

The Old Moreau Dredge spoils disposal area (Old Moreau) covers approximately 31.6 acres and is currently undeveloped. The Old Moreau parcel is located in the town of Moreau, Saratoga County, New York, on the west side of Hudson River (at approximately river mile 193.8) (see Figure 2-1). The property is owned by Georgia Pacific. About 70% is open or lightly vegetated, and the remainder is wooded. Topography is relatively flat, but there is a 10-foot drop-off along the waterfront. The waterfront is undeveloped and consists of a sand beach approximately 5 to 10 feet wide. A landfill area located in the southwestern portion of the parcel (i.e., the Old Moreau dredge spoils disposal site) is somewhat raised and contains a drainage ditch at the toe that leads to the river. Rust-colored staining was observed in a small section of the ditch. The landfill contains PCB-contaminated dredge spoils from the river. Surficial trash, bulk plastic, and other debris (car parts, etc.) were noted along the bank and on the ground in the wooded area in the southwestern portion of the parcel. The only utilities noted on-site were overhead electric wires and a transformer station in the northeast corner of the parcel. A rail spur was located in the northern part of the property and has been removed. The mainline (located along the northern border) is active. There is approximately 2,000 feet of waterfront along the Hudson River. Key site features are presented on Figure 2-1. Primarily residential and agricultural land and some industrial land uses are within 1 mile of the property.

2.1.2 New York State Canal Corporation Parcel

The NYSCC portion of the site is an approximately 9.6-acre parcel located southwest of the Old Moreau parcel (see Figure 2-1). Like Old Moreau, it is currently undeveloped. The NYSCC parcel is open/wooded land containing miscellaneous surficial dumping. Surficial debris (consisting of domestic trash and appliances) was observed in the wooded area in the southeast corner of the property and in the eastern portion (in the wooded area) of the drainage ditch that runs along the southern border of the NYSCC parcel. The parcel also contains a concrete building foundation along the west-central border of the treeline located close to the river; a two-story steel structure surrounded by chain-link fence posts (possibly an abandoned power substation) approximately 30 feet east of the

concrete foundation (in the wooded area along the shoreline in the central portion of the parcel); buried plastic debris (eroding along the shoreline) in the central and northeastern portions of the parcel along the shoreline, extending onto the Old Moreau parcel; and a 100-foot by 200-foot chain-link fenced area containing the remains of several stone buildings and dug wells in the wooded portion along the shoreline, near the southeast portion of the parcel (an area of potential historic significance). An outfall, a valve, and piping were also observed on the west bank of Hudson River, opposite the southern tip of Rogers Island (located in Hudson River adjacent to the NYSCC parcel). An abandoned quarry and a 5.9-acre state-owned parcel are located to the south of the NYSCC parcel, and a PCB-contaminated Hudson River dredge spoils landfill (the New Moreau landfill) is located to the west of this parcel (property also owned by NYSCC). An approximate 100-foot by 100-foot historical cemetery is located west of the property. Rogers Island is east of the site across the Hudson River, between the town of Fort Edward and the town of Moreau. Rogers Island is an area of historic significance. The navigation channel within the Hudson River is on the east side of Rogers Island. Thus, water depths in the river next to the site are only 5 to 6 feet.

The NYSCC portion of the site is relatively flat. The shoreline exhibits a 10- to 15-foot drop-off with no significant dock facilities. No formal roads exist on-site. Key site features are presented on Figure 2-1.

2.2 Historical Use Information

2.2.1 Old Moreau Dredge Spoils Area

The Old Moreau portion of the site is the location of a former NE Pulp Recycling Corporation facility and a PCB dredge spoil landfill. The facility contained two large warehouses (250 feet by 400 feet and 110 feet by 150 feet) with a rail spur through the center of the larger warehouse and a pump station at the river. Only the concrete foundations and pads remain (see Figure 2-1). The rail spur was disconnected from the mainline and appears to have been removed. The section of rail within the building foundation (if present) is buried with sand. There are holes throughout the concrete pads at 5-foot intervals to allow water to drain.

2.2.2 New York State Canal Corporation Parcel

The NYSCC parcel contains historic concrete and stone building foundations. The NYSCC indicated that an electric substation was present at the site in the past, but at this time they are uncertain whether the foundations were a component of this substation.

2.3 Summary of Previous Studies

2.3.1 Old Moreau Dredge Spoils Area

Three previous investigations were identified as having been conducted on the Old Moreau parcel. The first was conducted by Weston Environmental Consultants-Designers in 1977. Weston excavated four test pits and collected soil and water samples. The analytical results for soil and water samples indicated the presence of PCBs at concentrations as high as 32 part per million (ppm). Three monitoring wells were also

installed. Groundwater samples were collected, and PCB concentrations as high as 90 parts per billion (ppb) were detected.

A second environmental investigation was conducted by Malcolm Pirnie, Inc. in 1992. Historical data were reviewed, and 59 soil borings were installed within the parcel. Fifty-one surface soil samples were collected for PCB analysis, two for total metals, and two for both total metals and Toxicity Characteristic Leachate Procedure (TCLP) analysis. The soil samples exhibited PCB concentrations as high as 170 ppm. Samples submitted for metals analysis indicated the presence of three metals (cadmium, chromium, and lead); however, all of the concentrations detected were below regulatory thresholds. The results of the field investigation were used to estimate the limits of PCB contamination, the volume of material for possible removal and the corresponding quantity of PCBs, and the costs for contaminated soil removal, relocation, and restoration of the property.

The third environmental investigation was conducted by the NYSDEC in 2002. Ninety-two surface soil samples, including three aqueous-phase samples, were collected from the parcel. The PCB concentrations ranged as high as 5.7 parts per million (ppm).

2.3.2 New York State Canal Corporation Parcel

This parcel was investigated along with the Old Moreau property during the 1977 Weston and 1992 Malcolm Pirnie investigations described above.

3. Phase II Investigation

3.1 Field Investigation

The initial phase of the environmental assessment consisted of collecting environmental and geotechnical samples. Results of the geotechnical sampling are provided in Section 4 of this report. Site photos are found in Appendix A. Boring logs and supplemental geotechnical information are found in Appendix B. Environmental samples were collected from surface soil, surface water, sediment, subsurface soil, and groundwater. Surface and subsurface soil samples were collected in dumping areas, current or former transformer locations, and areas of the sites where construction operations would be expected to occur if the site were selected. Surface water and sediment samples were collected along present site runoff flow pathways and sediment accumulation areas. Groundwater samples were collected to provide an indication of overall environmental conditions.

All environmental field investigations were performed in accordance with the August 2003 *Hudson River PCBs Superfund Site Facility Siting Work Plan* (Ecology and Environment, Inc.) and the September 2003 addenda to that plan, the *Site-Specific Field Investigations of the Final Candidate Sites* (Ecology and Environment, Inc.). Investigations at this site were performed in September and October 2003. A summary of investigation activities is provided in Table 3.1-1.

Deviations from the Work Plan
The following deviations from the work plan occurred during the field program:

- Surface water samples OM-SW03, OM-SW04, and OM-SW06 were not collected because of dry conditions at the time of sampling.

- Surface soil sample OM-SS04A was moved approximately 1,000 feet to the southwest because the site was higher in elevation than the adjacent railroad at the original location. Since the purpose of this sample was to test soil that may have been impacted from runoff from railroad property, the location was moved to a low-lying area adjacent to the railroad.

- Fifteen feet of screen were installed in temporary well OM-GP03 (rather than 10 feet) because of the presence of low yielding clay.

- One additional subsurface soil sample was collected from boring OM-GP05 because of elevated photo-ionization detector/flame ionization detector (PID/FID) readings from two separate depth intervals.

- Initially the field team was unable to collect all groundwater parameters on October 14 from temporary wells OM-GP01, OM-GP02, and OM-GP03 because of poor recharge. However, the remaining volumes were collected on October 15 and 16.

3.2 Environmental Sampling Program

3.2.1 Temporary Well Installation and Groundwater Flow

Five temporary 1-inch polyvinyl chloride (PVC) wells were installed via direct push technologies (DPT). Well construction information is provided in Table 3.2-1. Before groundwater sampling, each temporary well was purged of three times the volume of water standing in the casing or to dryness (whichever occurred first). Water quality parameters measured in the field during purging are presented in Table 3.2-2. Groundwater sample results are described below.

Groundwater elevations were measured from each temporary well upon well completion and at two separate times following completion of the sampling program. In addition, a surface water elevation was obtained from the Hudson River at the eastern boundary of the site. The top of each temporary well and a reference mark on the stream gauge were surveyed so that accurate elevation could be obtained. Table 3.2-3 summarizes the recorded elevations. Based on the limited information available from this study (five wells spaced at least 300 feet apart), groundwater flow beneath the site appears to be to the east towards the Hudson River (see Figure 3-1).

3.2.2 Field Sampling and Surveying

The initial environmental investigations at this site included collecting three surface soil samples; four surface water and seven sediment samples; subsurface soil sampling and installation and sampling of temporary monitoring wells via DPT at five locations; and installation of one stream gauge for hydrologic monitoring purposes. Table 3.2-4

summarizes the total number of field and quality assurance/quality control (QA/QC) samples collected and the parameters for which they were analyzed. Figure 3-1 illustrates all environmental investigation locations. All sample locations and stream gauges were surveyed for both horizontal and vertical positions. Survey data is presented in Appendix C. All samples were collected in accordance with the project work plans. Field chemistry data recorded from surface water sample locations are presented in Table 3.2-2. Results from each sample medium are described below.

3.2.3 Data Usability

Soil, sediment, surface water, and groundwater samples were collected from various locations at each FCS (see Section 3.3). The samples were submitted to several environmental analytical laboratories for analytical testing as directed by EPA. Appendix D provides the complete analytical results, field quality control (QC) samples, and data qualification. The specific data usability concerns regarding each FCS are still under evaluation as part of a detailed review of the hard copy data assessment reports. The following is a summary of general information regarding data usability determined from the electronic data review.

Out of a total of 4,487 reported values, 740 values were qualified during the data validation process. The data points that were qualified as estimated, bias low, or non-detect are considered useable for the purposes of this project. A total of six values were flagged as unusable, resulting in a completeness of more than 99.9%. Further evaluation of the data will include determining potential limitations of other qualified data and the impact of rejected data. In general, potential data limitations for the site are minor, as noted below:

- Low levels of several volatiles and pesticides were flagged "U" as non-detected. The results were generally below the reporting limit and, therefore, the data qualification has no impact on the data usability.

- Data qualified as unusable are for compounds that are generally highly reactive and not typically found during site investigations.

- Field blanks, including trip blanks, rinseates, and field duplicates, were collected to be applicable to all FCSs. The results are summarized in Appendix D. The results demonstrate good overall sampling and analysis precision and no significant field contamination.

- The laboratory reported tentatively identified compounds (TICs) for volatile and semivolatile compounds on the hard copy data package. TIC values are reported as "NJ" with presumptive evidence that the compounds are present and concentrations are considered highly estimated. The TICs are being reviewed to determine any indications of significant contamination not identified by the results for the known target compounds.

3.3 Environmental Sample Results and Evaluation

State and federal standards, criteria, and guidances were used for preliminary screening purposes during review of the analytical sample results for surface soil, subsurface soil, surface water, sediment, and groundwater. Exceedances of the criteria (with the exception of metals) are noted in Table 3.3-1 through 3.3-5 by shading the values that exceeded the criteria.

Metals cannot be directly compared to the criteria without additional evaluation (including evaluation of background levels) because metals occur naturally in the environment. Additionally, turbidity in surface water and groundwater samples can cause interference with metals analysis. These factors were considered in the evaluation of the significance of detected compounds.

The criteria were selected based on a review of available EPA and New York State Department of Environmental Conservation (NYSDEC) standards, criteria, and guidances for the various media sampled. The applicability of these preliminary screening criteria to the FCSs will be determined as part of further evaluation by EPA in consultation with NYSDEC and the New York State Department of Health (NYSDOH).

The following discussion identifies the samples, by medium, with compounds exceeding the screening criteria. Those compounds without appropriate screening criteria also are identified. Where available, pertinent information for comparison purposes is provided.

Soil (Surface and Subsurface)

NYSDEC, *Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels* (1994) and subsequent amendments (December 20, 2000) (TAGM 4046). The recommended soil cleanup objectives and typical eastern USA background concentrations for metals contained in TAGM 4046 were used as preliminary screening guidance for soil. Where specific guidance values were available for surface and subsurface soils (such as for polychlorinated biphenyls [PCB]) they were applied based on the depth of the samples collected. TAGM 4046 assumes a total organic carbon (TOC) of 1%.

Surface Water

NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998). These standards and guidance provide values for various water classes. Since the majority of the surface water samples were collected from unnamed ditches and ponded water areas at the site, the surface water samples collected are assumed to be Class D waters (with the exception of sample OM-SW07, where Class C standards and/or guidance values were used because the sample was collected from waters of the Hudson River at a site outfall). Class D waters are best used for fishing. However, due to natural conditions such as intermittent flow, water conditions may not be conducive to fish propagation. Surface water standards and guidance values are calculated for some inorganics based on water hardness.

Sediment
NYSDEC, *Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments* (1999). This guidance requires organic contaminants in sediments to be calculated based on sample TOC. TOC data were collected and used to calculate these screening values. Various criteria for bioaccumulation and acute and chronic toxicity are presented in this document for protection of human health, benthic aquatic life, and wildlife. The benthic aquatic life chronic toxicity protection level for sediment was selected as the preliminary screening value for all collected sediment samples.

Groundwater
NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998) provides Class GA standards and guidance values. The *National Primary and Secondary Drinking Water Regulations, Current Drinking Water Standards* (2002) maximum contaminant levels (MCLs) were used for preliminary screening for groundwater samples collected from temporary wells.

3.3.1 Surface Soil

Volatile Organic Compounds (VOCs)
No VOCs exceeding screening criteria were detected in surface soil samples (see Table 3.3-1).

Compounds without screening criteria that were detected were isopropylbenzene (2 µg/kg [J]) and methyl acetate (1 µg/kg [J]) in OM-SS01 and methyl acetate (3 µg/kg) in OM-SS04.

Semivolatile Organic Compounds (SVOCs)
Exceedances of screening values (see Table 3.3-1) occurred in sample OM-SS04, a composite sample along the rail spur of (benzo(a)anthracene [460 µg/kg], benzo(a)pyrene [520 µg/kg], chrysene [590 µg/kg], and dibenzo(a,h)anthracene [190 µg/kg [J]).

Pesticides
No pesticides that exceed the screening criteria were detected.

Herbicides
No herbicides were detected in the surface soil samples.

PCBs
No PCBs were detected in the surface soil samples.

Hexane Extractable Materials (Total Petroleum Hydrocarbons [TPH])
No TPHs were detected in the soil samples.

Inorganics
Beryllium, chromium, copper, iron, magnesium, nickel, and zinc were all found above screening criteria (see Table 3.3-1). Metals are naturally occurring constituents of soil that often exceed criteria. The levels of these metals were within or close to the eastern USA background range, with the exception of zinc in OM-SS03, which was detected at more than three times the background range. Therefore, the presence of these metals is not of concern.

Low levels of cyanide (0.29 mg/kg, 0.23 mg/kg, and 0.34 mg/kg) were detected in OM-SS01 through OM-SS03, respectively (see Table 3.3-1). Although there are no screening criteria for cyanide, these low levels are not of concern.

3.3.2 Subsurface Soil

VOCs
No VOCs that exceed the screening criteria were detected.

Trichlorofluoromethane, a compound without screening criteria, was detected at low levels in OM-GP01 (0.7 µg/kg), OM-GP02 (0.7 µg/kg), and OM-GP03 (0.8 µg/kg). This constituent is a Freon compound that may be present in the sample as a laboratory artifact. Therefore, the presence of this constituent is not of concern.

SVOCs
No SVOCs were detected in the subsurface soil samples.

Pesticides
No pesticides that exceed the screening criteria were detected.

PCBs
No PCBs were detected in the subsurface soil samples.

Inorganics
Beryllium, calcium, chromium, copper, iron, magnesium, nickel, and zinc were all found above screening criteria (see Table 3.3-2). Metals are naturally occurring common constituents of soil that often exceed criteria. The levels of these metals are within or close to the eastern USA background range. Therefore, the presence of these metals is not of concern.

3.3.3 Surface Water

VOCs
No VOCs were detected in the surface water samples.

SVOCs
Bis(2-ethylhexyl)phthalate was detected in OM-SW07 (3 µg/L) above its screening criteria (0.6 µg/L) (see Table 3.3-3). Normally, phthalates are typically detected at low

concentrations in environmental samples as an artifact from the use of protective gloves both in the field and laboratory. However, this sample was collected from an outfall in the Hudson River adjacent to an eroded slope containing buried plastic waste. Therefore, this constituent may not be a field/laboratory artifact.

Pesticides
No pesticides were detected in the surface water.

PCBs
No PCBs were detected in the surface water.

Anions
Chloride, nitrate-N, and sulfate were detected in all surface water samples (see Table 3.3-3). Chloride, fluoride, and nitrate-N concentrations were relatively uniform between all the surface water locations; however, sulfate concentrations varied and were highest at OM-SW01.

Inorganics
Only iron (323 to 950 µg/L) and mercury (0.13 µg/L [B]) were detected above their respective standards (300 µg/L and 0.0007 µg/L) (see Table 3.3-3). Iron is a naturally occurring constituent of surface waters that often exceeds criteria. Although mercury exceeded its standard at OM-SW01, the value is estimated because it was detected below its detection limit and, therefore, it is not of concern.

Hardness
Hardness concentrations ranged between 175 mg/L and 440 mg/L (see Table 3.3-3).

3.3.4 Sediment

VOCs
No VOCs that exceeded the screening criteria were detected (see Table 3.3-4).

Compounds without screening criteria that were detected were 1,1,2-trichloro-1,2,2-trifluoroethane and chloromethane at very low concentrations (1 µg/kg or less) (see Table 3.3-4). 1,1,2-trichloro-1,2,2-trifluoroethane is a Freon compound that may be present in the sample as a laboratory artifact. Since these compounds were detected at very low levels, they are not of concern at this site.

SVOCs
No SVOCs that exceeded the screening criteria were detected (see Table 3.3-4).

Compounds without screening criteria that were detected were acetophenone (240 µg/kg [J]), benzo(a)pyrene (190 µg/kg [J]), benzo(b)fluoranthene (160 µg/kg [J]), benzo(k)fluoranthene (220 µg/kg [J]), and chrysene (250 µg/kg [J]) in OM-SE02; benzo(a)pyrene (450 µg/kg [J]), benzo(b)fluoranthene (470 µg/kg [J]), benzo(g,h,i)perylene (270 µg/kg [J]), benzo(k)fluoranthene (390 µg/kg [J]), chrysene

(550 µg/kg [J]), and indeno(1,2,3-cd)pyrene (350 µg/kg [J]) in OM-SE05; and benzaldehyde (420 µg/kg [J]) in OM-SE06 (see Table 3.3-4).

Pesticides
Beta-BHC (7.8 µg/kg [J]) and endosulfan I (5.8 µg/kg[J]) nin OM-SE04; endosulfan I in OM-SE01 (4 µg/kg [R]), OM-SE02 (22 µg/kg [JN]), OM-SE05 (15 µg/kg [R]), and OM-SE06 (4.4 µg/kg [J]); and gamma-chlordane OM-SE07 (3.5 µg/kg) exceeded screening criteria. Data from OM-SE 01 and OM-SE05 is qualified as unusable.

The only compound without screening criteria that was detected was 4,4' DDE in OM-SE01 (14 µg/kg [J]), OM-SE02 (40 µg/kg [J]), OM-SE04 (5.7 µg/kg [JN]), OM-SE05 (46 µg/kg [J]), and OM-SE06 (4.9 µg/kg [J]).

PCBs
Aroclor 1242 in OM-SE02 (19,000 µg/kg); Aroclor 1248 in OM-SE01 (1,600 µg/kg [J]), OM-SE04 (360 µg/kg), OM-SE05 (2,600 µg/kg [J]), and OM-SE07 (440 µg/kg [J]); and Aroclor 1254 in OM-SE02 (3,300 µg/kg [J]) and OM-SE05 (3,800 µg/kg [J]) were detected in sediment samples at concentrations above screening criteria (see Table 3.3-4). The presence of PCBs at these locations is to be expected since the samples were collected from a drainage ditch on the Hudson River floodplain, at the toe of the Old Moreau PCB-contaminated dredge-spoil landfill, which contains PCB concentrations up to 170,000 µg/kg, and from an outfall within the Hudson River.

Inorganics
Antimony, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, and zinc were detected above at least one of their screening values (see Table 3.3-4). Metals are naturally occurring constituents of sediment that often exceed criteria. While most of these values exceeded only the lowest effect criteria, cadmium (10.4 mg/kg) slightly exceeded the severe effect criteria on OM-SE02. Chromium (214 mg/kg [J]) and 275 mg/kg [J]) and lead (238 mg/kg and 271 mg/kg) exceeded severe effect criteria in OM-SE02 and OM-SE05 by more than two times the value, and zinc (1,650 mg/kg, 981 mg/kg, and 288 mg/kg) in OM-SE01, OM-SE02, and OM-SE05 exceeded the severe effect level by 6 times, 3.5 times, and slightly more than 1 times the value, respectively.

Cyanide was detected at all sediment locations except OM-SE04 (see Table 3.3-4). No screening criteria are available for this compound. Concentrations ranged from 0.27 mg/kg to 11 mg/kg.

Total Organic Carbon (TOC)
Total organic carbon concentrations ranged from 6,900 to 73,000 mg/kg (see Table 3.3-4).

3.3.5 Groundwater

VOCs
No VOCs were detected in groundwater samples.

SVOCs
No SVOCs that exceed the screening criteria were detected (see Table 3.3-5).

Only one compound without screening criteria (caprolactam) was detected (see Table 3.3-5). The highest levels of caprolactam were in OM-GP01 (1,900 µ/L) and OM-GP03 (3,600 µ/L). OM-GP01 is near an electrical substation and OM-GP03 is near the railroad.

Pesticides
No pesticides that exceed the screening criteria were detected.

PCBs
Aroclor 1248 (1.6 µg/L) was detected above its standard at OM-GP04, which is downgradient of the Old Moreau dredge-spoil landfill (see Table 3.3-5).

Inorganics
Aluminum, iron, magnesium, manganese, and sodium were each detected above screening criteria (see Table 3.3-5). These metals are naturally occurring constituents of groundwater that often exceed criteria. Therefore, the presence of these metals is not of concern.

4. Geotechnical Assessment

A subsurface field investigation was conducted at the Old Moreau Dredge Spoils Area/NYSCC site to obtain geotechnical information. The primary purpose of collecting this data was to determine if there are geotechnical limitations associated with the use of the site for a sediment processing/transfer facility. Data collection included:

- Review of available subsurface information from previous studies; and
- Subsurface investigation, which included logging the subsurface geology.

Presented below is a summary of the site geologic and geotechnical data collected.

As discussed with EPA, existing information regarding geotechnical subsurface condition is available or is not needed for this site. Subsurface soil investigation was limited to investigation activities completed for environmental sampling. Five locations OM-GP01 through OM-GTP05 were selected in the northern and eastern parts of the site (See Figure 3-1). At each location, a continuous vertical soil profile was completed from ground surface to a depth of 25 feet below grade in 4-foot increments using direct-push technology (DPT). Subsurface soil geology was recorded in boring logs, presented in Appendix B.

DPT soil data indicates variable subsurface conditions. In the far northeastern corner, site soils consist of clays containing layers of silts and sands. Further to the south, an

approximately 5-foot layer of crushed concrete, stone, and silt overlie a clay containing silt and sand seams, where occasional gravel was encountered. Two feet of crushed concrete and silt located along the northwest side overlie clay containing sand and silt seams. Gravelly silty sands and gravelly sands underlain by sandy clays and clay silts underlie the south-central part of the site to a depth of 25 feet.

Site studies by Malcolm Pirnie (1992) indicate the western part of the site contains clay and silt soils, while sandy and silty soils dominate the eastern part of the site. They also report that their site soil investigation findings show silty sands and clayey soils on site. Dredge spoils were also present.

5. Utility Assessment

5.1 Preliminary Assessment

A preliminary utility assessment was completed as part of the site-specific field investigation of the Final Candidate Sites. Major site utilities identified on-site are shown on Figure 2-1. The assessment included the following steps:

1) Observations of site surface utilities such as overhead power or telephone lines, electrical transformers, manholes, sewer outfalls, and water hydrants were made.

2) Dig Safely New York (Dig Safe) was contacted as part of the utility clearance process before subsurface/intrusive work activities, including direct communication with various utility operators, as needed. Operators of on-site utilities provided information.

3) Available site maps were reviewed. Maps were obtained from various sources, including property owners.

It is anticipated that further utility assessments will be completed at the Recommended Sites. Further assessment may include contacting local municipal offices for information, opening manholes to determine flow paths, and dye testing. Further assessment may be conducted as part of the design evaluation process or during other additional investigation of Recommended Sites.

5.2 Findings and Observations

Utilities identified at the Old Moreau site included a telecommunications line (Level 3 Communications, Inc.) located in the railroad right-of-way that parallels the western site border. Overhead electrical power lines are located along West River Road.

6. Survey of Terrestrial, Archaeological, and Architectural Resources (STAAR)

Section 106 of the National Historic Preservation Act requires the federal agencies to take into account the effect that facility siting may have on cultural resources that are listed or are eligible for listing on the National Register of Historic Places (NRHP). Phase IB field investigations continued the cultural resources studies and are specifically designed to determine the presence and extent of cultural resources within the Old Moreau Dredge Spoils Area/New York State Canal Corporation (NYSCC) site (see *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plan: Site-Specific Field Investigations of the Final Candidate Sites*). Field activities involved archaeological, geomorphological, and architectural investigations.

6.1 Archaeological Investigation

Archaeological reconnaissance was conducted in July 2003 and fieldwork was conducted October 29-30, 2003. Twenty shovel test pits were excavated within this 41.2-acre site. Shovel testing focused around the historic ruins of the former Jones/Rogers Estate. This property is potentially eligible both archaeologically and architecturally for listing on the NRHP. However, no cultural resources (i.e., artifacts, midden deposits) were found during shovel testing. The historic site appears to be confined within a chain-link fence established around the structural ruins.

6.2 Geomorphological Investigation

Three trenches were excavated by backhoe at this site between October 21 and October 23, 2003. Trench 1 and Trench 2 were excavated along the southwestern bank of the Hudson River, to the right of the road that leads into the project area. Trench 3 was excavated on the northwestern bank of the river, below a steep slope. The three backhoe trenches totaled 30 meters in length. Trench dimensions were all approximately 1.3 meters in depth and 10 meters in length.

Prehistoric Site Sensitivity

Although the project area is known to be rich in history due to local and regional activities during the Revolutionary War, no artifacts of any kind or paleosols were uncovered. The areas that were deep-tested appear to remain almost constantly wet because they are adjacent to the river and are located within the floodplain. Since most of the sediments within the trenches displayed gley discoloration, it was clear that flooding occurs regularly. It is doubtful that any prehistoric signs of habitation could remain intact.

6.3 Architectural Assessment

Fieldwork was conducted in July 2003 and October 13, 15, and 17, 2003. The Old Moreau Dredge Spoils property does not contain any structures more than 50 years old. Structures associated with a large industrial complex shown in aerial photographs have since been demolished. Only three large concrete pads remain.

The NYSCC property contains remains of historic structures. This property is associated with David Jones, fiancé of Jane McCrea, who was allegedly massacred by Native Americans allied with the British in 1777. The property was later purchased by Colonel Thomas Rogers, a prominent officer during the American Revolution, and became known as the Rogers Estate. This property, including the Rogers family cemetery located immediately to the west of the site, is potentially eligible for listing in the NRHP. One New York State Historic Resource Inventory (HRI) form is being prepared to document the Jones house. The Jones house is located in the extreme southeast portion of the site.

Rogers Island, which may contain structures associated with American colonial and Revolutionary War history, is located approximately 600 feet to the east of the site. One structure on the island is visible from the eastern edge of the site and was evaluated for potential NRHP-eligibility. It appears to be more than 50 years old but is a modest vernacular structure that has undergone numerous alterations and additions. It does not appear to meet NRHP-eligibility criteria. There are no architectural concerns associated with this site and no further architectural investigation is recommended. No HRI forms were completed for this structure.

7. Wetland Assessment

7.1 Determination and Delineation Methods

Wetland determinations and delineations of the Old Moreau Dredge Spoils Area/NYSCC site on September 18, 2003, followed the routine approach noted in the U.S. Army Corps of Engineers (USACE) 1987 *Wetland Delineation Manual*, as outlined in Section 3.6.2.2 of the *Hudson River PCBs Superfund Site Facility Siting Work Plans* (Work Plans) (Ecology and Environment, Inc. August 2003). Applicable data (e.g., soil surveys, National Wetland Inventory [NWI] mapping, etc.) were reviewed beforehand to provide background information (see Master Work Plans, Section 3.6.2.1). Determination and delineation activities were limited to those areas previously identified as potential wetlands through data review (i.e., NWI and NYSDEC mapping) and previous site reconnaissance efforts.

The Old Moreau Dredge Spoils Area (Old Moreau) property covers approximately 31.6 acres. About 70% of the site is previously developed/disturbed land with scattered vegetation, and the remainder is wooded. Topography across the site is relatively level. However, there is a relatively steep slope along the riverbank near the southern end of the property. Observations at the time of the field investigations indicated a bank height of approximately 10 feet above river stage. The waterfront is undeveloped and consists of a sand beach approximately 5 to 10 feet wide. A closed landfill area located in the southwestern portion of the site (i.e., the Moreau Dredge Spoils Disposal area) is somewhat raised and contains a drainage ditch at the toe of the mound that leads to the river.

The NYSCC portion of the site is an approximately 9.6-acre parcel located southwest of the Old Moreau site and is characterized by open/wooded land containing miscellaneous surficial dumps. Surficial debris (consisting of domestic trash and appliances) was

observed in the wooded area in the southeast corner of the site and in the eastern portion of the drainage ditch that runs along the southern border of the NYSCC parcel.

7.2 Review of Existing Information

Review of NWI mapping indicated a 1.0-acre wetland classified as PFO1C (palustrine, forested, broadleaved deciduous, seasonally flooded) (Figure 7-1). No wetlands were previously mapped by NWI on the NYSCC parcel. NYSDEC wetland mapping did not identify any wetlands on this site.

Although NWI wetland maps identify the river as a riverine wetland, sample plots and determinations along the shoreline were limited to areas that exhibited wetland characteristics and occurred above the ordinary high water mark. Determination and delineation efforts did not extend into the river.

The mapped soil types include Limerick-Saco complex, Udipsamments, and Hudson silt loam. The Limerick soils appear on the Saratoga County hydric soils list and the Udipsamments have the potential for hydric inclusions. The Limerick-Saco complex is mapped along the eastern boundary of the Old Moreau parcel, paralleling the river. These soils are deep and poorly to very poorly drained. Available water capacity is moderate to high (U.S. Department of Agriculture 2003). Soil samples taken in the wetlands within this area were similar to the soils described in the *Official Soil Series Descriptions* (U.S. Department of Agriculture 2003). Some sediment deposits of silt and coarse sand were observed within the shoreline area. The southern portion of the site, along with the entire NYSCC site, is mapped as being Udipsamment soil. The Udipsamments are moderately well to excessively drained soils formed by deposits of Hudson River dredge spoil material. The western portion of Old Moreau is mapped as Hudson silt loam. This is a clayey soil formed in lake-laid deposits. It is deep and moderately well drained (U.S. Department of Agriculture 2003).

7.3 Results of the Wetland Assessment

Field determination procedures resulted in the delineation of approximately 1.03 acres of wetland (Table 7-1) located within the floodplain area adjacent to the river (Figure 7-1). Four observation plots were completed on-site, three of which were determined to be within wetlands. Topographic variability and position within the landscape were the primary factors defining wetland boundaries. Wetland OM/NYSCC (1) (corresponds to observation plot OM/NYSCC-1) is a palustrine, forested complex located in the northeast corner of the Old Moreau parcel. This area is a low drainage channel with north-south flow bounded by a steep slope to the west and an upland buffer to the east. The dominant trees species within the forested wetland include red maple (*Acer rubrum*) and slippery elm (*Ulmus rubra*). Herbaceous vegetation includes sensitive fern (*Onoclea sensibilis*), ostrich fern (*Matteuccia struthiopteris*), false nettle (*Boehmeria cylindrica*), and jack-in-the-pulpit (*Arisaema triphyllum*). Soils within the wetland consisted of a silt loam that exhibited increasing sand content with depth. Slope runoff, input from the river during high flow events, and overland flow all contribute to the hydrology of this area.

Table 7-1 Wetland Delineation Summary

Wetland ID	Community Type	Acreage
OM/NYSCC (1)	PFO	0.29
OM/NYSCC (2)	PEM	0.09
OM/NYSCC (3)	PFO	0.65
Total Acreage		**1.03**

Key:

PEM = Palustrine, emergent.
PFO = Palustrine, forested.

Wetland OM/NYSCC (2) (corresponds to observation plot 2) is a small, depressional (0.09-acre) palustrine, emergent (PEM) wetland located south of OM/NYSCC (1) at the bottom of a slope that forms its western boundary. Dominant vegetation includes broadleaf cattail (*Typha latifolia*), common reed (*Phragmites australis*), wool grass (*Scirpus cyperinus*), hop sedge (*Carex lupilina*), reed canary grass (*Phalaris arundinacea*), boneset (*Eupatorium perfoliatum*), purple loosestrife (*Lythrum salicaria*), blue vervain (*Verbena hastata*), and green bulrush (*Scirpus atrovirens*). Hydrology is influenced by seep drainage from upgradient areas and some overland flow through a drainage ditch (Figure 7-1). The soil is a silt loam with an increasing clay component in deeper layers. OM/NYSCC(2) is hydrologically connected to OM/NYSCC (3).

Wetland OM/NYSCC (3) (corresponds to observation plot OM/NYSCC-3) is a palustrine, forested area, similar in structure and vegetative composition to OM/NYSCC (1). This area is located adjacent to the toe of slope of a steep hill to the west and is separated from the river by a raised upland area to the east. A well-defined drainage/ input channel developed in the southern portion of the wetland area (Figure 7-1). Silver maple (*Acer saccharinum*) was the dominant tree species with sensitive fern (*Onoclea sensibilis*), reed canary grass (*Phalaris* arundinacea), stout-wood reed grass (*Cinna arundinacea*), and buttonbush (*Cephalanthus occidentalis*) dominant in the herbaceous layer. The soil was generally a silt/clay loam with several distinct layers. A layer of coarse sand was found between 3 and 5 inches in the profile. Below that layer a 1-inch layer of gleyed clay-loam was found. Hydrologic input into the wetland is via a shallow channel and slope that drains OM/NYSCC (2), side slope seeps from the steep slope to the west, and some input from the river through a channel that is oriented north-south and is located near the center of the wetland. During periods of high river stage this latter channel acts as a backwater area, impeding drainage through the wetland into the river. Conversely, during times of low river levels this channel appears to drain water from the wetland.

The delineated wetlands, though similar in size, differ slightly from those identified by the NWI mapping. The previously mapped PFO1C correlates to wetlands OM/NYSCC (2) and OM/NYSCC (3) with some minor variation (field-delineated wetlands being 0.27 acre smaller in size). Wetland OMNYSCC (1) is located in the northern portion of the site, where no wetlands had been previously identified. The wetlands are located near the bases of hills, relatively close to the elevation of the river and likely are hydrologically influenced by groundwater seepage from upgradient areas and river stage.

No wetlands were identified on the NYSCC parcel during the survey. The riverbank is relatively steep and high within the NYSCC parcel. Additionally, previous dumping/landfilling activities have occurred on the site, which appear to have raised the ground elevation above pre-disturbance levels.

8. Floodplain Assessment

An initial floodplain assessment was conducted on the Old Moreau/NYSCC site in order to determine the presence, extent, and orientation of Federal Emergency Management Agency (FEMA)-mapped floodplains within site boundaries. Flood magnitudes and historic river stages from gauging stations as close as available to the site also were examined to obtain an initial sense of the characteristics of on-site flooding. Appendix E describes the methodology and assumptions involved in this assessment.

8.1 Location and Orientation of the Floodplain

Figure 8-1 shows that portions of the Old Moreau/NYSCC site are located within the 100-year and 500-year floodplains. The floodplain areas were obtained from Flood Hazard Boundary Maps and the Town of Moreau (Saratoga County) Flood Insurance Study (August 1995) from FEMA's Federal Insurance Administration.

The site is located on the west side of the Hudson River, opposite Rogers Island, in the Town of Moreau. The approximate area of the site is 41.2 acres (see Table 8-1). Approximately 18% (7.6 acres) of the total area of the site is within the base (100-year) floodplain, which is located within land adjacent to the Hudson River. River frontage is approximately is 2,865 feet long.

Within the site, the flood plain is oriented in a narrow strip that parallels the river and is located entirely along the eastern edge of the parcel. The greatest width of the floodplain within the site is 185 feet.

Table 8-1 Summary of Old Moreau/NYSCC Site and Floodplain Characteristics

Is a portion of the site in the base (100-year) floodplain?	Yes
Total area of the site	41.2 acres (1,794,283 ft^2)
Area of the site within the base (100-year) floodplain	7.6 acres (330,332 sf)
Percentage of the site area within the base (100-year) floodplain	18.4%
Perimeter of the site (total length)	8,103 ft
Perimeter of the site bordering the Hudson River (river frontage)	~2,865 ft
Greatest width between the outer boundary of the base floodplain and the Hudson River boundary	~185 ft

8.2 100-year Flood

The FEMA maps show the 100-year flood elevation at the Moreau site to be between 130 feet and 131 feet National Geodetic Vertical Datum (NGVD). A brief examination of site topography and the FEMA mapping suggests that site elevation characteristics have not changed significantly since the FEMA floodplain modeling and mapping occurred.

The closest gauge station is in Fort Edward, approximately 0.6 miles upstream of the site boundary. Because of the relative proximity of the site to the gauge station, values of the 100-year flood at the gauge station will be similar to the site. The National Weather Service flood stage at the Fort Edward gauge station is 127 feet NGVD. At 127 feet NGVD, water floods River Road in Northumberland, reaches camps in Lake Luzerne, and may result in flooding in Stillwater (National Weather Service Advanced Hydrologic Prediction Service, http://ahps.erh.noaa.gov/cgi-bin/ahps.cgi?aly&Hudson%20River).

Flood magnitudes were calculated using statistical methods from the twenty-six years of flow data at the gauge station after the Fort Edward dam was removed. Based on this data, the 100-year flood stream flow is 47,772 cubic feet per second (cfs). A flood of this magnitude has not occurred in the twenty-six years of modern data. In that time, there have been two flow events greater than 10-year floods (May 3, 1983 and January 10,1998).

The Flood Insurance Study indicates that "since the completion of the Sacandaga Reservoir, major floods have occurred on the Hudson River on January 1, 1949, April 3, 1976, and April 28, 1979 . . . the flood of 1949 had a recurrence interval of close to 100 years."

8.3 Local Flooding

Historic water level data (1916 to 2000) also is available from the NYSCC Lock 7. Lock 7 is close to the Old Moreau site, directly opposite the southern boundary on the eastern side of the Hudson River. The highest water level at the downstream side of Lock 7 was 131.37 feet NGVD (April 13, 1922). Based on the NYSCC data, the 100-year flood elevation (between 130-131 feet) may have been reached within site boundaries once between 1916 and 2000.

Spot elevations surveyed along the river edge of the site boundary range from 118.1 to 119.5 feet NGVD. The contour information (5-foot intervals) provided with 2002 aerial photography of the site shows a 120-foot contour line along the land-river edge. Therefore, the 100-year flood would put the river frontage of the site under approximately 12 feet of water.

Given the proximity to the Hudson River, the area of the site that is located within the 100-year floodplain, and site topographic characteristics, the site appears to be subject to flooding events. While the probability of a 12-foot inundation event (100-year flood) is remote, NYSCC water level data on the downstream side of Lock 7 provide evidence that flooding on a smaller scale likely occurs almost annually at this site. The site shoreline boundary would have been under approximately 12 feet of water during the maximum

high water level on April 3, 1922 and under an average of 5.6 feet of water during the maximum flow recorded for each year. The Flood Insurance Study shows the 10-year flood profile in the vicinity of the site to be 128 feet NGVD.

Limited flooding was observed on October 28, 2003 in the northern extent of the floodplain adjacent to the river.

9. Coastal Management Area Assessment

The Old Moreau Dredge Spoils Area/NYSCC site is not located in the state-designated coastal zone. Therefore, no direct impacts are expected as a result of the potential use of this site. EPA will prepare an additional phase of its coastal zone consistency assessment and subsequent coastal zone consistency determination, covering potential indirect and cumulative impacts from the operation of sediment processing/transfer facilities, once the Phase 1 and Phase 2 dredging facility locations are selected.

10. Baseline Habitat and Threatened and Endangered Species Assessment

10.1 Site Habitat Description

The Old Moreau site description information is presented in the *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plans: Site-Specific Field Investigations of the Final Candidate Sites* (Ecology and Environment, Inc. September 2003). The site is a former industrial/commercial facility located in a rural setting. The disturbance from these activities has greatly influenced the availability, extent, and diversity of on-site habitats. The buildings have been removed and the rail line has been buried. The demolition of the old buildings has resulted in the creation of a park-like setting on portions of the site. The concrete foundations of the main buildings are still present but have had holes drilled in them for site drainage, and grasses are planted along the sides of the foundation. A portion of the site contains the remnants of a concrete building foundation (rural structure exterior community type), and another portion of the site contains a dredge spoils area (i.e., landfill). The majority of habitats on-site are composed of relatively early successional (less than 20 years) to mid-successional (20 to 60 years) vegetation communities, with several areas of late successional (greater than 60 years) along the forested shoreline.

Figure 10-1 shows the habitat community types, as defined by Edinger et al. (2002) that are present on the site. Field investigations were conducted on September 18 and October 28, 2003 to determine habitat availability within the site and to provide descriptions of existing habitat structure, diversity, and condition. Fourteen community types have been mapped as occurring on this 41-acre site (Figure 10-1). No significant or unique habitats were among them. The predominant communities (relative to total cover across the site) are briefly described below. A description of the different community types from Edinger et al. (2002) is presented in Appendix F.

Dredge Spoils/Successional Northern Hardwood/Successional Old Field
The dredge spoils/successional northern hardwoods/successional old field community type covers 29% of the site. The dredge spoils/successional northern hardwoods/successional old field contained areas of successional shrubland and old field but is dominated by the successional northern hardwood forest community type. These communities were grouped since there are no distinct transition areas among these habitats. Dominant trees include black locust, cottonwood, quaking aspen, and box elder. Shrubs include Eastern white pine, cottonwood, box elder, gray dogwood, sumac, and black locust. The herbaceous layer contained Queen Anne's lace, goldenrods, asters, and blackberries.

Pine Northern Hardwood
The pine northern hardwood (PNH) community is the next dominant community on the site, accounting for 17% of the total area. The predominant species include Northern white cedar, Eastern white pine, red oak, white ash, sugar maple, cottonwood, and black locust; the shrub layer is dominated by honeysuckles. Herbaceous plants include white snakeroot, white campion, goldenrods, Virginia creeper, and wild grape. Several larger, older trees are scattered within portions of the site in the PNH communities. These include several large red oak trees (> 20 inches diameter breast height [dbh]), an Eastern white pine (30 inches dbh), and a Northern red cedar (31 inches dbh).

Successional Old Field
The successional old field (SOF) community comprises approximately 13% of the site. The SOF communities contained sedges, goldenrods, birdsfoot trefoil, Queen Anne's lace, butter and eggs, bush clover, vetch, and bluegrass species, with scattered woody growth that includes cottonwood, sumac, black willow, and Eastern white pine on portions of the site. Asters and goldenrods composed a majority of the herbaceous ground cover.

Mowed Pathway
The mowed pathway community comprises approximately 9% of the site. This community is located around the remnant building foundations and railroad present on the site. The predominant plant species include goldenrods and sedges. The successional shrubland (SS) accounts for approximately 5% of the site and is dominated by honeysuckles, sumac, cottonwoods, black locust, box elder, and green ash. The herbaceous layer contains asters, goldenrods, poison ivy, blackberries, and sedges.

Successional Northern Hardwood
The successional northern hardwood (SNH) accounts for approximately 7% of the site area. Predominant species include quaking aspen, black locust, cottonwood, box elder, and red maple. Additional tree species include American elm, Eastern white pine, green ash, and white ash. The shrub layer is dominated by honeysuckles. Some areas exhibited moderate densities of green ash, white ash, and multi-flora rose. The herb layers contained asters, goldenrods, poison ivy, Queen Anne's lace, and blackberries. Some areas of the SNH were dominated by quaking aspen and black locust, or box elder, sumac, and cottonwoods.

Other Communities

The maple-basswood rich mesic forest accounts for 4% of the total area of the site. Representative species include silver maple, red maple, and bitternut hickory as the dominant tree species, with occasional basswoods. The age of the forest stand appeared to be early to middle-aged (individual trees ranged from 5 to 12 dbh). The shrub layer is sparse and contained small pockets of honeysuckle spp. At the time of the visit (autumn) there was virtually no herbaceous layer, with scattered growth of ostrich fern and sensitive fern.

Aquatic communities occurring on-site include backwater slough and an intermittent stream. The backwater slough is a shallow bay, which is connected to the Hudson River. Emergent vegetation (i.e., cattail) and open water are present in this community. The intermittent stream ends at the apparent base of the dredge spoils area. The stream is ephemeral and no water was observed during the field visits. Wetland communities present on the site are discussed in further detail in Section 7. The northern shoreline community is characteristic of a forested floodplain with portions of shallow sand and gravel beach, interspersed in pockets of heavy vegetation. The southern end of the site has a steep bank with a rock riprap toe layer. Most the shoreline is shallow with a predominantly sand substrate. Some large woody debris structure is present along the shoreline.

Common vegetation species and community structure have an influence on wildlife occurrences on the site. The availability of forested, shrubland, and old field communities provides a diverse habitat for wildlife species. Incidental wildlife observations included white-tail deer tracks, beaver tracks, gray squirrel, red fox, raccoon tracks, wood frog, green frog, tree frog, turkey vulture, red-tailed hawk, mallards, and various songbirds.

10.2 Endangered Species Act Issues

Correspondence with the U.S. Fish and Wildlife Service and NYSDEC indicates that there are no threatened or endangered species issues associated with this site. Wintering bald eagles may migrate through the area but are not known to use the site. A biological assessment will be prepared that will examine the potential impacts associated with the construction and operation of a sediment processing/transfer facility for each of the Suitable Sites.

Table 3.1-1 Summary of Activities, Hudson River PCBs Superfund Site

		Energy Park/Longe/ NYS Canal Corporation Site	Old Moreau Dredge Spoils Area/NYS Canal Corporation Site	Georgia Pacific/ NYS Canal Corporation Site	NYS Canal Corporation/ Allco/Leyerle Site	Bruno/Brickyard Associates/ Alonzo Site	State of New York/First Rensselaer/ Marine Management Site	OG Real Estate Site
Environmental Investigation	Environmental Sampling	09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
	Temporary Well Installation	09/29/03 - 10/01/03	10/02/03	10/08/03	10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	10/07/03
	Temporary Well Sampling	10/16/03	10/14/03 - 10/16/03	10/13/03 - 10/14/03	10/15/03	10/15/03 - 10/16/03	10/10/03 - 10/15/03	10/15/03
Surveying		10/01/03 - 11/11/03	10/08/03 - 11/11/03	10/09/03 - 10/29/03	10/21/03 - 10/31/03	10/15/03 - 10/29/03	10/21/03 - 11/10/03	11/11/03 - 11/13/03
Geotechnical Investigation		09/29/03 - 10/01/03	NA	10/08/03	10/07/03 - 10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	NA
Utilities Assessment		09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
STAAR		10/06/03 - 10/16/03	10/13/03 - 10/30/03	10/11/03 - 10/28/03	10/23/03 - 11/13/03	10/17/03 - 11/05/03	10/25/03 - 11/14/03	11/15/03
Wetland Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Floodplain Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Coastal Management Areas		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Baseline Habitat Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Threatened and Endangered Species Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
IDW Disposal		TBD	TBD	TBD	TBD	TBD	TBD	TBD

Key:

IDW = Investigation-derived waste.
NYS = New York State.
PCBs = Polychlorinated biphenyls.
STAAR = Survey of Terrestrial Archaeological and Architectural Resources
TBD = To be determined.

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/ Screen I.D. (inches)	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
EPL	EPL-GP01	9/29/03	9/29/03	N	10/16/03	25.4	135.11	1	27.4	137.2	15.4-25.4	5-25.4	2-5	2.0
	EPL-GP02	9/29/03	9/29/03	N	10/16/03	25	137.91	1	27.4	140.42	15-25	4-25	2-4	2.4
	EPL-GP03	9/29/03	9/29/03	N	10/16/03	25.1	135.52	1	27.51	137.99	15.1-25.1	4-25.1	0.6-4	2.41
	EPL-GP04	10/1/03	10/1/03	N	10/16/03	25	129.47	1	27.3	131.79	15-25	4-25	2-4	2.3
	EPL-GP05	10/1/03	10/1/03	N	10/16/03	25	132	1	27.5	134.53	15-25	4-25	2-4	2.5
OM	OM-GP01	10/2/03	10/2/03	N	10/16/03	25	157.67	1	27.4	160.19	15-25	4-25	2-4	2.4
	OM-GP02	10/2/03	10/2/03	N	10/16/03	25.4	141.79	1	27.62	144.2	15.3-25.3	4-25.3	2-4	2.32
	OM-GP03	10/2/03	10/2/03	N	10/15/03	25	155.84	1	27.3	158.37	10-25	4-25	2-4	2.3
	OM-GP04	10/2/03	10/2/03	N	10/15/03	25	143.5	1	22.5	146	10-20	4-25	0-4	2.5
	OM-GP05	10/2/03	10/2/03	N	10/14/03	25	133.43	1	27.5	135.93	15-25	4-25	0-4	2.5
GPS	GPS-GP01	10/9/03	10/9/03	N	10/13/03	25	108.4	1	28.15	111.60	15-25	4-25	2-4	3.15
	GPS-GP02	10/8/03	10/8/03	N	10/14/03	9.3	108.68	1	11.8	111.19	4.3-9.3	3-9.3	0.5-3	2.5
	GPS-GP03	10/8/03	10/8/03	N	10/14/03	25.5	102.76	1	27.55	104.76	15.5-25.5	4-25.5	2-4	2.05
	GPS-GP04	10/8/03	10/8/03	N	10/14/03	25.7	112.02	1	28.2	114.48	15.7-257	4-25.7	2-4	2.5
	GPS-GP05	10/8/03	10/8/03	N	10/13/03	25	100.71	1	27.45	103.31	14.85-24.85	4-25	2-4	2.6
	GPS-GP06	10/9/03	10/9/03	N	10/14/03	25	110.76	1	17.5	113.24	5-15	3-15 [A]	1-3	2.5
	GPS-GP07	10/9/03	10/9/03	N	10/14/03	25	112.98	1	22.4	115.38	10-20	3-20[B]	0.5-3	2.4
	GPS-GP08	10/8/03	10/8/03	N	10/13/03	18.5	113.36	1	19.7	114.74	8.5-18.5	3-18.5	1-3	1.2
NCC	NCC-GP01	10/9/03	10/9/03	N	10/15/03	25	48.53	1	25.5	51.02	13-23	4-23[C]	2-4	2.5
	NCC-GP02	10/7/03	10/7/03	N	-	6.9	52.5	Dry hole - no well constructed						
	NCC-GP03	10/9/03	10/9/03	N	10/15/03	22.9	43.56	1	23.65	46.2	11-21	4-22.9	2-4	2.65
	NCC-GP04	10/3/03	10/3/03	N	-	2	65.89	Not accessible by rig, boring was hand-augered						
	NCC-GP05	10/7/03	10/7/03	N	-	11	51.52	Dry hole - no well constructed (same as boring NCC-GT01)						
BBA	BBA-GP01	10/10/03	10/10/03	N	10/15/03	25	131.88	1	18.6	134.39	6-16	4-16 [D]	0.5-4	2.6
	BBA-GP02	10/10/03	10/10/03	N	10/16/03	25	144.41	1	18.55	146.87	6-16	4-18 [E]	0.5-4	2.55
	BBA-GP03	10/9/03	10/9/03	N	10/15/03	18.3	76.45	2	19.62	77.77	3.8-13.8	2.8-18.3	0-2.8	1.32
	BBA-GP04	10/10/03	10/10/03	N	10/15/03	14	77.57	1	16.8	80.38	3.5-13.5	2-14	0.5-2	2.8

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
MM	MM-GP01	10/6/03	10/6/03	N	10/10/03	25	18.73	1	27.4	20.52	15-25	4-25	2-4	2.4
	MM-GP02	10/3/03	10/3/03	N	10/10/03	25	5.87	1	27.6	7.75	15-25	4-25	2-4	2.6
	MM-GP04	10/6/03	10/6/03	N	10/15/03	25	15.50	1	27.4	17.22	14.5-24.5	4-24.5	2-4	2.9
OG	OG-GP01	10/7/03	10/7/03	N	10/15/03	25	10.28	1	17.70	12.94	5.35-15.35	3-16 [E]	1-3	2.35
	OG-GP02	10/7/03	10/7/03	N	10/15/03	25.1	14.26	1	27.35	16.46	15.1-25.1	4-25.1	2-4	2.25
	OG-GP03	10/7/03	10/7/03	N	10/15/03	25	17.95	1	27.45	20.4	15-25	4-25	2-4	2.45

[A] Hole was allowed to collapse to 10.15 feet BGS.
[B] Hole was allowed to collapse to 20 feet BGS.
[C] Hole was allowed to collapse to 23 feet BGS.
[D] Hole was allowed to collapse to 18 feet BGS.
[E] Hole was allowed to collapse to 16 feet BGS.

Key:

AGS = Above ground surface.
AMSL = Above mean sea level.
BBA = Bruno/Brickyard Associates/Alonzo Site.
BGS = Below ground surface.
EPL = Energy Park/Longe/NYS Canal Corporation Site.
GP = Geoprobe temporary well location.
GPS = Georgia Pacific/NYS Canal Corporation Site.
I.D. = Inner diameter.
MM = State of New York/First Rensselaer/Marine Management Site
N = Northstar Drilling.
NCC = NYS Canal Corporation/Allco/Leyerle Site.
NYS = New York State.
OG = OG Real Estate.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PVC = Polyvinyl chloride.
TOIC = Top of inner casing.

Table 3.2-2 Groundwater and Surface Water Field Measurements
Old Moreau Dredge Spoils Area/NYS Canal Corporation Site

Sample ID	Date	pH (s.u.)	Temerature (°C)	Conductivity (µS/cm)	Turbidity (NTU)
Groundwater					
OM-GP01-GW	10/14/03	7.34	11.7	919.8	151
OM-GP02-GW	10/14/03	7.44	13.8	1,060	96.3
OM-GP03-GW	10/14/03	7.44	13.1	1,162	658
OM-GP04-GW	10/14/03	6.56	13.3	1,348	>1,000
OM-GP05-GW	10/14/03	6.64	12.2	1,026	476
Surface Water					
OM-SW01	9/30/03	7.27	14.5	504.8	3.38
OM-SW02	9/30/03	7.61	16.7	187.7	3.51
OM-SW03	9/30/03	Dry			
OM-SW04	9/30/03	Dry			
OM-SW05	9/30/03	7.90	16.8	118.8	3.24
OM-SW06	9/30/03	Dry			
OM-SW07	10/1/03	7.02	16.3	108.5	3.55

Key:

°C = Degrees Celsius.
GP = Boring location.
GW = Groundwater sample.
ID = Identification.
µS/cm = MicroSiemens per centimeter.
NTU = Nephelometric turbidity units.
NYS = New York State.
OM = Old Moreau Dredge Spoils Area/NYS Canal Corporation Site.
s.u. = Standard units.
> = Greater than.

Table 3.2-3 Summary of Water Level Elevations
Old Moreau Dredge Spoils Area/NYS Canal Corporation Site

Well/ Stream Gauge ID	Ground Elevation (ft AMSL)	Reference Elevation (ft AMSL)a	10/14/03		10/23/03		11/6/03	
			Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)
OM-GP01	157.67	160.19	15.50	144.69	16.50	143.69	9.39	150.80
OM-GP02	141.79	144.20	4.89	139.31	5.52	138.68	3.43	140.77
OM-GP03	155.84	158.37	4.59	153.78	4.47	153.90	3.76	154.61
OM-GP04	143.5	146.00	15.56	130.45	15.72	130.28	13.49	132.51
OM-GP05	133.43	135.93	15.38	120.55	15.18	120.75	14.33	121.60
OM-SG01	NA	121.21	NM	NM	1.66	120.07	1.5[b]	120.2[c]

[a] Reference elevation is TOIC for borings and 3-foot mark on gauge for stream gauges.

[b] Estimation from top of gauge pole; gauge pole could not be reached for precise measurement due to depth of water.

[c] Estimated value.

Key:

AMSL = Above mean sea level.
ft = Feet.
GP = Boring location.
NA = Not applicable.
NM = Not measured.
NYS = New York State.
OM = Old Moreau Dredge Spoils Area/NYS Canal Corporation Site.
SG = Stream gauge location.
TOIC = Top of inner casing.

Table 3.2-4 Old Moreau Dredge Spoils Area/NYS Canal Corporation Site Sample Listing, Hudson River PCBs Superfund Facility Siting

							CLP						Non-CLP									
							Organics				Inorganics											
Media	Date	Sample Location	CLP Number	Matrix Code	Depth A	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	TAL Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.2)	Hexane Extractable Material (9071B)	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Area of Interest
Surface Soil	10/1/03	OM-SS01	B14T4	SO	0-2 in	N	X	X	X	X	X	X										Composite sample of four locations around electrical substation (VOC portion was a discrete sample from the location of the aliquot on the south side of the transformer)
	10/1/03	OM-SS02	B14T5	SO	0-2 in	N		X	X	X	X	X										Fill area
	10/1/03	OM-SS03	B14T6	SO	0-2 in	N		X	X	X	X	X										Composite sample of three locations around potential electrical substation
	10/1/03	OM-SS04	B14T7	SO	0-2 in	N	X	X	X	X	X	X	X				X					Composite sample of 3 locations (A, B, C) adjacent to railroad (VOC portion was a discrete sample from the location of aliquot A)
	10/1/03	OM-SS04/D	B1535	SO	0-2 in	FD	X	X	X	X	X	X	X				X					
Surface Water	9/30/03	OM-SW01	B14W7	SW	-	N	X	X	X	X	X			X		X						Ditch - upstream
	9/30/03	OM-SW02	B14W5	SW	-	N	X	X	X	X	X			X		X						Ditch - central
	-	OM-SW03	-	SW	-	N																Second ditch - upstream -DRY
	-	OM-SW04[B]	-	SW	-	N																Second ditch - central (leachate) - DRY
	9/30/03	OM-SW05	B14W6	SW	-	N	X	X	X	X	X			X		X						Outfall (first and second ditches)
	-	OM-SW06	-	SW	-	N																Third ditch - DRY
	10/1/03	OM-SW07	B14W8	SW	-	N	X	X	X	X	X			X		X						Outfall
Sediment	9/30/03	OM-SE01	B14T8	SE	0-2 in	N	X	X	X	X	X	X			X							Ditch - upstream
	9/30/03	OM-SE02	B14T9	SE	0-2 in	N	X	X	X	X	X	X			X							Ditch - central
	9/30/03	OM-SE03	B14W0	SE	0-2 in	N	X	X	X	X	X	X			X							Second ditch - upstream
	9/30/03	OM-SE04	B14W1	SE	0-2 in	N	X	X	X	X	X	X			X							Second ditch - central
	9/30/03	OM-SE05	B14W2	SE	0-2 in	N	X	X	X	X	X	X			X							Outfall (first and second ditches)
	9/30/03	OM-SE06	B14W3	SE	0-2 in	N	X	X	X	X	X	X			X							Third ditch
	10/1/03	OM-SE07	B14W4	SE	0-2 in	N	X	X	X	X	X	X			X							Outfall
Geoprobe Borehole Subsurface Soil	10/2/03	OM-GP01-SB	B14W9	SO	11-13	N	X	X	X	X	X	X										Electrical substation
	10/2/03	OM-GP02-SB	B14X0	SO	8-10	N	X	X	X	X	X	X										Near warehouse
	10/2/03	OM-GP03-SB	B14X1	SO	4.25-5.75	N	X	X	X	X	X	X										Near railroad
	10/2/03	OM-GP04-SB	B14X2	SO	12.8-14.8	N	X	X	X	X	X	X										Downgradient of landfill
	10/2/03	OM-GP05-SB1	B14X3	SO	11-13	N	X	X	X	X	X	X										Coverage
	10/2/03	OM-GP05-SB2	B1574	SO	17-18.6	N	X	X	X	X	X	X										Coverage

Key at the end of Table

Table 3.2-4 Old Moreau Dredge Spoils Area/NYS Canal Corporation Site Sample Listing, Hudson River PCBs Superfund Facility Siting

							CLP						Non-CLP									
							Organics			Inorganics												
Media	Date	Sample Location	CLP Number	Matrix Code	Depth A	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	TAL Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.2)	Hexane Extractable Material (9071B)	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Area of Interest
Geoprobe Temporary Well Groundwater	10/16/03	OM-GP01-GW	B14X6	GW	15-25	N	X	X	X	X	X										Electrical substation
	10/16/03	OM-GP02-GW	B14X7	GW	15.3-25.3	N	X	X	X	X	X										Near warehouse
	10/15/03	OM-GP03-GW	B14X8	GW	10-25	N	X	X	X	X	X										Near railroad
	10/15/03	OM-GP04-GW	B14X9	GW	10-20	N	X	X	X	X	X										Downgradient of landfill
	10/14/03	OM-GP05-GW	B14Y0	GW	15-25	N	X	X	X	X	X										Coverage
IDW	TBD	OM-WA01	-	WA	-	N												X	X	X	General
	TBD	OM-WW01	-	WW	-	N												X	X	X	General

[A] Depth in feet below ground surface unless otherwise specified.

[b]This sample was also scheduled to be analyzed for Total Organic Carbon (Method Lloyd Kahn); Biochemical Oxygen Demand (Method BOD5 and CBOD5); Chemical Oxygen Demand (Method COD); TKN (Method 351.3); and Ammonia, Nitrogen (Method 4500-NH3).

Key:

CLP = Contract Laboratory Protocol
/D = duplicate sample
FD = field duplicate sample (Type)
GP = Geoprobe boring location
GT = geotechnical boring location
GW = groundwater sample
IDW = investigation-derived waste
in = inch
M = matrix spike/matrix spike duplicate (Type)
N = original sample (Type)
NYS = New York State
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PCB = polychlorinated biphenyl
QA = quality assurance
QC = quality control
SB = subsurface soil
SE = sediment sample
SO = soil sample
SS = surface soil
SVOCs = semivolatile organic compounds
SW = surface water
TBD = to be determined
TCL = target compound list
TCLP = toxicity characteristic leachate procedure
TOC = total organic carbon
VOCs = volatile organic compounds
WA = IDW solid waste
WW = IDW waste water

Key at the end of Table

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: / Date: / Depth:	OM-SS01 10/1/2003 0 - 2 in	OM-SS02 10/1/2003 0 - 2 in	OM-SS03 10/1/2003 0 - 2 in	OM-SS04 10/1/2003 0 - 2 in	OM-SS04/D 10/1/2003 0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)								
Isopropylbenzene	NA	NA		2 J	- -	- -	12 U	11 U
Methyl Acetate	NA	NA		1 J	- -	- -	12 U	3 J
Xylenes (Total)	1200	NA		51	- -	- -	12 U	11 U
TCL Semivolatile Organic Compounds (µg/Kg)								
Benzo(a)anthracene	224 or MDL	NA		450 U	420 U	380 U	**460**	450 U
Benzo(a)pyrene	61 or MDL	NA		450 U	420 U	380 U	**520**	450 U
Benzo(b)fluoranthene	1100	NA		450 U	420 U	380 U	540	450 U
Benzo(g,h,i)Perylene	50000	NA		450 U	420 U	380 U	320 J	450 U
Benzo(k)fluoranthene	1100	NA		450 U	420 U	380 U	580	450 U
Bis(2-ethylhexyl)phthalate	50000	NA		450 U	420 U	380 U	440 U	970
Chrysene	400	NA		450 U	420 U	380 U	**590**	450 U
Dibenzo(a,h)anthracene	14 or MDL	NA		450 U	420 U	380 U	**190 J**	450 U
Di-n-octylphthalate	50000	NA		450 U	110 J	380 U	440 U	450 U
Fluoranthene	50000	NA		450 U	420 U	380 U	720	450 U
Indeno(1,2,3-cd)pyrene	3200	NA		450 U	420 U	380 U	450	450 U
Phenanthrene	50000	NA		450 U	420 U	380 U	290 J	450 U
Pyrene	50000	NA		450 U	420 UJ	380 UJ	630	450 UJ
TCL Pesticide and PCBs (µg/Kg)								
4,4'-DDE	2100	NA		4.5 U	4.2 U	3.8 U	4.4 U	0.88 J
4,4'-DDT	2100	NA		4.5 U	4.2 U	3.8 U	4.4 U	4.5 J
alpha-Chlordane	540 (3)	NA		2.3 U	2.2 U	2 U	2 J	2.3 U
Endosulfan I	900	NA		2.3 U	2.2 U	2 U	2.3 U	1 J
gamma-Chlordane	540	NA		2.3 U	2.2 U	2 U	1.8 J	2.3 U

Source: Ecology and Environment, Inc., 2004

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: / Date: / Depth:	OM-SS01 10/1/2003 0 - 2 in	OM-SS02 10/1/2003 0 - 2 in	OM-SS03 10/1/2003 0 - 2 in	OM-SS04 10/1/2003 0 - 2 in	OM-SS04/D 10/1/2003 0 - 2 in
TAL Metals and Mercury (mg/Kg)								
Aluminum	SB	NA		19200	7840	4070	12300	15400
Arsenic	7.5 or SB	3-12 (NYS BG)		5.3	1.1 U	1.1 B	4.4	6.3
Barium	300	15-600		186	29.6 B	15.2 B	153	158
Beryllium	0.16 or SB	0-1.75		0.97 B	0.3 B	0.22 B	0.64 B	0.77 B
Cadmium	1 or SB	0.1-1		0.14 U	0.13 U	0.28 B	0.13 U	0.14 U
Calcium	SB	130-35000 (NYS BG)		23200	2450	22200	17700	31300
Chromium	10 or SB	1.5-40 (NYS BG)		32.7	5.3	4	22	26.4
Cobalt	30 or SB	2.5-60 (NYS BG)		20.8	4.4 B	3.2 B	13.9	15.7
Copper	25 or SB	1-50		27.4	5.7 B	18.7	26.6	31.3
Iron	2000 or SB	2000-550000		31300	10300	7350	22700	28800
Lead	SB or 200 - 500	200-500		20.2	8.7	15.5	13	15.9
Magnesium	SB	100-5000		9500	1600	12000	7810	12000
Manganese	NA	50-5000		1000	122	135	668	728
Nickel	13 or SB	0.5-25		38.5	5.3 B	5.1 B	31.3	35.7
Potassium	SB	8500-43000 (NYS BG)		2430 J	244 B	324 B	1800 J	2170 J
Selenium	2 or SB	0.1-3.9		0.52 U	0.57 BJ	0.43 UJ	0.49 UJ	0.73 BJ
Sodium	SB	6000-8000		149 U	138 U	175 B	167 B	151 U
Vanadium	150 or SB	1-300		42.2	16.2	10.6 B	27.4	32.2
Zinc	20 or SB	9-50		84.3	31.8	1150	70.9	79
Total Cyanide (mg/Kg)								
Cyanide	NA	NA		0.29	0.23	0.34	0.16 U	0.16 U

Source: Ecology and Environment, Inc., 2004

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Old Moreau Dredge Spoils Area/NYS Canal Corporation Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

(3) Screening value for chlordane.

Key:

B =	The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BG =	Background.
/D =	Duplicate sample.
in =	Inches.
J =	The reported value is an estimated quantity.
JN =	The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL =	Method Detection Limit
mg/Kg =	Milligrams per kilogram.
NA =	Not applicable/available.
NYS =	New York State.
NYSDEC =	New York State Department of Environmental Conservation.
OM =	Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PCB =	Polychlorinated biphenyl.
R =	The data is unusable.
SB =	Site background.
SS =	Surface soil sample.
TAL =	Target Analyte List.
TCL =	Target Compound List.
U =	The analyte was analyzed for but not detected at the value reported.
UJ =	The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg =	Micrograms per kilogram.
- =	Sample was not analyzed for this parameter.
520	Shaded cells with bold type exceed the NYSDEC screening value (except for metals).

Source: Ecology and Environment, Inc., 2004

Table 3.3-2
Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	OM-GP01-SB	OM-GP02-SB	OM-GP03-SB	OM-GP04-SB	OM-GP05-SB1
			Date:	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003
			Depth:	11 - 13 ft	8 - 10 ft	4.25 - 5.75 ft	12.8 - 14.8 ft	11 - 13 ft
TCL Volatile Organic Compounds (µg/Kg)								
Acetone	200	NA		10 U	10 UJ	10 U	15	10 U
Toluene	1500	NA		1 J	10 UJ	1 J	10 U	10 U
Trichlorofluoromethane	NA	NA		0.7 J	1 J	0.8 J	10 U	10 U
TCL Pesticide and PCBs (µg/Kg)								
4,4'-DDT	2100	NA		4.6 U	4.7 U	4.4 U	4 U	3.4 U
TAL Metals and Mercury (mg/Kg)								
Aluminum	SB	NA		7660	17900	19500	14100	5230
Arsenic	7.5 or SB	3-12 (NYS BG)		3	4.8	4.7	0.99 U	1.8 B
Barium	300	15-600		79.8	184	207	62.8	31.9 B
Beryllium	0.16 or SB	0-1.75		0.42 B	0.94 B	1.1 B	0.52 B	0.29 B
Calcium	SB	130-35000 (NYS BG)		12700	54500	34600	2880	2190
Chromium	10 or SB	1.5-40 (NYS BG)		11.5	28.2	29.1	12.5	3.5
Cobalt	30 or SB	2.5-60 (NYS BG)		7.9 B	15.4	16.9	5.7	4.6 B
Copper	25 or SB	1-50		14.3	30.7	31.2	10.8 J	6 BJ
Iron	2000 or SB	2000-550000		16300	31600	35100	13800	12300
Lead	SB or 200 - 500	200-500		5.4	13.4	13.6	3.8	1.6 J
Magnesium	SB	100-5000		5390	13100	12500	2500	1960
Manganese	NA	50-5000		235	681	678	54	195
Nickel	13 or SB	0.5-25		15.4	39.5	44.3	9.7	5.8 B
Potassium	SB	8500-43000 (NYS BG)		1170 B	3190 J	3390 J	576 B	403 B
Selenium	2 or SB	0.1-3.9		1.6 J	0.53 UJ	0.52 UJ	0.87 BJ	0.6 U
Sodium	SB	6000-8000		195 B	190 B	220 B	123 U	174 U
Vanadium	150 or SB	1-300		18.4	31.8	35.3	26.1	10.7 B
Zinc	20 or SB	9-50		44.2	84.2	93.3	38	37.1

Source: Ecology and Environment, Inc., 2004

Table 3.3-2
Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: / Date: / Depth:	OM-GP05-SB2 10/2/2003 17 - 18.6 ft
TCL Volatile Organic Compounds (µg/Kg)				
Acetone	200	NA		25 U
Toluene	1500	NA		10 U
Trichlorofluoromethane	NA	NA		10 U
TCL Pesticide and PCBs (µg/Kg)				
4,4'-DDT	2100	NA		1.8 J
TAL Metals and Mercury (mg/Kg)				
Aluminum	SB	NA		4260
Arsenic	7.5 or SB	3-12 (NYS BG)		7.1
Barium	300	15-600		82.8
Beryllium	0.16 or SB	0-1.75		0.24 B
Calcium	SB	130-35000 (NYS BG)		1770
Chromium	10 or SB	1.5-40 (NYS BG)		3.6
Cobalt	30 or SB	2.5-60 (NYS BG)		11 B
Copper	25 or SB	1-50		7.6 J
Iron	2000 or SB	2000-550000		24600
Lead	SB or 200 - 500	200-500		2.9 J
Magnesium	SB	100-5000		1520
Manganese	NA	50-5000		106
Nickel	13 or SB	0.5-25		10.4
Potassium	SB	8500-43000 (NYS BG)		349 B
Selenium	2 or SB	0.1-3.9		0.48 U
Sodium	SB	6000-8000		138 U
Vanadium	150 or SB	1-300		10.9 B
Zinc	20 or SB	9-50		54.2

Source: Ecology and Environment, Inc., 2004

Table 3.3-2
Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BG = Background.
/D = Duplicate sample.
ft = Feet.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL = Method Detection Limit
mg/Kg = Milligrams per kilogram.
NA = Not applicable/available.
NYS = New York State.
NYSDEC = New York State Department of Environmental Conservation.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable.
SB = Site background.
-SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.

Source: Ecology and Environment, Inc., 2004

Table 3.3-3
Analytical Data Summary of Detected Analytes for Surface Water Samples at the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.

Analyte	NYSDEC CLASS C (1)	NYSDEC CLASS D (2)	Sample ID: OM-SW01 Date: 9/30/2003	OM-SW02 9/30/2003	OM-SW05 9/30/2003	OM-SW07 10/1/2003
TCL Semivolatile Organic Compounds (µg/L)						
Bis(2-ethylhexyl)phthalate	0.6 for A(C)	NA	10 U	10 U	10 U	**3 J**
TAL Metals and Mercury (µg/L)						
Aluminum	100 for A(C)	NA	105 B	162 B	19 U	19 U
Barium	NA	NA	58.2 B	27.9 B	11.8 B	10.7 B
Calcium	NA	NA	84400	25300	11400	10100
Chromium	CV	CV	1.7 B	1.6 B	1.1 U	1.1 U
Cobalt	5 for A(C)	110 for A(A) (g)	2.2 B	1.4 U	1.7 B	2.2 B
Copper	CV	CV	2.8 B	5.5 B	1.2 U	1.2 U
Iron	300 for A(C)	300 for A(A)	560	950	372	323
Lead	CV	CV	2.6 U	6.1	2.6 U	2.6 U
Magnesium	NA	NA	15800	5190	2090 B	1680 B
Manganese	NA	NA	90.6	138	55.4	43.1
Nickel	CV	CV	4.5 B	1.8 U	1.8 U	1.8 U
Potassium	NA	NA	1660 B	779 B	492 B	776 B
Sodium	NA	NA	10300 J	7140 J	6820 J	254000 J
Vanadium	14 for A(C)	190 for A(A)	3.1 B	2.6 B	2.1 B	1.6 U
Zinc	CV	CV	140 J	177 J	33.5 J	17.3 B
Mercury	0.0007 for H(FC)	0.0007 for H(FC)	0.13 B	0.1 U	0.1 U	0.1 U
Anions (mg/L)						
Chloride	NA	NA	6.6	9.87	10.8	11.1
Fluoride	CV	CV	0.149	0.0914 J	0.0813 J	0.092 J
Nitrate-N	NA	NA	0.111	0.177	0.182	0.2
Sulfate	NA	NA	29.8	15.7	10.4	10.7
Hardness (mg/L)						
Hardness (As $CaCO_3$)	NA	NA	440	235	185	175

Source: Ecology and Environment, Inc., 2004

Table 3.3-3
Analytical Data Summary of Detected Analytes for Surface Water Samples at the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class C Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998. Only sample OM-SW07 is screened against these values.

(2) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class D Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998. All the samples except OM-SW07 are screened against these values.

(g) Guidance value used.

Key:

A(A) =	Standard/guidance value is for the protection of fish survival (fresh waters).
A(C) =	Standard/guidance value is for the protection of fish propagation (fresh waters).
B =	The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
CV =	Value calculated based on hardness as per NYSDEC TOGS 1.1.1, 1998.
/D =	Duplicate sample.
J =	The reported value is an estimated quantity.
JN =	The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
H(FC) =	Standard/guidance value is for the protection of human consumption of fish (fresh waters).
mg/L =	Milligrams per liter.
NA =	Not applicable/available.
NYS =	New York State.
NYSDEC =	New York State Department of Environmental Conservation.
OM =	Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
SW =	Surface water sample.
TAL =	Target Analyte List.
TCL =	Target Compound List.
U =	The analyte was analyzed for but not detected at the value reported.
UJ =	The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L =	Micrograms per liter.
3 J	Shaded cells with bold type exceed the NYSDEC Standard or Guidance Value (except for metals).

Source: Ecology and Environment, Inc., 2004

Table 3.3-4
Analytical Data Summary of Detected Analytes for Sediment Samples from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.

Analyte	NYSDEC Screening Criteria (1),(2)	Sample ID: / Date:	OM-SE01 / 9/30/03	OM-SE02 / 9/30/03	OM-SE03 / 9/30/03	OM-SE04 / 9/30/03	OM-SE05 / 9/30/03	OM-SE06 / 9/30/03	OM-SE07 / 10/1/03
TCL Volatile Organic Compounds (µg/Kg)									
1,1,2-Trichloro-1,2,2-Trifluoroethane	NA		13 U	1 J	0.8 J	14 U	29 UJ	15 U	10 U
Chloromethane	NA		13 U	1 J	14 U	14 U	29 UJ	15 U	10 U
TCL Semivolatile Organic Compounds (µg/Kg)									
Acetophenone	NA		530 U	240 J	520 U	450 U	870 UJ	570 U	420 U
Benzaldehyde	NA		530 U	720 UJ	520 U	450 U	870 UJ	420 J	420 UJ
Benzo(a)anthracene	CV		530 U	190 J	520 U	450 U	430 J	570 U	420 U
Benzo(a)pyrene	NA		530 U	190 J	520 U	450 U	450 J	570 U	420 U
Benzo(b)fluoranthene	NA		530 U	160 J	520 U	450 U	470 J	570 U	420 U
Benzo(g,h,i)perylene	NA		530 U	720 UJ	520 U	450 U	270 J	570 U	420 U
Benzo(k)fluoranthene	NA		530 U	220 J	520 U	450 U	390 J	570 U	420 U
Bis(2-Ethylhexyl)Phthalate	CV		410 J	390 J	520 U	450 U	340 J	570 U	420 U
Chrysene	NA		530 U	250 J	520 U	450 U	550 J	570 U	420 U
Fluoranthene	CV		530 U	310 J	520 U	450 U	720 J	570 U	420 U
Indeno(1,2,3-cd)pyrene	NA		530 U	720 UJ	520 U	450 U	350 J	570 U	420 U
Phenanthrene	CV		530 U	720 UJ	520 U	450 U	290 J	570 U	420 U
Pyrene	CV		530 U	370 J	520 U	450 U	750 J	570 UJ	420 UJ
TCL Pesticide and PCBs (µg/Kg)									
4,4'-DDE	NA		14 J	40 J	5.2 U	5.7 JN	46 J	4.9 J	4.2 U
Aroclor-1242	CV		53 U	**19000 J**	52 U	45 U	87 UJ	57 U	42 U
Aroclor-1248	CV		**1600 J**	72 UJ	130 J	**360**	**2600 J**	520	**440 J**
Aroclor-1254	CV		53 U	**3300 J**	52 U	110	**3800 J**	57 U	42 U
Aroclor-1260	CV		93 J	780 J	52 U	45 U	87 UJ	57 U	42 U
beta-BHC	CV		2.7 U	3.7 UJ	2.7 U	**7.8 J**	4.5 UJ	2.9 U	2.2 U
Dieldrin	CV		14	49 J	1.8 J	4.6 JN	49 J	5.7 U	3 J
Endosulfan I	CV		**4 R**	**22 JN**	1 J	**5.8 J**	**15 R**	**4.4 J**	2.2 U
Endosulfan Sulfate	NA		5.3 U	7.2 UJ	5.2 U	4.5 U	38 J	5.7 U	4.2 U
gamma-Chlordane	CV		2.7 U	3.7 UJ	2.7 U	2.3 U	4.5 UJ	2.9 U	**3.5**

Table 3.3-4
Analytical Data Summary of Detected Analytes for Sediment Samples from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.

Analyte	NYSDEC Screening Criteria (1) Lowest Effect (2)	NYSDEC Screening Criteria (1) Severe Effect (2)	Sample ID: / Date:	OM-SE01 9/30/03	OM-SE02 9/30/03	OM-SE03 9/30/03	OM-SE04 9/30/03	OM-SE05 9/30/03	OM-SE06 9/30/03	OM-SE07 10/1/03
TAL Metals and Mercury (mg/Kg)										
Aluminum	NA	NA		10300	10700	16100	5040	7380	4090	4240
Antimony	2.0	25		2.8 B	4.5 B	2 U	2 U	3.8 B	2.4 U	1.9 U
Arsenic	6.0	33		2.2 B	2.8 B	2.5 B	1.2 U	2.5 B	1.9 B	4.6
Barium	NA	NA		86.3	93.3	110	161	52.1 B	277	56
Beryllium	NA	NA		0.46 B	0.49 B	0.71 B	0.21 B	0.3 B	0.2 B	0.26 B
Cadmium	0.6	9		0.89 B	10.4	0.14 U	0.14 U	8.3	0.17 U	0.13 U
Calcium	NA	NA		10800	4800	6220	4140	2570	6180	13500
Chromium	26	110		26.4 J	214 J	15.5 J	5.5 J	275 J	4.5	15.5
Cobalt	NA	NA		7.4 B	9.9 B	10.2 B	11.2 B	6 B	12.4 B	5 B
Copper	16	110		24.8	52.8	18.7	6.9 B	47.6	5.3 B	14.6
Iron	20000	40000		13900	14000	21100	41200	7230	34300	23400
Lead	31	110		38	238	13.4	1.5 J	271	4.7	33.5
Magnesium	NA	NA		5640	3070	3650	1470	1290 B	1380 B	1870
Manganese	460	1100		142	150	132	1010	70.4	3860	216
Nickel	16	50		17.7	20.6	19.6	13.4	14.5	15.1	9.3 B
Potassium	NA	NA		714 B	691 B	1080 B	429 B	267 B	318 B	346 B
Selenium	NA	NA		0.61 U	1.4 BJ	0.76 BJ	0.54 U	0.83 BJ	0.64 U	0.51 UJ
Sodium	NA	NA		291 B	270 B	150 U	155 U	310 B	184 U	147 U
Vanadium	NA	NA		31.6	46.7	33.4	10.4 B	43.3	9.5 B	11.9 B
Zinc	120	270		1650	981	75.6	31.1	288	36.2	115
Mercury	0.15	1.3		0.07 U	0.99	0.07 U	0.07 U	0.63	0.08 U	0.1 B
Total Cyanide (mg/Kg)										
Cyanide	NA	NA		0.89	3.1	0.27	0.16 U	11	1 L	0.4
Total Organic Carbon (mg/Kg)										
Total Organic Carbon	NA	NA		28000	51000	47000	6900	73000	38000	8200
Percent Solids (%)										
Percent Solids	NA	NA		54	37	63	75	28	53	92

Table 3.3-4
Analytical Data Summary of Detected Analytes for Sediment Samples from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.

(1) New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments, 1999. The benthic aquatic life chronic toxicity protection level was used.

(2) As per the 1999 NYSDEC Guidance, the screening criteria for organic contaminants in sediments are calculated based on sample Total Organic Carbon concentration. However, two levels of risk are established for metals contamination in sediments (Lowest Effect Level and Severe Effect Level).

Key:

B =	The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
CV =	Value calculated based on total organic carbon as per NYSDEC Guidance.
J =	The reported value is an estimated quantity.
JN =	The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
L =	The identification of the analyte is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported.
mg/Kg =	Milligrams per kilogram.
NA =	Not applicable/available.
NYS =	New York State.
NYSDEC =	New York State Department of Environmental Conservation.
OM =	Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PCB =	Polychlorinated biphenyl.
R =	The data is unusable.
SE =	Sediment sample.
TAL =	Target Analyte List.
TCL =	Target Compound List.
U =	The analyte was analyzed for but not detected at the value reported.
UJ =	The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg =	Micrograms per kilogram.
% =	Percent.
1600 J	Shaded cells with bold type exceed the NYSDEC guidance value (except for metals).

Source: Ecology and Environment, Inc., 2004

Table 3.3-5
Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	NYSDEC CLASS GA (1)	Sample ID: / Date: EPA MCLs (2)	OM-GP01-GW 10/16/2003	OM-GP02-GW 10/16/2003	OM-GP03-GW 10/15/2003	OM-GP04-GW 10/15/2003	OM-GP05-GW 10/14/2003
TCL Semivolatile Organic Compounds (µg/L)							
Caprolactam	NA	NA	1900	3 J	3600	44	10 U
Diethylphthalate	50	NA	3 J	10 U	9 J	11 U	10 U
Di-n-butylphthalate	50	NA	10 U	10 U	2 J	11 U	10 U
TCL Pesticide and PCBs (µg/L)							
Aroclor-1248	0.09 (3)	0.5	1 U	1 U	1 UJ	**1.6**	1 U
Endrin Ketone	5	2 (5)	0.068 J	0.1 U	0.1 UJ	0.1 U	0.1 U
TAL Metals and Mercury (µg/L)							
Aluminum	NA	50-200 (s)	30.3 B	85.7 B	689	95.1 B	71.9 B
Arsenic	25	10	5.8 U	5.8 U	5.8 U	9.2 B	5.8 U
Barium	1000	2000	78.9 B	114 B	95.7 B	38.8 B	225
Beryllium	3 (g)	4	0.1 U	0.12 B	0.16 B	0.1 U	0.1 U
Calcium	NA	NA	60200	76100	78600	205000	106000
Cobalt	NA	NA	4.8 B	10.5 B	3.7 B	5.6 B	14.3 B
Copper	200	1300 (a)	3.9 B	2.8 B	4.7 B	1 U	1 U
Iron	300 (4)	300 (s)	27.9 U	27.9 U	923	84300	99900
Magnesium	35000 (g)	NA	91500	114000	81700	33500	21300
Manganese	300 (4)	50 (s)	59.4	967	819	10600 J	4450 J
Nickel	100	NA	2.3 U	4.6 B	6.1 B	2.3 U	3.2 B
Potassium	NA	NA	2750 B	8320 J	3980 B	899 B	2390 B
Selenium	10	50	3.8 U	5.2 J	5.6 J	3.8 U	3.8 U
Sodium	20000	NA	23800 J	55500 J	54200 J	2950 B	22700
Vanadium	NA	NA	0.9 U	0.9 U	0.9 U	2 B	2.6 B
Zinc	2000 (g)	5000 (s)	37.2	33	35.2	19.3 B	18.9 B

Source: Ecology and Environment, Inc., 2004

Table 3.3-5
Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class GA Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

(2) EPA National Primary and Secondary Drinking Water Standards, 2002.

(3) Screening value for sum of PCBs detected.

(4) Screening value is for sum of Iron and Manganese is 500 µg/L.

(5) Screening value is for endrin.

(a) Action level is used in lieu of MCL.

(g) Guidance value used.

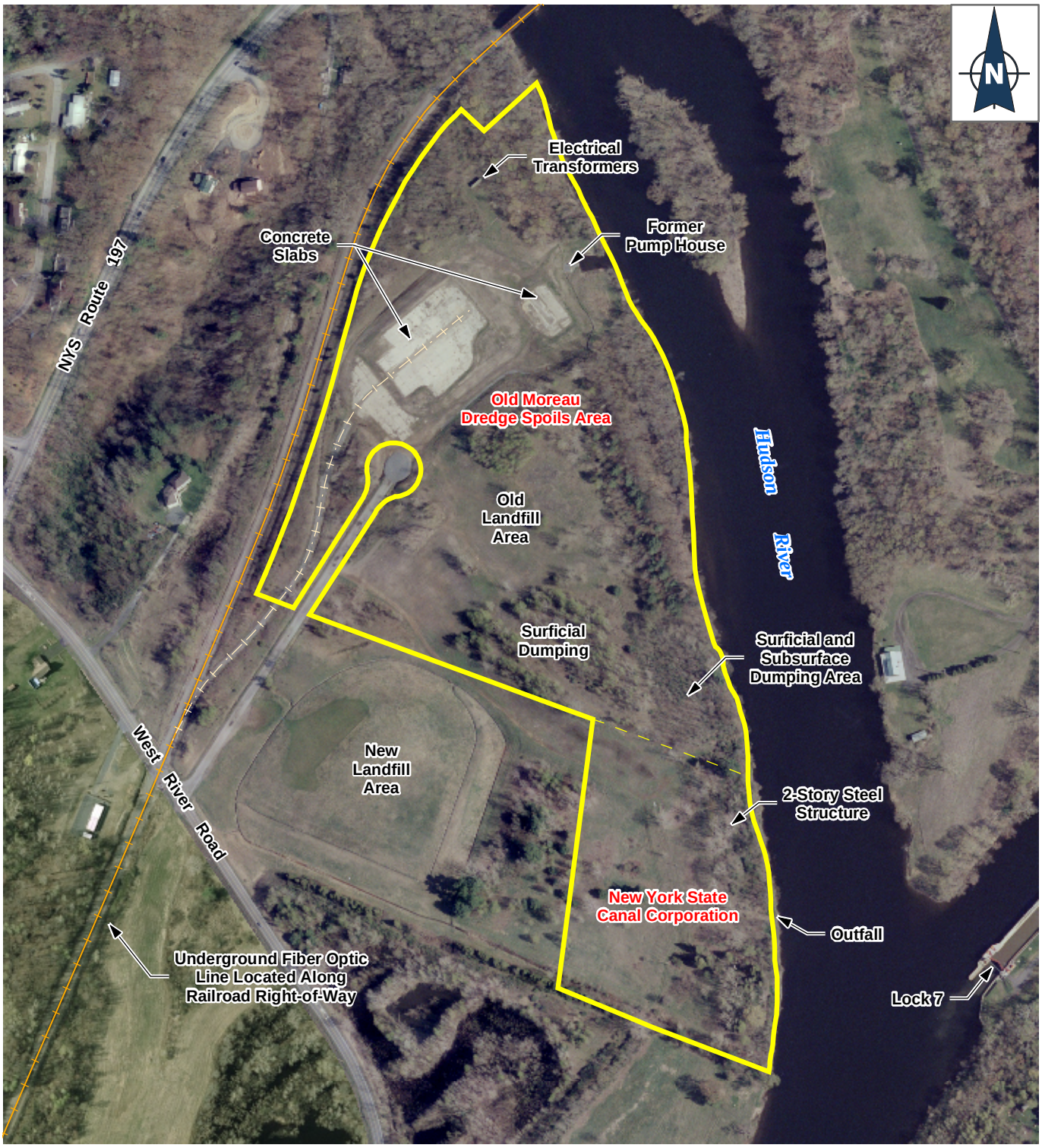
(s) Secondary standard used.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
EPA = Environmental Protection Agency.
GP = Boring.
GW = Groundwater sample.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MCL = Maximum Contaminant Level.
NA = Not applicable/available.
NYS = New York State.
NYSDEC = New York State Department of Environmental Conservation.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PCB = Polychlorinated biphenyl.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.
1.6 Shaded cells with both bold type and underline, exceed both screening values (except for metals).

Source: Ecology and Environment, Inc., 2004

SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Approximate Site Boundary
- Tax Parcel Boundary
- Active Railroad
- Abandoned Railroad (Buried)

Hudson River PCBs SUPERFUND SITE

Figure 2-1
Key Site Features
Old Moreau Dredge Spoils Area /
New York State Canal Corporation

500 250 0 500 Feet

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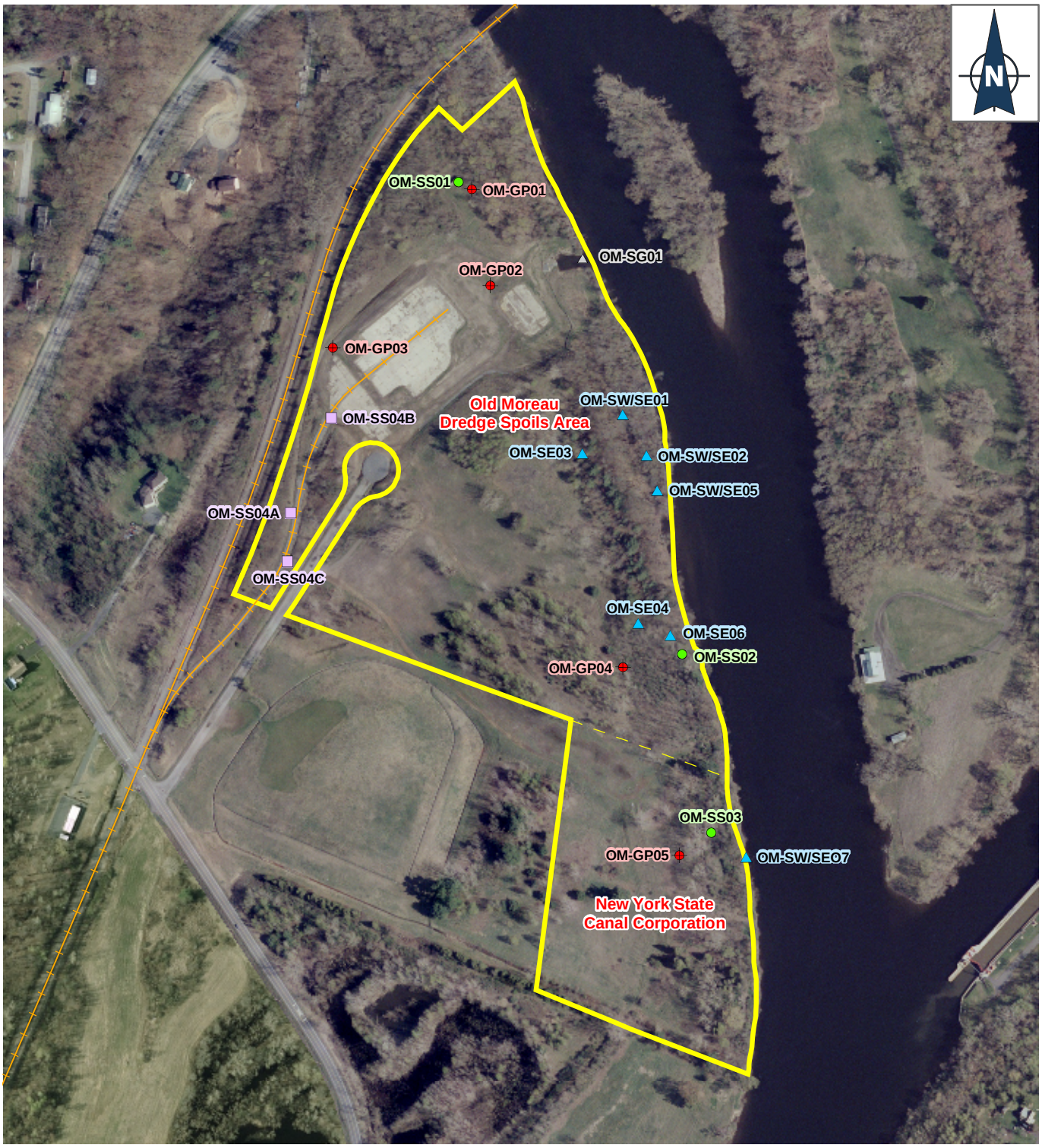
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Geoprobe Soil Boring
- Geoprobe Soil Boring & Temporary Well
- Geoprobe & Geotechnical Boring
- Geotechnical Boring
- Surface Soil
- Soil Sample Adjacent to Railroad
- Surface Water / Sediment
- Stream Gauge
- Railroad
- Potential Site Boundary

Hudson River
PCBs SUPERFUND SITE

Figure 3-1
Sample Locations
Old Moreau Dredge Spoils Area /
New York State Canal Corporation

500 250 0 500
Feet

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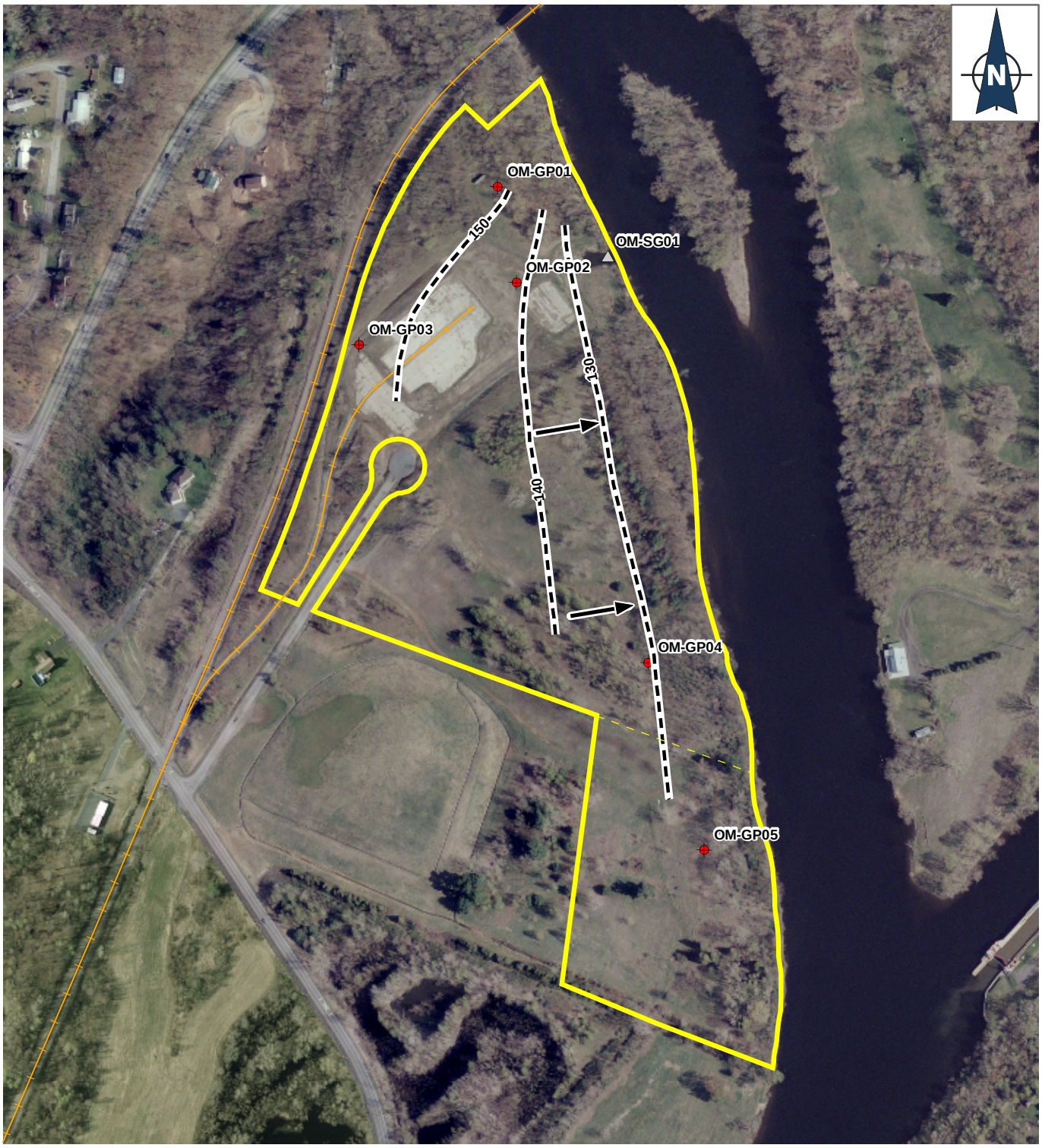
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Groundwater Contour
- Temporary Well
- Stream Gauge
- Railroad
- Potential Site Boundary
- Direction of Groundwater Flow

Water Level Elevations Measured on 11/6/2003
10 ft. Contour Interval

Hudson River
PCBs SUPERFUND SITE

Figure 3-2
Overburden Groundwater Contour Map
Old Moreau Dredge Spoils Area / NYS Canal Corporation

500 250 0 500
Feet

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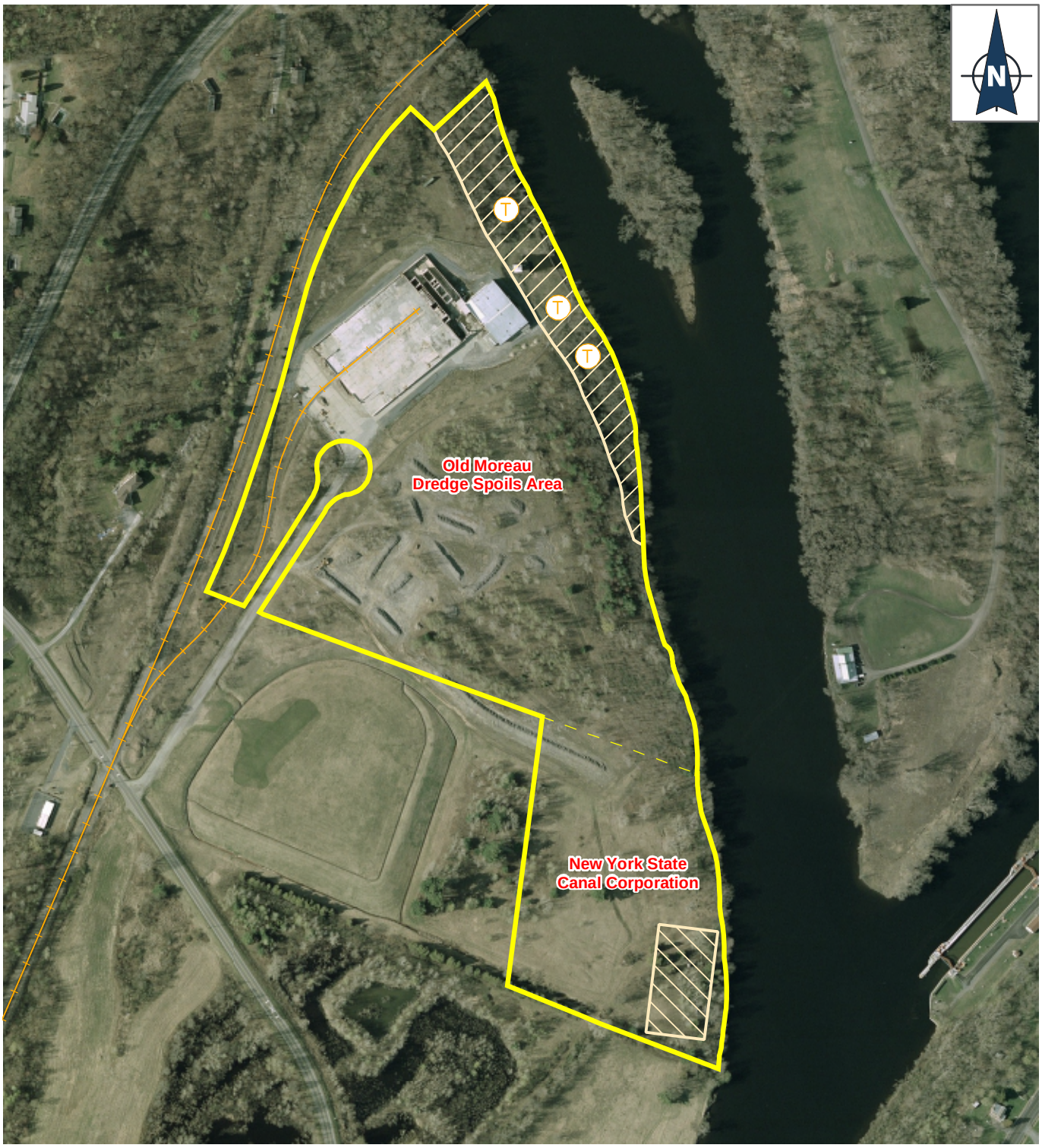
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Potential Site Boundary

Archaeological Testing Method

- Backhoe Test
- Shovel Test
- Backhoe & Shovel Test
- (T) Backhoe Trench Locations

Hudson River PCBs SUPERFUND SITE

Figure 6-1
Field Sampling Areas
Phase I B Cultural Resources Investigation
Old Moreau Dredge Spoils Area /
New York State Canal Corporation

500 250 0 500
Feet

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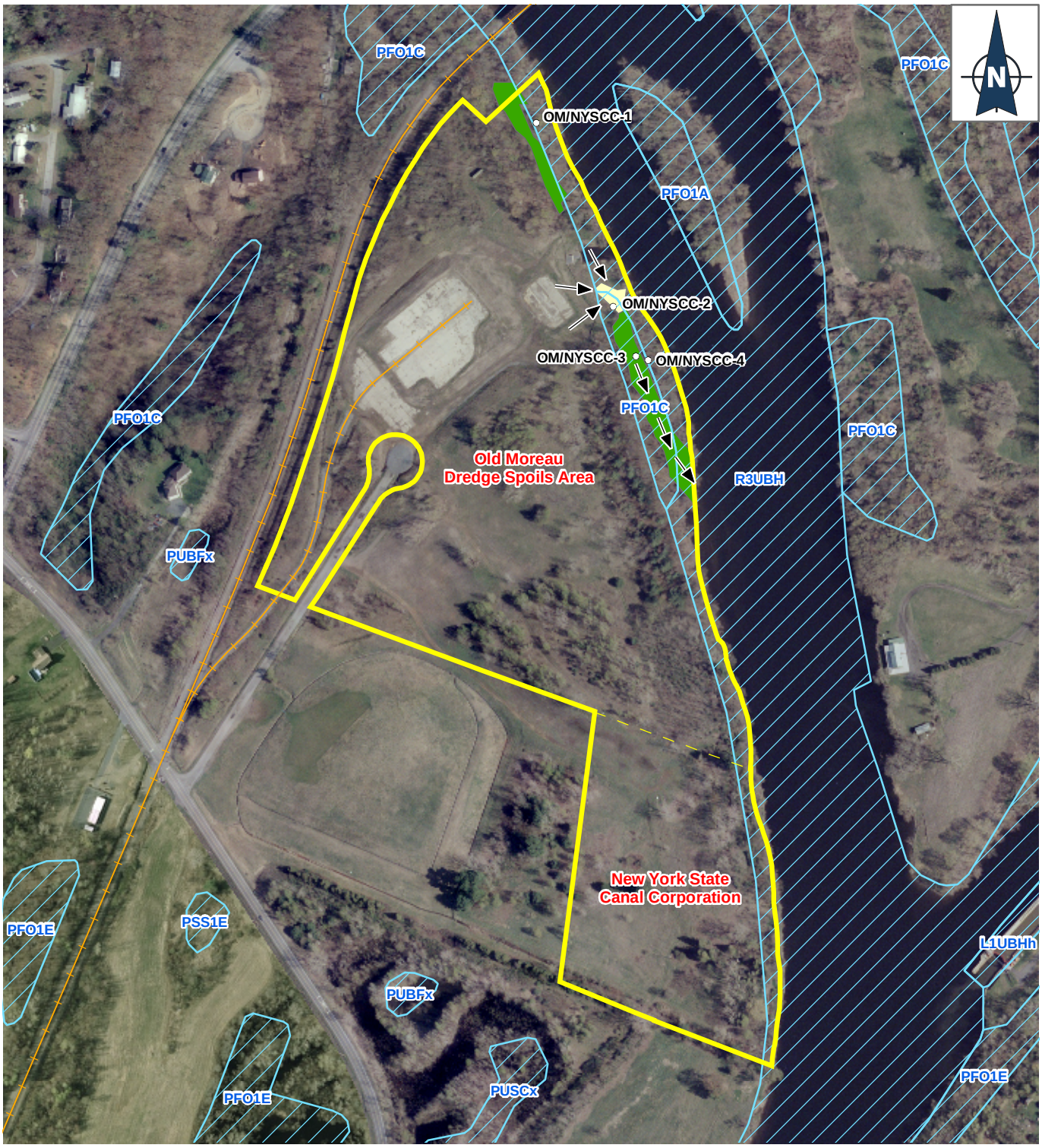
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- NYS DEC Mapping
- National Wetland Inventory Mapping

Delineated Wetlands

- Emergent
- Forested
- Observation Plots
- Direction of Drainage Flow

Hudson River
PCBs SUPERFUND SITE

Figure 7-1
Wetland Locations
Old Moreau Dredge Spoils Area /
New York State Canal Corporation

500 250 0 500
Feet

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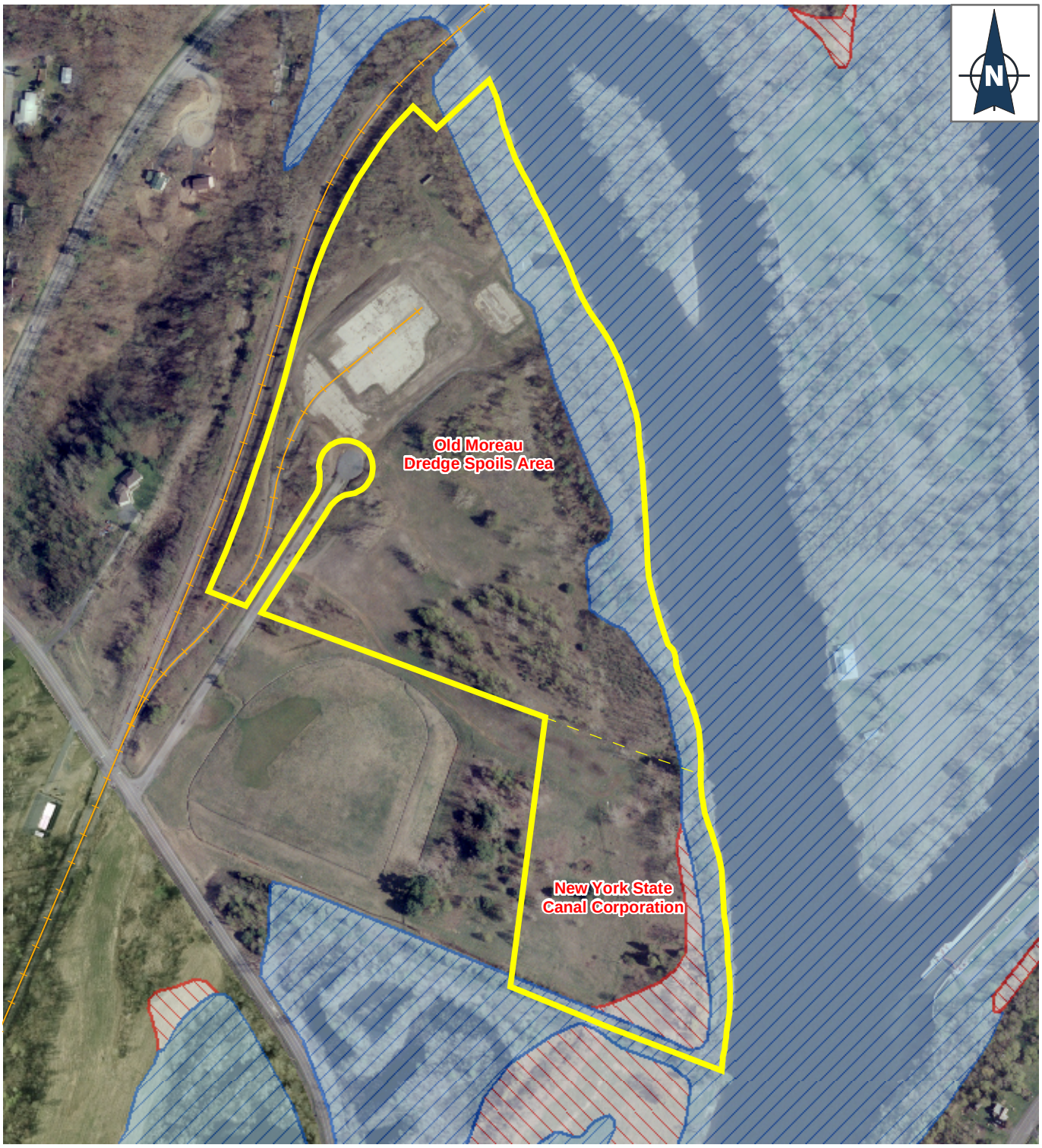
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

Potential Site Boundary

FEMA Floodplain

100 Year Floodplain

500 Year Floodplain

Hudson River
PCBs SUPERFUND SITE

Figure 8-1
FEMA Floodplain Mapping
Old Moreau Dredge Spoils Area /
New York State Canal Corporation

500 250 0 500
Feet

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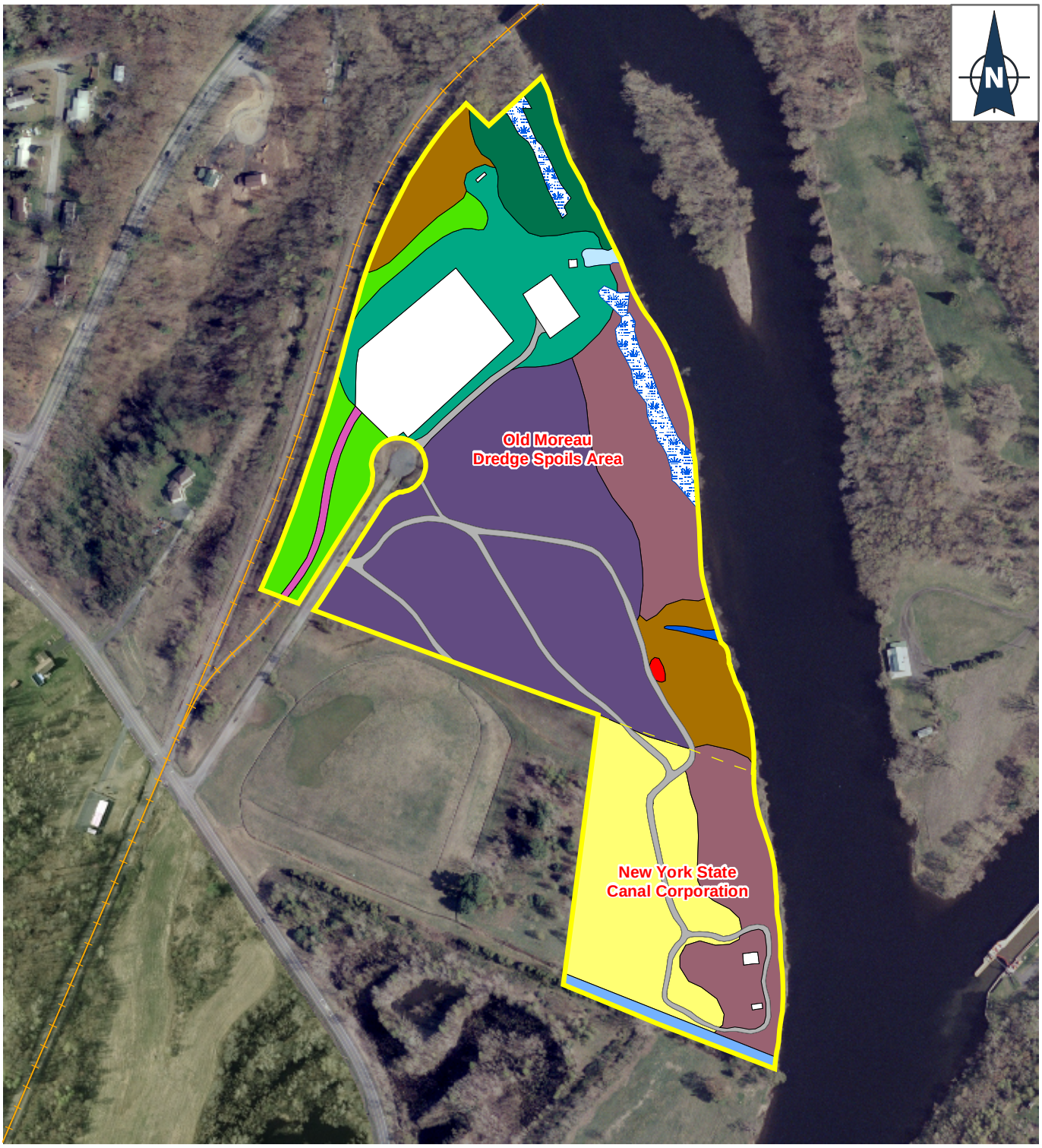

Ecological Communities

- Unpaved Road
- Wetland
- Successional Northern Hardwoods (SNH)
- Successional Old Field (SOF)
- Successional Shrubland
- Intermittent Stream
- Ditch
- Backwater Slough
- Dredge Spoils / SNH / SOF
- Junkyard
- Pine-Northern Hardwood Forest
- Maple-Basswood Rich Mesic Forest
- Railroad
- Rural Structure Exterior
- Mowed Pathway

Hudson River PCBs SUPERFUND SITE

Figure 10-1
Site Ecological Communities
Old Moreau Dredge Spoils Area /
New York State Canal Corporation

500 250 0 500 Feet

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Georgia Pacific/New York State Canal Corporation Site
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Georgia Pacific/New York State Canal Corporation Site

2. Phase I Environmental Site Assessment

2.1 Site Location, Description, and Environmental Setting

The Georgia Pacific/New York State Canal Corporation (NYSCC) Final Candidate Site (FCS) is located in the Hudson-Mohawk Lowland physiographic province. The topography of this province has been produced primarily by erosion along outcrop belts of sedimentary rocks that lie between the Catskills and the metamorphosed shale hills of the Taconics. The province generally has low relief and elevation and is underlain by Ordovician shales that have been exposed by the erosion of Silurian and Devonian limestones (University of the State of New York 1966). The site comprises one parcel owned by Georgia Pacific. The NYSCC maintains an area along an existing bulkhead. Site photos are found in Appendix A.

The Georgia Pacific/NYSCC site is a 122.7-acre parcel located near the town of Greenwich, Washington County, New York (see Figure 2-1). This site is located on the east side of the Hudson River (at approximately river mile 183.2) and is owned by Georgia Pacific; however, it is not currently developed. The only portion of the site currently used is the bulkhead along the river, which is being used by NYSCC. Although the site is considered one parcel, it comprises a number of tracts. The site is situated near the Northumberland Dam, and there is a bulkhead along the shoreline to the north of the dam. A paper mill was previously located on the site; the former mill structures have been removed. During the site inspection on July 10, 2003, a canal formerly used for hydroelectric power generation was identified along the eastern edge of the riverside tract. This canal is currently blocked off from the river, and remnants of the power facility foundation are still present. The water present in the canal has resulted in wetland habitat.

A rail corridor runs onto the riverfront tract for 200 feet and south of the larger inland tract for 670 feet. The rail spurs are inactive and need refurbishing. In addition to the waterfront property, a large portion of the parcel is located on the site east of County Road 113. This tract contains a landfill in the western portion and native wooded upland, with streams in the eastern portion. A drainage ditch is present in the southwest portion of this tract. A creek runs along the western boundary of the former landfill and ultimately discharges to the Hudson River.

The site is surrounded by rural residential and vacant agricultural land. The site topography is relatively flat along the waterfront and hilly on the east side of County Road 113. Portions of the waterfront are open grassy areas, surrounded by wooded areas. Most of the area on the east side of County Road 113 is wooded except for the open areas containing the landfill. Access to the parcel is via County Road 113 and a series of dirt roads on the waterfront parcel. The eastern parcel is accessed via a dirt trail from County Road 113. There is direct river access, with river frontage extending approximately 1,295 feet above the dam, as well as 185 feet of dike and 350 feet of undeveloped land below the dam. Approximately 1,410 feet of shoreline below the dam is unnavigable because of the dam and shallow water. The water adjacent to the existing bulkhead is

approximately 10 feet deep. Rock outcrops were observed in the upland section of the eastern parcel and along the shoreline adjacent to bulkhead. Key site features are presented on Figure 2-1.

Although no surficial environmental concerns were identified at this site, several 55-gallon drums were found throughout the site: eleven drums were observed in the northwestern portion of the site along with several empty 1-gallon roof tar cans (see Appendix A photos). Approximately nine drums were found in the northeast portion of the site; two drums were found in the central portion of the western parcel, and several drums were found along the waterfront below the dam and in the southeast corner of the western parcel. In most cases the drums appeared to be empty. However, one drum in the northwest corner of the site contained a black grease-like substance (see Appendix A). The drums in the northwest corner of the site were removed by Basile Environmental Solutions (under contract to Georgic Pacific) during the Phase II investigation program.

2.2 Historical Use Information

The site is the location of a former paper mill operation that was purchased by Georgia Pacific approximately 20 years ago. Georgia Pacific reportedly did not operate the mill, but it did perform the site closure.

2.3 Summary of Previous Studies

In 1999, Apex Environmental, Inc., on behalf of Georgia Pacific, installed and sampled four bedrock wells and collected three subsurface soil samples. In reference to New York State Department of Environmental Conservation (NYSDEC) Spill No. 93-07610 (Apex 1999), the investigation focused on the southwest riverfront portion of the site bounded between the former power canal and the Hudson River. Three of the bedrock wells (APEX-2 through APEX-4) were installed at the north part of this riverfront area, and one well (APEX-1) was installed at the south end. Based on review of the well drilling logs for the four bedrock wells installed by Apex, overburden thickness at the riverfront of the Georgia Pacific/NYSCC site ranges between 13 and 22 feet below ground surface (bgs). The overburden was described as primarily sand and silt, with small amounts of fine gravel followed by inorganic clays overlying the shale bedrock. At one of the wells (APEX-2), a saturated fine sand layer was encountered between the clay and the bedrock. During well installation, water in the overburden was encountered between 10 and 15 feet bgs. Groundwater samples were collected from the four wells and were analyzed for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). At a later time, two soil borings were installed via hand auger next to wells APEX-1 and APEX-3, and subsurface soil samples were collected from the depth intervals that exhibited the highest photo-ionization detector (PID) readings during the well installations. Subsurface soil samples were also analyzed for VOCs and SVOCs. No VOCs or SVOCs were found in the bedrock groundwater samples. SVOCs were not detected in the subsurface soil samples, and four VOCs (toluene, xylenes, tert-butylbenzene, and n-butylbenzene) were detected in the soil sample collected adjacent to APEX-3 from the 1.5- to 2.0-foot depth interval. All four VOCs were detected at concentrations below the cleanup standards established in NYSDEC's Spill Technology and Remediation Series. Based on the results of this investigation, NYSDEC closed

NYS Spill No. 93-07610 in December 1999, and the four wells were decommissioned in September 2000.

According to the Georgia Pacific site representative interviewed during the July 2003 site inspection, the landfill on the inland tract has undergone closure. To date, the closure report has not been provided.

3. Phase II Investigation

3.1 Field Investigations

The initial phase of the environmental assessment consisted of collecting environmental and geotechnical samples. Results of the geotechnical sampling are provided in Section 4 of this report. Site photos are found in Appendix A. Boring logs and supplemental geotechnical information are found in Appendix B. Environmental samples were collected from surface soil, surface water, sediment, subsurface soil, and groundwater. Surface and subsurface soil samples were collected in drum disposal areas, surficial dumping areas, land farming areas, and areas of the site where construction operations would be expected to occur if the site were selected. Surface water and sediment samples were collected along present site runoff flow pathways and the former power-generating canal. Upgradient and downgradient groundwater samples were collected to provide an indication of overall environmental conditions.

All environmental field investigations were performed in accordance with the August 2003 *Hudson River PCBs Superfund Site Facility Siting Work Plan* (Ecology and Environment, Inc.) and the September 2003 addenda to that plan, the *Site-Specific Field Investigations of the Final Candidate Sites* (Ecology and Environment, Inc.). Investigations at this site were performed in September and October 2003. A summary of investigation activities is provided in Table 3.1-1.

Deviations from the Work Plan

The following deviations from the work plan occurred during the field program:

- Surface water sample GPS-SW1 was not collected because of dry conditions at the time of sampling.

- Surface soil sample GPS-SS11 was added to the program because of the presence of numerous drums (approximately 11) in the northwest corner of the site.

3.2 Environmental Sampling Program

3.2.1 Temporary Well Installation and Groundwater Flow

Eight temporary 1-inch polyvinyl chloride (PVC) wells were installed via direct push technologies (DPT). Well construction information is provided in Table 3.2-1. Before groundwater sampling, each temporary well was purged three times the volume of water standing in the casing or to dryness (whichever occurred first). Water quality parameters measured in the field during purging are presented in Table 3.2-2. Groundwater sample results are described below.

Groundwater elevations were measured from each temporary well upon well completion and at two separate times following completion of the sampling program. In addition, two surface water elevations were obtained from the Hudson River on the western boundary of the site and two surface water elevations were obtained from the power canal on the southern half of the site. The tops of each temporary well and surface water reference marks were surveyed so that an accurate elevation could be obtained. Table 3.2-3 summarizes the recorded elevations. Based on the limited information available from this study (8 wells spaced more than 300 feet apart), groundwater flow beneath the Georgia Pacific site appears to be to the west or southwest towards the Hudson River (see Figure 3-1).

3.2.2 Field Sampling and Surveying

The environmental investigations at this site included collecting eleven surface soil samples; four surface water and five sediment samples; subsurface soil sampling via direct push technologies (DPT) at eight locations; installation and sampling of eight temporary monitoring wells; three geotechnical soil borings, and installation of one stream gauge for hydrologic monitoring purposes. Table 3.2-4 summarizes the total number of field and quality assurance/quality control (QA/QC) samples collected and the parameters for which they were analyzed, and Figure 3-1 illustrates all environmental investigation locations. All sample locations and stream gauges were surveyed for both horizontal and vertical positions. Survey data is presented in Appendix C. All samples were collected in accordance with the project work plans. Field chemistry data recorded from surface water sample locations are presented in Table 3.2-2. Results from each sample medium are described below.

3.2.3 Data Usability

Soil, sediment, surface water, and groundwater samples were collected from various locations at each FCS (see Section 3.3). The samples were submitted to several environmental analytical laboratories for analytical testing as directed by EPA. Appendix D provides the complete analytical results, field quality control (QC) samples, and data qualification. The specific data usability concerns regarding each FCS are still under evaluation as part of a detailed review of the hard copy data assessment reports. The following is a summary of general information regarding data usability determined from the electronic data review.

Out of a total of 6,351 reported values, 901 values were qualified during the data validation process. The data points that were qualified as estimated, bias low, or non-detect are considered useable for the purposes of this project. A total of 6 values were flagged as unusable, resulting in a completeness of more than 99.9%. Further evaluation of the data will include determining potential limitations of other qualified data and the impact of rejected data. In general, potential data limitations for the site are minor, as noted below:

- Low levels of several volatiles and pesticides were flagged "U" as non-detected. The results were generally below the reporting limit and, therefore, the data qualification has no impact on the data usability.

- Data qualified as unusable are for compounds that are generally highly reactive and not typically found during site investigations.

- Field blanks, including trip blanks, rinseates, and field duplicates, were collected to be applicable to all FCSs. The results are summarized in Appendix D. The results demonstrate good overall sampling and analysis precision and no significant field contamination.

- The laboratory reported tentatively identified compounds (TICs) for volatile and semivolatile compounds on the hard copy data package. TIC values are reported as "NJ" with presumptive evidence that the compounds are present and concentrations are considered highly estimated. The TICs are being reviewed to determine any indications of significant contamination not identified by the results for the known target compounds.

3.3 Environmental Sample Results and Evaluation

State and federal standards, criteria, and guidances were used for preliminary screening purposes during review of the analytical sample results for surface soil, subsurface soil, surface water, sediment, and groundwater. Exceedances of the criteria (with the exception of metals) are noted in Table 3.3-1 by shading the values that exceeded the criteria.

Metals cannot be directly compared to the criteria without additional evaluation (including evaluation of background levels) because metals occur naturally in the environment. Additionally, turbidity in surface water and groundwater samples can cause interference with metals analysis. These factors were considered in the evaluation of the significance of detected compounds.

The criteria were selected based on a review of available EPA and New York State Department of Environmental Conservation (NYSDEC) standards, criteria, and guidances for the various media sampled. The applicability of these preliminary screening criteria to the FCSs will be determined as part of further evaluation by EPA in consultation with NYSDEC and the New York State Department of Health (NYSDOH).

The following discussion identifies the samples, by medium, with compounds exceeding the screening criteria. Those compounds without appropriate screening criteria also are identified. Where available, pertinent information for comparison purposes is provided.

Soil (Surface and Subsurface)

NYSDEC, *Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels* (1994) and subsequent amendments (December 20, 2000) (TAGM 4046). The recommended soil cleanup objectives and

typical eastern USA background concentrations for metals contained in TAGM 4046 were used as preliminary screening guidance for soil. Where specific guidance values were available for surface and subsurface soils (such as for polychlorinated biphenyls [PCBs]) they were applied based on the depth of the samples collected. TAGM 4046 assumes a total organic carbon (TOC) of 1%.

Surface Water
NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998). These standards and guidance provide values for various water classes. Since the majority of the surface water samples were collected from unnamed ditches and ponded water areas at the site, the surface water samples collected are assumed to be Class D waters. Class D waters are best used for fishing. However, due to natural conditions such as intermittent flow, water conditions may not be conducive to fish propagation. Class C waters are considered conducive to fish propagation. Surface water standards and guidance values are calculated for some inorganics based on water hardness.

Sediment
NYSDEC, *Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments* (1999). This guidance requires organic contaminants in sediments to be calculated based on sample TOC. TOC data were collected and used to calculate these screening values. Various criteria for bioaccumulation and acute and chronic toxicity are presented in this document for protection of human health, benthic aquatic life, and wildlife. The benthic aquatic life chronic toxicity protection level for sediment was selected as the preliminary screening value for all collected sediment samples.

Groundwater
NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998) provides Class GA standards and guidance values. The *National Primary and Secondary Drinking Water Regulations, Current Drinking Water Standards* (2002) maximum contaminant levels (MCLs) were used for preliminary screening for groundwater samples collected from temporary wells.

3.3.1 Surface Soil

Volatile Organic Compounds (VOCs)
No VOCs that exceeded screening criteria were detected in the surface soil samples (see Table 3.3-1).

Semivolatile Organic Compounds (SVOCs)
Two SVOCs that do not have available screening criteria (carbazole and benzaldehyde) were detected in the surface soil (see Table 3.3-1). Exceedances of screening values occurred for 4-nitrophenol, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, and dibenzo(a,h)anthracene.

Pesticides
No pesticides above screening criteria were detected (see Table 3.3-1). The only pesticides detected for which there are no standards available are endrin aldehyde, endrin ketone, and methoxychlor. Pesticides were detected throughout the site at each surface soil sample except GPS-SS03, GPS-SS04, GPS-SS06, and GPS-SS09.

Herbicides
An herbicide with no screening criteria (2,4-D) was detected at GPS-SS10 (56.6 µg/kg); however, this detection was considered a false positive by the laboratory (see Table 3.3-1). There are no standards for herbicides.

PCBs
No PCBs that exceeded screening criteria were detected in the surface soil samples (see Table 3.3-1).

Hexane Extractable Materials (Total Petroleum Hydrocarbons [TPH])
TPH, which has no screening criteria, was detected at GPS-SS01 (drum area), GPS-SS10 (composite sample taken adjacent to the railroad), and GPS-SS11 (drum area) at concentrations of 1,500 mg/kg, 800 mg/kg, and 1,360 mg/kg, respectively (see Table 3.3-1).

Inorganics
Arsenic, beryllium, cadmium, chromium, copper, iron, lead, magnesium, nickel, zinc, and mercury were found above their screening values (see Table 3.3-1). Metals are naturally occurring constituents of soil that often exceed criteria. Most of the levels were within the eastern USA background range. However, four samples contained one or more metals that exceeded more than three times the highest level of the USA background range: copper, lead, and zinc in GPS-SS01 (drum area); zinc in GPS-SS02 (current bulkhead/former mill/fill area) and GPS-SS06; and arsenic, copper, lead, mercury, and zinc in GPS-SS05 (slag/fill area).

Low levels of cyanide were detected in samples GPS-SS01 through GPS-SS05 and GPS-SS08 at concentrations ranging from 0.18 mg/kg to 0.42 mg/kg (see Table 3.3-1). No screening values are available for this compound.

3.3.2 Subsurface Soil

VOCs
Acetone (520 µg/kg [J]) in GPS-GP01-SB (downgradient of the northwest drum area) at 10 to 12 feet below ground surface (bgs) was detected above criteria (see Table 3.3-2). Two VOCs detected do not have screening values: 2-butanone and cyclohexane. However, they were detected at levels below the method detection limits.

SVOCs
Benzo(a)anthracene (690 µg/kg), benzo(a)pyrene (940 µg/kg), chrysene (980 µg/kg), and dibenzo(a,h)anthracene (290 µg/kg [J]) were found above their screening levels at GPS-GP05-SB1 (see Table 3.3-2). Compounds detected without screening criteria were carbozole at 140 µg/kg (J) in GPS-GP05-SB1 (12 to 16 feet bgs) and benzaldehyde at 230 µg/kg (J) at GPS-GP05-SB2 (22 to 24 feet bgs), both below method detection limits.

Pesticides
No pesticides above screening criteria were detected (see Table 3.3-2). Methoxychlor, for which there is no standard, was detected below its method detection limit in GPS-GP05-SB1 (26 µg/kg[JN]) (see Table 3.3-2).

PCBs
No PCBs were detected in subsurface soil samples.

Inorganics
Arsenic, beryllium, calcium, chromium, copper, iron, magnesium, nickel, zinc, and mercury were found above their screening values in subsurface soil samples (see Table 3.3-2). Metals are naturally occurring constituents of soil that often exceed criteria. Most of the levels of these metals are within or very close to the eastern USA background range. However, mercury and zinc in GPS-SP05-GB1 (12 to 16 feet bgs) exceeded by more than 3 times the highest level of the range.

Very low levels of cyanide were detected at GPS-GP02 (0.31 mg/kg) and GPS-GP05-SB1 (0.21 mg/kg). No screening values are available for this compound.

3.3.3 Surface Water

VOCs
No VOCs were detected in the surface water.

SVOCs
No SVOCs above screening criteria were detected (see Table 3.3-3). Two SVOCs with no available screening criteria were detected in the surface water (see Table 3.3-3). Benzaldehyde was detected in GPS-SW04 (3 µg/L [J]) and caprolactam was detected in GPS-SW04 (96 µg/L) and GPS-SW05 (39 µg/L).

Pesticides
No pesticides were detected in the surface water.

PCBs
Aroclor-1242 (1.1 µg/L [J]) was detected above its standard in the surface water in the former power canal at GPS-SW04 (see Table 3.3-3).

Anions
Chloride and sulfate were detected in all surface water samples (see Table 3.3-3). Chloride and sulfate concentrations vary, with the highest concentrations found in the power canal samples.

Inorganics
Iron and mercury were detected above their standards (see Table 3.3-3). Metals are naturally occurring constituents of surface water that often exceed criteria. Therefore, the presence of these metals is not of concern.

Hardness
Hardness concentrations ranged from 145 mg/L to 500 mg/L in the surface water samples.

3.3.4 Sediment

VOCs
No VOCs with screening criteria were detected (see Table 3.3-4). Low levels of three VOCs with no screening values (1,1,2-trichloro-1,2,2-trifluoroethane, carbon disulfide, and methyl acetate) were detected in sediment samples (see Table 3.3-4). 1,1,2-trichloro-1,2,2-trifluoroethane is a Freon compound that may be present in the sample as a laboratory artifact. Therefore, the presence of this constituent is not of concern. Carbon disulfide (3 µg/kg [J]) and methyl acetate (10 µg/kg [J]) were detected at GPS-SE04, and methyl acetate (15,000 µg/kg [J]) was detected at GPS-SE05. Both of these sample locations are in the former power canal.

SVOCs
No SVOCs above screening criteria were detected (see Table 3.3-4). Compounds without screening criteria that were detected are acetophenone, benzaldehyde, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and di-n-octylphthalate (see Table 3.3-4). All of these compounds were detected below their method detection limit in GPS-SE05.

Pesticides
Beta-BHC was found above its standard at GPS-SE05 (19 R µg/kg); however, this value was rejected when validated (see Table 3.3-4).

PCBs
No PCBs that exceeded screening criteria were detected in the sediment samples (see Table 3.3-4).

Inorganics
Cadmium, chromium, copper, lead, manganese, nickel, zinc, and mercury were found above their screening values in the sediment samples (see Table 3.3-4). Metals are naturally occurring constituents that often exceed criteria. Only lead exceeded the severe effect criteria in GPS-SE05.

Cyanide was detected in one sediment sample (GPS-SE05) at 5.7 mg/kg.

Total Organic Carbon (TOC)
Total organic carbon concentrations ranged from 10,000 mg/kg to 110,000 mg/kg in the sediment samples.

3.3.5 Groundwater

VOCs
No VOCs that exceeded screening criteria were detected in the groundwater samples (see Table 3.3-5).

SVOCs
No SVOCs with screening criteria were detected (see Table 3.3-5). Caprolactam, which has no screening value, was detected in two wells: GPS-GP05 (280 μg/L) and GPS-GP08 (1,400 μg/L) (see Table 3.3-5).

Pesticides
No pesticides were detected in the groundwater samples.

PCBs
No PCBs were detected in the groundwater samples.

Inorganics
Iron, magnesium, manganese, and sodium were each detected in at least one well above NYSDEC and/or EPA screening values (see Table 3.3-5). These metals are naturally occurring constituents of groundwater that often exceed criteria. Therefore, the presence of these metals is not of concern.

4. Geotechnical Assessment

A subsurface field investigation was conducted at the Georgia Pacific site to obtain geotechnical information. The primary purpose of collecting this data was to determine if there are geotechnical limitations associated with the use of the site for a sediment processing/transfer facility. Data collection included:

- Review of available subsurface information from previous studies;
- Soil borings installation (which included logging the subsurface geology and obtaining standard penetration test [SPT] data); and
- Submitting soil samples for geotechnical testing.

Presented below is a summary of the site geologic and geotechnical data collected.

Subsurface soil investigation locations were selected to provide general coverage of the site. Additionally, locations were selected based on the possible presence of fill in areas that may be used to construct the sediment processing/transfer facility. Figure 3-1 shows the locations of three geotechnical boreholes, GPS-GT01 through GPS-GT03, installed during this study. At each boring location, a continuous vertical profile was developed from ground surface to a depth of approximately 26 feet below ground surface (bgs) in 2-foot increments. A 2-inch outer diameter (OD) by 24-inch long split spoon sampler was advanced through 4.25-inch inner diameter (ID) hollow stem augers to collect the samples. Standard penetration tests using the split spoon sampler were conducted per ASTM Method D1586-99. Blow count data was recorded on boring logs and is presented in Appendix B. Granular soil density and cohesive soil consistency were classified using SPT n-values, which are the sums of the blows recorded over the second and third 6-inch penetration intervals of the tests.

Soil samples from geotechnical borings were collected and submitted for Atterberg limits, particle size, and moisture content analysis. The overall goal of soil sample collection from geotechnical borings was to collect at least one soil sample from each prominent soil horizon encountered within the top 25 feet of overburden. A total of four geotechnical soil samples were collected. At two boreholes, one soil sample from each depth interval also was collected and submitted for moisture content testing, creating a continuous moisture profile from ground surface to the bottom of the boreholes. Particle size gradation curves and their respective analytical summary sheets, which also list Atterberg limit data and moisture content data, are presented in Appendix B.

In addition to the geotechnical borings, subsurface geology was also investigated at eight other locations (GPS-GP01 through GPS-GP08) during subsurface environmental soil investigation efforts. These soil investigation activities were conducted using direct-push technology (DPT); a 4-foot soil collection interval was used to collect a continuous soil profile from the ground surface to approximately 25 feet bgs. DPT soil boring logs are also presented in Appendix B.

The geotechnical and DPT subsurface soil data indicated that site overburden soils vary considerably across the site. Site SPT n-values ranged from 0 to 15, indicating that the density of granular soils is loose to moderately dense, and the consistency of cohesive soils are soft to very soft.

The site soil investigation indicated fill area containing ash, cinders, and wood shavings exists at the northwest site corner, adjacent to the Hudson River. Fill thickness varies from 5.5 feet bgs near the northwest site corner to 8 feet thick farther to the south. Clay silts, underlain by sands and silty sands, underlie the northern part of the fill area. This clay consistency is soft to very soft, based on SPT n-values of 3 or less. Very fine to coarse sands and gravels underlie the fill area farther to the south. Sandy silts and silty sands are found inland, off the fill area. Beneath the northern landfill area, alternating silty sand, clay silt, and silty clay overlie cohesive clay. In the middle of the northern end of the site, weathered shale was noted at split spoon refusal at a depth of 21 feet bgs.

A cinder/concrete fill area located in the central part of the site extends to a depth of approximately 3.5 feet bgs and is underlain by silts and very fine sands and silty sands. An ash-rich fill extending to a depth of approximately 9 feet bgs lies in the western portion of the site; silt and sandy gravel underlie this ash fill. The density of this granular matrix is classified as loose, based on SPT n-values of 5 and 6. Further inland, a sand/silt mixture extends to a depth of approximately 14 feet bgs. Auger refusal was encountered just below this depth in the borehole.

South of the former railroad spur, silt and gravel are underlain by sands, sandy gravels, and silty gravels to a depth of 22 feet bgs along the Hudson River. Shale was noted at split spoon refusal at a depth of approximately 18 feet bgs further inland. Near Route 113, a 2.5 foot-thick fill layer was found overlying a thin clay layer. Fill thickness increases to 14 feet at the southernmost part of the site, adjacent to the Hudson River. The fill was underlain by silts and sands, which extend to a depth of at least 25 feet at the southwestern site tip. These granular soils are moderately dense based on SPT n-values of 7 to 15 recorded during drilling near the western part of the abandoned railroad spur.

Site investigation data published by Apex Environmental (2000) indicated bedrock was encountered at a depth of 22 feet bgs at the southwestern corner of the site, adjacent to the Hudson River. At the northern end, they indicated bedrock at depths of 13 to 16 feet.

5. Utility Assessment

5.1 Preliminary Assessment

A preliminary utility assessment was completed as part of the site-specific field investigation of the FCS. Major site utilities identified on-site are shown on Figure 2-1. The assessment included the following steps:

1) Observations of site surface utilities such as overhead power or telephone lines, electrical transformers, manholes, sewer outfalls, and water hydrants were made.

2) Dig Safely New York (Dig Safe) was contacted as part of the utility clearance process before subsurface/intrusive work activities, including direct communication with various utility operators, as needed. Operators of on-site utilities provided information.

3) Available site maps were reviewed. Maps were obtained from various sources, including property owners.

It is anticipated that further utility assessments will be completed at the Recommended Sites. Further assessment may include contacting local municipal offices for information, opening manholes to determine flow paths, and dye testing. Further assessment may be conducted as part of the design evaluation process or during other additional investigation of Recommended Sites.

5.2 Findings and Observations

No major utilities were identified at the Georgia Pacific site. Overhead electrical power lines are located along Route 113, which is adjacent to the site.

6. Survey of Terrestrial, Archaeological, and Architectural Resources (STAAR)

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effect that facility siting may have on cultural resources that are listed or are eligible for listing on the National Register of Historic Places (NRHP). Phase IB field investigations continued the cultural resources studies and are specifically designed to determine the presence and extent of cultural resources within the Georgia Pacific/New York State Canal Corporation (NYSCC) site (see *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plan: Site-Specific Field Investigations of the Final Candidate Sites*). Field activities involved archaeological, geomorphological, and architectural investigations.

6.1 Archaeological Investigation

Reconnaissance was conducted in July 2003 and fieldwork was conducted October 11, 13-18, 20-25, 27, and 28, 2003. Approximately 250 shovel test pits were excavated within the 64 acres of this site. This FCS was originally 122.7 acres. However, the General Electric design team indicated that approximately 60 acres to the east of the eastern parcel are not expected to be used for the sediment processing/transfer facility and therefore have been excluded from the investigation. During initial archaeological investigation and the excavation of the shovel test pits, the field crew encountered a textile membrane just below the surface on the parcel east of CR 113. It was then determined that this area had been used as a landfill. All field investigations within that area were terminated. It is not likely that further archaeological investigation will be recommended east of CR 113 due to the presence of the landfill. Review of the Georgia Pacific Report will help to assess the limits disturbance and determine archaeological sensitivity.

No prehistoric sites were found at this site. The site contains a large industrial archaeological site dating to the late nineteenth to early twentieth centuries. It includes the remains of industrial buildings, an electric hydropower plant, a sluiceway with two bridges, worker quarters, a docking facility, a parking lot and old roadbed, and an inter-urban railway. This complex appears to be functionally related to a dam spanning the Hudson River. Most or all of these features are related to former paper mills. These archaeological resources potentially constitute a historic district eligible for NRHP listing.

6.2 Geomorphological Investigation

This investigation was conducted on October 14, 16, and 20. Using backhoes, four trenches were excavated totaling 25 meters in length. Trench dimensions were all approximately 1.3 meters in depth and ranged from 4 to 10 meters in length. No cultural

features or artifacts were discovered in three of the trenches. Historical features and train tracks were discovered in the fourth trench.

Prehistoric Site Sensitivity
Because of the low topography (hence, flooding) of the site, it is doubtful that any soils or artifacts exhibiting prehistoric habitation could exist in any contextual integrity.

6.3 Architectural Assessment

Fieldwork was conducted during July 2003 and on October 14, 2003. Structures more than 50 years of age within the site include a manmade slip running through the western portion of the property, a docking and loading facility, and the remains of a stone bridge and sluiceway. Ruins associated with several early to mid-twentieth century paper mills, including a brick and stonewall and cut stone foundation located at the northern end of the sluiceway, are found within the western portion of the project area (see Section 6.2). An evaluation to determine if these resources contribute to a potentially eligible historic Hudson River landscape is ongoing. Approximately ten New York State Historic Resource Inventory (HRI) forms are being completed for this site.

The possibility for visual impacts on several potentially eligible pre-1950 structures across the river will need to be further examined. These include a number of residences and an intact nineteenth-century farm complex consisting of a farmhouse and numerous associated outbuildings that display a high degree of integrity. Also within the viewshed of the site, the Route 4 bridge, a potentially NRHP-eligible steel-truss bridge, is visible to the northwest. No HRI forms are being completed for these structures at the present time because they are not within or immediately adjacent to the site.

7. Wetland Assessment

7.1 Determination and Delineation Methods

Wetland determinations and delineations of the Georgia Pacific/New York State Canal Corporation (NYSCC) site on September 19 and October 8, 2003 followed the routine approach noted in the U.S. Army Corps of Engineers (USACE) 1987 *Wetland Delineation Manual*, as outlined in Section 3.6.2.2 of the *Hudson River PCBs Superfund Site Facility Siting Work Plans* (Master Work Plans) (Ecology and Environment, Inc. August 2003). Applicable data (e.g., soil surveys, National Wetland Inventory (NWI) mapping, etc.) were reviewed beforehand to provide background information (see the Master Work Plans, Section 3.6.2.1). Determination and delineation activities were limited to those areas previously identified as potential wetlands through data review (i.e., NWI and New York State Department of Environmental Conservation [NYSDEC] mapping) and previous site reconnaissance efforts.

The Georgia Pacific/NYSCC site can be divided into eastern (or inland) and western (or riverside) parcels. Structures from a former paper mill on the northern riverside tract site have been removed. A canal formerly used for hydroelectric power generation was identified along the eastern edge of the riverside tracts. Though retaining water, presumably from runoff, this canal is currently blocked off from the river.

7.2 Review of Existing Information

Review of NWI wetland mapping indicated the site contains approximately 3.2 acres of wetlands. The wetland areas along the northern portion of the riverside parcel are classified as PFO1Eh (palustrine, forested, broadleaved deciduous, seasonally flooded/saturated, diked/impounded). The mapped wetlands within the eastern parcel are classified as PSS1/UBFh (palustrine, scrub-shrub, broadleaved deciduous/unconsolidated bottom, semipermanently flooded, diked/impounded) and PFO1E (palustrine, forested, broadleaved deciduous, seasonally flooded/saturated). NYSDEC wetland mapping indicated that no NYSDEC wetlands were previously identified on the site.

Although NWI wetland maps identify the river along the shoreline of the site as a lacustrine wetland, sample plots and determinations along the shoreline were limited to areas that exhibited wetland characteristics and occurred above the ordinary high water mark. Determination and delineation efforts did not extend into the river.

The Washington County Soil Survey was reviewed to determine the soil types mapped on this site (U.S. Department of Agriculture 1974). The mapped soil types within the site boundaries are Hudson silt loam, Hudson soil steep and very steep, Rhinebeck silt loam, fluvaquents, and Madalin silty clay loam. Hudson silt loam is deep and moderately well drained. The steep and very steep variation of the Hudson series has the same soil profile but is found on steep slopes. Rhinebeck silt loam is deep and somewhat poorly drained. The water table in this series is typically found between 6 and 18 inches below the surface during the spring and wet periods. Madalin silty clay loam is deep and poorly drained. This soil is typically found in a location in the topography where it receives surface runoff from surrounding areas. Because of the poor drainage it has a tendency to ponding. The fluvaquent soils are found in the northern portion of the riverside parcel. This soil type consists of recently deposited unconsolidated alluvial material, ranging from gravel and sand to clay. It is typically found in floodplains where it is exposed to frequent flooding and further deposition. Drainage is generally poor to very poor, although excessive drainage can be found in some areas.

7.3 Results of the Wetland Assessment

Field determination procedures resulted in the delineation of approximately 6.54 acres of wetland (see Table 7-1). A number of observation plots were completed, which led to the determination and delineation of three wetland areas representing four wetland community types (Figure 7-1). Topographic variability, position within the landscape, proximity to the river, and prior disturbance (i.e., filling, dumping) activities are the predominant factors influencing the extent of wetland boundaries on site. The results of the field investigations represent an increase in the overall acreage of wetlands compared to the NWI mapping. The estimated wetland acreage based on the NWI mapping was approximately 3.2 acres. Site wetland labels correspond to given wetland observation plot numbers.

Table 7-1 Wetland Delineation Summary

Wetland ID	Community Type	Acreage
GP/NYSCC (1)	PFO/PEM/PSS/PUB	3.37
GP/NYSCC (2)	PFO	2.08
GP/NYSCC (3)	PEM/PUB	1.09
Total Acreage		**6.54**

Key:

PEM = Palustrine, emergent.
PFO = Palustrine, forested.
PSS = Palustrine, scrub-shrub.
PUB = Palustrine, unconsolidated bottom.

Field observations of wetland GP/NYSCC (1) (which corresponds to observation plots GP/NYSCC-1, 3, and 5), a large system (approximately 3.4 acres) comprising several distinct wetland types, were made around the entire extent of this wetland. The northern portion of the wetland is largely forested (PFO). An emergent (PEM) fringe is present along the western edge of the forested wetland, which is adjacent to a residential area. Some disturbance related to trail-clearing was noted here. A large open water area (PUB) comprises the center, or basin, throughout this wetland complex. The presence of this water appears to be semi-permanent, with water levels closely related to prolonged precipitation events and storm water runoff from surrounding areas. During seasons of more frequent and prolonged precipitation, it appears that there is standing water most of the time. In drier months, open water areas recede, creating mudflats. This condition is variable based upon storm events. For instance, field observations conducted on September 18, 2003 indicated scattered, small, shallow pools of water within the basin area. However, on October 8, 2003, the entire basin was inundated after two days of rainfall. A forested/scrub-shrub (PFO/PSS) community is located along the fringe of the open water area. Wetland hydrology appears to be perpetuated by inputs from a drainage channel to the east, overland flow from a shallow channel to the north, and storm water runoff from the surrounding upland areas (see Figure 7-1).

Dominant trees species in the forested wetland areas included green ash (*Fraxinus pennsylvanica*), silver maple (*Acer saccharinum*), and northern cottonwood (*Populus deltoides*). Other tree species included black willow (*Salix nigra*), American elm (*Ulmus americana*), stiff dogwood (*Cornus foemina*), and silky dogwood (*Cornus amomum*). The herbaceous layer consisted of sensitive fern (*Onoclea sensibilis*), spotted jewelweed (*Impatiens capensis*), marshpepper smartweed (*Polygonum hydropiper*), false nettle (*Boehmeria cylindrica*), and *Carex* spp. The emergent fringe portion was dominated by spotted jewelweed with some sensitive fern and arrow-leaf tearthumb (*Polygonum sagittatum*) also present. Herbaceous species within the open water/emergent component included those mentioned above and broadleaf cattail (*Typha latifolia*), reed canary grass (*Phalaris arundinacea*), woolgrass (*Scirpus cyperinus*), Pennsylvania smartweed (*Polygonum pennsylvanicum*), hop sedge (*Carex lupilina*), Devil's begger-ticks (*Bidens frondosa*), rice cutgrass (*Leersia oryzoides*), *Osmunda* spp., and giant goldenrod (*Solidago giganta*). Cattail was dominant along the open water edge. The shrub and tree species in the scrub-shrub/forested fringe of this area included buttonbush (*Cephalanthus*

occidentalis), black willow (*Salix nigra*), silky dogwood (*Cornus amomum*), stiff dogwood (*Cornus foemina*), and brookside alder (*Alnus serrulata*).

A PFO1E (palustrine, forested, broadleaved deciduous, seasonally flooded/saturated) wetland was mapped in the southwest corner of wetland GP/NYSCC (1). The field investigation showed this area to be upland within the site boundary, with the exception of the westernmost portion that borders GP/NYSCC (1). Species within the upland area include woodfern (*Dryopteris spinulosa*), blackberry (*rubus* spp.), black cherry (*Prunus serotina*), Morrow's honeysuckle (*Lonicera morrowii*), and red oak (*Quercus rubra*).

Wetland GP/NYSCC (2) (corresponds to observation plot GP/NYSCC-7) is located along the northern boundary of the riverside parcel. A portion of this area was mapped on the NWI map as a PFO1Eh wetland. As previously mapped by NWI, 1.26 acres of the wetland were within the site boundary. Field-delineation activities resulted in an increase in wetland area by an additional 0.82 acre of wetland. This area is close to the river in elevation and is frequently flooded. Soils were typical of floodplain deposition areas, varying from coarse sand deposits to a more silty sand mixture with a clay sublayer. Farther inland there were some upland "hummocks" composed of well-drained coarse sand deposits. The wetland was dominated by a nearly monotypic stand of silver maple with some interspersed silky dogwood shrub stands along the fringe and in the western portion near the road. Close to the river there was little herbaceous vegetation. False nettle and spotted jewelweed were dominant in the herbaceous layer in the eastern portion of the wetland.

Field observations indicated the presence of aquatic bed wetland areas within the river channel to the west and north of the forested wetland. However, delineation procedures did not involve the mapping and boundary identification of wetlands within the river channel.

The relict hydroelectric canal is identified as wetland GP/NYSCC (3) (corresponds to observation plot GP/NYSCC-9). Approximately 1.09 acres of the canal contained emergent wetland vegetation or were open water at the time of the survey. The canal is deeply dug and bounded by nearly vertical slopes on the east and west. During field observations the water was approximately 20 feet below the surrounding ground level. There is no obvious surface connection to the river either in the north or south. Large concrete walls block the northern portion of the canal, and the former outfall in the south has been filled with gravel and stone. The extent of water cover is approximately several hundred feet north of the southern terminus. Water levels in the canal may be influenced by river stage and the resulting effects on the underlying water table and overland runoff into the canal. Small emergent pockets were visible on the sides of the channel and in areas where tree snags had formed small mounds. The dominant emergent vegetation was broadleaf cattail and purple loosestrife (*Lythrum salicaria*). During surveys earlier in the year, water levels were high and no emergent vegetation was observed. The open water areas were covered by a dense mat of duckweed (*Lemna minor*).

NWI mapping showed approximately 3.2 acres of wetland on the NYSCC site, excluding the lacustrine wetland along the canal. During the field investigation three wetland complexes encompassing 6.54 acres were delineated at this site. Minimal recent disturbance was noted. The 1.09-acre wetland within the canal on the Georgia Pacific property appears to be an isolated instance resulting from the damming that has occurred at both the north and south ends of the canal.

8. Floodplain Assessment

An initial floodplain assessment was conducted on the Georgia Pacific/NYSCC site in order to determine the presence, extent, and orientation of Federal Emergency Management Agency (FEMA)-mapped floodplains within site boundaries. Flood magnitudes and historic river stages from gauging stations as close as available to the site were examined to obtain an initial sense of the characteristics of on-site flooding. Appendix E provides the methodology and assumptions involved in this assessment.

8.1 Location and Orientation of the Floodplain

Figure 8-1 shows that portions of the Georgia Pacific/NYSCC site are located within the 100-year and 500-year floodplains. The floodplain areas were obtained from Flood Hazard Boundary Maps and the Town of Greenwich Flood Insurance Study (March 1992) from FEMA's Federal Insurance Administration.

The site is located on the east side of the Hudson River, in the Town of Greenwich. The total area of the site is approximately 122.7 acres (see Table 8-1). Approximately 11.3% (13.8 acres) of the total area of the site is within the base (100-year) floodplain. River frontage is estimated to be 3,700 feet.

The site comprises several non-contiguous land parcels, some of which are divided by a road (County Road 113) right-of-way and railroad parcels. The FEMA mapping indicates that the floodplain is located in several distinct locations within the riverside parcels, rather than a broad continuous floodplain. Areas within the 100-year floodplain include locations directly adjacent to the river and downstream of the Northumberland Dam (formerly the Thomson Dam); an area to the north end of the site near Thomson Road; a narrow, low-lying strip of land (i.e., the relict hydropower sluiceway associated with the former paper mill operations); and land adjacent to a tributary on the southeast corner of the site. The greatest width of the floodplain within the site is 450 feet.

Table 8-1 Summary of Georgia Pacific/NYSCC Site and Floodplain Characteristics

Is a portion of the site in the base (100-year) floodplain?	Yes
Total area of the site	122.7 acres (5,343,426 ft^2)
Area of the site within base (100-year) floodplain	13.8 acres (602,066 ft^2)
Percentage of the site within the base (100-year) floodplain	11.3%
Perimeter of the site (total length)	22,230 ft
Perimeter of the site bordering Hudson River (river frontage)	~3,700 ft
Greatest width between the outer boundary of the base floodplain and the Hudson River boundary	~450 ft

8.2 100-year Flood

The FEMA maps show the 100-year flood elevation at the site to be between 102 feet National Geodetic Vertical Datum (NGVD) at the southern end (below the Northumberland Dam) and 110 feet NGVD at the northern end. A brief examination of site topography and the FEMA mapping suggests that site elevation characteristics have not changed significantly since the FEMA floodplain modeling and mapping occurred.

The closest upstream gauge station is in Fort Edward, approximately 11 miles upstream of the site. The National Weather Service flood stage at the Fort Edward gauge station is 127 feet. At 127 feet NGVD, water floods River Road in Northumberland, reaches camps in Lake Luzerne, and may result in flooding in Stillwater (National Weather Service Advanced Hydrologic Prediction Service, http://ahps.erh.noaa.gov/cgi-bin/ahps.cgi?aly&Hudson%20River). The Stillwater gauge station is approximately 14 miles downstream of this site.

Flood magnitudes were calculated using statistical methods from the twenty-six years of flow data at the gauge station after the Fort Edward dam was removed. Based on this data, the 100-year flood stream flow is 47,772 cubic feet per second (cfs). A flood of this magnitude has not occurred in the twenty-six years of modern data. In that time, there have been two flow events greater than 10-year floods (May 3,1983 and January 10, 1998).

Flood magnitudes were also calculated from twenty-six years of flow data at the Stillwater gauge station. Based on this data, the 100-year flood stream flow for this station is 60,258 cfs. A flood of this magnitude has not occurred in the twenty-six years of modern data. In that time, there have been two flow events greater than 10-year floods (March 15, 1977 and May 4, 1983).

8.3 Local Flooding

Historic water level data (1916 to 2000) are available from NYSCC Lock 5. Lock 5 is close to the site (less than 1 mile downstream) and is separated from the main channel of the Hudson River as a bypass of the Northumberland Dam. Lock 5 water level data is likely to be comparable to water level data for the northern portion of the site because of

similar water stage characteristics. Lock 5 water level data is not comparable to water level data for the southern portion because the water levels are different due to the fall in elevation below Northumberland Dam. The highest water level at the upstream side of Lock 5 was 107.97 feet NGVD (December 6, 1918). Based on NYSCC data, the 100-year flood elevation for this site was never reached at the northern end (110 feet) between 1916 and 2000.

Spot elevations surveyed near the river-land edge of the site, upstream of the Northumberland Dam, ranged from 102.07 feet to 102.23 feet. The elevation at the top of the bulkhead is 107.83 feet. The contour information (5-foot intervals) provided with 2002 aerial photography of the site shows a 105-foot contour line along the edge of the river upstream of the Northumberland Dam. Therefore, the 100-year flood would put the river frontage in the northern portion of the site under approximately 8 feet of water.

While the probability of an 8-foot inundation event (100-year flood) is remote, the NYSCC water level data on the upstream side of Lock 5 provide evidence that flooding on a smaller scale likely occurs almost annually at this site. The northern shoreline boundary would have been under approximately 6 feet of water during the maximum high water level on December 16, 1918 and under an average of 3.7 feet of water during each year's maximum flow. Site observations suggested that flooding does occur with some regularity within the forested area at the northern extreme of the site boundary.

The 10-year flood stage for the downstream portion of the site (below Northumberland Dam) is 97.5 to 98.5 feet NGVD, while it is 108 to 109 feet NGVD for the upstream portion of the site (above Northumberland Dam).

The Flood Insurance Study notes that "flooding can occur in the community during all seasons, but generally the most notable floods have occurred between the months of February and April, when snowmelt adds to heavy spring rains to produce increased runoff."

9. Coastal Management Area Assessment

The Georgia Pacific/NYSCC site is not located in the state-designated coastal zone. Therefore no direct impacts are expected as a result of the potential use of this site. EPA will prepare an additional phase of its coastal zone consistency assessment and subsequent coastal zone consistency determination, covering potential indirect and cumulative impacts from the operation of sediment processing/transfer facilities, once the Phase 1 and Phase 2 dredging facility locations are selected.

10. Baseline Habitat and Threatened and Endangered Species Assessment

10.1 Site Habitat Description

The Georgia Pacific site description is presented in the *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plans: Site-Specific Field Investigations of the*

Final Candidate Sites (Ecology and Environment, Inc. September 2003). The site is situated on the east side of the river, encompassing areas both above and below the Northumberland Dam. This site was formerly a paper mill site and has been disturbed by past industrial uses, including the construction of a landfill (eastern parcel) and the use of certain areas for land-farming. These disturbances have greatly influenced the availability, extent, and diversity of on-site habitats. The former paper mill facilities have been removed, except for some concrete foundations. The site contains a bulkhead on the northern end, which is still occasionally used by NYSCC. Habitats largely comprise mid-successional (20 to 60 years) vegetation communities across the site. Several areas of late successional communities (greater than 60 years) are along the northern shoreline and early successional communities are in some of the areas that formerly were developed for industrial purposes.

Figure 10-1 shows the habitat community types, as defined by Edinger et al. (2002) that occur on the site. Field investigations were conducted on September 19 and October 8, 2003 to determine habitat availability within the site and to provide descriptions of existing habitat structure, diversity, and condition. Nineteen community types are found on this 71-acre site. No significant or unique habitats were among them. The predominant communities (relative to total cover across the site) are briefly described below. A description of the different community types from Edinger et al. is presented in Appendix F.

Successional Northern Hardwood

The successional northern hardwood community (SNH) accounts for 46% of the site and is the dominant community type. On the northern end of the site, the SNH is dominated by cottonwood, sumac, and elms but also contains a number of older, large black willows, red oaks, and silver maples. The SNH community in the vicinity of the wetland complex on the inland (eastern) parcel includes black cherry, white ash, black willow, Northern red oak, red maple, and cottonwood, which dominates the border areas. Along the roadside portions of the SNHs are several large red oaks, silver maples, and cottonwoods. Silver maple, elms, and black locust trees characterize the northern portion of the SNH on the waterfront parcel. Undergrowth in the shrub and herb layers is scattered and sparse. The southern end of SNH in the waterfront parcel is dominated by silver maple and cottonwood, with lower densities of box elder and quaking aspen. Portions of the SNHs are also dominated by young (1- to 6-inch diameter at breast height [dbh]) elm stands with occasional cottonwoods on the edges and relatively no shrub layer. Herbs include sedges, asters, snakeweed, poison ivy, and small honeysuckles in these locations.

The predominant species within the SNH shrub layer is honeysuckle. In some locations the shrub layer is dominated by dogwoods with lesser cover of honeysuckle, sumac, sugar maple, crabapples, Northern red cedar, Eastern white pine, and white oak. The predominant shrubs, herbs, and vines include wild grape, Virginia Creeper, wood fern, garlic mustard, moss, goldenrods, jewelweed, and blackberry. One small patch of the invasive, nonnative Japanese knotweed is found in the southeast section of the inland

parcel. The knotweed is growing in an understory of cottonwoods along the slope of a depression in the forest floor.

Successional Old Field
Successional old field (SOF) accounts for 15% of the site. Tree growth is occasional and scattered within this community type. Species include cottonwood, black willow, Eastern white pine, quaking aspen, and box elder. Shrubs include gray and silky dogwoods and an occasional multi-flora rose. The herb layer includes species such as goldenrod, sedges, birdsfoot trefoil, milkweed, asters, Queen Anne's lace, honeysuckle, and some cattail within a ditch. The southern area of the SOF is dominated by spotted knapweed, asters, fleabane, yarrow, deer-tongue grass, and evening primrose. Low densities of paper birch, cottonwood, quaking aspen, and sumac were scattered throughout the community. The edges of the SOF along the shoreline contain a narrow row of scattered box elder, cottonwood, paper birch, elm, sumac, and silver maple.

Successional Shrubland
Cottonwood, quaking aspen, sumac, and occasional dogwoods characterize the successional shrubland (SS) community, which accounts for approximately 4% of site. The herbaceous layer contains plants characteristic of the adjacent SOF communities. Portions of the site were classified as either SOF/SS or SNH/SS (6% and 5% of the site, respectively). These latter communities exhibit characteristics of both the associated community types, described above.

Other Communities
The areas in the vicinity of the bulkheads are actively influenced by man and contain mowed lawn and unpaved road. Another portion along the southern end has remnant concrete foundations of exterior rural structures. A remnant canal traverses the waterfront parcels.

Three other forested community types are present in low abundance, including Appalachian oak-hickory forest (AOF), small pine/spruce plantations (PSP), and Appalachian oak pine (AOP). A small patch of AOF is located in the northeast corner of the inland parcel. This forest patch appears to be remnant forest and is dominated by medium to large (8- to 14-inch dbh) shagbark hickory trees and some smaller white oaks. The PSP on the southern end of the site contains Norway spruce and red pine. Some of these trees were quite large (> 2 foot dbh). There is virtually no shrub layer and the herbaceous layer contained low densities of blackberries. A small remnant patch of AOP forest is along the southwestern shoreline. This area is dominated by Northern red oak, with lower densities of Eastern white pine. Honeysuckle and dogwoods dominate the shrub layer. The predominant herbs include asters and goldenrods.

Aquatic communities on-site include backwater slough and canal. The large wetland complex within the eastern portion of the site may exhibit aquatic community functions due to the relative permanence of water within the complex. (Wetland communities are discussed in further detail in Section 7 of this report.) The backwater slough is a shallow bay, which is connected to the Hudson River. The canal exhibited characteristics of an

emergent wetland and was covered with duckweed during the field visit. The northern Hudson River shoreline portion of the site is characterized by a shallow, sand/gravel substrate-dominated shoreline with shallow water depths extending out past 10 yards. Mussel shells and live mussels were observed along the northern shoreline, above the dam. Mussel species identification was not confirmed but may have been the eastern pondmussel, which is not protected in New York State. Mature trees extend to the shoreline and some root systems protrude out into the river. Trees include box elder, silver maple, and large (> 700 mm) cottonwoods and black willows. Low densities of honeysuckle dominate the shrub layer, and garlic mustard, wood fern, and jewelweed dominate the herbaceous layer. The bulkhead portions of the shoreline are either deep (> 6 feet) off the shoreline or have exposed bedrock extending to a silty, mucky substrate.

The site also contains a subterranean community type in the terrestrial cultural subsystem. The mine/artificial community is located at the south edge of the site at the base of the brick retaining wall. The artificial cave appears to be a remnant of a former hydropower plant outfall to the Hudson River. The base of the artificial cave is at the level of the Hudson River. The cave dimensions were approximately 18 feet in width and more than 200 feet in length. No signs of bat activity were apparent. The cave walls and ceilings had numerous small compartments and ledges for roosting areas, but daylight extends into more than half of the cave, which may prohibit use by bats. Several pigeons were observed roosting in the cave.

Common vegetation species and the community structure of the site influence wildlife occurrences. The availability of forested, shrubland, and old field communities provides a diverse habitat for wildlife species. Incidental wildlife observations included whitetail deer, raccoon tracks, Eastern gray squirrel, treefrog, green frog, Eastern phoebe, song sparrow, mallard, gray catbird, yellow warbler, pigeons, blue jay, sand piper, green heron, and great blue heron.

10.2 Endangered Species Act Issues

Correspondence with the U.S. Fish and Wildlife Service and NYSDEC indicate that there are no threatened or endangered species issues associated with this site. Wintering bald eagles may migrate through the area but are not known to use the site. A biological assessment will be prepared that will examine the potential impacts associated with the construction and operation of a sediment processing/transfer facility for each of the Suitable Sites.

Table 3.1-1 Summary of Activities, Hudson River PCBs Superfund Site

		Energy Park/Longe/ NYS Canal Corporation Site	Old Moreau Dredge Spoils Area/NYS Canal Corporation Site	Georgia Pacific/ NYS Canal Corporation Site	NYS Canal Corporation/ Allco/Leyerle Site	Bruno/Brickyard Associates/ Alonzo Site	State of New York/First Rensselaer/ Marine Management Site	OG Real Estate Site
Environmental Investigation	Environmental Sampling	09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
	Temporary Well Installation	09/29/03 - 10/01/03	10/02/03	10/08/03	10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	10/07/03
	Temporary Well Sampling	10/16/03	10/14/03 - 10/16/03	10/13/03 - 10/14/03	10/15/03	10/15/03 - 10/16/03	10/10/03 - 10/15/03	10/15/03
Surveying		10/01/03 - 11/11/03	10/08/03 - 11/11/03	10/09/03 - 10/29/03	10/21/03 - 10/31/03	10/15/03 - 10/29/03	10/21/03 - 11/10/03	11/11/03 - 11/13/03
Geotechnical Investigation		09/29/03 - 10/01/03	NA	10/08/03	10/07/03 - 10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	NA
Utilities Assessment		09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
STAAR		10/06/03 - 10/16/03	10/13/03 - 10/30/03	10/11/03 - 10/28/03	10/23/03 - 11/13/03	10/17/03 - 11/05/03	10/25/03 - 11/14/03	11/15/03
Wetland Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Floodplain Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Coastal Management Areas		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Baseline Habitat Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Threatened and Endangered Species Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
IDW Disposal		TBD	TBD	TBD	TBD	TBD	TBD	TBD

Key:

IDW = Investigation-derived waste.
NYS = New York State.
PCBs = Polychlorinated biphenyls.
STAAR = Survey of Terrestrial Archaeological and Architectural Resources
TBD = To be determined.

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/ Screen I.D. (inches)	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
EPL	EPL-GP01	9/29/03	9/29/03	N	10/16/03	25.4	135.11	1	27.4	137.2	15.4-25.4	5-25.4	2-5	2.0
	EPL-GP02	9/29/03	9/29/03	N	10/16/03	25	137.91	1	27.4	140.42	15-25	4-25	2-4	2.4
	EPL-GP03	9/29/03	9/29/03	N	10/16/03	25.1	135.52	1	27.51	137.99	15.1-25.1	4-25.1	0.6-4	2.41
	EPL-GP04	10/1/03	10/1/03	N	10/16/03	25	129.47	1	27.3	131.79	15-25	4-25	2-4	2.3
	EPL-GP05	10/1/03	10/1/03	N	10/16/03	25	132	1	27.5	134.53	15-25	4-25	2-4	2.5
OM	OM-GP01	10/2/03	10/2/03	N	10/16/03	25	157.67	1	27.4	160.19	15-25	4-25	2-4	2.4
	OM-GP02	10/2/03	10/2/03	N	10/16/03	25.4	141.79	1	27.62	144.2	15.3-25.3	4-25.3	2-4	2.32
	OM-GP03	10/2/03	10/2/03	N	10/15/03	25	155.84	1	27.3	158.37	10-25	4-25	2-4	2.3
	OM-GP04	10/2/03	10/2/03	N	10/15/03	25	143.5	1	22.5	146	10-20	4-25	0-4	2.5
	OM-GP05	10/2/03	10/2/03	N	10/14/03	25	133.43	1	27.5	135.93	15-25	4-25	0-4	2.5
GPS	GPS-GP01	10/9/03	10/9/03	N	10/13/03	25	108.4	1	28.15	111.60	15-25	4-25	2-4	3.15
	GPS-GP02	10/8/03	10/8/03	N	10/14/03	9.3	108.68	1	11.8	111.19	4.3-9.3	3-9.3	0.5-3	2.5
	GPS-GP03	10/8/03	10/8/03	N	10/14/03	25.5	102.76	1	27.55	104.76	15.5-25.5	4-25.5	2-4	2.05
	GPS-GP04	10/8/03	10/8/03	N	10/14/03	25.7	112.02	1	28.2	114.48	15.7-257	4-25.7	2-4	2.5
	GPS-GP05	10/8/03	10/8/03	N	10/13/03	25	100.71	1	27.45	103.31	14.85-24.85	4-25	2-4	2.6
	GPS-GP06	10/9/03	10/9/03	N	10/14/03	25	110.76	1	17.5	113.24	5-15	3-15 [A]	1-3	2.5
	GPS-GP07	10/9/03	10/9/03	N	10/14/03	25	112.98	1	22.4	115.38	10-20	3-20[B]	0.5-3	2.4
	GPS-GP08	10/8/03	10/8/03	N	10/13/03	18.5	113.36	1	19.7	114.74	8.5-18.5	3-18.5	1-3	1.2
NCC	NCC-GP01	10/9/03	10/9/03	N	10/15/03	25	48.53	1	25.5	51.02	13-23	4-23[C]	2-4	2.5
	NCC-GP02	10/7/03	10/7/03	N	-	6.9	52.5	Dry hole - no well constructed						
	NCC-GP03	10/9/03	10/9/03	N	10/15/03	22.9	43.56	1	23.65	46.2	11-21	4-22.9	2-4	2.65
	NCC-GP04	10/3/03	10/3/03	N	-	2	65.89	Not accessible by rig, boring was hand-augered						
	NCC-GP05	10/7/03	10/7/03	N	-	11	51.52	Dry hole - no well constructed (same as boring NCC-GT01)						
BBA	BBA-GP01	10/10/03	10/10/03	N	10/15/03	25	131.88	1	18.6	134.39	6-16	4-16 [D]	0.5-4	2.6
	BBA-GP02	10/10/03	10/10/03	N	10/16/03	25	144.41	1	18.55	146.87	6-16	4-18 [E]	0.5-4	2.55
	BBA-GP03	10/9/03	10/9/03	N	10/15/03	18.3	76.45	2	19.62	77.77	3.8-13.8	2.8-18.3	0-2.8	1.32
	BBA-GP04	10/10/03	10/10/03	N	10/15/03	14	77.57	1	16.8	80.38	3.5-13.5	2-14	0.5-2	2.8

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
MM	MM-GP01	10/6/03	10/6/03	N	10/10/03	25	18.73	1	27.4	20.52	15-25	4-25	2-4	2.4
	MM-GP02	10/3/03	10/3/03	N	10/10/03	25	5.87	1	27.6	7.75	15-25	4-25	2-4	2.6
	MM-GP04	10/6/03	10/6/03	N	10/15/03	25	15.50	1	27.4	17.22	14.5-24.5	4-24.5	2-4	2.9
OG	OG-GP01	10/7/03	10/7/03	N	10/15/03	25	10.28	1	17.70	12.94	5.35-15.35	3-16 [E]	1-3	2.35
	OG-GP02	10/7/03	10/7/03	N	10/15/03	25.1	14.26	1	27.35	16.46	15.1-25.1	4-25.1	2-4	2.25
	OG-GP03	10/7/03	10/7/03	N	10/15/03	25	17.95	1	27.45	20.4	15-25	4-25	2-4	2.45

[A] Hole was allowed to collapse to 10.15 feet BGS.
[B] Hole was allowed to collapse to 20 feet BGS.
[C] Hole was allowed to collapse to 23 feet BGS.
[D] Hole was allowed to collapse to 18 feet BGS.
[E] Hole was allowed to collapse to 16 feet BGS.

Key:

AGS = Above ground surface.
AMSL = Above mean sea level.
BBA = Bruno/Brickyard Associates/Alonzo Site.
BGS = Below ground surface.
EPL = Energy Park/Longe/NYS Canal Corporation Site.
GP = Geoprobe temporary well location.
GPS = Georgia Pacific/NYS Canal Corporation Site.
I.D. = Inner diameter.
MM = State of New York/First Rensselaer/Marine Management Site
N = Northstar Drilling.
NCC = NYS Canal Corporation/Allco/Leyerle Site.
NYS = New York State.
OG = OG Real Estate.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PVC = Polyvinyl chloride.
TOIC = Top of inner casing.

Table 3.2-2 Groundwater and Surface Water Field Measurements
Georgia Pacific/NYS Canal Corporation Site

Sample ID	Date	pH (s.u.)	Temerature (°C)	Conductivity (µS/cm)	Turbidity (NTU)
Groundwater					
GPS-GP01-GW	10/13/03	6.04	12.3	837.4	>1,000
GPS-GP02-GW	10/14/03	6.22	13.4	538.2	55.4
GPS-GP03-GW	10/14/03	7.28	11.7	1,075	>1,000
GPS-GP04-GW	10/14/03	6.56	10.3	1,242	>1,000
GPS-GP05-GW	10/13/03	6.78	12.8	852.1	370
GPS-GP06-GW	10/14/03	6.35	11.3	306.1	982
GPS-GP07-GW	10/14/03	6.63	10.5	917.1	>1,000
GPS-GP08-GW	10/13/03	6.55	15.4	433.2	60.5
Surface Water					
GPS-SW01	10/9/03	Dry			
GPS-SW02	10/9/03	7.11	10.5	615.6	6.31
GPS-SW03	10/9/03	7.08	11.1	169.5	9.68
GPS-SW04	10/9/03	7.15	17.2	588.0	37.7
GPS-SW05	10/9/03	6.39	9.9	725.5	35.2

Key:

°C = Degrees Celsius.
GP = Boring location.
GPS = Georgia Pacific/NYS Canal Corporation Site.
GW = Groundwater sample.
ID = Identification.
µS/cm = MicroSiemens per centimeter.
NTU = Nephelometric turbidity units.
NYS = New York State.
s.u. = Standard units.
SW = Surface water sample.
> = Greater than.

Table 3.2-3 Summary of Water Level Elevations, Georgia Pacific/NYS Canal Corporation Site

Well/ Stream Gauge ID	Ground Elevation (ft AMSL)	Reference Elevation (ft AMSL)a	10/13/2003-10/14/2003		10/23/03		11/6/03	
			Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)
GPS-GP01	108.40	111.60	9.67	101.93	9.04	102.56	8.79	102.81
GPS-GP02	108.68	111.19	8.84	102.35	8.60	102.59	7.45	103.74
GPS-GP03	102.76	104.76	11.44	93.32	11.28	93.48	10.58	94.18
GPS-GP04	112.02	114.48	21.15	93.33	20.95	93.53	20.61	93.87
GPS-GP05	100.71	103.31	18.03	85.28	17.24	86.07	16.66	86.65
GPS-GP06	110.76	113.24	7.48	105.76	7.44	105.80	6.40	106.84
GPS-GP07	112.98	115.38	12.30	103.08	14.92	100.46	12.96	102.42
GPS-GP08	113.36	114.74	9.97	104.77	9.87	104.87	5.96	108.78
GPS-SG01	NA	96.62	NM	NM	3.98	94.54	1.15	94.77
GPS-dock	NA	96.95	NM	NM	0.85	96.10	0.55	96.40
GPS-SW/SE04	NA	116.40	NM	NM	NM	NM	20.62	95.78
GPS-SW/SE05	NA	113.66	NM	NM	19.06	94.6	18.93	94.73

[a] Reference elevation is TOIC for borings, the 3-foot mark on gauge for stream gauges, a surveyed mark on the dock, and the bridge elevation for SW/SE locations.

Key:

AMSL = Above mean sea level.
ft = Feet.
GP = Boring location.
GPS = Georgia Pacific/NYS Canal Corporation Site.
NA = Not applicable.
NM = Not measured.
NYS = New York State.
SE = Sediment sample location.
SG = Stream gauge location.
SW = Surface water location.
TOIC = Top of inner casing.

Table 3.2-4 Georgia Pacific/NYS Canal Corporation Site Sample Listing, Hudson River PCBs Superfund Facility Siting

							CLP						Non-CLP									Geotechnical Analyses			
							Organics			Inorganics															
Media	Date	Sample Location	CLP Number	Matrix Code	Depth A	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	TAL Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.2)	Hexane Extractable Material (9071B)	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Particle Size (ASTM_D422-63)	Atterberg Limits (ASTM_D4318-00)	Moisture Content (ASTM_D2216-98)	Area of Interest
Surface Soil	10/8/03	GPS-SS01	B1525	SO	0-2 in	N	X	X	X	X	X	X					X							Drum Area
	10/8/03	GPS-SS02	B1526	SO	0-2 in	N		X	X	X	X	X												Former mill / Fill area
	10/8/03	GPS-SS03	B1527	SO	0-2 in	N		X	X	X	X	X												Former mill / Land farm area
	10/8/03	GPS-SS04	B1528	SO	0-2 in	N		X	X	X	X	X												Coverage
	10/8/03	GPS-SS05	B1529	SO	0-2 in	N	X	X	X	X	X	X												Paper waste area
	10/8/03	GPS-SS06	B1530	SO	0-2 in	N	X	X	X	X	X	X												Surficial debris / Fill area
	10/8/03	GPS-SS07	B1531	SO	0-2 in	N		X	X	X	X	X												Coverage
	10/8/03	GPS-SS08	B1532	SO	0-2 in	M	X	X	X	X	X	X												Former mill / Fill area
	10/8/03	GPS-SS09	B1533	SO	0-2 in	N		X	X	X	X	X												Behind concrete wall north of bulkhead
	10/9/03	GPS-SS10	B1534	SO	0-2 in	N	X	X	X	X	X	X	X				X							Composite sample of 3 locations (A, B, C) adjacent to railroad tracks (VOA portion was a discrete sample from aliquot C location)
	10/9/03	GPS-SS11	B15B0	SO	0-2 in	N	X	X	X	X	X	X					X							Northwest drum area
Surface Water	-	GPS-SW01	-	SW	-	N																		Creek running along the western boundary of the former landfill - DRY
	10/9/03	GPS-SW02	B1521	SW	-	N	X	X	X	X	X			X		X								Drainage ditch in the western part of the inland tract
	10/9/03	GPS-SW03	B1522	SW	-	N	X	X	X	X	X			X		X								Wetland in the western part of the inland tract
	10/9/03	GPS-SW03/D	B1520	SW	-	FD	X	X	X	X	X			X		X								
	10/9/03	GPS-SW04	B1523	SW	-	N	X	X	X	X	X			X		X								Former power plant canal at railroad bridge crossing
	10/9/03	GPS-SW05	B1524	SW	-	N	X	X	X	X	X			X		X								Former power plant canal - at railroad bridge crossing just before the former hydroelectric power generation plant
Sediment	10/9/03	GPS-SE01	B1515	SE	0-2 in	N	X	X	X	X	X	X			X									Creek running along the western boundary of the former landfill
	10/9/03	GPS-SE02	B1516	SE	0-2 in	N	X	X	X	X	X	X			X									Drainage ditch in the western part of the inland tract
	10/9/03	GPS-SE03	B1517	SE	0-2 in	N	X	X	X	X	X	X			X									Wetland in the western part of the inland tract
	10/9/03	GPS-SE04	B1518	SE	0-2 in	N	X	X	X	X	X	X			X									Former power plant canal at railroad bridge crossing
	10/9/03	GPS-SE05	B1519	SE	0-2 in	N	X	X	X	X	X	X			X									Former power plant canal - at railroad bridge crossing just before the former hydroelectric power generation plant

Key at the end of Table

Table 3.2-4 Georgia Pacific/NYS Canal Corporation Site Sample Listing, Hudson River PCBs Superfund Facility Siting

							CLP						Non-CLP									Geotechnical Analyses			
							Organics			Inorganics															
Media	Date	Sample Location	CLP Number	Matrix Code	Depth A	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	TAL Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.2)	Hexane Extractable Material (9071B)	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Particle Size (ASTM_D422-63)	Atterberg Limits (ASTM_D4318-00)	Moisture Content (ASTM_D2216-98)	Area of Interest
Geoprobe Borehole Subsurface Soil	10/9/03	GPS-GP01-SB	B1536	SO	10-12	N	X	X	X	X	X	X													Drum / Fill area - downgradient
	10/8/03	GPS-GP02-SB	B1541	SO	7-9	N	X	X	X	X	X	X													Bulkhead - downgradient
	10/8/03	GPS-GP03-SB	B1542	SO	9.5-12	N	X	X	X	X	X	X													Former mill / Land farm area downgradient
	10/8/03	GPS-GP03-SB/D	B15B4	SO	9.5-12	FD	X	X	X	X	X	X													Former mill / Land farm area downgradient
	10/8/03	GPS-GP04-SB	B1543	SO	22-24	N	X	X	X	X	X	X													Coverage - downgradient
	10/8/03	GPS-GP05-SB1	B1544	SO	12-16	N	X	X	X	X	X	X													Coverage - downgradient
	10/8/03	GPS-GP05-SB2	B15B3	SO	22-24	N	X	X	X	X	X	X													
	10/9/03	GPS-GP06-SB	B1545	SO	10-12	N	X	X	X	X	X	X													Coverage - upgradient
	10/9/03	GPS-GP07-SB	B1546	SO	9-11	N	X	X	X	X	X	X													Coverage - upgradient
	10/8/03	GPS-GP08-SB	B1547	SO	5.3-7.3	M	X	X	X	X	X	X													Former mill / Fill area
Geoprobe Temporary Well Groundwater	10/13/03	GPS-GP01-GW	B15B1	GW	15-25	N	X	X	X	X	X														Drum / Fill area - downgradient
	10/14/03	GPS-GP02-GW	B15B6	GW	4.3-9.3	N	X	X	X	X	X														Bulkhead - downgradient
	10/14/03	GPS-GP03-GW	B1590	GW	15.5-25.5	N	X	X	X	X	X														Former mill / Land farm area downgradient
	10/14/03	GPS-GP04-GW	B1555	GW	15.7-25.7	N	X	X	X	X	X														Coverage - downgradient
	10/13/03	GPS-GP05-GW	B1559	GW	14.85-24.85	M	X	X	X	X	X														Coverage - downgradient
	10/14/03	GPS-GP06-GW	B15B7	GW	5-15	N	X	X	X	X	X														Coverage - upgradient
	10/14/03	GPS-GP07-GW	B15B8	GW	10-20	N	X	X	X	X	X														Coverage - upgradient
	10/13/03	GPS-GP08-GW	B1566	GW	8.5-18.5	N	X	X	X	X	X														Former mill / Fill area
Geotechnical Boring Subsurface Soil	10/8/03	GPS-GT01-SB	-	SO	0-21.2[B]	N															X	X	X	Facility
	10/8/03	GPS-GT02-SB	-	SO	2.2-4	N															X	X	X	Rail yard
	10/8/03	GPS-GT03-SB	-	SO	0-17.8[B]	N															X	X	X	Rail yard
IDW	TBD	GPS-WA01	-	WA	-	N												X	X	X				General
	TBD	GPS-WW01	-	WW	-	N												X	X	X				General

[A] Depth in feet below ground surface unless otherwise specified.

[B] Continuous sampling for Moisture Content analysis. The 2-2.6 and 12-14 foot BGS depth intervals were used for the Particle Size and Atterberg Limits analyses for GPS-GT01 and GPS-GT03, respectively.

Key:

CLP = Contract Laboratory Protocol
/D = duplicate sample
FD = field duplicate sample (Type)
GP = Geoprobe boring location
GPS = Georgia Pacific site
GT = geotechnical boring location
GW = groundwater sample
IDW = investigation-derived waste
in = inch
M = matrix spike/matrix spike duplicate (Type)
N = original sample (Type)
NYS = New York State
PCB = polychlorinated biphenyl
QA = quality assurance
QC = quality control
SB = subsurface soil
SE = sediment sample
SO = soil sample
SS = surface soil
SVOCs = semivolatile organic compounds
SW = surface water
TBD = to be determined
TCL = target compound list
TCLP = toxicity characteristic leachate procedure
TOC = total organic carbon
VOCs = volatile organic compounds
WA = IDW solid waste
WW = IDW waste water

Key at the end of Table

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Georgia Pacific Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	GPS-SS01	GPS-SS02	GPS-SS03	GPS-SS04	GPS-SS05	GPS-SS06
			Date:	10/9/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)									
1,1,2-Trichloro-1,2,2-Trifluoroethane	6000	NA		0.6 J	- -	- -	- -	10 U	11 U
TCL Semivolatile Organic Compounds (µg/Kg)									
4-Chloro-3-methylphenol	240 or MDL	NA		460 U	380 U	410 U	450 U	390 U	430 U
4-Nitrophenol	100 or MDL	NA		1200 UJ	940 UJ	1000 UJ	1100 UJ	980 UJ	1100 UJ
Acenaphthylene	41000	NA		460 U	88 J	410 U	450 U	150 J	430 U
Anthracene	50000	NA		460 U	110 J	410 U	450 U	120 J	430 U
Benzaldehyde	NA	NA		98 J	380 U	410 U	450 U	390 U	430 U
Benzo(a)anthracene	224 or MDL	NA		460 U	**250 J**	410 U	450 U	**520**	430 U
Benzo(a)pyrene	61 or MDL	NA		460 U	**330 J**	410 U	450 U	**490**	430 U
Benzo(b)fluoranthene	1100	NA		460 U	530	410 U	110 J	770	430 U
Benzo(g,h,i)perylene	50000	NA		460 U	250 J	410 U	450 U	290 J	430 U
Benzo(k)fluoranthene	1100	NA		110 J	500	410 U	110 J	510	430 U
Bis(2-Ethylhexyl)Phthalate	50000	NA		460 U	380 U	410 U	450 U	81 J	100 J
Carbazole	NA	NA		460 UJ	380 UJ	410 UJ	450 UJ	390 UJ	430 UJ
Chrysene	400	NA		110 J	**420**	410 U	120 J	**750**	430 U
Dibenzo(a,h)anthracene	14 or MDL	NA		460 U	**110 J**	410 U	450 U	**190 J**	430 U
Di-n-butylphthalate	8100	NA		460 U	380 U	410 U	450 U	180 J	430 U
Di-n-octylphthalate	50000	NA		460 U	380 U	410 U	450 U	390 U	430 U
Fluoranthene	50000	NA		170 J	520	410 U	160 J	1100	430 U
Indeno(1,2,3-cd)pyrene	3200	NA		460 U	370 J	410 U	450 U	420	430 U
Phenanthrene	50000	NA		460 U	170 J	410 U	450 U	530	430 U
Pyrene	50000	NA		160 J	530	410 U	140 J	1000	430 U
TCL Pesticide and PCBs (µg/Kg)									
4,4'-DDE	2100	NA		9.1	9.7 JN	4.1 U	4.5 U	16	4.3 U
4,4'-DDT	2100	NA		4.6 U	3.8 U	4.1 U	4.5 U	36 J	4.3 U
alpha-Chlordane	540 (3)	NA		2.4 U	1.9 U	2.1 U	2.3 U	2.4	2.2 U
Aroclor-1248	1000	NA		46 U	38 U	41 U	45 U	150	43 U
Aroclor-1254	1000	NA		46 U	970	41 U	45 U	440	43 U
Aroclor-1260	1000	NA		46 U	630	41 U	45 U	39 U	43 U
beta-BHC	200	NA		2.4 U	3.6 R	2.1 U	2.3 U	2 U	2.2 U
Dieldrin	44	NA		4.6 U	3.8 U	4.1 U	4.5 U	11 J	4.3 U
Endrin Aldehyde	NA	NA		4.6 U	3.8 U	4.1 U	4.5 U	11	4.3 U
Endrin Ketone	NA	NA		4.6 U	3.8 U	4.1 U	4.5 U	3.9 U	4.3 U
gamma-BHC (Lindane)	60	NA		2.4 U	1.9 U	2.1 U	2.3 U	2 U	2.2 U
Methoxychlor	NA	NA		24 U	19 U	21 U	23 U	20 J	22 U
Herbicides (µg/Kg)									
2,4-DB	NA	NA		- -	- -	- -	- -	- -	- -

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Georgia Pacific Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	GPS-SS01	GPS-SS02	GPS-SS03	GPS-SS04	GPS-SS05	GPS-SS06
			Date:	10/9/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TAL Metals and Mercury (mg/Kg)									
Aluminum	SB	NA		8340	7830	8760	8160	3020	9700
Antimony	SB	NA		2 U	1.6 U	1.7 U	1.9 U	101	1.8 U
Arsenic	7.5 or SB	3-12 (NYS BG)		7.1 J	7.7 J	5.2 J	9.9 J	27.5 J	8.9 J
Barium	300	15-600		75.3	75.8	38.5 B	81.4	204	140
Beryllium	0.16 or SB	0-1.75		0.35 B	0.51 B	0.27 B	0.3 B	0.32 B	0.45 B
Cadmium	1 or SB	0.1-1		0.44 B	0.11 U	0.12 U	0.13 U	0.12 U	0.13 U
Calcium	SB	130-35000 (NYS BG)		6320	18100	2680	13200	1150 B	2190
Chromium	10 or SB	1.5-40 (NYS BG)		26.1	25.7	9.5	12.2	73.7	23.3
Cobalt	30 or SB	2.5-60 (NYS BG)		9.5 B	11.8	7.5 B	9.2 B	13.1	9.2 B
Copper	25 or SB	1-50		721	85.1	19.4	33.5	774	41.4
Iron	2000 or SB	2000-550000		31900	27000	19700	26400	121000	19800
Lead	SB or 200 - 500	200-500		1230	203	11.7	72	2470	174
Magnesium	SB	100-5000		4070	4300	5070	7280	804 B	3380
Manganese	NA	50-5000		701	390	454	622	584	431
Nickel	13 or SB	0.5-25		34	31.4	17.1	24	54.3	17.2
Potassium	SB	8500-43000 (NYS BG)		677 B	1070 B	506 B	728 B	268 B	816 B
Selenium	2 or SB	0.1-3.9		0.52 UJ	0.42 UJ	0.45 UJ	0.5 UJ	0.44 U	0.49 U
Silver	SB	NA		0.41 U	0.33 U	0.35 U	0.39 U	7.4	0.38 U
Thallium	SB	NA		1.5 B	0.92 U	0.99 U	1.1 U	3.6	1.1 U
Vanadium	150 or SB	1-300		149	32.4	10 B	44.3	60.5	18.4
Zinc	20 or SB	9-50		271	169	49.8	94.6	636	196
Mercury	0.1	0.001-0.2		0.06 U	0.17 J	0.06 U	0.17 J	7.7	0.06 U
Total Cyanide (mg/Kg)									
Cyanide	NA	NA		0.18	0.3	0.23	0.3	0.42	0.15 U
Total Petroleum Hydrocarbons (mg/Kg)									
N-Hexane Extractable Material	NA	NA		1500	- -	- -	- -	- -	- -

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Georgia Pacific Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	GPS-SS07	GPS-SS08	GPS-SS09	GPS-SS10	GPS-SS11
			Date:	10/8/2003	10/8/2003	10/8/2003	10/9/2003	10/9/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)								
1,1,2-Trichloro-1,2,2-Trifluoroethane	6000	NA		- -	13 U	- -	11 UJ	5 J
TCL Semivolatile Organic Compounds (µg/Kg)								
4-Chloro-3-methylphenol	240 or MDL	NA		100 J	390 U	400 U	420 U	620 U
4-Nitrophenol	100 or MDL	NA		**590 J**	990 UJ	1000 UJ	1100 U	1600 U
Acenaphthylene	41000	NA		450 U	390 U	400 U	1100	620 U
Anthracene	50000	NA		450 U	390 U	400 U	1000	620 U
Benzaldehyde	NA	NA		450 U	390 U	400 U	420 U	620 U
Benzo(a)anthracene	224 or MDL	NA		450 U	90 J	400 U	**2700**	130 J
Benzo(a)pyrene	61 or MDL	NA		450 U	**89 J**	400 U	**2600**	**130 J**
Benzo(b)fluoranthene	1100	NA		450 U	130 J	400 U	**4500**	140 J
Benzo(g,h,i)perylene	50000	NA		450 U	390 U	400 U	1600	620 U
Benzo(k)fluoranthene	1100	NA		450 U	110 J	400 U	**2000**	180 J
Bis(2-Ethylhexyl)Phthalate	50000	NA		450 U	390 U	400 U	190 J	620 U
Carbazole	NA	NA		450 UJ	390 UJ	400 UJ	300 J	620 UJ
Chrysene	400	NA		450 U	150 J	400 U	**3200**	140 J
Dibenzo(a,h)anthracene	14 or MDL	NA		450 U	390 U	400 U	**730**	620 U
Di-n-butylphthalate	8100	NA		450 U	390 U	400 U	420 U	620 U
Di-n-octylphthalate	50000	NA		450 U	390 U	400 U	390 J	620 U
Fluoranthene	50000	NA		450 U	190 J	400 U	4400	190 J
Indeno(1,2,3-cd)pyrene	3200	NA		450 U	81 J	400 U	2700	130 J
Phenanthrene	50000	NA		450 U	390 U	400 U	640	620 U
Pyrene	50000	NA		450 U	190 J	400 U	4400	230 J
TCL Pesticide and PCBs (µg/Kg)								
4,4'-DDE	2100	NA		1 J	1.3 J	4 U	4.2 U	6.2 U
4,4'-DDT	2100	NA		4.5 U	2.8 J	4 U	15 J	6.2 U
alpha-Chlordane	540 (3)	NA		2.3 U	2 U	2.1 U	2.2 U	3.2 U
Aroclor-1248	1000	NA		45 U	39 U	40 U	42 U	62 U
Aroclor-1254	1000	NA		45 U	39 U	40 U	42 U	62 U
Aroclor-1260	1000	NA		45 U	39 U	40 U	42 U	62 U
beta-BHC	200	NA		2.3 J	2 U	2.1 U	5.5 R	3.2 U
Dieldrin	44	NA		4.5 U	3.9 U	4 U	4.2 U	6.2 U
Endrin Aldehyde	NA	NA		4.5 U	3.9 U	4 U	4.2 U	6.2 U
Endrin Ketone	NA	NA		4.5 U	3.9 U	4 U	47	6.2 U
gamma-BHC (Lindane)	60	NA		2.3 U	2 U	2.1 U	2.2 U	0.9 J
Methoxychlor	NA	NA		23 U	20 U	21 U	49 J	32 U
Herbicides (µg/Kg)								
2,4-DB	NA	NA		- -	- -	- -	56.6	- -

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Georgia Pacific Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	GPS-SS07	GPS-SS08	GPS-SS09	GPS-SS10	GPS-SS11
			Date:	10/8/2003	10/8/2003	10/8/2003	10/9/2003	10/9/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TAL Metals and Mercury (mg/Kg)								
Aluminum	SB	NA		8470	3630	6440	3660	2120
Antimony	SB	NA		1.9 U	13 B	1.8 U	2.2 B	3.1 U
Arsenic	7.5 or SB	3-12 (NYS BG)		5.2 J	4.5	25 J	12.5	1.9 U
Barium	300	15-600		67.4	99	59.1	65	38 B
Beryllium	0.16 or SB	0-1.75		0.38 B	0.28 B	0.41 B	0.33 B	0.08 B
Cadmium	1 or SB	0.1-1		0.13 U	12	0.12 U	0.13 U	0.33 B
Calcium	SB	130-35000 (NYS BG)		3630	1840	2130	6760	10100
Chromium	10 or SB	1.5-40 (NYS BG)		10.9	16.9	8.5	12.6	13
Cobalt	30 or SB	2.5-60 (NYS BG)		8.7 B	5.9 B	6.1 B	7.8 B	3.2 B
Copper	25 or SB	1-50		20.9	180	22	49.3	25.2
Iron	2000 or SB	2000-550000		17700	15300	22800	15700	11000
Lead	SB or 200 - 500	200-500		73	612	15.5	111	36.8
Magnesium	SB	100-5000		4060	1080 B	2660	3100	1450 B
Manganese	NA	50-5000		497	223	204	337	224
Nickel	13 or SB	0.5-25		21.5	17.6	12.7	19	13.6
Potassium	SB	8500-43000 (NYS BG)		764 B	266 B	512 B	509 B	582 B
Selenium	2 or SB	0.1-3.9		0.51 U	0.59 B	0.47 U	0.49 U	1.3 U
Silver	SB	NA		0.4 U	0.37 B	0.37 U	0.39 U	0.46 U
Thallium	SB	NA		1.1 U	0.99 U	1 U	1.1 U	2.3 U
Vanadium	150 or SB	1-300		44.8	28	15	41	34
Zinc	20 or SB	9-50		85.7	1630	40.6	144	320
Mercury	0.1	0.001-0.2		0.07 U	0.83	0.06 U	0.07 BJ	0.09 BR
Total Cyanide (mg/Kg)								
Cyanide	NA	NA		0.16 U	0.3	0.14 U	0.15 U	0.32 U
Total Petroleum Hydrocarbons (mg/Kg)								
N-Hexane Extractable Material	NA	NA		- -	- -	- -	800	1360

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Georgia Pacific Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BG = Background.
/D = Duplicate sample.
GPS = Georgia Pacific Site.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL = Method Detection Limit
mg/Kg = Milligrams per kilogram.
NA = Not applicable/available.
NYS = New York State.
NYSDEC = New York State Department of Environmental Conservation.
PCB = Polychlorinated biphenyl.
R = The data is unusable.
SB = Site background.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.

590 J Shaded cells with bold exceed the NYSDEC screening value (except for metals).

Source: Ecology and Environment, Inc., 2004

Table 3.3-2 Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the Georgia Pacific Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: / Date: / Depth:	GPS-GP01-SB 10/9/2003 10 - 12 ft	GPS-GP02-SB 10/8/2003 7 - 9 ft	GPS-GP03-SB 10/8/2003 9.5 - 12 ft	GPS-GP03-SB/D 10/8/2003 9.5 - 12 ft	GPS-GP04-SB 10/8/2003 22 - 24 ft
TCL Volatile Organic Compounds (µg/Kg)								
1,1,2-Trichloro-1,2,2-Trifluoroethane	6000	NA		7 J	10 U	10 U	12 U	10 U
2-Butanone	NA	NA		86 J	10 U	10 U	12 U	10 U
Acetone	200	NA		**520 J**	20 U	25 J	12 UJ	19 UJ
Carbon Disulfide	2700	NA		23 UJ	10 UJ	0.8 J	12 UJ	0.4 J
Cyclohexane	NA	NA		23 U	10 U	0.5 J	0.6 J	1 J
Toluene	1500	NA		46 J	10 U	10 U	12 U	10 U
Xylenes (Total)	1200	NA		4 J	10 U	10 U	12 U	10 U
TCL Semivolatile Organic Compounds (µg/Kg)								
Acenaphthylene	41000	NA		520 U	490 U	400 U	490 U	440 U
Anthracene	50000	NA		520 U	490 U	400 U	490 U	440 U
Benzaldehyde	NA	NA		520 U	490 U	400 U	490 U	440 U
Benzo(a)anthracene	224 or MDL	NA		520 U	490 U	400 U	490 U	440 U
Benzo(a)pyrene	61 or MDL	NA		520 U	490 U	400 U	490 U	440 U
Benzo(b)fluoranthene	1100	NA		520 U	490 U	400 U	490 U	440 U
Benzo(g,h,i)perylene	50000	NA		520 U	490 U	400 U	490 U	440 U
Benzo(k)fluoranthene	1100	NA		520 U	490 U	400 U	490 U	440 U
Bis(2-Ethylhexyl)Phthalate	50000	NA		520 U	1100	400 U	490 U	440 U
Carbazole	NA	NA		520 UJ	490 UJ	400 UJ	490 UJ	440 UJ
Chrysene	400	NA		520 U	490 U	400 U	490 U	440 U
Dibenzo(a,h)anthracene	14 or MDL	NA		520 U	490 U	400 U	490 U	440 U
Fluoranthene	50000	NA		520 U	490 U	400 U	490 U	440 U
Fluorene	50000	NA		520 U	490 U	400 U	490 U	440 U
Indeno(1,2,3-cd)pyrene	3200	NA		520 U	490 U	400 U	490 U	440 U
Phenanthrene	50000	NA		520 U	490 U	400 U	490 U	440 U
Pyrene	50000	NA		520 U	490 U	400 U	490 U	440 U

Source: Ecology and Environment, Inc., 2004

Table 3.3-2 Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the Georgia Pacific Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	GPS-GP01-SB	GPS-GP02-SB	GPS-GP03-SB	GPS-GP03-SB/D	GPS-GP04-SB
			Date:	10/9/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003
			Depth:	10 - 12 ft	7 - 9 ft	9.5 - 12 ft	9.5 - 12 ft	22 - 24 ft
TCL Pesticide and PCBs (µg/Kg)								
4,4'-DDD	2900	NA		1.5 J	4.9 U	4 U	4.9 U	4.4 U
4,4'-DDE	2100	NA		5.2 U	4.9 U	4 U	4.9 U	4.4 U
4,4'-DDT	2100	NA		5.2 U	4.9 U	4 U	4.9 U	4.4 U
beta-BHC	200	NA		2.7 U	6.7	2.1 U	2.5 U	2.3 U
gamma-BHC (Lindane)	60	NA		2.7 U	1.5 J	2.1 U	2.5 U	2.3 U
Methoxychlor	NA	NA		27 U	25 U	21 U	25 U	23 U
TAL Metals and Mercury (mg/Kg)								
Aluminum	SB	NA		2620	4370	8710	8660	6860
Arsenic	7.5 or SB	3-12 (NYS BG)		1.8 U	1.5 U	8.2 J	13.2	4
Barium	300	15-600		24.6 B	35.4 B	81.9	95.3	70.3
Beryllium	0.16 or SB	0-1.75		0.12 B	0.22 B	0.54 B	0.57 B	0.33 B
Calcium	SB	130-35000 (NYS BG)		1990	2340	2990	2580	39800
Chromium	10 or SB	1.5-40 (NYS BG)		4.4	6.6	11.2	14	12.5
Cobalt	30 or SB	2.5-60 (NYS BG)		2.6 B	4.5 B	11.2 B	14.3	10.3 B
Copper	25 or SB	1-50		4 B	11.8	22	20.7	24.6
Iron	2000 or SB	2000-550000		5110	12200	27800	28600	18500
Lead	SB or 200 - 500	200-500		6	18.1	12.8	11.7	12.5
Magnesium	SB	100-5000		1120 B	1440	4050	3660	15400
Manganese	NA	50-5000		81.3	74.3	2360	1880	757
Nickel	13 or SB	0.5-25		3.7 B	6 B	21.1	24.6	17.8
Potassium	SB	8500-43000 (NYS BG)		238 B	302 B	517 B	576 B	1090 B
Selenium	2 or SB	0.1-3.9		1.2 U	0.96 U	0.46 U	0.47 U	0.61 B
Silver	SB	NA		0.42 U	0.35 U	0.37 U	0.37 U	0.4 U
Sodium	SB	6000-8000		142 U	119 U	134 U	136 U	145 U
Vanadium	150 or SB	1-300		8 B	15.6	16.8	17.4	10.8 B
Zinc	20 or SB	9-50		26.9	44.5	52.9	55.1	47.7
Mercury	0.1	0.001-0.2		0.27 R	0.07 BR	0.06 U	0.06 U	0.06 U
Total Cyanide (mg/Kg)								
Cyanide	NA	NA		0.29 U	0.31	0.15 U	0.15 U	0.16 U

Source: Ecology and Environment, Inc., 2004

Table 3.3-2 Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the Georgia Pacific Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: / Date: / Depth:	GPS-GP05-SB1 10/8/2003 12 - 16 ft	GPS-GP05-SB2 10/8/2003 22 - 24 ft	GPS-GP06-SB 10/9/2003 10 - 12 ft	GPS-GP07-SB 10/9/2003 9 - 11 ft	GPS-GP08-SB 10/8/2003 5.3 - 7.3 ft
TCL Volatile Organic Compounds (µg/Kg)								
1,1,2-Trichloro-1,2,2-Trifluoroethane	6000	NA		10 U	10 U	10 UJ	1 J	10 U
2-Butanone	NA	NA		10 U	10 U	10 U	9 J	10 U
Acetone	200	NA		10 UJ	47 UJ	10 U	63	10 UJ
Carbon Disulfide	2700	NA		10 U	2 J	10 UJ	1 J	10 UJ
Cyclohexane	NA	NA		10 U	10 U	10 U	11 U	10 U
Toluene	1500	NA		10 U	10 U	10 U	11 U	10 U
Xylenes (Total)	1200	NA		10 U	10 U	10 U	11 U	10 U
TCL Semivolatile Organic Compounds (µg/Kg)								
Acenaphthylene	41000	NA		310 J	450 U	420 U	400 U	400 U
Anthracene	50000	NA		280 J	450 U	420 U	400 U	400 U
Benzaldehyde	NA	NA		380 U	230 J	420 U	400 U	400 U
Benzo(a)anthracene	224 or MDL	NA		**690**	450 U	420 U	400 U	400 U
Benzo(a)pyrene	61 or MDL	NA		**940**	450 U	420 U	400 U	400 U
Benzo(b)fluoranthene	1100	NA		1100	450 U	420 U	400 U	400 U
Benzo(g,h,i)perylene	50000	NA		540	450 U	420 U	400 U	400 U
Benzo(k)fluoranthene	1100	NA		990	450 U	420 U	400 U	400 U
Bis(2-Ethylhexyl)Phthalate	50000	NA		380 U	450 U	420 U	400 U	400 U
Carbazole	NA	NA		140 J	450 UJ	420 UJ	400 UJ	400 UJ
Chrysene	400	NA		**980**	450 U	420 U	400 U	400 U
Dibenzo(a,h)anthracene	14 or MDL	NA		**290 J**	450 U	420 U	400 U	400 U
Fluoranthene	50000	NA		1700	450 U	420 U	400 U	400 U
Fluorene	50000	NA		84 J	450 U	420 U	400 U	400 U
Indeno(1,2,3-cd)pyrene	3200	NA		860	450 U	420 U	400 U	400 U
Phenanthrene	50000	NA		1000	450 U	420 U	400 U	400 U
Pyrene	50000	NA		1300	450 U	420 U	400 U	400 U

Source: Ecology and Environment, Inc., 2004

Table 3.3-2 Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the Georgia Pacific Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	GPS-GP05-SB1	GPS-GP05-SB2	GPS-GP06-SB	GPS-GP07-SB	GPS-GP08-SB
			Date:	10/8/2003	10/8/2003	10/9/2003	10/9/2003	10/8/2003
			Depth:	12 - 16 ft	22 - 24 ft	10 - 12 ft	9 - 11 ft	5.3 - 7.3 ft
TCL Pesticide and PCBs (µg/Kg)								
4,4'-DDD	2900	NA		3.8 U	4.5 U	4.2 U	4 U	4 U
4,4'-DDE	2100	NA		1.2 J	4.5 U	4.2 U	4 U	4 U
4,4'-DDT	2100	NA		3.8 U	4.5 U	1.1 J	4 U	4 U
beta-BHC	200	NA		2 U	2.3 U	2.2 U	2.1 U	2.1 U
gamma-BHC (Lindane)	60	NA		2 U	2.3 U	2.2 U	2.1 U	2.1 U
Methoxychlor	NA	NA		26 JN	23 U	22 U	21 U	21 U
TAL Metals and Mercury (mg/Kg)								
Aluminum	SB	NA		9440	4760	7550	6390	6900
Arsenic	7.5 or SB	3-12 (NYS BG)		3	1.5 B	5.7	1.4 U	6.4
Barium	300	15-600		144	46.1 B	31.9 B	24.9 B	30 B
Beryllium	0.16 or SB	0-1.75		0.4 B	0.32 B	0.46 B	0.21 B	0.26 B
Calcium	SB	130-35000 (NYS BG)		12800	2820	1090 B	1400	1370
Chromium	10 or SB	1.5-40 (NYS BG)		41.7	6.4 B	9.2	7.9	10.1
Cobalt	30 or SB	2.5-60 (NYS BG)		8.1 B	5.4	10.3 B	6.6 B	5.2 B
Copper	25 or SB	1-50		128	8.5	27.2	11	14.7
Iron	2000 or SB	2000-550000		12200	9210	22400	12300	14600
Lead	SB or 200 - 500	200-500		229	5.9	11.2	7.2	7.8
Magnesium	SB	100-5000		7200	2260	3230	2820	3350
Manganese	NA	50-5000		333	114	231	100	206
Nickel	13 or SB	0.5-25		15.2	9.1 B	14.6	11.4	14.5
Potassium	SB	8500-43000 (NYS BG)		837 B	383 B	605 B	392 B	627 B
Selenium	2 or SB	0.1-3.9		0.56 U	0.55 U	1 U	0.95 U	0.44 U
Silver	SB	NA		3.4	0.43 U	0.37 U	0.35 U	0.35 U
Sodium	SB	6000-8000		192 B	158 U	126 U	117 U	128 U
Vanadium	150 or SB	1-300		19.9	11.1 B	11.4 B	9.7 B	10.1 B
Zinc	20 or SB	9-50		244	37.4	49.3	36.5	39.8
Mercury	0.1	0.001-0.2		1.1	0.07 U	0.06 U	0.06 U	0.05 U
Total Cyanide (mg/Kg)								
Cyanide	NA	NA		0.21	0.15 U	0.15 U	0.15 U	0.14 U

Source: Ecology and Environment, Inc., 2004

Table 3.3-2 Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the Georgia Pacific Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

BG = Background.

/D = Duplicate sample.

ft = Feet.

GPS = Georgia Pacific Site.

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

MDL = Method Detection Limit

mg/Kg = Milligrams per kilogram.

NA = Not applicable/available.

NYS = New York State.

NYSDEC = New York State Department of Environmental Conservation.

PCB = Polychlorinated biphenyl.

R = The data is unusable.

SB = Site background.

-SB = Subsurface soil sample.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/Kg = Micrograms per kilogram.

520 J Shaded cells with bold exceed the NYSDEC screening value (except for metals).

Source: Ecology and Environment, Inc., 2004

Table 3.3-3 Analytical Data Summary of Detected Analytes for Surface Water Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	NYSDEC CLASS D (1)	Sample ID: Date:	GPS-SW02 10/9/2003	GPS-SW03 10/9/2003	GPS-SW03/D 10/9/2003	GPS-SW04 10/9/2003	GPS-SW05 10/9/2003
TCL Semivolatile Organic Compounds (µg/L)							
Benzaldehyde	NA		10 U	10 U	10 U	3 J	10 U
Caprolactam	NA		10 U	10 U	10 U	96	39
TCL Pesticide and PCBs (µg/L)							
Aroclor-1242	0.000001 for H(FC)		1 U	1 U	1 U	**1.1 J**	1 U
TAL Metals and Mercury (µg/L)							
Aluminum	NA		48.3 B	216	256	3750	3560
Arsenic	340 for A(A)		5.8 U	5.8 U	5.8 U	5.8 U	16.4
Barium	NA		33.7 B	15 B	15.7 B	232	216
Beryllium	NA		0.1 U	0.1 U	0.1 U	0.28 B	0.27 B
Cadmium	CV		0.7 U	0.7 U	0.7 U	3.9 B	4 B
Calcium	NA		98000	18100	18100	121000	86500
Chromium	CV		1 U	1 U	12.8	24.8	45.1
Cobalt	110for A(A) (g)		1.3 U	1.3 U	1.3 U	2.4 B	5.1 B
Copper	CV		1 B	3.7 B	4.1 B	24.1 B	36.1
Iron	300 for A(C)		1190	597	886	14500	38400
Lead	CV		2.2 U	2.2 U	2.2 U	79.7	316
Magnesium	NA		27600	5440	5430	18800	17900
Manganese	NA		280 J	54.2 J	65.2 J	608 J	819 J
Nickel	CV		2.3 U	2.3 B	9.8 B	8 B	18.4 B
Potassium	NA		111 B	1690 B	1730 B	10100	6790
Selenium	NA		3.8 U	3.8 U	3.8 U	13.2	84.6
Sodium	NA		2820 B	6210	6130	16600	58200
Vanadium	190 for A(A)		0.9 U	3 B	3 B	55.7	23.6 B
Zinc	CV		25.6 J	39 J	34.5 J	185 J	361 J
Mercury	0.0007 for H(FC)		0.1 U	0.1 U	0.1 U	0.25	0.31
Anions (mg/L)							
Chloride	NA		1.46	9.69	9.56	27.1	89.2
Fluoride	CV		0.176	0.083 J	0.107	0.0973 J	0.103
Sulfate	NA		6.19	17.1	16.8	37.5	21.1
Hardness (mg/L)							
Hardness (As $CaCO_3$)	NA		500	145	165	480	400

Source: Ecology and Environment, Inc., 2004

Table 3.3-3 Analytical Data Summary of Detected Analytes for Surface Water Samples at the Georgia Pacific Site

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class D Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

(g) Guidance value used.

Key:

A(A) = Standard/guidance value is for the protection of fish survival (fresh waters).

A(C) = Standard/guidance value is for the protection of fish propagation (fresh waters).

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

CV = Value calculated based on hardness as per NYSDEC TOGS 1.1.1, 1998.

/D = Duplicate sample.

GPS = Georgia Pacific Site.

H(FC) = Standard/guidance value is for the protection of human consumption of fish (fresh waters).

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

mg/L = Milligrams per liter.

NA = Not applicable/available.

NYSDEC = New York State Department of Environmental Conservation.

PCB = Polychlorinated biphenyl.

SW = Surface water sample.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

H(FC) = Standard/guidance value is for the protection of wildlife (fresh waters).

µg/L = Micrograms per liter.

1.1 J Shaded cells with bold exceed the NYSDEC Class D Standard or Guidance Value (except for metals).

Source: Ecology and Environment, Inc., 2004

Table 3.3-4 Analytical Data Summary of Detected Analytes for Sediment Samples from the Georgia Pacific Site

Analyte	NYSDEC Screening Criteria (1), (2)	Sample ID: Date:	GPS-SE01 10/9/03	GPS-SE02 10/9/03	GPS-SE03 10/9/03	GPS-SE04 10/9/03	GPS-SE05 10/9/03
TCL Volatile Organic Compounds (µg/Kg)							
1,1,2-Trichloro-1,2,2-Trifluoroethane	NA		14 U	3 J	3 J	36 UJ	8500 U
Carbon Disulfide	NA		14 UJ	15 UJ	38 UJ	3 J	8500 U
Methyl Acetate	NA		14 U	15 U	38 UJ	10 J	15000 J
TCL Semivolatile Organic Compounds (µg/Kg)							
Acetophenone	NA		500 U	510 U	1100 UJ	230 J	1500 UJ
Benzaldehyde	NA		500 U	510 U	1100 UJ	1000 UJ	330 J
Benzo(b)fluoranthene	NA		500 U	510 U	1100 UJ	1000 UJ	310 J
Benzo(k)fluoranthene	NA		500 U	510 U	1100 UJ	1000 UJ	340 J
Bis(2-Ethylhexyl)Phthalate	CV		500 U	510 U	1100 UJ	1000 UJ	980 J
Chrysene	NA		500 U	510 U	1100 UJ	1000 UJ	420 J
Di-n-octylphthalate	NA		500 U	510 U	1100 UJ	1000 UJ	1500 J
Fluoranthene	CV		500 U	510 U	1100 UJ	1000 UJ	1100 J
Phenanthrene	CV		500 U	510 U	1100 UJ	1000 UJ	380 J
Pyrene	CV		500 U	510 U	1100 UJ	1000 UJ	760 J
TCL Pesticide and PCBs (µg/Kg)							
Aroclor-1248	CV		50 U	51 U	110 UJ	310 J	1600 J
Aroclor-1260	CV		50 U	51 U	110 UJ	100 UJ	180 J
beta-BHC	CV		2.6 U	2.6 U	5.7 UJ	5.3 UJ	**19 R**

Source: Ecology and Environment, Inc., 2004

Table 3.3-4 Analytical Data Summary of Detected Analytes for Sediment Samples from the Georgia Pacific Site

Analyte	NYSDEC Screening Criteria (1) Lowest Effect (2)	NYSDEC Screening Criteria (1) Severe Effect (2)	Sample ID: / Date:	GPS-SE01 10/9/03	GPS-SE02 10/9/03	GPS-SE03 10/9/03	GPS-SE04 10/9/03	GPS-SE05 10/9/03
TAL Metals and Mercury (mg/Kg)								
Aluminum	NA	NA		7680	7890	6670	2760	3170
Arsenic	6.0	33		3.7	4.2 J	2.9 BJ	1.7 U	1.8 U
Barium	NA	NA		64.3	78.4	80.2	69 B	51.9 B
Beryllium	NA	NA		0.49 B	0.46 B	0.49 B	0.21 B	0.25 B
Cadmium	0.6	9		0.14 U	0.15 U	0.2 U	0.69 B	4.9
Calcium	NA	NA		42500	23200	3030	24100	3200
Chromium	26	110		11.1	10.2	8.6	18.7	65.4
Cobalt	NA	NA		8.6 B	7 B	5.4 B	2.4 B	4.2 B
Copper	16	110		20.3	18.1	18.1	9.5 B	25.4
Iron	20000	40000		18200	17500	9090	8970	16300
Lead	31	110		9.6	8	18.8	24	183
Magnesium	NA	NA		15400	10200	2370	1260 B	1140 B
Manganese	460	1100		461	311	137	144	169
Nickel	16	50		18.9	16.6	12.6 B	5.9 B	11.9 B
Potassium	NA	NA		1040 B	752 B	549 B	344 B	286 B
Selenium	NA	NA		0.55 U	0.56 U	0.85 B	0.74 U	1.7 B
Vanadium	NA	NA		16.3	17	25.5	17.9 B	21.1
Zinc	120	270		49.2	48.6	111	48.1	138
Mercury	0.15	1.3		0.07 U	0.07 U	0.1 U	0.1 U	0.42
Total Cyanide (mg/Kg)								
Cyanide	NA	NA		0.18 U	0.23 U	0.43 U	0.71 U	5.7
Total Organic Carbon (mg/Kg)								
Total Organic Carbon	NA	NA		17000	10000	92000	120000	110000
Percent Solids (%)								
Percent Solids	NA	NA		67	52	28	17	20

Source: Ecology and Environment, Inc., 2004

Table 3.3-4 Analytical Data Summary of Detected Analytes for Sediment Samples from the Georgia Pacific Site

(1) New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments, 1999. The benthic aquatic life chronic toxicity protection level was used.

(2) As per the 1999 NYSDEC Guidance, the screening criteria for organic contaminants in sediments are calculated based on sample Total Organic Carbon concentration. However, two levels of risk are established for metals contamination in sediments (LowerstEffect Level and Severe Effect Level).

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

CV = Value calculated based on total organic carbon as per NYSDEC Guidance.

/D = Duplicate sample.

GPS = Georgia Pacific Site.

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

mg/Kg = Milligrams per kilogram.

NA = Not applicable/available.

NYS = New York State.

NYSDEC = New York State Department of Environmental Conservation.

PCB = Polychlorinated biphenyl.

R = The data is unusable.

SE = Sediment sample.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/Kg = Micrograms per kilogram.

% = Percent.

- = Sample was not analyzed for this parameter.

19 Shaded cells with bold exceed the NYSDEC guidance value (except for metals).

Source: Ecology and Environment, Inc., 2004

Table 3.3-5 Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the Georgia Pacific/NYS Canal Corporation Site

Analyte	NYSDEC Class GA (1)	Sample ID: / Date: / EPA MCLs (2)	GPS-GP01-GW 10/13/2003	GPS-GP02-GW 10/14/2003	GPS-GP03-GW 10/14/2003	GPS-GP04-GW 10/14/2003	GPS-GP05-GW 10/13/2003	GPS-GP06-GW 10/14/2003	GPS-GP07-GW 10/14/2003	GPS-GP08-GW 10/13/2003
TCL Volatile Organic Compounds (µg/L)										
1,1,2-Trichloro-1,2,2-Trifluoroethane	5	NA	10 U	10 U	10 U	10 U	0.9 J	10 U	10 U	10 U
TCL Semivolatile Organic Compounds (µg/L)										
Caprolactam	NA	NA	10 U	10 U	10 U	10 U	280	10 U	10 U	1400
TAL Metals and Mercury (µg/L)										
Aluminum	NA	50-200 (s)	91.9 B	82.2 B	56.8 B	57.5 B	50.4 B	68.8 B	57.9 B	67.3 B
Barium	1000	2000	176 B	39.4 B	57.6 B	35.5 B	110 B	26.6 B	87.3 B	39.5 B
Calcium	NA	NA	66900	104000	131000	210000	119000	48800	102000	85600
Chromium	50	100 (4)	4.3 B	1.4 B	29.6	1 U	1 U	1 U	3.1 B	1 U
Cobalt	NA	NA	13.2 B	1.3 U	2.7 B	18.7 B	5.7 B	4.7 B	4.5 B	4.6 B
Copper	200	1300 (a)	1 U	1 U	5.9 B	1 U	1 U	1.1 B	1 U	1 U
Iron	300 (3)	300 (s)	101000	395	5040	9790	3040	27.9 U	2140	94.3 B
Magnesium	35000 (g)	NA	19000	11000	35800	44300	25100	4040 B	22200	16000
Manganese	300 (3)	50 (s)	2140 J	122 J	426 J	7610 J	1600	196 J	394 J	603 J
Nickel	100	NA	9 B	4.6 B	16.1 B	7.3 B	4.6 B	2.3 U	2.3 U	3 B
Potassium	NA	NA	2590 B	2590 B	2690 B	3620 B	11100 J	3170 B	3840 B	1390 B
Selenium	10	50	3.8 U	5.8	3.8 U	3.8 U	5.1 J	3.8 U	3.8 U	3.8 U
Sodium	20000	NA	9660	5240	46100	9830	35000 J	10400	69300	5660
Vanadium	NA	NA	3.8 B	1.8 B	0.9 U	0.9 U	0.9 U	1.2 B	0.9 U	0.9 U
Zinc	2000 (g)	5000 (s)	38.1 J	39.3 J	27.1 J	24.8 J	28.1	27.4 J	20.2 J	26.6 J

Source: Ecology and Environment, Inc., 2004

Table 3.3-5 Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the Georgia Pacific Site

Effluent Limitations, 1998.

(2) EPA National Primary and Secondary Drinking Water Standards, 2002.

(3) Screening value is for sum of Iron and Manganese is 500 µg/L.

(4) Screening value for total chromium.

(a) Action level is used in lieu of MCL.

(g) Guidance value used.

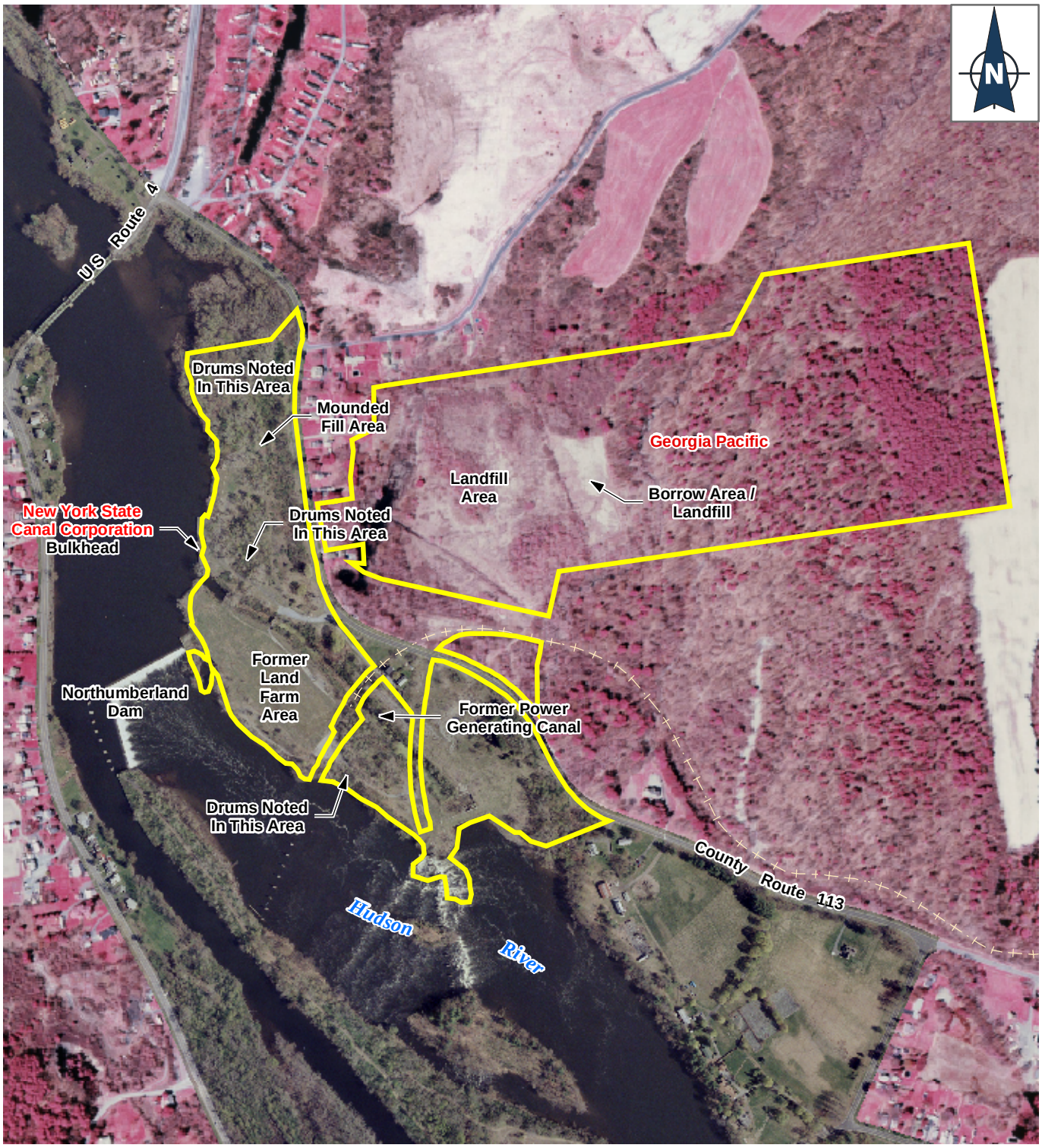
(s) Secondary standard used.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
EPA = Environmental Protection Agency.
GP = Boring.
GPS = Georgia Pacific Site.
GW = Groundwater sample.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MCL = Maximum Contaminant Level.
NA = Not applicable/available.
NYSDEC = New York State Department of Environmental Conservation.
PCB = Polychlorinated biphenyl.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.
- = Analyte was not analyzed for.

Source: Ecology and Environment, Inc., 2004

SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Approximate Site Boundary
- Tax Parcel Boundary
- Abandoned Railroad

Hudson River PCBs SUPERFUND SITE

Figure 2-1
Key Site Features
Georgia Pacific / New York State Canal Corporation

500 250 0 500 1,000
Feet

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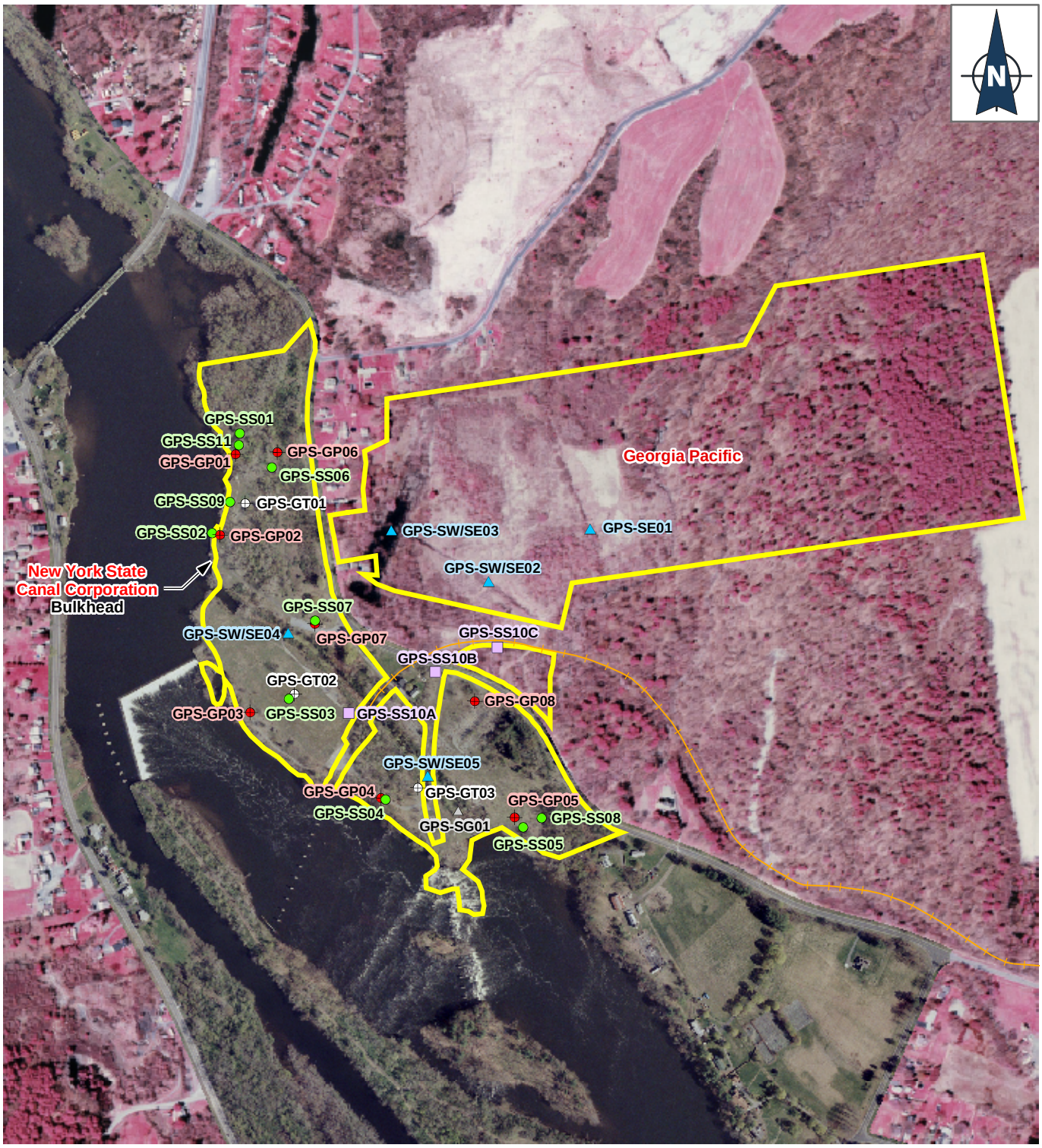
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Geoprobe Soil Boring
- Geoprobe Soil Boring & Temporary Well
- Geoprobe & Geotechnical Boring
- Geotechnical Boring
- Surface Soil
- Soil Sample Adjacent to Railroad
- Surface Water / Sediment
- Stream Gauge
- Railroads
- Potential Site Boundary

Hudson River
PCBs SUPERFUND SITE

Figure 3-1
Sample Locations
Georgia Pacific / New York State Canal Corporation

500 250 0 500 1,000 1,500
Feet

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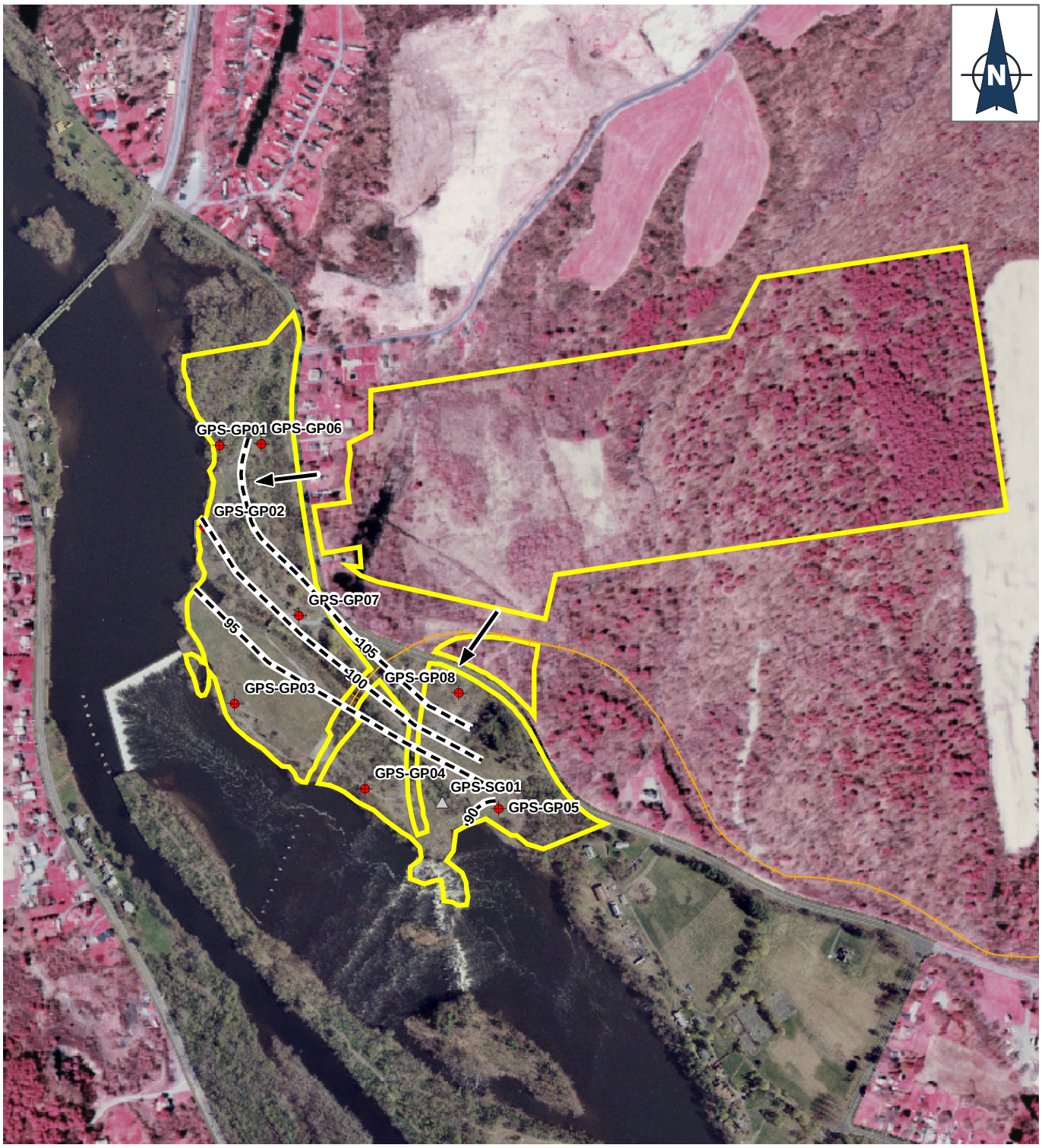
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Groundwater Contour
- Temporary Well
- Stream Gauge
- Railroad
- Potential Site Boundary
- Direction of Groundwater Flow

Water Level Elevations Measured on 11/6/2003
5 ft. Contour Interval

Hudson River
PCBs SUPERFUND SITE

Figure 3-2
Overburden Groundwater Contour Map
Georgia Pacific / NYS Canal Corporation

500 250 0 500 1,000
Feet

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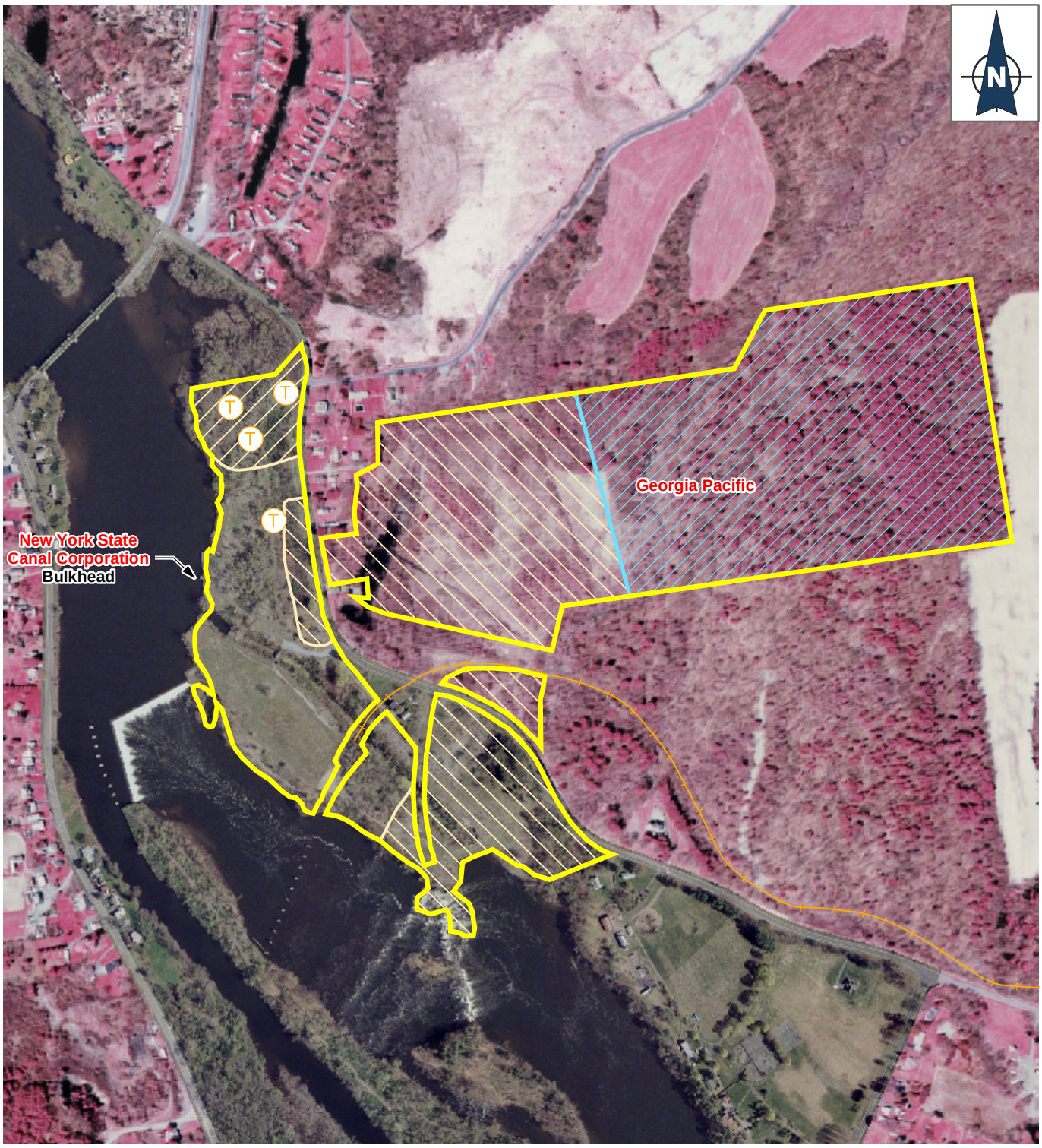
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Potential Site Boundary
- Potential Excluded Area

Archaeological Testing Method

- Backhoe Test
- Shovel Test
- Backhoe & Shovel Test
- (T) Backhoe Trench Locations

[1] Limited Shovel Testing in Area of Former Landfill

Hudson River PCBs SUPERFUND SITE

Figure 6-1
Field Sampling Areas[1]
Phase I B Cultural Resources Investigation
Georgia Pacific / NYS Canal Corporation

500 250 0 500 1,000 1,500 Feet

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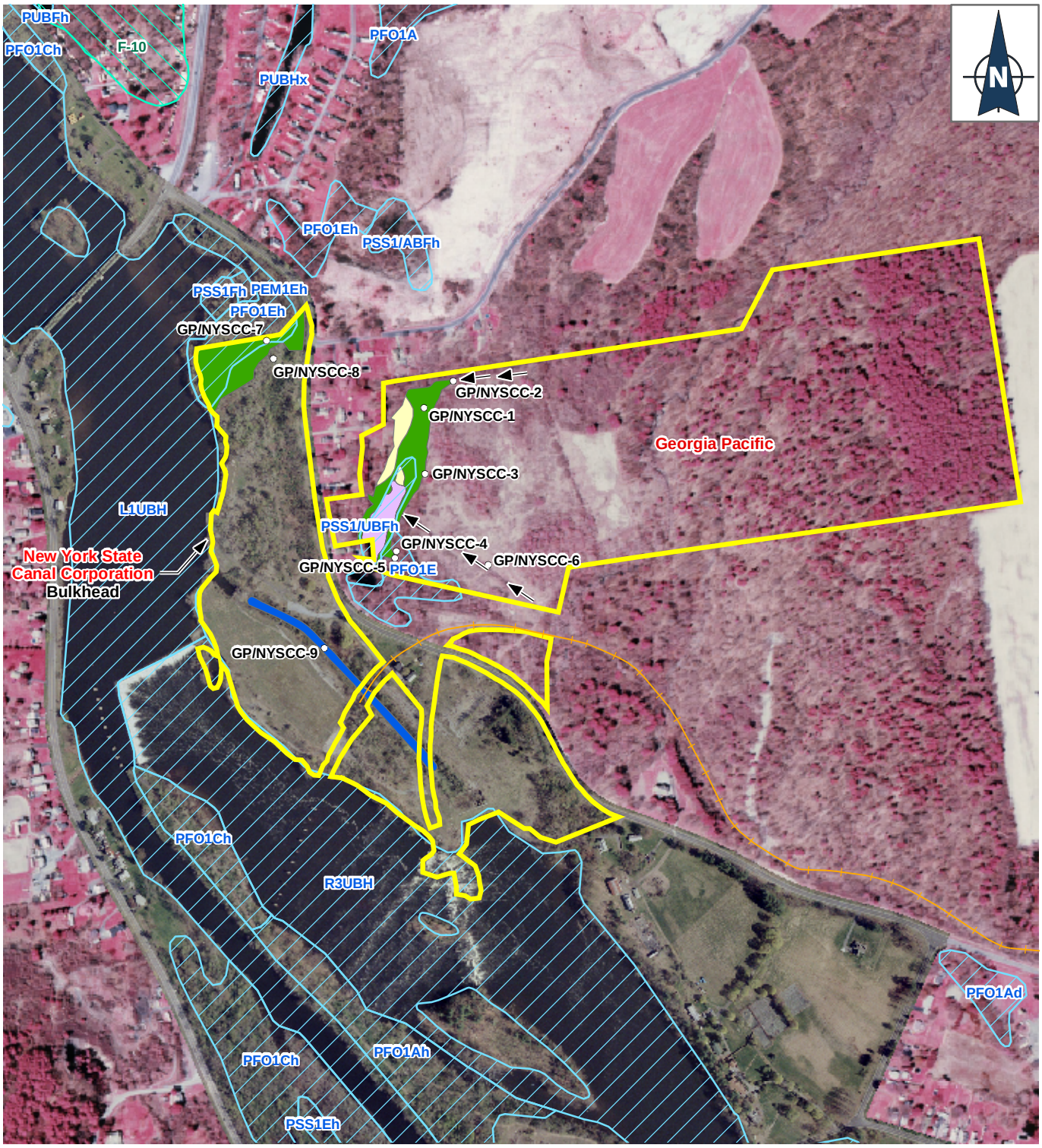
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- NYS DEC Mapping
- National Wetland Inventory Mapping

Delineated Wetlands

- Emergent
- Open Water / Emergent / Scrub-Shrub
- Forested
- Open Water / Emergent
- Observation Plots
- Direction of Drainage Flow

Hudson River
PCBs SUPERFUND SITE

Figure 7-1
Wetland Locations
Georgia Pacific / New York State Canal Corporation

500 250 0 500 1,000 1,500
Feet

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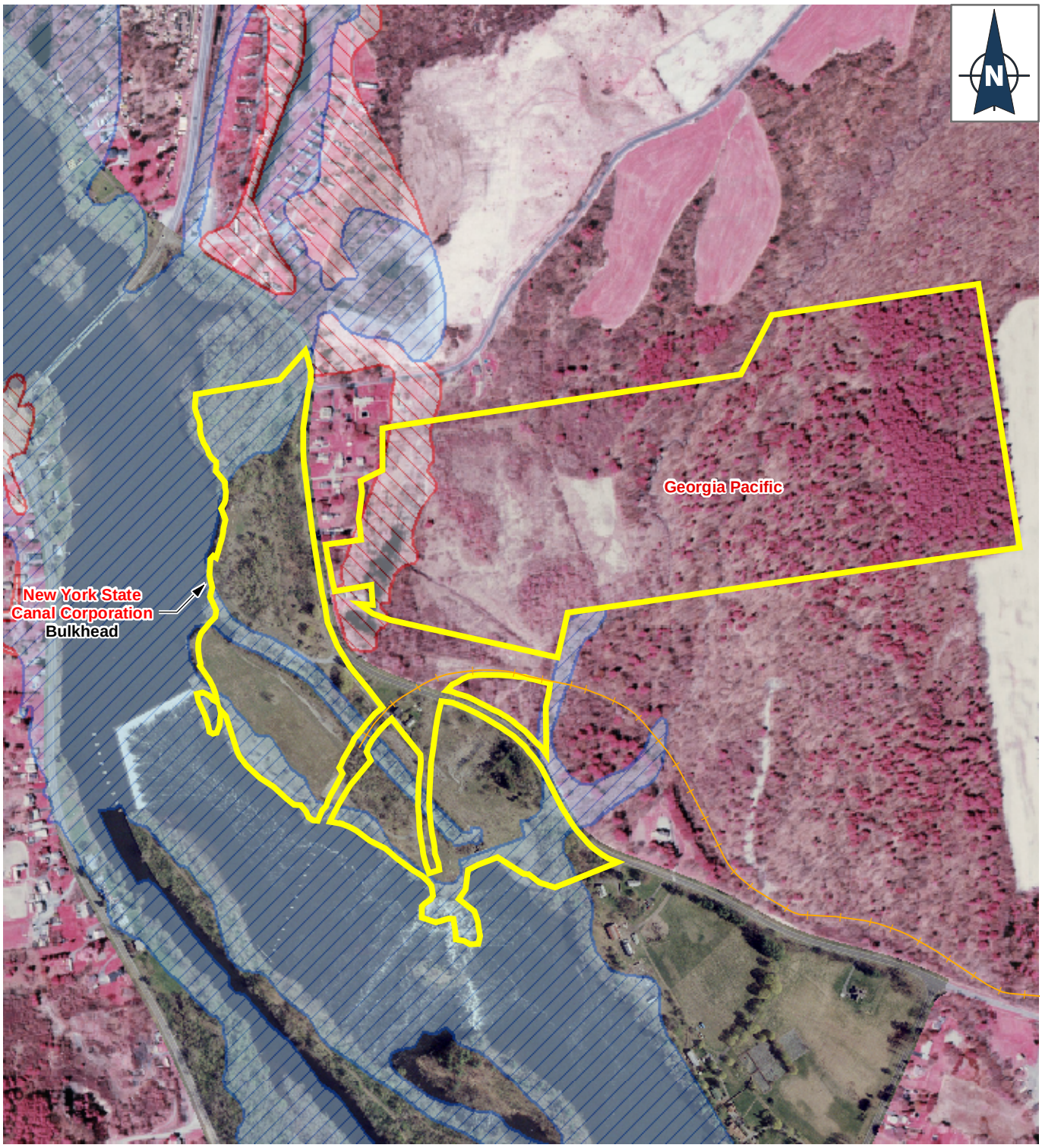
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Potential Site Boundary
- Tax Parcels

FEMA Floodplain

- 100 Year Floodplain
- 500 Year Floodplain

Hudson River
PCBs SUPERFUND SITE

Figure 8-1
FEMA Floodplain Mapping
Georgia Pacific / New York State Canal Corporation

500 250 0 500 1,000 1,500
Feet

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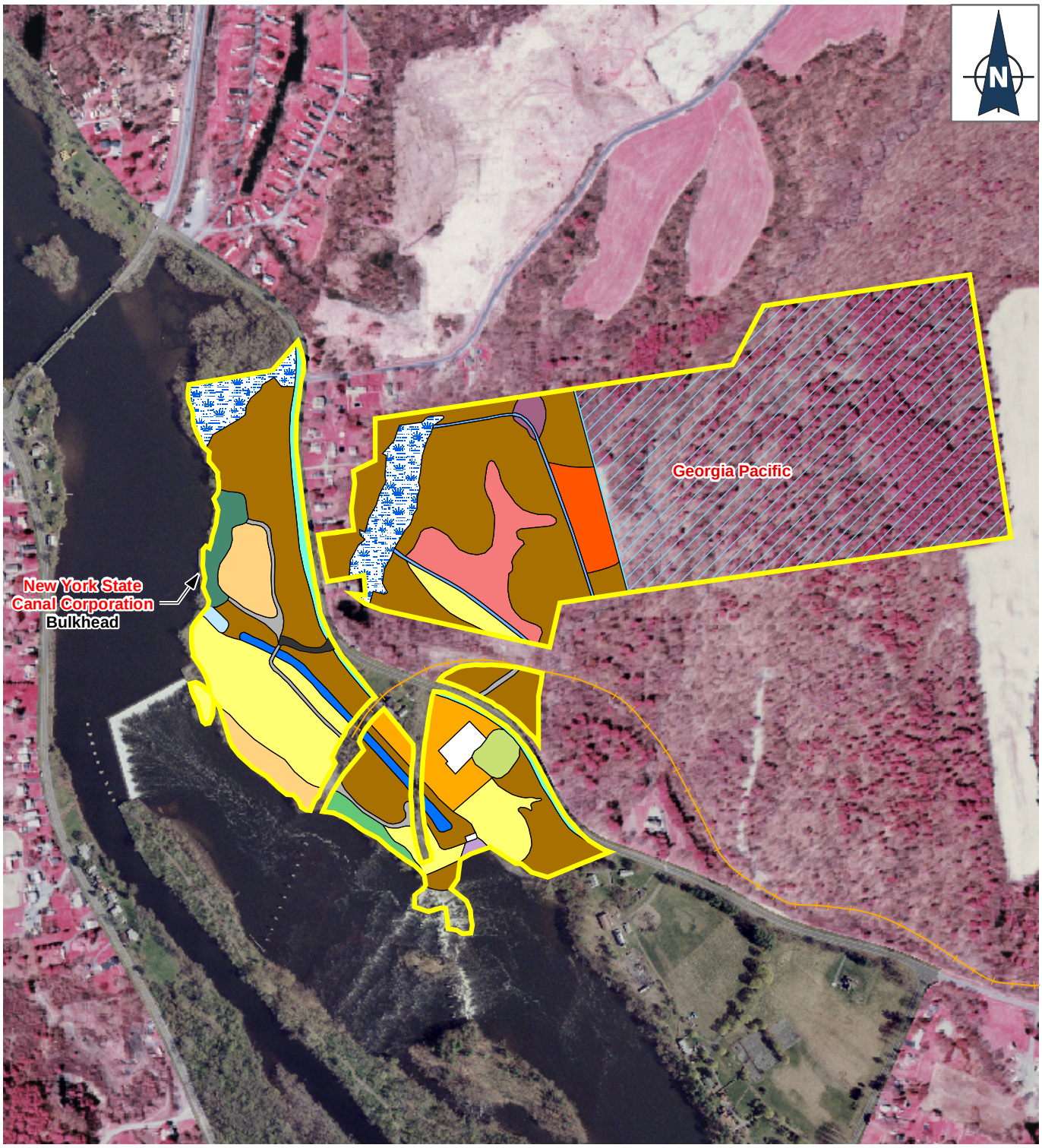
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



Ecological Communities

- Paved Road
- Unpaved Road
- Wetland
- Successional Northern Hardwoods (SNH)
- Successional Old Field (SOF)
- Successional Shrubland (SS)
- SNH / SS
- SOF / SS
- Appalachian Oak-Hickory Forest
- Appalachian Oak-Pine Forest
- Pine / Spruce Plantation
- Backwater Slough
- Ditch
- Canal
- Landfill
- Rural Structure Exterior
- Mine / Artificial Cave Community
- Mowed Roadside / Pathway
- Mowed Roadside
- Potential Excluded Area

Hudson River PCBs SUPERFUND SITE

Figure 10-1
Site Ecological Communities
Georgia Pacific /
New York State Canal Corporation

500 250 0 500 1,000 Feet

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Bruno/Brickyard Associates/Alonzo Site
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Bruno/Brickyard Associates/Alonzo Site

2. Phase I Environmental Site Assessment

2.1 Site Location, Description, and Environmental Setting

The Bruno/Brickyard Associates/Alonzo Final Candidate Site (FCS) is located in the Hudson-Mohawk Lowland physiographic province. The topography of this province has been produced primarily by erosion along outcrop belts of sedimentary rocks that lie between the Catskills and the metamorphosed shale hills of the Taconics. The province generally has low relief and elevation and is underlain by Ordovician shales that have been exposed by the erosion of Silurian and Devonian limestones (University of the State of New York 1966). The site comprises three parcels of different ownership. Site photos are found in Appendix A.

2.1.1 Bruno

The approximately 72-acre Bruno parcel group is located in the town of Schaghticoke and is on the east side of the Hudson River at river mile 166.5 (see Figure 2-1). It is owned by a private citizen and consists of three mostly wooded areas characterized by a relatively moderate west-to-east incline throughout, no river frontage, and an abutting railroad right-of-way (ROW). It is not currently developed. One area is west of Knickerbocker Road, and the other two are east of Knickerbocker Road. The westernmost area is bordered to the west by the Alonzo property, to the north by the rail ROW, and to the south by a golf course operation. The eastern areas are bordered on the east by Brickyard Associates and on the west by Knickerbocker Road and the rail ROW.

There are no structures. Two dirt roads, one open and one overgrown, lead into the central area of the property; the western and eastern areas do not contain roads or established paths. While the westernmost parcel contains scrub vegetation and grassland, forestland with minor scrub vegetation dominates the central and eastern areas.

No rock outcrop was noted on the Bruno property. While no utility services are located on these parcels, electrical service is present on Knickerbocker Road. Water service also extends along the road, but the area reportedly has no sewer service. Natural gas service is reportedly located in the area.

Surrounding property uses include a golf course (the Mechanicville Golf Club, Inc.) to the southwest and residential property to the north along Knickerbocker Road. Land use along the west side of the Hudson River is primarily commercial and industrial, with residential use dominating further inland to the west. A former clay mining and brick manufacturing operation is located to the east; that site now houses a construction company. A campground operates farther to the northeast. Land use within 1 mile includes minor agricultural, some small businesses, a power line ROW that traverses an area to the north, and extensive woodlands. Within 1 mile west of the river, land use is primarily residential with some industrial and commercial uses and open space to the far west.

According to the property representative, a depression on the southern side of the central parcel has historically been used for occasional surface dumping of solid household wastes. Several other small dumping areas were observed on the central parcel hill slope, including small piles of waste concrete located in an area devoid of trees near the south-central part of the northern parcel. In addition, another surficial dumping area covers approximately 100 square feet near the northwestern corner of the westernmost area. Other than the surficial dumping, the property representative stated he is not aware of any other fill being brought to the site. Reportedly, no hazardous materials are stored there. Key features are presented on Figure 2-1.

2.1.2 Brickyard Associates

The approximately 250-acre Brickyard Associates parcel is located in the town of Schaghticoke and is on the east side of the Hudson River at river mile 166.0 (see Figure 2-1). It is owned by William Larned & Sons, Inc. and is a mostly wooded parcel characterized by extreme differences in topographic elevations, no river frontage, an abandoned railroad siding, and extensive railroad ROW frontage. A partially paved access road leads into this unfenced former brick manufacturing site from a residential area, with light commercial use dispersed along Route 67. Two dirt roads access the quarried parts of the site; both traverse extreme topographic gradients.

There are two buildings on the property: one brick building is intact and serves as an office building for HMA Contracting Corporation (a construction company); the other building is partially intact and is used for equipment storage and repair by HMA Contracting Corporation. (A tornado in the late 1990s destroyed approximately 250 feet of the 400-foot galvanized sheet metal building.) Additional structures include the former end of the sheet metal storage building, the former brick kiln (destroyed in a 1957 fire), two small (15 feet by 6 feet) demolished buildings, and two leased double-walled, transportable aboveground storage tanks (ASTs).

A number of small borrow pits scattered across the property are still periodically used. Each pit is less than 1 acre in size and they total about 3 acres. A pond and some streams and wetlands are present. According to the Draft Environmental Impact Statement (EIS) for the mining permit, almost no topsoil exists across the parcel, and the soils to a large extent reflect glacio-lacustrine sediments. Surficial soils consist of clay-rich soil throughout most of site with sand and silt deposits. A thin layer (6-inch maximum) of silty organic loam covers some areas.

An overhead electrical service line provides power, and potable water service is also available. Natural gas and sewer service are available on-site. A leach field was noted on-site adjacent to the brick building mentioned above.

An existing railroad bridge with a dirt road underpass exists near the southwest corner, near the midpoint of the western site boundary. The elevation difference between the site and the waterfront is approximately 80 feet.

Materials stored on-site include diesel fuel in two 1,000-gallon, portable above ground double-walled tanks, and paints and lubricants in the maintenance shop. The tanks are used to fuel construction equipment. Two drums of unidentified material were also noted stored on-site. Three pole-mounted transformers belonging to the local power utility are located on-site. No staining associated with the transformers was noted. Key features are presented on Figure 2-1.

There are woodlands to the west and north boundaries of the property. In addition, there is a railroad along one part of the western side, residential property at the northwest and southwest corners, open space to the southeast and east, and a campground to the east. Light commercial uses, a golf course, and some industrial land uses are within 1 mile of the site.

2.1.3 Alonzo

The Alonzo property is located in the town of Schaghticoke on the east side of the Hudson River (see Figure 2-1) and is currently undeveloped. The property consists of a mixture of wooded and open areas paralleling the Hudson River. The topography is very gently sloping, toward the Hudson River to the west. In the northern portion of the property is a slight, approximately 3-foot drop in elevation at the shoreline. Shoreline areas contain floodplain vegetation. No structures are located on the parcel, and there is no evidence of any utility services. Key features are presented on Figure 2-1. The site is bordered on the northwest by the Hudson River and on the southeast by the Bruno parcel.

2.2 Historical Use Information

The Bruno property was reportedly farmed until several years ago. It is currently not used for any specific purpose. The Alonzo property was likely used for similar purposes. The Brickyard Associates parcel is a former brick manufacturing facility. The owners reportedly currently hold a mining permit.

2.3 Summary of Previous Studies

According to the Bruno site representative, no previous site assessments have been conducted on the Bruno portion of the site. Two Phase I investigations were previously conducted on the Brickyard Associates property. The reports from these investigations have been requested from the Resources Manager of William M. Larned & Sons, Inc. No groundwater monitoring wells are located on-site. In addition, C.T. Male Associates, P.C. produced a Draft EIS for the Brickyard Associates site in 1989. This document covers the impacts for mining shale, clay, sand, and gravel and the preparation of the site for construction of a brick manufacturing facility. A Supplemental Addendum to this document was produced in 1990 to address concerns of the New York State Department of Environmental Conservation about noise, traffic, and stormwater impacts. C.T. Male also prepared an application for a mining permit for Spaulding Brick Co. in 1989. There were no records available indicating an environmental investigation had been conducted at the Alonzo property.

3. Phase II Investigation

3.1 Field Investigation

The initial phase of the environmental assessment consisted of collecting environmental and geotechnical samples. Results of the geotechnical sampling are provided in Section 4 of this report. Site photos are found in Appendix A. Boring logs and supplemental geotechnical information are found in Appendix B. Environmental samples were collected from surface soil, surface water, sediment, subsurface soil, and groundwater. Surface and subsurface soil samples were collected in areas of surficial dumping, adjacent to fuel tanks, a former coal storage area, and areas of the site where construction operations would be expected to occur if the site is selected. Surface water and sediment samples were collected along present site runoff flow pathways. Upgradient and downgradient groundwater samples were collected to provide an indication of overall environmental conditions.

All environmental field investigations were performed in accordance with the August 2003 *Hudson River PCBs Superfund Site Facility Siting Work Plan* (Ecology and Environment, Inc.) and the September 2003 addenda to that plan, the *Site-Specific Field Investigations of the Final Candidate Sites* (Ecology and Environment, Inc.). Investigations at this site were performed in September and October 2003. A summary of investigation activities is provided in Table 3.1-1.

Deviations from the Work Plan

The following deviations from the work plan occurred during the field program:

- Due to lack of permission to access the Bruno property, surface soil sample BBA-SS08 was moved from the Bruno parcel to the Alonzo parcel; BBA-SS11A and BBA-SS11B were moved from the Bruno parcel to the Brickyard parcel; and BBA-SS06, BBA-SS07, and BBA-SS11C were eliminated.

- Surface water and sediment samples BBA-SW04 and BBA-SE04 were eliminated due to lack of permission to access the Bruno property.

- Geotechnical boring BBA-GT03 was eliminated, and BBA-GT01 was moved from the northwest corner of the Bruno property to the southeast corner of the Alonzo property due to lack of permission to access the Bruno property. In addition, the BBA-GT01 boring was combined with Geoprobe boring BBA-GP03, and a temporary 2-inch well was installed (BBA-GP03).

- Geoprobe boring BBA-GP04 was moved from the northwest corner of the Bruno property to the northeast corner of the Alonzo property due to lack of permission to access the Bruno property.

- Due to poor recharge, the field team was initially unable to collect all groundwater parameters on October 15 from temporary well BBA- GP02. However, the remaining volumes were collected on October 16.

3.2 Environmental Sampling Program

3.2.1 Temporary Well Installation and Groundwater Flow

One temporary 2-inch well (BBA-GP03) and three 1-inch polyvinyl chloride (PVC) wells were installed via hollow-stem augering and direct push technologies (DPT). Well construction information is provided in Table 3.2-1. Before groundwater sampling, each temporary well was purged of three times the volume of water standing in the casing or to dryness (whichever occurred first). Water quality parameters measured in the field during purging are presented in Table 3.2-2. Groundwater sample results are described below.

Groundwater elevations were measured from each temporary well upon well completion and at two separate times following completion of the sampling program. In addition, a surface water elevation was obtained from an existing stream gauge on the north end of Lock 3. The top of each temporary well and a reference mark on the stream gauge were surveyed so that an accurate elevation could be obtained. Table 3.2-3 summarizes the recorded elevations. Based on the limited information available from this study (four wells spaced at least 300 feet apart), groundwater flow beneath the site appears to be to the west towards the Hudson River (see Figure 3-1).

3.2.2 Field Sampling and Surveying

The environmental investigations at this site included collecting ten surface soil samples and three surface water and sediment samples; subsurface soil sampling and installation of temporary monitoring wells via DPT at three locations and via hollow-stem auguring at one location (BBA-GP03); groundwater sampling of four temporary monitoring wells; and collecting soil samples for geotechnical analysis from two soil borings. Table 3.2-4 summarizes the total number of field and quality assurance/quality control (QA/QC) samples collected and the parameters for which they were analyzed. Figure 3-1 illustrates all environmental investigation locations. All sample locations and an existing stream gauge were surveyed for both horizontal and vertical positions. Survey data is presented in Appendix C. All samples were collected in accordance with the project work plans. Field chemistry data recorded from surface water sample locations are presented in Table 3.2-2. Results from each sample medium are described below.

3.2.3 Data Usability

Soil, sediment, surface water, and groundwater samples were collected from various locations at each FCS (see Section 3.3). The samples were submitted to several environmental analytical laboratories for analytical testing as directed by EPA. Appendix D provides the complete analytical results, field quality control (QC) samples, and data qualification. The specific data usability concerns regarding each FCS are still under evaluation as part of a detailed review of the hard copy data assessment reports. The following is a summary of general information regarding data usability determined from the electronic data review.

Out of a total of 4,360 reported values, 519 values were qualified during the data validation process. The data points that were qualified as estimated, bias low, or non-detect are considered useable for the purposes of this project. A total of 73 values were

flagged as unusable, resulting in a completeness of more than 99.9%. Further evaluation of the data will include determining potential limitations of other qualified data and the impact of rejected data. In general, potential data limitations for the site are minor, as noted below:

- Low levels of several volatiles and pesticides were flagged "U" as non-detected. The results were generally below the reporting limit and, therefore, the data qualification has no impact on the data usability.

- Data qualified as unusable are for compounds that are generally highly reactive and not typically found during site investigations.

- Field blanks, including trip blanks, rinseates, and field duplicates, were collected to be applicable to all FCSs. The results are summarized in Appendix D. The results demonstrate good overall sampling and analysis precision and no significant field contamination.

- The laboratory reported tentatively identified compounds (TICs) for volatile and semivolatile compounds on the hard copy data package. TIC values are reported as "NJ" with presumptive evidence that the compounds are present and concentrations are considered highly estimated. The TICs are being reviewed to determine any indications of significant contamination not identified by the results for the known target compounds.

3.3 Environmental Sample Results and Evaluation

State and federal standards, criteria, and guidances were used for preliminary screening purposes during review of the analytical sample results for surface soil, subsurface soil, surface water, sediment, and groundwater. Exceedances of the criteria (with the exception of metals) are noted in Tables 3.3-1 through 3.3-5 by shading those values that exceeded the criteria.

Metals cannot be directly compared to the criteria without additional evaluation (including evaluation of background levels) because metals occur naturally in the environment. Additionally, turbidity in surface water and groundwater samples can cause interference with metals analysis. These factors were considered in the evaluation of the significance of detected compounds.

The criteria were selected based on a review of available EPA and New York State Department of Environmental Conservation (NYSDEC) standards, criteria, and guidances for the various media sampled. The applicability of these preliminary screening criteria to the FCSs will be determined as part of further evaluation by EPA in consultation with NYSDEC and the New York State Department of Health (NYSDOH).

The following discussion identifies the samples, by medium, with compounds exceeding the screening criteria. Those compounds without appropriate screening criteria also are identified. Where available, pertinent information for comparison purposes is provided.

Soil (Surface and Subsurface)
NYSDEC, *Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels* (1994), and subsequent amendments (December 20, 2000) (TAGM 4046). The recommended soil cleanup objectives and typical eastern USA background concentrations for metals contained in TAGM 4046 were used as preliminary screening guidance for soil. Where specific guidance values were available for surface and subsurface soils (such as for polychlorinated biphenyls [PCBs]) they were applied based on the depth of the samples collected. TAGM 4046 assumes a total organic carbon (TOC) of 1%.

Surface Water
NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998). These standards and guidance provide values for various water classes. Since the majority of the surface water samples were collected from unnamed ditches and ponded water areas at the site, the surface water samples collected are assumed to be Class D waters. Class D waters are best used for fishing. However, due to natural conditions such as intermittent flow, water conditions may not be conducive to fish propagation. Class C waters are considered conducive to fish propagation. Surface water standards and guidance values are calculated for some inorganics based on water hardness.

Sediment
NYSDEC, *Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments* (1999). This guidance requires organic contaminants in sediments to be calculated based on sample TOC. TOC data were collected and used to calculate these screening values. Various criteria for bioaccumulation and acute and chronic toxicity are presented in this document for protection of human health, benthic aquatic life, and wildlife. The benthic aquatic life chronic toxicity protection level for sediment was selected as the preliminary screening value for all collected sediment samples.

Groundwater
NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998) provides Class GA standards and guidance values. The *National Primary and Secondary Drinking Water Regulations, Current Drinking Water Standards* (2002) maximum contaminant levels (MCLs) were used for preliminary screening for groundwater samples collected from temporary wells.

3.3.1 Surface Soil

Volatile Organic Compounds (VOCs)
No VOCs exceeding screening criteria were detected in surface soil samples (see Table 3.3-1).

Compounds without screening criteria that were detected were isopropylbenzene in BBA-SS02 (69 µg/kg) and BBA-SS11 (23 µg/kg [R]); methyl acetate in BBA-SS02 (4 µg/kg [J]) and BBA-SS11 (10 µg/kg [J]); and methylcyclohexane in BBA-SS02 (14 µg/kg). Isopropylbenzene in BBA-SS11 was determined to be unusable through the data validation process.

Semivolatile Organic Compounds (SVOCs)
Exceedances of screening values (see Table 3.3-1) occurred in the following samples: BBA-SS05, from the former coal storage area, (benzo(a)pyrene 110 µg/kg [J]); and BBA-SS12, composite adjacent to the railroad, (benzo(a)anthracene 5,200 µg/kg, benzo(a)pyrene 3,400 µg/kg, benzo(b)fluoranthene 4,900 µg/kg, benzo(k)fluoranthene 2,900 µg/kg, chrysene 5,100 µg/kg, and dibenzo(a,h)anthracene 1,100 µg/kg).

Compounds detected without screening criteria were benzaldehyde in BBA-SS01 (130 µg/kg [J]) and BBA-SS10 (210µg/kg [J]); caprolactam in BBA-SS05 (duplicate) (160 µg/kg [J]); and carbazole in BBA-SS12 (260 µg/kg [J]).

Pesticides
No pesticides exceeding the screening criteria were detected (see Table 3.3-1).

Herbicides
No herbicides were detected.

PCBs
No PCBs were detected in the surface soil samples.

Hexane Extractable Materials (Total Petroleum Hydrocarbons [TPHs])
TPHs were detected in samples BBA-SS02 (adjacent to fuel storage tanks) and BBA-SS12 (adjacent to the railroad tracks) at concentrations of 2,590 mg/kg, and 593 mg/kg, respectively (see Table 3.3-1). There are no screening criteria for TPHs.

Inorganics
Arsenic, beryllium, cadmium, chromium, copper, iron, magnesium, mercury, nickel, selenium, and zinc were detected at levels above the screening criteria (see Table 3.3-1). However, metals are naturally occurring common constituents of soil that often exceed criteria. Most of the levels detected were within or close to the eastern USA background range. However, two metals were detected at concentrations more than three times the high end of the eastern USA background range: cadmium (5 mg/kg) in BBA-SS04 (near the demolished building) and zinc at 226 mg/kg in BBA-SS01 (near a former structure) and at 505 mg/kg in BBA-SS04 (near the demolished building).

Low levels of cyanide (0.16 mg/kg to 0.5 mg/kg), a compound without screening criteria, were detected in eight of the ten surface soil samples (see Table 3.3-4). However, these low levels are not of concern.

3.3.2 Subsurface Soil

VOCs
No VOCs that exceeded the screening criteria were detected.

Trichlorofluoromethane, a compound without screening criteria, was detected at low levels (see Table 3.3-2). This is a Freon compound and is believed to be present as a laboratory artifact. The presence of trichlorofluoromethane at these low levels is not of concern.

SVOCs
No SVOCs that exceeded the screening criteria were detected.

Pesticides
No pesticides that exceeded the screening criteria were detected.

PCBs
No PCBs were detected in the subsurface soil samples.

Inorganics
Beryllium, copper, iron, mercury, nickel, and zinc were found above the screening criteria (see Table 3.3-2). However, metals are naturally occurring common constituents of soil that often exceed criteria. Most of the levels were within or close to the eastern USA background range. Therefore, the presence of these metals is not of concern.

3.3.3 Surface Water

VOCs
No VOCs that exceeded screening criteria were detected (see Table 3.3-3). The compound acetone, a compound without screening criteria, was detected at very low concentrations in all three samples. Acetone is a common laboratory artifact; therefore its presence in the samples at low levels is not a concern.

SVOCs
No SVOCs were detected in the surface water.

Pesticides
No pesticides were detected in the surface water.

PCBs
No PCBs were detected in the surface water.

Inorganics
Iron was detected above its screening criteria at 335µg/L at BBA-SW01 and at 507 µg/L at BBA-SW02. Iron is a naturally occurring constituent of surface waters that often exceeds criteria.

Anions
Compounds detected without screening criteria were chloride, nitrate-N, and sulfate (see Table 3.3-3). Chloride and sulfate concentrations vary and nitrate-N was detected only in BBA-SW01.

Hardness
Hardness concentrations ranged between 335 and 380 mg/L (see Table 3.3-3).

3.3.4 Sediment

VOCs
No VOCs above screening criteria were detected (see Table 3.3-4). Very low levels (4 μg/kg or less) of the following compounds without screening criteria were detected: carbon disulfide, chloromethane, cyclohexane, and methyl acetate (see Table 3.3-4). Since these compounds were detected at very low levels, they are not of concern at this site.

SVOCs
No SVOCs above screening criteria were detected (see Table 3.3-4). The compound benzo(g,h,i)perylene, a compound without screening criteria, was detected at an estimated concentration of 150 μg/kg [J] in BBA-SE01/D (upstream location).

Pesticides
No pesticides were detected in the surface water.

PCBs
No PCBs were detected in the surface water.

Inorganics
Arsenic, copper, iron, and manganese were detected at least once above their screening values (see Table 3.3-4). However, metals are naturally occurring common constituents of sediment that often exceed criteria. All the detected concentrations of metals were below the NYSDEC guidance value for severe effect level.

Total Organic Carbon (TOC)
Total organic carbon concentrations ranged from 4,800 mg/kg to 26,000 mg/kg (see Table 3.3-4).

3.3.5 Groundwater

VOCs
No VOCs were detected in the groundwater samples.

SVOCs
Benzo(a)anthracene (3 µ/L [J]), benzo(k)fluoranthene (2 µ/L [J]), and chrysene (3 µ/L [J]) were detected in sample BBA-GP01-GW, and bis(2-ethylhexyl)phthalate (190 µ/L) was detected in sample BBA-GP02-GW (see Table 3.3-5) at concentrations exceeding the screening criteria.

Pesticides
No pesticides that exceeded the screening criteria were detected.

PCBs
No PCBs were detected in the groundwater samples.

Inorganics
Iron and manganese were detected above the screening criteria (see Table 3.3-5). However, these metals are naturally occurring constituents of groundwater that often exceed criteria. Therefore, the presence of these metals is not of concern.

4. Geotechnical Assessment

A subsurface field investigation was conducted at the Bruno/Brickyard Associates/ Alonzo site to obtain geotechnical information. The primary purpose of collecting this data was to determine if there are geotechnical limitations associated with the use of the site for a sediment processing/transfer facility. Data collection included:

- Review of available subsurface information from previous studies;
- Soil borings installation (which included logging the subsurface geology and obtaining standard penetration test [SPT] data); and
- Submitting soil samples for geotechnical testing.

Presented below is a summary of the site geologic and geotechnical data collected.

Subsurface soil investigation locations were selected to provide general coverage of the site. Additionally, locations were selected based on the possible location of facility operations. Geotechnical investigations were not conducted on two parcels at Bruno due to limitations on permission to conduct intrusive activities. One borehole, BBA-GT01, was installed at the southwest corner of the Alonzo property. The remaining subsurface exploration locations are positioned near the current operations buildings. Figure 3-1 shows the locations of borings BBA-GT01 and BBA-GT02.

At each geotechnical boring location, a continuous vertical soil profile was collected from the ground surface to a depth of approximately 26 feet below ground surface (bgs) in 2-foot increments. A 2-inch outer diameter (OD) by 24-inch long split spoon sampler was advanced through 4.25-inch inner diameter (ID) hollow stem augers to collect the samples. Standard penetration tests using the split spoon sampler were conducted per

ASTM Method D1586-99. Blow count data was recorded on drill logs, presented in Appendix B. Granular soil density and cohesive soil consistency were classified using SPT n-values, which are the sums of the blows recorded over the second and third 6-inch penetration intervals of the tests.

Soil samples from geotechnical borings were collected and submitted for Atterberg limits, particle size, and moisture content analysis. The overall goal of sample collection from geotechnical borings was to collect at least one soil sample from each prominent soil horizon encountered within the top 25 feet of overburden. One sample for geotechnical analysis was collected at each of the two boreholes. Also at both boreholes, one soil sample from each depth interval between the ground surface to the total borehole depth was collected and submitted for moisture content testing, creating two continuous moisture profiles. Particle size gradation curves and their respective summary sheets, which also list Atterberg limit data and moisture content data, are included in Appendix B.

In addition to the geotechnical borings, subsurface geology was also recorded at two environmental boring locations, BBA-GP01 and BBA-GP02. Direct-push technology (DPT) was used to conduct these investigation activities. A 4-foot soil collection interval was used by the DPT system to collect a continuous soil profile from the surface to approximately 25 feet below ground surface (bgs). DPT soil boring logs are also presented in Appendix B.

Along the Hudson River shore, at the southwest corner of the site, silty sands containing a trace of gravel are present to a depth of 6 feet bgs. This soil has a loose density based on recorded SPT n-values of 5 to 8. These deposits are underlain by approximately 9 feet of sand and silt, also of loose density, based on SPT n-values. Very fine-grained sand was encountered above refusal (anticipated shale bedrock). Refusal was encountered at a depth of 18 feet bgs.

The collective subsurface soil data from around the site buildings indicated overburden soils consist of clay and silty clay layers interbedded with silt and sand layers. Density of the silt and sand layers is classified as loose, based on SPT n-values of 2 to 3. Clay in the 10- to 12-foot bgs interval is stiff, based on SPT n-values of 12. Weathered shale was noted as split spoon refusal.

C.T. Male Associates, P.C. (1989) reports the site surficial geology as consisting primarily of sand, silt, and clay that reflect a glacial lake depositional setting. They note that almost no topsoil exists on-site. They also report the soil series classification of each soil group found on-site.

5. Utility Assessment

5.1 Preliminary Assessment

A preliminary utility assessment was completed as part of the site-specific field investigation of the Final Candidate Sites. Major site utilities identified on-site are shown on Figure 2-1. The assessment included the following steps:

1) Observations of site surface utilities such as overhead power or telephone lines, electrical transformers, manholes, sewer outfalls, and water hydrants were made.

2) Dig Safely New York (Dig Safe) was contacted as part of the utility clearance process before subsurface/intrusive work activities, including direct communication with various utility operators, as needed. Operators of on-site utilities provided information.

3) Available site maps were reviewed. Maps were obtained from various sources, including property owners.

It is anticipated that further utility assessments will be completed at the Recommended Sites. Further assessment may include contacting local municipal offices for information, opening manholes to determine flow paths, and dye testing. Further assessment may be conducted as part of the design evaluation process or during other additional investigation of Recommended Sites.

5.2 Findings and Observations

Utilities identified at the Bruno/Brickyard/Alonzo site include the following:

- A high-voltage overhead electric power line right-of-way traverses the north end of the Brickyard Associates parcel. The power line right-of-way also abuts the northern end of the western Bruno parcel.

- Electric service enters the Brickyard Associates site buildings via overhead power lines located south of the site buildings.

- Level 3 Communications, Inc. operates a fiber optic cable within the railroad right-of-way located between the eastern Bruno parcel and the Brickyard Associates parcel. The fiber optic cable runs north-south.

6. Survey of Terrestrial, Archaeological, and Architectural Resources (STAAR)

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effect that facility siting may have on cultural resources that are listed or are eligible for listing on the National Register of Historic Places (NRHP). Phase IB field investigations continued the cultural resources studies and are specifically designed to determine the presence and extent of cultural resources within the Bruno/Brickyard

Associates/Alonzo site (see *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plan: Site-Specific Field Investigations of the Final Candidate Sites*). Field activities involved archaeological, geomorphological, and architectural investigations.

6.1 Archaeological Investigation

Initial reconnaissance was conducted in July 2003 and the field investigations were conducted October 31, November 1, and November 3-5, 2003. A total of 56 shovel test pits were excavated. No surveys were conducted on the 72-acre Bruno Property due to lack of access. Before investigations began the General Electric design team indicated that approximately 197 acres are not expected to be used for the sediment processing/transfer facility. Consequently, this area was excluded from the field investigations (see Figure 6-1). Within the remaining area of the Brickyard Associates property (approximately 60 acres), Phase I fieldwork was conducted on approximately 20 acres. The remaining acreage will require some additional investigations.

Three sites were found during the Phase IB investigation. Artifacts found include prehistoric ceramics, lithic debitage, and fire-cracked rocks.

6.2 Geomorphological Investigation

Field investigations were conducted October 17, 2003. Two 10-meter long backhoe trenches were excavated in an area that could contain alluvial deposits. Both trenches were placed parallel to the Hudson River. Much of the area was littered and it was apparent that it has been used as a modern dump. The trenches were found to contain very sandy soils that are subject to erosion. Neither trench contained any signs of early human habitation or geomorphic features of interest.

Prehistoric Site Sensitivity

Because of the highly mobile, sandy characteristics of this site, it is doubtful that any archaeological indicators would exist. Contextual integrity would be unlikely.

6.3 Architectural Assessment

Fieldwork was conducted in July 2003. No standing structures are presently within the Bruno property. However, the site presents several potential viewshed concerns that will require evaluation if this location receives further consideration. The site is located immediately north of the NRHP-listed Champlain Canal Lock 3. A series of concrete piers, apparently part of a former docking facility, are located in the river to the south of the lock. A steel truss bridge is visible crossing the river to the south of the site. Numerous industrial and residential buildings, many of which exceed 50 years of age, also are visible across the river on the western shore of the river. If the facility is constructed within the southern portion of the site (western/riverside parcel), it may create a visual impact on this historic canal landscape. A stone railroad trestle, also more than 50 years old, is located immediately north of the site. Two New York State Historic Resource Inventory (HRI) forms are being completed for this site. Additional Phase IB investigations are recommended to determine and assess the NRHP-eligibility of the structures and viewsheds associated with the Bruno property.

Three standing structures are located within the Brickyard Associates property. Two of these are a late-1950s warehouse building and one c.1880 brick office building, both situated near the central portion of the site. The warehouse is a rectangular, corrugated metal structure of no particular architectural merit. The office building is a two-story rectangular brick structure with restrained Victorian influences such as segmental discharging arches over each window and door opening. Some alterations are evident, such as replacement windows and a significant moderation of the front doorway. The original function of this building is unknown, as is its relationship to at least one other recently demolished structure on the property. The third structure within the Brickyard property is a metal water tower associated with the brick manufacturing facility that occupied the property beginning in the 1920s. This tower stands alone near the heavily wooded northeast portion of the site and, by itself, does not give any clues as to the context in which it was used.

A recreational campground is located immediately adjacent to the eastern boundary of the site. Few permanent structures are associated with the campground, and none are older than 50 years of age. Its presence therefore presents no viewshed concerns. Analysis of field observations and historic documentation is ongoing. Therefore, preliminary recommendations have not been determined.

Architectural investigations have not been conducted at the Alonzo property. No buildings are present within the property. The potential for viewshed impacts has not yet been determined.

7. Wetland Assessment

7.1 Determination and Delineation Methods

Wetland determinations and delineations of the Bruno/Brickyard/Alonzo site on October 14-16 and 29, 2003, followed the routine approach noted in the U.S. Army Corps of Engineers (USACE) 1987 *Wetland Delineation Manual*, as outlined in Section 3.6.2.2 of the *Hudson River PCBs Superfund Site Facility Siting Work Plans* (Master Work Plans) (Ecology and Environment, Inc. 2003). Applicable data (e.g., soil surveys, National Wetland Inventory [NWI] mapping, etc.) were reviewed beforehand to provide background information (see Master Work Plans, Section 3.6.2.1). Determination and delineation activities were limited to those areas previously identified as potential wetlands through data review (i.e., NWI and NYSDEC mapping) and previous site reconnaissance efforts.

The Bruno property reportedly was farmed until several years ago. It is currently not used for any specific purpose. The Alonzo property consists of a mixture of wooded and open areas paralleling the Hudson River. The shoreline areas contain floodplain vegetation. The Brickyard Associates parcel is a former brick manufacturing facility. Evidence of past dumping and filling activities using bricks was evident during surveys.

7.2 Review of Existing Information

Review of NWI wetland mapping showed the site to have approximately 16.75 acres of wetland. The 4.9 acres of NWI wetlands mapped within the Alonzo property are classified as PFO1Ch (palustrine, forested, broadleaved deciduous, seasonally flooded, diked/impounded), PEM1Ch (palustrine, emergent, broadleaved deciduous, seasonally flooded, diked/impounded), and PSS1Fh (palustrine, scrub-shrub, broadleaved deciduous, semi-permanently flooded, diked/impounded). The Bruno property was previously mapped by NWI as containing 6.29 acres of wetlands, consisting of PFO1B (palustrine, forested, broadleaved deciduous, saturated), PFO1C (palustrine, forested, broadleaved deciduous, seasonally flooded), PFO1Ch (palustrine, forested, broadleaved deciduous, seasonally flooded, diked/impounded), PUB/SS1Fx (palustrine, unconsolidated bottom, scrub-shrub, broadleaved deciduous, semi-permanently flooded, excavated) and PFO1E wetlands (palustrine, forested, broadleaved deciduous, seasonally flooded/saturated). The 5.56 acres of NWI wetlands on the Brickyard Associates property are classified as PFO1E (palustrine, forested, broadleaved deciduous, seasonally flooded/saturated), and PSS1E (palustrine, scrub-shrub, broadleaved deciduous, seasonally flooded/saturated). Review of NYSDEC wetland mapping did not indicate the presence of any NYSDEC-identified wetlands on these parcels.

Although NWI wetland maps identify the shoreline along the river as lacustrine wetlands, sample plots and determinations along the shoreline were limited to areas that exhibited wetland characteristics and occurred above the ordinary high water mark. Determination and delineation efforts did not extend into the river.

The Rensselaer County Soil Survey was reviewed to determine the soil types mapped on this site (U.S. Department of Agriculture 1988). The mapped soil types within the site boundaries are Hoosic gravelly sandy loam, Hudson silt loam hilly/steep, Limerick silt loam, Madalin silt loam, Nassau-Manlius complex undulating, Nassau-Rock outcrop rolling/hilly, Rhinebeck silt loam, Raynham silt loam, Windsor loamy sand, Udorthents, and gravel pits. The Limerick, Madalin, and Raynham soils all appear on the Rensselaer County hydric soils list. They are deep, somewhat to very poorly drained soils and indicate locations where wetlands are more likely to occur. Rhinebeck silt loam and gravel pits both are types with the potential for hydric soil inclusion (U.S. Department of Agriculture 1988).

Limerick silt loam is deep and poorly drained. The soil is formed from alluvial deposits of silt and fine sand and is found most often in floodplain areas. Madalin silty clay loam is deep and poorly drained. This soil is typically found in low-lying areas, where it receives surface runoff from surrounding areas. Because of poor drainage it has a tendency to ponding. Raynham silt loam is deep and somewhat poorly to poorly drained. This soil was formed in glacial lake deposits. Rhinebeck silt loam is deep and somewhat poorly drained. The water table in this series is typically found between 6 and 18 inches below the surface during the spring and wet periods. Gravel pits are likely to have hydric inclusions due to the disturbed nature of the soil profile (U.S. Department of Agriculture 1988).

7.3 Results of the Wetland Assessment

NWI mapping indicated that 16.75 acres of wetland occur within the boundary of the site. During determination activities a number of observation plots were completed, which led to the determination and delineation of 13 wetland areas representing four wetland community types (see Figure 7-1). Approximately 11.93 acres of wetland were delineated within the Bruno/Brickyard/Alonzo site (see Table 7-1). Part of this discrepancy between NWI mapped acreage and field-delineated acreage resulted from the determination that 5.56 acres are non-wetland. Past disturbance was evident in this area and the soils had a high sand/silt content. In addition, 1.42 acres of NWI-mapped wetland within the Bruno parcel were determined to be non-wetland. A deeply incised stream channel was present where this PFO1C wetland was mapped, and the surrounding area was dominated by upland vegetation. A mapped PUB/SS1Fx wetland was excluded in the northeast portion of the Bruno parcel as well. This area had been subjected to past dumping/fill, and vegetation and soils were characteristic of an upland area. Alterations in the landscape on these two sites have occurred in the past as a result of logging, mining, and storage of excess material from the brick manufacturing facility. Wetland identification labeling corresponds to observation plot numbers (see Figure 7-1).

Table 7-1 Wetland Delineation Summary

Wetland ID	Community Type	Acreage
B/B/A-1	PEM/UB	1.53
B/B/A-2	PEM	0.09
B/B/A-5	PFO	0.90
B/B/A-6	PFO	0.11
B/B/A-7	PEM/PSS	2.43
B/B/A-8	PEM/PUB	0.93
B/B/A-9	PSS	0.83
B/B/A-10	PFO	0.42
B/B/A-11	PFO/PEM	1.64
B/B/A-12	PFO	1.25
B/B/A-13	PFO/PEM/PSS	1.62
B/B/A-16	PFO	0.04
B/B/A-17	PFO/PSS	0.14
Total Acreage		11.93

Key:

PEM = Palustrine, emergent.
PFO = Palustrine, forested.
PSS = Palustrine, scrub-shrub.
PUB = Palustrine, unconsolidated bottom.

Generally, the species found within wetland areas on these three parcels were similar. Typical tree species within forested components of the wetlands included green ash (*Fraxinus pennsylvanica*), swamp white oak (*Quercus* bicolor), red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), black willow (*Salix nigra*), slippery elm (*Ulmus rubra*), gray birch (*Betula populifolia*), and northern cottonwood (*Populus deltoides*). Common

species in scrub-shrub components included stiff dogwood (*Cornus foemina)*, red-osier dogwood (*Cornus stolinifera*), silky dogwood (*Cornus amomum*), brookside alder (*Alnus serrulata*), buttonbush (*Cephalanthus occidentalis*), spicebush (*Lindera benzoin*), and winterberry (*Ilex verticillata*). Vegetation occurring in emergent components included sensitive fern (*Onoclea sensibilis*), false nettle (*Boehmeria cylindrica*), arrow-leaf tearthumb (*Polygonum sagittatum*), broadleaf cattail (*Typha latifolia*), reed canary grass (*Phalaris arundinacea*), woolgrass (*Scirpus cyperinus*), common reed (*Phragmites australis*), hop sedge (*Carex lupilina*), Devil's beggar-ticks (*Bidens frondosa*), rice cutgrass (*Leersia oryzoides*), swamp jack-in-the-pulpit (*Arisaema triphyllum*), New England aster (*Aster novae-angliae*), rough-leaf goldenrod (*Solidago patula*), giant goldenrod (*Solidago gigantea*), false nettle (*Boehmeria cylindrica*), purple loosestrife (*Lythrum salicaria*), joe-pye weed (*Eupatorium maculatum*), arrow-leaf tearthumb (*Polygonum saggitatum*), smooth scouring rush (*Equisetum laevigatum*), soft rush (*Juncus effusus*), uptight sedge (*Carex stricta*), and shallow sedge (*Carex lurida*).

The field wetland determination and delineation activities located wetland areas on the Bruno and Brickyard Associates parcels that had not been previously mapped by NWI. A large open-water wetland is located on the Brickyard Associates parcel near the manufacturing facility. This feature appears to be a manmade and disturbed area, apparently created or disturbed by previous mining activities. Additional wetlands were found on the Bruno parcel both east and west of Knickerbocker Road, which bisects the parcel. In the southern portion of the parcel, along the east side of the road, several wetlands were delineated (wetlands B/B/A-5, B/B/A-6, and B/B/A-12 [see Figure 7-1]). The roadway appears to influence the hydrology of these wetlands by impeding and slowing downgradient drainage from the slope to the east. Raised berms also were placed between the three wetlands, splitting what may have been one complex. Additional wetlands not on the NWI mapping were also delineated in the northern portion of the western parcel.

Wetland B/B/A-10 (0.42 acres) is hydrologically influenced by groundwater seepage through an excavated bank. Mining may have occurred here in the past. Plant species were typical of a disturbed area and included scouring rush, brookside alder, and common reed.

Wetland B/B/A-11, located in the middle of the eastern Bruno parcel, is a 1.6-acre forested area that sits in a depression in the landscape. Water appears to collect in this area and drain southeast, eventually forming a channel that gradually becomes more incised and flows southwest.

A large (approximately 4.2-acre) wetland complex is located in the southwestern portion of the Alonzo property. The entire complex comprises wetlands B/B/A-7 through B/B/A-9. The northern half of the wetland is predominantly an emergent area with hydrologic influence from both the river and runoff/drainage from the east. The shoreline lacks vegetation and appears to be a mudflat. Further inland, this area is characterized by dense emergent vegetation with some shrub species along the fringe. A large number of standing, dead, and fallen trees are also in this portion of the complex. B/B/A-8 in the

southwestern corner of the complex is an approximately 1-acre open-water area that appears to be manmade (see Figure 7-1). It is surrounded on the west, north, and east sides by an approximately 18-foot high berm. Water from the river flows into this area during high water events and is impounded when the river is low. Several standing dead trees are located on small "islands" within the open-water area. The southeast corner is a dense stand of buttonbush. At the time of survey there was standing water within the stand of buttonbush. Some green ash, black willow, and silver maple were found along the fringe of this area. Given that river stage and flood control structures influence the Hudson River, the actual acreage of the shoreline wetlands may be larger than delineated at the time of survey. Several areas displaying emergent wetland vegetation were noted within the river along the shoreline. However, as stated previously, determination and delineation efforts did not extend into the river.

Wetland B/B/A (13) (corresponds to observation plots B/B/A-13, -13b, and -13c) includes emergent/scrub-shrub and forested communities (Figure 7-1). This wetland receives a substantial amount of storm water runoff from upgradient areas to the east and across Knickerbocker Road. Wetland characteristics persist along this sloped area due to a series of north-south oriented shallow swales and corresponding downgradient ridges or berms. The ridges/berms act to inhibit sheet flow downslope to the west. Consequently, there are periods of prolonged inundation and soil saturation throughout this complex. Surface flow is typically directed to a relatively narrow end of a given swale, which subsequently flows and collects in another swale or shallow depressional area. The upgradient areas within the wetland are characterized by emergent/scrub-shrub communities. The wetland eventually grades into a forested community as the ground surface becomes less uneven and descends toward the river.

Wetland B/B/A (15) (corresponds to observation plot B/B/A-15) is a forested community that receives flow through a "notch" in the small ridgeline that separates this wetland from B/B/A (13). The upper end of this wetland begins as a narrow drainage (from the ridgeline) and ultimately spreads out due to the braiding of drainage flow.

Wetland B/B/A (16) (corresponds to observation plot B/B/A-16) is a forested wetland close to the banks of the Hudson River, downgradient of B/B/A (15). Wetland conditions are perpetuated from surface and storm water flow from areas upgradient and to the east. An overland, shallow drainage way flows from B/B/A (15) into this wetland. The area is level and slightly depressional so that flow from the upgradient drainage spreads out and collects before becoming re-organized as a outflow drainage, directing flow into the river.

Wetland B/B/A (17) (corresponds to observation plot B/B/A-17) is a forested/scrub-shrub community that occurs to the west of Knickerbocker Road and is next to and due north of the access road to the Alonzo property. The area comprises a low-lying swale that is oriented in a north-south direction. The area holds water long enough to create wetland conditions at its deepest points. The western and northern boundaries of the wetland are defined by a ridgeline that keeps water from flowing further downgradient toward the river. In addition, there is no culvert underneath the access road. The roadbed, therefore,

acts as a dam on the south end of the wetland and the ridge inhibits drainage on the northern end.

Field observations indicated the presence of aquatic bed wetland areas within the river channel to the west of the Alonzo property. These areas have been noted. However, delineation procedures did not involve mapping and boundary identification of wetlands within the river channel.

8. Floodplain Assessment

An initial floodplain assessment was conducted on the Bruno/Brickyard Associates/ Alonzo) site in order to determine the presence, extent, and orientation of Federal Emergency Management Agency (FEMA)-mapped floodplain within site boundaries. Flood magnitudes and historic river stages from gauging stations as close as available to the site were examined to obtain an initial sense of the characteristics of on-site flooding. Appendix E provides the methodology and assumptions involved in this assessment.

8.1 Location and Orientation of the Floodplain

Figure 8-1 shows that portions of the site are located within the 100-year and 500-year floodplains. The floodplain areas were obtained from Flood Hazard Boundary Maps and the Town of Schaghticoke Flood Insurance Study (January 1984) from FEMA's Federal Insurance Administration.

The site is located on the east side of the Hudson River in the Town of Schaghticoke. The total area of the site is approximately 349.2 acres (see Table 8-1). Approximately 3.67% (12.8 acres) of the site is within the base (100-year) floodplain. The floodplain is restricted to land adjacent to the Hudson River and is oriented parallel to the river along the western edge of the site. River frontage is 2,230 feet in length. The greatest width of the 100-year floodplain is 420 feet. The 500-year floodplain extends approximately 100 feet beyond the 100-year floodplain boundary (see Figure 8-1).

Table 8-1 Summary of Bruno/Brickyard Associates/Alonzo Site and Floodplain Characteristics

Is a portion of the site in the base (100-year) floodplain?	Yes
Total area of the site	349.2 acres (15,212,415 ft^2)
Area of site within the base (100-year) floodplain	12.8 acres (558,365 ft^2)
Percentage of the site within the base (100-year) floodplain	3.67%
Perimeter of the site (total length)	31,534 ft
Perimeter of the site bordering Hudson River (river frontage)	~2,230 ft
Greatest width between the outer boundary of the base floodplain and Hudson River boundary	~420 ft

8.2 100-year Flood

The FEMA maps show the 100-year flood elevation at the site to be 82 feet National Geodetic Vertical Datum (NGVD). A brief examination of site topography and the FEMA mapping suggest that site elevation characteristics have not changed dramatically since the FEMA floodplain modeling and mapping occurred.

The closest gauge station with historic flow data is in Stillwater, approximately 2 miles upstream of the site. The Waterford gauge station is approximately 6 miles downstream. The National Weather Service does not track either of these gauge stations for flood stage.

Flood magnitudes were calculated from twenty-six years of flow data at the Stillwater gauge station. Based on this data, the 100-year flood stream flow for this station is 60,258 cubic feet per second (cfs). A flood of this magnitude has not occurred in the twenty-six years of modern data. In that time, there have been two flow events greater than 10-year floods (March 15, 1977 and May 4, 1983).

Flood magnitudes were calculated from twenty-one years of flow data at the Waterford gauge station. Based on this data, the 100-year flood stream flow for this station is 80,950 cfs. A flood of this magnitude has not occurred in the twenty-one years of modern data. In that time, there has been one flow event greater than a 10-year flood (May 30, 1984).

8.3 Local Flooding

Historic water level data (1916 to 2000) are available from NYSCC Lock 3. Lock 3 is approximately 0.1 mile from the site. The highest water level at the upstream side of Lock 3 was 78.22 feet NGVD (January 1, 1949). Therefore, based on NYSCC data, the 100-year flood elevation (82 feet NGVD) was not reached between 1916 and 2000.

Ground elevations at two points surveyed on the edge of the Hudson River at the site boundary were 68.32 feet and 68.87 feet NGVD (October 2003). The contour information (5-foot intervals) provided with 2002 aerial photography of the site shows a 70-foot contour line running along the shoreline. Therefore, the 100-year flood would put the area along the river under 13 feet of water.

While the probability of a 13-foot inundation event (100-year flood) is remote, NYSCC water level data on the upstream side of Lock 3 provide evidence that flooding on a smaller scale occurs almost annually at this site. The site shoreline boundary would have been under approximately 8 feet of water during the maximum high water level on January 1, 1949 and under an average of 2.7 feet of water during each year's maximum flow. Field observations have also indicated that portions of the Alonzo property are subject to flooding.

The Flood Insurance Study shows the 10-year flood profile in the vicinity of the site to be 78 feet NGVD. The Flood Insurance Study for the Town of Schaghticoke indicates that "low-lying areas in the town are subject to periodic flooding caused by the overflow of

the Hudson River. Heavy rainfall, especially occurring in the spring, combined with snowmelt causes high water and local flooding."

9. Coastal Management Area Assessment

The Bruno/Brickyard Associates/Alonzo site is not located in the state-designated coastal zone. Therefore, no direct impacts are expected as a result of the potential use of this site. EPA will prepare an additional phase of its coastal zone consistency assessment and subsequent coastal zone consistency determination, covering potential indirect and cumulative impacts from the operation of sediment processing/transfer facilities, once the Phase 1 and Phase 2 dredging facility locations are selected.

10. Baseline Habitat and Threatened and Endangered Species Assessment

10.1 Site Habitat Description

The Bruno/Brickyard Associates/Alonzo site description is presented in the *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plans: Site-Specific Field Investigations of the Final Candidate Sites* (Ecology and Environment, Inc. September 2003). The site is situated on the east side of the river and is located on the upstream side of Lock and Dam 3 in Mechanicville. This site comprises several parcels that have been used for agriculture, mining, and brick manufacturing. The only remaining structures on the site are located on the Brickyard Associates parcel, where an active construction company has an administration building and garage. These disturbances have influenced the availability, extent, and diversity of on-site habitats across the three parcels. The majority of habitats on-site are early (< 20 years) to mid-successional (20 to 60 years) vegetation communities, with several areas of late successional (greater than 60 years) along the shoreline and within the inland portions.

Figure 10-1 shows the habitat community types, as defined by Edinger et al. (2002) that are present on the site. Field investigations were conducted on October 14 and 15, 2003 to determine habitat availability within the site and to provide descriptions of existing habitat structure, diversity, and condition. Fifteen community types are found on this 152-acre site (Figure 10-1). No significant or unique habitats were among them. The predominant communities (relative to total cover across the site) are briefly described below. A description of the different community types from Edinger et al. (2002) is presented in Appendix F.

Successional Northern Hardwood/Appalachian Oak Hickory Forest

The dominant community type on this site is a mixture of the successional northern hardwoods (SNH) and Appalachian oak hickory forest (AOF) community types (22% area). The SNH/AOF areas include a mixture of the SNH community located west of this community and the AOF communities on the hillsides east of the community. The predominant tree species include cottonwood, quaking aspen, red oak, burr oak, black willow, box elder, gray birch, bitternut hickory, mockernut hickory, shagbark hickory, paper birch, white ash, sugar maple, black cherry, swamp white oak, slippery elm,

basswood, American hop hornbeam, American hornbeam, and bigtooth aspen. Some locations have little understory, but the majority of the community has a shrub and herb layer present. The predominant shrubs include spicebush, maple-leaf *Viburnum*, sumac, gray dogwood, red osier dogwood, honeysuckle, elderberry, pine berry, and winterberry. *Rubus* spp., various ferns, *Carex* spp., and goldenrods dominate the herbaceous layer.

- **Appalachian Oak Hickory Forest.** The AOF forest community accounts for approximately 20% of the site area. The predominant species include black birch, red oak, paper birch, American hop hornbeam, black cherry, and red maple on the sloped portions of the forest and red oak, paper birch, bitternut hickory, American hop hornbeam, and basswood on the flat portions of the community. The predominant species in the shrub layer are maple-leaf *Viburnum* in areas that are sloped and spicebush within level areas. The herbaceous layers of both areas are relatively sparse and are dominated by blackberries.

- Successional Northern Hardwood. The successional northern hardwood (SNH) community is the third most prevalent, accounting for approximately 13% of the site. Predominant species include gray birch, quaking aspen, black cherry, cottonwood, slippery elm, red oak, burr oak, and black willow. The predominant species in the shrub layer include honeysuckle, sumac, dogwoods (gray and red osier), winterberry, and chokecherry. The predominant species in the herbaceous layer include Queen Anne's lace, sedges, goldenrods, white snakeroot, blackberries, ostrich fern, and garlic mustard.

Successional Southern Hardwood

An area that resembles a successional southern hardwoods (SSH) is located in the northern portion of the Brickyard Associates parcel. This community type comprises approximately 9% of the site. Edinger et al. differentiates the northern and southern successional hardwoods by the dominance of more northerly or southerly species in the respective community type. Slippery elm is the predominant species in the SSH community, whereas cottonwood and gray birch are the predominant trees in the SNH communities. In addition, the SSH contained white ash, red maple, silver maple, gray birch, and chokecherry. Shrubs include chokecherry and buckthorn. Young (0 to 20 years) to middle-aged (20 to 60 years) white ash stands dominated certain areas of this community. The predominant shrubs, herbs, and vines in these areas are spicebush, winterberry, wild grape, goldenrods, and various ferns.

Successional Old Field

Successional old field communities are dominated by goldenrod, blackberries, and sedges. Buckthorn, red osier dogwood, gray dogwood, wild grape, and honeysuckle dominated the shrub and vine layers. These communities are mostly surrounded by stands of cottonwood, red oak, black birch, paper birch, quaking aspen, and sumac.

Rich Mesophytic Forest

The predominant species in the northern rich mesophytic forest (RMF) community are Eastern white pine, gray birch, American hop hornbeam, bitternut hickory, black cherry,

red oak, sugar maple, basswood, paper birch, and shagbark hickory, with relatively no understory at the time of the field visit. The predominant species in the southern RMF are red and white oaks, red maple, bigtooth aspen, gray birch, beech, American hornbeam, bitternut hickory, white ash, black cherry, shagbark hickory, basswood, and an occasional Eastern white pine. Chokecherry and spicebush dominate the shrub layer. The predominant shrubs include wood fern, white snakeroot, blackberries, and poison ivy.

Other Communities

The RMF/AOF community contains a mixture of species from both of these community types, as discussed above. The predominant species in the successional shrubland (SS) community include honeysuckle, gray dogwood, silky dogwood, red osier dogwood, and white ash. Blackberries, white snakeroot, and sedges characterize the herb layer in this area.

Aquatic communities on the site include a pond-wetland complex and marsh headwater stream. A number of wetlands were mapped as occurring on-site, and these are discussed in further detail in Section 7. The marsh headwater stream community type traverses the southern end of the inland parcels of the site. The stream is a low gradient riffle/pool/run stream with a moderately incised channel. The stream appeared to be perennial but did not have much flow during the field visit. Substrate is dominated by sand and gravel. Large woody debris is present in moderate abundance. The Hudson River shoreline is shallow along the extent of the Alonzo property, which is characterized by a predominantly sand and/or muck substrate. Emergent vegetation occurs within portions of the shoreline. Several large trees (black willow) are located within and adjacent to the shoreline area.

Common vegetation species and the community structure of the site have an influence on wildlife occurrences. The availability of forested, shrubland, and old field communities provides for a diverse habitat for wildlife species. Incidental wildlife observations included whitetail deer, Eastern gray squirrel, treefrog, green frog, mallard, great blue heron, and a variety of songbirds.

10.2 Endangered Species Act Issues

Bald eagles were identified as a potential threatened and endangered species that could occur on the site. According to NYSDEC, there is no documented nesting activity in this area of the river. Coordination and consultation with NYSDEC and the U.S. Fish and Wildlife Service have occurred as part of the facility siting process and for determining the details of a biological assessment document for the Hudson River PCBs Superfund Site project. This consultation revealed that the portion of the river in the vicinity of the site is a known wintering area for the bald eagle. The biological assessment will address any potential impacts to the bald eagle as a result of the construction and operation of a sediment processing/transfer facility at this site. The biological assessment will include a literature review and any pertinent studies that are related to the habitat near this site as well as life history information on the bald eagle.

Table 3.1-1 Summary of Activities, Hudson River PCBs Superfund Site

		Energy Park/Longe/ NYS Canal Corporation Site	Old Moreau Dredge Spoils Area/NYS Canal Corporation Site	Georgia Pacific/ NYS Canal Corporation Site	NYS Canal Corporation/ Allco/Leyerle Site	Bruno/Brickyard Associates/ Alonzo Site	State of New York/First Rensselaer/ Marine Management Site	OG Real Estate Site
Environmental Investigation	Environmental Sampling	09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
	Temporary Well Installation	09/29/03 - 10/01/03	10/02/03	10/08/03	10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	10/07/03
	Temporary Well Sampling	10/16/03	10/14/03 - 10/16/03	10/13/03 - 10/14/03	10/15/03	10/15/03 - 10/16/03	10/10/03 - 10/15/03	10/15/03
Surveying		10/01/03 - 11/11/03	10/08/03 - 11/11/03	10/09/03 - 10/29/03	10/21/03 - 10/31/03	10/15/03 - 10/29/03	10/21/03 - 11/10/03	11/11/03 - 11/13/03
Geotechnical Investigation		09/29/03 - 10/01/03	NA	10/08/03	10/07/03 - 10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	NA
Utilities Assessment		09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
STAAR		10/06/03 - 10/16/03	10/13/03 - 10/30/03	10/11/03 - 10/28/03	10/23/03 - 11/13/03	10/17/03 - 11/05/03	10/25/03 - 11/14/03	11/15/03
Wetland Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Floodplain Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Coastal Management Areas		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Baseline Habitat Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Threatened and Endangered Species Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
IDW Disposal		TBD	TBD	TBD	TBD	TBD	TBD	TBD

Key:

IDW = Investigation-derived waste.
NYS = New York State.
PCBs = Polychlorinated biphenyls.
STAAR = Survey of Terrestrial Archaeological and Architectural Resources
TBD = To be determined.

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/ Screen I.D. (inches)	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
EPL	EPL-GP01	9/29/03	9/29/03	N	10/16/03	25.4	135.11	1	27.4	137.2	15.4-25.4	5-25.4	2-5	2.0
	EPL-GP02	9/29/03	9/29/03	N	10/16/03	25	137.91	1	27.4	140.42	15-25	4-25	2-4	2.4
	EPL-GP03	9/29/03	9/29/03	N	10/16/03	25.1	135.52	1	27.51	137.99	15.1-25.1	4-25.1	0.6-4	2.41
	EPL-GP04	10/1/03	10/1/03	N	10/16/03	25	129.47	1	27.3	131.79	15-25	4-25	2-4	2.3
	EPL-GP05	10/1/03	10/1/03	N	10/16/03	25	132	1	27.5	134.53	15-25	4-25	2-4	2.5
OM	OM-GP01	10/2/03	10/2/03	N	10/16/03	25	157.67	1	27.4	160.19	15-25	4-25	2-4	2.4
	OM-GP02	10/2/03	10/2/03	N	10/16/03	25.4	141.79	1	27.62	144.2	15.3-25.3	4-25.3	2-4	2.32
	OM-GP03	10/2/03	10/2/03	N	10/15/03	25	155.84	1	27.3	158.37	10-25	4-25	2-4	2.3
	OM-GP04	10/2/03	10/2/03	N	10/15/03	25	143.5	1	22.5	146	10-20	4-25	0-4	2.5
	OM-GP05	10/2/03	10/2/03	N	10/14/03	25	133.43	1	27.5	135.93	15-25	4-25	0-4	2.5
GPS	GPS-GP01	10/9/03	10/9/03	N	10/13/03	25	108.4	1	28.15	111.60	15-25	4-25	2-4	3.15
	GPS-GP02	10/8/03	10/8/03	N	10/14/03	9.3	108.68	1	11.8	111.19	4.3-9.3	3-9.3	0.5-3	2.5
	GPS-GP03	10/8/03	10/8/03	N	10/14/03	25.5	102.76	1	27.55	104.76	15.5-25.5	4-25.5	2-4	2.05
	GPS-GP04	10/8/03	10/8/03	N	10/14/03	25.7	112.02	1	28.2	114.48	15.7-257	4-25.7	2-4	2.5
	GPS-GP05	10/8/03	10/8/03	N	10/13/03	25	100.71	1	27.45	103.31	14.85-24.85	4-25	2-4	2.6
	GPS-GP06	10/9/03	10/9/03	N	10/14/03	25	110.76	1	17.5	113.24	5-15	3-15 [A]	1-3	2.5
	GPS-GP07	10/9/03	10/9/03	N	10/14/03	25	112.98	1	22.4	115.38	10-20	3-20[B]	0.5-3	2.4
	GPS-GP08	10/8/03	10/8/03	N	10/13/03	18.5	113.36	1	19.7	114.74	8.5-18.5	3-18.5	1-3	1.2
NCC	NCC-GP01	10/9/03	10/9/03	N	10/15/03	25	48.53	1	25.5	51.02	13-23	4-23[C]	2-4	2.5
	NCC-GP02	10/7/03	10/7/03	N	-	6.9	52.5	Dry hole - no well constructed						
	NCC-GP03	10/9/03	10/9/03	N	10/15/03	22.9	43.56	1	23.65	46.2	11-21	4-22.9	2-4	2.65
	NCC-GP04	10/3/03	10/3/03	N	-	2	65.89	Not accessible by rig, boring was hand-augered						
	NCC-GP05	10/7/03	10/7/03	N	-	11	51.52	Dry hole - no well constructed (same as boring NCC-GT01)						
BBA	BBA-GP01	10/10/03	10/10/03	N	10/15/03	25	131.88	1	18.6	134.39	6-16	4-16 [D]	0.5-4	2.6
	BBA-GP02	10/10/03	10/10/03	N	10/16/03	25	144.41	1	18.55	146.87	6-16	4-18 [E]	0.5-4	2.55
	BBA-GP03	10/9/03	10/9/03	N	10/15/03	18.3	76.45	2	19.62	77.77	3.8-13.8	2.8-18.3	0-2.8	1.32
	BBA-GP04	10/10/03	10/10/03	N	10/15/03	14	77.57	1	16.8	80.38	3.5-13.5	2-14	0.5-2	2.8

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
MM	MM-GP01	10/6/03	10/6/03	N	10/10/03	25	18.73	1	27.4	20.52	15-25	4-25	2-4	2.4
	MM-GP02	10/3/03	10/3/03	N	10/10/03	25	5.87	1	27.6	7.75	15-25	4-25	2-4	2.6
	MM-GP04	10/6/03	10/6/03	N	10/15/03	25	15.50	1	27.4	17.22	14.5-24.5	4-24.5	2-4	2.9
OG	OG-GP01	10/7/03	10/7/03	N	10/15/03	25	10.28	1	17.70	12.94	5.35-15.35	3-16 [E]	1-3	2.35
	OG-GP02	10/7/03	10/7/03	N	10/15/03	25.1	14.26	1	27.35	16.46	15.1-25.1	4-25.1	2-4	2.25
	OG-GP03	10/7/03	10/7/03	N	10/15/03	25	17.95	1	27.45	20.4	15-25	4-25	2-4	2.45

[A] Hole was allowed to collapse to 10.15 feet BGS.
[B] Hole was allowed to collapse to 20 feet BGS.
[C] Hole was allowed to collapse to 23 feet BGS.
[D] Hole was allowed to collapse to 18 feet BGS.
[E] Hole was allowed to collapse to 16 feet BGS.

Key:

AGS = Above ground surface.
AMSL = Above mean sea level.
BBA = Bruno/Brickyard Associates/Alonzo Site.
BGS = Below ground surface.
EPL = Energy Park/Longe/NYS Canal Corporation Site.
GP = Geoprobe temporary well location.
GPS = Georgia Pacific/NYS Canal Corporation Site.
I.D. = Inner diameter.
MM = State of New York/First Rensselaer/Marine Management Site
N = Northstar Drilling.
NCC = NYS Canal Corporation/Allco/Leyerle Site.
NYS = New York State.
OG = OG Real Estate.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PVC = Polyvinyl chloride.
TOIC = Top of inner casing.

Table 3.2-2 Groundwater and Surface Water Field Measurements
Bruno/Brickyard Associates/Alonzo Site

Sample ID	Date	pH (s.u.)	Temerature (°C)	Conductivity (µS/cm)	Turbidity (NTU)
Groundwater					
BBA-GP01-GW	10/15/03	6.94	14.3	644.1	933
BBA-GP02-GW	10/15/03	6.76	12.1	658.3	>1,000
BBA-GP03-GW	10/15/03	6.64	15.6	524.2	35.0
BBA-GP04-GW	10/15/03	6.70	12.0	404.1	>1,000
Surface Water					
BBA-SW01	10/6/03	7.79	11.9	412.1	4.10
BBA-SW02	10/6/03	8.29	12.8	460.9	15.5
BBA-SW03	10/6/03	8.30	10.1	375.4	3.30
BBA-SW04	Not Sampled				

Key:

BBA = Bruno/Brickyard Associates/Alonzo Site.
°C = Degrees Celsius.
GP = Boring location.
GW = Groundwater sample.
ID = Identification.
mS/cm = MicroSiemens per centimeter.
NTU = Nephelometric turbidity units.
NYS = New York State.
s.u. = Standard units.
SW = Surface water sample.
> = Greater than.

Table 3.2-3 Summary of Water Level Elevations
Bruno/Brickyard Associates/Alonzo Site

Well/ Stream Gauge ID	Ground Elevation (ft AMSL)	Reference Elevation (ft AMSL)[a]	10/15/03		10/23/03		11/6/03	
			Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)
BBA-GP01	131.88	134.39	7.97	126.42	8.00	126.39	7.44	126.95
BBA-GP02	144.41	146.87	11.69	135.18	10.80	136.07	5.36	141.51
BBA-GP03	76.45	77.77	8.28	69.49	7.91	69.86	6.65	71.12
BBA-GP04	77.57	80.38	11.30	69.08	11.34	69.04	9.16	71.22
BBA-SG01	NA	75.49	NM	NM	6.65	68.84	1.15	70.64

[a] Reference elevation is TOIC for borings and 3-foot mark on gauge for stream gauges.

Key:

AMSL = Above mean sea level.
BBA = Bruno/Brickyard Associates/Alonzo Site.
ft = Feet.
GP = Geoprobe.
GP = Boring location.
NA = Not applicable.
NM = Not measured.
SG = Stream gauge location.
TOIC = Top of inner casing.

Table 3.2-4 Bruno/Brickyard Associates/Alonzo Site Sample Listing, Hudson River PCBs Superfund Facility Siting

							CLP														Geotechnical Analyses			
							Organics				Inorganics	Non-CLP													
Media	Date	Sample Location	CLP Number	Matrix Code	Depth A	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	TAL Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.2)	Hexane Extractable Material (9071B)	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Particle Size (ASTM_D422-63)	Atterberg Limits (ASTM_D4318-00)	Moisture Content (ASTM_D2216-98)	Area of Interest
Surface Soil	10/3/03	BBA-SS01	B1560	SO	0-2 in	M		X	X	X	X	X												Scrap metal area
	10/3/03	BBA-SS02	B1561	SO	0-2 in	N	X	X	X	X	X	X					X							Composite around fuel storage tanks, VOA from the front
	10/3/03	BBA-SS03	B1562	SO	0-2 in	N		X	X	X	X	X												Scrap metal dumping area along west side of building
	10/6/03	BBA-SS04	B1563	SO	0-2 in	N		X	X	X	X	X												Demolished structure
	10/3/03	BBA-SS05	B1564	SO	0-2 in	N		X	X	X	X	X												Former coal storage area
	10/3/03	BBA-SS05/D	B1572	SO	0-2 in	FD		X	X	X	X	X												
	-	BBA-SS06	-	SO	-	N																		Surficial dumping area/coverage
	-	BBA-SS07	-	SO	-	N																		Surficial dumping area/coverage
	10/7/03	BBA-SS08	B1567	SO	0-2 in	N		X	X	X	X	X												Coverage
	10/6/03	BBA-SS09	B1568	SO	0-2 in	N		X	X	X	X	X												Coverage
	10/6/03	BBA-SS10	B1569	SO	0-2 in	N		X	X	X	X	X												Coverage
	10/6/03	BBA-SS11	B1570	SO	0-2 in	N	X	X	X	X	X	X	X				X							Composite sample of 2 locations (A and B) adjacent to railroad tracks (VOC portion was a discrete sample from the location of aliquot A)
	10/6/03	BBA-SS11/D		SO	0-2 in	FD	X	X	X	X	X	X	X				X							
	10/6/03	BBA-SS12	B1571	SO	0-2 in	M	X	X	X	X	X	X	X				X							Composite sample of 2 locations (A, B) adjacent to railroad tracks (VOC portion was a discrete sample from the location of aliquot A)
	TBD	BBA-SS12 (MS/MSD)		SO	MS	MS	X	X	X	X	X		X				X							
	TBD	BBA-SS12 (MS/MSD)		SO	MSD	MSD	X	X	X	X	X		X				X							
Surface Water	10/6/03	BBA-SW01	B1556	SW	-	N	X	X	X	X	X			X		X								Upstream
	10/6/03	BBA-SW02	B1557	SW	-	N	X	X	X	X	X			X		X								Pond
	10/6/03	BBA-SW02/D		SW	-	FD	X	X	X	X	X			X		X								
	10/6/03	BBA-SW03	B1558	SW	-	M	X	X	X	X	X			X		X								Pond
	-	BBA-SW04	-	SW	-	N																		Downstream
	10/6/03	BBA-SW04 (MS/MSD)		SW		MS	X	X	X	X	X			X		X								
	10/6/03	BBA-SW04 (MS/MSD)		SW		MSD	X	X	X	X	X			X		X								
Sediment	10/6/03	BBA-SE01	B1552	SE	0-2 in	N	X	X	X	X	X	X			X									Upstream
	10/6/03	BBA-SE01/D	B15A7	SE	0-2 in	FD	X	X	X	X	X	X			X									Upstream
	10/6/03	BBA-SE02	B1553	SE	0-2 in	N	X	X	X	X	X	X			X									Upstream
	10/6/03	BBA-SE02/D		SE	0-2 in	FD	X	X	X	X	X	X			X									
	10/6/03	BBA-SE03	B1554	SE	0-2 in	N	X	X	X	X	X	X			X									Pond
	-	BBA-SE04	-	SE	-	N																		Downstream
	TBD	BBA-SE04 (MS/MSD)		SE		MS	X	X	X	X	X				X									
	TBD	BBA-SE04 (MS/MSD)		SE		MSD	X	X	X	X	X				X									
Geoprobe Subsurface Soil	10/10/03	BBA-GP01-SB	B1573	SO	8-11	N	X	X	X	X	X	X												Upgradient of Brickyard facility
	10/10/03	BBA-GP01-SB/D	B15C6	SO	8-11	FD	X	X	X	X	X	X												
	10/10/03	BBA-GP02-SB	B1575	SO	7-11	M	X	X	X	X	X	X												Downgradient of Brickyard facility
	10/9/03	BBA-GP03-SB	B15A8	SO	5.5-6.5	N	X	X	X	X	X	X												Downgradient
	10/10/03	BBA-GP04-SB	B15C0	SO	8-10	N	X	X	X	X	X	X												Downgradient

Key at the end of Table

Table 3.2-4 Bruno/Brickyard Associates/Alonzo Site Sample Listing, Hudson River PCBs Superfund Facility Siting

							CLP															Geotechnical Analyses			
							Organics				Inorganics	Non-CLP														
Media	Date	Sample Location	CLP Number	Matrix Code	Depth A	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	TAL Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.2)	Hexane Extractable Material (9071B)	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Particle Size (ASTM_D422-63)	Atterberg Limits (ASTM_D4318-00)	Moisture Content (ASTM_D2216-98)	Area of Interest
Geoprobe Temporary Well Groundwater	10/15/03	BBA-GP01-GW	B15C2	GW	6-16	N	X	X	X	X	X													Upgradient of Brickyard facility
	10/16/03	BBA-GP02-GW	B15C3	GW	6-16	N	X	X	X	X	X													Downgradient of Brickyard facility
	10/15/03	BBA-GP03-GW	B15C4	GW	3.8-13.8	N	X	X	X	X	X													Downgradient
	10/15/03	BBA-GP03-GW/D	B15D0	GW	3.8-13.8	FD	X	X	X	X	X													
	TBD	BBA-GP03-GW/D		GW		FD	X	X	X	X	X													
	10/15/03	BBA-GP04-GW	B15C5	GW	3.5-13.5	N	X	X	X	X	X													Downgradient
Geotechnical Boring Subsurface Soil	10/9/03	BBA-GT01-SB	-	SO	0-18 B	N															X	X	X	Downgradient
	10/10/03	BBA-GT02-SB	-	SO	0-26B	N															X	X	X	Facility/Railyard area
	-	BBA-GT03-SB	-	SO	-	N															X	X	X	Haul Road
Blanks	TBD	BBA-TB01		Field QC		TB	X																	General to accompany surface water samples
	TBD	BBA-TB02		Field QC		TB	X																	General to accompany groundwater samples
IDW	TBD	BBA-WA01	-	WA	-	N												X	X	X				General
	TBD	BBA-WW01	-	WW	-	N												X	X	X				General

[A] Depth in feet below ground surface unless otherwise specified.

[B] Continuous sampling for Moisture Content analysis. The 4-6 and 5-5.5 foot BGS depth intervals were used for the Particle Size and Atterberg Limits analyses for GPS-GT01 and GPS-GT02, respectively.

Key:

BBA = Bruno/Brickyard Associates/Alonzo Site
CLP = Contract Laboratory Protocol
/D = duplicate sample
FD = field duplicate sample (Type)
GP = Geoprobe boring location
GT = geotechnical boring location
GW = groundwater sample
IDW = investigation-derived waste
in = inch
M = matrix spike/matrix spike duplicate (Type)
N = original sample (Type)
PCB = polychlorinated biphenyl
QA = quality assurance
QC = quality control
SB = subsurface soil
SE = sediment sample
SO = soil sample
SS = surface soil
SVOCs = semivolatile organic compounds
SW = surface water
TBD = to be determined
TCL = target compound list
TCLP = toxicity characteristic leachate procedure
TOC = total organic carbon
VOCs = volatile organic compounds
WA = IDW solid waste
WW = IDW waste water

Key at the end of Table

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	BBA-SS01	BBA-SS02	BBA-SS03	BBA-SS04	BBA-SS05	BBA-SS05/D
			Date:	10/3/2003	10/3/2003	10/3/2003	10/6/2003	10/3/2003	10/3/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)									
Acetone	200	NA		- -	18 U	- -	- -	- -	- -
Carbon Disulfide	2700	NA		- -	10 U	- -	- -	- -	- -
Ethylbenzene	5500	NA		- -	110	- -	- -	- -	- -
Isopropylbenzene	NA	NA		- -	69	- -	- -	- -	- -
Methyl Acetate	NA	NA		- -	4 J	- -	- -	- -	- -
Methylcyclohexane	NA	NA		- -	14	- -	- -	- -	- -
Toluene	1500	NA		- -	25	- -	- -	- -	- -
Xylenes (Total)	1200	NA		- -	910 J	- -	- -	- -	- -
TCL Semivolatile Organic Compounds (µg/Kg)									
4-Chloro-3-methylphenol	240 or MDL	NA		480 U	340 U	380 U	650 U	390 U	94 J
Acenaphthene	50000	NA		480 U	230 J	380 U	650 U	390 U	390 U
Acenaphthylene	41000	NA		480 U	340 U	380 U	650 U	390 U	390 U
Anthracene	50000	NA		480 U	320 J	380 U	650 U	390 U	91 J
Benzaldehyde	NA	NA		130 J	340 U	380 U	650 U	390 U	390 U
Benzo(a)anthracene	224 or MDL	NA		480 U	340 U	380 U	650 U	390 U	110 J
Benzo(a)pyrene	61 or MDL	NA		480 U	340 U	380 U	650 U	**110 J**	**86 J**
Benzo(b)fluoranthene	1100	NA		480 U	340 U	380 U	650 U	190 J	270 J
Benzo(g,h,i)perylene	50000	NA		480 U	340 U	380 U	650 U	390 U	390 U
Benzo(k)fluoranthene	1100	NA		480 U	340 U	380 U	650 U	130 J	190 J
Bis(2-ethylhexyl)phthalate	50000	NA		480 U	350	460	650 U	390 U	390 U
Caprolactam	NA	NA		480 U	340 U	380 U	650 U	390 U	160 J
Carbazole	NA	NA		480 U	340 UJ	380 U	650 U	390 U	390 U
Chrysene	400	NA		100 J	110 J	380 U	650 U	170 J	330 J
Dibenzo(a,h)anthracene	14 or MDL	NA		480 U	340 U	380 U	650 U	390 U	390 U
Di-n-octylphthalate	50000	NA		480 U	120 J	380 U	650 U	390 U	390 U
Fluoranthene	50000	NA		120 J	340 U	380 U	650 U	130 J	200 J
Fluorene	50000	NA		480 U	570	380 U	650 U	390 U	390 U
Indeno(1,2,3-cd)pyrene	3200	NA		480 U	340 U	380 U	650 U	390 U	120 J
Phenanthrene	50000	NA		480 U	1300	380 U	650 U	83 J	180 J
Pyrene	50000	NA		110 J	540	380 U	650 U	130 J	210 J

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	BBA-SS01	BBA-SS02	BBA-SS03	BBA-SS04	BBA-SS05	BBA-SS05/D
			Date:	10/3/2003	10/3/2003	10/3/2003	10/6/2003	10/3/2003	10/3/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Pesticide and PCBs (µg/Kg)									
4,4'-DDD	2900	NA		4.8 U	3.4 U	2 J	3.8 J	4.6 J	3.9 U
4,4'-DDE	2100	NA		4.8 U	3.4 U	3.8 U	20	3.9 U	3.9 U
4,4'-DDT	2100	NA		2 J	3.2 J	3.8 U	11	6.7	8.2 JN
alpha-Chlordane	540 (3)	NA		2.5 U	1.8 U	2 U	6.2	2 U	2 U
beta-BHC	200	NA		3.6 JN	1.8 U	2 U	3.3 U	2 U	2 U
Dieldrin	44	NA		4.8 U	3.4 U	3.8 U	3.5 UJ	3.9 U	5 J
Endosulfan Sulfate	NA	NA		4.8 U	2.3 J	3.8 U	6.5 U	3.9 U	3.9 U
Endrin Ketone	NA	NA		4.8 U	3.4 U	9.6	6.5 U	6.5 JN	6.3 J
TAL Metals and Mercury (mg/Kg)									
Arsenic	7.5 or SB	3-12 (NYS BG)		5.1	5	4.2	19.8	6.2 J	9.4 J
Barium	300	15-600		194	33.3 B	34.8 B	202	17.9 B	38.7 B
Beryllium	0.16 or SB	0-1.75		0.37 B	0.25 B	0.27 B	1.2 B	0.1 B	0.1 B
Cadmium	1 or SB	0.1-1		0.81 B	0.1 U	0.88 B	5	0.12 U	0.12 U
Calcium	SB	130-35000 (NYS BG)		6520	9220	2800	8360	1110 B	1040 B
Chromium	10 or SB	1.5-40 (NYS BG)		10	11.8	8.5	18.1	1.2 B	1.4 B
Cobalt	30 or SB	2.5-60 (NYS BG)		6.3 B	5.3 B	5.9 B	18.1	1.4 B	1.4 B
Copper	25 or SB	1-50		99.4 J	11.4 J	23.9 J	42.5	11	9.2
Iron	2000 or SB	2000-550000		15300	12700	12000	33400	6060	7320
Lead	SB or 200 - 500	200-500		113	6.9	31.5	63.1	10.8	10.4
Magnesium	SB	100-5000		2930	4170	2940	6620	361 B	373 B
Manganese	NA	50-5000		512	275	493	1570 J	57.6 J	65.8 J
Nickel	13 or SB	0.5-25		23	11	10.8	30.3	2.3 B	2.9 B
Potassium	SB	8500-43000 (NYS BG)		777 B	869 B	404 B	1640 B	196 B	187 B
Selenium	2 or SB	0.1-3.9		0.53 U	0.39 U	0.43 U	2.3 J	1.2 J	2.3 J
Sodium	SB	6000-8000		153 U	113 U	123 U	326 B	195 B	127 U
Vanadium	150 or SB	1-300		14	7.3 B	8.8 B	65.1	4.7 B	4.8 B
Zinc	20 or SB	9-50		226	34	129	505	13.4	14.6
Mercury	0.1	0.001-0.2		0.07 U	0.05 U	0.06 U	0.14 BJ	0.14 J	0.34
Total Cyanide (mg/Kg)									
Cyanide	NA	NA		0.37	0.13 U	0.14 U	0.23 U	0.21	0.17 L
Total Petroleum Hydrocarbons (mg/Kg)									
N-Hexane Extractable Material	NA	NA		- -	2590	- -	- -	- -	- -

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	BBA-SS08	BBA-SS09	BBA-SS10	BBA-SS11	BBA-SS12
			Date:	10/7/2003	10/6/2003	10/6/2003	10/6/2003	10/6/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)								
Acetone	200	NA		- -	- -	- -	120 J	12 U
Carbon Disulfide	2700	NA		- -	- -	- -	1 J	12 U
Ethylbenzene	5500	NA		- -	- -	- -	23 R	12 UJ
Isopropylbenzene	NA	NA		- -	- -	- -	23 R	12 UJ
Methyl Acetate	NA	NA		- -	- -	- -	10 J	12 U
Methylcyclohexane	NA	NA		- -	- -	- -	23 UJ	12 UJ
Toluene	1500	NA		- -	- -	- -	5 J	12 UJ
Xylenes (Total)	1200	NA		- -	- -	- -	23 R	12 UJ
TCL Semivolatile Organic Compounds (µg/Kg)								
4-Chloro-3-methylphenol	240 or MDL	NA		350 U	460 U	420 U	560 U	960 U
Acenaphthene	50000	NA		350 U	460 U	420 U	560 U	960 U
Acenaphthylene	41000	NA		350 U	460 U	420 U	560 U	1400
Anthracene	50000	NA		350 U	460 U	420 U	560 U	2200
Benzaldehyde	NA	NA		350 U	460 U	210 J	560 U	960 U
Benzo(a)anthracene	224 or MDL	NA		350 U	110 J	420 U	560 U	**5200**
Benzo(a)pyrene	61 or MDL	NA		350 U	460 U	420 U	560 U	**3400**
Benzo(b)fluoranthene	1100	NA		350 U	200 J	420 U	560 U	**4900**
Benzo(g,h,i)perylene	50000	NA		350 U	460 U	420 U	560 U	800 J
Benzo(k)fluoranthene	1100	NA		350 U	110 J	420 U	120 J	**2900**
Bis(2-ethylhexyl)phthalate	50000	NA		350 U	460 U	420 U	560 U	960 U
Caprolactam	NA	NA		350 U	460 U	420 U	560 U	960 U
Carbazole	NA	NA		350 U	460 U	420 U	560 UJ	260 J
Chrysene	400	NA		350 U	190 J	420 U	140 J	**5100**
Dibenzo(a,h)anthracene	14 or MDL	NA		350 U	460 U	420 U	560 U	**1100**
Di-n-octylphthalate	50000	NA		350 U	460 U	130 J	560 U	960 U
Fluoranthene	50000	NA		350 U	240 J	420 U	170 J	11000
Fluorene	50000	NA		350 U	460 U	420 U	560 U	960 U
Indeno(1,2,3-cd)pyrene	3200	NA		350 U	460 U	420 U	560 U	2300 J
Phenanthrene	50000	NA		350 U	460 U	420 U	130 J	710 J
Pyrene	50000	NA		350 U	220 J	420 U	150 J	10000

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: / Date: / Depth:	BBA-SS08 10/7/2003 0 - 2 in	BBA-SS09 10/6/2003 0 - 2 in	BBA-SS10 10/6/2003 0 - 2 in	BBA-SS11 10/6/2003 0 - 2 in	BBA-SS12 10/6/2003 0 - 2 in
TCL Pesticide and PCBs (µg/Kg)								
4,4'-DDD	2900	NA		3.5 U	4.6 U	4.2 U	5.6 U	4.8 U
4,4'-DDE	2100	NA		2 J	6.6 J	4.3 J	5.6 U	7.4 JN
4,4'-DDT	2100	NA		3.5 U	6.9 J	4.2 U	5.6 U	4.8 U
alpha-Chlordane	540 (3)	NA		1.8 U	2.4 U	2.2 U	2.9 U	2.5 U
beta-BHC	200	NA		1.8 U	5.5 R	2.2 U	2.9 U	3.3 R
Dieldrin	44	NA		3.5 U	4.6 U	4.2 U	5.6 U	4.8 U
Endosulfan Sulfate	NA	NA		3.5 U	4.6 U	4.2 U	5.6 U	4.8 U
Endrin Ketone	NA	NA		3.5 U	4.6 U	4.2 U	5.6 U	41 J
TAL Metals and Mercury (mg/Kg)								
Arsenic	7.5 or SB	3-12 (NYS BG)		4.8 J	15.8	2.3 BJ	4 J	9.2 J
Barium	300	15-600		36.9 B	50.4 B	66.2	63.3 B	57.5
Beryllium	0.16 or SB	0-1.75		0.34 B	0.27 B	0.34 B	0.43 B	0.37 B
Cadmium	1 or SB	0.1-1		0.11 U	0.14 U	0.13 U	0.17 U	0.14 U
Calcium	SB	130-35000 (NYS BG)		1400	3560	1530	7860	4960
Chromium	10 or SB	1.5-40 (NYS BG)		8.8	4.7	4.8	7.8	6.9
Cobalt	30 or SB	2.5-60 (NYS BG)		5.5 B	3.1 B	3.9 B	7 B	6 B
Copper	25 or SB	1-50		13.4	17.1	9.5	21.5	27.1
Iron	2000 or SB	2000-550000		11300	13900	9330	13800	14500
Lead	SB or 200 - 500	200-500		35.3	17.6	22.5	38.9	50
Magnesium	SB	100-5000		2430	1480	1480	4340	2510
Manganese	NA	50-5000		267 J	111 J	655 J	306 J	300 J
Nickel	13 or SB	0.5-25		10.6	7.8 B	7.9 B	14	11.8
Potassium	SB	8500-43000 (NYS BG)		287 B	511 B	298 B	529 B	518 B
Selenium	2 or SB	0.1-3.9		0.4 UJ	1.1 BJ	0.48 UJ	0.97 BJ	0.59 BJ
Sodium	SB	6000-8000		120 B	194 B	139 U	185 U	201 B
Vanadium	150 or SB	1-300		13	17.6	10.6 B	15.5 B	20
Zinc	20 or SB	9-50		73.5	43.4	30.8	54.7	87.7
Mercury	0.1	0.001-0.2		0.11 J	0.08 BJ	0.06 U	0.08 BJ	0.1 BJ
Total Cyanide (mg/Kg)								
Cyanide	NA	NA		0.5	0.28	0.16	0.3	0.29
Total Petroleum Hydrocarbons (mg/Kg)								
N-Hexane Extractable Material	NA	NA		- -	- -	- -	335 U	593

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the Bruno/Brickyard Associates/Alonzo Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B =	The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BBA =	Bruno/Brickyard Associates/Alonzo Site.
BG =	Background.
/D =	Duplicate sample.
in =	Inches.
J =	The reported value is an estimated quantity.
JN =	The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL =	Method detection Limit
mg/Kg =	Milligrams per kilogram.
NA =	Not applicable/available.
NYSDEC =	New York State Department of Environmental Conservation.
PCB =	Polychlorinated biphenyl.
R =	The data is unusable.
SB =	Site background.
SS =	Surface soil sample.
TAL =	Target Analyte List.
TCL =	Target Compound List.
U =	The analyte was analyzed for but not detected at the value reported.
UJ =	The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg =	Micrograms per kilogram.
- =	Sample was not analyzed for this parameter.
110 J	Shaded cells with bold exceed the NYSDEC screening value (except for metals).

Source: Ecology and Environment, Inc., 2004

Table 3.3-2 Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: / Date: / Depth:	BBA-GP01-SB 10/10/2003 8 - 11 ft	BBA-GP01-SB/D 10/10/2003 8 - 11 ft	BBA-GP02-SB 10/10/2003 7 - 11 ft	BBA-GP03-SB 10/9/2003 5.5 - 6.5 ft	BBA-GP04-SB 10/10/2003 8 - 10 ft
TCL Volatile Organic Compounds (µg/Kg)								
1,1,2-Trichloro-1,2,2-Trifluoroethane	6000	NA		0.4 J	10 UJ	10 R	3 J	10 UJ
Carbon Disulfide	2700	NA		10 UJ	10 UJ	10 R	1 J	10 UJ
Toluene	1500	NA		10 U	10 U	10 R	17 U	10 U
Trichlorofluoromethane	NA	NA		10 U	0.8 J	10 R	17 U	10 U
TCL Semivolatile Organic Compounds (µg/Kg)								
Fluoranthene	50000	NA		410 U	410 U	410 U	170 J	420 U
Phenanthrene	50000	NA		410 U	410 U	410 U	110 J	420 U
Pyrene	50000	NA		410 U	410 U	410 U	120 J	420 U
TCL Pesticide and PCBs (µg/Kg)								
4,4'-DDE	2100	NA		4.1 U	0.8 J	4.1 U	4.2 U	4.2 U
alpha-BHC	110	NA		2.1 U	2.1 U	2.1 U	1.1 J	2.2 U
TAL Metals and Mercury (mg/Kg)								
Aluminum	SB	NA		4570	3850	6050	3950	6320
Arsenic	7.5 or SB	3-12 (NYS BG)		3.3	3	6	2.2 B	4.3
Barium	300	15-600		27.6 B	21.3 B	53.9	24 B	49.8 B
Beryllium	0.16 or SB	0-1.75		0.23 B	0.22 B	0.28 B	0.19 B	0.3 B
Calcium	SB	130-35000 (NYS BG)		1970	1590	2010	1460	1950
Chromium	10 or SB	1.5-40 (NYS BG)		7.2	6.6	7.3	9.2	7.9
Cobalt	30 or SB	2.5-60 (NYS BG)		8.5 B	6.5 B	8.3 B	5 B	8.2 B
Copper	25 or SB	1-50		13.5	13.3	18.7	11.6	37.3
Iron	2000 or SB	2000-550000		12000	10400	14800	10000	16400
Lead	SB or 200 - 500	200-500		6.1	7.1	9.9	14.5	11.9
Magnesium	SB	100-5000		2260	1840	2970	2240	2910
Manganese	NA	50-5000		340	213	533	96.9	551
Nickel	13 or SB	0.5-25		13.7	10.9	16.2	9.6 B	15.4
Potassium	SB	8500-43000 (NYS BG)		552 B	479 B	723 B	397 B	605 B
Vanadium	150 or SB	1-300		12.1 B	12.8 B	12	6.1 B	10 B
Zinc	20 or SB	9-50		35.6	33.5	39.5	79.7	42.7
Mercury	0.1	0.001-0.2		0.06 U	0.07 U	0.06 U	0.33	0.06 U

Source: Ecology and Environment, Inc., 2004

Table 3.3-2 Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the Bruno/Brickyard Associates/Alonzo Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BBA = Bruno/Brickyard Associates/Alonzo Site.
BG = Background.
/D = Duplicate sample.
ft = Feet.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL = Method detection Limit
mg/Kg = Milligrams per kilogram.
NA = Not applicable/available.
NYSDEC = New York State Department of Environmental Conservation.
PCB = Polychlorinated biphenyl.
R = The data is unusable.
SB = Site background.
-SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.

Source: Ecology and Environment, Inc., 2004

Table 3.3-3 Analytical Data Summary of Detected Analytes for Surface Water Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	NYSDEC CLASS D (1)	Sample ID: Date:	BBA-SW01 10/6/2003	BBA-SW02 10/6/2003	BBA-SW03 10/6/2003
TCL Volatile Organic Compounds (µg/L)					
Acetone	NA		5 J	6 J	4 J
Toluene	480 for A(A)		6 J	10 U	10 U
TAL Metals and Mercury (µg/L)					
Aluminum	NA		19 U	164 B	76.6 B
Barium	NA		16.3 B	36 B	25.7 B
Calcium	NA		60300	59900	52600
Chromium	CV		1.1 B	1.1 U	1 U
Copper	CV		2.9 B	1.2 B	1.1 B
Iron	300		335	507	52.9 B
Magnesium	NA		19700	26200	19200
Manganese	NA		50.2	243	56.2 J
Nickel	CV		2.9 B	1.8 U	2.3 U
Potassium	NA		1990 B	1610 B	669 B
Sodium	NA		4150 B	3980 B	1850 B
Vanadium	190 for A(A)		1.6 U	1.6 B	0.9 U
Zinc	CV		23 J	21.1 J	26.2 J
Anions (mg/L)					
Chloride	NA		6.6	4.42	1.34
Fluoride	CV		0.156	0.191	0.125
Nitrate-N	NA		0.199	0.100 U	0.100 U
Sulfate	NA		8.79	21	12.8
Hardness (mg/L)					
Hardness (As $CaCO_3$)	NA		345	380	335

Source: Ecology and Environment, Inc., 2004

Table 3.3-3 Analytical Data Summary of Detected Analytes for Surface Water Samples at the Bruno/Brickyard Associates/Alonzo Site

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class D Ambient Water Quality Standards and Guidance Value and Groundwater Effluent Limitations, 1998.

Key:

A(A) = Standard/guidance value is for the protection of fish survival (fresh waters).

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

BBA = Bruno/Brickyard Associates/Alonzo Site.

CV = Value calculated based on hardness as per NYSDEC TOGS 1.1.1, 1998.

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

mg/L = Milligrams per liter.

NA = Not applicable/available.

NYSDEC = New York State Department of Environmental Conservation.

SW = Surface water sample.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/L = Micrograms per liter.

Source: Ecology and Environment, Inc., 2004

Table 3.3-4 Analytical Data Summary of Detected Analytes for Sediment Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	NYSDEC Screening Criteria (1), (2)	Sample ID:	BBA-SE01	BBA-SE01/D	BBA-SE02	BBA-SE03
		Date:	10/6/03	10/6/03	10/6/03	10/6/03
TCL Volatile Organic Compounds (µg/Kg)						
Carbon Disulfide	NA		10 U	10 U	28 UJ	0.7 J
Chloromethane	NA		10 U	10 U	28 UJ	1 J
Cyclohexane	NA		0.3 J	10 U	28 UJ	10 U
Methyl Acetate	NA		10 U	10 U	28 UJ	4 J
Toluene	CV		0.5 J	10 U	28 UJ	0.9 J
TCL Semivolatile Organic Compounds (µg/Kg)						
Benzo(g,h,i)perylene	NA		420 U	150 J	630 U	410 U
Bis(2-ethylhexyl)phthalate	CV		420 U	410 U	630 U	220 J

Analyte	NYSDEC Screening Criteria (1)		Sample ID:	BBA-SE01	BBA-SE01/D	BBA-SE02	BBA-SE03
	Lowest Effect (2)	Severe Effect (2)	Date:	10/6/03	10/6/03	10/6/03	10/6/03
TAL Metals and Mercury (mg/Kg)							
Aluminum	NA	NA		5730	4510	6180	6100
Arsenic	6.0	33		7.6 J	5.4 J	1.7 UJ	1.3 UJ
Barium	NA	NA		44.3 B	39.9 B	56 B	34.4 B
Beryllium	NA	NA		0.34 B	0.39 B	0.33 B	0.27 B
Calcium	NA	NA		2320	1960	42100	9670
Chromium	26	110		6.5	5.6	7.7	6.5
Cobalt	NA	NA		7.6 B	7.3 B	8.1 B	7.4 B
Copper	16	110		10.8	9.6	19.4	17.5
Iron	20000	40000		21100	16600	15700	13500
Lead	31	110		9	11.1	11.1	9.6
Magnesium	NA	NA		2920	2090	13200	6380
Manganese	460	1100		530 J	527 J	458 J	349 J
Nickel	16	50		12.2	10.2	14.5 B	13.2
Potassium	NA	NA		439 B	388 B	856 B	564 B
Sodium	NA	NA		143 U	136 U	223 B	160 U
Vanadium	NA	NA		10.1 B	8.9 B	11.6 B	8 B
Zinc	120	270		40.1	33.7	54.8	39.8
Total Organic Carbon (mg/Kg)							
Total Organic Carbon	NA	NA		6200	4800	19000	26000
Percent Solids (%)							
Percent Solids	NA	NA		81	78	53	52

Source: Ecology and Environment, Inc., 2004

Table 3.3-4 Analytical Data Summary of Detected Analytes for Sediment Samples from the Bruno/Brickyard Associates/Alonzo Site

(1) New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments, 1999. The benthic aquatic life chronic toxicity protection level was used.

(2) As per the 1999 NYSDEC Guidance, the screening criteria for organic contaminants in sediments are calculated based on sample Total Organic Carbon concentration. However, two levels of risk are established for metals contamination in sediments (Lowest Effect Level and Severe Effect Level).

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BBA = Bruno/Brickyard Associates/Alonzo Site.
CV = Value calculated based on total organic carbon as per NYSDEC Guidance.
/D = Duplicate sample.
J = The reported value is an estimated quantity.
mg/Kg = Milligrams per kilogram.
NA = Not applicable/available.
NYSDEC = New York State Department of Environmental Conservation.
PCB = Polychlorinated biphenyl.
SE = Sediment sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
% = Percent.

Source: Ecology and Environment, Inc., 2004

Table 3.3-5 Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the Bruno/Brickyard Associates/Alonzo Site

Analyte	NYSDEC CLASS GA (1)	Sample ID: / Date: EPA MCLs (2)	BBA-GP01-GW 10/15/2003	BBA-GP02-GW 10/16/2003	BBA-GP03-GW 10/15/2003	BBA-GP03-GW/D 10/15/2003	BBA-GP04-GW 10/15/2003
TCL Semivolatile Organic Compounds (µg/L)							
Benzo(a)anthracene	0.002 (g)	NA	**3 J**	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	0.002 (g)	NA	**2 J**	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	NA	10 U	**190**	10 U	10 U	10 U
Chrysene	0.002 (g)	NA	**3 J**	10 U	10 U	10 U	10 U
Fluoranthene	50	NA	7 J	10 U	10 U	10 U	10 U
Phenanthrene	50 (g)	NA	3 J	10 U	10 U	10 U	10 U
Pyrene	50 (g)	NA	5 J	10 U	10 U	10 U	10 U
TCL Pesticide and PCBs (µg/L)							
Endrin Ketone	5	2 (4)	0.071 J	0.1 U	0.1 U	0.1 U	0.1 U
Heptachlor Epoxide	0.03	0.2	0.016 J	0.05 U	0.05 U	0.05 U	0.05 U
TAL Metals and Mercury (µg/L)							
Barium	1000	2000	50.5 B	64.7 B	55.5 B	56.1 B	42.5 B
Calcium	NA	NA	97100	99700	70300	70100	42000
Chromium	50	100 (5)	1 U	2.2 B	7.5 B	1 U	1 U
Cobalt	NA	NA	1.3 U	4.8 B	1.9 B	1.3 U	1.3 U
Copper	200	1300 (a)	1.1 B	1 U	1.5 B	1.8 B	1.5 B
Iron	300 (3)	300 (s)	27.9 U	27.9 U	4230	4030	27.9 U
Lead	25	15 (a)	2.2 U	2.2 B	2.2 U	2.2 U	2.2 B
Magnesium	35000 (g)	NA	28100	34800	21700	21600	16100
Manganese	300 (3)	50 (s)	685	785	1150	1140	266
Nickel	100	NA	2.3 U	4.9 B	8.4 B	2.3 U	2.3 U
Potassium	NA	NA	2060 B	1570 B	1620 B	1630 B	1190 B
Selenium	10	50	4.2 BJ	3.8 U	3.8 U	3.8 U	5.1
Sodium	20000	NA	3010 B	9160 J	9640 J	9640 J	14100 J
Zinc	2000 (g)	5000 (s)	20 B	23.8	26.6	28.7	23.5

Source: Ecology and Environment, Inc., 2004

Table 3.3-5 Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the Bruno/Brickyard Associates/Alonzo Site

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class GA Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

(2) EPA National Primary and Secondary Drinking Water Standards, 2002.

(3) Screening value is for sum of Iron and Manganese is 500 µg/L.

(4) Screening value is for endrin.

(5) Screening value for total chromium.

(a) Action level is used in lieu of MCL.

(g) Guidance value used.

(s) Secondary standard used.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

BBA = Bruno/Brickyard Associates/Alonzo Site.

/D = Duplicate sample.

EPA = Environmental Protection Agency.

GP = Boring.

GW = Groundwater sample.

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

MCL = Maximum Contaminant Level.

NA = Not applicable/available.

NYSDEC = New York State Department of Environmental Conservation.

PCB = Polychlorinated biphenyl.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

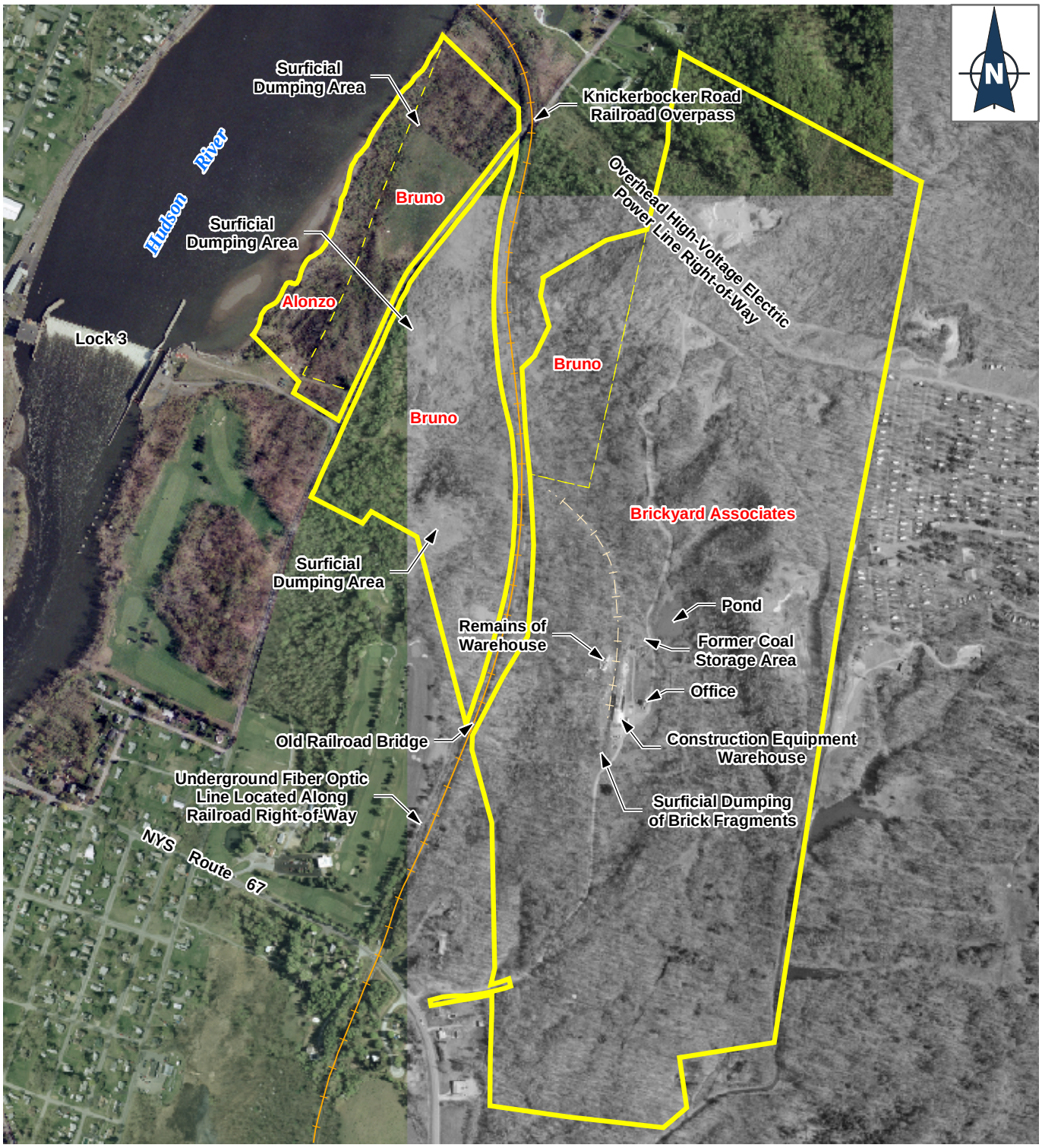
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/L = Micrograms per liter.

3 J Shaded cells with bold exceed the NYSDEC Class GA Standard or Guidance Value (except for metals).

Source: Ecology and Environment, Inc., 2004

SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Approximate Site Boundary
- Tax Parcel Boundary
- Active Railroad
- Abandoned Railroad

Hudson River PCBs SUPERFUND SITE

Figure 2-1
Key Site Features
Bruno / Brickyard Associates / Alonzo

500 250 0 500 1,000 1,500
Feet

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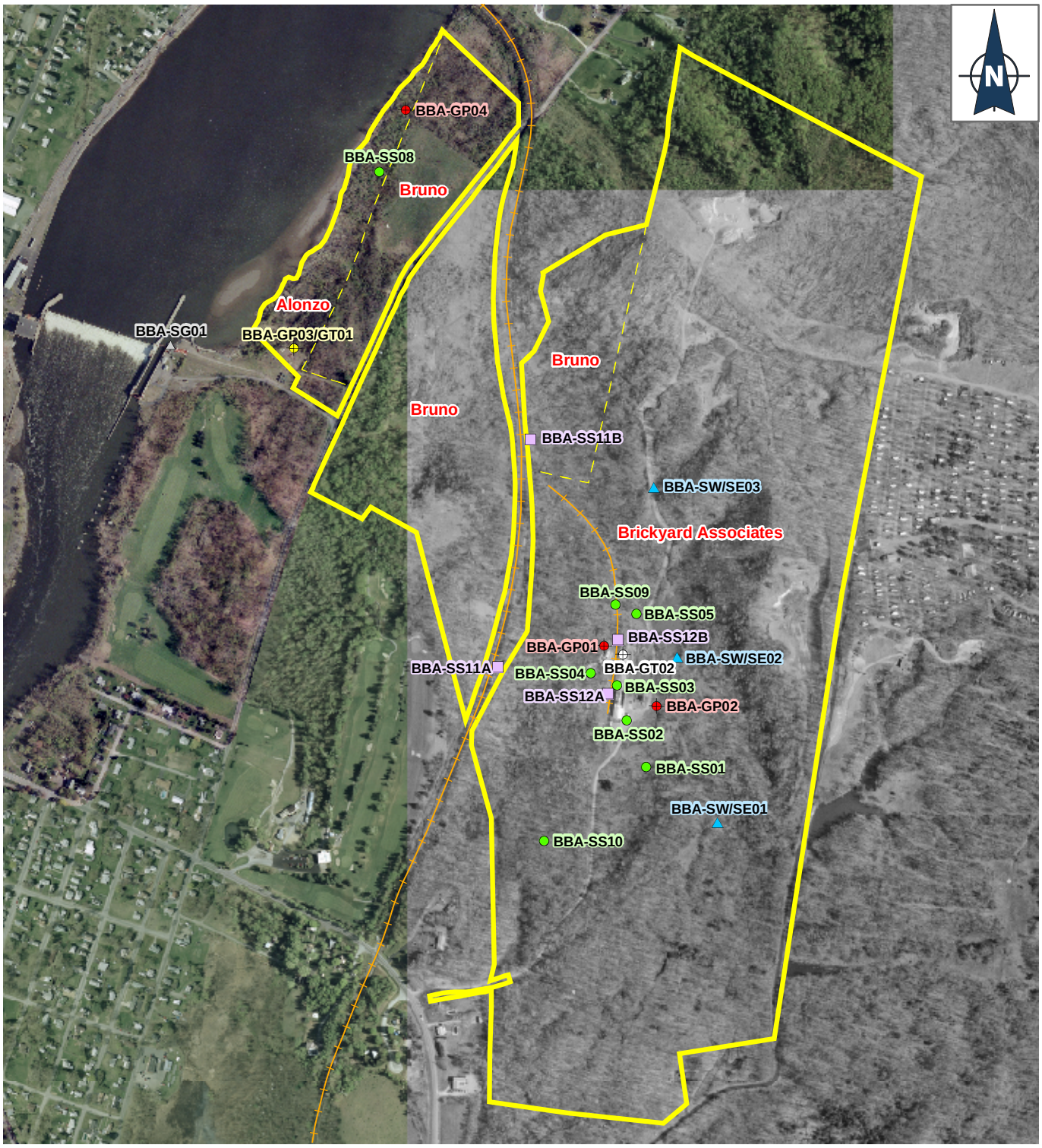

LEGEND

- Geoprobe Soil Boring
- Geoprobe Soil Boring & Temporary Well
- Geoprobe & Geotechnical Boring
- Geotechnical Boring
- Surface Soil
- Soil Sample Adjacent to Railroad
- Surface Water / Sediment
- Stream Gauge
- Railroads
- Potential Site Boundary

Hudson River
PCBs SUPERFUND SITE

Figure 3-1
Sample Locations
Bruno / Brickyard Associates / Alonzo

500 250 0 500 1,000 1,500 2,000
Feet

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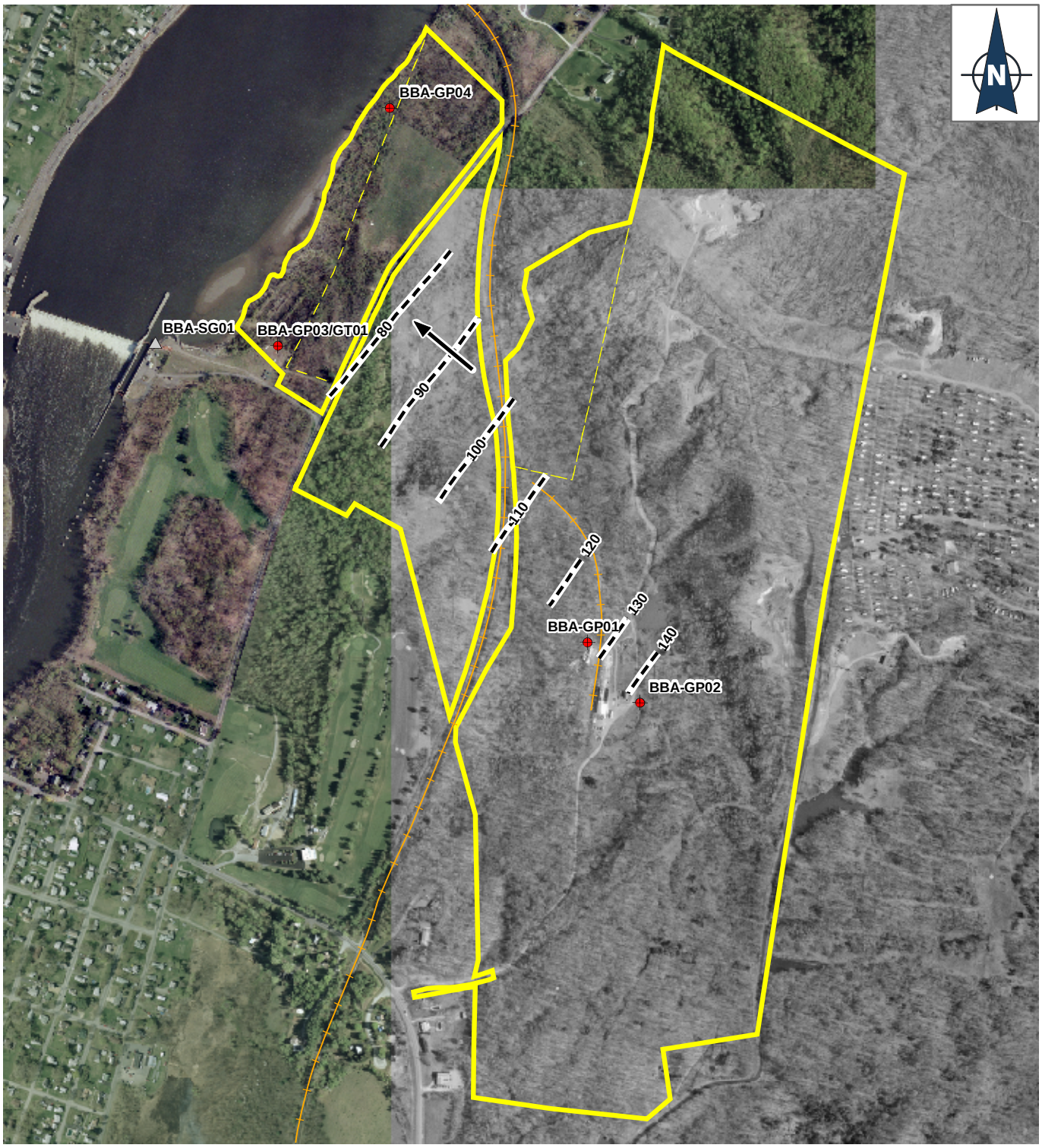

LEGEND

- Groundwater Contour
- Temporary Well
- Stream Gauge
- Railroad
- Potential Site Boundary
- Direction of Groundwater Flow

Water Level Elevations Measured on 11/6/2003
10 ft. Contour Interval

Hudson River
PCBs SUPERFUND SITE

Figure 3-2
Overburden Groundwater Contour Map
Bruno / Brickyard Associates / Alonzo

500 250 0 500 1,000 1,500
Feet

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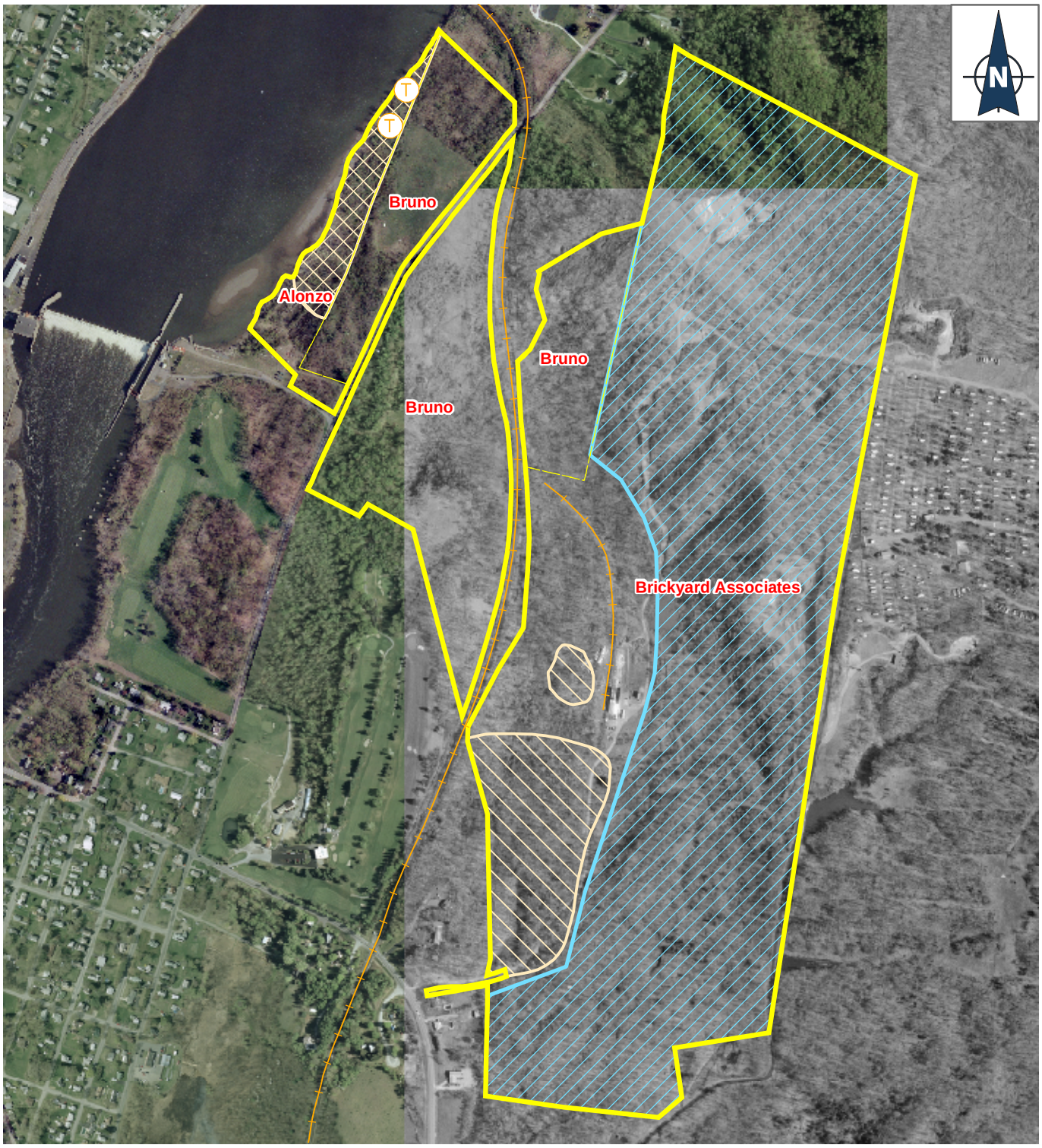

LEGEND

Potential Site Boundary

Archaeological Testing Method

Backhoe Test

Shovel Test

Backhoe & Shovel Test

T Backhoe Trench Locations

[1] Bruno Property Not Surveyed

Hudson River PCBs SUPERFUND SITE

Figure 6-1
Field Sampling Areas[1]
Phase I B Cultural Resources Investigation
Bruno / Brickyard Associates / Alonzo

500 250 0 500 1,000 1,500
Feet

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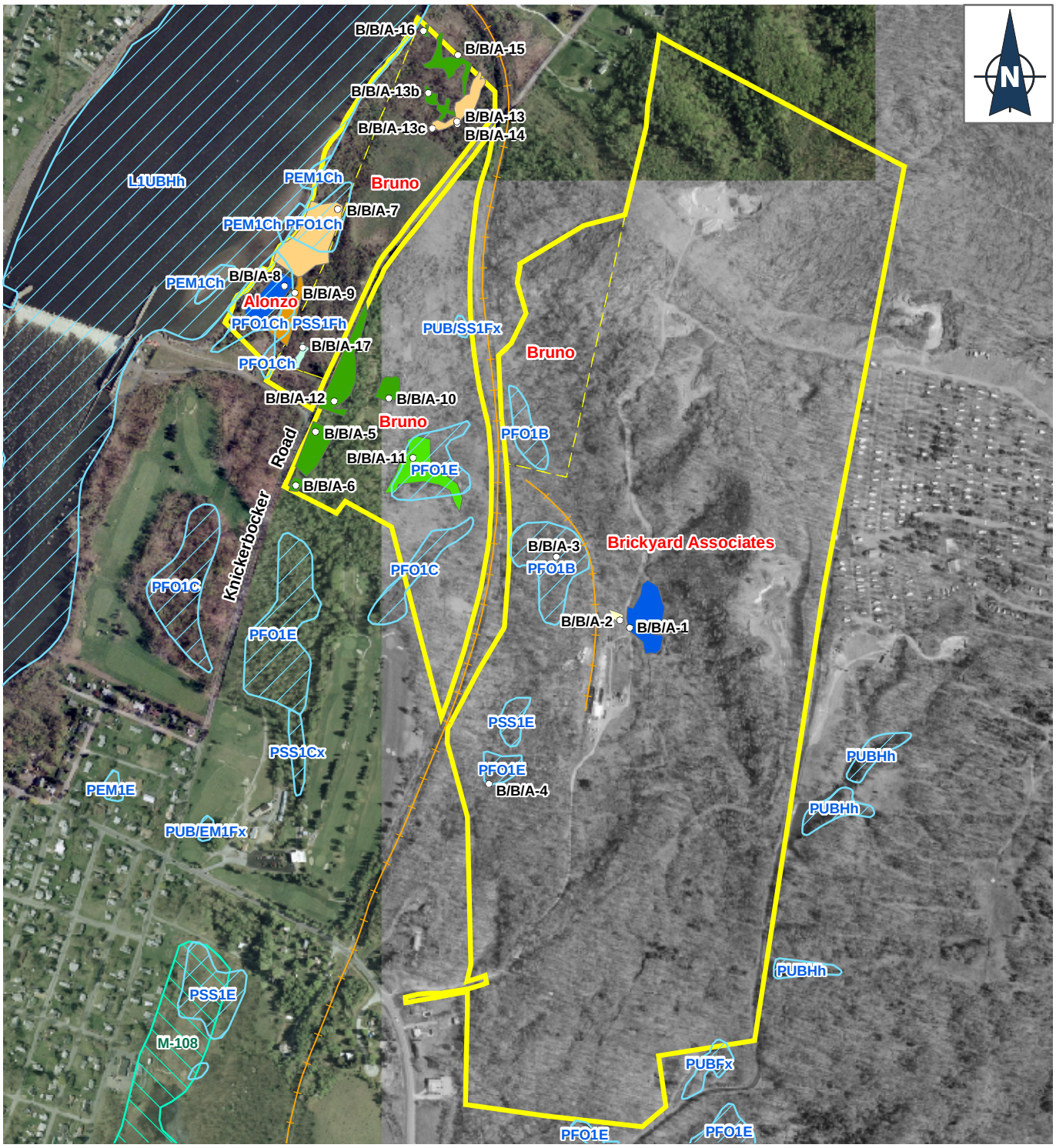

LEGEND

- NYS DEC Mapping
- National Wetland Inventory Mapping

Delineated Wetlands

- Emergent
- Emergent / Scrub-Shrub
- Forested
- Forested / Emergent
- Forested / Scrub-Shrub
- Scrub-Shrub
- Open Water / Emergent
- Observation Plots

Hudson River PCBs SUPERFUND SITE

Figure 7-1
Wetland Locations
Bruno / Brickyard Associates / Alonzo

500 250 0 500 1,000 1,500
Feet

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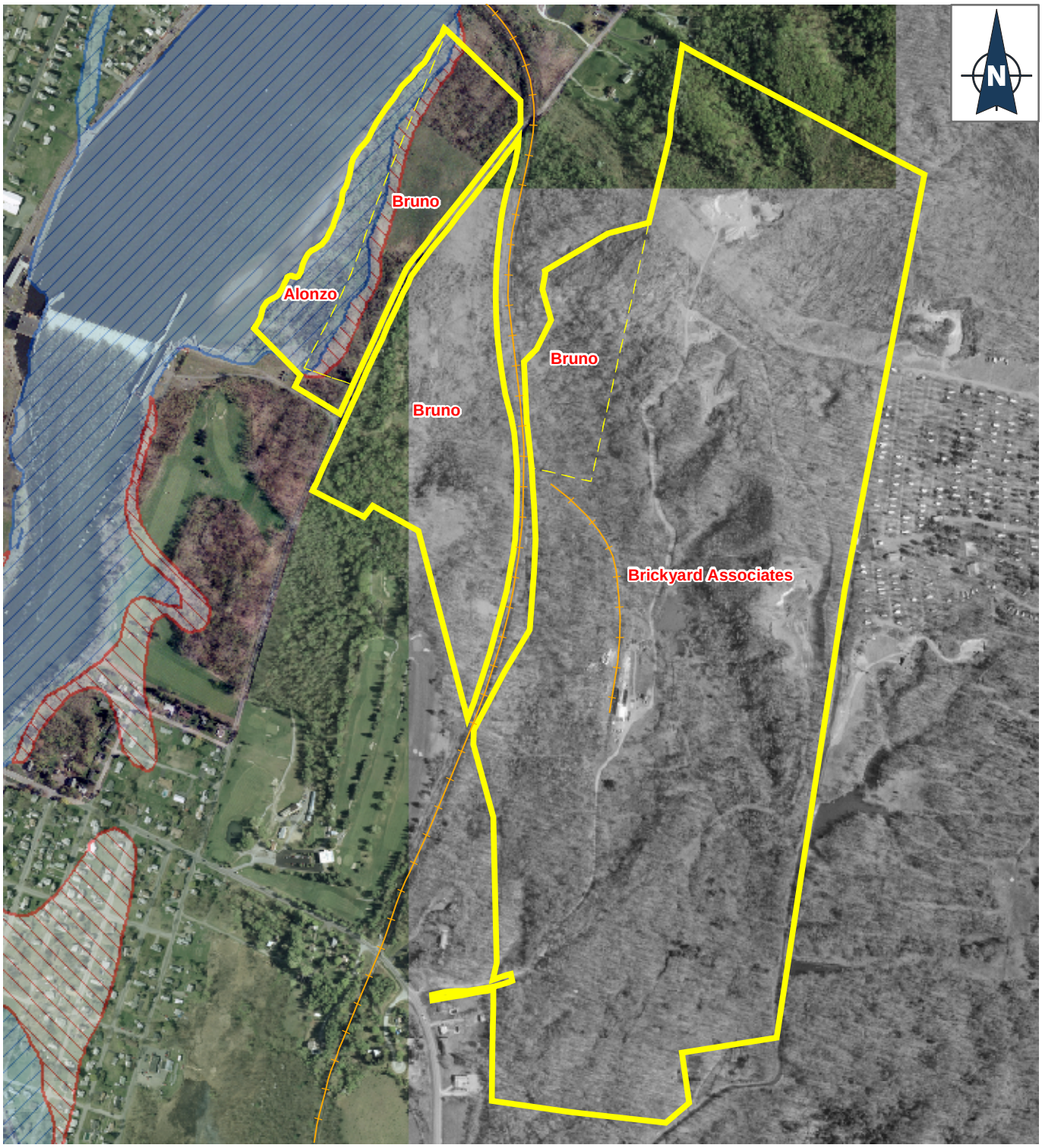

LEGEND

- Potential Site Boundary
- Tax Parcels

FEMA Floodplain

- 100 Year Floodplain
- 500 Year Floodplain

Hudson River PCBs SUPERFUND SITE

Figure 8-1
FEMA Floodplain Mapping
Bruno / Brickyard Associates / Alonzo

500 250 0 500 1,000 1,500 2,000 Feet

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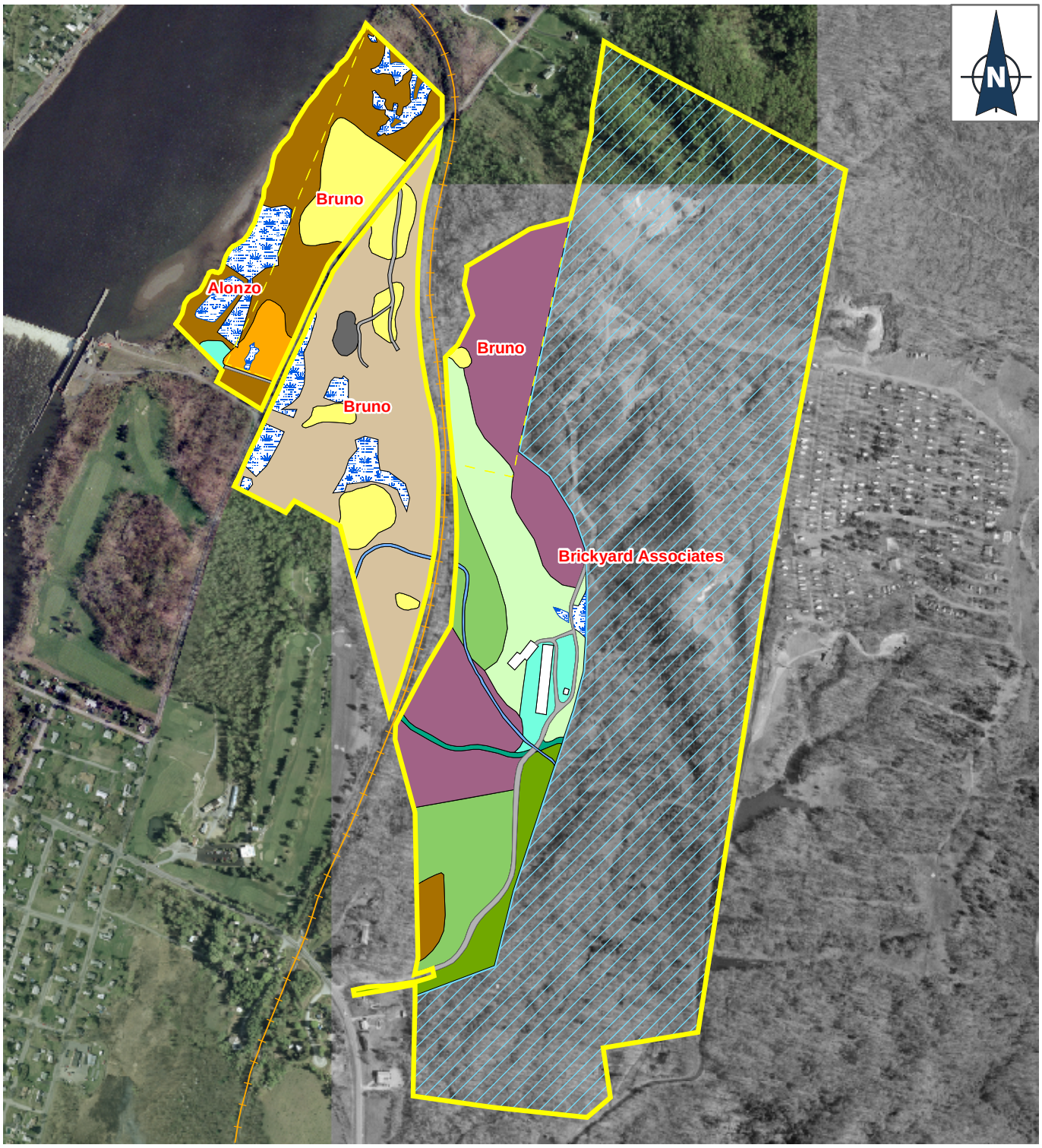

Ecological Communities

- Unpaved Road
- Wetland
- Successional Northern Hardwoods (SNH)
- Successional Old Field
- Successional Shrubland
- Successional Southern Hardwoods
- Rich Mesophytic Forest (RMF)
- Appalachian Oak-Hickory Forest (AOF)
- SNH / AOF
- RMF / AOF
- Marsh Headwater Stream
- Gravel Pit
- Rural Structure Exterior
- Mowed Pathway
- Mowed Roadside
- Potential Excluded Area

Hudson River PCBs SUPERFUND SITE

Figure 10-1
Site Ecological Communities
Bruno / Brickyard Associates / Alonzo

500 250 0 500 1,000 1,500 2,000 Feet

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New York State Canal Corporation/Allco/Leyerle Site
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New York State Canal Corporation/Allco/Leyerle Site

2. Phase I Environmental Site Assessment

2.1 Site Location, Description, and Environmental Setting

The New York State Canal Corporation (NYSCC)/Allco/Leyerle Final Candidate Site (FCS) is located in the Hudson-Mohawk Lowland physiographic province. The topography of this province has been produced primarily by erosion along outcrop belts of sedimentary rocks that lie between the Catskills and the metamorphosed shale hills of the Taconics. The province generally has low relief and elevation and is underlain by Ordovician shales that have been exposed by the erosion of Silurian and Devonian limestones (University of the State of New York 1966). This site comprises three parcels of different ownership. Site photos are found in Appendix A.

2.1.1 New York State Canal Corporation

The approximately 22.4-acre NYSCC parcel is located on the west side of the Hudson River (approximately at river mile 162.4) in the town of Halfmoon (see Figure 2-1). It is a mostly wooded parcel characterized by generally flat topographic conditions on its western half and a pair of berms and slopes on its eastern half, leading down to the Hudson River. Gentle topographic elevation differences characterize most of the river edge, although an abrupt topographic rise occurs 40 to 75 feet inland along most of the middle part of the parcel. There is extensive river frontage but no rail access. A dirt road traverses most of the northern and eastern sides of the property but does not extend to the southernmost quarter. Access is available by motor vehicle via a road leading to Routes 4 and 32. There is no rail access on or adjacent to the property.

The NYSCC parcel is mostly undeveloped at this time except for the southernmost tip which NYSCC leases for residential use; a house trailer and a small wooden cottage were observed in that area. A floating dock extends from the shoreline in front of these cottages. Remains of a former cabin are located in the middle area of the parcel. A concrete-block-lined well or septic block measuring approximately 4 feet by 3 feet is located southwest of this cottage.

Wetland vegetation occurs intermittently with other forest and scrub vegetation along the river edge, but other wetland areas were not prominent. An overhead electrical service line traverses the eastern side of to Routes 4 and 32, west of the property.

Several surficial dumping areas were noted along the base of a 6- to 10-foot escarpment east of the access road. Refuse consists of rusted metallic debris, remnants of automobiles, tires, concrete blocks, roofing shingles, and glass bottles. In addition, two unlabeled 55-gallon drums were observed near the northeast corner of the property, north of this escarpment. Tar was noted on top of one drum. Key features are presented on Figure 2-1.

Adjacent land use includes residential uses to the north and south and some industrial uses to the west. The Hudson River flows to the east. The land within 1 mile is mostly residential, with extensive forestland. There is also some light commercial land use

along Route 4. The eastern side of the Hudson River is predominantly open space, with some residential properties nearer the river.

2.1.2 Allco

The approximately 27.8-acre Allco property is located on the west side of the Hudson River (approximately at river mile 162.4) in the town of Halfmoon (see Figure 2-1). The property is located to the west of Route 4 and is mostly undeveloped. A small adjacent parcel is a business park consisting of an auto repair shop, a self-storage facility, a building for lease, and a steel fabricating facility. The Allco property had been previously used for minor logging activities. Topography is relatively flat; maximum elevation differences on the site are 15 to 20 feet. The eastern and northern edges of the property are wooded, and the central portion remains open. The property contains some wetland areas in the central portion and along the railroad tracks paralleling the western parcel border. A creek enters the property from the west (near the northwest corner), turns north and exits the property, then re-enters the property near the northeast corner and flows along the eastern border to a manmade pond, and then flows off site to the south. Exposed soil was noted to contain large cobbles and gravel. Although no rock outcrops were noted on site, shale reportedly occurs approximately 10 to 15 feet below ground surface. The railroad is about 6 to 10 feet above grade. Gas, electric, and water services are located near the southern boundary, and water service is also available along the eastern border.

The area to the south is light industrial, and the area to the east (on the east side of Route 4) includes undeveloped NYSCC property and residential property. Key features are presented on Figure 2-1.

2.1.3 Leyerle

The approximately 23.9-acre Leyerle property is located on the west side of the Hudson River (approximately at river mile 162.4) in the town of Halfmoon. This parcel is undeveloped. While the Leyerle parcel has extensive railroad frontage, there is no frontage on to Routes 4 and 32. Key features are presented on Figure 2-1.

2.2 Historical Use Information

The NYSCC parcel was reportedly used as a dredge spoils disposal area in the early 1900s, but it has not been used since that time for any commercial or industrial purposes. As stated above, the Allco site was historically used for logging. The history of the Leyerle site is not known.

2.3 Previous Investigations

According to representatives from NYSCC and Allco, no site investigations have been conducted on their respective properties. It is unknown whether previous investigations of the Leyerle property were conducted.

3. Phase II Investigation

3.1 Field Investigations

The initial phase of the environmental assessment consisted of collecting environmental and geotechnical samples. Results of the geotechnical sampling are provided in Section 4 of this report. Site photos are found in Appendix A. Boring logs and supplemental geotechnical information are in Appendix B. Environmental samples were collected from surface soil, surface water, sediment, subsurface soil, and groundwater. Surface and subsurface soil samples were collected in areas of surficial dumping, drum disposal areas, berms of potential dredge spoils, and areas of the site where construction operations would be expected. Surface water and sediment samples were collected along present site runoff flow pathways. Groundwater samples were collected to provide an indication of overall environmental conditions.

All environmental field investigations were performed in accordance with the August 2003 *Hudson River PCBs Superfund Site Facility Siting Work Plan* (Ecology and Environment, Inc.) and the September 2003 addenda to that plan, the *Site-Specific Field Investigations of the Final Candidate Sites* (Ecology and Environment, Inc.). Investigations at this site were performed in September and October 2003. A summary of investigation activities is provided in Table 3.1-1.

Deviations from the Work Plan

The following deviations from the work plan occurred during the field program:

- Temporary well boring NCC-GP02 was dry, so a well was not installed.

- Temporary well location NCC-GP04 could not be accessed with a drill rig. Therefore, a hand auger was used to obtain the subsurface soil sample. Because refusal occurred at 2 feet after two attempts to auger as deep as possible, a temporary well was not installed.

- Geotechnical boring NCC-GT02 was moved from the northwest corner of the Leyerle parcel to the northeast corner of the Allco parcel. This boring was combined with temporary well boring NCC-GP05. Because the borehole was dry, no temporary well was installed.

3.2 Environmental Sampling Program

3.2.1 Temporary Well Installation and Groundwater Flow

Two temporary 1-inch polyvinyl chloride (PVC) wells were installed via direct push technologies (DPT). Well construction information is provided in Table 3.2-1. Before groundwater sampling, each temporary well was purged three times the volume of water standing in the casing or to dryness (whichever occurred first). Water quality parameters measured in the field during purging are presented in Table 3.2-2. Groundwater sample results are described below.

Groundwater elevations were measured from each temporary well upon well completion and at two separate times following completion of the sampling program. In addition, a surface water elevation was obtained from the Hudson River along the eastern border of the site via a stream gauge. The top of each temporary well and a reference mark on the stream gauge were surveyed so that an accurate elevation could be obtained. Table 3.2-3 summarizes the recorded elevations. Based on the limited information available from this study (two wells spaced more than 1,000 feet apart), groundwater flow beneath the site appears to be to the east towards the Hudson River (see Figure 3-1).

3.2.2 Field Sampling and Surveying

The environmental investigations at this site included collecting eleven surface soil samples and six surface water/sediment samples; subsurface soil sampling via DPT at five locations and installation and sampling of temporary 1-inch monitoring wells at two of the five locations; three geotechnical soil borings; and installation of one stream gauge for hydrologic monitoring purposes. Table 3.2-4 summarizes the total number of field and quality assurance/quality control (QA/QC) samples collected and the parameters for which they were analyzed, and Figure 3-2 illustrates all environmental investigation locations. All sample locations and stream gauges were surveyed for both horizontal and vertical positions. Survey data is presented in Appendix C. All samples were collected in accordance with the project work plans. Field chemistry data recorded from surface water sample locations are presented in Table 3.2-2. Results from each sample medium are described below.

3.2.3 Data Usability

Soil, sediment, surface water, and groundwater samples were collected from various locations at each FCS (see Section 3.3). The samples were submitted to several environmental analytical laboratories for analytical testing as directed by EPA. Appendix D provides the complete analytical results, field quality control (QC) samples, and data qualification. The specific data usability concerns regarding each FCS are still under evaluation as part of a detailed review of the hard copy data assessment reports. The following is a summary of general information regarding data usability determined from the electronic data review.

Out of a total of 4,788 reported values, 1,028 values were qualified during the data validation process. The data points that were qualified as estimated, bias low, or non-detect are considered useable for the purposes of this project. A total of 11 values were flagged as unusable, resulting in a completeness of more than 99.9%. Further evaluation of the data will include determining potential limitations of other qualified data and the impact of rejected data. In general, potential data limitations for the site are minor, as noted below:

- Low levels of several volatiles and pesticides were flagged “U” as non-detected. The results were generally below the reporting limit and, therefore, the data qualification has no impact on the data usability.

- Data qualified as unusable are for compounds that are generally highly reactive and not typically found during site investigations.

- Field blanks, including trip blanks, rinseates, and field duplicates, were collected to be applicable to all FCSs. The results are summarized in Appendix D. The results demonstrate good overall sampling and analysis precision and no significant field contamination.

- The laboratory reported tentatively identified compounds (TICs) for volatile and semivolatile compounds on the hard copy data package. TIC values are reported as "NJ" with presumptive evidence that the compounds are present and concentrations are considered highly estimated. The TICs are being reviewed to determine any indications of significant contamination not identified by the results for the known target compounds.

3.3 Environmental Sample Results and Evaluation

State and federal standards, criteria, and guidances were used for preliminary screening purposes during review of the analytical sample results for surface soil, subsurface soil, surface water, sediment, and groundwater. Exceedances of the criteria (with the exception of metals) are noted in Tables 3.3-1 through 3.3-5 by shading the values that exceeded the criteria.

Metals cannot be directly compared to the criteria without additional evaluation (including evaluation of background levels) because metals occur naturally in the environment. Additionally, turbidity in surface water and groundwater samples can cause interference with metals analysis. These factors were considered in the evaluation of the significance of detected compounds.

The criteria were selected based on a review of available EPA and New York State Department of Environmental Conservation (NYSDEC) standards, criteria, and guidances for the various media sampled. The applicability of these preliminary screening criteria to the FCSs will be determined as part of further evaluation by EPA in consultation with NYSDEC and the New York State Department of Health (NYSDOH).

The following discussion identifies the samples, by medium, with compounds exceeding the screening criteria. Those compounds without appropriate screening criteria also are identified. Where available, pertinent information for comparison purposes is provided.

Soil (Surface and Subsurface)

NYSDEC, *Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels* (1994) and subsequent amendments (December 20, 2000) (TAGM 4046). The recommended soil cleanup objectives and typical eastern USA background concentrations for metals contained in TAGM 4046 were used as preliminary screening guidance for soil. Where specific guidance values were available for surface and subsurface soils (such as for polychlorinated biphenyls

[PCBs]) they were applied based on the depth of the samples collected. TAGM 4046 assumes a total organic carbon (TOC) of 1%.

Surface Water
NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998). These standards and guidance provide values for various water classes. Since the majority of the surface water samples were collected from unnamed ditches and ponded water areas at the site, the surface water samples collected are assumed to be Class D waters. Class D waters are best used for fishing. However, due to natural conditions such as intermittent flow, water conditions may not be conducive to fish propagation. Class C waters are considered conducive to fish propagation. Surface water standards and guidance values are calculated for some inorganics based on water hardness.

Sediment
NYSDEC, *Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments* (1999). This guidance requires organic contaminants in sediments to be calculated based on sample TOC. TOC data were collected and used to calculate these screening values. Various criteria for bioaccumulation and acute and chronic toxicity are presented in this document for protection of human health, benthic aquatic life, and wildlife. The benthic aquatic life chronic toxicity protection level for sediment was selected as the preliminary screening value for all collected sediment samples.

Groundwater
NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998) provides Class GA standards and guidance values. The *National Primary and Secondary Drinking Water Regulations, Current Drinking Water Standards* (2002) maximum contaminant levels (MCLs) were used for preliminary screening for groundwater samples collected from temporary wells.

3.3.1 Surface Soil

Volatile Organic Compounds (VOCs)
No VOCs were detected in the surface soil samples.

Semivolatile Organic Compounds (SVOCs)
Benzo(a)anthracene (1,300 µg/kg [J]), benzo(a)pyrene (1,200 µg/kg [J]), benzo(k)fluoranthene (1,300 µg/kg [J]) , chrysene (1,400 µg/kg [J]), and dibenzo(a,h)anthracene (220 µg/kg [J]) were found above their screening value in NCC-SS06 (see Table 3.3-1). There is no standard for one compound detected, carbazole, which was found at 230 µg/kg (J) at NCC-SS06 (a low area in the northeast portion of the NYSCC parcel).

Pesticides
No pesticides above screening criteria were detected (see Table 3.3-1). One pesticide, endrin aldehyde, which does not have a standard, was found at 8.4 µg/kg in NCC-SS01, which is located in the southern portion of the site (see Table 3.3-1).

Herbicides
No herbicides were detected in the surface soil samples.

PCBs
No PCBs that exceeded screening criteria were detected in the surface soil samples (see Table 3.3-1).

Hexane Extractable Materials (Total Petroleum Hydrocarbons [TPHs])
TPHs were not detected in the surface soil samples.

Inorganics
Arsenic, beryllium, cadmium, calcium, chromium, copper, iron, magnesium, mercury, nickel, and zinc were found above the NYSDEC screening values (see Table 3.3-1). Metals are naturally occurring constituents of soil that often exceed criteria. The levels of most of these metals are within or very close to the eastern USA background range. Only zinc in NCC-SS06 and NCC-SS07 was detected at concentrations greater than three times the highest level of the common range.

Low levels of cyanide were detected at four surface soil samples (NCC-SS01, NCC-SS04, NCC-SS10, and NCC-SS11) at concentrations ranging from 0.21 mg/kg to 0.49 mg/kg. There is no screening value available for this compound.

3.3.2 Subsurface Soil

VOCs
No VOCs exceeding criteria were detected in the subsurface soil (see Table 3.3-2). 2-butanone (11 µg/kg), which does not have a screening value, was found in sample NCC-GP03, a downgradient sample in the northeastern portion of the NYSCC parcel (see Table 3.3-2).

SVOCs
No SVOCs that exceeded screening criteria were detected in the subsurface soil samples (see Table 3.3-2).

Pesticides
No pesticides that exceeded screening criteria were detected in the subsurface soil samples (see Table 3.3-2).

PCBs
No PCBs were detected in the subsurface soil samples.

Inorganics
Arsenic, beryllium, chromium, copper, iron, magnesium, nickel, and zinc were found above their NYSDEC screening values (see Table 3.3-2). Metals are naturally occurring constituents of soil that often exceed criteria. The levels of most of these metals were within the eastern USA background range or less than two times the highest level of the eastern USA background range.

3.3.3 Surface Water

VOCs
No VOCs were detected in the surface water.

SVOCs
No SVOCs were detected in the surface water.

Pesticides
No pesticides were detected in the surface water.

PCBs
No PCBs were detected in the surface water.

Anions
The compounds without screening criteria that were detected were chloride, nitrate-N, and sulfate (see Table 3.3-3). Nitrate-N concentrations were relatively uniform across the site. Chloride and sulfate concentrations vary, with the highest concentrations of chloride found at NCC-SW06 (at the mouth of the site drainage way) and the highest concentrations of sulfate at NCC-SW02 (a low area in the central portion of the site).

Inorganics
Iron was detected above its standard (see Table 3.3-3). Iron is a naturally occurring constituent of surface waters that often exceeds criteria. Therefore, the presence of iron is not of concern.

Hardness
Hardness concentrations were relatively uniform across the site, ranging from 235 mg/L to 360 mg/L.

3.3.4 Sediment

VOCs
No VOCs with screening criteria were detected (see Table 3.3-4). Very low levels of two VOCs, which do not have available screening values, were detected in the sediment samples: chloromethane (0.7 μg/kg [J]) in NCC-SE05 (Allco pond); and trichlorofluoromethane (0.4 μg/kg [J]) in NCC-SE06 (drainage way outfall) (see Table 3.3-4).

SVOCs
No SVOCs above screening criteria were detected (see Table 3.3-4). Di-n-octylphthalate, a compound with no screening value, was detected at 860 µg/kg (J) at NCC-SE01 (low area in the central portion of the site).

Pesticides
No pesticides above screening criteria were detected (see Table 3.3-4). Two pesticides without available screening criteria (4,4' DDE and endrin aldehyde) were found in the sediment samples (see Table 3.3-4). 4,4' DDE was found at 15 µg/kg (J) and 3.6 µg/kg (J) in NCC-SE01 (low area in the central portion of the site) and NCC-SE03 (drainage way on the west side of Allco), respectively. Endrin aldehyde was detected at 35 µg/kg (J) at NCC-SE02 (a low area in the central portion of the site.

PCBs
No PCBs were detected in the sediment samples.

Inorganics
Arsenic, copper, iron, lead, manganese, and nickel were detected above their NYSDEC screening values (see Table 3.3-4). Metals are naturally occurring constituents that often exceed criteria. The levels of most of these metals are within the eastern USA range or less than three times the highest level of the range.

Cyanide was detected at 0.43 and 0.79 mg/kg at NCC-SE03 and NCC-SE04, respectively. There is no standard available for this compound.

Total Organic Carbon (TOC)
Total organic carbon concentrations varied greatly across the site, ranging from 8,100 mg/kg to 250,000 mg/kg.

3.3.5 Groundwater

VOCs
No VOCs were detected in the groundwater samples.

SVOCs
No SVOCs were detected in the groundwater samples.

Pesticides
No pesticides were detected in the groundwater samples.

PCBs
No PCBs were detected in the groundwater samples.

Inorganics
Antimony, magnesium, manganese, and sodium were each detected above screening values in at least one well (see Table 3.3-5). These metals are naturally occurring

constituents of groundwater that often exceed criteria. Therefore, the presence of these metals is not of concern.

4. Geotechnical Assessment

A subsurface field investigation was conducted at the NYSCC/Allco/Leyerle site to obtain geotechnical information. The primary purpose of collecting this data was to determine if there are geotechnical limitations associated with use of the site for a sediment processing/transfer facility. Data collection included:

- Review of available subsurface information from previous studies;
- Soil borings installation (which included logging the subsurface geology and obtaining standard penetration test [SPT] data); and
- Submitting soil samples for geotechnical testing.

Presented below is a summary of the site geologic and geotechnical data collected.

Subsurface soil investigation locations were selected to provide general coverage of the site. Additionally, locations were selected based on the possible presence of fill in areas that may be used to construct the sediment processing/transfer facility. Figure 3-1 shows the locations of three geotechnical boreholes, NCC-GT01 through NCC-GT03, installed during this study. At each geotechnical boring location, a continuous vertical soil profile was developed from the ground surface to a depth of approximately 26 feet below ground surface (bgs) in 2-foot increments. A 2-inch outer diameter (OD) by 24-inch long split spoon sampler was advanced through 4.25-inch inner diameter (ID) hollow stem augers to collect the samples. Standard penetration tests using a split spoon sampler were conducted per ASTM Method D1586-99. Blow count data were recorded on boring logs and are presented in Appendix B. Granular soil density and cohesive soil consistency were classified using SPT n-values, which are the sums of the blows recorded over the second and third 6-inch penetration intervals of the tests.

One soil sample from each geotechnical boring was collected and submitted for Atterberg limits, particle size, and moisture content analysis. The overall goal of sample collection from geotechnical borings was to collect at least one soil sample from each soil horizon encountered within the top 25 feet of overburden. At two boreholes, one soil sample from each depth interval also was collected and submitted for moisture content testing, creating a continuous moisture profile from the ground surface to the bottom of the borehole. Particle size gradation curves and their respective analytical summary sheets, which also list Atterberg limit data and moisture content data are presented in Appendix B.

In addition to the geotechnical borings, subsurface geology was investigated at two other locations (NCC-GP01 and NCC-GP02) during environmental sampling. These soil investigation activities were conducted using direct-push technology (DPT); a 4-foot soil

collection interval was used to collect a continuous soil profile from the ground surface to approximately 25 feet bgs. DPT soil boring logs are also presented in Appendix B. Note that subsurface geology at another location, NCC-GP02, was completed for collection of environmental samples using a drill rig instead of DPT due to the rocky nature of the surface soil. Similarly, geotechnical borehole location NCC-GT02 also served as environmental sample location NCC-GP05 because the rocky soil prevented the use of DPT in this area.

The site subsurface geotechnical data indicated extensive variation in site soils between the NYSCC parcel and the Allco parcel. The NYSCC parcel contains a 10- to 16-foot thick layer of dredge spoils consisting of weathered shale fragments, silt, and sand. Density of these granular soils is loose, based on SPT n-values ranging from 7 to 10. A cobble at the 14- to 16-foot depth interval resulted in an isolated SPT n-value of 64, which is not representative of the general soil conditions. These dredge spoils are underlain by a gravel/clay/silt layer that grades to clay silt with increasing depth. A thin (<0.5 foot) layer of peat overlies a gravel/silt/sand layer at the northern end and silty sand with gravel at the southern end. Density of the silty sand is moderately dense to dense, based on SPT n-values. Weathered shale was collected in the DPT sampler from a depth of 23 feet bgs at the northern end of the parcel.

Underlying a thin (<0.5 foot thick) topsoil layer, a gravelly silty sand comprises the Allco parcel's overburden soils to a depth of approximately 2 feet bgs. A 0- to 3-foot thick clay/gravel/silt bed overlies weathered shale. Split spoon samples indicate weathered shale varies in thickness from approximately 0.5 feet to 5.5 feet thick. Auger refusal and/or split spoon refusal was encountered between approximately 6 and 11 feet bgs. Based on SPT n-values, the density of granular overburden soils other than the weathered shale is loose nearest the surface and increases with depth.

5. Utility Assessment

5.1 Preliminary Assessment

A preliminary utility assessment was completed as part of the site-specific field investigation of the Final Candidate Sites. Major site utilities identified on-site are shown on Figure 2-1. The assessment included the following steps:

1) Observations of site surface utilities such as overhead power or telephone lines, electrical transformers, manholes, sewer outfalls, and water hydrants were made.

2) Dig Safely New York (Dig Safe) was contacted as part of the utility clearance process before subsurface/intrusive work activities, including direct communication with various utility operators, as needed. Operators of on-site utilities provided information.

3) Available site maps were reviewed. Maps were obtained from various sources, including property owners.

It is anticipated that further utility assessments will be completed at the Recommended Sites. Further assessment may include contacting local municipal offices for information, opening manholes to determine flow paths, and dye testing. Further assessment may be conducted as part of the design evaluation process or during other additional investigation of Recommended Sites.

5.2 Findings and Observations

Utilities identified at the NYSCC/Allco/Leyerle site include the following:

- Overhead residential electric service is located near the southern end of the NYSCC parcel. This service enters the parcel along the driveway leading from Route 4 to the two residential dwellings located at the southeastern corner of the parcel.

- Subsurface residential natural gas service is located near the southern end of the NYSCC parcel. This service enters the parcel along the driveway leading from Route 4 to the two residential dwellings located at the parcel's southeastern corner.

- Overhead electrical lines are also located along the eastern side of Route 4 adjacent to the site.

- Electrical service was noted at the Allco property buildings.

6. Survey of Terrestrial, Archaeological, and Architectural Resources (STAAR)

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effect that facility siting may have on cultural resources that are listed or are eligible for listing on the National Register of Historic Places (NRHP). Phase IB field investigations continued the cultural resources studies and are specifically designed to determine the presence and extent of cultural resources within the NYSCC/Allco/Leyerle site (see *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plan: Site-Specific Field Investigations of the Final Candidate Sites*). The field activities involved archaeological, geomorphological, and architectural investigations.

6.1 Archaeological Investigation

Initial site reconnaissance was conducted in July 2003 and field investigations were conducted November 6, 7, and 10-13, 2003. More than 250 shovel test pits were excavated. The archaeological survey of the NYSCC property is complete; no cultural resources were found. Approximately half of the fieldwork for the Allco and Leyerle properties also is complete. Pending complete analysis, no further investigations are recommended for any of the surveyed areas.

6.2 Geomorphological Investigation

Fieldwork was conducted October 23 and 24, 2003. Four backhoe trenches were excavated and totaled 40 meters in length; each was approximately 1.3 meters in depth

and 10 meters in length (Figure 6-1). Trench 1 contained an old pipe, just below the topsoil, and a humic layer. Trench 2 contained a buried A horizon (paleosol) with a possible old stream channel. Trench 3 uncovered large quantities of slag material with the same features as Trench 2. Trench 4 was then placed perpendicularly between Trenches 2 and 3. Trench 4 did not uncover any features.

The analysis of the results of prehistoric site sensitivity is in progress.

6.3 Architectural Assessment

Fieldwork was conducted during July 2003. The southern end of this site contains one residence that is more than 50 years old. It appears to have undergone significant modification since its initial construction but will require further evaluation for NRHP-eligibility. A modern trailer is located to the north of the dwelling. A small dock is located to the east on the riverbank. Three structures (two metal and one wood), all of which are in a ruinous condition and have no integrity, also are located within the northern portion of the site.

7. Wetland Assessment

7.1 Determination and Delineation Methods

Wetland determinations and delineations of the NYSCC/Allco/Leyerle site on October 7-10, 2003, followed the routine approach noted in the U.S. Army Corps of Engineers (USACE) 1987 *Wetland Delineation Manual*, as outlined in Section 3.6.2.2 of the *Hudson River PCBs Superfund Site Facility Siting Work Plans* (Master Work Plans) (Ecology and Environment, Inc. 2003). Applicable data (e.g., soil surveys, National Wetland Inventory [NWI] mapping, etc.) were reviewed beforehand to provide background information (see Master Work Plans, Section 3.6.2.1). Determination and delineation activities were limited to those areas previously identified as potential wetlands through data review (i.e., NWI and NYSDEC mapping) and previous site reconnaissance efforts.

The NYSCC parcel is predominantly wooded and is characterized by generally level topographic conditions on its western half and a pair of berms and slopes on its eastern half, leading down to the Hudson River. Gentle topographic elevation differences characterize most of the river edge, although an abrupt topographic rise occurs 40 to 75 feet inland along most of the middle part of the parcel.

The Allco property is currently vacant land. A large percentage of the parcel (approximately 40%) has been cleared by logging activities in the past two or three years. Site topography is relatively flat; maximum elevation differences across the site are 15 to 20 feet. The eastern and northern edges of the property are wooded, and the central portion remains open. A creek enters the property from the west (near the northwest corner), turns north and exits the property, then re-enters the property near the northeast corner and flows along the eastern border to a manmade pond, and then flows off-site to the south. The pond dam has not been regularly maintained, which has resulted in shallow water levels and emergent plant growth.

The Leyerle parcel is undeveloped and entirely forested.

7.2 Review of Existing Information

NYSDEC wetland mapping did not indicate the presence of state-delineated wetlands on this site. Review of NWI wetland mapping indicated the site contained approximately 26.95 acres of wetland. The wetland classifications within the NYSCC property include a small portion of a PFO1C wetland (palustrine, forested, broadleaved deciduous, seasonally flooded) near the northern property boundary and a small ponded area (PUBF [palustrine, unconsolidated bottom, semi-permanently flooded [see Figure 7-1]). A large 16.88-acre PFO1E wetland (palustrine, forested, broadleaved deciduous, seasonally flooded/saturated) is mapped as occurring across much of the Allco property as well as a small PEM1F wetland (palustrine, emergent, persistent, semi-permanently flooded) located near the northern property boundary, and a 1-acre PUBHx (palustrine, unconsolidated bottom, permanently flooded, excavated) manmade pond in the southeastern corner. Wetlands on the Leyerle property are mapped as PFO1E, PFO5F (palustrine, forested, dead, semi-permanently flooded) and PEM/SS1Ch (palustrine, emergent, scrub-shrub, broadleaved, seasonally flooded, diked/impounded).

Although NWI wetland maps identify the shoreline along the river as a lacustrine wetland (L1UBHh along the frontage of the NYCC property), sample plots and determinations along the shoreline were limited to areas that exhibited wetland characteristics and occurred above the ordinary high water mark. Determination and delineation efforts did not extend into the river.

The mapped soil types within the site boundaries are Madalin mucky silty clay loam, Bernardston-Manlius-Nassau complex rolling/undulating, and Manlius-Nassau complex undulating/ rocky (U.S. Department of Agriculture 2003). The Madalin soil is poorly drained and appears on the Saratoga County hydric soils list. The Bernardston-Manlius-Nassau complex is composed of soils that are well- to excessively well-drained. The Bernardston-Nassau complex is well- to somewhat excessively well-drained (U.S. Department of Agriculture 2003).

7.3 Results of the Wetland Assessment

Field investigations resulted in the determination of 8.61 acres of wetland occurring across this site (see Table 7-1). A number of observation plots were completed, which led to the determination and delineation of 14 wetland areas representing four wetland community types (see Figure 7-1). Wetland identification labels correspond to observation plots. The delineated wetland acreage represents a reduction in the 26.9 acres indicated on the NWI mapping. A large portion of this discrepancy may be attributed to the alterations to the Allco site as a result of recent logging. Much of this site was identified on the NWI maps as a PFO1E wetland. Field-delineated wetland CC/AL/L-4 appears to have been impacted by these logging and earth moving activities. Similarly, there appears to have been some alteration to the landscape in the vicinity of the mapped PFO1C wetland along the northern boundary of the NYSCC site. Wetland CC/AL/L-1 may be a remnant of the larger area.

Table 7-1 Wetland Delineation Summary

Wetland ID	Community Type	Acreage
CC/AL/L-1	PFO/PUB	0.03
CC/AL/L-3	PFO	0.13
CC/AL/L-4	PEM	1.44
CC/AL/L-6	PEM/PUB	0.62
CC/AL/L-7	PFO/PEM	0.63
CC/AL/L-9	PFO/PSS	1.81
CC/AL/L-10	PFO	0.31
CC/AL/L-11	PFO	0.11
CC/AL/L-12	PFO/PSS	1.04
CC/AL/L-13	PFO	0.70
CC/AL/L-14	PEM/PUB	0.04
CC/AL/L-15	PEM	0.10
CC/AL/L-16	PFO/PSS	1.33
CC/AL/L-18	PFO/PSS	0.33
Total Acreage		8.61

Key

PEM = Palustrine, emergent.
PFO = Palustrine, forested.
PUB = Palustrine, unconsolidated bottom.
PSS = Palustrine, scrub-shrub.

Wetlands CC/AL/L-9, 10, 11, 13, and 16 on the Leyerle parcel appear to be part of a larger complex that continues to the north and northeast of the property (see Figure 7-1). In the northern portion of the Leyerle property there are several small isolated pocket depressions, which may have been created by historic mining and excavation activities.

Generally, the species composition within wetland areas on these three parcels was similar. Typical tree species within forested components of the wetlands included green ash (*Fraxinus pennsylvanica*), swamp white oak (*Quercus bicolor*), red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), black willow (*Salix nigra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), and northern cottonwood (*Populus deltoides*). Common species in scrub-shrub components included stiff dogwood (*Cornus foemina*), red-osier dogwood (*Cornus stolinifera*), silky dogwood (*Cornus amomum*), buttonbush (*Cephalanthus occidentalis*), spicebush (*Lindera benzoin*), and winterberry (*Ilex verticillata*). Vegetation occurring in emergent components included sensitive fern (*Onoclea sensibilis*), spotted jewelweed (*Impatiens capensis*), false nettle (*Boehmeria cylindrica*), arrow-leaf tearthumb (*Polygonum sagittatum*), broadleaf cattail (*Typha latifolia*), reed canary grass (*Phalaris arundinacea*), woolgrass (*Scirpus cyperinus*), hop sedge (*Carex lupilina*), Devil's beggar-ticks (*Bidens frondosa*), rice cutgrass (*Leersia oryzoides*), swamp jack-in-the-pulpit (*Arisaema triphyllum*), New England aster (*Aster novae-angliae*), rough-leaf goldenrod (*Solidago patula*), giant goldenrod (*Solidago*

gigantea), false nettle (*Boehmeria cylindrica*), joe-pye weed (*Eupatorium maculatum*), soft rush (*Juncus effusus*), and shallow sedge (*Carex lurida*).

The 8.6 acres of wetlands delineated on the site represent a decrease of approximately 18 acres from the NWI-estimated wetland acreage. The majority of this discrepancy occurs in areas that have been significantly modified in recent years. These modifications may be a result of both logging and some filling/dumping. As NWI primarily identifies wetlands using remote sensing techniques (i.e., photo interpretation) and the mapping does not necessarily represent an accurate depiction of wetlands on a site, NWI mapping is to be used as a basis for further investigation.

8. Floodplain Assessment

An initial floodplain assessment was conducted on the NYSCC/Allco/Leyerle site in order to determine the presence, extent, and orientation of Federal Emergency Management Agency (FEMA)-mapped floodplains within site boundaries. Flood magnitudes and historic river stages from gauging stations as close as available to the site were examined to obtain an initial sense of the characteristics of on-site flooding. Appendix E provides the methodology and assumptions involved in this assessment.

8.1 Location and Orientation of the Floodplain

Figure 8-1 shows that portions of the site are located within the 100-year and 500-year floodplains. The floodplain areas were obtained from Flood Hazard Boundary Maps and the Town of Halfmoon (Saratoga County) Flood Insurance Study (November 1995) from FEMA's Federal Insurance Administration.

The site is located on the west side of the Hudson River in the Town of Halfmoon. The total area of the site is approximately 74.1 acres (see Table 8-1). Approximately 16.2% (12.0 acres) is mapped as occurring within the base (100-year) floodplain. The areas included within the 100-year floodplain are adjacent to the Hudson River within the NYSCC parcel and to the west of Route 4 within the Allco parcel. River frontage is approximately 2,150 feet. The greatest width of the 100-year floodplain within the site is 810 feet.

Table 8-1 Summary of New York State Canal Corporation/Allco/Leyerle Site and Floodplain Characteristics

Is a portion of the site in the base (100-year) floodplain?	Yes
Total area of the site	74.1 acres (3,228,751 ft^2)
Area of the site within the base (100-year) floodplain	12.0 acres (521,993 ft^2)
Percentage of the site within the base (100-year) floodplain	16.2%
Perimeter of the site (total length)	13,620 ft
Perimeter of the site bordering the Hudson River (river frontage)	~2,150 ft
Greatest width between the outer boundary of the base floodplain and the Hudson River boundary	~810 ft

8.2 100-year Flood

The FEMA maps show the 100-year flood elevation at the site to be between 42 feet and 44 feet National Geodetic Vertical Datum (NGVD). A brief examination of site topography and the FEMA mapping suggests that site elevation characteristics have not changed significantly since the FEMA floodplain modeling and mapping occurred.

The closest gauge station with historic flow data is in Waterford, approximately 2 miles downstream of the site. The Stillwater gauge station is approximately 5 miles upstream. The National Weather Service does not track either of these gauge stations for flood stage.

Flood magnitudes were calculated from twenty-six years of flow data at the Stillwater gage station. Based on this data, the 100-year flood stream flow for this station is 60,258 cubic feet per second (cfs). A flood of this magnitude has not occurred in the twenty-six years of modern data. In that time, there have been two flow events greater than 10-year floods (March 15,1977 and May 4, 1983).

Flood magnitudes were calculated from twenty-one years of flow data at the Waterford gauge station. Based on this data, the 100-year flood stream flow for this station is 80,950 cfs. A flood of this magnitude has not occurred in the twenty-one years of modern data. In that time, there has been one flow event greater than a 10-year flood (May 30,1984).

8.3 Site Flooding

Historic water level data (1916 to 2000) are available from NYSCC Lock 2. Lock 2 is located approximately 1.5 miles upstream of the site. The highest water level at the downstream side of Lock 2 was 46.47 feet NGVD (January 2, 1949). Therefore, based on NYSCC data, the 100-year flood elevation for this site was reached twice (42 to 44 ft NGVD) between 1916 and 2000.

Spot elevations surveyed along the river-land edge of the FCS boundary range from 31.1 feet to 32.0 feet NGVD. The contour information (5-foot intervals) provided with 2002 aerial photography of the site show a 30-foot contour line along the land-river edge. Therefore, the 100-year flood would put the river frontage of the site under approximately 12 feet of water.

While the probability of a 12-foot inundation event (100-year flood) is remote, the NYSCC water level data on the downstream side of Lock 2 provide evidence that flooding on a smaller scale likely occurs almost annually at this site. Portions of the shoreline boundary would have been under approximately 16 feet of water during the maximum high water level on January 2, 1949 and under an average of 3.7 feet of water during each year's maximum flow.

The 10-year flood stage for the site is between 37 feet to 39 feet NGVD. The Flood Insurance Study notes that "heavy rainfall in the spring, combined with snowmelt causes high water and local flooding throughout Saratoga County."

9. Coastal Management Area Assessment

The NYSCC/Allco/Leyerle site is not located in the state-designated coastal zone. Therefore, no direct impacts are expected as a result of the potential use of this site. EPA will prepare an additional phase of its coastal zone consistency assessment and subsequent coastal zone consistency determination, covering potential indirect and cumulative impacts from the operation of sediment processing/transfer facilities, once the Phase 1 and Phase 2 dredging facility locations are selected.

10. Baseline Habitat and Threatened and Endangered Species Assessment

10.1 Site Habitat Description

The NYSCC/Allco/Leyerle site description information is presented in the *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plans: Site-Specific Field Investigations of the Final Candidate Sites* (Ecology and Environment September 2003). In brief, the disturbance from historic and current land uses has influenced the availability, extent, and diversity of on-site habitats. The site is situated on the west side of the river and Routes 4 and 32 bisects a portion of the site, delineating the boundary between the NYSCC and Allco parcels. The NYSCC (waterfront) parcel is primarily undeveloped, with both forested and open field areas. The waterfront was used as a dredge spoils disposal area in the early 1900s. Currently two residential dwellings are near the southern end of the parcel.

The inland parcels (west of Routes 4 and 32) contain forested and recently clear-cut areas, and an area near the southern end of the Allco parcel is being developed for commercial purposes. Given the historic and current uses of the site, a large portion of the site (42%) is disturbed or developed. Despite this condition, the Allco and Leyerle (inland) parcels contain relatively large areas of contiguous forest. The majority of habitats on site are composed of mid- (20 to 60 years) to late successional (> 60 years) vegetation communities. Early successional (< 20 years) species dominate the disturbed areas.

Figure 10-1 shows the habitat community types, as defined by Edinger et al. (2002) that are present on the site. Field investigations were conducted between October 7 and 10, 2003 to determine habitat availability within the NYSCC/Allco/Leyerle site and to provide descriptions of existing habitat structure, diversity, and condition. Eleven community types have been mapped as occurring on the 74-acre site; no significant or unique habitats were among them. The predominant communities (relative to total cover across the site) are briefly described below. A description of the different community types from Edinger et al. (2002) is presented in Appendix F.

Appalachian Oak Hickory
The dominant community is the Appalachian oak hickory forest (AOF) community, which comprises approximately 35% of the site. The species composition of the AOF community type is slightly different between the riverfront and the inland portions. The predominant species within the AOF community near the river include red oak, bitternut hickory, black willow, black cherry, and cottonwood. Additional tree species include burr oak, pignut hickory, silver maple, sugar maple, white ash, mulberry, sycamore, slippery elm, and black locust. Predominant shrubs, herbs, and vines include elderberry, gray dogwood, wild grape, wood fern, and ostrich fern. The inland AOF community includes red oak, white oak, shagbark hickory, pignut hickory, and sugar maple. Additional tree species include burr oak, Eastern hop hornbeam, American hornbeam, Eastern white pine, black cherry, white ash, red maple, paper birch, mulberry, and quaking aspen. The inland AOF has a predominantly open understory, characterized by occasional areas containing shrubs and saplings of a similar composition as the overstory community.

Successional Northern Hardwood
The second most prevalent community is the successional northern hardwood (SNH) community. Predominant trees in the SNH are cottonwood, black locust, sugar maple, and black willow. Additional trees include slippery elm, American elm, box elder, silver maple, white ash, American basswood, butternut, black cherry, red oak, and black walnut. The predominant shrubs are honeysuckle and dogwoods (gray and silky). Additional shrub species include green ash, red osier dogwood, elderberry, sumac, and silky dogwood. Common herb species are ostrich fern, wood fern, Virginia creeper, goldenrods, sedges, and jewelweed. The northwestern corner of the inland parcels contained a number of swamp white oak trees. Several areas along the shoreline that had not been disturbed as recently as surrounding areas contained large (> 40 inches diameter at breast height [dbh]) cottonwoods.

Brushy Cleared Land
The brushy cleared land (BCL) community type accounts for approximately 14% of the site (Figure 10-1). This appears to be a result of a recent clear-cutting of this portion of the site. Common herbaceous species in this area are fleabane, witchgrass, Canadian thistle, and common mullein. Shrubs include sumac and honeysuckle. A few red oak trees were left within the clear-cut area.

Other Communities
The SNH/AOF community includes a mix of trees from both the SNH and AOF communities, indicating the probable disturbance of the AOF community at one time. Common species observed in the successional old field community type included broom sedge, goldenrods, sedges, and blackberries. Scattered shrub growth included sumac and dogwoods. The successional shrubland community type was characterized by silky dogwood, honeysuckle, and sumac. Additional shrub species included gray dogwood, white ash, and green ash. The beech maple community includes beech, red maple, sugar maple, Eastern hop hornbeam, black cherry, white oak, pignut hickory, and shagbark

hickory. Understory vegetation was limited to the regeneration of the canopy tree species.

Aquatic communities on the site include the marsh headwater stream community type. The stream is connected to several of the wetland communities found on the site. (Wetland community types on this site are discussed in more detail in Section 7 of this report.) The stream is low gradient and the substrate is dominated by sand and silt. The northern portion of the Hudson River shoreline is shallow (1 to 1.5 feet extending 30 feet from shoreline), with the substrate dominated by gravel and cobbles, with sand more abundant on the southern end. The majority of the northern riparian area contains mature trees extending to the shoreline, with several small pockets of shale beaches. Large woody debris (i.e., fallen, rooted trees) is abundant along the northern portion of the shoreline and absent from the southern end.

Common vegetation species and the community structure of the site have an influence on wildlife occurrences. The availability of forested, shrubland, and old field communities provides a diverse habitat for wildlife species. Incidental wildlife observations included whitetail deer tracks, raccoon tracks, turkey vulture, and a variety of common songbirds.

10.2 Endangered Species Act Issues

Bald eagles were identified as a potential federally and state-listed species that could occur on the site. However, there is no known nesting activity in this area of the river. Coordination and consultation with NYSDEC and the U.S. Fish and Wildlife Service have occurred as part of the facility siting process and for determining the details of a biological assessment for the Hudson River PCBs Superfund Site project. This consultation revealed that the portion of the river in the vicinity of the site is a wintering area for the bald eagle. The biological assessment will address any potential impacts to the bald eagle as a result of the construction and operation of a sediment processing/transfer facility at this site. The biological assessment will include a literature review and any pertinent studies that are related to the habitat near this site as well as life history information on the bald eagle.

Table 3.1-1 Summary of Activities, Hudson River PCBs Superfund Site

	Energy Park/Longe/ NYS Canal Corporation Site	Old Moreau Dredge Spoils Area/NYS Canal Corporation Site	Georgia Pacific/ NYS Canal Corporation Site	NYS Canal Corporation/ Allco/Leyerle Site	Bruno/Brickyard Associates/ Alonzo Site	State of New York/First Rensselaer/ Marine Management Site	OG Real Estate Site
Environmental Investigation – Environmental Sampling	09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
Environmental Investigation – Temporary Well Installation	09/29/03 - 10/01/03	10/02/03	10/08/03	10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	10/07/03
Environmental Investigation – Temporary Well Sampling	10/16/03	10/14/03 - 10/16/03	10/13/03 - 10/14/03	10/15/03	10/15/03 - 10/16/03	10/10/03 - 10/15/03	10/15/03
Surveying	10/01/03 - 11/11/03	10/08/03 - 11/11/03	10/09/03 - 10/29/03	10/21/03 - 10/31/03	10/15/03 - 10/29/03	10/21/03 - 11/10/03	11/11/03 - 11/13/03
Geotechnical Investigation	09/29/03 - 10/01/03	NA	10/08/03	10/07/03 - 10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	NA
Utilities Assessment	09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
STAAR	10/06/03 - 10/16/03	10/13/03 - 10/30/03	10/11/03 - 10/28/03	10/23/03 - 11/13/03	10/17/03 - 11/05/03	10/25/03 - 11/14/03	11/15/03
Wetland Assessment	09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Floodplain Assessment	09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Coastal Management Areas	09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Baseline Habitat Assessment	09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Threatened and Endangered Species Assessment	09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
IDW Disposal	TBD	TBD	TBD	TBD	TBD	TBD	TBD

Key:

IDW = Investigation-derived waste.
NYS = New York State.
PCBs = Polychlorinated biphenyls.
STAAR = Survey of Terrestrial Archaeological and Architectural Resources
TBD = To be determined.

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/ Screen I.D. (inches)	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
EPL	EPL-GP01	9/29/03	9/29/03	N	10/16/03	25.4	135.11	1	27.4	137.2	15.4-25.4	5-25.4	2-5	2.0
	EPL-GP02	9/29/03	9/29/03	N	10/16/03	25	137.91	1	27.4	140.42	15-25	4-25	2-4	2.4
	EPL-GP03	9/29/03	9/29/03	N	10/16/03	25.1	135.52	1	27.51	137.99	15.1-25.1	4-25.1	0.6-4	2.41
	EPL-GP04	10/1/03	10/1/03	N	10/16/03	25	129.47	1	27.3	131.79	15-25	4-25	2-4	2.3
	EPL-GP05	10/1/03	10/1/03	N	10/16/03	25	132	1	27.5	134.53	15-25	4-25	2-4	2.5
OM	OM-GP01	10/2/03	10/2/03	N	10/16/03	25	157.67	1	27.4	160.19	15-25	4-25	2-4	2.4
	OM-GP02	10/2/03	10/2/03	N	10/16/03	25.4	141.79	1	27.62	144.2	15.3-25.3	4-25.3	2-4	2.32
	OM-GP03	10/2/03	10/2/03	N	10/15/03	25	155.84	1	27.3	158.37	10-25	4-25	2-4	2.3
	OM-GP04	10/2/03	10/2/03	N	10/15/03	25	143.5	1	22.5	146	10-20	4-25	0-4	2.5
	OM-GP05	10/2/03	10/2/03	N	10/14/03	25	133.43	1	27.5	135.93	15-25	4-25	0-4	2.5
GPS	GPS-GP01	10/9/03	10/9/03	N	10/13/03	25	108.4	1	28.15	111.60	15-25	4-25	2-4	3.15
	GPS-GP02	10/8/03	10/8/03	N	10/14/03	9.3	108.68	1	11.8	111.19	4.3-9.3	3-9.3	0.5-3	2.5
	GPS-GP03	10/8/03	10/8/03	N	10/14/03	25.5	102.76	1	27.55	104.76	15.5-25.5	4-25.5	2-4	2.05
	GPS-GP04	10/8/03	10/8/03	N	10/14/03	25.7	112.02	1	28.2	114.48	15.7-257	4-25.7	2-4	2.5
	GPS-GP05	10/8/03	10/8/03	N	10/13/03	25	100.71	1	27.45	103.31	14.85-24.85	4-25	2-4	2.6
	GPS-GP06	10/9/03	10/9/03	N	10/14/03	25	110.76	1	17.5	113.24	5-15	3-15 [A]	1-3	2.5
	GPS-GP07	10/9/03	10/9/03	N	10/14/03	25	112.98	1	22.4	115.38	10-20	3-20[B]	0.5-3	2.4
	GPS-GP08	10/8/03	10/8/03	N	10/13/03	18.5	113.36	1	19.7	114.74	8.5-18.5	3-18.5	1-3	1.2
NCC	NCC-GP01	10/9/03	10/9/03	N	10/15/03	25	48.53	1	25.5	51.02	13-23	4-23[C]	2-4	2.5
	NCC-GP02	10/7/03	10/7/03	N	-	6.9	52.5	Dry hole - no well constructed						
	NCC-GP03	10/9/03	10/9/03	N	10/15/03	22.9	43.56	1	23.65	46.2	11-21	4-22.9	2-4	2.65
	NCC-GP04	10/3/03	10/3/03	N	-	2	65.89	Not accessible by rig, boring was hand-augered						
	NCC-GP05	10/7/03	10/7/03	N	-	11	51.52	Dry hole - no well constructed (same as boring NCC-GT01)						
BBA	BBA-GP01	10/10/03	10/10/03	N	10/15/03	25	131.88	1	18.6	134.39	6-16	4-16 [D]	0.5-4	2.6
	BBA-GP02	10/10/03	10/10/03	N	10/16/03	25	144.41	1	18.55	146.87	6-16	4-18 [E]	0.5-4	2.55
	BBA-GP03	10/9/03	10/9/03	N	10/15/03	18.3	76.45	2	19.62	77.77	3.8-13.8	2.8-18.3	0-2.8	1.32
	BBA-GP04	10/10/03	10/10/03	N	10/15/03	14	77.57	1	16.8	80.38	3.5-13.5	2-14	0.5-2	2.8

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
MM	MM-GP01	10/6/03	10/6/03	N	10/10/03	25	18.73	1	27.4	20.52	15-25	4-25	2-4	2.4
	MM-GP02	10/3/03	10/3/03	N	10/10/03	25	5.87	1	27.6	7.75	15-25	4-25	2-4	2.6
	MM-GP04	10/6/03	10/6/03	N	10/15/03	25	15.50	1	27.4	17.22	14.5-24.5	4-24.5	2-4	2.9
OG	OG-GP01	10/7/03	10/7/03	N	10/15/03	25	10.28	1	17.70	12.94	5.35-15.35	3-16 [E]	1-3	2.35
	OG-GP02	10/7/03	10/7/03	N	10/15/03	25.1	14.26	1	27.35	16.46	15.1-25.1	4-25.1	2-4	2.25
	OG-GP03	10/7/03	10/7/03	N	10/15/03	25	17.95	1	27.45	20.4	15-25	4-25	2-4	2.45

[A] Hole was allowed to collapse to 10.15 feet BGS.
[B] Hole was allowed to collapse to 20 feet BGS.
[C] Hole was allowed to collapse to 23 feet BGS.
[D] Hole was allowed to collapse to 18 feet BGS.
[E] Hole was allowed to collapse to 16 feet BGS.

Key:

AGS = Above ground surface.
AMSL = Above mean sea level.
BBA = Bruno/Brickyard Associates/Alonzo Site.
BGS = Below ground surface.
EPL = Energy Park/Longe/NYS Canal Corporation Site.
GP = Geoprobe temporary well location.
GPS = Georgia Pacific/NYS Canal Corporation Site.
I.D. = Inner diameter.
MM = State of New York/First Rensselaer/Marine Management Site
N = Northstar Drilling.
NCC = NYS Canal Corporation/Allco/Leyerle Site.
NYS = New York State.
OG = OG Real Estate.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PVC = Polyvinyl chloride.
TOIC = Top of inner casing.

Table 3.2-2 Groundwater and Surface Water Field Measurements
NYS Canal Corporation/Allco/Leyerle Site

Sample ID	Date	pH (s.u.)	Temerature (°C)	Conductivity (mS/cm)	Turbidity (NTU)
Groundwater					
NCC-GP01-GW	10/15/03	6.65	11.5	977.5	148
NCC-GP03-GW	10/15/03	6.56	13.0	2,709	280
Surface Water					
NCC-SW01	10/2/03	6.43	9.2	210.6	4.53
NCC-SW02	10/1/03	6.95	13.5	294.0	3.43
NCC-SW03	10/2/03	6.68	11.0	243.5	4.51
NCC-SW04	10/2/03	7.11	10.4	250.1	7.49
NCC-SW05	10/1/03	7.75	16.3	339.0	6.86
NCC-SW06	10/2/03	7.79	10.6	482.4	11.0

Key:

°C = Degrees Celsius.
GP = Boring location.
GW = Groundwater sample.
ID = Identification.
mS/cm = MicroSiemens per centimeter.
NCC = NYS Canal Corporation/Allco/Alonzo Site.
NTU = Nephelometric turbidity units.
NYS = New York State.
s.u. = Standard units.
SW = Surface water sample.

Table 3.2-3 Summary of Water Level Elevations, NYS Canal Corporation/Allco/Leyerle Site

Well/ Stream Gauge ID	Ground Elevation (ft AMSL)	Reference Elevation (ft AMSL)a	10/15/03		10/22-10/23/03		11/6/03	
			Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)
NCC-GP01	48.53	51.02	20.65	30.37	20.39	30.63	20.11	30.91
NCC-GP03	43.56	46.2	15.55	30.65	15.33	30.87	14.10	32.10
NCC-SG01	NA	33.45	NM	NM	3.90	30.86	0.03	30.48

[a] Reference elevation is TOIC for Geoprobes and 3-foot mark on gauge for stream gauge.

[b] Reading from gauge.

Key:

GP = Boring location.
NA = Not applicable.
NM = Not measured.
NCC = NYS Canal Corporation/Allco/Leyerle Site.
NYS = New York State.
SG = Stream gauge location.
TOIC = Top of inner casing.

Table 3.2-4 NYS Canal Corporation/Allco/Leyerle Site Sample Listing, Hudson River PCBs Superfund Facility Siting

							CLP						Non-CLP										Geotechnical Analyses			
							Organics				Inorganics															
Media	Date	Sample Location	CLP Number	Matrix Code	Depth A	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	TAL Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.2)	Hexane Extractable Material (9071B)	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Particle Size (ASTM_D422-63)	Atterberg Limits (ASTM_D4318-00)	Moisture Content (ASTM_D2216-98)	Area of Interest
Surface Soil	10/02/03	NCC-SS01	B14Z3	SO	0-2 in	N		X	X	X	X	X												Coverage
	10/02/03	NCC-SS02	B14Z4	SO	0-2 in	N		X	X	X	X	X												Coverage
	10/02/03	NCC-SS03	B14Z5	SO	0-2 in	N		X	X	X	X	X												Surficial dumping
	10/02/03	NCC-SS04	B14Z6	SO	0-2 in	N		X	X	X	X	X												Surficial dumping
	10/02/03	NCC-SS05	B14Z7	SO	0-2 in	N		X	X	X	X	X												Berm - possible dredge spoils
	10/02/03	NCC-SS06	B14Z8	SO	0-2 in	N		X	X	X	X	X												Low area
	10/02/03	NCC-SS07	B14Z9	SO	0-2 in	N		X	X	X	X	X												Drum area
	10/02/03	NCC-SS08	B1500	SO	0-2 in	N		X	X	X	X	X												Coverage
	10/01/03	NCC-SS09	B1501	SO	0-2 in	N		X	X	X	X	X												Coverage
	10/01/03	NCC-SS10	B1502	SO	0-2 in	N		X	X	X	X	X												Coverage
	10/01/03	NCC-SS11	B1503	SO	0-2 in	M	X	X	X	X	X	X	X				X							Composite sample of 3 locations (A, B, C) adjacent to railroad track (VOC portion was a discrete sample from the location of aliquot A)
Surface Water	10/02/03	NCC-SW01	B14Y7	SW	-	N	X	X	X	X	X			X		X								Low area
	10/01/03	NCC-SW02	B14Y8	SW	-	N	X	X	X	X	X			X		X								Low area
	10/02/03	NCC-SW03	B14Y9	SW	-	N	X	X	X	X	X			X		X								Drainage path
	10/02/03	NCC-SW04	B14Z0	SW	-	N	X	X	X	X	X			X		X								Drainage path
	10/02/03	NCC-SW04/D	B1538	SW	-	FD	X	X	X	X	X			X		X								
	10/01/03	NCC-SW05	B14Z1	SW	-	N	X	X	X	X	X			X		X								Drainage path
	10/02/03	NCC-SW06	B14Z2	SW	-	N	X	X	X	X	X			X		X								Drain path outfall
Sediment	10/02/03	NCC-SE01	B14Y1	SE	0-2 in	N	X	X	X	X	X	X			X									Low area
	10/01/03	NCC-SE02	B14Y2	SE	0-2 in	N	X	X	X	X	X	X			X									Low area
	10/02/03	NCC-SE03	B14Y3	SE	0-2 in	N	X	X	X	X	X	X			X									Drainage path
	10/02/03	NCC-SE04	B14Y4	SE	0-2 in	N	X	X	X	X	X	X			X									Drainage path
	10/01/03	NCC-SE05	B14Y5	SE	0-2 in	N	X	X	X	X	X	X			X									Drainage path
	10/02/03	NCC-SE06	B14Y6	SE	0-2 in	N	X	X	X	X	X	X			X									Drain path outfall
	10/02/03	NCC-SE06/D	B1539	SE	0-2 in	N						X			X									

Key at the end of Table

Table 3.2-4 NYS Canal Corporation/Allco/Leyerle Site Sample Listing, Hudson River PCBs Superfund Facility Siting

							CLP						Non-CLP										Geotechnical Analyses			
							Organics					Inorganics														
Media	Date	Sample Location	CLP Number	Matrix Code	Depth A	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	TAL Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.2)	Hexane Extractable Material (9071B)	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Particle Size (ASTM_D422-63)	Atterberg Limits (ASTM_D4318-00)	Moisture Content (ASTM_D2216-98)	Area of Interest
Geoprobe Borehole Subsurface Soil	10/09/03	NCC-GP01-SB	B1505	SO	22-24	N	X	X	X	X	X	X													Downgradient
	10/07/03	NCC-GP02-SB	B1506	SO	0-2	N	X	X	X	X	X	X													Upgradient
	10/09/09	NCC-GP03-SB	B1507	SO	14-16	N	X	X	X	X	X	X													Downgradient
	10/03/03	NCC-GP04-SB	B1508	SO	21-24 in	N	X	X	X	X	X	X													Upgradient (hand augered)
	10/07/03	NCC-GP05-SB	B1509	SO	2-4	N	X	X	X	X	X	X													Central / Railyard
Geoprobe Temporary Well Groundwater	10/15/03	NCC-GP01-GW	B1510	GW	13-23	N	X	X	X	X	X														Downgradient
	-	NCC-GP02-GW	-	GW	-	N																			Upgradient
	10/15/03	NCC-GP03-GW	B1512	GW	11-21	N	X	X	X	X	X														Downgradient
	-	NCC-GP04-GW	-	GW	-	N																			Upgradient - No water encountered to hand auger refusal
	-	NCC-GP05-GW	-	GW	-	N																			Central / Railyard
Geotechnical Boring Subsurface Soil	10/07/03	NCC-GT01-SB	-	SO	0-2	N															X	X	X		Rail yard
	10/07/03	NCC-GT02-SB	-	SO	0-11[B]	N															X	X	X		Central / Railyard
	10/09/03	NCC-GT03-SB	-	SO	0-26[B]	N															X	X	X		Facility area
Blanks	TBD	NCC-TB01		Field QC		TB	X																		General to accompany surface water samples
	TBD	NCC-TB02		Field QC		TB	X																		General to accompany groundwater samples
IDW	TBD	NCC-WA01	-	WA	-	N												X	X	X					General
	TBD	NCC-WW01	-	WW	-	N												X	X	X					General

[A] Depth in feet below ground surface unless otherwise specifie

[B] Continuous sampling for Moisture Content analysis. The 4-6 foot BGS depth intervals were used for the Particle Size and Atterberg Limits analyses for GPS-GT02 and GPS-GT03, respective

Key:

CLP = Contract Laboratory Protocol
/D = duplicate sample
FD = field duplicate (Type)
GP = Geoprobe boring location
GT = geotechnical boring location
GW = groundwater sample
IDW = investigation-derived waste
in = inch
M = matrix spike/matrix spike duplicate (Type)
N = original sample
NCC = NYS Canal Corporation / Allco / Leyerle site
NYS = New York State
PCB = polychlorinated biphenyl
QA = quality assurance
QC = quality control
SB = subsurface soil
SE = sediment sample
SO = soil sample
SS = surface soil
SVOCs = semivolatile organic compounds
SW = surface water
TBD = to be determined
TCL = target compound list
TCLP = toxicity characteristic leachate procedure
TOC = total organic carbon
VOCs = volatile organic compounds
WA = IDW solid waste
WW = IDW waste water

Key at the end of Table

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	NCC-SS01	NCC-SS02	NCC-SS03	NCC-SS04	NCC-SS05	NCC-SS06
			Date:	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Semivolatile Organic Compounds (µg/Kg)									
Anthracene	50000	NA		490 U	470 U	520 U	450 U	450 U	300 J
Benzo(a)anthracene	224 or MDL	NA		490 U	470 U	520 U	450 U	450 U	**1300 J**
Benzo(a)pyrene	61 or MDL	NA		490 U	470 U	520 U	450 U	450 U	**1200 J**
Benzo(b)fluoranthene	1100	NA		490 U	470 U	520 U	450 U	450 U	1000 J
Benzo(g,h,i)perylene	50000	NA		490 U	470 U	520 U	450 U	450 U	480 J
Benzo(k)fluoranthene	1100	NA		490 U	470 U	520 U	450 U	450 U	**1300 J**
Carbazole	NA	NA		490 U	470 U	520 U	450 U	450 U	230 J
Chrysene	400	NA		490 U	470 U	520 U	450 U	450 U	**1400 J**
Dibenzo(a,h)anthracene	14 or MDL	NA		490 U	470 U	520 U	450 U	450 U	**220 J**
Di-n-butylphthalate	8100	NA		490 U	470 U	520 U	450 U	450 U	210 J
Fluoranthene	50000	NA		490 U	470 U	520 U	450 U	450 U	2300 J
Indeno(1,2,3-cd)pyrene	3200	NA		490 U	470 U	520 U	450 U	450 U	790 J
Phenanthrene	50000	NA		490 U	470 U	520 U	450 U	450 U	1200 J
Pyrene	50000	NA		490 UJ	470 UJ	520 UJ	450 UJ	450 UJ	2000 J
TCL Pesticide and PCBs (µg/Kg)									
4,4'-DDE	2100	NA		64	4.7 U	5.2 U	4.5 U	4.5 U	7.7 UJ
4,4'-DDT	2100	NA		36 J	4.7 U	5.2 U	4.5 U	4.5 U	7.7 UJ
alpha-Chlordane	540 (3)	NA		2.6 R	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ
Aroclor-1254	1000	NA		560	47 U	52 U	45 U	45 U	77 UJ
Aroclor-1260	1000	NA		58 J	47 U	52 U	45 U	45 U	77 UJ
beta-BHC	200	NA		2.5 U	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ
Dieldrin	44	NA		15	4.7 U	5.2 U	4.5 U	4.5 U	7.7 UJ
Endosulfan I	900	NA		2.7 R	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ
Endrin	100	NA		4.9 U	4.7 U	5.2 U	4.5 U	4.5 U	6.3 J
Endrin Aldehyde	NA	NA		8.4	4.7 U	5.2 U	4.5 U	4.5 U	7.7 UJ

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	NCC-SS01	NCC-SS02	NCC-SS03	NCC-SS04	NCC-SS05	NCC-SS06
			Date:	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TAL Metals and Mercury (mg/Kg)									
Aluminum	SB	NA		7900	7590	10500	8770	7160	4730
Arsenic	7.5 or SB	3-12 (NYS BG)		3.9	5.6	4.8	4.2	4	2.7 B
Barium	300	15-600		76	59.4 B	92.2	81.4	73.9	47 B
Beryllium	0.16 or SB	0-1.75		0.38 B	0.37 B	0.44 B	0.49 B	0.4 B	0.31 B
Cadmium	1 or SB	0.1-1		2 J	0.15 U	0.15 U	0.13 U	0.14 U	4.9 J
Calcium	SB	130-35000 (NYS BG)		4920	13700	17600	3260	3280	7190
Chromium	10 or SB	1.5-40 (NYS BG)		50.3	11.4	14.4	11.4	15	14.2
Cobalt	30 or SB	2.5-60 (NYS BG)		7.7 B	9.7 B	12.7 B	8.6 B	7.2 B	5.1 B
Copper	25 or SB	1-50		25.6 J	29.8 J	26.3 J	15.9 J	18.6 J	55.6 J
Iron	2000 or SB	2000-550000		16700	20500	25300	17800	14600	24100
Lead	SB or 200 - 500	200-500		110	33.8	31.8	33.6	47.2	222
Magnesium	SB	100-5000		3290	6650	12200	3380	2820	2360
Manganese	NA	50-5000		429	633	819	499	402	94.2
Nickel	13 or SB	0.5-25		15.1	21.3	25	13.8	12.7	75.8
Potassium	SB	8500-43000 (NYS BG)		995 B	2150	2910	698 B	405 B	366 B
Selenium	2 or SB	0.1-3.9		0.8 B	0.57 U	0.57 U	0.5 U	0.52 U	1.9 B
Sodium	SB	6000-8000		540 B	1440 B	1720	145 U	149 U	217 U
Vanadium	150 or SB	1-300		17.8	16.1	16.3	17.2	14.6	13.4 B
Zinc	20 or SB	9-50		139	87.9	112	67	67.8	319
Mercury	0.1	0.001-0.2		0.39	0.07 U	0.14	0.14	0.38	0.14 B
Total Cyanide (mg/Kg)									
Cyanide	NA	NA		0.21	0.18 U	0.17 U	0.28	0.17 U	0.28 U

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	NCC-SS07	NCC-SS08	NCC-SS09	NCC-SS10	NCC-SS11
			Date:	10/2/2003	10/2/2003	10/1/2003	10/1/2003	10/1/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Semivolatile Organic Compounds (µg/Kg)								
Anthracene	50000	NA		480 U	400 U	350 U	390 U	520 U
Benzo(a)anthracene	224 or MDL	NA		480 U	400 U	350 U	390 U	520 U
Benzo(a)pyrene	61 or MDL	NA		480 U	400 U	350 U	390 U	520 U
Benzo(b)fluoranthene	1100	NA		480 U	400 U	350 U	390 U	520 U
Benzo(g,h,i)perylene	50000	NA		480 U	400 U	350 U	390 U	520 U
Benzo(k)fluoranthene	1100	NA		480 U	400 U	350 U	390 U	520 U
Carbazole	NA	NA		480 U	400 U	350 U	390 U	520 U
Chrysene	400	NA		480 U	400 U	350 U	390 U	520 U
Dibenzo(a,h)anthracene	14 or MDL	NA		480 U	400 U	350 U	390 U	520 U
Di-n-butylphthalate	8100	NA		480 U	400 U	350 U	390 U	520 U
Fluoranthene	50000	NA		480 U	400 U	350 U	390 U	520 U
Indeno(1,2,3-cd)pyrene	3200	NA		480 U	400 U	350 U	390 U	520 U
Phenanthrene	50000	NA		480 U	400 U	350 U	390 U	520 U
Pyrene	50000	NA		480 U	400 U	350 UJ	390 UJ	520 UJ
TCL Pesticide and PCBs (µg/Kg)								
4,4'-DDE	2100	NA		4.8 U	4 U	3.5 U	1.5 J	4.2 J
4,4'-DDT	2100	NA		4.8 U	4 U	3.5 U	3.9 U	5.2 U
alpha-Chlordane	540 (3)	NA		2.5 U	2.1 U	1.8 U	2 U	2.7 U
Aroclor-1254	1000	NA		48 U	40 U	35 U	39 U	52 U
Aroclor-1260	1000	NA		48 U	40 U	35 U	39 U	52 U
beta-BHC	200	NA		4	1.8 J	1.8 U	2 U	2.7 U
Dieldrin	44	NA		4.8 U	4 U	3.5 U	3.9 U	5.2 U
Endosulfan I	900	NA		2.5 U	2.1 U	1.8 U	2 U	0.62 J
Endrin	100	NA		4.8 U	4 U	3.5 U	3.9 U	5.2 U
Endrin Aldehyde	NA	NA		4.8 U	4 U	3.5 U	3.9 U	5.2 U

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	NCC-SS07	NCC-SS08	NCC-SS09	NCC-SS10	NCC-SS11
			Date:	10/2/2003	10/2/2003	10/1/2003	10/1/2003	10/1/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TAL Metals and Mercury (mg/Kg)								
Aluminum	SB	NA		7530	11100	5590	15600	8850
Arsenic	7.5 or SB	3-12 (NYS BG)		4.8	6.5	5.9	8.3	10
Barium	300	15-600		80	110	41 B	123	131
Beryllium	0.16 or SB	0-1.75		0.43 B	0.59 B	0.33 B	1 B	0.64 B
Cadmium	1 or SB	0.1-1		0.14 U	0.13 U	0.11 U	0.14 U	0.16 U
Calcium	SB	130-35000 (NYS BG)		4550	3270	42800	1220 B	3950
Chromium	10 or SB	1.5-40 (NYS BG)		13.1	13.9	8.2	16.4	12.9
Cobalt	30 or SB	2.5-60 (NYS BG)		7.2 B	9.9 B	8.7 B	23.9	7 B
Copper	25 or SB	1-50		18.5 J	23.1 J	21.3	22.3	31
Iron	2000 or SB	2000-550000		15500	24800	17600	38700	24400
Lead	SB or 200 - 500	200-500		28.7	26.8	18.2	44	54.6
Magnesium	SB	100-5000		3020	4800	14100	3760	2410
Manganese	NA	50-5000		389	831	439	1020	1010
Nickel	13 or SB	0.5-25		12.1	21.9	17.8	19	14.1
Potassium	SB	8500-43000 (NYS BG)		489 B	693 B	558 B	823 B	552 B
Selenium	2 or SB	0.1-3.9		0.62 B	0.49 U	0.41 UJ	0.51 UJ	0.78 BJ
Sodium	SB	6000-8000		157 U	140 U	118 U	148 U	180 U
Vanadium	150 or SB	1-300		15	19.2	9.9 B	29.5	25.4
Zinc	20 or SB	9-50		225	66.8	52.6	69.1	81.8
Mercury	0.1	0.001-0.2		0.09 B	0.06 U	0.05 U	0.07 U	0.14 B
Total Cyanide (mg/Kg)								
Cyanide	NA	NA		0.18 U	0.15 U	0.13 U	0.21	0.49

Source: Ecology and Environment, Inc., 2004

Table 3.3-1 Analytical Data Summary of Detected Analytes for Surface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BG = Background.
/D = Duplicate sample.
ft = Feet.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL = Method Detection Limit
mg/Kg = Milligrams per kilogram.
NA = Not applicable/available.
NCC = NYS Canal Corporation / Allco / Leyerle site.
NYS = New York State.
NYSDEC = New York State Department of Environmental Conservation.
PCB = Polychlorinated biphenyl.
R = The data is unusable.
SB = Site background.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
220 J Shaded cells with bold exceed the NYSDEC screening value (except for metals).

Source: Ecology and Environment, Inc., 2004

Table 3.3-2 Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: / Date: / Depth:	NCC-GP01-SB 10/9/2003 22 - 24 ft	NCC-GP02-SB 10/7/2003 0 - 2 ft	NCC-GP03-SB 10/9/2003 14 - 16 ft	NCC-GP04-SB 10/3/2003 21 - 24 in	NCC-GP05-SB 10/7/2003 2 - 4 ft
TCL Volatile Organic Compounds (µg/Kg)								
1,1,2-Trichloro-1,2,2-Trifluoroethane	6000	NA		2 J	10 U	0.7 J	10 U	11 U
2-Butanone	NA	NA		10 U	10 U	11	10 U	11 U
Acetone	200	NA		11 UJ	10 UJ	66	10 U	11 UJ
Carbon Disulfide	2700	NA		10 UJ	10 U	1 J	10 U	11 U
TCL Semivolatile Organic Compounds (µg/Kg)								
Bis(2-ethylhexyl)phthalate	50000	NA		350 U	380 U	100 J	420	73 J
TCL Pesticide and PCBs (µg/Kg)								
beta-BHC	200	NA		1.8 U	2 U	2.1 U	0.78 J	1.8 U
TAL Metals and Mercury (mg/Kg)								
Aluminum	SB	NA		7210	19600	7170	19400	19200
Arsenic	7.5 or SB	3-12 (NYS BG)		2.9	12.7 J	1.5 B	9.9	31.5 J
Barium	300	15-600		45	116	62.1	260	114
Beryllium	0.16 or SB	0-1.75		0.49 B	0.91 B	0.37 B	1.1 B	0.72 B
Calcium	SB	130-35000 (NYS BG)		3120	1500	3030	2590	2890
Chromium	10 or SB	1.5-40 (NYS BG)		10.9	26.6	10.1	22.5	28.4
Cobalt	30 or SB	2.5-60 (NYS BG)		11.4	18.8	6.5 B	17	28.7
Copper	25 or SB	1-50		22	39.9	12.2	37.9 J	57.8
Iron	2000 or SB	2000-550000		20000	39600	13000	38100	44500
Lead	SB or 200 - 500	200-500		9.8	26	13.3	16.7	25.5
Magnesium	SB	100-5000		4930	10100	3350	8490	11800
Manganese	NA	50-5000		396	1140	85.6	454	1330
Nickel	13 or SB	0.5-25		19.9	39.9	11.8	43.6	49.4
Potassium	SB	8500-43000 (NYS BG)		881 B	1190	529 B	1460	1420
Thallium	SB	NA		0.94 U	1.6 B	1.7 U	0.97 U	2.1 B
Vanadium	150 or SB	1-300		14	31.6	15.3	30.2	34.4
Zinc	20 or SB	9-50		65.6	93.4	55.4	97.5	112

Source: Ecology and Environment, Inc., 2004

Table 3.3-2 Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BG = Background.
/D = Duplicate sample.
ft = Feet.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL = Method Detection Limit
mg/Kg = Milligrams per kilogram.
NA = Not applicable/available.
NCC = NYS Canal Corporation / Allco / Leyerle site.
NYS = New York State.
NYSDEC = New York State Department of Environmental Conservation.
PCB = Polychlorinated biphenyl.
R = The data is unusable.
SB = Site background.
-SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.

Source: Ecology and Environment, Inc., 2004

Table 3.3-3 Analytical Data Summary of Detected Analytes for Surface Water Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	NYSDEC CLASS D (1)	Sample ID: / Date:	NCC-SW01 10/2/2003	NCC-SW02 10/1/2003	NCC-SW03 10/2/2003	NCC-SW04 10/2/2003	NCC-SW04/D 10/2/2003	NCC-SW05 10/1/2003	NCC-SW06 10/2/2003
TAL Metals and Mercury (µg/L)									
Aluminum	NA		107 B	19 U	19 U	19 U	19 U	231	40.3 B
Barium	NA		57 B	52.2 B	28.9 B	28.9 B	30 B	52.9 B	36.5 B
Calcium	NA		34800	42200	33500	37300	37500	51400	53000
Chromium	CV		1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.2 B
Cobalt	110 for A(A) (g)		1.4 U	1.7 B	2.4 B	1.4 U	1.4 U	1.4 U	1.4 U
Copper	CV		9.6 B	3 B	1.2 B	1.2 B	2.4 B	1.2 U	1.2 U
Iron	300 for A(A)		4500	333	1240	51.7 B	63.8 B	683	133
Lead	CV		2.8 B	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium	NA		9000	12100	9870	11300	11400	14000	16000
Manganese	NA		108	20.5	422	151	156	110	34.4
Nickel	CV		3.6 B	3.3 B	2 B	1.8 U	3 B	2.2 B	3.5 B
Potassium	NA		2080 B	2040 B	1240 B	1310 B	1270 B	1860 B	2140 B
Selenium	NA		1.9 U	1.9 U	1.9 U	3.1 BJ	1.9 U	1.9 U	1.9 U
Sodium	NA		2380 B	3270 B	4120 B	4870 B	4230 B	4990 B	27600 J
Vanadium	190 for A(A)		2.9 B	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Zinc	CV		44.5 J	24.4 J	21.7 J	19.3 B	21 J	23.9 J	21.9 J
Anions (mg/L)									
Chloride	NA		1.4	3.81	1.48	5.31	5.32	5.86	50.9
Fluoride	CV		0.164	0.102	0.125	0.122	0.13	0.179	0.14
Nitrate-N	NA		0.0982 J	0.104	0.131	0.100 U	0.100 U	0.100 U	0.251
Sulfate	NA		15.5	52.9	5.84	3.38	3.4	24.7	19.6
Hardness (mg/L)									
Hardness (As $CaCO_3$)	NA		310	310	305	250	235	360	330

Source: Ecology and Environment, Inc., 2004

Table 3.3-3 Analytical Data Summary of Detected Analytes for Surface Water Samples at the NYS Canal Corporation/Allco/Leyerle Site

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class D Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

(g) Guidance value used.

Key:

A(A) = Standard/guidance value is for the protection of fish survival (fresh waters).

A(C) = Standard/guidance value is for the protection of fish propagation (fresh waters).

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

CV = Value calculated based on hardness as per NYSDEC TOGS 1.1.1, 1998.

/D = Duplicate sample.

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

mg/L = Milligrams per liter.

NA = Not applicable/available.

NCC = NYS Canal Corporation / Allco / Leyerle site.

NYSDEC = New York State Department of Environmental Conservation.

SW = Surface water sample.

TAL = Target Analyte List.

U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/L = Micrograms per liter.

Source: Ecology and Environment, Inc., 2004

Table 3.3-4 Analytical Data Summary of Detected Analytes for Sediment Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	NYSDEC Screening Criteria (1), (2)	Sample ID: Date:	NCC-SE01 10/2/2003	NCC-SE02 10/1/2003	NCC-SE03 10/2/2003	NCC-SE04 10/2/2003	NCC-SE05 10/1/2003	NCC-SE06 10/2/2003	NCC-SE06/D 10/2/2003
TCL Volatile Organic Compounds (µg/Kg)									
Chloromethane	NA		85 UJ	59 UJ	37 UJ	25 UJ	0.7 J	11 U	- -
Trichlorofluoromethane	NA		85 UJ	59 UJ	37 UJ	25 UJ	18 U	0.4 J	- -
TCL Semivolatile Organic Compounds (µg/Kg)									
Di-n-octylphthalate	NA		860 J	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Fluoranthene	CV		2200 UJ	1600 UJ	240 J	770 UJ	580 U	420 U	- -
Pyrene	CV		2200 UJ	1600 UJ	250 J	770 UJ	580 UJ	420 UJ	- -
TCL Pesticide and PCBs (µg/Kg)									
4,4'-DDE	NA		15 J	16 UJ	3.6 J	7.7 UJ	5.8 U	4.2 UJ	- -
4,4'-DDT	CV		22 UJ	26 J	11 UJ	7.7 UJ	5.8 U	4.2 U	- -
Endrin	CV		22 UJ	3.9 J	11 UJ	7.7 UJ	5.8 U	4.2 U	- -
Endrin Aldehyde	NA		22 UJ	35 J	11 UJ	7.7 UJ	5.8 U	4.2 UJ	- -

Source: Ecology and Environment, Inc., 2004

Table 3.3-4 Analytical Data Summary of Detected Analytes for Sediment Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	NYSDEC Screening Criteria (1), (2)		Sample ID:	NCC-SE01	NCC-SE02	NCC-SE03	NCC-SE04	NCC-SE05	NCC-SE06	NCC-SE06/D
			Date:	10/2/2003	10/1/2003	10/2/2003	10/2/2003	10/1/2003	10/2/2003	10/2/2003
	NYSDEC Screening Criteria (1)		Sample ID:	NCC-SE01	NCC-SE02	NCC-SE03	NCC-SE04	NCC-SE05	NCC-SE06	NCC-SE06/D
Analyte	Lowest effect (2)	Severe effect (2)	Date:	10/2/2003	10/1/2003	10/2/2003	10/2/2003	10/1/2003	10/2/2003	10/2/2003
TAL Metals and Mercury (mg/Kg)										
Aluminum	NA	NA		1510	2270 J	5670	10700	10200	7570	- -
Arsenic	6.0	33		1.6 U	1.8 UJ	2.7 B	6.8	5.7	5.4	- -
Barium	NA	NA		52.6 B	123 J	112	257	117	80.5	- -
Beryllium	NA	NA		0.18 B	0.22 BJ	0.43 B	0.68 B	0.57 B	0.4 B	- -
Cadmium	0.6	9		0.44 B	0.2 UJ	0.2 B	0.18 U	0.15 U	0.13 U	- -
Calcium	NA	NA		7150	9400 J	5190	6100	6890	3240	- -
Chromium	26	110		2.7 B	5.5 J	8	12.1	13	10.4	- -
Cobalt	NA	NA		0.72 B	0.57 UJ	6.6 B	10.3 B	13.1 B	9 B	- -
Copper	16	110		16.2 J	16.9 J	23.6 J	20 J	28.6	19 J	- -
Iron	20000	40000		2110	1920 J	11400	25200	23800	21900	- -
Lead	31	110		52.8	32.9 J	26.5	31.2	14.8	15.3	- -
Magnesium	NA	NA		736 B	1150 BJ	2300	3600	5970	4490	- -
Manganese	460	1100		24	27.7 J	429	3990	387	835	- -
Nickel	16	50		4.6 B	4.3 BJ	14.2 B	22.4	23.1	18.3	- -
Potassium	NA	NA		76.3 B	145 BJ	388 B	1300 B	727 B	787 B	- -
Selenium	NA	NA		1.5 B	0.77 UJ	1.1 B	0.68 U	0.58 UJ	0.51 U	- -
Sodium	NA	NA		198 U	221 UJ	211 U	624 B	167 U	352 B	- -
Vanadium	NA	NA		10.1 B	6.3 BJ	14.1 B	19.8	16.2	12.6 B	- -
Zinc	120	270		49.6	46.1 J	89.1	108	68.9	63.6	- -
Total Cyanide (mg/Kg)										
Cyanide	NA	NA		0.85 U	0.58 U	0.43	0.79	0.21 U	0.17 UL	- -
Total Organic Carbon (mg/Kg)										
Total Organic Carbon	NA	NA		250000	240000	170000	61000	8400	8100	8600
Percent Solids (%)										
Percent Solids	NA	NA		14	21	32	41	58	72	- -

Table 3.3-4 Analytical Data Summary of Detected Analytes for Sediment Samples from the NYS Canal Corporation/Allco/Leyerle Site

(1) New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments, 1999. The benthic aquatic life chronic toxicity protection level was used.

(2) As per the 1999 NYSDEC Guidance, the screening criteria for organic contaminants in sediments are calculated based on sample Total Organic Carbon concentration. However, two levels of risk are established for metals contamination in sediments (Lowest Effect Level and Severe Effect Level).

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

CV = Value calculated based on total organic carbon as per NYSDEC Guidance.

/D = Duplicate sample.

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

L = The identification of the analyte is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported.

mg/Kg = Milligrams per kilogram.

NA = Not applicable/available.

NCC = NYS Canal Corporation / Allco / Leyerle site.

NYS = New York State.

NYSDEC = New York State Department of Environmental Conservation.

PCB = Polychlorinated biphenyl.

R = The data is unusable.

SE = Sediment sample.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/Kg = Micrograms per kilogram.

% = Percent.

- = Sample was not analyzed for this parameter.

Source: Ecology and Environment, Inc., 2004

Table 3.3-5 Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the NYS Canal Corporation/Allco/Leyerle Site

Analyte	NYSDEC CLASS GA (1)	Sample ID: Date: EPA MCLs (2)	NCC-GP01-GW 10/15/2003	NCC-GP03-GW 10/15/2003
TAL Metals and Mercury (µg/L)				
Antimony	3	6	9.2 U	11.2 B
Barium	1000	2000	23.8 B	27.8 B
Beryllium	3 (g)	4	0.15 B	0.19 B
Calcium	NA	NA	144000	294000
Chromium	50	100 (4)	1 U	1.6 B
Cobalt	NA	NA	2.9 B	4.2 B
Copper	200	1300 (a)	1.2 B	1 U
Magnesium	35000 (g)	NA	46800	167000
Manganese	300 (3)	50 (s)	80.2	583
Nickel	100	NA	2.3 U	2.5 B
Potassium	NA	NA	2620 B	12200 J
Sodium	20000	NA	15500 J	25700 J
Zinc	2000 (g)	5000 (s)	31.6	26

Source: Ecology and Environment, Inc., 2004

Table 3.3-5 Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the NYS Canal Corporation/Allco/Leyerle Site

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class GA Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

(2) EPA National Primary and Secondary Drinking Water Standards, 2002.

(3) Screening value is for sum of Iron and Manganese is 500 µg/L.

(4) Screening value for total chromium.

(a) Action level is used in lieu of MCL.

(g) Guidance value used.

(s) Secondary standard used.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

/D = Duplicate sample.

EPA = Environmental Protection Agency.

GP = Boring.

GW = Groundwater sample.

J = The reported value is an estimated quantity.

MCL = Maximum Contaminant Level.

NA = Not applicable/available.

NCC = NYS Canal Corporation / Allco / Leyerle site.

NYSDEC = New York State Department of Environmental Conservation.

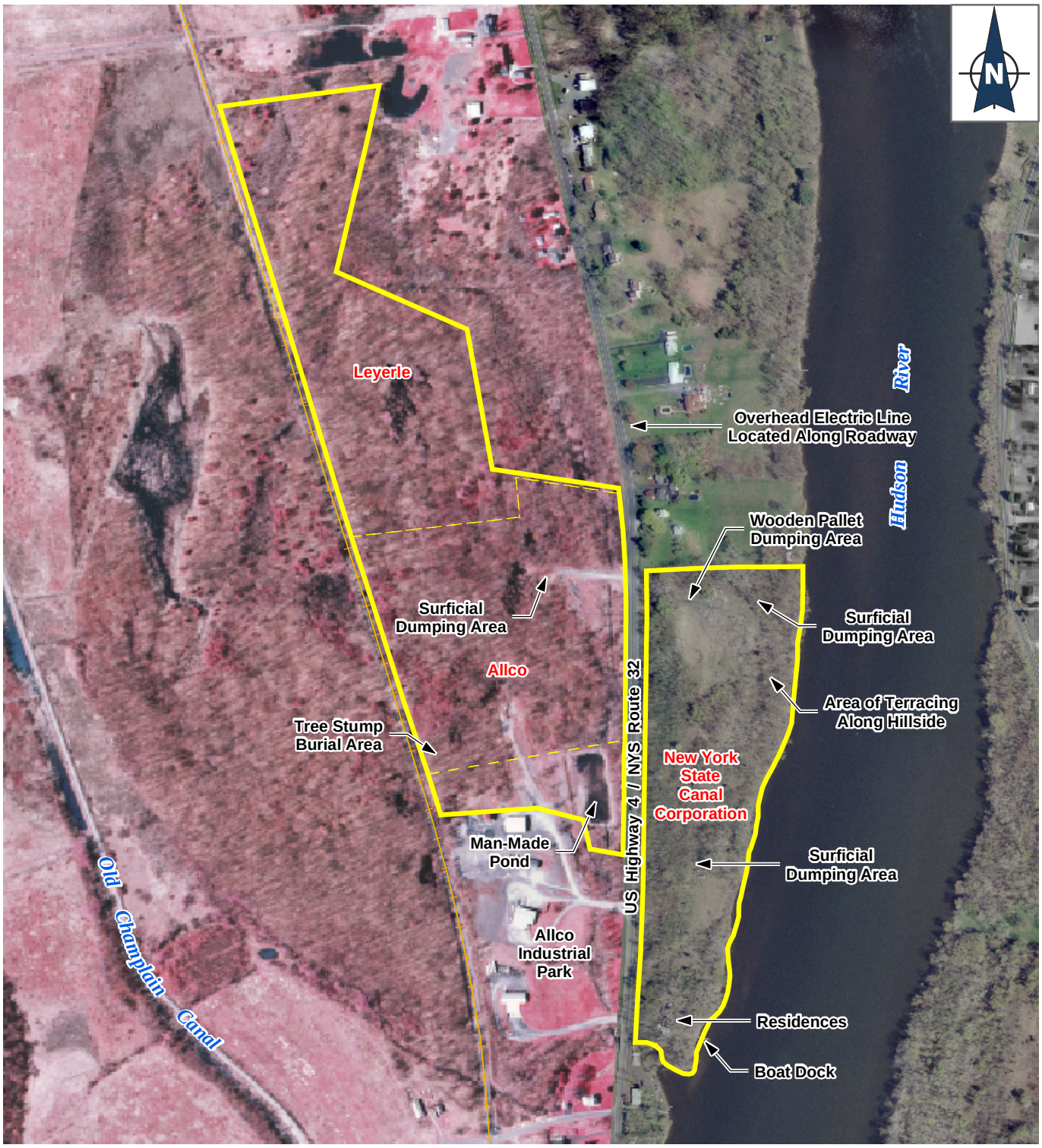
TAL = Target Analyte List.

U = The analyte was analyzed for but not detected at the value reported.

µg/L = Micrograms per liter.

Source: Ecology and Environment, Inc., 2004

SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Approximate Site Boundary
- Tax Parcel Boundary
- Active Railroad

Hudson River PCBs SUPERFUND SITE

Figure 2-1
Key Site Features
New York State Canal Corporation / Allco / Leyerle

500 250 0 500 1,000 Feet

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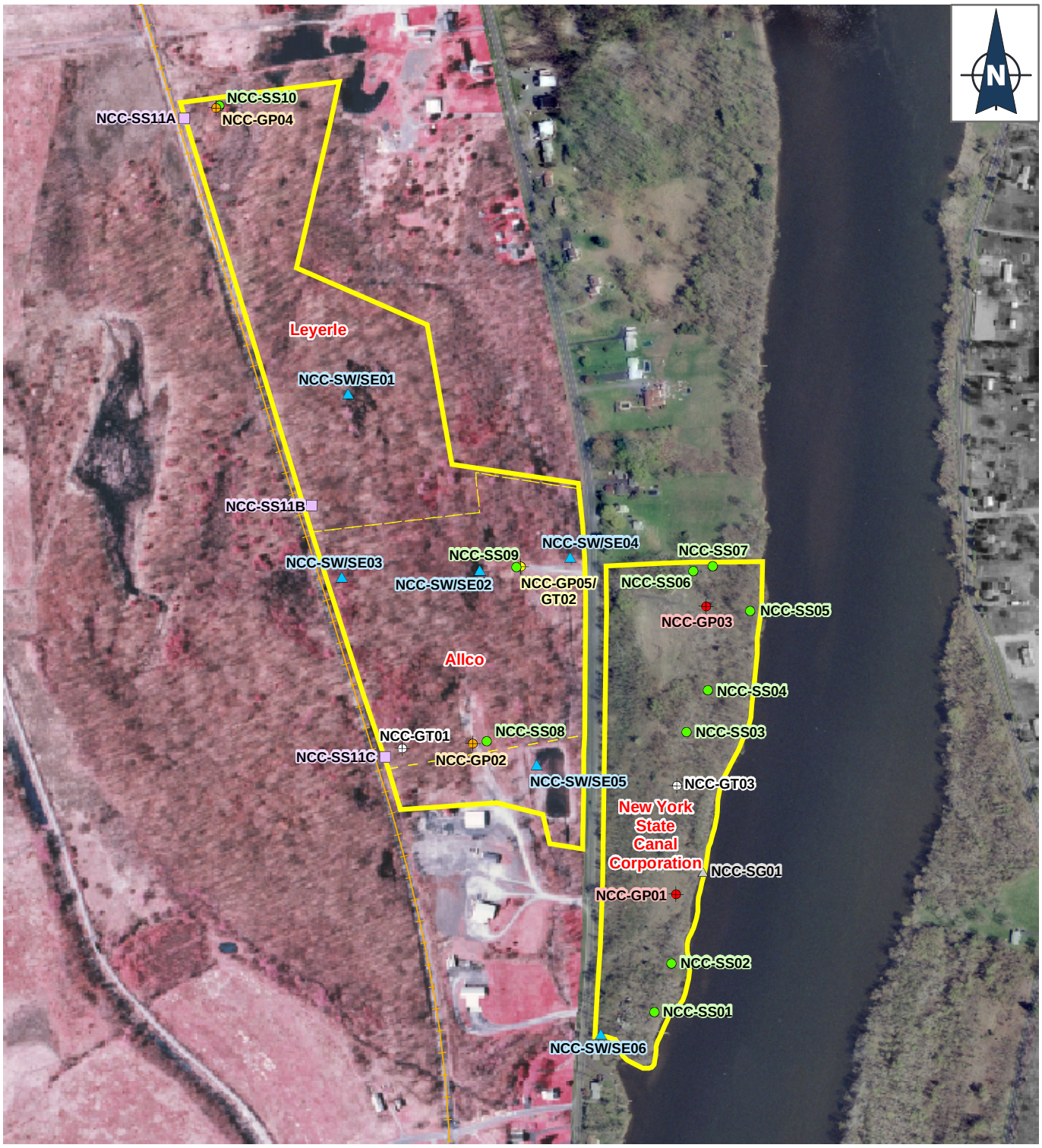
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Geoprobe Soil Boring
- Geoprobe Soil Boring & Temporary Well
- Geoprobe & Geotechnical Boring
- Geotechnical Boring
- Surface Soil
- Soil Sample Adjacent to Railroad
- Surface Water / Sediment
- Stream Gauge
- Railroads
- Potential Site Boundary

Hudson River
PCBs SUPERFUND SITE

Figure 3-1
Sample Locations
New York State Canal Corporation / Allco / Leyerle

500 250 0 500 1,000 1,500
Feet

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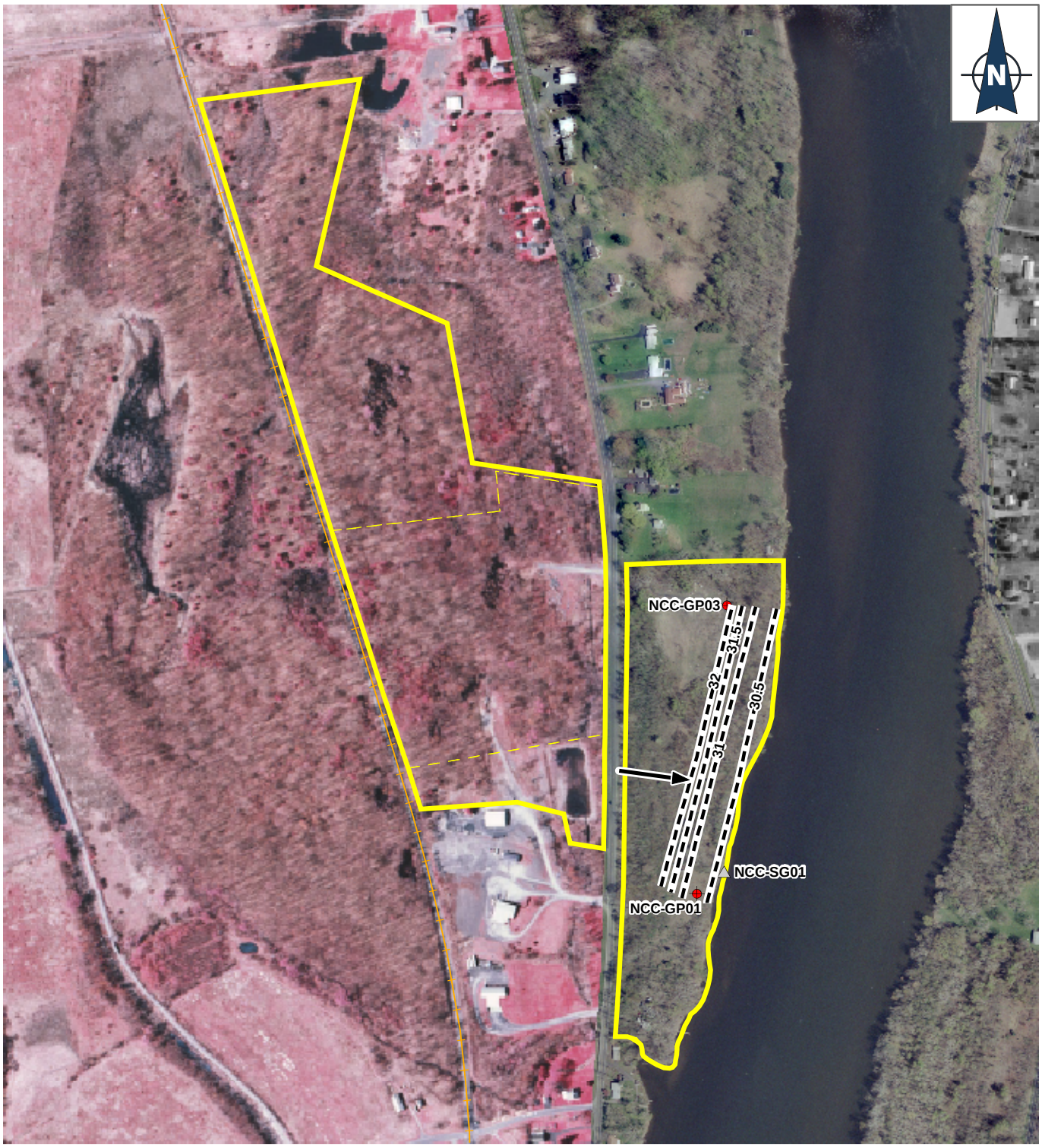

LEGEND

- Groundwater Contour
- Temporary Well
- Stream Gauge
- Railroad
- Potential Site Boundary
- Direction of Groundwater Flow

Water Level Elevations Measured on 11/6/2003
0.5 ft. Contour Interval

Hudson River
PCBs SUPERFUND SITE

Figure 3-2
Overburden Groundwater Contour Map
New York State Canal Corporation / Allco / Leyerle

500 250 0 500 1,000
Feet

02.001515.HR03.08.04 - 04/22/04
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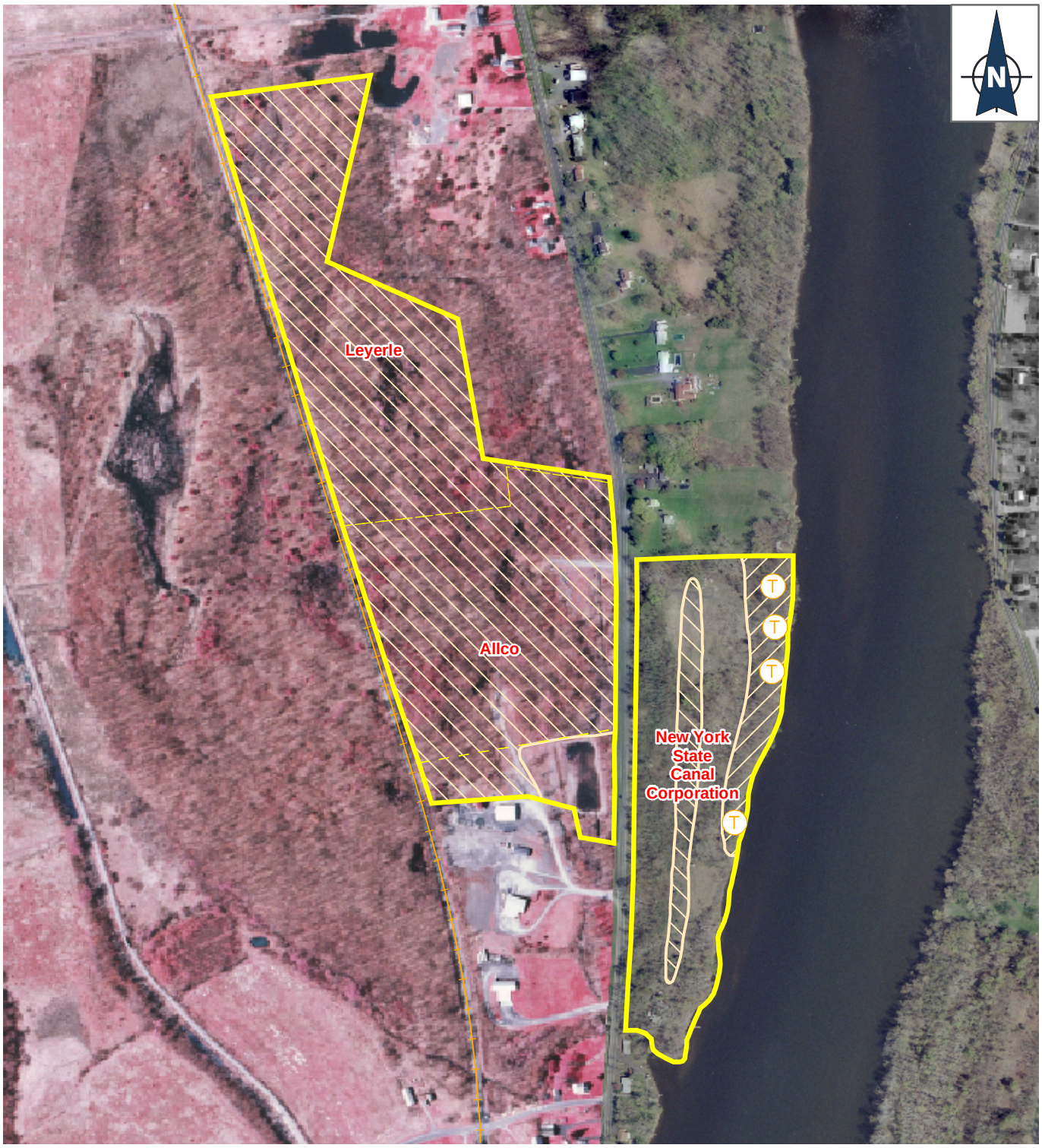

LEGEND

- Potential Site Boundary

Archaeological Testing Method

- Backhoe Test
- Shovel Test (not completed)
- Backhoe & Shovel Test
- (T) Backhoe Trench Locations

Hudson River PCBs SUPERFUND SITE

Figure 6-1
Field Sampling Areas
Phase I B Cultural Resources Investigation
New York State Canal Corporation / Allco / Leyerle

500 250 0 500 1,000
Feet

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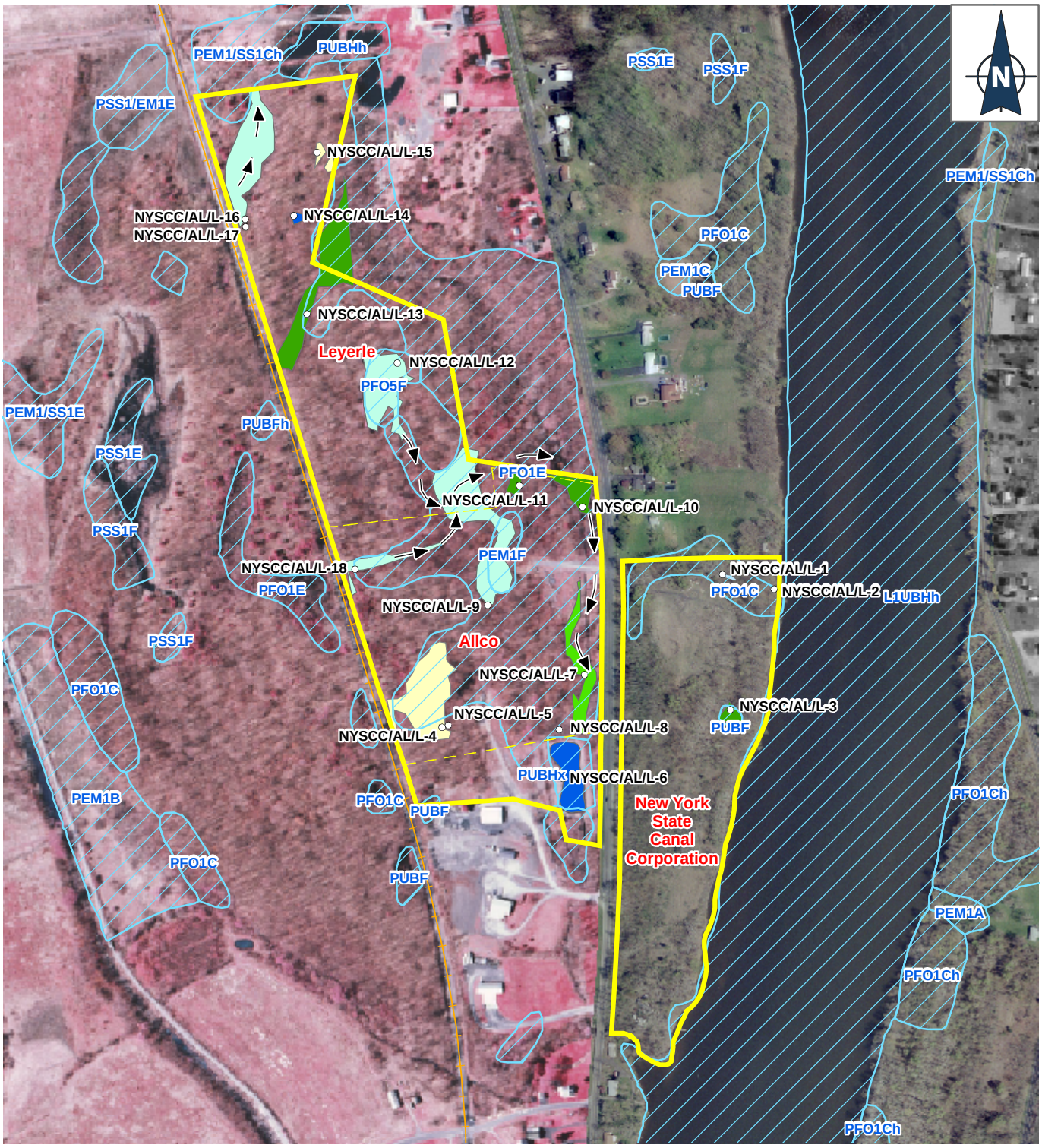

LEGEND

- NYS DEC Mapping
- National Wetland Inventory Mapping

Delineated Wetlands

- Emergent
- Forested
- Forested / Emergent
- Forested / Scrub-Shrub
- Open Water / Emergent
- Open Water / Forested
- Observation Plots
- Direction of Drainage Flow

Hudson River PCBs SUPERFUND SITE

Figure 7-1
Wetland Locations
New York State Canal Corporation / Allco / Leyerle

500 250 0 500 1,000
Feet

02:001515.HR03.08.04 - 12/11/03
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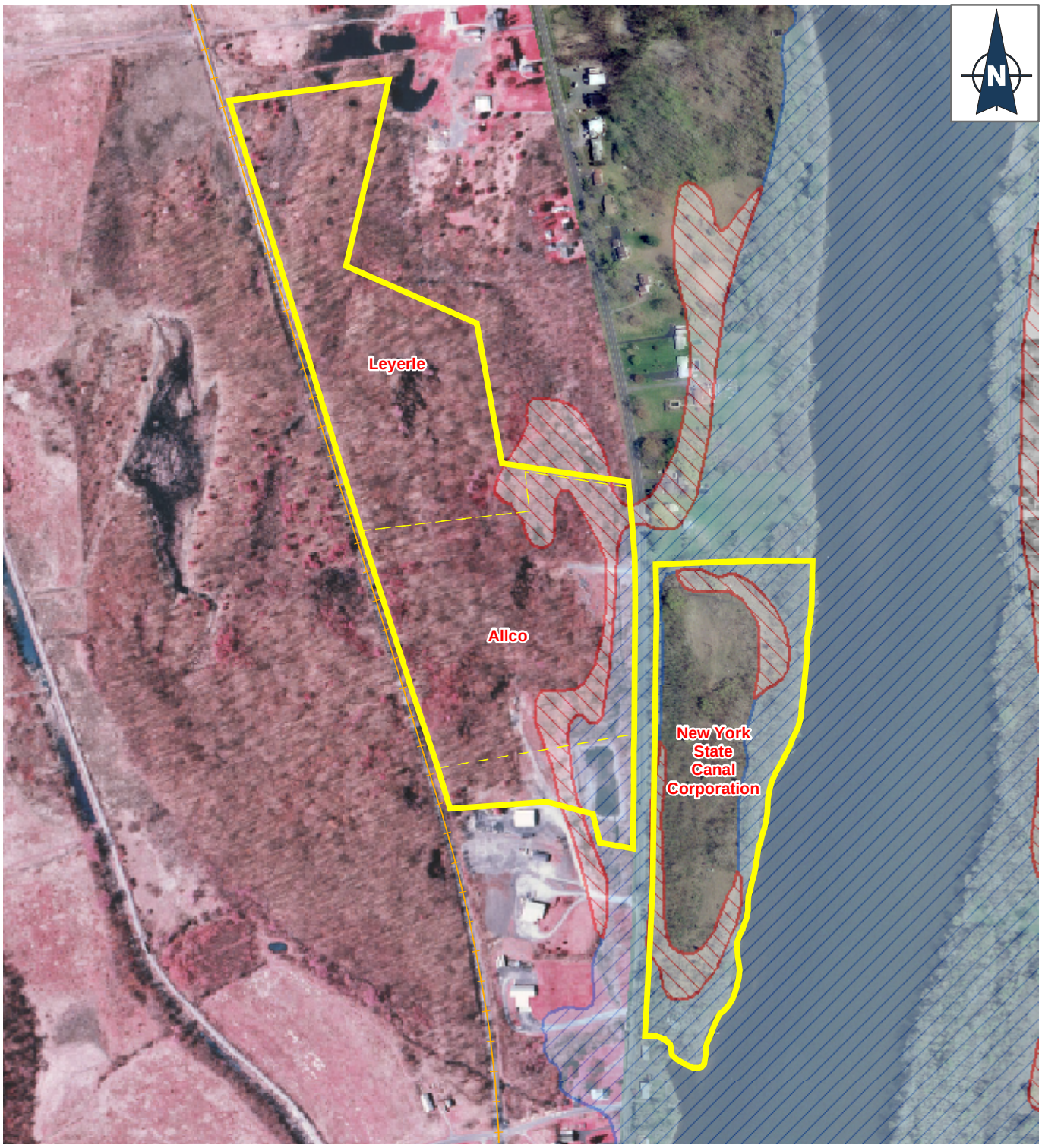

LEGEND

- Potential Site Boundary
- Tax Parcels

FEMA Floodplain

- 100 Year Floodplain
- 500 Year Floodplain

Hudson River
PCBs SUPERFUND SITE

Figure 8-1
FEMA Floodplain Mapping
New York State Canal Corporation / Allco / Leyerle

500 250 0 500 1,000
Feet

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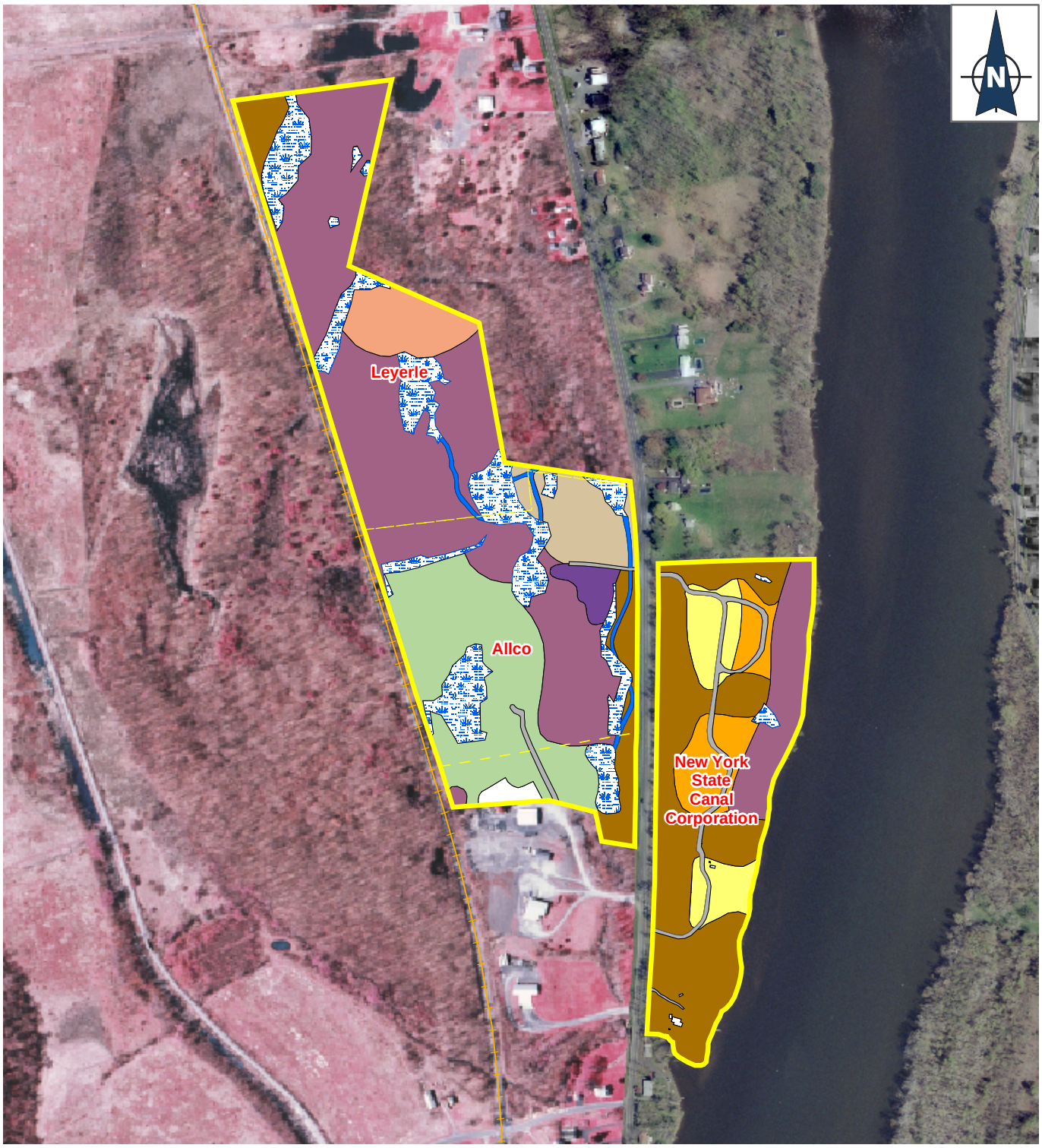

Ecological Communities

- Unpaved Road
- Wetland
- Successional Northern Hardwoods (SNH)
- Successional Old Field
- Successional Shrubland
- Appalachian Oak-Hickory Forest (AOF)
- SNH / AOF
- Beech-Maple Mesic Forest
- Brushy Cleared Land
- Marsh Headwater Stream
- Rural Structure Exterior
- Construction / Road Maintenance Spoils

Hudson River
PCBs SUPERFUND SITE

Figure 10-1
Site Ecological Communities
New York State Canal Corporation / Allco / Leyerle

500 250 0 500 1,000
Feet

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State of New York/First Rensselaer/Marine Management Site
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State of New York/First Rensselaer/Marine Management Site

2 Phase I Environmental Site Assessment

2.1 Site Location, Description, and Environmental Setting

The State of New York/First Rensselaer/Marine Management Final Candidate Site (FCS) is located in the Hudson-Mohawk Lowland physiographic province. The topography of this province has been produced primarily by erosion along outcrop belts of sedimentary rocks that lie between the Catskills and the metamorphosed shale hills of the Taconics. The province generally has low relief and elevation and is underlain by Ordovician shales that have been exposed by the erosion of Silurian and Devonian limestones (University of the State of New York 1966). Site photos are found in Appendix A.

The State of New York/First Rensselaer/Marine Management site has an area of approximately 16.6 acres and comprises 17 parcels (see Figure 2-1). The site is located in Rensselaer, New York, on the east side of Hudson River (at approximately river mile 146.7). Site owners include the State of New York, First Rensselaer Corporation, and Marine Management of the Hudson, Inc. The site is undeveloped and there are no buildings or other structures on the site. The remains of an old concrete foundation measuring approximately 20 feet by 30 feet are located near the midpoint of the eastern side of the site, nearly 40 feet west of the railroad right-of-way (ROW).

The site is bordered by a single-family riverfront residence and vacant commercial properties to the north; the railroad ROW and a train station to the south; the railroad ROW, industrial manufacturing and processing facilities, and residential and commercial properties to the east; and the Hudson River to the west. A school and a cemetery are located within 1 mile to the northeast, and a park is located within 0.5 mile to the southeast. The site is mostly wooded and has a variable topography. The southwestern part of the site exhibits a gentle grade to a sandy or gravelly beachfront along the Hudson River. A very steep incline of more than 25 vertical feet flanks the northwestern end of the site, which is owned by Marine Management.

A gray ash pile with an average height of 6 feet above grade and a width of 15 feet flanks most of the eastern site border south of a sewage pumping station. Mounding with municipal-type trash at surface and in depressions was observed in the northern portion of the site during the July 2003 site visit. Several piles of surface debris consisting of glass, concrete blocks, roofing shingles, and tires were noted throughout the remainder of the site. Three empty drums were noted. At least one junked vehicle was observed. In addition, a stacked pile of approximately 50 to 100 wooden telephone-type poles is located in the east-central part of the site. A 24-inch-diameter pipe traverses the northern part of the site.

The site is completely unfenced and can be accessed by vehicle. Road access to the site is via Tracy Street, a residential road that ends at the north edge of the site (see Figure 2-1). Forbes Avenue connects to Tracy Street from the north. Houses, vacant residential land, and industrial manufacturing and processing facilities separate the site from Broadway Avenue, which runs parallel to the east side of the site. While rail lines do not

traverse the site, there are approximately 2,000 feet of direct rail access. A single active rail line borders the eastern side of the site adjacent to the ash pile (see above), and a railroad bridge crosses the river immediately south of the site. A railroad yard is located south of the site. River access is provided by approximately 1,400 feet of river frontage, and no structures are located directly on this portion of the shoreline. No dock facilities are located on the site.

An overhead electrical transmission line bisects the site. Key site features are presented on Figure 2-1.

2.2 Historical Use Information

On an 1876 Beers map the project area appears to extend into the river, suggesting that much of the site consists of made land. At that time there were no structures on the site. By 1950, according to the U.S. Geological Survey (USGS) topographic map, the western portion of the area had been completely filled. The made land consists of dredgings of gravel, sand, and mud from the Hudson River, construction and demolition debris, and trash. The made land was used to fill in low areas, marshes, and bottomlands. In most places, the made land covers the original land to a depth of several feet (Planners East, Inc. 1986).

2.3 Summary of Previous Studies

According to the current owners of the Marine Management parcel, no previous site assessments have been conducted on the site.

3. Phase II Investigation

3.1 Field Investigations

The initial phase of the environmental assessment consisted of collecting environmental and geotechnical samples. Results of the geotechnical sampling are provided in Section 4 of this report. Site photos are found in Appendix A. Boring logs and supplemental geotechnical information are found in Appendix B. Environmental samples were collected from surface soil, subsurface soil, and groundwater. Surface and subsurface soil samples were collected in areas of surficial dumping and areas of the sites where construction operations would be expected to occur if the site were selected. Sediment samples were collected along present site runoff flow pathways. Groundwater samples were collected to provide an indication of overall environmental conditions.

All environmental field investigations were performed in accordance with the August 2003 *Hudson River PCBs Superfund Site Facility Siting Work Plan* (Ecology and Environment, Inc.) and the September 2003 addenda to that plan, the *Site-Specific Field Investigations of Final Candidate Sites* (Ecology and Environment, Inc.). Investigations at this site were performed in September and October 2003. A summary of investigation activities and dates is provided in Table 3.1-1.

Deviations from the Work Plan
The following deviations from the work plan occurred during the field program:

- Geotechnical boring MM-GT01 was moved approximately 100 feet to the northwest and MM-GT02 was moved approximately 100 feet north to facilitate rig access.

- Geotechnical boring MM-GT03 was moved approximately 150 east from the State of New York parcel to the First Rensselaer parcel because of lack of permission to access the State of New York parcel.

- Geoprobe boring MM-GP03 was eliminated because of lack of permission to access the State of New York parcel.

- Because of lack of permission to access the State of New York parcel, surface soil sample locations MM-SS03, MM-SS04, and MM-SS06 were eliminated, and MM-SS08A was moved from the State of New York parcel to the First Rensselaer parcel.

- Because of lack of permission to access the State of New York parcel, surface water/sediment sample location MM-SW/SE01 and sediment location MM-SE02 were eliminated.

- Initially the field team was unable to collect all groundwater parameters on October 10 from temporary well MM- GP04 due to poor recharge. However, the remaining volumes were collected on October 15.

3.2 Environmental Sampling Program

3.2.1 Temporary Well Installation and Groundwater Flow

Three temporary 1-inch polyvinyl chloride (PVC) wells were installed via direct push technologies (DPT). Well construction information is provided in Table 3.2-1. Before groundwater sampling, each temporary well was purged three times the volume of water standing in the casing or to dryness (whichever occurred first). Water quality parameters measured in the field during purging are presented in Table 3.2-2. Groundwater sample results are described below.

Groundwater elevations were measured from each temporary well upon well completion and at two separate times following completion of the sampling program. In addition, a surface water elevation was obtained from the Hudson River along the western border of the site via a stream gauge. The top of each temporary well and a reference mark on the stream gauge were surveyed so that an accurate elevation could be obtained. Table 3.2-3 summarizes the recorded elevations. Based on the limited information available from this study (three wells spaced more than 600 feet apart), groundwater flow beneath the site appears to be to the northwest towards the Hudson River (see Figure 3-1). The water level measurement round that was mapped occurred close to low tide. The water level measurement round on November 6, 2003 was taken near high tide. MM-GP02 was impacted by the increase in water levels on the Hudson River, creating a temporary reversal of gradient during which flow was from the northwest to the southeast.

3.2.2 Field Sampling and Surveying

The environmental investigations at this site included collecting seven surface soil samples; subsurface soil sampling and installation and sampling of temporary 1-inch monitoring wells via direct push technologies (DPT) at three locations; two geotechnical soil borings; and installation of one stream gauge for hydrologic monitoring purposes. Table 3.2-4 summarizes the total number of field and quality assurance/quality control (QA/QC) samples collected and the parameters for which they were analyzed. Figure 3-1 illustrates all environmental investigation locations. All sample locations and stream gauges were surveyed for both horizontal and vertical positions. Survey data is presented in Appendix C. All samples were collected in accordance with the project work plans. Field chemistry data recorded from surface water sample locations are presented in Table 3.2-2. Results from each sample media are described below.

3.2.3 Data Usability

Soil, sediment, surface water, and groundwater samples were collected from various locations at each FCS (see Section 3.3). The samples were submitted to several environmental analytical laboratories for analytical testing as directed by EPA. Appendix D provides the complete analytical results, field quality control (QC) samples, and data qualification. The specific data usability concerns regarding each FCS are still under evaluation as part of a detailed review of the hard copy data assessment reports. The following is a summary of general information regarding data usability determined from the electronic data review.

Out of a total of 1,903 reported values, 194 values were qualified during the data validation process. The data points that were qualified as estimated, bias low, or non-detect are considered useable for the purposes of this project. A total of 17 values were flagged as unuseable, resulting in a completeness of more than 99.9%. Further evaluation of the data will include determining potential limitations of other qualified data and the impact of rejected data. In general, potential data limitations for the site are minor, as noted below:

- Low levels of several volatiles and pesticides were flagged "U" as non-detected. The results were generally below the reporting limit and, therefore, the data qualification has no impact on the data usability.

- Data qualified as unusable are for compounds that are generally highly reactive and not typically found during site investigations.

- Field blanks, including trip blanks, rinseates, and field duplicates, were collected to be applicable to all FCSs. The results are summarized in Appendix D. The results demonstrate good overall sampling and analysis precision and no significant field contamination.

- The laboratory reported tentatively identified compounds (TICs) for volatile and semivolatile compounds on the hard copy data package. TIC values are reported as

"NJ" with presumptive evidence that the compounds are present and concentrations are considered highly estimated. The TICs are being reviewed to determine any indications of significant contamination not identified by the results for the known target compounds.

3.3 Environmental Sample Results and Evaluation

State and federal standards, criteria, and guidances were used for preliminary screening purposes during review of the analytical sample results for surface soil, subsurface soil, surface water, sediment, and groundwater. Exceedances of the criteria (with the exception of metals) are noted in Tables 3.3-1through 3.3-3 by shading the values that exceeded the criteria.

Metals cannot be directly compared to the criteria without additional evaluation (including evaluation of background levels) because metals occur naturally in the environment. Additionally, turbidity in surface water and groundwater samples can cause interference with metals analysis. These factors were considered in the evaluation of the significance of detected compounds.

The criteria were selected based on a review of available EPA and New York State Department of Environmental Conservation (NYSDEC) standards, criteria, and guidances for the various media sampled. The applicability of these preliminary screening criteria to the FCSs will be determined as part of further evaluation by EPA in consultation with NYSDEC and the New York State Department of Health (NYSDOH).

The following discussion identifies the samples, by medium, with compounds exceeding the screening criteria. Those compounds without appropriate screening criteria also are identified. Where available, pertinent information for comparison purposes is provided.

Soil (Surface and Subsurface)

(NYSDEC, *Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels* (1994) and subsequent amendments (December 20, 2000) (TAGM 4046). The recommended soil cleanup objectives and typical eastern USA background concentrations for metals contained in TAGM 4046 were used as preliminary screening guidance for soil. Where specific guidance values were available for surface and subsurface soils (such as for polychlorinated biphenyls [PCBs]) they were applied based on the depth of the samples collected. TAGM 4046 assumes a total organic carbon (TOC) of 1%.

Surface Water

NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998). These standards and guidance provide values for various water classes. Since the majority of the surface water samples were collected from unnamed ditches and ponded water areas at the site, the surface water samples collected are assumed to be Class D waters. Class D waters are best used for fishing. However, due to natural conditions such as intermittent flow, water conditions may not be conducive to fish propagation.

Class C waters are considered conducive to fish propagation. Surface water standards and guidance values are calculated for some inorganics based on water hardness.

Sediment
NYSDEC, *Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments* (1999). This guidance requires organic contaminants in sediments to be calculated based on sample TOC. TOC data were collected and used to calculate these screening values. Various criteria for bioaccumulation and acute and chronic toxicity are presented in this document for protection of human health, benthic aquatic life, and wildlife. The benthic aquatic life chronic toxicity protection level for sediment was selected as the preliminary screening value for all collected sediment samples.

Groundwater
NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998) provides Class GA standards and guidance values. The *National Primary and Secondary Drinking Water Regulations, Current Drinking Water Standards* (2002) maximum contaminant levels (MCLs) were used for preliminary screening for groundwater samples collected from the temporary wells.

3.3.1 Surface Soil

Volatile Organic Compounds (VOCs)
No VOCs exceeding criteria were detected (see Table 3.3-1). Compounds without standards that were detected were cyclohexane, dichlorodifluoromethane, isopropylbenzene, methylcyclohexane, styrene, and trichlorofluoromethane in MM-SS08. Because of the low levels of VOCs detected (less than 6 µg/kg[J]), their presence is not of concern.

Semivolatile Organic Compounds (SVOCs)
Exceedances of SVOC standards occurred for 4-nitrophenol (440 µg/kg [J]) benzo(a)anthracene (260 µg/kg [J] to 1,800 µg/kg), benzo(a)pyrene (270 µg/kg [J] to 1,800 µg/kg), benzo(b)fluoranthene (2,300 µg/kg to 2,600 µg/kg), benzo(k)fluoranthene (1,500 µg/kg), chrysene (720 to 2,100 µg/kg), and dibenzo(a,h)anthracene (150 µg/kg [J] to 640 µg/kg) (see Table 3.3-1). Compounds without standards that were detected were acetophenone at MM-SS05 (1,000 µg/kg) and carbazole at MM-SS01 (160 µg/kg), MM-SS07 (140 µg/kg[J]), and MM-SS08 (150 µg/kg[J]).

Pesticides
No pesticides exceeding screening criteria were detected. Pesticides without screening criteria that were detected were endrin aldehyde and methoxychlor; however, these were detected at low estimated levels and so their presence is not of concern (see Table 3.3-1). The results for methoxychlor at MM-SS08 were rejected.

Herbicides
No herbicides were detected in the surface soil samples.

PCBs
No PCBs were detected in the surface soil samples.

Hexane Extractable Materials (Total Petroleum Hydrocarbons [TPH])
TPHs were not detected in the surface soil samples.

Inorganics
Arsenic, barium, beryllium, cadmium, calcium, chromium, copper, iron, lead, magnesium, mercury, nickel, selenium, and zinc were detected above their NYSDEC screening values (see Table 3.3-1). Metals are naturally occurring constituents of soils that often exceed criteria, and so these exceedances are not necessarily of concern. However, the following samples contained metals greater than three times the highest value in the eastern USA range: zinc in MM-SS01 (fill area); copper, mercury, and zinc in MM-SS02 (fill area); barium, cadmium, and zinc in MM-SS05 (surficial dumping area); zinc in MM-SS08 (composite adjacent to the railroad); and barium, cadmium, copper, and zinc MM-SS09 (drum area inside foundation).

Cyanide was detected at low levels (0.27 to 0.35 mg/kg) in three surface soil samples. No standard is available for cyanide; however, the presence of cyanide at such low levels is not a concern.

3.3.2 Subsurface Soil

VOCs
No VOCs exceeding screening criteria were detected (see Table 3.3-2). Low levels of compounds without screening criteria — cyclohexane (3 μg/kg [J]) and methylcyclohexane (3 μg/kg [J]) — were detected in MM-GP04-SB (8 to 10 feet bgs) (see Table 3.3-2).

SVOCs
Benzo(a)anthracene (300 [J] to 480 μg/kg), benzo(a)pyrene (280 [J] to 490 μg/kg), chrysene (480 μg/kg), and dibenzo(a,h)anthracene (88 to 120 μg/kg [J]) were detected above NYSDEC standards (see Table 3.3-2).

Pesticides
No pesticides that exceeded screening criteria were detected (see Table 3.3-2).

PCBs
No PCBs were detected in subsurface soil samples.

Inorganics
Arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, magnesium, mercury, nickel, and zinc were detected above their NYSDEC screening values (see

Table 3.3-2). Metals are naturally occurring constituents of soils that often exceed criteria; therefore, these exceedances are not necessarily of concern. However, the following samples contained metals greater than three times the highest value in the eastern USA range: cadmium, mercury, and zinc in MM-GP01-SB (8 to 12 feet bgs) (fill area); and zinc in MM-GP04-SB (8 to 10 feet bgs)(surficial dumping area).

Cyanide was detected at 1 mg/kg and 0.22 mg/kg in MM-GP01-SB (8 to 12 feet bgs) and MM-GP04-SB (8 to 10 feet bgs, respectively. There is no standard available for cyanide; however, these low concentrations are not of concern.

3.3.3 Surface Water

No surface water samples were collected at this site.

3.3.4 Sediment

No sediment samples were collected at this site.

3.3.5 Groundwater

VOCs
No VOCs that exceeded screening criteria were detected (see Table 3.3-3).

SVOCs
No SVOCs with criteria were detected (see Table 3.3-3). Caprolactam, a compound without a screening value, was detected in two wells: MM-GP01 (390 µg/L) and MM-GP04 (6 µg/L [J]) (see Table 3.3-3).

Pesticides
No pesticides were detected in the groundwater samples.

PCBs
No PCBs were detected in the groundwater samples.

Inorganics
Aluminum, iron, and manganese were each detected in at least one well above NYSDEC and/or EPA screening values (see Table 3.3-3). These metals are naturally occurring constituents of groundwater that often exceed criteria and therefore these exceedances are not of concern.

4. Geotechnical Assessment

A subsurface field investigation was conducted at the State of New York/First Rensselaer/Marine Management site to obtain geotechnical information. The primary purpose of collecting this data was to determine if there are geotechnical limitations associated with the use of the site for a sediment processing/transfer facility. Data collection included:

- Review of available subsurface information from previous studies;

- Soil borings installation (which included logging the subsurface geology and obtaining standard penetration test [SPT] data); and

- Submitting soil samples for geotechnical testing.

Presented below is a summary of the site geologic and geotechnical data collected.

Subsurface soil investigation locations were selected to provide general coverage of the site. Additionally, locations were selected based on the possible presence of fill in areas that may be used to construct the sediment processing/transfer facility. Figure 3-1 shows the locations of three geotechnical boreholes, MM-GT01 through MM-GT03, installed during this study. At each geotechnical boring location a continuous vertical soil profile was developed from the ground surface to a depth of approximately 26 feet below ground surface (bgs) in 2-foot increments. A 2-inch outer diameter (OD) by 24-inch long split spoon sampler was advanced through 4.25-inch inner diameter (ID) hollow stem augers to collect the samples. Standard penetration tests using a split spoon sampler were conducted per ASTM Method D1586-99. Blow count data was recorded on boring logs and is presented in Appendix B. Granular soil density and cohesive soil consistency were classified using SPT n-values, which are the sums of the blows recorded over the second and third 6-inch penetration intervals of the tests.

One soil sample from each geotechnical boring was collected and submitted for Atterberg limits, particle size, and moisture content analysis. The overall goal of sample collection from geotechnical borings was to collect at least one soil sample from each soil horizon encountered within the top 25 feet of overburden. At two boreholes, one soil sample from each depth interval also was collected and submitted for moisture content testing, creating a continuous moisture profile from the ground surface to the bottom of the borehole. Particle size gradation curves and their respective analytical summary sheets, which also list Atterberg limit data and moisture content data, are presented in Appendix B.

In addition to the geotechnical borings, subsurface geology was also recorded at three other locations, MM-GP01, MM-GP02, and MM-GP04, during subsurface investigation activities completed for environmental sampling. These soil investigation activities were conducted using direct-push technology (DPT); a 4-foot soil collection interval was used to collect a continuous soil profile from the ground surface to approximately 25 feet bgs. DPT soil boring logs are also presented in Appendix B.

The subsurface data indicates that the northern end of the property contains fill consisting of silt, sand, metal, glass, brick, and cinders that extends to a depth of approximately 18.5 feet bgs. This fill is underlain by sand grading to a sand and silt mixture containing gravel to a depth of approximately 25 feet bgs. Farther inland, a thinner (approximately 2-foot thick) fill layer lies at the surface in the northeast part of the site, south of the

sewage treatment pump station. Very loose silty sands and sand layers, classified per SPT n-value records, often containing gravel, underlie the fill to a depth of approximately 17 feet bgs, where a thin peat layer (<0.5 feet thick) lies. Clay underlies the peat layer to a depth of at least 26 bgs. The consistency of this clay increases from very soft to medium, based on SPT n-values increasing from 1 to 6 with depth.

The central part of the site consists of an approximately 3.5 foot thick layer of sand containing brick fragments, which is underlain by sand containing gravel to a depth of 25 feet. Farther inland, the fill layer is absent. The density of soil in the central part of the site is generally loose, based on SPT n-values.

The southeastern corner of the site also contains fill ranging in thickness from approximately 2 to 6 feet. A sandy clay lens containing gravel and about a foot thick lies at a depth of approximately 6 feet bgs under the thicker fill zone; it is underlain by layers of gravelly sands, clay silts with sands, silts, and sands to a depth of 25 feet. The thinner fill zone further to the west is underlain by nearly 4.5 feet of clay silt, under which layers of gravelly sand, silty sand, and gravel/sand/silt mixtures extend to a depth of 17 feet bgs. SPT n-values indicate densities in these granular soils are generally loose to very loose. Clay underlies the southern end of the site, starting at a depth of approximately 17 feet bgs; its consistency is classified as medium to soft, based on SPT n-values.

5. Utility Assessment

5.1 Preliminary Assessment

A preliminary utility assessment was completed as part of the site-specific field investigation of the Final Candidate Sites. Major site utilities identified on-site are shown on Figure 2-1. The assessment included the following steps:

1) Observations of site surface utilities such as overhead power or telephone lines, electrical transformers, manholes, sewer outfalls, and water hydrants were made.

2) Dig Safely New York (Dig Safe) was contacted as part of the utility clearance process before subsurface/intrusive work activities, including direct communication with various utility operators, as needed. Operators of on-site utilities provided information.

3) Available site maps were reviewed. Maps were obtained from various sources, including property owners.

It is anticipated that further utility assessments will be completed at the Recommended Sites. Further assessment may include contacting local municipal offices for information, opening manholes to determine flow paths, and dye testing. Further assessment may be conducted as part of the design evaluation process or during other additional investigation of Recommended Sites.

5.2 Findings and Observations

Utilities identified at the State of New York/First Rensselaer/Marine Management site include the following:

- A sewer pipeline extends from the southern end of the site to the Rensselaer County sewage pump station (located in the northeastern part of the site). This sewer line then bends approximately 45 degrees and extends toward the pump station; a manhole is located at this bend. Approximately 50 feet south of the pump station, the line turns north and enters the facility.

- A 24-inch discharge pipeline extends from the pump station to the Hudson River where the outfall is located.

- An overhead electrical power line right-of-way is located in the central part of the site and runs north-south.

6. Survey of Terrestrial, Archaeological, and Architectural Resources (STAAR)

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effect that facility siting may have on cultural resources that are listed or are eligible for listing on the National Register of Historic Places (NRHP). Phase IB field investigations continued the cultural resources studies and are specifically designed to determine the presence and extent of cultural resources within the State of New York / First Rensselaer /Marine Management site (see *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plan: Site-Specific Field Investigations of the Final Candidate Sites*). Field activities involved archaeological, geomorphological, and architectural investigations.

6.1 Archaeological Investigation

Initial field reconnaissance was conducted in July 2003 and Phase I field investigations on November 14, 2003. One modern foundation of poured concrete with sectioned rooms was found. It is surrounded by fill. Further investigation is not recommended due to disturbance and property history. Phase I field investigations are complete for this entire FCS. Pending complete analysis, no further investigations are recommended.

6.2 Geomorphological Investigation

Field investigations were conducted on October 25, 2003. Most of the site contains a modern landfill. One 10-meter long trench approximately 1.3 meters in depth and 10 meters in length was excavated (Figure 6-1). The trench was located on the northern half of the project area and revealed the presence of river cobbles. No particular features or artifacts were observed.

Much of the area is landfill. The geomorphologist, after conferring with the backhoe operator, determined that only one trench would be possible to excavate in order to avoid

contact with the landfill area. The rest of the site was extremely uneven and strewn with trash.

Prehistoric Site Sensitivity
This site has been severely disturbed. No evidence was found of the original shoreline indicated on historic maps, and no intact paleosols were found.

6.3 Architectural Assessment

Fieldwork was conducted in July 2003. No structures are currently located within this site other than the concrete ruins mentioned above. The NRHP-listed Casparus Pruyn house and office is located approximately 300 feet to the north. Numerous NRHP-listed structures are located across the river in downtown Albany but the site would most likely be shielded by elevated roadways and other structures. A potentially historic railroad bridge crosses the river immediately south of the area of potential effect (APE) and will require evaluation for potential NRHP-eligibility.

7. Wetland Assessment

7.1 Determination and Delineation Methods

Wetland determinations on the State of New York/ First Rensselaer/ Marine Management site on October 13, 2003 followed the routine approach noted in the U.S. Army Corps of Engineers (USACE) 1987 *Wetland Delineation Manual*, as outlined in Section 3.6.2.2 of the *Hudson River PCBs Superfund Site Facility Siting Work Plans* (Master Work Plans) (Ecology and Environment, Inc. 2003). Applicable data (e.g., soil surveys, National Wetland Inventory [NWI] mapping, etc.) were reviewed beforehand to provide background information (see the Master Work Plan, Section 3.6.2.1). Determination activities were limited to those areas previously identified as potential wetlands through data review (i.e., NWI and NYSDEC mapping) and previous site reconnaissance efforts.

The State of New York/First Rensselaer/Marine Management site is approximately 16.6 acres and comprises 17 parcels. An 1876 map shows the site is within the river channel, indicating that it was likely created by the disposal of dredge spoils over time.

Currently the site is mostly wooded with a variable topography that is the result of the past filling and dumping activities. The southwestern part of the site exhibits a gentle grade to a sandy/gravelly beachfront along the Hudson River. A very steep incline of more than 25 vertical feet flanks the northwestern end of the site, which is owned by Marine Management. Mounding with municipal-type trash at the surface and in depressions was observed in the northern portion of the site. Several piles of surface debris consisting of glass, concrete blocks, roofing shingles, and tires were noted throughout the remainder of the site.

7.2 Review of Existing Information

Review of NWI and NYSDEC wetland mapping (Figure 7-1) indicated the presence of a NWI-identified riverine wetland complex along the shoreline of the site. No further wetlands were identified on any of the parcels. Although NWI wetland maps identify

entire river systems as riverine or lacustrine wetlands, sample plots and determinations along the shoreline were limited to areas that exhibited wetland characteristics and occurred above the ordinary high water mark.

The Rennselaer County Soil Survey was reviewed to determine the soil types mapped on this site (U.S. Department of Agriculture 1988). The mapped soil type within this site is udorthents, deep and excessively drained soils formed in recent fill deposits occurring on till and flood plains. Soils observed on-site had a large sand content and may have been spoils piles from river dredging activities. Site soils have been disturbed due to the extensive filling and dumping of trash and building materials.

7.3 Results of the Wetland Assessment

Species identified on the site include Norway maple (*Acer platanoides*), silver maple (*Acer saccharinum*), poison ivy (*Toxicodendron radicans*), tree of heaven (*Ailanthus altissima*), American bitter-sweet (*Celastrus scandens*), glossy buckthorn (*Rhamnus frangula*), Carolina buckthorn (*Rhamnus caroliniana*), cottonwood (*Populus deltoides*), stinging nettle (*Urtica dioica*), red mulberry (*Morus rubra*), green ash (*Fraxinus pennsylvanica*), and spotted jewelweed (*Impatiens capensis*).

A more detailed description of the community types on this site can be found in Section 10.

Field observations of site vegetation, soils, and hydrologic characteristics indicated that there are no areas on this site that meet the three-parameter approach outlined in the USACE *Wetland Delineation Manual*. Therefore, no wetlands were identified as occurring on-site.

8. Floodplain Assessment

An initial floodplain assessment was conducted on the State of New York/First Rensselaer/Marine Management site in order to determine the presence, extent, and orientation of Federal Emergency Management Agency (FEMA)-mapped floodplains within site boundaries. Flood magnitudes and historic river stages from gauging stations as close as available to the site were examined to obtain an initial sense of the characteristics of on-site flooding. Appendix E provides the methodology and assumptions involved in this assessment.

8.1 Location and Orientation of the Floodplain

Figure 8-1 shows that portions of the site are located within the 100-year and 500-year floodplains. The floodplain areas were obtained from Flood Hazard Boundary Maps and the City of Rensselaer Flood Insurance Study (September 1979) from FEMA's Federal Insurance Administration.

The site is located on the east side of the Hudson River in the City of Rensselaer. The total area is approximately 16.6 acres (see Table 8-1). Approximately 89.8% (14.9 acres)

of the total area is within the base (100-year) floodplain. River frontage is approximately 1,400 feet in length.

The site is located almost entirely within the 100-year floodplain, with the exception of a narrow strip of land along the eastern boundary. This latter area is mapped as occurring within the 500-year floodplain. The entire width (~575 feet) of the northern portion of the site is within the 100-year floodplain.

Table 8-1 Summary of New York State/First Rensselaer/Marine Management Site and Floodplain Characteristics

Is a portion of the site in the base (100-year) floodplain?	Yes
Total area of the site	16.6 acres (725,242 ft^2)
Area of the site within the base (100-year) floodplain	14.9 acres (650,914 ft^2)
Percentage of the site within the base (100-year) floodplain	89.8%
Perimeter of the site (total length)	3,970 ft
Perimeter of the site bordering the Hudson River (river frontage)	~1,400 ft
Greatest width between the outer boundary of the base floodplain and the Hudson River boundary	~575 ft

8.2 100-year Flood

The FEMA maps show the 100-year flood elevation at the site to be 21 feet National Geodetic Vertical Datum (NGVD). A brief examination of site topography and the suggests FEMA mapping suggests that site elevation characteristics have not changed significantly since the FEMA floodplain modeling and mapping occurred.

The closest gauge station with historic flow data is the Troy gauge station (per the National Weather Service station TRYN6, which is also the same as the U.S. Geological Survey [USGS] station 01358000 on Green Island), approximately 7 miles upstream of the site location. The Troy/Green Island gauge station flood stage is 24 feet NGVD. At this elevation water reaches mobile homes along the riverfront in Lansingburgh. At 27 feet, numerous evacuations have occurred, with approximately 1,000 cellars and 300 homes affected. At 29 feet, there are disaster conditions, with several feet of water on riverside streets (National Weather Service Advanced Hydrologic Prediction Service, http://ahps.erh.noaa.gov/cgi-bin/ahps.cgi?aly&Hudson%20River).

Flood magnitudes were calculated from fifty-seven years of flow data at the Troy/Green Island gauge station. Based on this data, the 100-year flood stream flow for this station is 200,590 cubic feet per second (cfs). A flood of this magnitude has not occurred in the fifty-seven years of modern data. In that time, there have been five flow events greater than a 10-year flood, including three that were also greater than a 20-year flood (December 31, 1948; March 14, 1977; and January 20, 1996).

8.3 Local Flooding

Given that the site is located in the estuary portion of the Hudson River, no data are available from the NYSCC that are relevant for investigating flooding issues.

A spot elevation surveyed along the river edge of the boundary was 0.9 foot NGVD. The contour information (5-foot intervals) provided with 2002 aerial photography of the site shows a 5-foot contour line running along the land-river edge. Therefore, the 100-year flood would put the river frontage of the site under approximately 20 feet of water.

While the probability of a 20-foot inundation event (100-year flood) is remote, there is the possibility of flooding on a smaller scale. The Flood Insurance Study shows the 10-year flood profile in the vicinity of the site to be 15 feet NGVD. The study indicates that flooding may occur during any season. However, the majority of major floods have occurred during the months of February, March, April, and May. Through the time of the report (1979), the five worst floods on the Hudson River that caused damage in the City of Rensselaer were identified as February 1900 (80-year flood), March 1902 (50-year flood), March 1913 (120-year flood), March 1936 (33-year flood), and January 1949 (30-year flood).

9. Coastal Management Area Assessment

The State of New York/First Rensselaer/Marine Management site is located within the state-defined Hudson River Coastal Management Area. In addition, the City of Rensselaer has an approved Local Waterfront Revitalization Program (LWRP) (City of Rensselaer 1987). The state CMP provides for policies and procedures on development and other activities within the state-defined coastal zone. The Rensselaer LWRP provides additional purposes and objectives of the city's planned uses for the Rensselaer coastal zone.

If the State of New York/First Rensselaer/Marine Management site were selected as a site for the Phase 1 and Phase 2 dredging, the siting of a sediment processing/transfer facility at this location would be consistent with the state CMP development policies to revitalize underutilized waterfront areas for commercial and industrial uses (Policy 1) and to facilitate the siting of water-dependent uses and facilities on or adjacent to coastal waters (Policy 2). It is anticipated that the layout, construction, and operation of the facility at the site would not have an adverse effect on other relevant policies of the state CMP.

EPA will prepare an additional phase of its coastal zone consistency determination, covering potential indirect and cumulative impacts from the operation of sediment processing/transfer facilities, once the Phase 1 and Phase 2 dredging facility locations are selected.

However, locating the sediment processing/transfer facility at this site may not be consistent with the Rensselaer LWRP. The area encompassing the site is currently zoned as commercial/industrial, but the Rensselaer LWRP states that "residential and associated open space use here would be more consistent with the City's stated efforts to concentrate

commercial/industrial development to the west and south of the Conrail tracks, with residential neighborhood stabilization and revitalization encouraged elsewhere in the City." (City of Rensselaer 1987). Consequently, the use of this site for a sediment processing/transfer facility would likely not be consistent with the approved Rensselaer LWRP. Further analysis would have to be conducted to determine the consistency issue.

10. Baseline Habitat and Threatened and Endangered Species Assessment

10.1 Site Habitat Description

The State of New York/First Rensselaer/Marine Management site description information is presented in the *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plans: Site-Specific Field Investigations of the Final Candidate Sites* (Ecology and Environment, Inc. September 2003). In brief, historic and current land uses have influenced the availability, extent, and diversity of on-site habitats. The site is situated on the east side of the river within the Rensselaer City limits. It appears to have been used historically and is currently actively used for surficial dumping. In addition, the shoreline appears to be occasionally used for angling. There are no facilities on the site, except for a remnant concrete foundation adjacent to the railroad right-of-way. The majority of the habitats on-site are composed of early successional (less than 20 years) to mid-successional (20 to 60 years) vegetation communities. It was noted that a number of trees in the Appalachian oak hickory forest are late successional in age (> 60 years).

Figure 10-1 shows the habitat community types, as defined by Edinger et al. (2002) that are present on the site. Field investigations were conducted on October 13, 2003 to determine habitat availability within the site and to provide descriptions of existing habitat structure, diversity, and condition. Five community types are found on this 17-acre site; no significant or unique habitats are among them. The predominant communities (relative to total cover across the site) are briefly described below. A description of the different community types from Edinger et al. is presented in Appendix F.

Successional Northern Hardwood

The successional northern hardwood (SNH) community occurs across most of the site, accounting for approximately 84% of the total area. Predominant tree species include black locust and tree-of-heaven. Additional tree species include cottonwood, quaking aspen, box elder, basswood, slippery elm, and mulberry. The shrub layer was most commonly characterized by honeysuckle. There was relatively no herbaceous cover.

Appalachian Oak Hickory

The Appalachian oak hickory forest (AOF) comprises about 6% of the site. The predominant species are bitternut hickory and sugar maple. In addition, some of the species found in the SNH community occur in reduced numbers and densities in this community.

Other Communities
Mowed pathways and the successional old field community are a result of a partially maintained power line right-of-way. The majority of the area appears to be mowed once a year. Predominant plant species include sedges, goldenrods, and blackberries.

Common vegetation species and the community structure of the site has an influence on wildlife occurrence on-site. Given the small size of the site (16 acres) and the proximity of the site to urban development (i.e., the City of Rensselaer), the site's use by wildlife species is limited. Wildlife observed included gray squirrel, raccoon tracks, and common songbirds.

10.2 Endangered Species Act Issues

Shortnose sturgeon is identified as a federally and state-listed species that could potentially seasonally occur near the site. Shortnose sturgeon habitat extends from the mouth of the Hudson River in New York City to the Federal Dam at Troy (upstream from the site). Coordination and consultation with NYSDEC and the National Marine Fisheries Service (NMFS) as part of the facility siting process and for developing the details of a biological assessment document for the Hudson River PCBs Superfund Site project has taken place. This consultation revealed that the portion of the river in the vicinity of the site is a known spawning area for shortnose sturgeon.

The biological assessment will address any potential impacts to shortnose sturgeon as a result of the construction and operation of the a sediment processing/transfer facility at this site. The biological assessment will include a literature review and any pertinent studies that are related to the habitat near this site as well as life history information on the shortnose sturgeon.

Table 3.1-1 Summary of Activities, Hudson River PCBs Superfund Site

		Energy Park/Longe/ NYS Canal Corporation Site	Old Moreau Dredge Spoils Area/NYS Canal Corporation Site	Georgia Pacific/ NYS Canal Corporation Site	NYS Canal Corporation/ Allco/Leyerle Site	Bruno/Brickyard Associates/ Alonzo Site	State of New York/First Rensselaer/ Marine Management Site	OG Real Estate Site
Environmental Investigation	Environmental Sampling	09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
	Temporary Well Installation	09/29/03 - 10/01/03	10/02/03	10/08/03	10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	10/07/03
	Temporary Well Sampling	10/16/03	10/14/03 - 10/16/03	10/13/03 - 10/14/03	10/15/03	10/15/03 - 10/16/03	10/10/03 - 10/15/03	10/15/03
Surveying		10/01/03 - 11/11/03	10/08/03 - 11/11/03	10/09/03 - 10/29/03	10/21/03 - 10/31/03	10/15/03 - 10/29/03	10/21/03 - 11/10/03	11/11/03 - 11/13/03
Geotechnical Investigation		09/29/03 - 10/01/03	NA	10/08/03	10/07/03 - 10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	NA
Utilities Assessment		09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
STAAR		10/06/03 - 10/16/03	10/13/03 - 10/30/03	10/11/03 - 10/28/03	10/23/03 - 11/13/03	10/17/03 - 11/05/03	10/25/03 - 11/14/03	11/15/03
Wetland Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Floodplain Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Coastal Management Areas		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Baseline Habitat Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Threatened and Endangered Species Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
IDW Disposal		TBD	TBD	TBD	TBD	TBD	TBD	TBD

Key:

IDW = Investigation-derived waste.
NYS = New York State.
PCBs = Polychlorinated biphenyls.
STAAR = Survey of Terrestrial Archaeological and Architectural Resources
TBD = To be determined.

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/ Screen I.D. (inches)	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
EPL	EPL-GP01	9/29/03	9/29/03	N	10/16/03	25.4	135.11	1	27.4	137.2	15.4-25.4	5-25.4	2-5	2.0
	EPL-GP02	9/29/03	9/29/03	N	10/16/03	25	137.91	1	27.4	140.42	15-25	4-25	2-4	2.4
	EPL-GP03	9/29/03	9/29/03	N	10/16/03	25.1	135.52	1	27.51	137.99	15.1-25.1	4-25.1	0.6-4	2.41
	EPL-GP04	10/1/03	10/1/03	N	10/16/03	25	129.47	1	27.3	131.79	15-25	4-25	2-4	2.3
	EPL-GP05	10/1/03	10/1/03	N	10/16/03	25	132	1	27.5	134.53	15-25	4-25	2-4	2.5
OM	OM-GP01	10/2/03	10/2/03	N	10/16/03	25	157.67	1	27.4	160.19	15-25	4-25	2-4	2.4
	OM-GP02	10/2/03	10/2/03	N	10/16/03	25.4	141.79	1	27.62	144.2	15.3-25.3	4-25.3	2-4	2.32
	OM-GP03	10/2/03	10/2/03	N	10/15/03	25	155.84	1	27.3	158.37	10-25	4-25	2-4	2.3
	OM-GP04	10/2/03	10/2/03	N	10/15/03	25	143.5	1	22.5	146	10-20	4-25	0-4	2.5
	OM-GP05	10/2/03	10/2/03	N	10/14/03	25	133.43	1	27.5	135.93	15-25	4-25	0-4	2.5
GPS	GPS-GP01	10/9/03	10/9/03	N	10/13/03	25	108.4	1	28.15	111.60	15-25	4-25	2-4	3.15
	GPS-GP02	10/8/03	10/8/03	N	10/14/03	9.3	108.68	1	11.8	111.19	4.3-9.3	3-9.3	0.5-3	2.5
	GPS-GP03	10/8/03	10/8/03	N	10/14/03	25.5	102.76	1	27.55	104.76	15.5-25.5	4-25.5	2-4	2.05
	GPS-GP04	10/8/03	10/8/03	N	10/14/03	25.7	112.02	1	28.2	114.48	15.7-257	4-25.7	2-4	2.5
	GPS-GP05	10/8/03	10/8/03	N	10/13/03	25	100.71	1	27.45	103.31	14.85-24.85	4-25	2-4	2.6
	GPS-GP06	10/9/03	10/9/03	N	10/14/03	25	110.76	1	17.5	113.24	5-15	3-15 [A]	1-3	2.5
	GPS-GP07	10/9/03	10/9/03	N	10/14/03	25	112.98	1	22.4	115.38	10-20	3-20[B]	0.5-3	2.4
	GPS-GP08	10/8/03	10/8/03	N	10/13/03	18.5	113.36	1	19.7	114.74	8.5-18.5	3-18.5	1-3	1.2
NCC	NCC-GP01	10/9/03	10/9/03	N	10/15/03	25	48.53	1	25.5	51.02	13-23	4-23[C]	2-4	2.5
	NCC-GP02	10/7/03	10/7/03	N	-	6.9	52.5	Dry hole - no well constructed						
	NCC-GP03	10/9/03	10/9/03	N	10/15/03	22.9	43.56	1	23.65	46.2	11-21	4-22.9	2-4	2.65
	NCC-GP04	10/3/03	10/3/03	N	-	2	65.89	Not accessible by rig, boring was hand-augered						
	NCC-GP05	10/7/03	10/7/03	N	-	11	51.52	Dry hole - no well constructed (same as boring NCC-GT01)						
BBA	BBA-GP01	10/10/03	10/10/03	N	10/15/03	25	131.88	1	18.6	134.39	6-16	4-16 [D]	0.5-4	2.6
	BBA-GP02	10/10/03	10/10/03	N	10/16/03	25	144.41	1	18.55	146.87	6-16	4-18 [E]	0.5-4	2.55
	BBA-GP03	10/9/03	10/9/03	N	10/15/03	18.3	76.45	2	19.62	77.77	3.8-13.8	2.8-18.3	0-2.8	1.32
	BBA-GP04	10/10/03	10/10/03	N	10/15/03	14	77.57	1	16.8	80.38	3.5-13.5	2-14	0.5-2	2.8

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
MM	MM-GP01	10/6/03	10/6/03	N	10/10/03	25	18.73	1	27.4	20.52	15-25	4-25	2-4	2.4
	MM-GP02	10/3/03	10/3/03	N	10/10/03	25	5.87	1	27.6	7.75	15-25	4-25	2-4	2.6
	MM-GP04	10/6/03	10/6/03	N	10/15/03	25	15.50	1	27.4	17.22	14.5-24.5	4-24.5	2-4	2.9
OG	OG-GP01	10/7/03	10/7/03	N	10/15/03	25	10.28	1	17.70	12.94	5.35-15.35	3-16 [E]	1-3	2.35
	OG-GP02	10/7/03	10/7/03	N	10/15/03	25.1	14.26	1	27.35	16.46	15.1-25.1	4-25.1	2-4	2.25
	OG-GP03	10/7/03	10/7/03	N	10/15/03	25	17.95	1	27.45	20.4	15-25	4-25	2-4	2.45

[A] Hole was allowed to collapse to 10.15 feet BGS.
[B] Hole was allowed to collapse to 20 feet BGS.
[C] Hole was allowed to collapse to 23 feet BGS.
[D] Hole was allowed to collapse to 18 feet BGS.
[E] Hole was allowed to collapse to 16 feet BGS.

Key:

AGS = Above ground surface.
AMSL = Above mean sea level.
BBA = Bruno/Brickyard Associates/Alonzo Site.
BGS = Below ground surface.
EPL = Energy Park/Longe/NYS Canal Corporation Site.
GP = Geoprobe temporary well location.
GPS = Georgia Pacific/NYS Canal Corporation Site.
I.D. = Inner diameter.
MM = State of New York/First Rensselaer/Marine Management Site
N = Northstar Drilling.
NCC = NYS Canal Corporation/Allco/Leyerle Site.
NYS = New York State.
OG = OG Real Estate.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PVC = Polyvinyl chloride.
TOIC = Top of inner casing.

Table 3.2-2 Groundwater and Surface Water Field Measurements
State of NY/ First Rensselaer/Marine Management Site

Sample ID	Date	pH (s.u.)	Temerature (°C)	Conductivity (mS/cm)	Turbidity (NTU)
Groundwater					
MM-GP01-GW	10/10/03	6.43	15.4	458.2	>1,000
MM-GP02-GW	10/10/03	6.53	18.7	249.2	>1,000
MM-GP04-GW	10/15/03	7.03	11.7	1,063	290
Surface Water					
MM-SW01	Not Sampled				

Key:

°C = Degrees Celsius.
GP = Boring location.
GW = Groundwater sample.
ID = Identification.
MM = State of NY/ First Rensselaer/Marine Management Site.
mS/cm = MicroSiemens per centimeter.
NTU = Nephelometric turbidity units.
NYS = New York State.
s.u. = Standard units.
SW = Surface water sample.
> = Greater than.

Table 3.2-3 Summary of Water Level Elevations
State of NY/First Rensselaer/Marine Management Site

Well/ Stream Gauge ID	Ground Elevation (ft AMSL)	Reference Elevation (ft AMSL)a	10/10/03		10/22/03		11/6/03	
			Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)
MM-GP01	18.73	20.52	19.64	0.88	19.07	1.45	17.85	2.67
MM-GP02	5.87	7.75	7.91	-0.16	6.62	1.13	4.77	2.98
MM-GP04	15.50	17.22	15.82	1.40	15.72	1.50	14.52	2.7
MM-SG01	NA	5.16	NM	NM	Dry	Dry	1.73	4.23

[a] Reference elevation is TOIC for borings and 3-foot mark on gauge for stream gauges.

Key:

AMSL = Above mean sea level.
ft = Feet.
GP = Boring location.
MM = State of NY/First Rensselaer/Marine Management Site.
NA = Not applicable.
NM = Not measured.
SG = Stream gauge location.
TOIC = Top of inner casing.

Table 3.2-4 State of New York/First Rensselaer/Marine Management Site Sample Listing, Hudson River PCBs Superfund Facility Siting

							CLP						Non-CLP										Geotechnical Analyses			
							Organics			Inorganic																
Media	Date	Sample Location	CLP Number	Matrix Code	Depth [A]	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	TAL Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.02)	Hexane Extractable Material (9071B	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Particle Size (ASTM_D422-63)	Atterberg Limits (ASTM_D4318-00)	Moisture Content (ASTM_D2216-98	Area of Interest
Surface Soil	10/08/03	MM-SS01	B1579	SO	0-2 in	N		X	X	X	X	X												Mounding with municipal type trash
	10/08/03	MM-SS01/D	B1565	SO	0-2 in	FD		X	X	X	X	X												Mounding with municipal type trash
	10/08/03	MM-SS02	B1580	SO	0-2 in	N		X	X	X	X	X												Surficial dumping area
	-	MM-SS03	-	SO	-	N																		Drums
	-	MM-SS04	-	SO	-	N																		Surficial dumping / Low area
	10/08/03	MM-SS05	B1583	SO	0-2 in	N		X	X	X	X	X												Surficial dumping
	-	MM-SS06	-	SO	-	N																		Ash pile by railroad tracks
	10/08/03	MM-SS07	B1585	SO	0-2 in	N		X	X	X	X	X												Composite sample of 3 locations (A, B, C) adjacent to railroad tracks (VOA portion is a discrete sample collected from aliquot location C)
	10/08/03	MM-SS08	B1586	SO	0-2 in	N	X	X	X	X	X	X	X				X							Near drum in building foundation
	10/08/03	MM-SS09	B1587	SO	0-2 in	N		X	X	X	X	X												Waterfront / Outfall
Surface Water	-	MM-SW01	-	SW	-	N																		Waterfront / Outfall
Sediment	-	MM-SE01	-	SE	-	N																		Low area
	-	MM-SE02	-	SE	-	N																		Near mounding with municipal type trash
Geoprobe	10/06/03	MM-GP01-SE	B1548	SO	8-12	N	X	X	X	X	X	X												Downgradient
Borehole	10/03/03	MM-GP02-SE	B1549	SO	6-8	N	X	X	X	X	X	X												Downgradient
Subsurface Soil	-	MM-GP03-SE	-	SO	-	N	X	X	X	X	X	X												Upgradient
	10/06/03	MM-GP04-SE	B1551	SO	8-10	N	X	X	X	X	X	X												Near mounding with municipal type trash
Geoprobe	10/10/03	MM-GP01-GW	B1588	GW	15-25	N	X	X	X	X	X													Downgradient
Temporary Well	10/10/03	MM-GP02-GW	B1589	GW	15-25	N	X	X	X	X	X													Downgradient
Groundwater	-	MM-GP03-GW	-	GW	-	N																		Upgradient
	10/10/03	MM-GP04-GW	B1591	GW	14.5-24.5	N	X	X	X	X	X													

Key at the end of Table

Table 3.2-4 State of New York/First Rensselaer/Marine Management Site Sample Listing, Hudson River PCBs Superfund Facility Siting

							CLP										Non-CLP						Geotechnical Analyses			
							Organics				Inorganic															
Media	Date	Sample Location	CLP Number	Matrix Code	Depth [A]	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	TAL Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.02)	Hexane Extractable Material (9071B	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Particle Size (ASTM_D422-63)	Atterberg Limits (ASTM_D4318-00)	Moisture Content (ASTM_D2216-98	Area of Interest
Geotechnical Boring Subsurface Soil	10/06/03	MM-GT01-SI	-	SO	2-4	N															X	X	X	Rail yard
	10/03/03	MM-GT02-SI	-	SO	0-26 [B]	N															X	X	X	Facility
	10/06/03	MM-GT03-SI	-	SO	0-26 [B]	N															X	X	X	Rail yard
IDW	TBD	MM-WA01	-	WA	-	N												X	X	X				General
	TBD	MM-WW01	-	WW	-	N												X	X	X				General

[A] Depth in feet below ground surface unless otherwise specified.

[B] Continuous sampling for Moisture Content analysis. The 14-16 and 4-6 foot BGS depth intervals were used for the Particle Size and Atterberg Limits analyses for GPS-GT02 and GPS-GT03, respectively.

Key:

CLP = Contract Laboratory Protocol
/D = duplicate sample
FD = field duplicate (Type)
GP = Geoprobe boring location
GT = geotechnical boring location
GW = groundwater sample
IDW = investigation-derived waste
in = inch
M = matrix spike/matrix spike duplicate (Type)
MM = State of New York/First Rensselaer/Marine Management site
N = original sample
PCB = polychl polychlorinated biphenyl
QA = quality quality assurance
QC = quality quality control
SB = subsurface soil
SE = sediment sample
SO = soil sample
SS = surface soil
SVOCs = semivolatile organic compounds
SW = surface water
TBD = to be determined
TCL = target compound list
TCLP = toxicity characteristic leachate procedure
TOC = total organic carbon
VOCs = volatile organic compounds
WA = IDW solid waste
WW = IDW waste water

Key at the end of Table

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the State of New York/First Rensselaer/Marine Management Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: Date: Depth:	MM-SS01 10/8/2003 0 - 2 in	MM-SS01/D 10/8/2003 0 - 2 in	MM-SS02 10/8/2003 0 - 2 in	MM-SS05 10/8/2003 0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)							
1,1,2-Trichloro-1,2,2-Trifluoroethane	6000	NA		- -	- -	- -	- -
1,1-Dichloroethene	400	NA		- -	- -	- -	- -
1,2,4-Trichlorobenzene	3400	NA		- -	- -	- -	- -
Carbon Disulfide	2700	NA		- -	- -	- -	- -
Carbon Tetrachloride	600	NA		- -	- -	- -	- -
Cyclohexane	NA	NA		- -	- -	- -	- -
Dichlorodifluoromethane	NA	NA		- -	- -	- -	- -
Ethylbenzene	5500	NA		- -	- -	- -	- -
Isopropylbenzene	NA	NA		- -	- -	- -	- -
Methylcyclohexane	NA	NA		- -	- -	- -	- -
Styrene	NA	NA		- -	- -	- -	- -
Tetrachloroethene	1400	NA		- -	- -	- -	- -
Trans-1,2-Dichloroethene	300	NA		- -	- -	- -	- -
Trichloroethene	700	NA		- -	- -	- -	- -
Trichlorofluoromethane	NA	NA		- -	- -	- -	- -
Vinyl Chloride	200	NA		- -	- -	- -	- -
Xylenes (Total)	1200	NA		- -	- -	- -	- -
TCL Semivolatile Organic Compounds (µg/Kg)							
2-Methylnaphthalene	36400	NA		410 U	410 U	610 U	120 J
4-Chloro-3-methylphenol	240 or MDL	NA		410 U	120 J	610 U	450 U
4-Nitrophenol	100 or MDL	NA		1000 UJ	**440 J**	1500 UJ	1100 UJ
Acenaphthylene	41000	NA		85 J	130 J	610 U	450 U
Acetophenone	NA	NA		410 U	410 U	610 U	1000
Anthracene	50000	NA		210 J	310 J	610 U	150 J
Benzo(a)anthracene	224 or MDL	NA		**740**	**1100**	**260 J**	**510**
Benzo(a)pyrene	61 or MDL	NA		**840**	**1100**	**270 J**	**460**
Benzo(b)fluoranthene	1100	NA		910	**2300**	370 J	720
Benzo(g,h,i)perylene	50000	NA		420	700	200 J	210 J
Benzo(k)fluoranthene	1100	NA		890	410 U	280 J	470
Bis(2-ethylhexyl)phthalate	50000	NA		87 J	210 J	290 J	740
Carbazole	NA	NA		130 J	160 J	610 UJ	450 UJ
Chrysene	400	NA		**880**	**1300**	350 J	**720**
Dibenzo(a,h)anthracene	14 or MDL	NA		**300 J**	**480**	610 U	**150 J**
Dibenzofuran	6200	NA		410 U	410 U	610 U	450 U
Fluoranthene	50000	NA		1300	1900	560 J	1100
Fluorene	50000	NA		410 U	84 J	610 U	450 U
Indeno(1,2,3-cd)pyrene	3200	NA		700	1100	230 J	330 J
Naphthalene	13000	NA		410 U	410 U	610 U	95 J
Phenanthrene	50000	NA		830	1300	240 J	710
Pyrene	50000	NA		1300	2000	500 J	980

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the State of New York/First Rensselaer/Marine Management Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: Date: Depth:	MM-SS01 10/8/2003 0 - 2 in	MM-SS01/D 10/8/2003 0 - 2 in	MM-SS02 10/8/2003 0 - 2 in	MM-SS05 10/8/2003 0 - 2 in
TCL Pesticide and PCBs (µg/Kg)							
4,4'-DDD	2900	NA		4.1 U	4.1 U	6.1 U	15 J
4,4'-DDE	2100	NA		5.5	7.4	12	28
4,4'-DDT	2100	NA		24	32	29	360
Dieldrin	44	NA		4.1 U	4.1 U	6.1 U	7.2
Endrin Aldehyde	NA	NA		3.9 J	4.5 JN	6.1 U	4.5 U
gamma-Chlordane	540	NA		2.1 U	2.1 U	3.1 U	1.2 J
Methoxychlor	NA	NA		21 U	21 U	31 U	44 J
TAL Metals and Mercury (mg/Kg)							
Aluminum	SB	NA		5960	6380	6530	6230
Antimony	SB	NA		2.1 B	4.4 B	4.2 B	3.4 B
Arsenic	7.5 or SB	3-12 (NYS BG)		6.3	9.4	15.2	12.1
Barium	300	15-600		231	269	886	7100
Beryllium	0.16 or SB	0-1.75		0.38 B	0.43 B	0.43 B	0.28 B
Cadmium	1 or SB	0.1-1		1.1 B	1.2 B	2.7	5.2
Calcium	SB	130-35000 (NYS BG)		12900	12400	20400	20700
Chromium	10 or SB	1.5-40 (NYS BG)		28	23.6	41.3	25
Cobalt	30 or SB	2.5-60 (NYS BG)		6.5 B	7.5 B	9.4 B	13.8 B
Copper	25 or SB	1-50		54.1	59.7	153	50.3
Iron	2000 or SB	2000-550000		17200	19100	33200	15200
Lead	SB or 200 - 500	200-500		499	773	1180	8610
Magnesium	SB	100-5000		4520	4590	4330	5160
Manganese	NA	50-5000		353	404	480	180
Nickel	13 or SB	0.5-25		40.3	45.1	31.4	27.8
Potassium	SB	8500-43000 (NYS BG)		954 B	1070 B	1100 B	751 B
Selenium	2 or SB	0.1-3.9		1.3	1.7	2.6	2.4
Silver	SB	NA		0.97 B	1.2 B	1 B	0.45 U
Sodium	SB	6000-8000		135 U	150 U	194 U	167 B
Vanadium	150 or SB	1-300		20.9	24.3	32.5	19.6
Zinc	20 or SB	9-50		481	531	1350	7700
Mercury	0.1	0.001-0.2		0.52	0.56	0.72	0.37
Total Cyanide (mg/Kg)							
Cyanide	NA	NA		0.35	0.2 U	0.21 U	0.18 U

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the State of New York/First Rensselaer/Marine Management Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: Date: Depth:	MM-SS07 10/8/2003 0 - 2 in	MM-SS08 10/8/2003 0 - 2 in	MM-SS09 10/8/2003 0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)						
1,1,2-Trichloro-1,2,2-Trifluoroethane	6000	NA		- -	6 J	- -
1,1-Dichloroethene	400	NA		- -	2 J	- -
1,2,4-Trichlorobenzene	3400	NA		- -	3 J	- -
Carbon Disulfide	2700	NA		- -	3 J	- -
Carbon Tetrachloride	600	NA		- -	1 J	- -
Cyclohexane	NA	NA		- -	2 J	- -
Dichlorodifluoromethane	NA	NA		- -	6 J	- -
Ethylbenzene	5500	NA		- -	2 J	- -
Isopropylbenzene	NA	NA		- -	1 J	- -
Methylcyclohexane	NA	NA		- -	3 J	- -
Styrene	NA	NA		- -	1 J	- -
Tetrachloroethene	1400	NA		- -	4 J	- -
Trans-1,2-Dichloroethene	300	NA		- -	1 J	- -
Trichloroethene	700	NA		- -	2 J	- -
Trichlorofluoromethane	NA	NA		- -	3 J	- -
Vinyl Chloride	200	NA		- -	1 J	- -
Xylenes (Total)	1200	NA		- -	5 J	- -
TCL Semivolatile Organic Compounds (µg/Kg)						
2-Methylnaphthalene	36400	NA		410 U	180 J	620 U
4-Chloro-3-methylphenol	240 or MDL	NA		410 U	470 U	620 U
4-Nitrophenol	100 or MDL	NA		1000 UJ	1200 UJ	1600 UJ
Acenaphthylene	41000	NA		410 U	740	620 U
Acetophenone	NA	NA		410 U	470 U	620 U
Anthracene	50000	NA		180 J	700	620 U
Benzo(a)anthracene	224 or MDL	NA		**570**	**1800**	620 U
Benzo(a)pyrene	61 or MDL	NA		**490**	**1800**	620 U
Benzo(b)fluoranthene	1100	NA		660	**2600**	620 U
Benzo(g,h,i)perylene	50000	NA		230 J	890	620 UJ
Benzo(k)fluoranthene	1100	NA		440	**1500**	620 U
Bis(2-ethylhexyl)phthalate	50000	NA		150 J	98 J	620 U
Carbazole	NA	NA		140 J	150 J	620 UJ
Chrysene	400	NA		**690**	**2100**	620 U
Dibenzo(a,h)anthracene	14 or MDL	NA		**150 J**	**640**	620 U
Dibenzofuran	6200	NA		410 U	100 J	620 U
Fluoranthene	50000	NA		1400	3500	620 U
Fluorene	50000	NA		410 U	100 J	620 U
Indeno(1,2,3-cd)pyrene	3200	NA		350 J	1600	620 U
Naphthalene	13000	NA		410 U	140 J	620 U
Phenanthrene	50000	NA		840	1500	620 U
Pyrene	50000	NA		1100	2800	620 U

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the State of New York/First Rensselaer/Marine Management Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: Date: Depth:	MM-SS07 10/8/2003 0 - 2 in	MM-SS08 10/8/2003 0 - 2 in	MM-SS09 10/8/2003 0 - 2 in
TCL Pesticide and PCBs (µg/Kg)						
4,4'-DDD	2900	NA		4.1 U	4.7 U	6.2 U
4,4'-DDE	2100	NA		4.1 U	4.7 U	6.2 U
4,4'-DDT	2100	NA		4.1 U	4.7 U	6.2 U
Dieldrin	44	NA		4.1 U	4.7 U	6.2 U
Endrin Aldehyde	NA	NA		4.1 U	4.7 U	6.2 U
gamma-Chlordane	540	NA		2.1 U	2.4 U	3.2 U
Methoxychlor	NA	NA		21 U	44 R	32 U
TAL Metals and Mercury (mg/Kg)						
Aluminum	SB	NA		14800	5530	8500
Antimony	SB	NA		1.8 U	2.1 U	3.4 B
Arsenic	7.5 or SB	3-12 (NYS BG)		10.5	41.8	8.3
Barium	300	15-600		141	78.1	3520
Beryllium	0.16 or SB	0-1.75		0.83 B	0.4 B	0.34 B
Cadmium	1 or SB	0.1-1		0.13 U	0.15 U	25.7
Calcium	SB	130-35000 (NYS BG)		24800	17700	113000
Chromium	10 or SB	1.5-40 (NYS BG)		20	15.2	29.5
Cobalt	30 or SB	2.5-60 (NYS BG)		16.5	8.2 B	8.5 B
Copper	25 or SB	1-50		58	77.2	1120
Iron	2000 or SB	2000-550000		32900	20800	15000
Lead	SB or 200 - 500	200-500		48.9	185	940
Magnesium	SB	100-5000		9400	6040	11300
Manganese	NA	50-5000		702	396	469
Nickel	13 or SB	0.5-25		33.1	21	29.7
Potassium	SB	8500-43000 (NYS BG)		2770	949 B	1860
Selenium	2 or SB	0.1-3.9		0.71 B	1.4 B	0.68 U
Silver	SB	NA		0.38 U	0.44 U	0.53 U
Sodium	SB	6000-8000		137 U	161 U	346 B
Vanadium	150 or SB	1-300		31.4	20.5	107
Zinc	20 or SB	9-50		109	183	4020
Mercury	0.1	0.001-0.2		0.06 U	0.3	0.21 J
Total Cyanide (mg/Kg)						
Cyanide	NA	NA		0.15 U	0.27	0.35

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the State of New York/First Rensselaer/Marine Management Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BG = Background.
/D = Duplicate sample.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL = Method detection Limit
mg/Kg = Milligrams per kilogram.
MM = State of New York/First Rensselaer/Marine Management Site.
NA = Not applicable/available.
NYS = New York State.
NYSDEC = New York State Department of Environmental Conservation.
PCB = Polychlorinated biphenyl.
R = The data is unusable.
SB = Site background.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.

Table 3.3-2
Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the State of New York/First Rensselaer/Marine Management Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: MM-GP01-SB	MM-GP02-SB	MM-GP04-SB
			Date: 10/6/2003	10/3/2003	10/6/2003
			Depth: 8 - 12 ft	6 - 8 ft	8 - 10 ft
TCL Volatile Organic Compounds (µg/Kg)					
Carbon Disulfide	2700	NA	17 U	10 U	1 J
Cyclohexane	NA	NA	17 U	10 U	3 J
Ethylbenzene	5500	NA	17 U	10 U	14 R
Methylcyclohexane	NA	NA	17 U	10 U	3 J
Toluene	1500	NA	1 J	10 U	6 J
Xylenes (Total)	1200	NA	17 U	10 U	4 J
TCL Semivolatile Organic Compounds (µg/Kg)					
Anthracene	50000	NA	380 U	130 J	140 J
Benzo(a)anthracene	224 or MDL	NA	190 J	**300 J**	**480**
Benzo(a)pyrene	61 or MDL	NA	**280 J**	**350 J**	**490**
Benzo(b)fluoranthene	1100	NA	250 J	180 J	370 J
Benzo(g,h,i)perylene	50000	NA	93 J	110 J	160 J
Benzo(k)fluoranthene	1100	NA	300 J	310 J	490
Chrysene	400	NA	210 J	280 J	**480**
Dibenzo(a,h)anthracene	14 or MDL	NA	**88 J**	390 U	**120 J**
Fluoranthene	50000	NA	250 J	750	800
Indeno(1,2,3-cd)pyrene	3200	NA	230 J	210 J	330 J
Phenanthrene	50000	NA	380 U	620	360 J
Pyrene	50000	NA	250 J	900	790
TCL Pesticide and PCBs (µg/Kg)					
4,4'-DDE	2100	NA	4.6 J	3.9 U	4.2 U
4,4'-DDT	2100	NA	13 J	3.9 U	4.2 U
TAL Metals and Mercury (mg/Kg)					
Aluminum	SB	NA	6460	4170	5620
Antimony	SB	NA	4.8 B	1.7 U	1.7 U
Arsenic	7.5 or SB	3-12 (NYS BG)	18.1	1 U	4.3 J
Barium	300	15-600	978	21.2 B	37.9 B
Beryllium	0.16 or SB	0-1.75	0.5 B	0.21 B	0.31 B
Cadmium	1 or SB	0.1-1	3.8	0.12 U	0.11 U
Calcium	SB	130-35000 (NYS BG)	13600	1220	8330
Chromium	10 or SB	1.5-40 (NYS BG)	82.7	5.8	12
Cobalt	30 or SB	2.5-60 (NYS BG)	10.6 B	4.2 B	5.8 B
Copper	25 or SB	1-50	151	9.3 J	29.4
Iron	2000 or SB	2000-550000	44200	10900	22600
Lead	SB or 200 - 500	200-500	1380	11.5	39.5
Magnesium	SB	100-5000	3050	2240	6120
Manganese	NA	50-5000	758 J	150	189 J
Nickel	13 or SB	0.5-25	33.4	9.5	13.6
Potassium	SB	8500-43000 (NYS BG)	978 B	377 B	658 B
Silver	SB	NA	0.62 B	0.35 U	0.34 U
Sodium	SB	6000-8000	445 B	128 U	126 U
Vanadium	150 or SB	1-300	23.8	6.4 B	11 B
Zinc	20 or SB	9-50	1880	37.1	166
Mercury	0.1	0.001-0.2	0.79	0.06 U	0.06 BJ
Total Cyanide (mg/Kg)					
Cyanide	NA	NA	1	0.14 U	0.22

Table 3.3-2
Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the State of New York/First Rensselaer/Marine Management Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B =	The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BG =	Background.
/D =	Duplicate sample.
ft =	Feet.
J =	The reported value is an estimated quantity.
JN =	The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL =	Method detection Limit
mg/Kg =	Milligrams per kilogram.
MM =	State of New York/First Rensselaer/Marine Management Site.
NA =	Not applicable/available.
NYS =	New York State.
NYSDEC =	New York State Department of Environmental Conservation.
PCB =	Polychlorinated biphenyl.
R =	The data is unusable.
SB =	Site background.
-SB =	Subsurface soil sample.
TAL =	Target Analyte List.
TCL =	Target Compound List.
U =	The analyte was analyzed for but not detected at the value reported.
UJ =	The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg =	Micrograms per kilogram.
300 J	Shaded cells with bold exceed the NYSDEC screening value.

Table 3.3-3
Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the State of New York/First Rensselaer/Marine Management Site

Analyte	NYSDEC CLASS GA (1)	Sample ID: / Date: EPA MCLs	MM-GP01-GW 10/10/2003	MM-GP02-GW 10/10/2003	MM-GP04-GW 10/15/2003
TCL Volatile Organic Compounds (µg/L)					
Tetrachloroethene	5	5	2 J	10 U	10 U
Trichloroethene	5	5	4 J	10 U	10 U
TCL Semivolatile Organic Compounds (µg/L)					
Caprolactam	NA	NA	390	10 U	6 J
TAL Metals and Mercury (µg/L)					
Aluminum	NA	50-200 (s)	56.8 B	762	54.7 B
Barium	1000	2000	28.7 B	64.4 B	72.9 B
Beryllium	3 (g)	4	0.1 U	0.23 B	0.1 U
Calcium	NA	NA	64400	29200	82600
Cobalt	NA	NA	4.7 B	6.5 B	4.9 B
Copper	200	1300 (a)	1 U	3.3 B	2 B
Iron	300 (3)	300 (s)	27.9 U	5710	431
Lead	25	15 (a)	2.2 U	7.5	2.2 U
Magnesium	35000 (g)	NA	11300	5290	24400
Manganese	300 (3)	50 (s)	66.4 J	316 J	4120 J
Potassium	NA	NA	3600 B	1090 B	1190 B
Sodium	20000	NA	14400	12400	5160
Vanadium	NA	NA	0.98 B	3.8 B	0.9 U
Zinc	2000 (g)	5000 (s)	28.4 J	41.2 J	30.2 J

Source: Ecology and Environment, Inc., 2004

Table 3.3-3
Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the State of New York/First Rensselaer/Marine Management Site

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class GA Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

(2) EPA National Primary and Secondary Drinking Water Standards, 2002.

(3) Screening value is for sum of Iron and Manganese is 500 µg/L.

(a) Action level is used in lieu of MCL.

(g) Guidance value used.

(s) Secondary standard used.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

/D = Duplicate sample.

EPA = Environmental Protection Agency.

GP = Boring.

GW = Groundwater sample.

J = The reported value is an estimated quantity.

MCL = Maximum Contaminant Level.

mg/L = Milligrams per liter.

MM = State of New York/First Rensselaer/Marine Management Site.

NA = Not applicable/available.

NYSDEC = New York State Department of Environmental Conservation.

TAL = Target Analyte List.

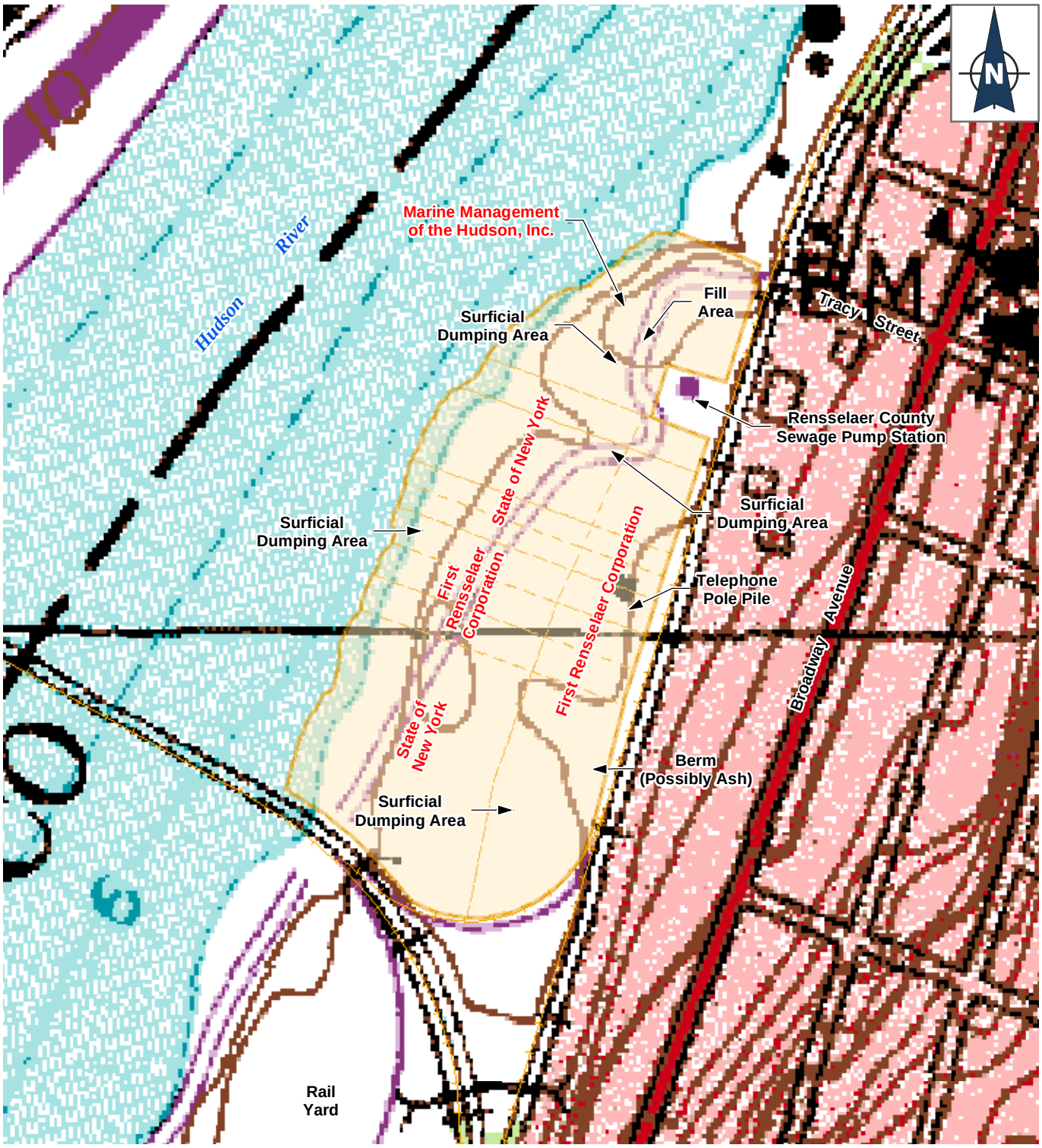
TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

µg/L = Micrograms per liter.

Source: Ecology and Environment, Inc., 2004

SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Approximate Site Boundary
- Tax Parcel Boundary
- Active Railroad

Due to the presence of "sensitive content," certain data/imagery is unavailable as directed by the NYS Office for Public Security.

Hudson River PCBs SUPERFUND SITE

Figure 2-1
Key Site Features
State of New York / First Rensselaer / Marine Management

500 250 0 500 Feet

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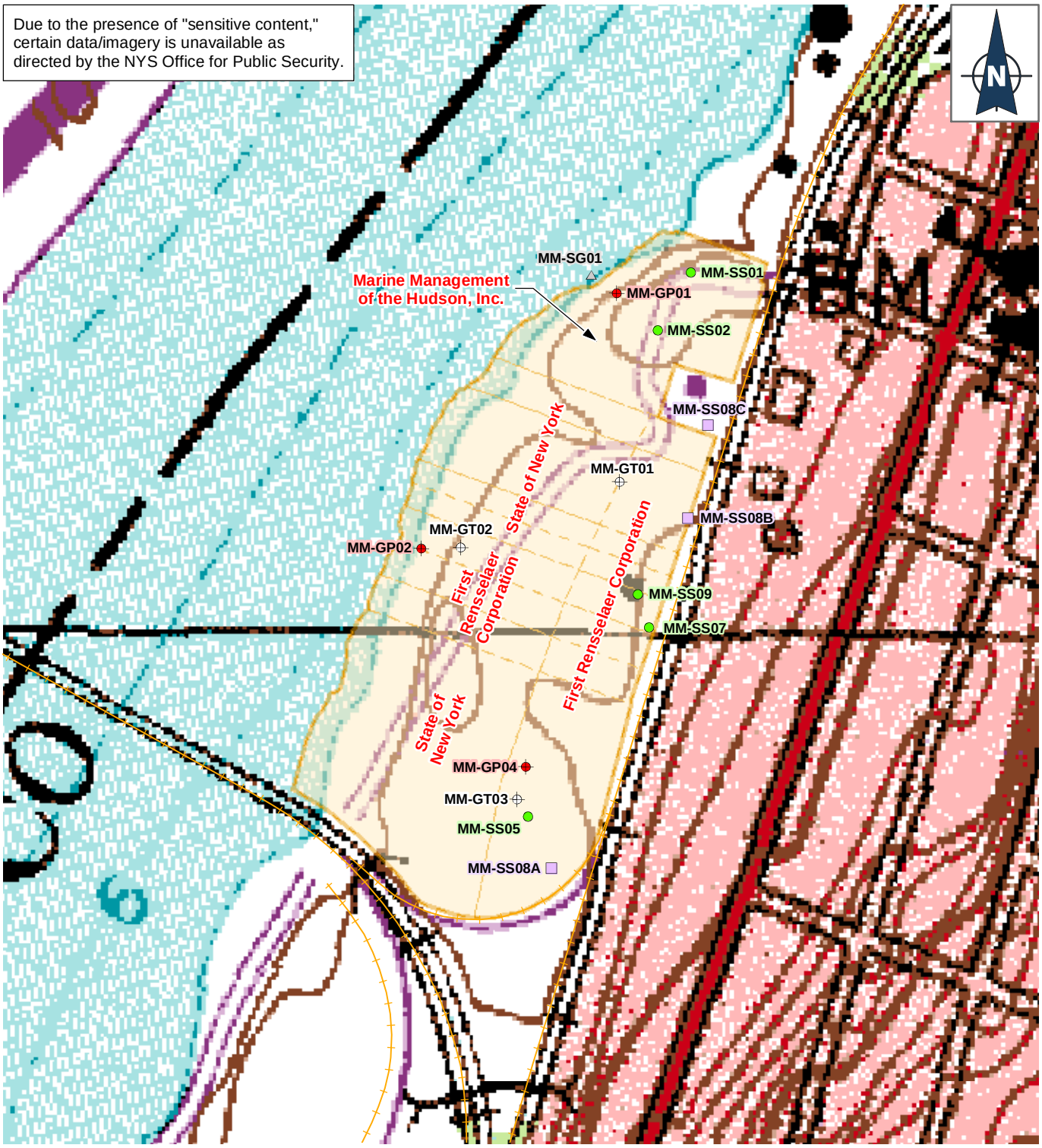
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Geoprobe Soil Boring
- Geoprobe Soil Boring & Temporary Well
- Geoprobe & Geotechnical Boring
- Geotechnical Boring
- Surface Soil
- Soil Sample Adjacent to Railroad
- Surface Water / Sediment
- Stream Gauge
- Railroads
- Potential Site Boundary

Hudson River PCBs SUPERFUND SITE

Figure 3-1
Sample Locations
State of New York / First Rensselaer / Marine Management

500 250 0 500 Feet

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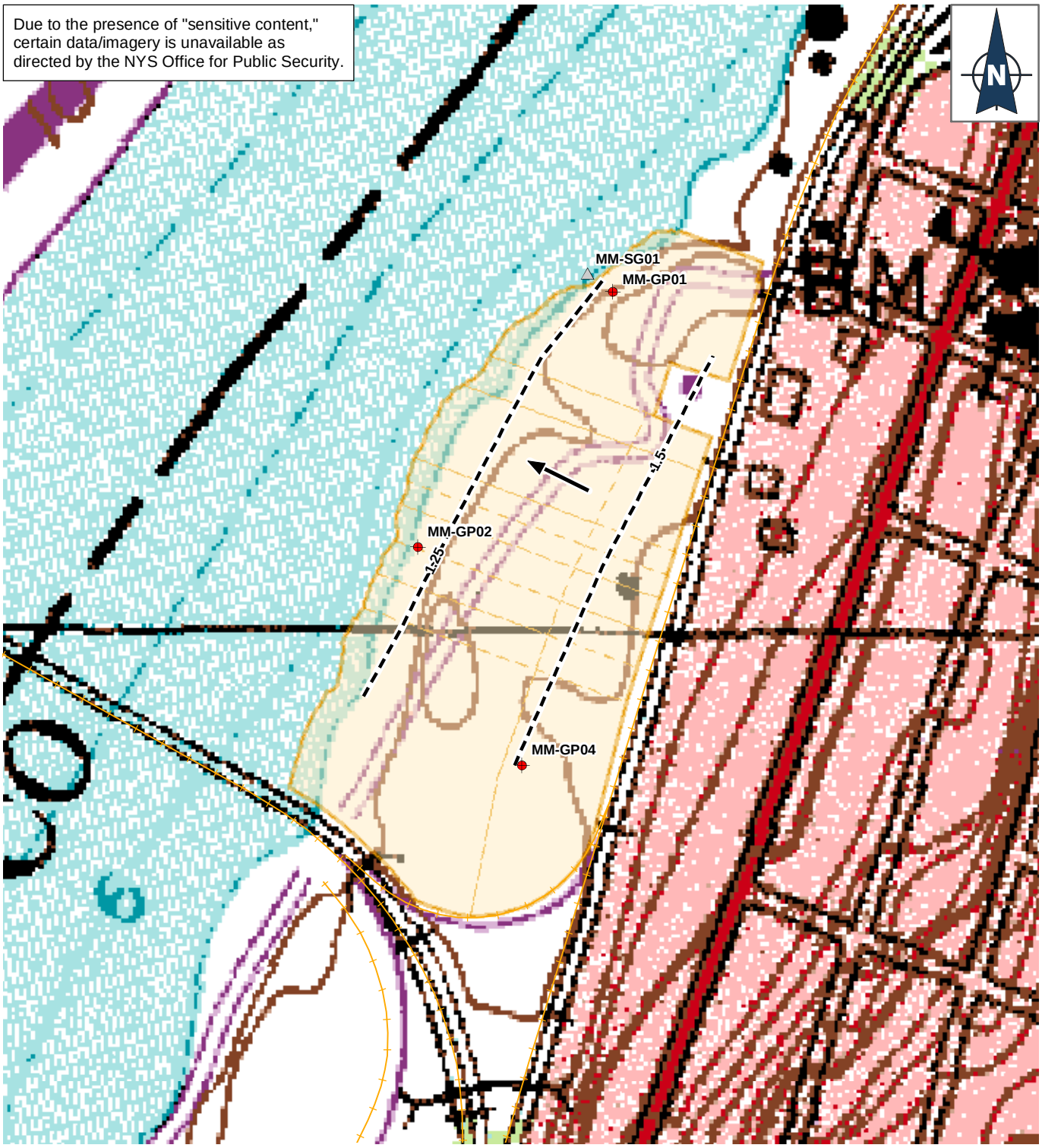
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Groundwater Contour
- Temporary Well
- Stream Gauge
- Railroad
- Potential Site Boundary
- Direction of Groundwater Flow

(Note: The Hudson River is tidally influenced at this location, therefore groundwater flow direction may fluctuate near the shoreline.)

Water Level Elevations Measured on 10/22/2003
0.25 ft. Contour Interval

Hudson River
PCBs SUPERFUND SITE

Figure 3-2
Overburden Groundwater Contour Map
State of New York / First Rensselaer / Marine Management

500 250 0 500
Feet

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SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

T Backhoe Trench Locations

Archaeological Testing Method

- Backhoe Test
- Shovel Test
- Backhoe & Shovel Test
- Potential Site Boundary

Hudson River PCBs SUPERFUND SITE

Figure 6-1
Field Sampling Areas
Phase I B Cultural Resources Investigation
State of New York / First Rensselaer / Marine Management

500 250 0 500 Feet

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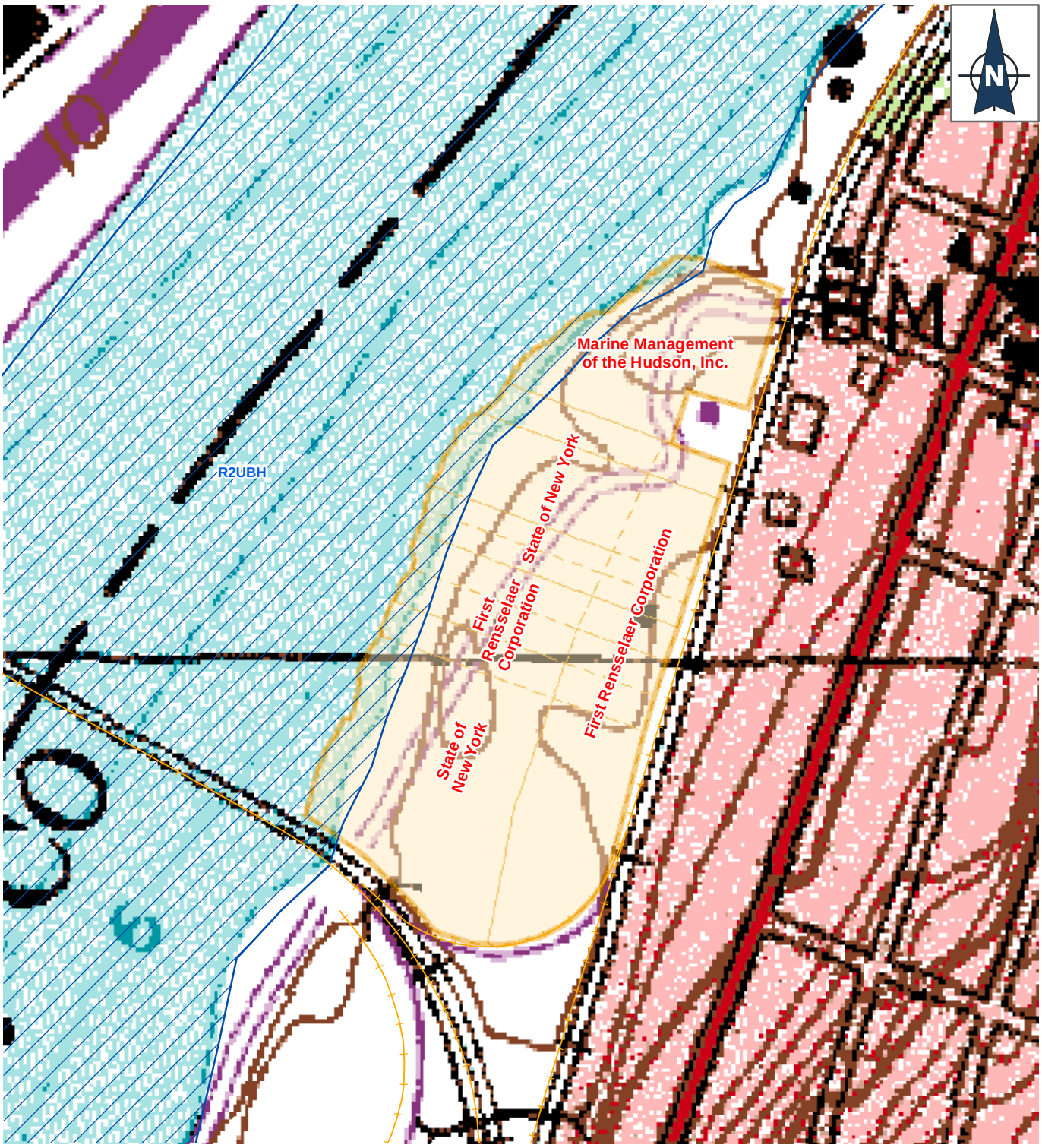
L:\Buffalo\Hudson_River\Maps\MxdFinalCandidateSites\Archaeology\First_Rens_Arch.MXD - GIS

SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- NYS DEC Wetlands
- US Fish and Wildlife Wetlands

Due to the presence of "sensitive content," certain data/imagery is unavailable as directed by the NYS Office for Public Security.

Hudson River PCBs SUPERFUND SITE

Figure 7-1
Wetland Locations
State of New York / First Rensselaer / Marine Management

500 250 0 500 Feet

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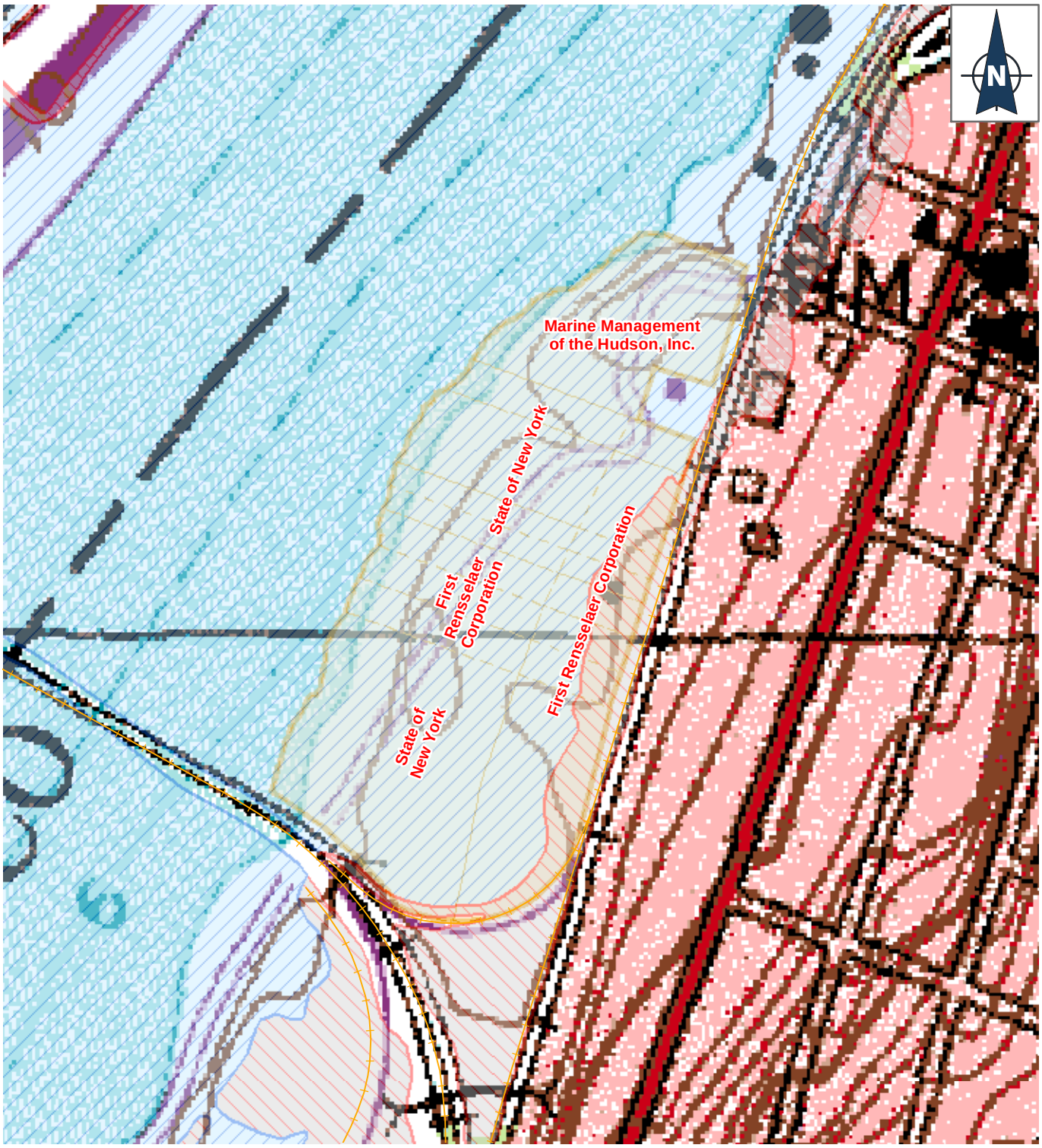
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Potential Site Boundary
- Tax Parcels

FEMA Floodplain

- 100 Year Floodplain
- 500 Year Floodplain

Due to the presence of "sensitive content," certain data/imagery is unavailable as directed by the NYS Office for Public Security.

Hudson River PCBs SUPERFUND SITE

Figure 8-1
FEMA Floodplain Mapping
State of New York / First Rensselaer / Marine Management

500 250 0 500
Feet

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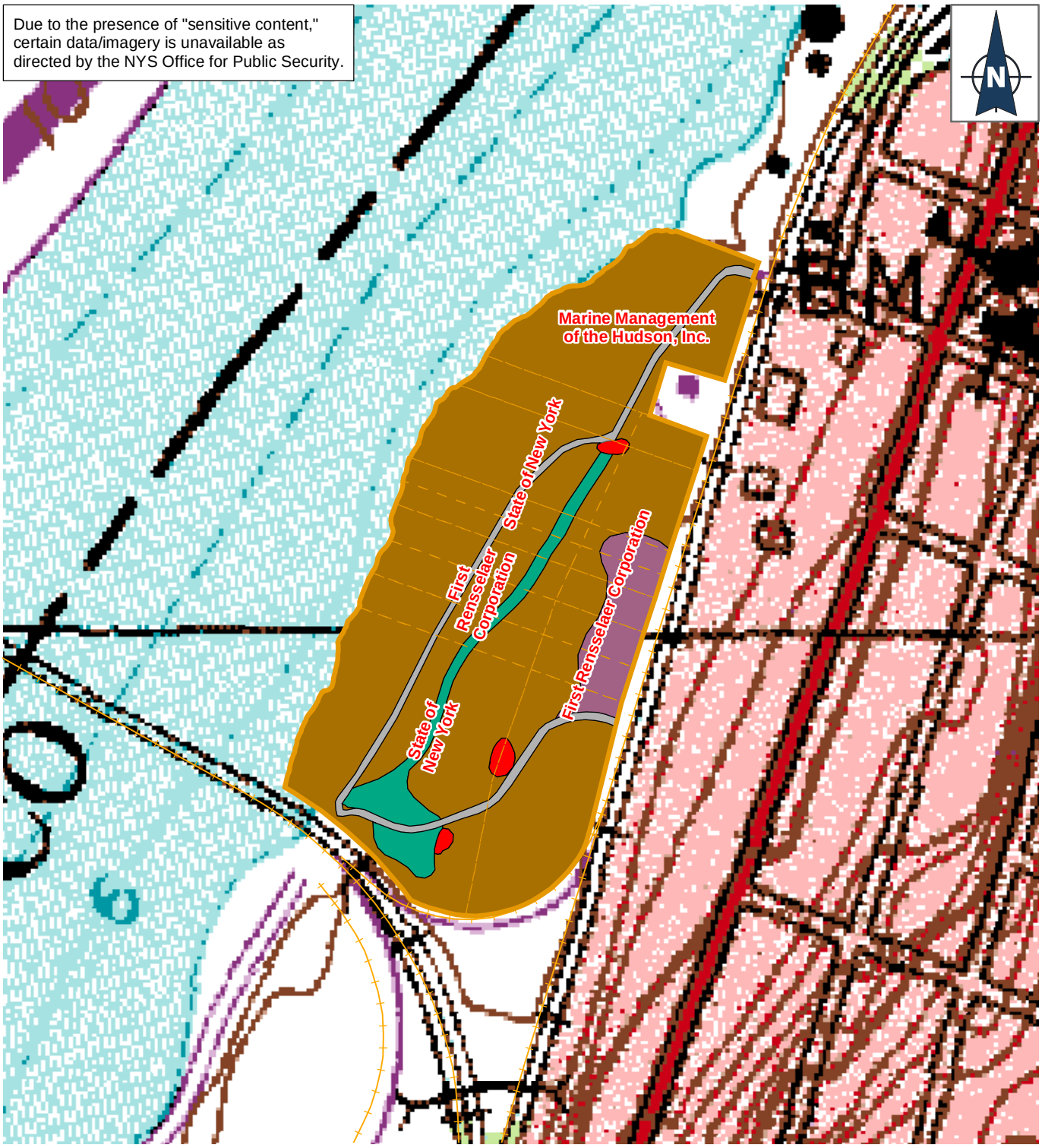
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



Ecological Communities

- Unpaved Road
- Successional Northern Hardwoods
- Appalachian Oak-Hickory Forest
- Mowed Pathway / Successional Old Field
- Landfill / Dump

Hudson River PCBs SUPERFUND SITE

Figure 10-1
Site Ecological Communities
State of New York / First Rensselaer / Marine Management

500 250 0 500 Feet

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OG Real Estate Site
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OG Real Estate Site

2 Phase I Environmental Site Assessment

2.1 Site Location, Description, and Environmental Setting

The OG Real Estate site is located in the Hudson-Mohawk Lowland physiographic province. The topography of this province has been produced primarily by erosion along outcrop belts of sedimentary rocks that lie between the Catskills and the metamorphosed shale hills of the Taconics. The province generally has low relief and elevation and is underlain by Ordovician shales that have been exposed by the erosion of Silurian and Devonian limestones (University of the State of New York 1966). Site photos are found in Appendix A.

The approximately 94-acre OG Real Estate site consists of two parcels that are owned by Niagara Mohawk Power Corporation and OG Real Estate Developers. The site is vacant and is located in an industrial area on the west side of the Hudson River (see Figure 2-1). The site is generally characterized by little topographic elevation difference, extensive river frontage, and the presence of an abandoned rail line. The site is vegetated by forbs and includes tree stands throughout. Forested areas occur along the river and within the western one-third of the site.

River Road and Old River Road parallel the western edge of the site, but site access is limited as the site is separated from local roads by railroad tracks and parcels that parallel the roads. A small area in the southwest corner of the site is adjacent to River Road. Within 1 mile to the west is a mix of commercial and residential land uses and Interstate Route 87. An unpaved, overgrown access road traverses the eastern side of the site, with a small spur off of this road extending to the northeast corner. To the south of the site is a gas-powered electrical generation plant owned by PSEG Power, LLC.

In the central portion of the site an abandoned railroad right-of-way (ROW) extends from the northern border of the site, where it crosses Normans Kill, to the southern border of the site. Niagara Mohawk overhead transmission lines and subsurface gas pipeline and the Dominion gas pipeline ROW run through a portion of the site.

Bedrock outcrops in the southwestern portion of the site and forms a ridge that extends northward, adjacent to an active rail line that extends parallel to the site's western border. Key site features are presented on Figure 2-1.

2.2 Historical Use Information

The site is reportedly the former ash dumping site of the former Niagara Mohawk coal-fired power plant that is adjacent to the southern side of the site. Normans Kill was re-routed past a marina to the north in 1952, leaving a ditch behind and an island between the ditch and the old shoreline (see Figure 2-1 for the former path of Normans Kill). Niagara Mohawk filled in this ditch with ash from 1952 till 1970, joining the island with the mainland. Coal fragments at the surface can be found throughout much of the site.

2.3 Summary of Previous Studies

Various site investigations have been performed. In 1979 Recra Research, Inc. and Wehran Engineering, P.C. conducted a hydrogeologic investigation, including a water quality assessment for Niagara Mohawk Power Corporation. In 1982, Empire Soils Investigations, Inc. performed a preliminary geotechnical engineering evaluation of the proposed on-site ash disposal area for the Albany Steam Generating Station for Niagara Mohawk. In the mid-1990s, Law Engineering and Environmental Services performed an additional site investigation. These reports describe a late-1997 groundwater quality assessment and a late-1991 wetland delineation. The Law report presents groundwater elevation information, hydraulic conductivity results, and maps of the extent of the bottom ash/fly ash. They report the tidal fluctuation of the Hudson River at 3.37 feet with a fluctuation of up to 2.38 feet in nearby groundwater monitoring wells. They also report that the studies conducted between 1979 and 1988 show that the quality of the groundwater is generally good and that New York State Groundwater Quality Standards are generally only exceeded for iron and manganese. Soil analyses reported by Law indicates that there are localized variations in metals concentrations and that at one location the New York State guidance value for benzene and toluene was exceeded.

Several groundwater monitoring wells installed during the abovementioned investigations remain on-site.

Wilson Environmental Technologies, Inc. (2000) performed a wetland delineation at the site in 2000.

3. Phase II Investigation

3.1 Field Investigations

The initial phase of the environmental assessment consisted of collecting environmental and geotechnical samples. Results of the geotechnical sampling are provided in Section 4 of this report. Site photos are found in Appendix A. Boring logs and supplemental geotechnical information are in Appendix B. Environmental samples were collected from surface soil, surface water, sediment, subsurface soil, and groundwater. Surface and subsurface soil samples were collected in an area of surficial dumping (drum disposal area), areas of ash disposal, and areas of the site where construction operations would be expected to occur if the site were selected. Surface water and sediment samples were collected along present site runoff flow pathways. Upgradient and downgradient groundwater samples were collected to provide an indication of overall environmental conditions.

All environmental field investigations were performed in accordance with the August 2003 *Hudson River PCBs Superfund Site Facility Siting Work Plan* (Ecology and Environment, Inc.) and the September 2003 addenda to that plan, the *Site-Specific Field Investigations of the Final Candidate Sites* (Ecology & Environment, Inc.). Investigations at this site were performed in September and October 2003. A summary of investigation activities and dates is provided in Table 3.1-1.

Deviations from the Work Plan
The following deviations from the work plan occurred during the field program:

- Surface water sample OG-SW01 was not collected due to dry conditions at the time of sampling.

- Geotechnical borings OG-GT01, OG-GT02, and OG-GT03 were eliminated because sufficient geotechnical information had been acquired from a previous investigation.

3.2 Environmental Sampling Program

3.2.1 Temporary Well Installation and Groundwater Flow

Three temporary 1-inch polyvinyl chloride (PVC) wells were installed via direct push technologies (DPT). Well construction information is provided in Table 3.2-1. Before groundwater sampling, each temporary well was purged of three times the volume of water standing in the casing or to dryness (whichever occurred first). Water quality parameters measured in the field during purging are presented in Table 3.2-2. Groundwater sample results are described below.

Groundwater elevations were measured from each temporary well upon well completion and at two separate times following completion of the sampling program. In addition, a surface water elevation was obtained from the Hudson River at the eastern boundary of the site. The top of each temporary well and a reference mark on the stream gauge were surveyed so that an accurate elevation could be obtained. Table 3.2-3 summarizes the recorded elevations. Based on the limited information available from this study (three wells spaced at least 1,100 feet apart), groundwater flow beneath the site appears to be to the east towards the Hudson River (see Figure 3-1).

3.2.2 Field Sampling and Surveying

The environmental investigations at this site included collecting eight surface soil samples, two surface water samples, and four sediment samples; subsurface soil sampling and installation and sampling of temporary 1-inch monitoring wells via DPT at three locations; three geotechnical soil borings, and installation of one stream gauge for hydrologic monitoring purposes. Table 3.2-4 summarizes the total number of field and quality assurance/quality control (QA/QC) samples collected and the parameters for which they were analyzed. Figure 3-1 illustrates all environmental investigation locations. All sample locations and stream gauges were surveyed for both horizontal and vertical positions. Survey data is presented in Appendix C. All samples were collected in accordance with the project work plans. Field chemistry data recorded from surface water sample locations are presented in Table 3.2-2. Results from each sample medium are described below.

3.2.3 Data Usability

Soil, sediment, surface water, and groundwater samples were collected from various locations at each FCS (see Section 3.3). The samples were submitted to several environmental analytical laboratories for analytical testing as directed by EPA. Appendix D provides the complete analytical results, field quality control (QC) samples, and data

qualification. The specific data usability concerns regarding each FCS are still under evaluation as part of a detailed review of the hard copy data assessment reports. The following is a summary of general information regarding data usability determined from the electronic data review.

Out of a total of 3,156 reported values, 499 values were qualified during the data validation process. The data points that were qualified as estimated, bias low, or non-detect are considered useable for the purposes of this project. A total of 25 values were flagged as unusable, resulting in a completeness of more than 99.9%. Further evaluation of the data will include determining potential limitations of other qualified data and the impact of rejected data. In general, potential data limitations for the site are minor, as noted below:

- Low levels of several volatiles and pesticides were flagged "U" as non-detected. The results were generally below the reporting limit and, therefore, the data qualification has no impact on the data usability.

- Data qualified as unusable are for compounds that are generally highly reactive and not typically found during site investigations.

- Field blanks, including trip blanks, rinseates, and field duplicates, were collected to be applicable to all FCSs. The results are summarized in Appendix D. The results demonstrate good overall sampling and analysis precision and no significant field contamination.

- The laboratory reported tentatively identified compounds (TICs) for volatile and semivolatile compounds on the hard copy data package. TIC values are reported as "NJ" with presumptive evidence that the compounds are present and concentrations are considered highly estimated. The TICs are being reviewed to determine any indications of significant contamination not identified by the results for the known target compounds.

3.3 Environmental Sample Results and Evaluation

State and federal standards, criteria, and guidances were used for preliminary screening purposes during review of the analytical sample results for surface soil, subsurface soil, surface water, sediment, and groundwater. Exceedances of the criteria (with the exception of metals) are noted in Table 3.3-1through 3.3-5 by shading the values that exceeded the criteria.

Metals cannot be directly compared to the criteria without additional evaluation (including evaluation of background levels) because metals occur naturally in the environment. Additionally, turbidity in surface water and groundwater samples can cause interference with metals analysis. These factors were considered in the evaluation of the significance of detected compounds.

The criteria were selected based on a review of available EPA and New York State Department of Environmental Conservation (NYSDEC) standards, criteria, and guidances for the various media sampled. The applicability of these preliminary screening criteria to the FCSs will be determined as part of further evaluation by EPA in consultation with NYSDEC and the New York State Department of Health (NYSDOH).

The following discussion identifies the samples, by medium, with compounds exceeding the screening criteria. Those compounds without appropriate screening criteria also are identified. Where available, pertinent information for comparison purposes is provided.

Soil (Surface and Subsurface)
NYSDEC, *Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels* (1994) and subsequent amendments (December 20, 2000) (TAGM 4046). The recommended soil cleanup objectives and typical eastern USA background concentrations for metals contained in TAGM 4046 were used as preliminary screening guidance for soil. Where specific guidance values were available for surface and subsurface soils (such as for polychlorinated biphenyls [PCBs]) they were applied based on the depth of the samples collected. TAGM 4046 assumes a total organic carbon (TOC) of 1%.

Surface Water
NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998). These standards and guidance provide values for various water classes. Since the majority of the surface water samples were collected from unnamed ditches and ponded water areas at the site, the surface water samples collected are assumed to be Class D waters. Class D waters are best used for fishing. However, due to natural conditions such as intermittent flow, water conditions may not be conducive to fish propagation. Class C waters are considered conducive to fish propagation. Surface water standards and guidance values are calculated for some inorganics based on water hardness.

Sediment
NYSDEC, *Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments* (1999). This guidance requires organic contaminants in sediments to be calculated based on sample TOC. TOC data were collected and used to calculate these screening values. Various criteria for bioaccumulation and acute and chronic toxicity are presented in this document for protection of human health, benthic aquatic life, and wildlife. The benthic aquatic life chronic toxicity protection level for sediment was selected as the preliminary screening value for all collected sediment samples.

Groundwater
NYSDEC, *Technical and Operational Guidance Series (T.O.G.S. 1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (1998) provides Class GA standards and guidance values. The *National Primary and Secondary Drinking Water Regulations, Current Drinking Water Standards* (2002) maximum

contaminant levels (MCLs) were used for preliminary screening for groundwater samples collected from the temporary wells.

3.3.1 Surface Soil

Volatile Organic Compounds (VOCs)
No VOCs that exceeded screening criteria were detected (see Table 3.3-1). The compound methyl acetate, a compound without screening criteria, was detected at a low concentration (4 µg/kg [J]) in OG-SS08 (see Table 3.3-1).

Semivolatile Organic Compounds (SVOCs)
The following polycyclic aromatic hydrocarbons (PAHs) exceeded criteria: benzo(a)pyrene (170 µg/kg [J] and 130 µg/kg [J]) in OG-SS01 (general ash disposal area) and OG-SS05 (drum disposal area); benzo(a)anthracene (730 and 51,000 µg/kg), benzo(a)pyrene (650 and 36,000 µg/kg), chrysene (860 and 56,000 µg/kg), and dibenzo(a,h)anthracene (180 µg/kg [J] and 12,000 µg/kg) in OG-SS07 and OG-SS08 (composite samples adjacent to rail spurs); and benzo(b)fluoranthene (59,000 µg/kg), benzo(k)fluoranthene (16,000 µg/kg), fluoranthene (99,000 µg/kg), indeno(1,2,3-cd)pyrene (28,000 µg/kg), and pyrene (82,000 µg/kg) in OG-SS08 (composite adjacent to rail spur) (see Table 3.3-1). Carbazole, which does not have a standard, was detected only in OG-SS08 (3,500 µg/kg [J]).

Pesticides
No pesticides that exceed the screening criteria were detected .

Herbicides
No herbicides that exceeded screening criteria were detected (see Table 3.3-1). Dichlorprop (21.4 µg/kg [J]) and 2,4-DB (118 µg/kg), compounds without screening criteria, were detected at OG-SS08 (see Table 3.3-1). 2,4-DB (43.6 µg/kg) was also detected at OG-SS07.

PCBs
No PCBs were detected in the surface soil samples.

Hexane Extractable Materials (Total Petroleum Hydrocarbons [TPHs])
TPHs were detected at 888 mg/kg at OG-SS08 (a composite sample taken along the rail spurs). There are no screening criteria for TPH.

Inorganics
Arsenic, barium, beryllium, calcium, chromium, cobalt, copper, iron, lead, magnesium, mercury, nickel, selenium, vanadium, and zinc were found above NYSDEC screening values (see Table 3.3-1). Metals are naturally occurring constituents of soil that often exceed criteria. The levels of most of these metals are within or very close to the eastern USA background range. However, zinc (293 µg/kg) in OG-SS01, arsenic (54 µg/mg) in OG-SS03, arsenic (41.6 mg/kg [J]), nickel (2,240 mg/kg), and vanadium (9,900 mg/kg) in OG-SS06 (dark ash disposal area); zinc (274 mg/kg) in OG-SS07 (composite adjacent

to rail spur); and copper (6,560 mg/kg) and nickel (94.8 mg/kg) in OG-SS08 (composite adjacent to rail spur) exceeded more than three times the highest value of the eastern USA range.

Cyanide was detected all surface soil samples, except at OG-SS08, at concentrations ranging from 0.21 to 1.3 mg/kg. No standard is available for cyanide; however, these low concentrations are not of concern.

3.3.2 Subsurface Soil

VOCs
No VOCs exceeding screening criteria were detected (see Table 3.3-2). Compounds without screening criteria that were detected were cyclohexane (0.6 µg/kg[J]) and 2-butanone (21 µg/kg) at OG-GP03-SB (14 to16 feet bgs).

SVOCs
Benzo(a)anthracene (1,400 µg/kg), benzo(a)pyrene (1,200 µg/kg), chrysene (1,400 µg/kg), and dibenzo(a,h)anthracene (240 µg/kg [J]) were found above their NYSDEC screening values in OG-GP03-SB (14 to16 feet bgs), which is a downgradient sample in the southeast portion of the site.

Pesticides
No pesticides were detected in the subsurface soil samples.

PCBs
No PCBs were detected in the subsurface soil samples.

Inorganics
Arsenic, barium, beryllium, chromium, copper, iron, magnesium, nickel, zinc, and mercury were found above their standards in the subsurface soil samples (see Table 3.3-2). Metals are naturally occurring constituents of soil that often exceed criteria. The levels of most of these metals are within or very close to the eastern USA background range. However, arsenic (55.4 mg/kg [J]) in OG-GP01-SB exceeded more than three times the highest value of the eastern USA range.

Cyanide was detected at 0.33 mg/kg in sample OG-GP01. No standard is available for cyanide; however, these low concentrations are not of concern.

3.3.3 Surface Water

VOCs
No VOCs were detected above their screening criteria. Acetone, a compound without a screening criteria, was detected at low concentrations in both surface water samples (see Table 3.3-3). Acetone is a common laboratory contaminant and was detected in the trip blank; therefore, the presence of acetone in these samples is not of concern.

SVOCs
No SVOCs with screening criteria were detected (see Table 3.3-3). Bis(2-ethylhexyl)phthalate, a compound without screening criteria, was detected in OG-SW03 (2 µg/L[J]) (see Table 3.3-3). Phthalates are commonly detected in environmental samples as artifacts from the use of protective gloves in the field and in the lab. Since the level of phthalates is low in this sample, its presence is not of concern.

Pesticides
No pesticides were detected in the surface water.

PCBs
No PCBs were detected in the surface water.

Anions
Chloride, nitrate-N, and sulfate, compounds without screening criteria, were detected in all surface water samples (see Table 3.3-3). Nitrate-N concentrations were relatively uniform between the two surface water locations; however, chloride and sulfate concentrations were higher in OG-SW02.

Hardness
Hardness values were 465 mg/L and 165 mg/L at OG-SW02 and OG-SW03, respectively (see Table 3.3-3).

Inorganics
Iron was detected above its NYSDEC standard (see Table 3.3-3). Iron is a naturally occurring constituent of water that often exceeds criteria. Therefore, the presence of iron is not necessarily of concern.

3.3.4 Sediment

VOCs
No VOCs exceeding screening criteria were detected (see Table 3.3-4). Compounds without screening criteria that were detected were acetone and methyl acetate (see Table 3.3-4). Acetone was detected at OG-SE01 (36 µg/kg [J]) and OG-SE03 (4 µg/kg [J]). Acetone is a common laboratory contaminant, and thus its presence in these samples may be a laboratory artifact and is therefore not of concern. Low levels of methyl acetate were detected in OG-SE01 (7 µg/kg [J]) and OG-SE02 (6 µg/kg [J]).

SVOCs
The only exceedance of SVOC standards was benzo(a)anthracene at OG-SE02 (270 µg/kg [J]) and OG-SE03 (120 µg/kg [J]) (see Table 3.3-4). Both locations are in a drainage ditch in the northwest corner of the site. Standards do not exist for several compounds: benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, di-n-octylphthalate, and indeno(1,2,3-cd)pyrene. However, these compounds were all detected below method detection limits. Phthalates are commonly detected in environmental samples as artifacts from the use of protective gloves in the field and in

the lab. Since the level of phthalates is low in the sediment samples, their presence is not of concern. In general, the highest levels of SVOCs are found at OG-SE02.

Pesticides
The only exceedance of pesticide standards was for beta-BHC at OG-SE03 (2.1 µg/kg [J]), which is a downstream location in a drainage ditch in the northwest corner of the site (see Table 3.3-4). There are no criteria for 4,4'-DDD and 4,4' DDE; however, the levels detected were at or below method detection limits.

PCBs
No PCBs were detected in the sediment samples.

Inorganics
Arsenic, copper, iron, lead, manganese, nickel, silver, and mercury were found above NYSDEC screening values (see Table 3.3-4). Metals are naturally occurring constituents of sediment that often exceed criteria. While most of these values exceeded only the lowest effect criteria, nickel concentrations (408 and 179 mg/kg) were more than three times the severe effect level in OG-SE01 and OG-SE04.

Cyanide was detected at 0.38 mg/kg and 0.25 mg/kg in samples OG-SE01 and OG-SE04, respectively. No standard is available for cyanide; however, these low concentrations are not of concern.

Total Organic Carbon (TOC)
TOC was detected in sediment samples at concentrations ranging from 7,400 mg/kg to 220,000 mg/kg (see Table 3.3-4).

3.3.5 Groundwater

VOCs
No VOCs were detected in the groundwater samples.

SVOCs
No SVOCs were detected in the groundwater samples.

Pesticides
No pesticides were detected in the groundwater samples.

PCBs
No PCBs were detected in the groundwater samples.

Inorganics
Arsenic, iron, magnesium, manganese, and sodium were each detected in at least one well above NYSDEC and/or EPA screening values (see Table 3.3-5). Metals are naturally occurring constituents of groundwater that often exceed criteria. However,

since arsenic was detected in OG-GP01 (227 µg/L) at a level greater than three times NYSDEC and EPA criteria, its presence needs to be further evaluated.

4. Geotechnical Assessment

A subsurface field investigation was conducted at the OG Real Estate site to obtain geotechnical information. The primary purpose of collecting this data was to determine if there are geotechnical limitations associated with the use of the site for a sediment processing/transfer facility. Data collection included:

- Review of available subsurface information from previous studies; and
- Soil borings installation, which included logging the subsurface geology.

Presented below is a summary of the site geologic and geotechnical data collected.

Geotechnical samples were not collected at this site because such data were available from other studies. Subsurface geology was investigated at three locations (OG-GP01 - OG-GP03) during soil investigation for environmental sampling using direct-push technology (DPT). A 4-foot soil collection interval was used to collect a continuous soil profile from the ground surface to approximately 25 feet bgs. DPT soil boring logs are presented in Appendix B.

Soil strata were similar across the site. East of the power line right-of-way, layers of silt and very fine sand underlie the site topsoil to a depth of approximately 24 feet, where a layer of gravel with intermixed sand and clay extends to at least a depth of 56 feet. Similar silts and very fine sands are also present at the northern end of the site to a depth of at least 25 feet and at the southern end of the site to a depth of approximately 16.5 feet. The southern silt and sand layers are underlain by approximately 3 feet of clay, beneath which lies sand to a depth of at least 25 feet.

Existing Site Data from Other Studies

According to site representatives, Normans Kill formerly traversed this property. This water body was re-routed to form an eastern turn to empty into the Hudson River at what has become the northern end of the property. The remaining ditch was reportedly filled with fly ash from the nearby Niagara Mohawk power plant located adjacent to the southern end of the property. A March 1996 report published by Law Engineering also indicates this area was filled with fly ash. Law installed numerous borings across the site to determine fly ash thickness. They concluded that west of the railroad that bisects the property (in a north-south direction), fly ash fill thickness is present in an elliptical shape, with depths ranging from ground surface at the outer ends to 18.5 feet in the center. East of the railroad spur, Law reports fly ash thickness in approximately the southern two-thirds of the site as varying in thickness from the ground surface at the perimeter to 27.5 feet in the center. In a January 1997 report, Law also provides geologic cross section data that shows fly ash paralleling the Hudson River shoreline, west of the railroad, consists mostly of combinations of silt, clay, and fine sand. Fly ash was not encountered

in the northern end of the site. A sand and gravel fill overlies a silt and clay layer, which in turn is underlain by a much thicker bed of silty fine sand and gravel. Silty fine sand underlies the entire site. Law's east-west cross section of the site shows two distinct bottom-ash/fly ash deposits separated by the railroad spur, which sits atop a silty fine sand and a silty and clay layer. This cross section also shows silty fine sand underlies the entire site. Law's cross section of the site's southern end indicates silt and clay underlie the entire end. Adjacent to the Hudson River, a silty fine sand lies between the ash deposit and the silt and clay. Further inland, a silty, clay, and fine sand deposit lies between the ash and the underlying silt and clay.

Recra Research, Inc. and Wehren Engineering, P.C. (1996) indicated that the ash was placed as a slurry and is soft, exhibiting engineering characteristics similar to soft silt. However, they also report that it has a lower density and different surface characteristics that cause it to be somewhat more pervious to water and somewhat more compressible than a similar depth of natural silts.

A preliminary geotechnical engineering evaluation for the site was prepared by Empire Soils (1982). In addition to subsurface geologic boring data to depths of nearly 100 feet, recorded on soil boring logs, it also provides geotechnical evaluation such as slope stability analysis, settlement analysis, and a clay deposit characterization. It also provides compression test data and permeability test data. This report is not included in Appendix B due to its size.

5. Utility Assessment

5.1 Preliminary Assessment

A preliminary utility assessment was completed as part of the site-specific field investigation of the Final Candidate Sites. Major site utilities identified on-site are shown on Figure 2-1. The assessment included the following steps:

1) Observations of site surface utilities such as overhead power or telephone lines, electrical transformers, manholes, sewer outfalls, and water hydrants were made.

2) Dig Safely New York (Dig Safe) was contacted as part of the utility clearance process before subsurface/intrusive work activities, including direct communication with various utility operators, as needed. Operators of on-site utilities provided information.

3) Available site maps were reviewed. Maps were obtained from various sources, including property owners.

It is anticipated that further utility assessments will be completed at the Recommended Sites. Further assessment may include contacting local municipal offices for information, opening manholes to determine flow paths, and dye testing. Further assessment may be conducted as part of the design evaluation process or during other additional investigation of Recommended Sites.

5.2 Findings and Observations

Utilities identified at the OG Real Estate site include the following:

- A high-voltage overhead Niagara Mohawk electrical power transmission line right-of-way runs north-south through the center of the site.

- Two high-pressure natural gas transmission pipelines (Dominion Gas and Niagara Mohawk Gas) are located within the Niagara Mohawk electrical power line corridor.

- The Town of Bethlehem reports that they operate subsurface sewer and water service lines located on the west side of Route 144. Route 144 is located west and south of the site.

6. Survey of Terrestrial, Archaeological, and Architectural Resources (STAAR)

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effect that facility siting may have on cultural resources that are listed or are eligible for listing on the National Register of Historic Places (NRHP). Phase IB field investigations continued the cultural resources studies and are specifically designed to determine the presence and extent of cultural resources within the OG Real Estate site (see *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plan: Site-Specific Field Investigations of the Final Candidate Sites*). The field activities involved archaeological, geomorphological, and architectural investigations.

Phase I investigations were previously completed by Dr. Edward V. Curtin (September 2003) for the OG Real Estate property (Figure 6-1). Preliminary review indicates that this site has been surveyed and no additional investigations were recommended. Further investigations will not be required if the report recommendations are accepted by the New York State Historic Preservation Office (NYSHPO). Therefore, no geomorphological fieldwork was conducted at this site as part of this investigation.

However, archaeological fieldwork of a small portion of the site that had not been included in the Curtin investigation was conducted on November 15, 2003. This area was a high hill overlooking the Hudson River. It appeared that the southern two-thirds of this hill had been blasted or excavated away.

A foundation and mortared brick cistern was located within the site, but shovel testing nearby found no cultural resources. Pending complete analysis, no further investigations are recommended.

Although no architectural investigations were conducted at this site, none are recommended pending final NYSHPO approval of the previous investigation conducted at the site. Final NYSHPO site approval should be reviewed to confirm that no additional work is required.

7. Wetland Assessment

7.1 Determination and Delineation Methods

Wetland determinations/delineations were not conducted on the OG Real Estate property as part of the field site-specific field investigations of the Final Candidate Sites. A Section 404 Wetland Delineation Report, prepared by Wilson Environmental Technologies, Inc (2000) and recently approved by the U.S. Army Corps of Engineers (USACE), mapped wetlands that were observed during habitat assessment fieldwork on October 15, 2003. Applicable wetland data (e.g., soil surveys, National Wetland Inventory [NWI] mapping, etc.) were reviewed beforehand to provide background information.

The OG Real Estate site was reportedly used as a coal ash disposal site for the former Niagara Mohawk power plant that is located adjacent to the southern boundary of the site. Rerouting of Normans Kill, which originally flowed north-south through the site, resulted in a large ditch that bisected the site. Niagara Mohawk subsequently used this ditch for disposal of fly ash.

7.2 Review of Existing Information

Review of NWI mapping indicated the site contained approximately 57.63 acres of wetlands. These wetlands were classified as PFO1Eh (palustrine, forested, broadleaved deciduous, seasonally flooded/saturated, diked/impounded), PEM1Eh (palustrine, emergent, broadleaved deciduous, seasonally flooded/saturated, diked/impounded), and PSS1Eh (palustrine, scrub-shrub, broadleaved deciduous, seasonally flooded/saturated, diked/impounded) [see Figure 7-1]). NYSDEC wetland mapping identified one wetland encompassing 73.14 acres of the site. This wetland was identified as freshwater wetland D-6. However, the Wilson Environmental Technologies, Inc. [Wilson Inc.] report contains a letter from NYSDEC indicating that wetland D-6 was mapped in error and was in the process of being removed from their wetland mapping database.

7.3 Results of the Wetland Assessment

The result of the Wilson Inc. delineation and the subsequent USACE site visit was the identification of three wetlands, totaling 0.92 acres (Table 7-1). Two wetlands in the southeastern portion of the site (Figure 7-1) were located along the shoreline approximately 15 feet below the prevailing elevation of the site in the area. Although not fully identified in the Wilson Inc. report, these areas are believed to be riparian emergent wetlands subject to frequent inundation, based on river stage. The third wetland (Wetland C) is located near the shoreline in the northeastern corner of the site. This wetland is a forested floodplain area, likely subjected to seasonal inundation. Further details of the site evaluation can be found in the Wilson Inc. report.

Table 7-1 Wetland Summary

Wetland ID	Community Type	Acreage
Wetland A	R1EM	0.16
Wetland B	R1EM	0.55
Wetland C	PFO	0.21
Total Acreage		**0.92**

Key

R1EM = Riverine emergent.
PFO = Palustrine forested.

8. Floodplain Assessment

An initial floodplain assessment was conducted on the OG Real Estate site in order to determine the presence, extent, and orientation of Federal Emergency Management Agency (FEMA)-mapped floodplains within site boundaries. Flood magnitudes and historic river stages from gauging stations as close as available to the site were examined to obtain an initial sense of the characteristics of on-site flooding. Appendix E provides the methodology and assumptions involved in this assessment.

8.1 Location and Orientation of the Floodplain

Figure 8-1 shows that a majority of the OG Real Estate site occurs within the 100-year and 500-year floodplains. The floodplain areas were obtained from Flood Hazard Boundary Maps and the Town of Bethlehem Flood Insurance Study (June 1983) from FEMA's Federal Insurance Administration.

The site is located on the west side of the Hudson River in the Town of Bethlehem. The total area of the site is approximately 94.9 acres (see Table 8-1). Approximately 92.5% (87.8 acres) of the site is within the base (100-year) floodplain, which is primarily land adjacent to the Hudson River (Figure 8-1). River frontage along the site is approximately 2,500 feet in length.

The site is mapped as occurring almost entirely within the 100-year floodplain, except for a portion in the southwest corner and a narrow strip of land along the western site boundary. The entire width (1,450 feet) of the northern portion of the site is within the 100-year floodplain (Figure 8-1).

Table 8-1 Summary of OG Real Estate Site and Floodplain Characteristics

Is a portion of the site in the base (100-year) floodplain?	Yes
Total area of the site	94.9 acres (4,133,497 ft^2)
Area of the site within the base (100-year) floodplain	87.8 acres (3,824,181 ft^2)
Percentage of the site within the base (100-year) floodplain	92.5%
Perimeter of the site (total length)	9,547 ft
Perimeter of the site bordering the Hudson River (river frontage)	~2,500 ft
Greatest width between the outer boundary of the base floodplain and the Hudson River boundary	~1,450 ft

8.2 100-year Flood

The FEMA maps show the 100-year flood elevation at the OG Real Estate site to be 19 feet National Geodetic Vertical Datum (NGVD). A brief examination of site topography and the FEMA mapping suggests that site elevation characteristics have not changed significantly since the FEMA floodplain modeling and mapping occurred.

The closest gauge station with historic flow data is the Troy gauge (per the National Weather Service station TRYN6, which is also the same as the U.S. Geological Survey (USGS) station 01358000 on Green Island). The Troy/Green Island gauge station is approximately 10 miles upstream of the OG site. The Troy/Green Island gauge station flood stage is 24 feet NGVD. At this elevation water reaches mobile homes along the riverfront in Lansingburgh. At 27 feet, there have been numerous evacuations, with approximately 1,000 cellars and 300 homes affected. At 29 feet, there are disaster conditions with several feet of water on riverside streets (National Weather Service Advanced Hydrologic Prediction Service web page, http://ahps.erh.noaa.gov/cgi-bin/ahps.cgi?aly&Hudson%20River).

Flood magnitudes were calculated from fifty-seven years of flow data at the Troy/Green Island gauge station. Based on this data, the 100-year flood stream flow for this station is 200,590 cubic feet per second (cfs). A flood of this magnitude has not occurred in the fifty-seven years of modern data. In that time, there have been five flow events greater than a 10-year flood, including three that were also greater than a 20-year flood (December 12, 1931; March 14, 1977; and January 20, 1996).

8.3 Local Flooding

Because the site is within the estuary portion of the Hudson River, there are no data available from the NYSCC that are relevant for examining on-site flooding issues.

Spot elevations surveyed along the land-river edge of the site boundary range from -1.3 foot to -0.3 feet NGVD. The contour information (5-foot intervals) provided with 2002 aerial photography of the site shows a 5-foot contour line running along the land-river edge. Consequently, the 100-year flood would put the river frontage of the site under approximately 19 feet of water.

While the probability of a 19-foot inundation event (100-year flood) is remote, there is the possibility of flooding on a smaller scale. The Flood Insurance Study shows the 10-year flood profile in the vicinity of the site to be 13 feet NGVD. The study indicates that flooding may occur during any season. However, the majority of major floods have occurred during the months of February, March, April, and May. Through the time of the report (1983), the five worst floods on the Hudson River that caused damage in the City of Rensselaer were identified as February 1900 (80-year flood), March 1902 (50-year flood), March 1913 (120-year flood), March 1936 (35-year flood), and January 1949 (30-year flood).

9. Coastal Management Area Assessment

The OG Real Estate site is located within the state-defined Hudson River Coastal Management Area. In addition, the City of Albany has an approved Local Waterfront Revitalization Program (LWRP) (City of Albany 1991). The state CMP provides for policies and procedures on development and other activities within the state-defined coastal zone. The Albany LWRP provides additional purposes and objectives of the city's planned uses for the Albany coastal zone.

If the OG Real Estate site were selected as a site for the Phase 1 and Phase 2 dredging, the siting of a sediment processing/transfer facility at this location would be consistent with the NYS CMP development policies to revitalize underutilized waterfront areas for commercial and industrial uses (Policy 1) and to facilitate the siting of water-dependent uses and facilities on or adjacent to coastal waters (Policy 2). It is anticipated that the layout, construction, and operation of the facility at the OG Real Estate site would not have adverse effects on other relevant policies of the state CMP.

EPA will prepare an additional phase of its coastal zone consistency determination, covering potential indirect and cumulative impacts from the operation of sediment processing/transfer facilities, once the Phase 1 and Phase 2 dredging facility locations are selected.

The OG Real Estate site is located in the Town of Bethlehem, outside the Albany City limits. The Albany LWRP southern boundary is the centerline of the Normans Kill Creek, just north of the OG Real Estate site boundary. Thus, the OG Real Estate site is not within the area defined as including the City of Albany LWRP. In addition, the existing location of industrial facilities north (Port of Albany) and south (Niagara Mohawk power plant) of the OG Real Estate would likely omit any negative impacts associated with further development of water-dependent industrial uses in this area. Consequently, if the OG Real Estate site were selected as a Recommended Site, consistency with the state CMP could be attained.

10. Baseline Habitat and Threatened and Endangered Species Assessment

10.1 Site Habitat Description

The OG Real Estate site description information is presented in the *Addenda to the Hudson River PCBs Superfund Site Facility Siting Work Plans: Site-Specific Field Investigations of the Final Candidate Sites* (Ecology and Environment, Inc. September 2003). In brief, historic and current land uses have greatly influenced the availability, extent, and diversity of on-site habitats. The site is situated on the west side of the river, just south of the confluence of Normans Kill with the Hudson River and the Port of Albany. This site was formerly used for ash dumping from the Niagara Mohawk power plant that is adjacent to the south end of the site. Normans Kill historically traversed the site but was rerouted past a former marina to the north, leaving an island between the ditch and the old shoreline. Niagara Mohawk then filled in the ditch with ash, eliminating the island. Currently, there are no active uses on the site. Given the historic and current site uses, the majority of the site is disturbed and consists of successional northern hardwoods and successional old field community types. The majority of the habitats on-site are composed of early successional (less than 20 years) to mid-successional (20 to 60 years) vegetation communities. Some bottomland-forested areas near the shoreline are late successional in age (> 60 years); cottonwoods are the dominant mature trees.

Figure 10-1 shows the habitat community types, as defined by Edinger et al. (2002) that are present on the site. Field investigations were conducted on October 15, 2003 to determine habitat availability within the site and to provide descriptions of existing habitat structure, diversity, and condition. Nine community types are found on this 95-acre site (Figure 10.1). No significant or unique habitats were among them. The predominant communities (relative to total cover across the site) are briefly described below. A description of the different community types from Edinger et al. (2002) is presented in Appendix F.

Successional Northern Hardwood

The successional northern hardwood (SNH) community is prevalent across the site, accounting for approximately 49% of the total area. The predominant trees in the SNH community are quaking aspen, black locust, cottonwood, box elder, paper birch, and gray birch. Occasional tree species include silver maple, black willow, green ash, sugar maple, red cedar, red oak, bitternut hickory, tree-of-heaven, and Eastern white pine. Shrubs include honeysuckle spp., hawthorn spp., and prickly ash. Common herb and vine species include *Phragmites australis*, wild grape, goldenrods, jewelweed, ostrich fern, Virginia creeper, *Filanthros* spp., sedges, poison ivy, and garlic mustard. Areas along the northern border of Normans Kill include the following species: black willow, slippery elm, silver maple, red cedar, sumac, red osier dogwood, gray dogwood, honeysuckle spp., American plum, blackberries, wild grape, asters, and goldenrods.

Successional Old Field

The abundant species within the successional old field (SOF) community type is *Phragmites* spp. This community comprises approximately 27% of the site. Common

species observed included asters, goldenrods, thistle, Queen Anne's lace, garlic mustard, bluegrass species, broomsedge, wild grape, and sedges. Small stands of trees and shrubs were interspersed within and occurred along the edges of this community. The common species included quaking aspen, gray birch, and black locust.

Other Communities

The successional old field/mowed pathway community type is compositionally similar to the SOF and accounts for approximately 16% of the site. The exception is related to management along the power line transmission corridor, where plant community structure and age are influenced by periodic maintenance. The predominant species in the successional shrubland community type are sumac, dogwoods (gray, silky, and red osier), green ash, American plum, honeysuckle spp., red cedar, and prickly ash. The species in the herbaceous layer include asters, *Phragmites australis*, thistle, goldenrods, blackberries, bluegrass species, and sedges. There is one marsh headwater stream that traverses the northeast corner of the site. This stream is a low gradient, meandering channel, with dense vegetation (mainly *Phragmites australis*) along the streambank. Wetland communities occurring on-site are discussed in further detail in Section 7.

The site shoreline exhibits the characteristics of a tidally influenced river shore. The Hudson River below Federal Dam is exposed to daily tidal fluctuations. Most of the shoreline is shallow with a sand/gravel substrate. At low tides, shallow sandy flats are exposed. The southern end of the site has a 10- to 15-foot elevation change between the top of the bank and the shoreline. This grade gradually decreases heading north along the shoreline to an approximate 2- to 3-foot elevation change between the top of bank and the shoreline. Normans Kill Creek, which is adjacent to the northern end, has relatively high (> 15 feet above water level), steep banks that appear to inhibit the flow of water from the creek to the site.

Common vegetation species and the community structure have an influence on wildlife occurrence on-site. Given the overall size of the site (91 acres), a variety of animal species use the site, including whitetail deer, waterfowl, and migrating passerines. The combination of forest and field habitats provides edge habitat and a range of food and cover types for a variety of species. Incidental wildlife observations included whitetail deer, gray squirrel, mallards, turkey vulture, and a variety of common songbirds.

10.2 Endangered Species Act Issues

Shortnose sturgeon is identified as a federally and state-listed species that could potentially seasonally occur near the OG Real Estate site. Shortnose sturgeon habitat extends from the mouth of the Hudson River in New York City to the Federal Dam at Troy (upstream from the site). Coordination and consultation with NYSDEC and the National Marine Fisheries Service (NMFS) have occurred as part of the facility siting process and for developing the details of a biological assessment for the Hudson River PCBs Superfund Site project. This consultation revealed that the portion of the river in the vicinity of the OG site is a known spawning area for shortnose sturgeon.

If the OG site is selected as a Suitable Site, the biological assessment will address any potential impacts to shortnose sturgeon as a result of the construction and operation of the a sediment processing/transfer facility. The biological assessment will include a literature review and any pertinent studies that are related to the habitat near this site as well as life history information on the shortnose sturgeon.

Table 3.1-1 Summary of Activities, Hudson River PCBs Superfund Site

		Energy Park/Longe/ NYS Canal Corporation Site	Old Moreau Dredge Spoils Area/NYS Canal Corporation Site	Georgia Pacific/ NYS Canal Corporation Site	NYS Canal Corporation/ Allco/Leyerle Site	Bruno/Brickyard Associates/ Alonzo Site	State of New York/First Rensselaer/ Marine Management Site	OG Real Estate Site
Environmental Investigation	Environmental Sampling	09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
	Temporary Well Installation	09/29/03 - 10/01/03	10/02/03	10/08/03	10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	10/07/03
	Temporary Well Sampling	10/16/03	10/14/03 - 10/16/03	10/13/03 - 10/14/03	10/15/03	10/15/03 - 10/16/03	10/10/03 - 10/15/03	10/15/03
Surveying		10/01/03 - 11/11/03	10/08/03 - 11/11/03	10/09/03 - 10/29/03	10/21/03 - 10/31/03	10/15/03 - 10/29/03	10/21/03 - 11/10/03	11/11/03 - 11/13/03
Geotechnical Investigation		09/29/03 - 10/01/03	NA	10/08/03	10/07/03 - 10/09/03	10/09/03 - 10/10/03	10/03/03 - 10/06/03	NA
Utilities Assessment		09/29/03 - 09/30/03	09/30/03 - 10/01/03	10/08/03 - 10/09/03	10/01/03 - 10/03/03	10/03/03 - 10/07/03	10/08/03	10/07/03
STAAR		10/06/03 - 10/16/03	10/13/03 - 10/30/03	10/11/03 - 10/28/03	10/23/03 - 11/13/03	10/17/03 - 11/05/03	10/25/03 - 11/14/03	11/15/03
Wetland Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Floodplain Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Coastal Management Areas		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Baseline Habitat Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
Threatened and Endangered Species Assessment		09/17/03 - 09/18/03	09/17/03 - 09/18/03	09/19/03 - 10/08/03	10/07/03 - 10/10/03	10/14/03 - 10/15/03	10/13/03	10/15/03
IDW Disposal		TBD	TBD	TBD	TBD	TBD	TBD	TBD

Key:

IDW = Investigation-derived waste.
NYS = New York State.
PCBs = Polychlorinated biphenyls.
STAAR = Survey of Terrestrial Archaeological and Architectural Resources
TBD = To be determined.

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/ Screen I.D. (inches)	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
EPL	EPL-GP01	9/29/03	9/29/03	N	10/16/03	25.4	135.11	1	27.4	137.2	15.4-25.4	5-25.4	2-5	2.0
	EPL-GP02	9/29/03	9/29/03	N	10/16/03	25	137.91	1	27.4	140.42	15-25	4-25	2-4	2.4
	EPL-GP03	9/29/03	9/29/03	N	10/16/03	25.1	135.52	1	27.51	137.99	15.1-25.1	4-25.1	0.6-4	2.41
	EPL-GP04	10/1/03	10/1/03	N	10/16/03	25	129.47	1	27.3	131.79	15-25	4-25	2-4	2.3
	EPL-GP05	10/1/03	10/1/03	N	10/16/03	25	132	1	27.5	134.53	15-25	4-25	2-4	2.5
OM	OM-GP01	10/2/03	10/2/03	N	10/16/03	25	157.67	1	27.4	160.19	15-25	4-25	2-4	2.4
	OM-GP02	10/2/03	10/2/03	N	10/16/03	25.4	141.79	1	27.62	144.2	15.3-25.3	4-25.3	2-4	2.32
	OM-GP03	10/2/03	10/2/03	N	10/15/03	25	155.84	1	27.3	158.37	10-25	4-25	2-4	2.3
	OM-GP04	10/2/03	10/2/03	N	10/15/03	25	143.5	1	22.5	146	10-20	4-25	0-4	2.5
	OM-GP05	10/2/03	10/2/03	N	10/14/03	25	133.43	1	27.5	135.93	15-25	4-25	0-4	2.5
GPS	GPS-GP01	10/9/03	10/9/03	N	10/13/03	25	108.4	1	28.15	111.60	15-25	4-25	2-4	3.15
	GPS-GP02	10/8/03	10/8/03	N	10/14/03	9.3	108.68	1	11.8	111.19	4.3-9.3	3-9.3	0.5-3	2.5
	GPS-GP03	10/8/03	10/8/03	N	10/14/03	25.5	102.76	1	27.55	104.76	15.5-25.5	4-25.5	2-4	2.05
	GPS-GP04	10/8/03	10/8/03	N	10/14/03	25.7	112.02	1	28.2	114.48	15.7-257	4-25.7	2-4	2.5
	GPS-GP05	10/8/03	10/8/03	N	10/13/03	25	100.71	1	27.45	103.31	14.85-24.85	4-25	2-4	2.6
	GPS-GP06	10/9/03	10/9/03	N	10/14/03	25	110.76	1	17.5	113.24	5-15	3-15 [A]	1-3	2.5
	GPS-GP07	10/9/03	10/9/03	N	10/14/03	25	112.98	1	22.4	115.38	10-20	3-20[B]	0.5-3	2.4
	GPS-GP08	10/8/03	10/8/03	N	10/13/03	18.5	113.36	1	19.7	114.74	8.5-18.5	3-18.5	1-3	1.2
NCC	NCC-GP01	10/9/03	10/9/03	N	10/15/03	25	48.53	1	25.5	51.02	13-23	4-23[C]	2-4	2.5
	NCC-GP02	10/7/03	10/7/03	N	-	6.9	52.5	Dry hole - no well constructed						
	NCC-GP03	10/9/03	10/9/03	N	10/15/03	22.9	43.56	1	23.65	46.2	11-21	4-22.9	2-4	2.65
	NCC-GP04	10/3/03	10/3/03	N	-	2	65.89	Not accessible by rig, boring was hand-augered						
	NCC-GP05	10/7/03	10/7/03	N	-	11	51.52	Dry hole - no well constructed (same as boring NCC-GT01)						
BBA	BBA-GP01	10/10/03	10/10/03	N	10/15/03	25	131.88	1	18.6	134.39	6-16	4-16 [D]	0.5-4	2.6
	BBA-GP02	10/10/03	10/10/03	N	10/16/03	25	144.41	1	18.55	146.87	6-16	4-18 [E]	0.5-4	2.55
	BBA-GP03	10/9/03	10/9/03	N	10/15/03	18.3	76.45	2	19.62	77.77	3.8-13.8	2.8-18.3	0-2.8	1.32
	BBA-GP04	10/10/03	10/10/03	N	10/15/03	14	77.57	1	16.8	80.38	3.5-13.5	2-14	0.5-2	2.8

Table 3.2-1 Summary of Temporary Well Construction, Hudson River PCBs Superfund Site

Site	Well/Piezometer No.	Date Started	Date Completed	Drilling Company	Date Sampled	Depth Drilled (Feet BGS)	Ground Elevation (Feet AMSL)	PVC Well Casing/	Total Depth (Feet TOIC)	TOIC Casing Elevation (Feet AMSL)	Screened (0.010 slot) Interval (Feet BGS)	Sand Interval (Feet BGS)	Seal Interval (Feet BGS)	Stick-up (Feet AGS)
MM	MM-GP01	10/6/03	10/6/03	N	10/10/03	25	18.73	1	27.4	20.52	15-25	4-25	2-4	2.4
	MM-GP02	10/3/03	10/3/03	N	10/10/03	25	5.87	1	27.6	7.75	15-25	4-25	2-4	2.6
	MM-GP04	10/6/03	10/6/03	N	10/15/03	25	15.50	1	27.4	17.22	14.5-24.5	4-24.5	2-4	2.9
OG	OG-GP01	10/7/03	10/7/03	N	10/15/03	25	10.28	1	17.70	12.94	5.35-15.35	3-16 [E]	1-3	2.35
	OG-GP02	10/7/03	10/7/03	N	10/15/03	25.1	14.26	1	27.35	16.46	15.1-25.1	4-25.1	2-4	2.25
	OG-GP03	10/7/03	10/7/03	N	10/15/03	25	17.95	1	27.45	20.4	15-25	4-25	2-4	2.45

[A] Hole was allowed to collapse to 10.15 feet BGS.
[B] Hole was allowed to collapse to 20 feet BGS.
[C] Hole was allowed to collapse to 23 feet BGS.
[D] Hole was allowed to collapse to 18 feet BGS.
[E] Hole was allowed to collapse to 16 feet BGS.

Key:

AGS = Above ground surface.
AMSL = Above mean sea level.
BBA = Bruno/Brickyard Associates/Alonzo Site.
BGS = Below ground surface.
EPL = Energy Park/Longe/NYS Canal Corporation Site.
GP = Geoprobe temporary well location.
GPS = Georgia Pacific/NYS Canal Corporation Site.
I.D. = Inner diameter.
MM = State of New York/First Rensselaer/Marine Management Site
N = Northstar Drilling.
NCC = NYS Canal Corporation/Allco/Leyerle Site.
NYS = New York State.
OG = OG Real Estate.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PVC = Polyvinyl chloride.
TOIC = Top of inner casing.

Table 3.2-2 Groundwater and Surface Water Field Measurements
OG Real Estate Site

Sample ID	Date	pH (s.u.)	Temerature (°C)	Conductivity (mS/cm)	Turbidity (NTU)
Groundwater					
OG-GP01-GW	10/15/03	7.04	13.9	1,427	5.18
OG-GP02-GW	10/15/03	6.95	10.6	1,398	37.6
OG-GP03-GW	10/15/03	6.93	11.7	2,465	185
Surface Water					
OG-SW01	10/7/03	Dry			
OG-SW02	10/7/03	7.25	7.6	1,509	21.1
OG-SW03	10/7/03	7.05	14.6	226.2	9.16

Key:

°C = Degrees Celsius.
GP = Boring location.
GW = Groundwater sample.
ID = Identification.
mS/cm = MicroSiemens per centimeter.
NTU = Nephelometric turbidity units.
NYS = New York State.
OG = OG Real Estate Site.
s.u. = Standard units.
SW = Surface water sample.

Table 3.2-3 Summary of Water Level Elevations
OG Real Estate Site

Well/ Stream Gauge ID	Ground Elevation (ft AMSL)	Reference Elevation (ft AMSL)a	10/15/03		10/22/03		11/6/03	
			Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)	Water Level (ft TOIC)	Water Elevation (ft AMSL)
OG-GP01	10.28	12.94	6.40	6.54	6.72	6.22	3.14	9.80
OG-GP02	14.26	16.46	13.27	3.19	15.21	1.25	13.17	3.29
OG-GP03	17.95	20.40	18.42	1.98	19.19	1.21	17.36	3.04
OG-SG01	NA	5.06	NM	NM	8.10	-1.91	2.72	4.78

[a] Reference elevation is TOIC for borings and 3-foot mark on gauge for stream gauges.

Key:

AMSL = Above mean sea level.
ft = Feet.
GP = Boring location.
NA = Not applicable.
NM = Not measured.
OG = OG Real Estate Site.
SG = Stream gauge location.
TOIC = Top of inner casing.

Table 3.2-4 OG Real Estate Site Sample Listing, Hudson River PCBs Superfund Facility Siting

							CLP						Non-CLP									Geotechnical Analyses			
							Organics			Inorganic															
Media	Date	Sample Location	CLP Number	Matrix Code	Depth A	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	TAL Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.2)	Hexane Extractable Material (907	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Particle Size (ASTM_D422-63)	Atterberg Limits (ASTM_D4318-0	Moisture Content (ASTM_D2216-9	Area of Interest
Surface Soil	10/7/03	OG-SS01	B1593	SO	0-2 in	N		X	X	X	X	X												Near abandoned transformer
	10/7/03	OG-SS02	B1594	SO	0-2 in	N		X	X	X	X	X												General coverage in potential railyard area
	10/7/03	OG-SS03	B1595	SO	0-2 in	N		X	X	X	X	X												General coverage in potential railyard area
	10/7/03	OG-SS04	B1596	SO	0-2 in	M		X	X	X	X	X												General coverage in potential railyard area
	10/7/03	OG-SS05	B1597	SO	0-2 in	N		X	X	X	X	X												General coverage on former island - potential facility a
	10/7/03	OG-SS06	B1598	SO	0-2 in	N	X	X	X	X	X	X												Area of exposed ash at surface
	10/7/03	OG-SS07	B1599	SO	0-2 in	N	X	X	X	X	X	X	X				X							Composite of 4 locations (A, B, C, D) adjacent to railroad track area (VOA portion was a discrete sample from the location of aliquot D)
	10/7/03	OG-SS08	B15A0	SO	0-2 in	N	X	X	X	X	X	X	X				X							Composite of 3 locations (A, B, C) adjacent to railroad track area, which is adjacent to abandoned diesel train engines (VOA portion was a discrete sample from the location of aliquot A)
Surface Water	-	OG-SW01	-	SW	-	N																		Wetland area in central portion of site - DRY
	10/7/03	OG-SW02	B1578	SW	-	N	X	X	X	X	X			X		X								Drainage ditch in northwest corner of site-upstream
	10/7/03	OG-SW03	B1592	SW	-	N	X	X	X	X	X			X		X								Drainage ditch in northwest corner of site-downstream
Sediment	10/7/03	OG-SE01	B1581	SE	0-2 in	N	X	X	X	X	X	X			X									Wetland area in central portion of site
	10/7/03	OG-SE02	B1582	SE	0-2 in	N	X	X	X	X	X	X			X									Drainage ditch in northwest corner of site-upstream
	10/7/03	OG-SE03	B1584	SE	0-2 in	N	X	X	X	X	X	X			X									Drainage ditch in northwest corner of site-downstream
	10/7/03	OG-SE04	B1576	SE	0-2 in	N	X	X	X	X	X	X			X									Downstream of on-site surface water flow
Geoprobe Borehole Subsurface Soil	10/7/03	OG-GP01-SB	B15A1	SO	2.5-4	N	X	X	X	X	X	X												Upgradient-central
	10/7/03	OG-GP02-SB	B15A2	SO	13.8-15.8	N	X	X	X	X	X	X												Downgradient-northeast
	10/7/03	OG-GP03-SB	B15A3	SO	14-16	N	X	X	X	X	X	X												Downgradient-southeast
Geoprobe Temporary Well	######	OG-GP01-GW	B15A4	GW	5.35-15.35	N	X	X	X	X	X													Upgradient-central
	######	OG-GP02-GW	B15A5	GW	15.1-25.1	N	X	X	X	X	X													Downgradient-northeast
	######	OG-GP03-GW	B15A6	GW	15-25	N	X	X	X	X	X													Downgradient-southeast

Key at the end of Table

Table 3.2-4 OG Real Estate Site Sample Listing, Hudson River PCBs Superfund Facility Siting

							CLP						Non-CLP									Geotechnical Analyses			
							Organics			Inorganic															
Media	Date	Sample Location	CLP Number	Matrix Code	Depth A	Type	TCL VOCs (OLM04.2)	TCL SVOCs (OLM04.2)	TCL Pesticides/PCBs (OLM04.2)	TAL Metals/Mercury (ILM04.1)	TAL Cyanide (ILM04.1)	% Solids (ASTM_D2216)	Chlorinated Herbicides (8151A)	Anions (9056)	TOC (Lloyd Kahn)	Hardness (130.2)	Hexane Extractable Material (907	TCLP VOCs	TCLP SVOCs	TCLP Metals/Mercury	Particle Size (ASTM_D422-63)	Atterberg Limits (ASTM_D4318-00	Moisture Content (ASTM_D2216-9	Area of Interest
Geotechnical Boring	-	OG-GT01-SB	-	SO	-	N															X	X	X	Ash fill
	-	OG-GT02-SB	-	SO	-	N															X	X	X	Ash fill
Subsurface Soil	-	OG-GT03-SB	-	SO	-	N															X	X	X	Former island
IDW	TBD	OG-WA01	-	WA	-	N												X	X	X				General
	TBD	OG-WW01	-	WW	-	N												X	X	X				General

[A] Depth in feet below ground surface unless otherwise specified.

Key:

CLP = Contract Laboratory Protocol
/D = duplicate sample
FD = field duplicate sample (Type)
GP = Geoprobe boring location
GT = geotechnical boring location
GW = groundwater sample
IDW = investigation-derived waste
in = inch
M = matrix spike/matrix spike duplicate (Type)
N = original sample (Type)
OG = OG Real Estate Site
PCB = polychlorinated biphenyl
QA = quality assurance
QC = quality control
SB = subsurface soil
SE = sediment sample
SO = soil sample
SS = surface soil
SVOCs = semivolatile organic compounds
SW = surface water
TBD = to be determined
TCL = target compound list
TCLP = toxicity characteristic leachate procedure
TOC = total organic carbon
VOCs = volatile organic compounds
WA = IDW solid waste
WW = IDW waste water

Key at the end of Table

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the OG Real Estate Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	OG-SS01	OG-SS02	OG-SS03	OG-SS04
			Date:	10/7/2003	10/7/2003	10/7/2003	10/7/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)							
Ethylbenzene	5500	NA		- -	- -	- -	- -
Methyl Acetate	NA	NA		- -	- -	- -	- -
Toluene	1500	NA		- -	- -	- -	- -
TCL Semivolatile Organic Compounds (µg/Kg)							
2-Methylnaphthalene	36400	NA		440 U	520 U	490 U	580 UJ
Acenaphthene	50000	NA		440 U	520 U	490 U	580 UJ
Acenaphthylene	41000	NA		440 U	520 U	490 U	580 UJ
Anthracene	50000	NA		440 U	520 U	490 U	580 UJ
Benzo(a)anthracene	224 or MDL	NA		140 J	520 U	490 U	580 UJ
Benzo(a)pyrene	61 or MDL	NA		**170 J**	520 U	490 U	580 UJ
Benzo(b)fluoranthene	1100	NA		230 J	520 U	490 U	580 UJ
Benzo(g,h,i)perylene	50000	NA		110 J	520 U	490 U	580 UJ
Benzo(k)fluoranthene	1100	NA		160 J	520 U	490 U	580 UJ
Bis(2-ethylhexyl)phthalate	50000	NA		440 U	520 U	490 U	580 UJ
Carbazole	NA	NA		440 U	520 U	490 U	580 UJ
Chrysene	400	NA		210 J	520 U	490 U	580 UJ
Dibenzo(a,h)anthracene	14 or MDL	NA		440 U	520 U	490 U	580 UJ
Dibenzofuran	6200	NA		440 U	520 U	490 U	580 UJ
Fluoranthene	50000	NA		260 J	520 U	490 U	580 UJ
Fluorene	50000	NA		440 U	520 U	490 U	580 UJ
Indeno(1,2,3-cd)pyrene	3200	NA		170 J	520 U	490 U	580 UJ
Naphthalene	13000	NA		440 U	520 U	490 U	580 UJ
Phenanthrene	50000	NA		130 J	520 U	490 U	580 UJ
Pyrene	50000	NA		270 J	520 U	490 U	580 UJ
TCL Pesticide and PCBs (µg/Kg)							
4,4'-DDD	2900	NA		4.4 U	5.2 U	4.9 U	5.8 UJ
4,4'-DDE	2100	NA		9.1 J	5.2 U	4.9 U	5.8 UJ
4,4'-DDT	2100	NA		7.2	5.2 U	4.9 U	4.2 J
Aldrin	41	NA		2.3 U	2.7 U	2.5 U	1.7 J
beta-BHC	200	NA		2.3 U	7.1 JN	4.1 JN	3 UJ
Dieldrin	44	NA		4.4 U	5.2 U	4.9 U	3.5 J
Endosulfan I	900	NA		2.3 U	2.7 U	2.5 U	3 UJ
Endrin	100	NA		4.4 U	5.2 U	4.9 U	3.7 J
Heptachlor	100	NA		2.3 U	2.7 U	2.5 U	1.7 J
Herbicides (µg/Kg)							
2,4-D	500	NA		- -	- -	- -	- -
2,4-DB	NA	NA		- -	- -	- -	- -
Dichlorprop	NA	NA		- -	- -	- -	- -

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the OG Real Estate Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	OG-SS01	OG-SS02	OG-SS03	OG-SS04
			Date:	10/7/2003	10/7/2003	10/7/2003	10/7/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TAL Metals and Mercury (mg/Kg)							
Aluminum	SB	NA		8630	12400	14100	14000
Antimony	SB	NA		1.9 U	2.2 U	2.2 U	2.5 U
Arsenic	7.5 or SB	3-12 (NYS BG)		9.5 J	54	44.3 J	31.9 J
Barium	300	15-600		256	428	496	430
Beryllium	0.16 or SB	0-1.75		0.62 B	1.5 B	2	1.9
Cadmium	1 or SB	0.1-1		0.26 B	0.16 U	0.15 U	0.18 U
Calcium	SB	130-35000 (NYS BG)		57700	5790	7280	6970
Chromium	10 or SB	1.5-40 (NYS BG)		10.6	21.9	21.7	22
Cobalt	30 or SB	2.5-60 (NYS BG)		12.1 B	5.7 B	7.5 B	7.3 B
Copper	25 or SB	1-50		35.9	21.6	20.8	32.6
Iron	2000 or SB	2000-550000		20300	11300	23400	19200
Lead	SB or 200 - 500	200-500		244	39.2	26.5	29.6
Magnesium	SB	100-5000		6070	1190 B	1360 B	1950
Manganese	NA	50-5000		4380 J	105 J	143	247
Nickel	13 or SB	0.5-25		25	47	54	56.5
Potassium	SB	8500-43000 (NYS BG)		588 B	710 B	923 B	993 B
Selenium	2 or SB	0.1-3.9		1.3 J	3.2 J	1.5 J	0.69 BJ
Silver	SB	NA		1.3 BJ	0.47 U	0.45 U	0.53 U
Sodium	SB	6000-8000		142 U	246 B	344 B	428 B
Thallium	SB	NA		1.1 UR	1.3 UR	1.5 B	1.5 U
Vanadium	150 or SB	1-300		52.4	147	158	136
Zinc	20 or SB	9-50		293	29.4	27	62.4
Mercury	0.1	0.001-0.2		0.2 J	0.23 J	0.07 U	0.09 U
Total Cyanide (mg/Kg)							
Cyanide	NA	NA		0.63	0.42	0.27	0.64
Total Petroleum Hydrocarbons (mg/Kg)							
N-Hexane Extractable Material	NA	NA		- -	- -	- -	- -

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the OG Real Estate Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	OG-SS05	OG-SS06	OG-SS07	OG-SS08
			Date:	10/7/2003	10/7/2003	10/7/2003	10/7/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)							
Ethylbenzene	5500	NA		- -	14 U	10 R	15 UJ
Methyl Acetate	NA	NA		- -	14 U	10 U	4 J
Toluene	1500	NA		- -	14 U	3 J	15 UJ
TCL Semivolatile Organic Compounds (µg/Kg)							
2-Methylnaphthalene	36400	NA		470 U	430 U	520 U	1800 J
Acenaphthene	50000	NA		470 U	430 U	520 U	1300 J
Acenaphthylene	41000	NA		470 U	430 U	300 J	12000
Anthracene	50000	NA		470 U	430 U	300 J	12000
Benzo(a)anthracene	224 or MDL	NA		110 J	430 U	**730**	**51000**
Benzo(a)pyrene	61 or MDL	NA		**130 J**	430 U	**650**	**36000**
Benzo(b)fluoranthene	1100	NA		96 J	430 U	740	**59000**
Benzo(g,h,i)perylene	50000	NA		470 U	430 UJ	520 UJ	14000
Benzo(k)fluoranthene	1100	NA		140 J	430 U	830	**16000**
Bis(2-ethylhexyl)phthalate	50000	NA		200 J	430 U	350 J	4600 U
Carbazole	NA	NA		470 UJ	430 UJ	520 UJ	3500 J
Chrysene	400	NA		140 J	430 U	**860**	**56000**
Dibenzo(a,h)anthracene	14 or MDL	NA		470 U	430 U	**180 J**	**12000**
Dibenzofuran	6200	NA		470 U	430 U	520 U	1800 J
Fluoranthene	50000	NA		180 J	430 U	1100	**99000**
Fluorene	50000	NA		470 U	430 U	520 U	1700 J
Indeno(1,2,3-cd)pyrene	3200	NA		470 U	430 UJ	450 J	**28000**
Naphthalene	13000	NA		470 U	430 U	520 U	1700 J
Phenanthrene	50000	NA		470 U	430 U	250 J	24000
Pyrene	50000	NA		190 J	430 U	1200	**82000**
TCL Pesticide and PCBs (µg/Kg)							
4,4'-DDD	2900	NA		4.7 U	4.3 U	5.2 U	23 J
4,4'-DDE	2100	NA		7.8	4.3 U	3.7 J	6.7 R
4,4'-DDT	2100	NA		9.9	4.3 U	2.7 J	40 J
Aldrin	41	NA		2.4 U	2.2 U	2.7 U	2.4 U
beta-BHC	200	NA		4.4 JN	2.4	5.3 J	2.4 U
Dieldrin	44	NA		4.7 U	4.3 U	5.2 U	4.6 U
Endosulfan I	900	NA		2.4 U	2.2 U	2.7 U	2.4 R
Endrin	100	NA		4.7 U	4.3 U	5.2 U	4.6 U
Heptachlor	100	NA		2.4 U	2.2 U	2.7 U	2.4 U
Herbicides (µg/Kg)							
2,4-D	500	NA		- -	- -	22.7 U	41.7
2,4-DB	NA	NA		- -	- -	43.6	118
Dichlorprop	NA	NA		- -	- -	22.7 U	21.4 J

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the OG Real Estate Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID:	OG-SS05	OG-SS06	OG-SS07	OG-SS08
			Date:	10/7/2003	10/7/2003	10/7/2003	10/7/2003
			Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TAL Metals and Mercury (mg/Kg)							
Aluminum	SB	NA		7170	10400	11800	5880
Antimony	SB	NA		2.1 U	1.9 U	3.1 B	36.3
Arsenic	7.5 or SB	3-12 (NYS BG)		6.4 J	41.6 J	17.3 J	11.8 J
Barium	300	15-600		64.6	378	259	97.5
Beryllium	0.16 or SB	0-1.75		0.39 B	1.2 B	0.82 B	0.47 B
Cadmium	1 or SB	0.1-1		0.15 U	0.13 U	0.16 U	0.13 U
Calcium	SB	130-35000 (NYS BG)		6220	5200	6000	3850
Chromium	10 or SB	1.5-40 (NYS BG)		19.5	44.7	17.2	20.9
Cobalt	30 or SB	2.5-60 (NYS BG)		9.6 B	31.4	12.1 B	7 B
Copper	25 or SB	1-50		30.7	39	38.9	6560
Iron	2000 or SB	2000-550000		29400	35000	25500	20100
Lead	SB or 200 - 500	200-500		79.5	19.3	60.1	753
Magnesium	SB	100-5000		3530	5880	5790	2350
Manganese	NA	50-5000		524	324	2200	244
Nickel	13 or SB	0.5-25		69.3	2240	28.2	94.8
Potassium	SB	8500-43000 (NYS BG)		882 B	750 B	1010 B	638 B
Selenium	2 or SB	0.1-3.9		0.56 UJ	0.83 BJ	0.61 UJ	0.7 BJ
Silver	SB	NA		0.44 U	0.4 U	0.48 U	0.4 U
Sodium	SB	6000-8000		160 U	206 B	205 B	147 U
Thallium	SB	NA		1.2 U	1.1 U	1.3 U	1.1 U
Vanadium	150 or SB	1-300		296	9900	45	190
Zinc	20 or SB	9-50		98.7	46.7	274	91
Mercury	0.1	0.001-0.2		0.1 BJ	0.08 BJ	0.07 U	0.07 U
Total Cyanide (mg/Kg)							
Cyanide	NA	NA		0.57	0.21	1.3	0.17 U
Total Petroleum Hydrocarbons (mg/Kg)							
N-Hexane Extractable Material	NA	NA		- -	- -	261 U	888

Table 3.3-1
Analytical Data Summary of Detected Analytes for Surface Soil Samples from the OG Real Estate Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B =	The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D =	Duplicate sample.
in =	Inches.
J =	The reported value is an estimated quantity.
JN =	The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL =	Method detection Limit
mg/Kg =	Milligrams per kilogram.
NA =	Not applicable/available.
NYS =	New York State.
NYSDEC =	New York State Department of Environmental Conservation.
OG =	OG Real Estate Site.
PCB =	Polychlorinated biphenyl.
R =	The data is unusable.
SB =	Site background.
SS =	Surface soil sample.
TAL =	Target Analyte List.
TCL =	Target Compound List.
U =	The analyte was analyzed for but not detected at the value reported.
UJ =	The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg =	Micrograms per kilogram.
- =	Sample was not analyzed for this parameter.
170 J	Shaded cells with bold exceed the NYSDEC screening value.

Table 3.3-2
Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the OG Real Estate Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: / Date: / Depth:	OG-GP01-SB 10/7/2003 2.5 - 4 ft	OG-GP02-SB 10/7/2003 13.8 - 15.8 ft	OG-GP03-SB 10/7/2003 14 - 16 ft
TCL Volatile Organic Compounds (µg/Kg)						
2-Butanone	NA	NA		21 UJ	10 U	21
Acetone	200	NA		21 UJ	10 UJ	110 J
Carbon Disulfide	2700	NA		21 UJ	10 U	0.5 J
Cyclohexane	NA	NA		21 UJ	10 U	0.6 J
TCL Semivolatile Organic Compounds (µg/Kg)						
Anthracene	50000	NA		610 U	400 U	280 J
Benzo(a)anthracene	224 or MDL	NA		610 U	400 U	**1400**
Benzo(a)pyrene	61 or MDL	NA		610 U	400 U	**1200**
Benzo(b)fluoranthene	1100	NA		610 U	400 U	1100
Benzo(g,h,i)perylene	50000	NA		610 UJ	400 U	380 J
Benzo(k)fluoranthene	1100	NA		610 U	400 U	970
Bis(2-Ethylhexyl)Phthalate	50000	NA		160 J	400 U	420 U
Chrysene	400	NA		610 U	400 U	**1400**
Dibenzo(a,h)anthracene	14 or MDL	NA		610 U	400 U	**240 J**
Fluoranthene	50000	NA		610 U	400 U	2200
Indeno(1,2,3-cd)pyrene	3200	NA		610 U	400 U	700
Phenanthrene	50000	NA		610 U	400 U	480
Pyrene	50000	NA		610 U	400 U	2100

Source: Ecology and Environment, Inc., 2004

Table 3.3-2
Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the OG Real Estate Site

Analyte	NYSDEC TAGM 4046 (1)	Eastern USA Background (2)	Sample ID: / Date: / Depth:	OG-GP01-SB 10/7/2003 2.5 - 4 ft	OG-GP02-SB 10/7/2003 13.8 - 15.8 ft	OG-GP03-SB 10/7/2003 14 - 16 ft
TAL Metals and Mercury (mg/Kg)						
Aluminum	SB	NA		10400	5710	8890
Arsenic	7.5 or SB	3-12 (NYS BG)		55.4 J	1.5 BJ	4.4 J
Barium	300	15-600		388	25.9 B	76.4
Beryllium	0.16 or SB	0-1.75		1.8 B	0.26 B	0.51 B
Calcium	SB	130-35000 (NYS BG)		7890	2610	6320
Chromium	10 or SB	1.5-40 (NYS BG)		18.8	8.1	12.3
Cobalt	30 or SB	2.5-60 (NYS BG)		7.4 B	5.4 B	10.5 B
Copper	25 or SB	1-50		31.7	10.2	20.9
Iron	2000 or SB	2000-550000		18900	11400	21600
Lead	SB or 200 - 500	200-500		10.1	5.1	12.7
Magnesium	SB	100-5000		1480 B	3080	5630
Manganese	NA	50-5000		61.4	109	606
Nickel	13 or SB	0.5-25		16.5	13.6	21.9
Potassium	SB	8500-43000 (NYS BG)		729 B	636 B	674 B
Selenium	2 or SB	0.1-3.9		1.3 BJ	0.48 UJ	0.48 UJ
Sodium	SB	6000-8000		415 B	139 U	137 U
Vanadium	150 or SB	1-300		45.9	10.1 B	18.5
Zinc	20 or SB	9-50		29.9	45.4	66.9
Mercury	0.1	0.001-0.2		0.18 BJ	0.06 U	0.06 U
Total Cyanide (mg/Kg)						
Cyanide	NA	NA		0.33	0.16 U	0.15 U

Source: Ecology and Environment, Inc., 2004

Table 3.3-2
Analytical Data Summary of Detected Analytes for Subsurface Soil Samples from the OG Real Estate Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
MDL = Method detection Limit
mg/Kg = Milligrams per kilogram.
NA = Not applicable/available.
NYS = New York State.
NYSDEC = New York State Department of Environmental Conservation.
OG = OG Real Estate Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable.
SB = Site background.
-SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
1400 Shaded cells with bold exceed the NYSDEC screening value.

Source: Ecology and Environment, Inc., 2004

Table 3.3-3
Analytical Data Summary of Detected Analytes for Surface Water Samples from the OG Real Estate Site

Analyte	NYSDEC CLASS D (1)	Sample ID: / Date:	OG-SW02 10/7/2003	OG-SW03 10/7/2003
TCL Volatile Organic Compounds (µg/L)				
Acetone	NA		4 J	3 J
Toluene	480 for A(A)		2 J	3 J
TCL Semivolatile Organic Compounds (µg/L)				
Bis(2-ethylhexyl)phthalate	NA		10 U	2 J
TAL Metals and Mercury (µg/L)				
Aluminum	NA		388	134 B
Barium	NA		50.2 B	19.9 B
Calcium	NA		99200	26700
Chromium	CV		1.3 B	1.1 U
Copper	CV		2.7 B	2.2 B
Iron	300 for A(A)		1680	363
Lead	CV		3.2	2.6 U
Magnesium	NA		19300	4980 B
Manganese	NA		424	40.6
Nickel	CV		3.6 B	3.7 B
Potassium	NA		4270 B	1330 B
Sodium	NA		189000 J	15000 J
Vanadium	190 for A(A)		1.6 U	1.6 B
Zinc	CV		26.9 J	25.4 J
Anions (mg/L)				
Chloride	NA		308	22.3
Fluoride	CV		0.125	0.066 J
Nitrate-N	NA		0.368	0.324
Sulfate	NA		30	12.1
Hardness (mg/L)				
Hardness (As $CaCO_3$)	NA		465	165

Table 3.3-3
Analytical Data Summary of Detected Analytes for Surface Water Samples at the OG Real Estate Site

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class D Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

Key:

A(A) = Standard/guidance value is for the protection of fish survival (fresh waters).
B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
CV = Value calculated based on hardness as per NYSDEC TOGS 1.1.1, 1998.
/D = Duplicate sample.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/L = Milligrams per liter.
NA = Not applicable/available.
NYSDEC = New York State Department of Environmental Conservation.
OG = OG Real Estate Site.
SW = Surface water sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.

Table 3.3-4
Analytical Data Summary of Detected Analytes for Sediment Samples from the OG Real Estate Site

Analyte	NYSDEC Screening Criteria (1), (2)	Sample ID:	OG-SE01	OG-SE02	OG-SE03	OG-SE04
		Date:	10/07/03	10/07/03	10/07/03	10/07/03
TCL Volatile Organic Compounds (µg/Kg)						
Acetone	NA		36 J	19 UJ	4 J	10 UJ
Methyl Acetate	NA		7 J	6 J	11 U	10 U
Toluene	CV		24 UJ	2 J	11 UJ	0.7 J
TCL Semivolatile Organic Compounds (µg/Kg)						
Benzo(a)anthracene	CV		580 U	**270 J**	**120 J**	180 J
Benzo(a)pyrene	NA		580 U	370 J	150 J	160 J
Benzo(b)fluoranthene	NA		580 U	500 J	150 J	190 J
Benzo(k)fluoranthene	NA		580 U	380 J	190 J	200 J
Bis(2-ethylhexyl)phthalate	CV		2500	200 J	120 J	390 U
Chrysene	NA		580 U	470 J	180 J	220 J
Di-n-octylphthalate	NA		580 U	560 U	500 U	87 J
Fluoranthene	CV		580 U	770	300 J	400
Indeno(1,2,3-cd)pyrene	NA		580 UJ	280 J	100 J	120 J
Phenanthrene	CV		580 U	290 J	120 J	180 J
Pyrene	CV		580 U	610	260 J	370 J
TCL Pesticide and PCBs (µg/Kg)						
4,4'-DDD	NA		5.8 U	7.3 JN	2.8 J	3.9 U
4,4'-DDE	NA		5.8 U	11 J	5	1.9 J
4,4'-DDT	CV		5.8 U	5.6 U	5 U	0.95 J
beta-BHC	CV		3 U	2.9 U	**2.1 J**	2 U

Analyte	NYSDEC Screening Criteria (1) Lowest effect (2)	Severe effect (2)	Sample ID:	OG-SE01	OG-SE02	OG-SE03	OG-SE04
			Date:	10/07/03	10/07/03	10/07/03	10/07/03
TAL Metals and Mercury (mg/Kg)							
Aluminum	NA	NA		9600	7360	5100	7630
Arsenic	6.0	33		25.8	7.8 J	7.9 J	12.8
Barium	NA	NA		263	74.7 B	51.6 B	99.5
Beryllium	NA	NA		1.1 B	0.48 B	0.32 B	0.42 B
Calcium	NA	NA		9350	10100	5990	9980
Chromium	26	110		23.9	9.7	6.1	12.6
Cobalt	NA	NA		11.5 B	8.9 B	6.3 B	8.3 B
Copper	16	110		33.4	22.9	11.9	29.2
Iron	20000	40000		12100	17900	13900	22300
Lead	31	110		27.1	22	12.6	96.9
Magnesium	NA	NA		2210	3840	2480	3920
Manganese	460	1100		221 J	1040 J	519 J	445 J
Nickel	16	50		408	18	12.3	179
Potassium	NA	NA		1040 B	720 B	574 B	891 B
Selenium	NA	NA		3.1 J	1.7 BJ	0.57 UJ	0.59 BJ
Silver	1	2.2		0.53 U	1.1 BJ	1.2 BJ	0.35 U
Sodium	NA	NA		341 B	277 B	164 U	129 U
Vanadium	NA	NA		698	18.2 B	13.9 B	934
Zinc	120	270		58.1	86.3	46.5	99.1
Mercury	0.15	1.3		0.1 BJ	0.1 BJ	0.07 U	0.43
Total Cyanide (mg/Kg)							
Cyanide	NA	NA		0.38	0.23 U	0.21 U	0.25
Total Organic Carbon (mg/Kg)							
Total Organic Carbon	NA	NA		220000	21000	7400	48000
Percent Solids (%)							
Percent Solids	NA	NA		59	52	56	83

Table 3.3-4
Analytical Data Summary of Detected Analytes for Sediment Samples from the OG Real Estate Site

(1) New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments, 1999. The benthic aquatic life chronic toxicity protection level was used.

(2) As per the 1999 NYSDEC Guidance, the screening criteria for organic contaminants in sediments are calculated based on sample Total Organic Carbon concentration. However, two levels of risk are established for metals contamination in sediments (Lowest Effect Level and Severe Effect Level).

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
CV = Value calculated based on total organic carbon as per NYSDEC Guidance.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NA = Not applicable/available.
NYSDEC = New York State Department of Environmental Conservation.
OG = OG Real Estate Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable.
SE = Sediment sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
% = Percent.
120 J Shaded cells with bold exceed the NYSDEC guidance value (except for metals).

Table 3.3-5
Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the OG Real Estate Site

Analyte	NYSDEC CLASS GA (1)	Sample ID: / Date: / EPA MCLs	OG-GP01-GW 10/15/2003	OG-GP02-GW 10/15/2003	OG-GP03-GW 10/15/2003
TAL Metals and Mercury (µg/L)					
Arsenic	25	10	227	5.8 U	5.8 U
Barium	1000	2000	420	179 B	259
Beryllium	3 (g)	4	0.1 U	0.1 U	0.12 B
Calcium	NA	NA	157000	225000	474000
Cobalt	NA	NA	1.3 U	1.3 U	2.4 B
Iron	300 (3)	300 (s)	11100	6150	41200
Magnesium	35000 (g)	NA	15300	48900	88300
Manganese	300 (3)	50 (s)	379	6130	18700
Potassium	NA	NA	4190 B	4630 B	3090 B
Selenium	10	50	3.8 U	4.1 BJ	5.8 J
Sodium	20000	NA	124000 J	24900 J	22300 J
Vanadium	NA	NA	2.2 B	0.9 U	0.9 U
Zinc	2000 (g)	5000 (s)	21.9	15.5 B	12.4 B

Source: Ecology and Environment, Inc., 2004

Table 3.3-5
Analytical Data Summary of Detected Analytes for Groundwater Samples from Temporary Wells at the OG Real Estate Site

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class GA Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

(2) EPA National Primary and Secondary Drinking Water Standards, 2002.

(3) Screening value is for sum of Iron and Manganese is 500 µg/L.

(g) Guidance value used.

(s) Secondary standard used.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

/D = Duplicate sample.

EPA = Environmental Protection Agency.

GP = Boring.

GW = Groundwater sample.

J = The reported value is an estimated quantity.

MCL = Maximum Contaminant Level.

NA = Not applicable/available.

NYSDEC = New York State Department of Environmental Conservation.

OG = OG Real Estate Site.

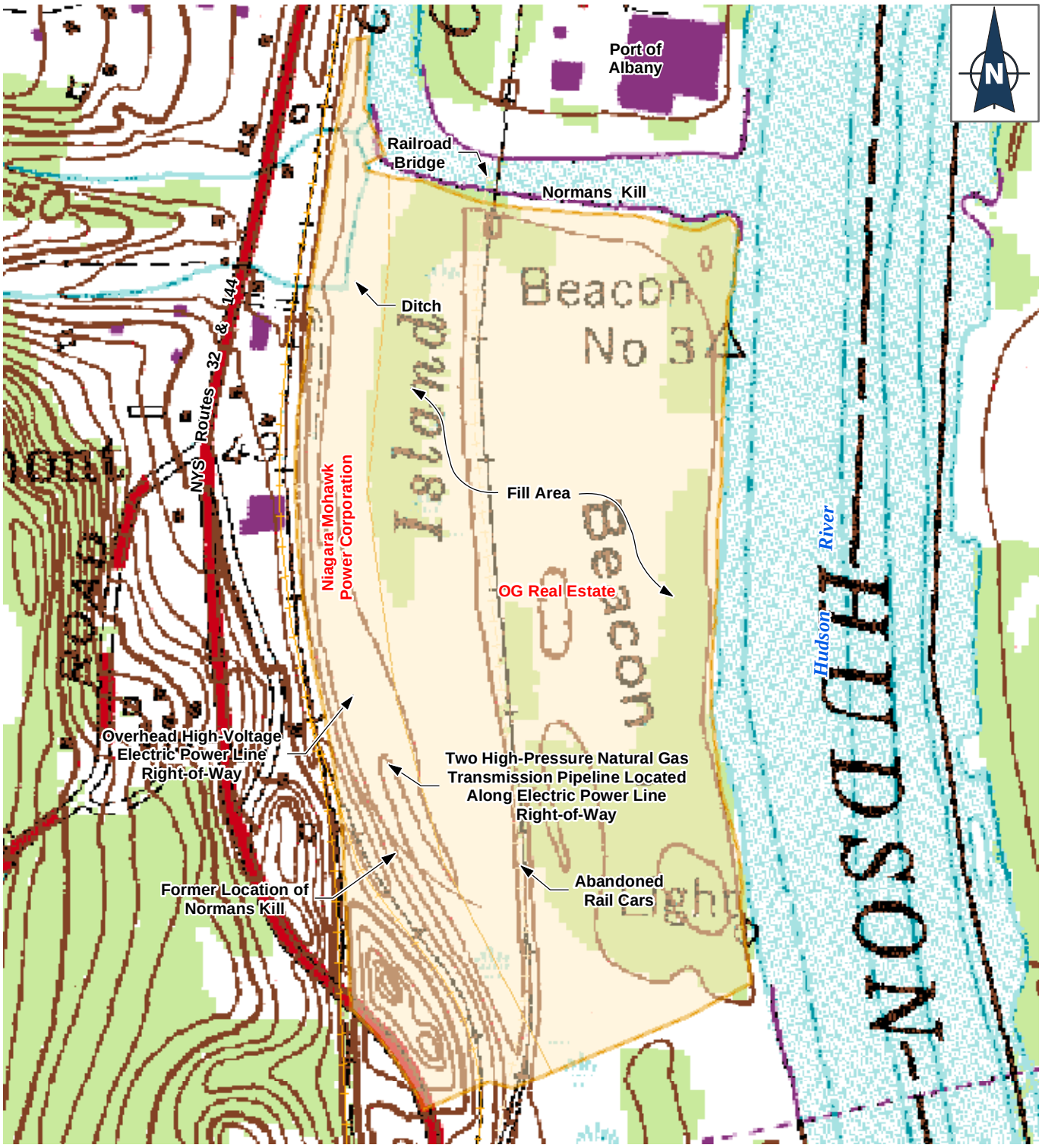
TAL = Target Analyte List.

U = The analyte was analyzed for but not detected at the value reported.

µg/L = Micrograms per liter.

Source: Ecology and Environment, Inc., 2004

SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Approximate Site Boundary
- Tax Parcel Boundary
- Active Railroad
- Abandoned Railroad

Due to the presence of "sensitive content," certain data/imagery is unavailable as directed by the NYS Office for Public Security.

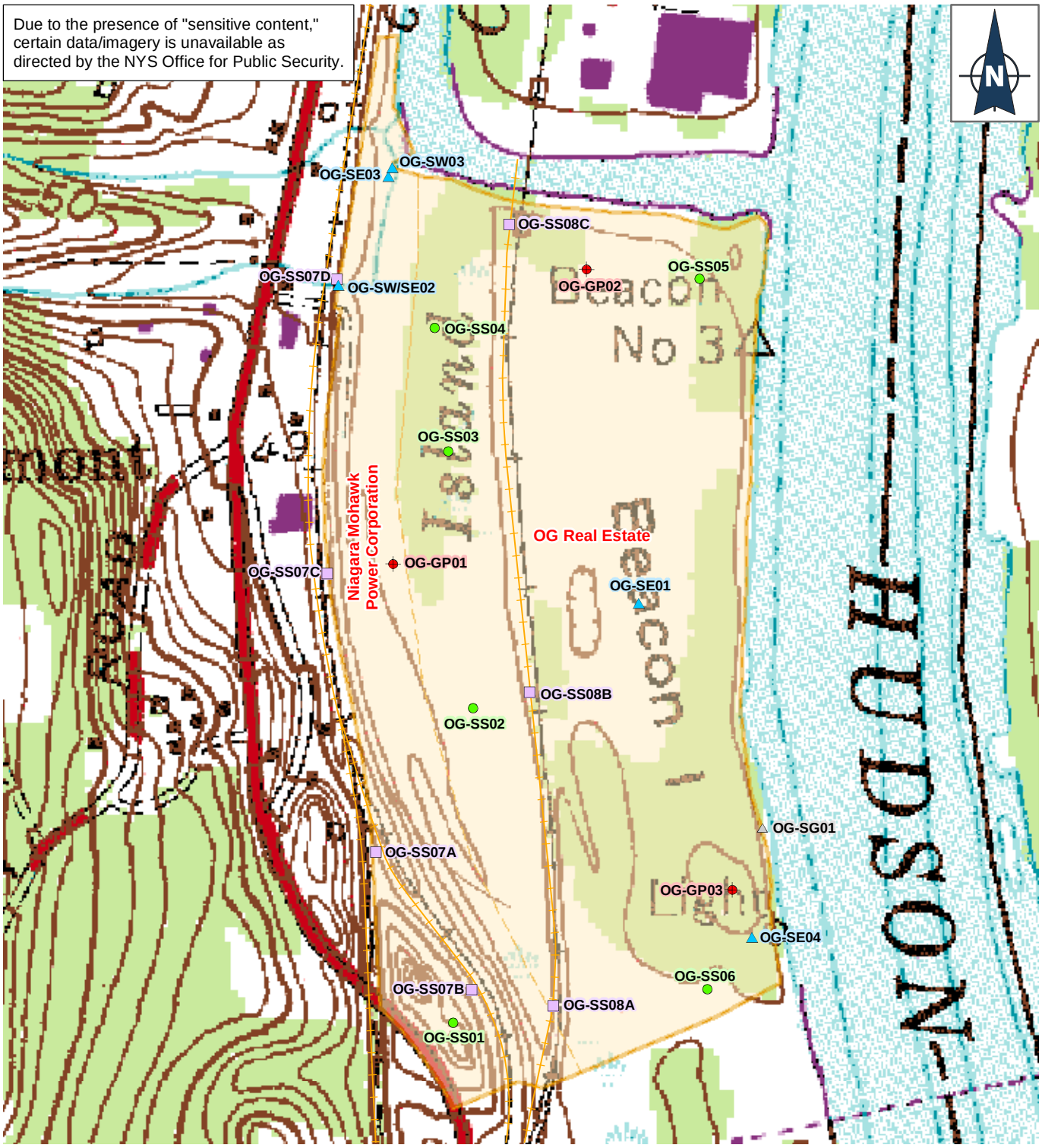
Hudson River PCBs SUPERFUND SITE

Figure 2-1
Key Site Features
OG Real Estate

500 250 0 500 1,000
Feet

02:001515.HR03.08:04 - 12/17/03
L:\Buffalo\Hudson_River\Maps\Mxd\FCS_Factsheets\Key_Site_Features\OG_Key_Features.mxd - GIS

SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Geoprobe Soil Boring
- Geoprobe Soil Boring & Temporary Well
- Geoprobe & Geotechnical Boring
- Geotechnical Boring
- Surface Soil
- Soil Sample Adjacent to Railroad
- Surface Water / Sediment
- Stream Gauge
- Railroads
- Potential Site Boundary

Hudson River PCBs SUPERFUND SITE

Figure 3-1
Sample Locations
OG Real Estate

500 250 0 500 1,000 Feet

02:001515.HR03.08.04 - 12/16/03
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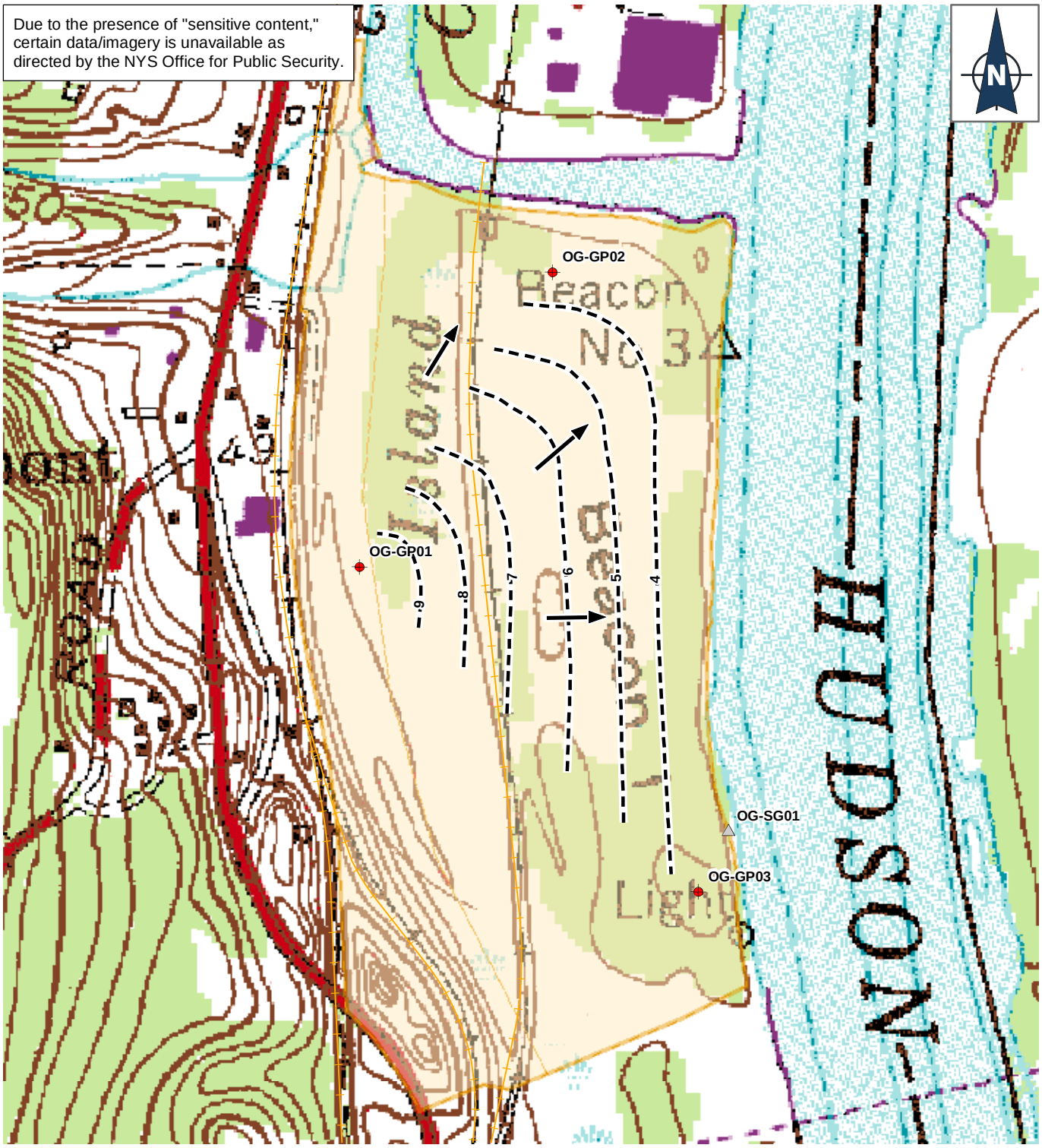
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Groundwater Contour
- Temporary Well
- Stream Gauge
- Railroad
- Potential Site Boundary
- Direction of Groundwater Flow

(Note: The Hudson River is tidally influenced at this location, therefore groundwater flow direction may fluctuate near the shoreline.)

Water Level Elevations Measured on 11/6/2003
1 ft. Contour Interval

Hudson River PCBs SUPERFUND SITE

Figure 3-2
Overburden Groundwater Contour Map
OG Real Estate

500 250 0 500 1,000 Feet

02.001515.HR03.08.04 - 04/22/04
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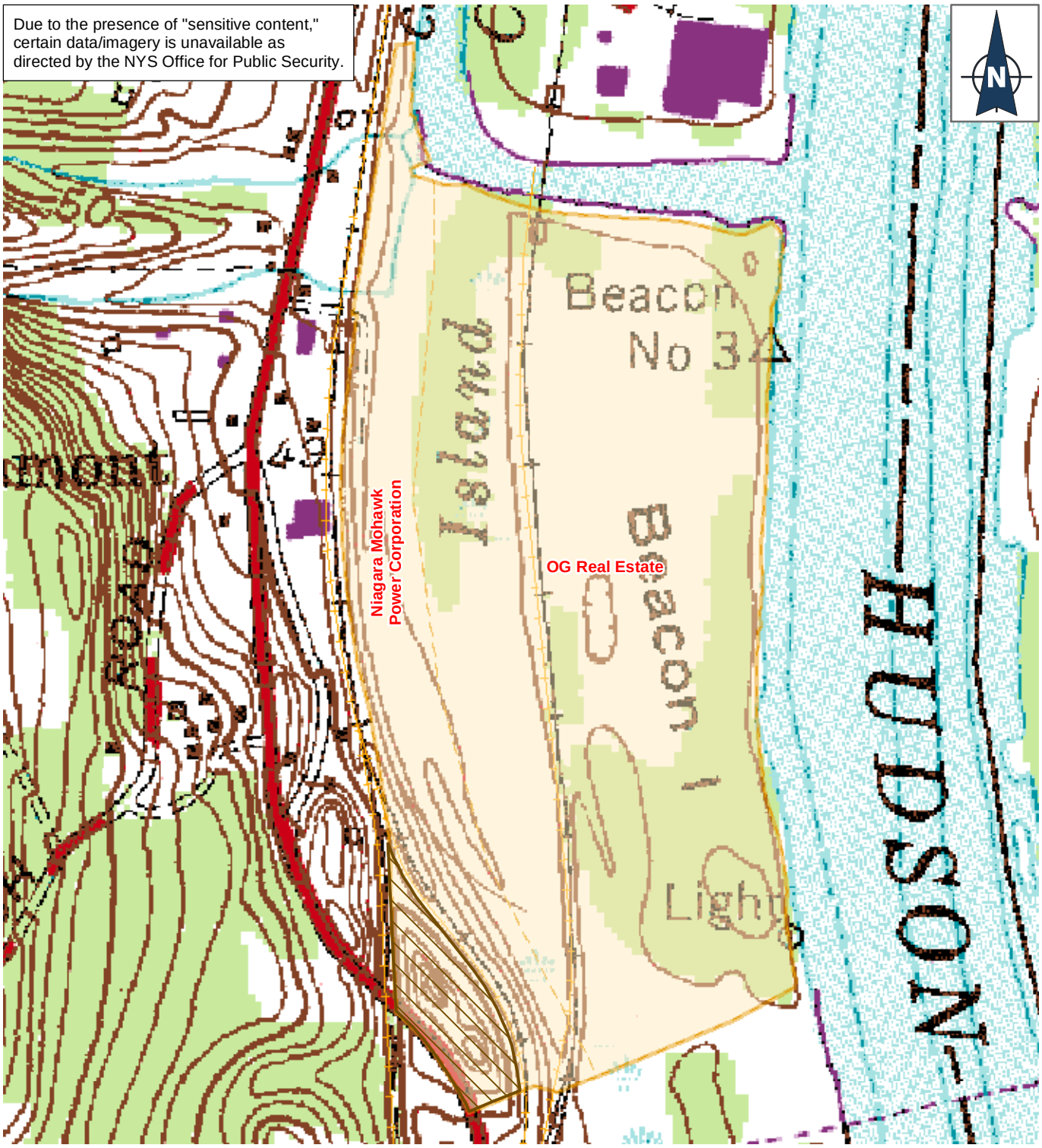
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

Backhoe Trench Locations

Archaeological Testing Method

Backhoe Test
Shovel Test
Backhoe & Shovel Test
Potential Site Boundary

[1] Most of This Site Was Previously Surveyed By Dr. Edward Curtin

Hudson River PCBs SUPERFUND SITE

Figure 6-1
Field Sampling Areas[1]
Phase I B Cultural Resources Investigation
OG Real Estate

500 250 0 500 1,000 Feet

02.001515.HR03.08.04 - 12/19/03
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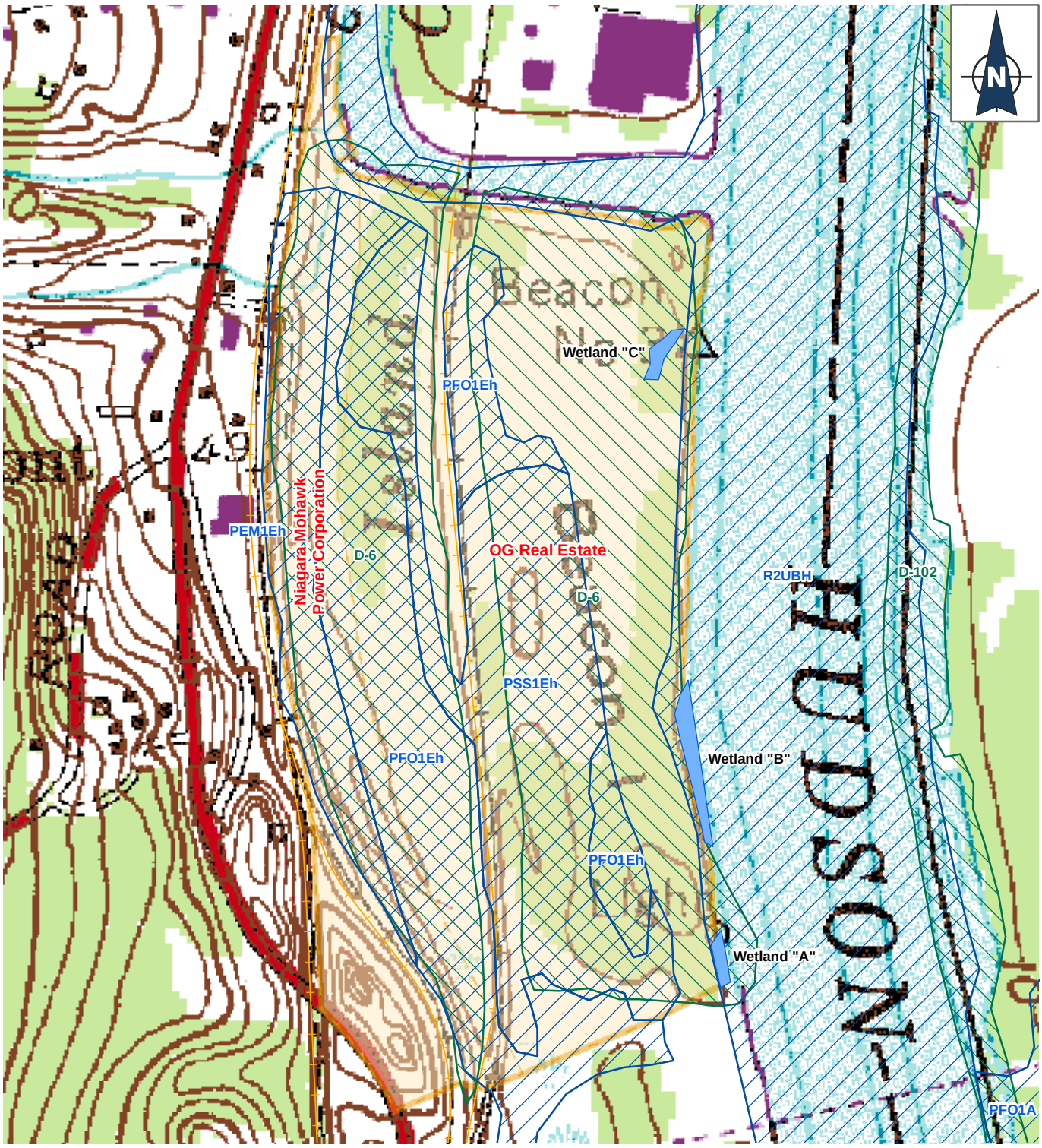
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- NYS DEC Wetlands
- US Fish and Wildlife Wetlands
- Previous Wetland Delineation

Due to the presence of "sensitive content," certain data/imagery is unavailable as directed by the NYS Office for Public Security.

Hudson River PCBs SUPERFUND SITE

Figure 7-1
Wetland Locations
OG Real Estate

500 250 0 500 1,000
Feet

02:001515.HR03.08:04 - 12/11/03
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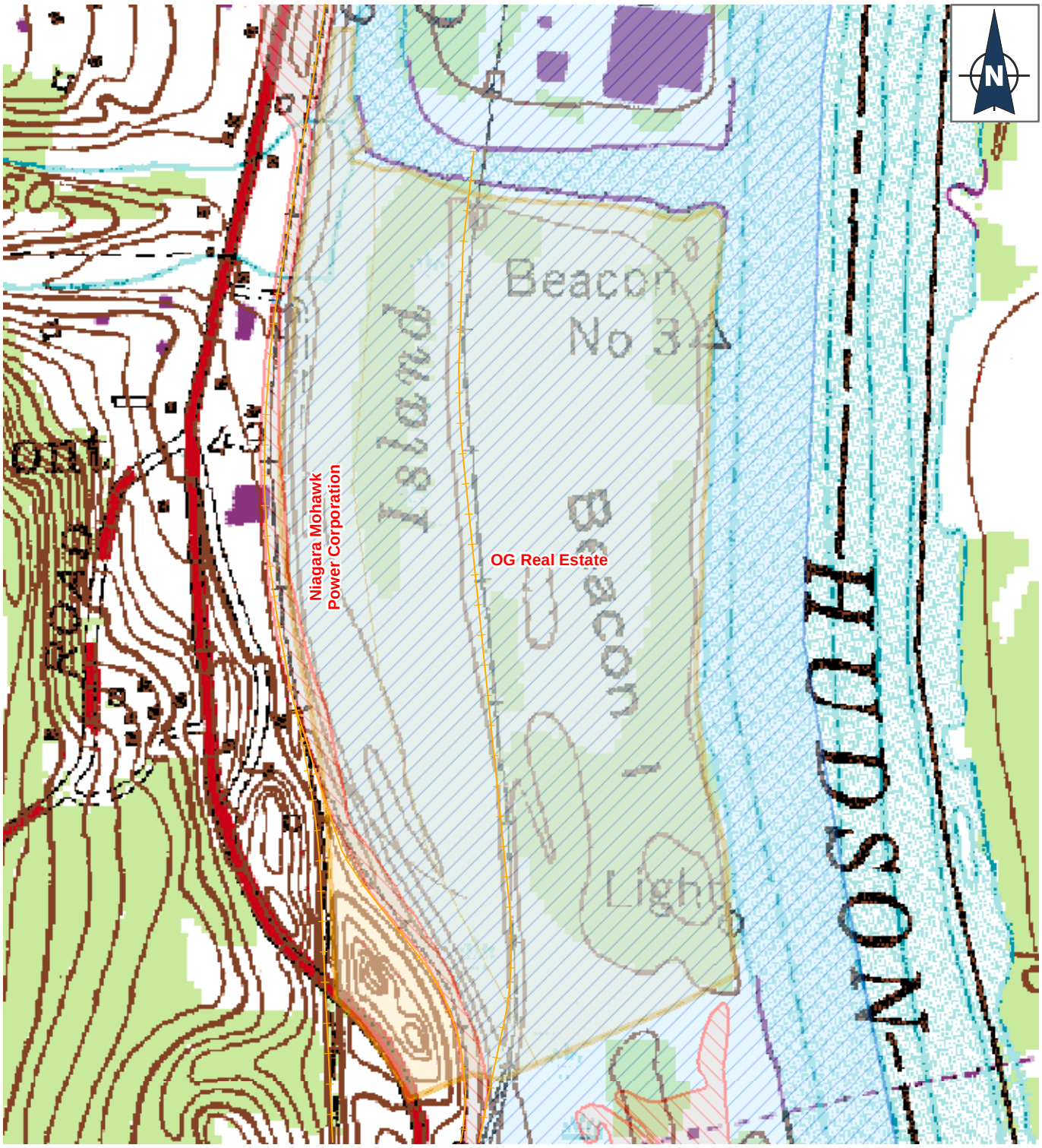
SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



LEGEND

- Potential Site Boundary
- Tax Parcels

FEMA Floodplain

- 100 Year Floodplain
- 500 Year Floodplain

Due to the presence of "sensitive content," certain data/imagery is unavailable as directed by the NYS Office for Public Security.

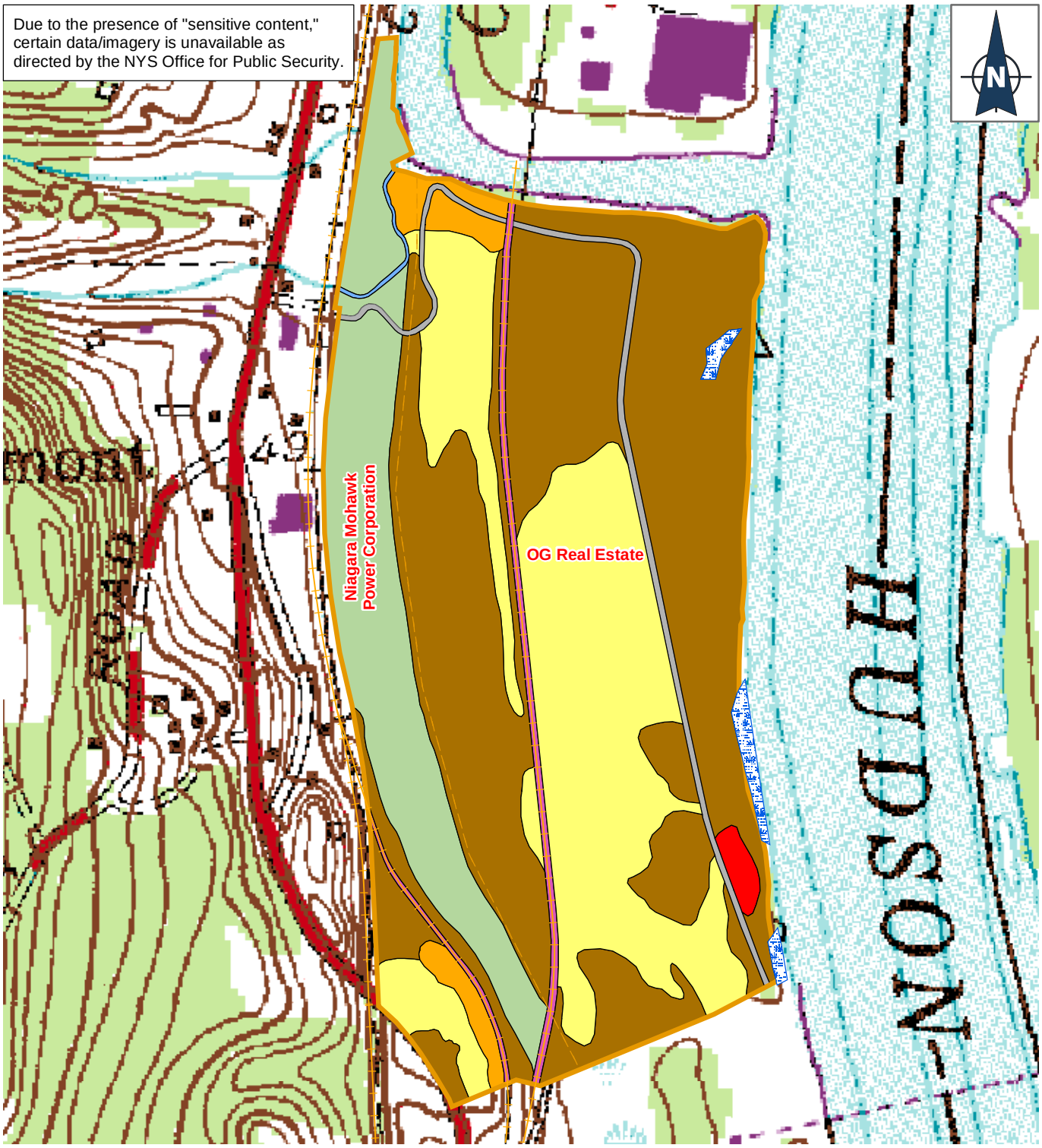
Hudson River PCBs SUPERFUND SITE

Figure 8-1
FEMA Floodplain Mapping
OG Real Estate

500 250 0 500 1,000 Feet

02.001515.HR03.08.03 - 12/01/03
L:\Buffalo\Hudson_River\Maps\MxdFinal\CandidateSites\Floodplain\OG_Floodplain.MXD - GIS

SOURCE; ECOLOGY & ENVIRONMENT, INC. 2003;



Ecological Communities

- Unpaved Road
- Wetland
- Successional Northern Hardwoods
- Successional Old Field / Mowed Pathway
- Successional Shrubland
- Successional Old Field
- Marsh Headwater Stream
- Railroad
- Landfill / Dump

Hudson River PCBs SUPERFUND SITE

Figure 10-1
Site Ecological Communities
OG Real Estate

500 250 0 500 1,000 Feet

02.001515.HR03.08.04 - 12/19/03
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Appendix A

Photo Logs

Facility Siting General Photolog



View to northeast of Lock 7 from Hudson River (07/31/03). Note: Lock 7 connects the Hudson River to the Champlain Canal.



View to south of upstream entrance to Lock 6 (07/31/03). Note that the entrance is via a long and narrow channel paralleling the Hudson River.

Facility Siting General Photolog



View to south of upstream entrance to Lock 5 (07/31/03).



View to south of empty Lock 4 (08/1/03).

Facility Siting General Photolog



View to west of west bank of Hudson River opposite the Bruno/Brickyard/Alonzo site (08/01/03).



Typical Geoprobe activities (10/08/03).

Facility Siting General Photolog



Typical drilling of Geotechnical boreholes (10/07/03).



Typical Steam cleaning of augers (10/01/03).

Facility Siting General Photolog



Typical completed temporary well (10/16/03).



Typical completed temporary well at State of NY/First Rensselaer/Marine Management site (10/16/03).

Facility Siting General Photolog



Typical completed (backfilled) soil boring (10/16/03).



Typical drum storage shed (10/16/03).

Facility Siting General Photolog



Inside of typical drum storage shed (10/15/03).



Typical arrangement of drums inside the storage sheds (10/16/03).

Facility Siting General Photolog



View to north of vandalized drum storage shed at State of NY/First Rensselaer/Marine Management site (11/06/03).

Facility Siting Site Inspection Photolog
Energy Park



View to west of center of property – cornfield (07/08/03).



View to north of fill area in center of site (07/08/03).

Facility Siting Site Inspection Photolog
Energy Park



View to southwest of Champlain Canal and adjacent Canal Road along southeast side of parcel (07/08/03).



Split-spoon of highly plastic clay, 20- to 22-foot-depth interval from boring EPL-GT02 (09/30/03).

Facility Siting Site Inspection Photolog
Energy Park



Contact of silty sand overlying well-graded sand at 5 feet BGS, in split-spoon sample from boring EPL-GT03 (09/30/03).

Facility Siting Site Inspection Photolog
Old Moreau Dredge Spoils Area



View downstream of Hudson River shoreline (07/11/03).



View to north of Hudson River shoreline (07/11/03).

Facility Siting Site Inspection Photolog
Old Moreau Dredge Spoils Area



View to northeast of former pumphouse channel (07/11/03).



View to west of Old Moreau (near former paper recycling facility) from Hudson River (07/31/03).

Facility Siting Site Inspection Photolog
Old Moreau Dredge Spoils Area



View to northwest of Old Moreau from Hudson River (07/31/03).

Facility Siting Site Inspection Photolog
Georgia Pacific



View upstream of north end of dock (07/10/03).



View to northwest of former land farm area (07/10/03).

Facility Siting Site Inspection Photolog
Georgia Pacific



View to south of two of 11 drums in northwest corner of site (07/10/03).



View to southeast of northernmost railroad spur to the southwest of the former power canal (07/10/03).

Facility Siting Site Inspection Photolog
Georgia Pacific



Close-up of black tar-like material from drum in northern drum disposal area (10/09/03).



View of drum containing black tar-like material in northern drum disposal area (10/09/03).

Facility Siting Site Inspection Photolog
Georgia Pacific



View to southeast of the Georgia Pacific site from Hudson River, up-stream of the Route 4 bridge (07/31/03).



View to southeast of Georgia Pacific site downstream of the Route 4 bridge (07/31/03).

Facility Siting Site Inspection Photolog
Georgia Pacific



View to east of Northumberland Dam and Georgia Pacific site shoreline (07/31/03).



View to north shoreline from bulkhead 07/10/03.

Facility Siting Site Inspection Photolog
Georgia Pacific



View to north of concrete structure along shoreline, north of bulkhead (07/10/03).



View to north from bulkhead (07/10/03).

Facility Siting Site Inspection Photolog
Georgia Pacific



View to south from bulkhead. Note entrance to former power generating canal just north of bulkhead (07/10/03).



View to west of Northumberland Dam from Georgia Pacific site (07/10/03).

Facility Siting Site Inspection Photolog
Georgia Pacific



View to west of former power generating canal outfall (07/10/03).

Facility Siting Site Inspection Photolog
Bruno/Brickyard Associates/Alonzo Site



View to west of old gravel pit with debris (07/24/03).



View to southeast of railroad tracks (07/24/03).

Facility Siting Site Inspection Photolog
Bruno/Brickyard Associates/Alonzo Site



View to south of shoreline (07/24/03).



View to north of Shop building (left) and Office building (right) (07/24/03).

Facility Siting Site Inspection Photolog
Bruno/Brickyard Associates/Alonzo Site



View to northwest of former coal storage area (07/24/03).



View to southeast of site from Hudson River (08/01/03).

Facility Siting Site Inspection Photolog
Bruno/Brickyard Associates/Alonzo Site



View to west of building destroyed by tornado (near temporary well BBA-GP01) (07/24/03).



View to west of building destroyed by tornado (near surface soil sample BBA-SS04) (07/24/03).

Facility Siting Site Inspection Photolog
Bruno/Brickyard Associates/Alonzo Site



View to northwest of ASTs at Brickyard facility near surface soil BBA-SS02 (07/24/03).

Facility Siting Site Inspection Photolog
NYS Canal Corp



View to southeast of residences located in southeastern portion of property (07/23/03).



View to south dump located near the east-central portion of property (07/23/03).

Facility Siting Site Inspection Photolog
NYS Canal Corp



Split-spoon from boring NCC-GT01 (10/07/03).



Tires and other debris at surface soil sample location NCC-SS03 (10/02/03).

Facility Siting Site Inspection Photolog
NYS Canal Corp



Debris and waste near surface soil sample location NCC-SS04 (10/02/03).



Material underlying surface soil sample location NCC-SSO6 (10/02/03).

Facility Siting Site Inspection Photolog
NYS Canal Corp



View to north of drum and other debris near surface soil sample location NCC-SS06 (10/02/03).



View to south of drums, cables, and debris at surface soil sample location NCC-SS07 (10/02/03).

Facility Siting Site Inspection Photolog
NYS Canal Corp



View to west of NYS Canal Corp. site from Hudson River (08/01/03).



View to west of southern end of NYS Canal Corp. site from Hudson River (08/01/03).

Facility Siting Site Inspection Photolog
NYS Canal Corp



Drums in northern portion of NYS Canal Corp. parcel near surface soil NCC-SS06 (10/02/03).



Dump in northern portion of NYS Canal Corp. parcel near surface soil NCC-SS07 (10/02/03).

Facility Siting Site Inspection Photolog
State of NY/First Rensselaer/Marine Management



View to north of log pile with iron spikes in some logs (07/17/03).



View to south of dumping area adjacent to access road bisecting the site (07/17/03).

Facility Siting Site Inspection Photolog
State of NY/First Rensselaer/Marine Management



View to north of ash pile along west side of the railroad in the central portion of the site (07/17/03).



Drum near surface soil sample location MM-SS09 (10/08/03).

Facility Siting Site Inspection Photolog
State of NY/First Rensselaer/Marine Management



View to south (downstream) of shoreline (07/17/03).



View to north (upstream) of shoreline from train bridge abutment (07/17/03).

Facility Siting Site Inspection Photolog
State of NY/First Rensselaer/Marine Management



Fill material in Geoprobe soil sample from MM-GP01 (10/10/03).

Facility Siting Site Inspection Photolog
OG Real Estate



View to north of Niagara Mohawk right-of-way on OG Real Estate property (07/22/03).



View to north of Niagara Mohawk power lines from southwest corner of the site (07/22/03).

Facility Siting Site Inspection Photolog
OG Real Estate



View to southeast (downstream) of shoreline with riprap breakwall (07/22/03).



View to north of Albany Port from northeast corner of site (07/22/03).

Facility Siting Site Inspection Photolog
OG Real Estate



View to north of shoreline from southern portion of site (07/22/03).



View of typical fragmites covering most open areas (07/22/03).

Appendix B

Boring Logs and Supplemental Geotechnical Information

Direct Push Technology (DPT)
Bore Logs From The
Energy Park/Longe/New York State Canal Corporation
Site

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Borehole Record for EPL-GP01

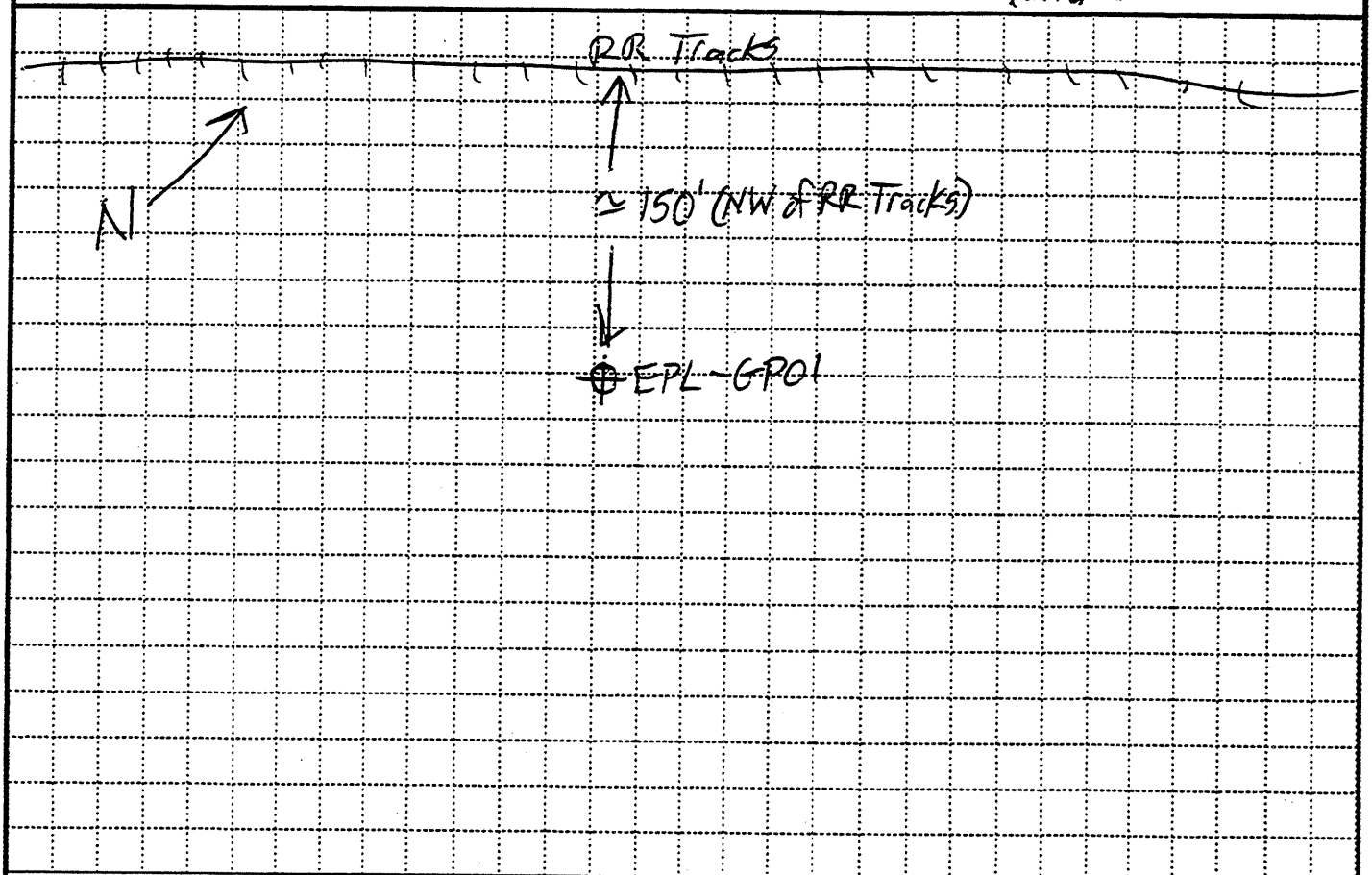
- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

HTRW DRILLING LOG

District: Kansas City		Hole Number: EPL-GP01
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: North Star/Geologic	Sheet: 1 of Sheets: 8
3. Project: Hudson Facility Siting	4. Location: Energy Park (Fort Edward)	
5. Name of Driller: Joe Menzel	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75 inch O.D. Macro-core Soil Sampling Rods w/Acetate Sleeves, and Hip Discreet Soil Sampler	8. Hole Location: 150' SE of RR Tracks, Longe Property	
	9. Surface Elevation	
	10. Date Started: 9-29-03	11. Date Completed: 9-29-03
12. Overburden Thickness: >25.4'	15. Depth Groundwater Encountered: 9.1' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 9.22' BGS after 15 minutes	
14. Total Depth of Hole: 25.4' BGS	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed		Undisturbed		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC ✓	Metals ✓	Other (Specify) Pest/PCBs ✓	Other (Specify) SVOCs ✓	Other (Specify) CN ✓	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well Temporary	Other (Specify)	23. Signature of Inspector: Robert A. Mayer			

LOCATION SKETCH/COMMENTS SCALE: Variable



PROJECT: Hudson Facility Siting	HOLE NO.: EPL-GP01

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

Temporary

SCREENED WELL

Lock Number Unnumbered Master Lock

Inner Casing Material NA

Inner Casing Inside Diameter ____ inches

Stick-up 2.0' ft

GROUND SURFACE

Top of Grout NA ft

Sand from 2' to Surface

Top of Seal at 2 ft

Top of Sand Pack 5 ft

Top of Screen at 15.4 ft

Bottom of Screen at 25.4 ft

Bottom of Hole at 25.4' ft

Bottom of Sandpack at 25.4' BGS

Quantity of Material Used:

Bentonite Pellets ____

Cement ____

Borehole 1.75 inches Diameter

Cement/ Bentonite ____

Grout ____

Screen Slot Size .010"

Screen Type Slotted

☒ PVC 1" dia.

☐ Stainless Steel ____

Pack Type/Size:

☒ Sand No. 0

☐ Gravel ____

☐ Natural ____

OPEN-HOLE WELL

Stick-up ____ ft

Inner Casing Material ____

Inner Casing Inside Diameter ____ inches

Outer Casing Diameter ____ inches

Borehole Diameter ____ ft

Bedrock ____ ft

Bottom of Rock Socket/ Outer Casing ____ ft

Bottom of Inner Casing ____ ft

Corehole Diameter ____

Bottom of Corehole ____ ft

NOTE: See pages 136 and 137 for well construction diagrams

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP01

Project: Hudson Facility Siting

Inspector: Robert A Meyer

Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
		0'-4' BGS SM Silty Sand (VF Sand to Fine)	0ppm in BZ & Soil core	NA		NA otherwise	Field Screening is FID unless noted.
	1						moist
			0ppm				3.6' Rec. (of 4' Run)
	2						
	3						
	4	4' to 8' BGS SM Silty Sand, Sand is VF to medium with trace coarse sand					
	5						3.6' Rec
	6		0ppm in BZ & soil core				moist
	7						
	8						

PROJECT: Hudson Facility Siting

HOLE NO. EPL-GP01

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist
	0' to 4' BGS, Silty Sand, VF to Fine grained, tan to med. brown;	Moist
	4' to 9' BGS, Silty Sand, VF to Medium grained, tan to med. brown with trace coarse sand	

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP01

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 9.6', SM as above					
	9						Water @ 9.1' BGS
		9.6' to 12', SP poorly graded, very fine to Gray/fine sand			Sample EPL-GP01-SB collected @ 1455 From 10.2' to 12' BGS		Saturated
	10	with some coarse Sand/Angular gravel.					3.7' Rec.
	11	Gray with trace clay	1ppm off Soil Core @ 10.2' to 12' with FID ≃0.4ppm PID				
	12						
		12' to 16' SP as above with trace					
	13	coarse pebbles, Gray to black					
			0ppm off Soil Core				3.9' Rec.
	14						
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: EPL-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 9.6' BGS, SM as above, Water @ 9.1' BGS	○	⊗	○
		○	⊗	⊗
		○	○	⊗
	9.6' to 16' BGS, Poorly graded, Gray to black VFine Sand with Fine Sand, some coarse sand and angular gravel. Trace clay and coarse pebbles	○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
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		○	○	⊗
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		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP01

Project: Hudson Facility Siting | Inspector: Robert a Meyer | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20' GM Black to Gray VF to med. Pebbles and Sand	0ppm in BZ and off soil core	NA	NA	NA	3.8' Rec. Saturated.
	17						
	18						
	19						
	20	20' to 20.6' GM as above	0ppm in BZ and off soil core				
		20.6' to 25' CH Gray Uniform Plastic CLAY					4.0' Rec.
	21						
	22						O2/LEL stable throughout drilling
	23						
	24	24' to 25' CH as above	0ppm all	1540	Complete Drilling		24' to 25' 1.0' Rec. B.O.H @ 25' BGS
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: EPL-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20' BGS, Black to gray, VF to medium pebbles with fine to coarse sand.	○	○	⊗
	* 70% of pebbles/gravel is weathered shale,	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	20' to 20.6' Same as above	○	○	○
	20.6' to 25' BGS, Medium Gray Uniform CLAY,	○	○	○
	Moderately Plastic (Fat!), Saturated	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	25' = Bottom of hole (BOH)	○	○	○
		○	○	✓

Borehole Record for EPL-GP02

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

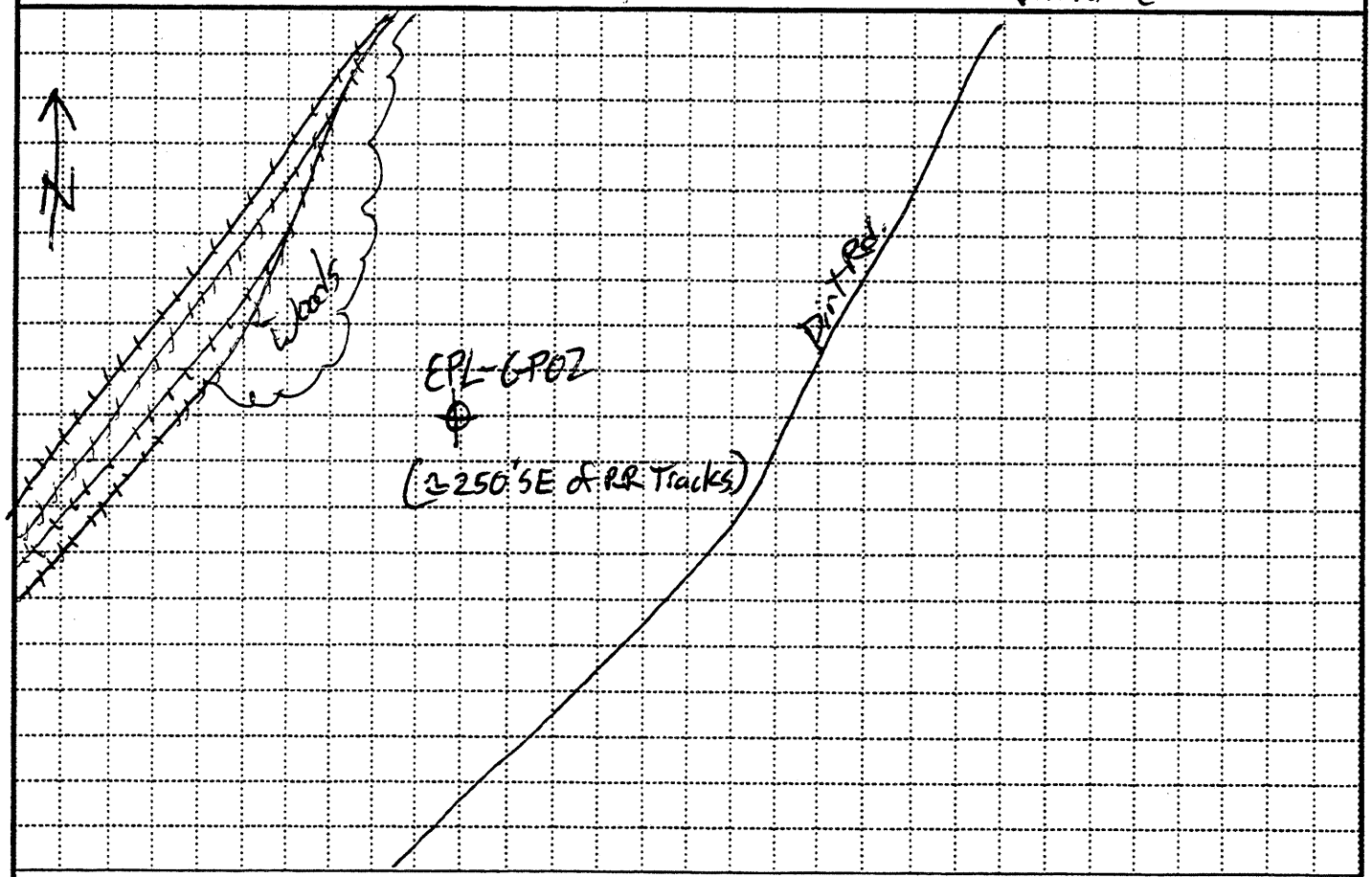
District: Kansas City

Hole Number: EPL-GP02

1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic
Sheet 1 of 8 Sheets	
3. Project: Hudson Facility Siting	4. Location: Energy Park (Fort Edward)
5. Name of Driller: Joe Menzel	6. Manufacturer's Designation of Drill: Geoprobe 5400
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Macro Core Soil Sampling Rods with Acetate sleeves, and the discreet soil sampler	8. Hole Location: ~250' SE of RR Tracks on Energy Park Property
	9. Surface Elevation:
	10. Date Started: 9-29-03 / 11. Date Completed: 9-29-03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 9' BGS
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 10.3' BGS after 5 hrs.
14. Total Depth of Hole: 25' BGS	17. Other Water Level Managements (Specify):

18. Geological Samples: NA	Disturbed: —		Undisturbed: —			19. Total Number of Core Boxes: NA	
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): Pest/PCBs	Other (Specify): SVOCs	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert A Meyer			

LOCATION SKETCH/COMMENTS SCALE: Variable



PROJECT: Hudson Facility Siting HOLE NO.: EPL-GP02

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

Temporary
SCREENED WELL

Lock Number un-numbered MasterLock

Inner Casing Material NA

Inner Casing Inside Diameter ____ inches

Stick-up 2.4 ft

GROUND SURFACE

Top of Grout NA ft

Sand from 2' to surface

Top of Seal at 2 ft

Top of Sand Pack 4 ft

Top of Screen at 15 ft

Bottom of Screen at 25 ft

Bottom of Hole at 25 ft

Bottom of Sandpack at 25'

Quantity of Material Used:

Bentonite Pellets ____

Cement ____

Borehole 1.75 inches Diameter

Cement/ Bentonite ____

Grout ____

Screen Slot Size .010"

Screen Type slotted

☒ PVC 1" dia.

☐ Stainless Steel ____

Pack Type/Size:

☒ Sand No. 0

☐ Gravel ____

☐ Natural ____

OPEN-HOLE WELL

Stick-up ____ ft

Inner Casing Material ____

Inner Casing Inside Diameter ____ inches

Outer Casing Diameter ____ inches

Borehole Diameter ____ ft

Bedrock ____ ft

Bottom of Rock Socket/ Outer Casing ____ ft

Bottom of Inner Casing ____ ft

Corehole Diameter ____

Bottom of Corehole ____ ft

NOTE: See pages 136 and 137 for well construction diagrams

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP02

Project: Hudson Facility Siting | Inspector: Robert C Myers | Sheet 3 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' SM	Results for FID unless Noted.	NA		NA	BZ = Breathing Zone.
	1		0ppm at Sample & BZ				PID BG IS 0.16 ppm FID BG IS 0.6 ppm
	2						3.7' Rec
	3						
	4	4' to 8' SM-SP					
	5						
	6						3.8' Rec.
	7						Moist to wet @ 7.1' BGS
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: EPL-GP02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4', Med. brown silt & VF Sand with few coarse sand & fine to med. Pebbles	⊗	⊗	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		⊗	⊗	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	⊗	⊗
		○	⊗	⊗
	4' to 8' BGS med. brown silt & VF Sand with few coarse sand and some (30%) rounded gravel	○	⊗	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP02

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 10.9' SM-SP as above	0ppm 8'-9'	NA		NA	
	9		5.1 ppm FID and .45 ppm PID From 9' to 10.9' off soil core, 0ppm in BZ		1005 Collect Sample EPL-GP02-SB From 9' To 10.9' BGS		Water @ 9' BGS.
	10						3.5' Rec.
	11	10.9' to 12' SW	0ppm From 10.9' to 12' BGS off soil core				
	12	12' to 16' SW					
	13						
	14		0ppm in BZ & off soil core				3.6' Rec
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: EPL-GP02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
5	8' to 10.9' Same as above with water @ 9' BGS	○	⊗	⊗
9'		○	⊗	⊗
		○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	10.9' to 12', VF to med. Sand w/ trace coarse Sand, Tan & Uniform.	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	12' to 16', Fine to med Sand, Gray/brown with trace coarse sand & fine pebbles	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP02

Project: Hudson Facility Siting

Inspector: Robert A Myers

Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20' SW		NA	NA	NA	
	17						3.3' Rec
	18		0ppm in BZ and off soil core				
	19						
	20	20' to 24' SW					
	21		0ppm in BZ and off soil core				3.7' Rec
	22						
	23						O2/LEL stable throughout drilling
	24	24' to 25' SW					
	25		0ppm in BZ & soil core				0.9' Rec.

PROJECT: Hudson Facility Siting

HOLE NO. EPL-GP02

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20' Fine to med. Sand, Gray/brown becoming gray @ 16.7' BGS. with trace coarse sand and fine pebbles	○	○	✕
	20' to 24' fine to med. gray sand with some coarse sand and trace Fine to med. pebbles.	○	○	○
	24' to 25' Same as above	○	○	○
	B.O.H @ 25' BGS	○	○	✓

Borehole Record for EPL-GP03

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

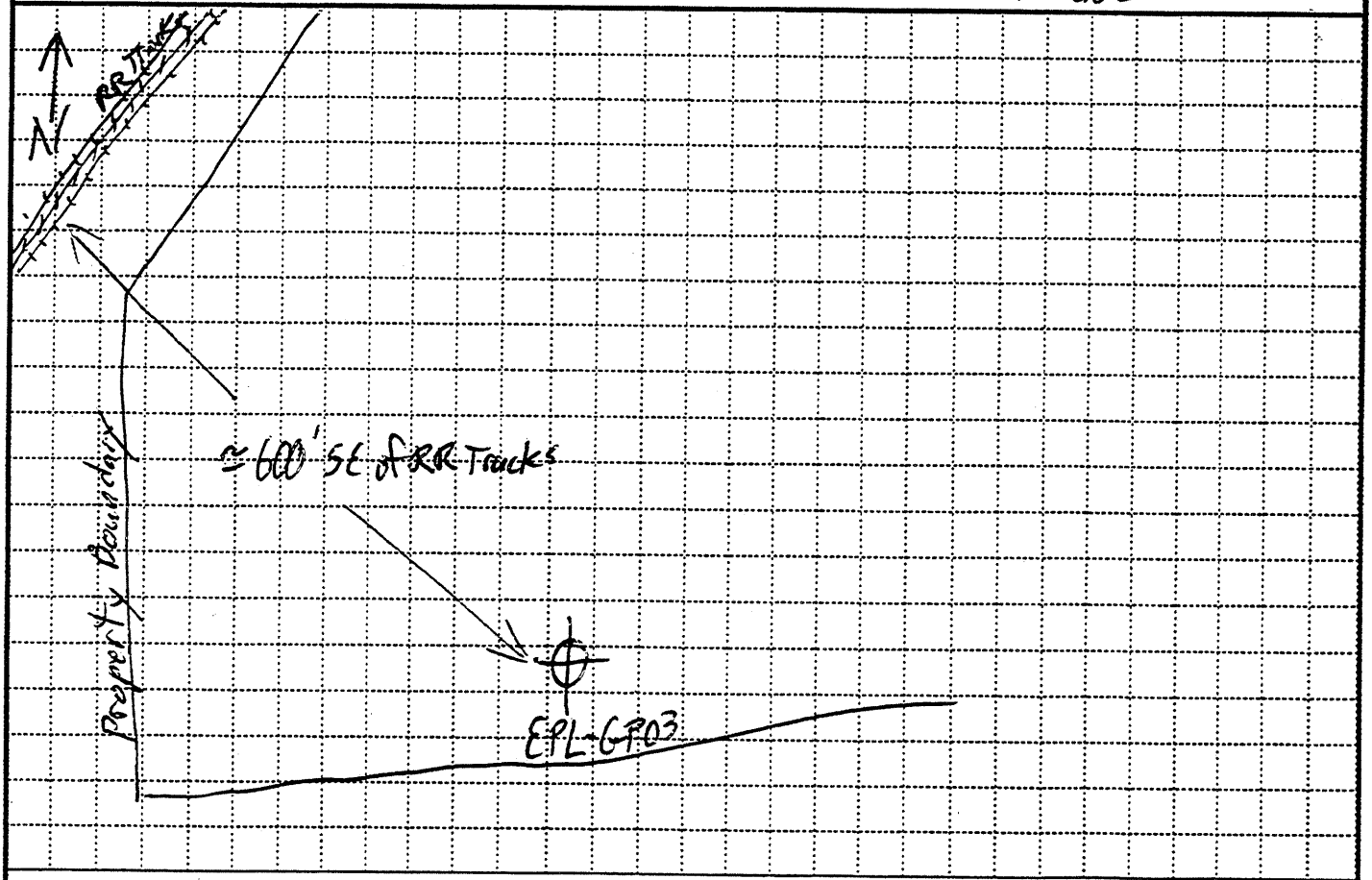
31 AUG 94

HTRW DRILLING LOG

	District: Kansas City	Hole Number: EPL-GP03
1. Company Name: Ecology & Environment, Inc.	2. Drill Subcontractor: Northstar/Geologic	Sheet 1 of Sheets 8
3. Project: Hudson Facility Siting	4. Location: Energy Park (Fort Edward)	
5. Name of Driller: Joe Menza	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" OD. Macro-Core soil sampling Rods w/ Acetate sleeves, and the discreet soil sampler.	8. Hole Location: South end of site, Lange Property	
	9. Surface Elevation	
	10. Date Started: 9-29-03	11. Date Completed: 9-29-03
12. Overburden Thickness: >25.1'	15. Depth Groundwater Encountered: 9.6' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 11.12' BGS after 20 minutes	
14. Total Depth of Hole: 25.1' BGS	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOCs	Other (Specify): Pest/PCBs	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector			

LOCATION SKETCH/COMMENTS — **SCALE:** Variable



PROJECT Hudson Facility Siting — **HOLE NO.** EPL-GP03

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

Lock Number Un-numbered Master Lock

SCREENED WELL

Stick-up 2.41 ft

Top of Grout NA ft

Sand from 0.6' to surface

Top of Seal at 0.6 ft

Top of Sand Pack 4 ft

Top of Screen at 15.1 ft

Bottom of Screen at 25.1 ft

Bottom of Hole at 25.1 ft

Bottom of Sandpack at 25.1 'BGS

Inner Casing Material NA

Inner Casing Inside Diameter Nd inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ____

Cement ____

Borehole 1.75 inches Diameter

Cement/ Bentonite ____

Grout ____

Screen Slot Size : 010"

Screen Type slotted

☒ PVC 1" dia.

☐ Stainless Steel ____

Pack Type/Size:

☒ Sand No. 0

☐ Gravel ____

☐ Natural ____

OPEN-HOLE WELL

Stick-up ____ ft

Inner Casing Material ____

Inner Casing Inside Diameter ____ inches

Outer Casing Diameter ____ inches

Borehole Diameter ____ ft

Bedrock ____ ft

Bottom of Rock Socket/ Outer Casing ____ ft

Bottom of Inner Casing ____ ft

Corehole Diameter ____

Bottom of Corehole ____ ft

NOTE: See pages 136 and 137 for well construction diagrams

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP03

Project: Hudson Superfund Fac. siting

Inspector: Robert a Meyer

Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 0.65' SM	0ppm in BZ and off Soil Core	NA		NA	Field Screening Results are for PID unless Noted
	1	0.65' to 4' SW					
	2						3.7' Rec.
	3						
	4	4' to 8' SW	0ppm in BZ and off soil core				
	5						
	6						3.8' Rec
	7						
	8						

PROJECT: Hudson Facility Siting

HOLE NO.: EPL-GP03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 0.65', Silty Sand, medium brown, moist,	○	⊗	○
	Sand is fine	⊗	⊗	○
	0.65' to 4', VF to Med. tan sand, dry. to moist	⊗	⊗	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	4' to 8' Sand as above, moist	⊗	⊗	○
		○	⊗	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
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		○	○	○
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		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP03

Project: Hudson Facility Siting | Inspector: Robert A Myer | Sheet 5 of Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 9.6' SW		NA		NA	
	9						3.6' Rec
		9.6' to 12' SW					Water @ 9.6' BGS
	10				1430 Collect EPL-GP03-SB 9.6' to 11.0'		
	11			PID = 3ppm FID = ~~0ppm~~ 0.17ppm			
	12	12' to 16' SW					
	13			0ppm in BZ & soil Core.			
	14						3.8' Rec.
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: EPL-GP03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 9.6' Sand as above, moist	○	⊗	○
		○	⊗	○
		○	⊗	○
		○	⊗	⊗
	9.6' to 12', Fine to Coarse gray/brown sand with	○	○	⊗
	trace fine to med. pebbles (shale frags @ 9.6)	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	12' to 16', VF to Coarse light gray SAND with trace	○	○	○
	fine pebbles	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	⊗

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP03

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20 SW		NA		NA	
	17		0ppm in BZ and off soil core				
	18						3.4' Rec
	19						
	20	20' to 21.8 SW					
	21		0ppm in BZ and off soil core				
	22	21.8 to 23.4' SW					3.5' Rec. O2/LEL Stable throughout drilling
	23						
	23.4'	23.4' to 25' GP					0.9' Rec
	24						
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: EPL-GP03

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	16' to 20', Sand as above, except gray with few fine to med. pebbles	
	20' to 21.8' Sand & pebbles as above	
	21.8' to 23.4', VF gray Sand, uniform	
	23.4' to 25', Weathered shale fragment, fine to med. pebble size with little fine to coarse sand.	
	B.O.H @ 25' BGS	

Borehole Record for EPL-GP04

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

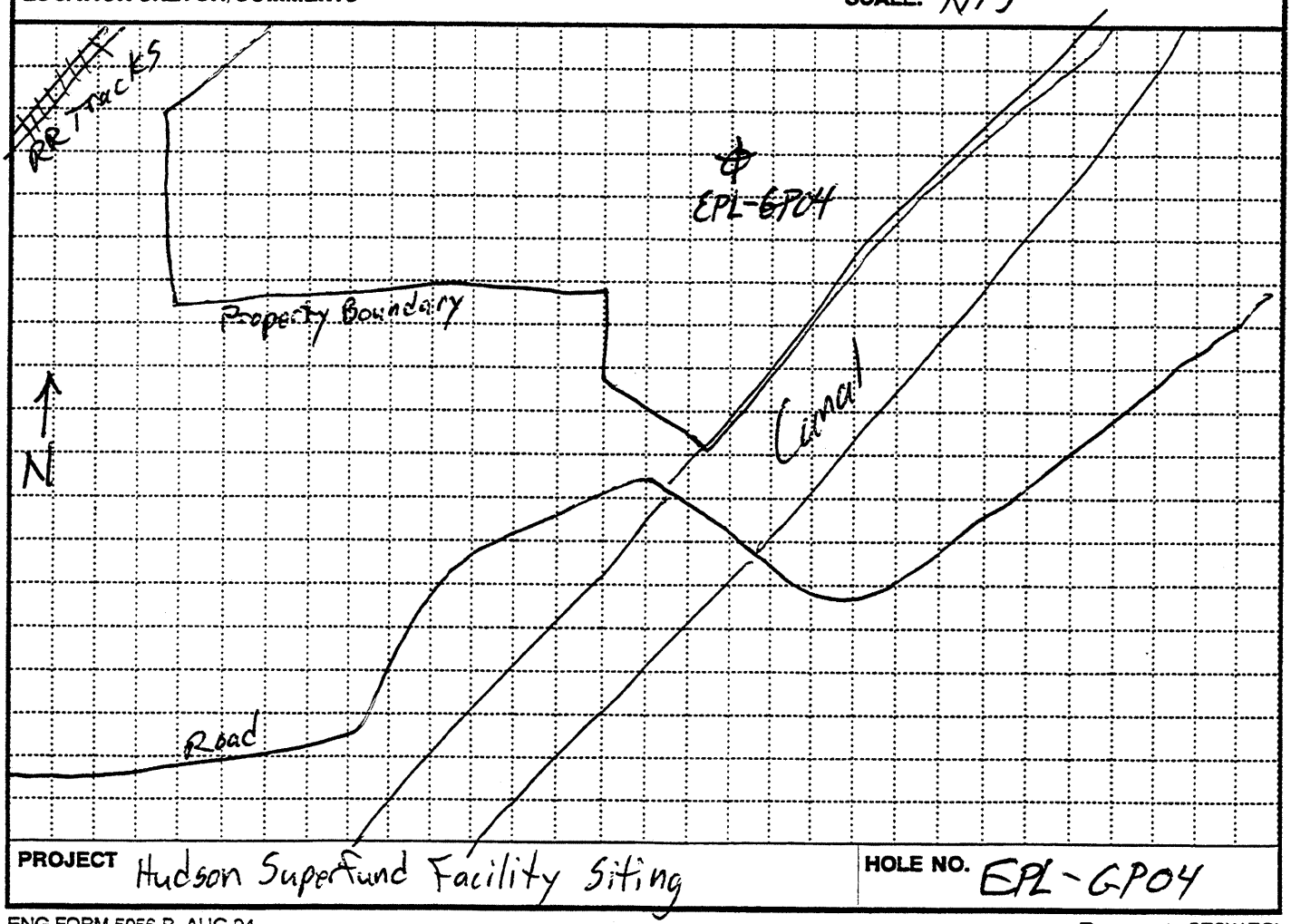
31 AUG 94

HTRW DRILLING LOG

District: Kansas City		Hole Number: EPL-GP04
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc.	Sheet 1 of Sheets
3. Project: Hudson Superfund Facility Siting	4. Location: Energy Park (Fort Edward)	
5. Name of Driller: Joe Menzal	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. macro core Soil Sampling Rods with acetate sleeves, and the discrete soil sampler	8. Hole Location: South end of Energy Park property ≈400' NW of Canal.	
	9. Surface Elevation	
	10. Date Started: 10-1-03	11. Date Completed: 10-1-03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 4.4' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 3.96' BGS after 20 minutes	
14. Total Depth of Hole: 25'	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOCs	Other (Specify): Pest/PCBs	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert C. Myers			

LOCATION SKETCH/COMMENTS SCALE: NTS



PROJECT: Hudson Superfund Facility Siting	HOLE NO.: EPL-GP04

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

Lock Number un-numbered Master Lock

SCREENED WELL

Inner Casing Material NA

Stick-up 2.3 ft

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Top of Grout _____ ft

Sand from 2' to Surface

Top of Seal at 2 ft

Top of Sand Pack 4 ft

Top of Screen at 15 ft

Bottom of Screen at 25 ft

Bottom of Hole at 25 ft

Bottom of Sandpack at 25

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole 1.75 inches Diameter

Cement/ Bentonite _____

Grout _____

Screen Slot Size .010"

Screen Type slotted

☒ PVC 1" dia.

☐ Stainless Steel _____

Pack Type/Size:

☒ Sand No. 0

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Robert A. Myers

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP04

Project: Hudson Facility Siting

Inspector: Robert A Myers

Sheet 3 of Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 0.45' SM		NA		NA	Screening Results for FID unless noted
	1	0.45' to 4.0' SW	0ppm in BZ & off core				3.4' Rec.
	2						
	3						
	4	4' to 8' SW			Collect Sample EPL-GP04-SB @ 0822 from 4' to 6' BGS		Water @ 4.4' BGS
	5						
	6		0ppm in BZ & off core				4.0' Rec.
	7						
	9						

PROJECT: Hudson Facility Siting

HOLE NO.: EPL-GP04

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 0.45', Med. brown silt with some VF Sand, moist	○	⊗	○
	0.45' to 4.0', VF to med. grained tan/gray sand moist	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	⊗	○
	4' to 8' Sand as above with trace coarse sand & Fine pebbles, wet @ 4.4' BGS	○	⊗	⊗
		○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP04

Project: Hudson Facility Siting

Inspector: Robert A Mayer

Sheet 5 of 9

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 10.3' SW	Oppm in BZ & off Soil Conp	NA		NA	4.0' Rec.
	9						
	10	10.3' to 12' GM					
	11						
	12	12' to 16' GM					
	13						
	14		Oppm in BZ & off Soil Conp				2.6' Rec.
	15						
	16						

PROJECT: Hudson Facility Siting

HOLE NO.: EPL-GP04

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 10.3', Sand as above	○	○	⊗
	10.3' to 12', VF to coarse gray Sand with some silt and Few fine to med. pebbles	○	○	○
	12' to 16', Same as above	○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP04

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 18.6' GM	↑ 0ppm in BZ & soil core				3.6' Rec
	17						
	18						
		18.6' to 19.75' SW					
	19						
		19.75' to 20' GM					
	20	20' to 24' GM					
	21						
							2.9' Rec
	22						
							O2/LEL Readings stable throughout drilling
	23						
	24	24' to 25' GM					0.35' Rec
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: EPL-GP04

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 18.6' VF to Coarse gray Sand with some silt and few fine to med. pebbles as above	○	○	⊗
	18.6' to 19.75' fine gray Sand, uniform.	○	○	○
	19.75' to 20' VF to coars Sand with little silt fine to med. pebbles	○	○	○
	20' to 24' Same as above	○	○	○
	24' to 25', Same as above	○	○	○
	B.O.H @ 25' BGS	○	○	○

Borehole Record for EPL-GP05

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

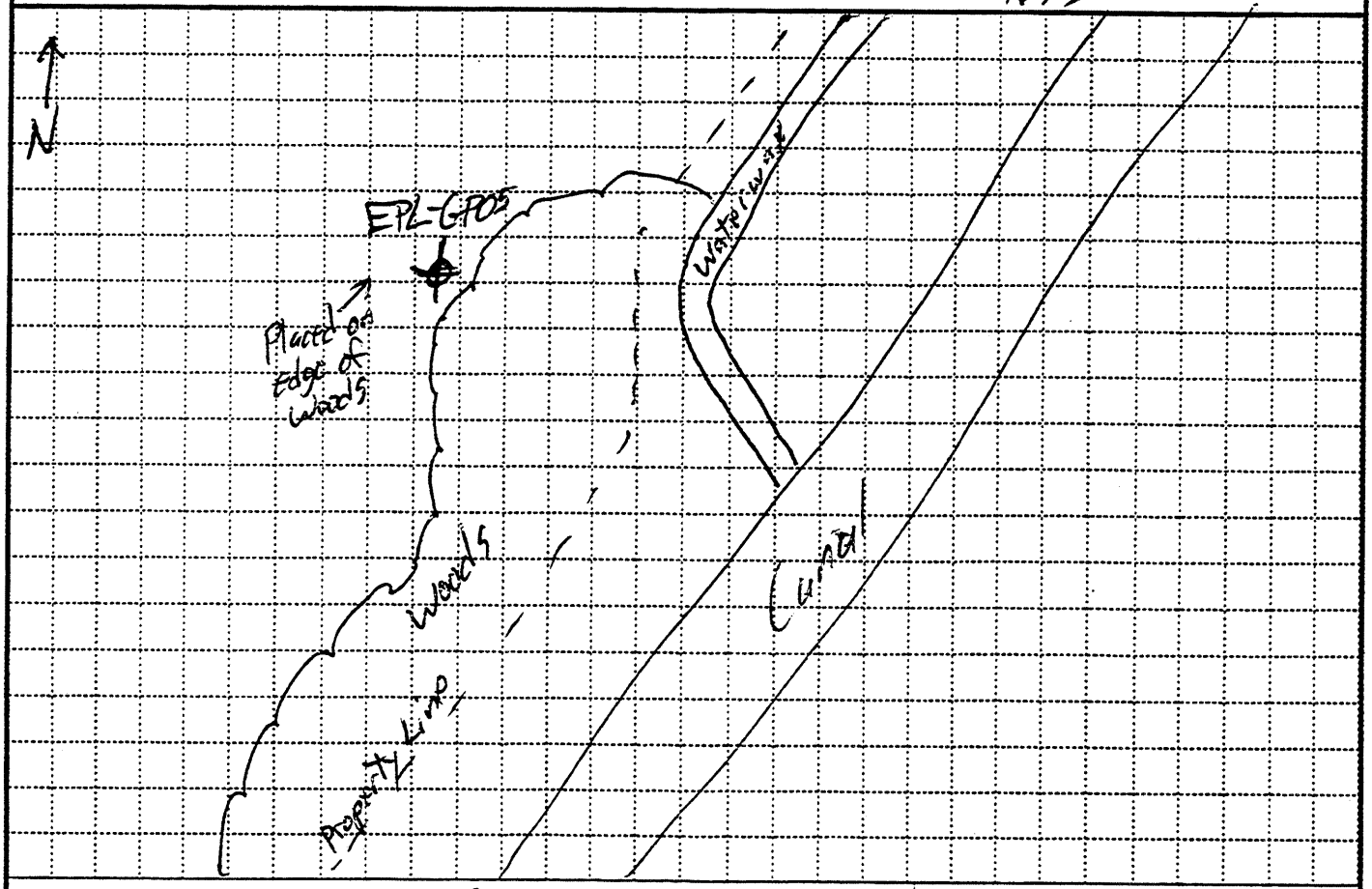
31 AUG 94

HTRW DRILLING LOG

District: Kansas City		Hole Number: EPL-GP05
1. Company Name: Ecology & Environment	2. Drill Subcontractor: Northstar/Geologic	Sheet 1 of 8 Sheets
3. Project: Hudson Superfund facility Siting	4. Location: Energy Park (Fort Edward)	
5. Name of Driller: Joe Menzal	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75 inch O.D. macro core soil sampling rods w/acetate sleeves, and the discrete soil sampler	8. Hole Location: East Side of Site, Energy Park Property	
	9. Surface Elevation	
	10. Date Started: 10-1-03	11. Date Completed: 10-1-03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 3.6' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 5.02 bgs after 15 minutes	
14. Total Depth of Hole: 25' BGS	17. Other Water Level Managements (Specify)	

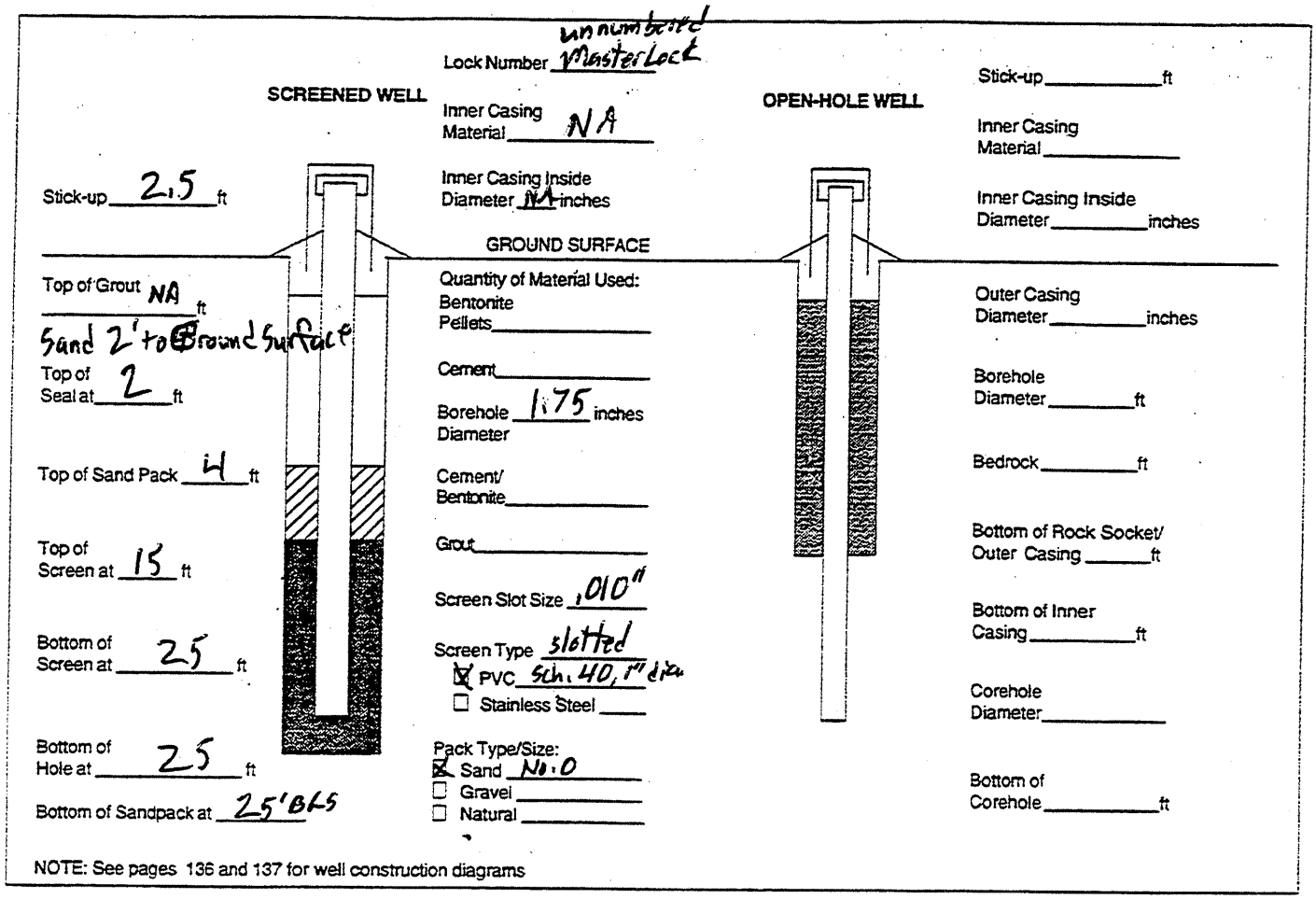
18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOCs	Other (Specify): Pest/PCB	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert a Myers			

LOCATION SKETCH/COMMENTS SCALE: NTS



PROJECT Hudson Superfund facility Siting **HOLE NO.** EPL-GP04

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)



NOTE: See pages 136 and 137 for well construction diagrams

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP05

Project: Hudson Facility Sitings | Inspector: Robert a Mayo

Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' GM (Fill)	FID unless Noted	NA		NA	
	1						
	2		0ppm in BZ and off Soil Core				2.6' Rec.
	3						Water @ 3.6'
	4	4' to 5.2' GM (Fill)			←		
	5	5.2' to 8' SW	5ppm FID off soil & 0.2ppm PID 0ppm in BZ } 5'-8'		Collect Sample EPL-GP05-SB and Dup 5ppm FID 0.2ppm PID From 5' to 8' BGS @ 10:00		3.7' Rec.
	6						
	7						
	8						

PROJECT: Hudson Facility Sitings | HOLE NO.: EPL-GP05

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4' med. to dark brown Silt with little VF to Fine Sand & trace Angular Fine-med. pebble			
	water @ 3.6' BGS			
	4' to 5.2' Same as above			
	5.2' to 8', VF to Fine tan Sand, trace med. sand.			

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP05

Project: Hudson Facility Sitings | Inspector: Robert A Moyle | Sheet 5 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8'	8' to 12.00' SW ~~8.65' to~~	FID unless NOTED	NA	NA	NA	
	9						4.0' Rec
	10		0ppm in BZ & off Soil Cores				
	11						
	12	12' to 12.65' SW					
	13	12.65' to 16' ~~GM~~ SW					3.6'
	14						
	15						
	16						

PROJECT Hudson Facility Siting | HOLE NO. EPL-GP05

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 12', VF to Fine Tan Sand, uniform	○	○	⊗
	12' to 12.65' Sand as above	○	○	○
	12.65' to 16' VF to coarse gray sand with few fine to med. pebbles	○	○	○

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP05

Project: Hudson Facility Siting | Inspector: Robert A. Meyer | Sheet 7 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20' SW	↑ Oppm in BZ and off soil	NA	NA	NA	
	17						3.8' Rec
	18						
	19						
	20	20' to 24' SW					O2/LEL Readings stable throughout Drilling
	21						
	22						3.6' Rec.
	23						
	24	24' to 25' SW					0.8' Rec.
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: EPL-GP05

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20', Gray Fine to Coarse sand with trace fine to med. pebbles	○	○	⊘
	20' to 24', Same as above	○	○	○
	24' to 25', Same as above	○	○	○

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP05

Project: Hudson Facility Siting

Inspector: Robert A Meyer

Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16			NA		NA	
	17						
	18						
	19						
	20						
	21						
	22						
	23						
	24						
	25						

PROJECT: Hudson Facility Siting

HOLE NO.: EPL-GP05

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Borehole Record for EPL-GP06

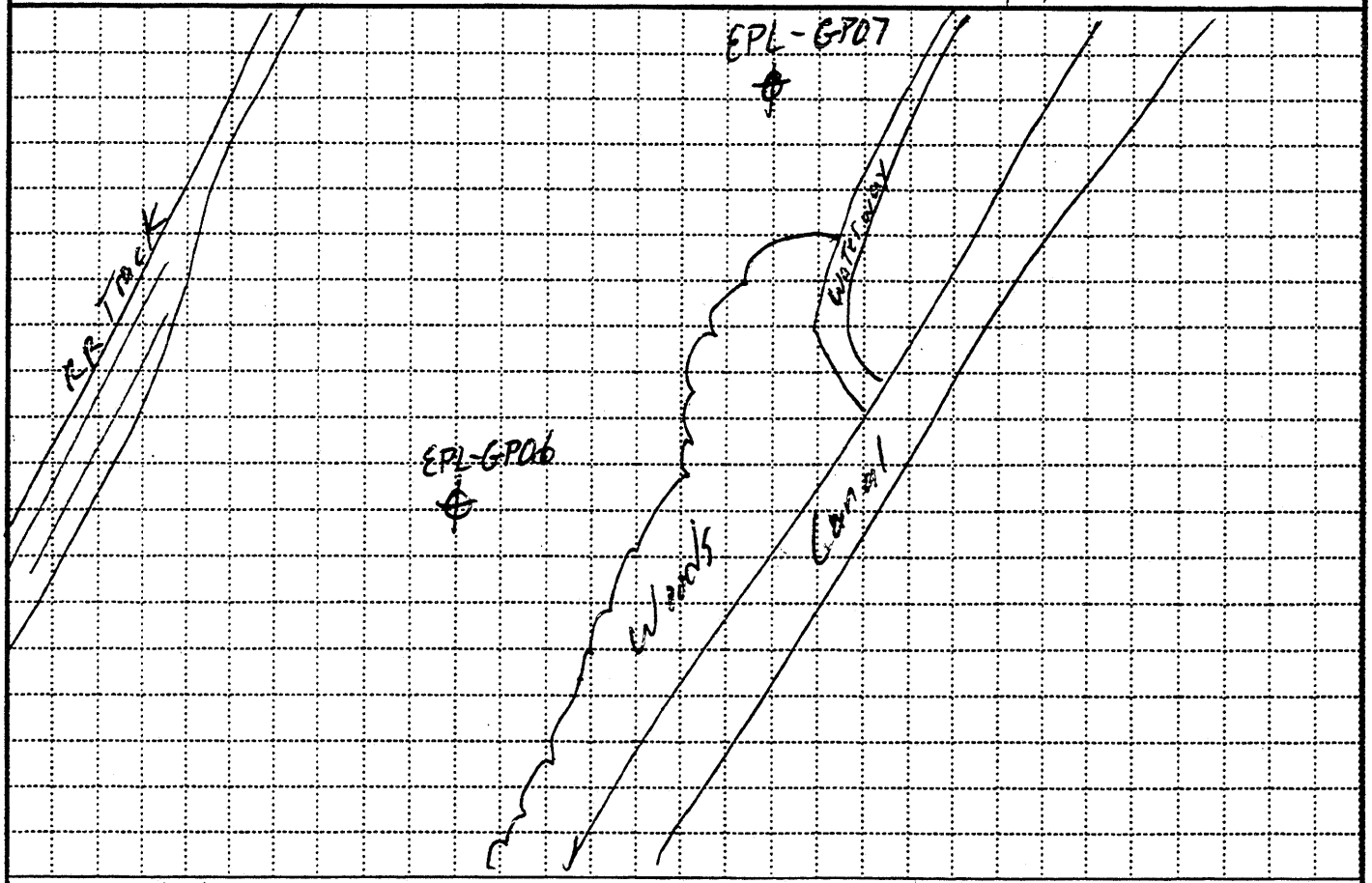
- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

HTRW DRILLING LOG

District: Kansas City		Hole Number: EPL-GP06
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc.	Sheet 1 of Sheets 8
3. Project: Hudson Superfund Facility Siting	4. Location: Energy Park (Fort Edward)	
5. Name of Driller: Joe Menzal	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Macro core soil sampling Rods with discreet sampler and acetate sleeves	8. Hole Location: South Central Energy Park Property	
	9. Surface Elevation	
	10. Date Started: 10-1-03	11. Date Completed
12. Overburden Thickness	15. Depth Groundwater Encountered	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed	
14. Total Depth of Hole	17. Other Water Level Managements (Specify)	

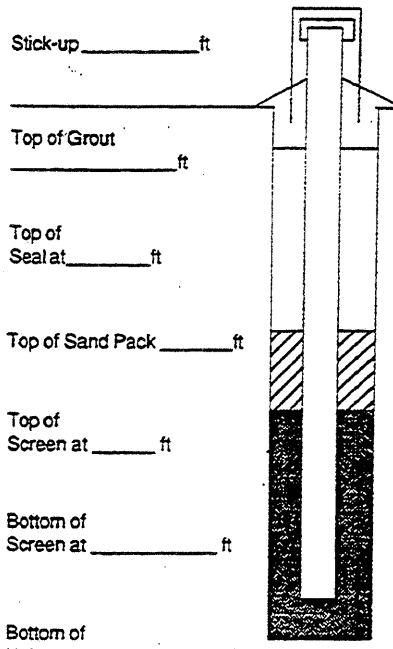
18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOC	Other (Specify): Pest/PCBs	Other (Specify): TN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector: Robert Murphy			

LOCATION SKETCH/COMMENTS SCALE: NTS



PROJECT Hudson Superfund Facility Siting **HOLE NO.** EPL-GP06

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)



Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets _____
Cement _____
Borehole _____ inches Diameter
Cement/ Bentonite _____
Grout _____

Screen Slot Size _____

Screen Type _____
- ☐ PVC _____
- ☐ Stainless Steel ____

Pack Type/Size:
- ☐ Sand _____
- ☐ Gravel _____
- ☐ Natural _____



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP06

Project: Hudson Facility Siting | Inspector: Robert a Myer | Sheet 3 of 3 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' SM/GM	FID unless Noted	NA		NA	
	1		Oppm in BZ & off soil				
	2						2.6' Rec
	3						
	4	4'-8' SM/GM					
	5						
	6						4.0' Rec
	7						Water @ 7.6' BGS
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: EPL-GP06

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4', Med. brown Silt with some VF to Fine sand and little angular Fine to med. pebbles	○	⊗	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
	4' to 8' Same as above	○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○
		○	◐	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP06

Project: Hudson Facility Siting

Inspector: Robert Mayer

Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 9.4' SM/GM	0ppm 8-9.4'	NA	12:04 Collect Soil Sample EPL-GP06-5B From ~~8'-10' BGS~~ 9.4' to 11' BGS	NA	
			9.4' to 11' FID=35ppm PID=6ppm				
	9	9.4'-12' SW					4.0' Rec
	10						
	11		0ppm 11-12'				
	12	12' to 12.7' SW	0ppm FID in BZ & off soil core				
	13	12.7' to 16' SP					
	14						3.3' Rec
	15						
	16						

PROJECT Hudson Facility Siting

HOLE NO. EPL-GP06

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 9.4' Same as above	○	○	⊗
	9.4' to 12' VF to med. tan sand	○	○	○
	12' to 12.7' Sand as above	○	○	○
	12.7' to 16' VF to coarse gray sand with trace silt and few angular pebbles (fine to med.)	○	○	○

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP06

Project: Hudson Facility Siting | Inspector: Robert Mayer | Sheet 7 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20' SP		NA		NA	
	17		0ppm in BZ and off Soil Core				
	18						3.7' Rec.
	19						
	20	20' to 24' SP					
	21						3.3' Rec.
	22						O2/LEL stable throughout drilling
	23						
	24	24' to 25' SP					0.75' Rec.
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: EPL-GP06

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20' VF to coarse gray sand with trace silt & few fine to med. angular pebbles (shale fragments).	○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	20' to 24½' Same as above	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	24' to 25' Sand as above.	○	○	○
		○	○	○
		○	○	○
	B.O.H @ 25' BGS	○	○	○

Borehole Record for EPL-GP07

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

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HTRW DRILLING LOG

District: Kansas City		Hole Number: EPL-GP07
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar / Geologic Inc.	Sheet 1 of 3
3. Project: Hudson Facility Siting	4. Location: Energy Park (Ford Edwards)	
5. Name of Driller: Joe Menzal	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Macro core soil Sampler with discreet Sampler and acetate sleeves	8. Hole Location: North central Energy Park Property	
	9. Surface Elevation	
	10. Date Started: 10-1-03	11. Date Completed: 10-1-03
12. Overburden Thickness: > 25'	15. Depth Groundwater Encountered: 4.4' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed	
14. Total Depth of Hole: 25'	17. Other Water Level Managements (Specify)	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
NA	—	—	—

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	✓	✓	SVOCs	Pest/PCBs	CN	NA %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	(circled)			Robert A. Magee

LOCATION SKETCH/COMMENTS — **SCALE:**

See EPL-GP06 Log

PROJECT Hudson Superfund Facility Siting — **HOLE NO.** EPL-GP07

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

SCREENED WELL

Stick-up _____ ft

Top of Grout _____ ft

Top of Seal at _____ ft

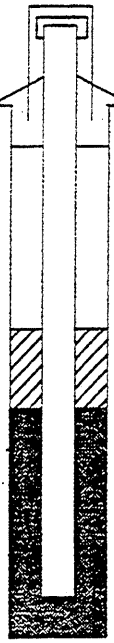
Top of Sand Pack _____ ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____



Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole _____ inches Diameter

Cement/ Bentonite _____

Grout _____

Screen Slot Size _____

Screen Type _____

- ☐ PVC _____
- ☐ Stainless Steel ____

Pack Type/Size:

- ☐ Sand _____
- ☐ Gravel _____
- ☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP07

Project: Hudson Facility Siting

Inspector: Robert A Mayer

Sheet 3 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 3.7' SM/GP	FID unless Noted	NA		NA	
	1		0ppm in BZ and off soil core				wet From 1.2' to 3.7'
	2						3.7' Rec
	3						
		3.7' to 3.9'					
	4	3.9' to 6.9 SM/GP					Water @ 4.4' BGS
	5						
	6						3.6' Rec
	7	6.9' to 8.0' SW	FID=5ppm PID=5ppm 0ppm in BZ } soil core		Collect Sample EPL-GP07-SB from 7' to 9' BGS FID=5ppm PID=5ppm @ 1435		
	8						

PROJECT: Hudson Facility Siting

HOLE NO.: EPL-GP07

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 3.7', Med. to dark brown silt and VF to coarse sand with some angular fine to med. pebbles, wet from 1.2' to 3.7' BGS	○	⊗	○
		○	⊗	○
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
	3.7' to 3.9' Gray clay layer (confining), dry beneath it.	○	⊗	○
	3.9' to 4.0' Moist silt, sand & pebbles as above	○	⊗	○
		○	⊗	○
		○	⊗	○
		○	⊗	○
	4.0' to 6.9', Silt, sand & pebbles as above	○	⊗	○
	Water @ 4.4' BGS	○	⊗	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
	6.9' to 8.0' VF to med. grained gray sand	○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP07

Project: Hudson Facility Siting

Inspector: Robert A Meyer

Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 12' SW	FID Readings Unless noted Oppm in BZ & off soil	NA	Submitted see pg 38	NA	
	9						
	10						4.0' Rec
	11						
	12	12' to 16' SW					
	13						
	14						3.8' Rec,
	15						
	16						

PROJECT: Hudson Facility Siting

HOLE NO.: EPL-GP07

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8'-12', VF to coarse sand (gray) with trace fine pebbles & Med. pebbles	○	○	✗
	12' to 16' Sand as above	○	○	○

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GP07

Project: Hudson Fac. Siting

Inspector: [signature]

Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16'-20'	FID=0ppm in BZ of Soil Core	NA		NA	
		SW					
	17						3.6' Rec
	18						
	19						
	20	20'-24'					
		SW					
	21						3.8' Rec
	22						O2/LEL Stable during drilling
	23						
	24	24'-25'					0.3' Rec
	25	SW					

PROJECT: Hudson Facility Siting

HOLE NO.: EPL-GP07

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20' Sand & Pebbles as above	○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	20' to 24' Sand & Pebbles as above	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	24' to 25' Sand & Pebbles as above	○	○	○
		○	○	○
	B.O.H @ 25'	○	○	✓

Geotechnical Bore Logs
From the
Energy Park/Longe/New York State Canal Corporation
Site

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Borehole Record for EPL-GT01

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

District: KANSAS CITY

Hole Number: GT01

Sheet 1 of 46

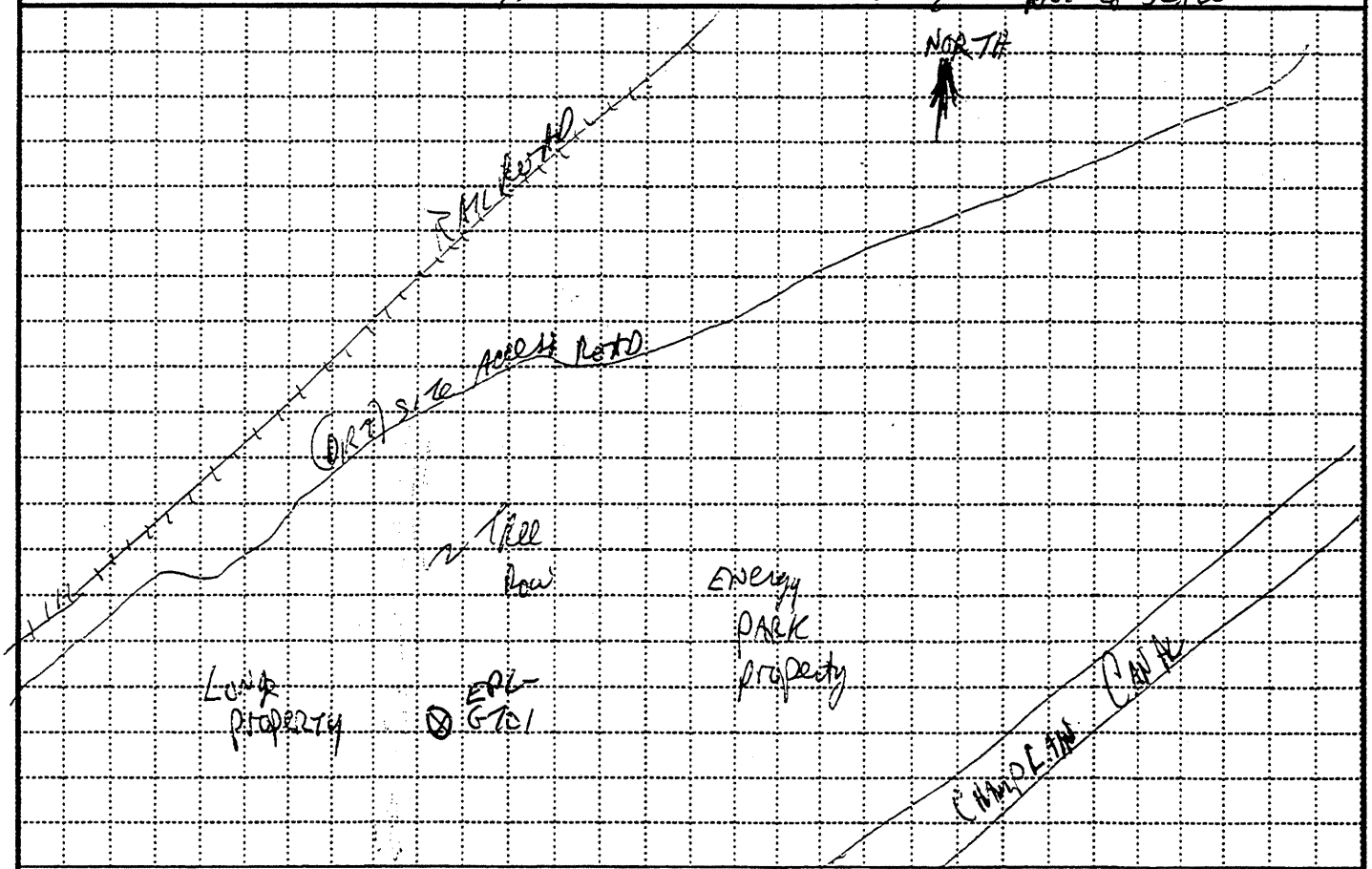
1. Company Name: EIE	2. Drill Subcontractor: GEOLOGIC, INC.
3. Project: ENERGY PARK/LONGE	4. Location: FORT EDWARD, NY AT DIVIDE BETWEEN EP AND LONGE PROPERTIES
5. Name of Driller: JEFF THEW	6. Manufacturer's Designation of Drill: CME 45-C
7. Sizes and Types of Drilling and Sampling Equipment: 4¼" HSA; 2" SPLIT SPOON (24" SPLIT SPOON LENGTH)	8. Hole Location: GT01
	9. Surface Elevation
	10. Date Started: 9/29/03 — 11. Date Completed: 9/30/03
12. Overburden Thickness: NOT DETERMINED; MIN 25'	15. Depth Groundwater Encountered: 4' BGS
13. Depth Drilled Into Rock: ROCK NOT REACHED	16. Depth to Water and Elapsed Time After Drilling Completed: 5.08' BGS AFTER 14 HRS.
14. Total Depth of Hole: HSA TO 24'; 2" SPLIT SPOON TO 26'	17. Other Water Level Managements (Specify): 4.8' THROUGH AUGER, W/AUGER @ 24', ON 9/29/03

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
	0	13	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
N/A	0	0	MOISTURE	GRAIN SIZE	ATTERBERG	N/A %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
~~BORING~~ CUTTINGS	✓	N/A		

LOCATION SKETCH/COMMENTS CUTTINGS — **SCALE:** NOT TO SCALE



PROJECT HUDSON RIVER FACILITY GTMG — **HOLE NO.** EPL-GT01

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

PAGE 2 of 6 GT01

SCREENED WELL

Stick-up _____ ft

Top of Grout _____ ft

Top of Seal at _____ ft

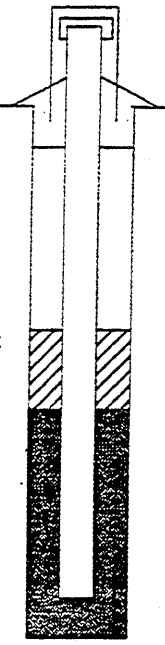
Top of Sand Pack _____ ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____



Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole Diameter _____ inches

Cement/ Bentonite _____

Grout _____

Screen Slot Size _____

Screen Type _____

☐ PVC _____

☐ Stainless Steel _____

Pack Type/Size:

☐ Sand _____

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

NO WELL CONSTRUCTED; GEOTECH BORING ONLY

16:31 Started Drilling EPL GT01

18:34 Packed up; Heading off site

NOTE: THIS BOREHOLE WAS SELECTED FOR MOISTURE PROFILING. A SAMPLE OF SOIL FROM EACH 2-FOOT SPLIT SPOONED INTERVAL WAS SELECTED FOR ANALYSIS. THE SELECTED PORTION WAS THE NATIVE SOIL ONLY; NO SLOUGH-IN. IN ADDITION TO THE MOISTURE PROFILE SAMPLES, THE SOIL SAMPLE FROM THE 4'-6' INTERVAL WAS ALSO SELECTED FOR ATTERBURG LIMIT AND MOISTURE CONTENT ANALYSIS. TIME: 16:45

MOISTURE CONTENT PROFILING ~~RESULTS~~ SAMPLE NUMERATION IS NUMERIC-ALPHA, WITH A LETTER BEING ASSIGNED FOR EACH 2-FOOT INTERVAL, STARTING WITH "A" FOR "0-2-FOOT", AND "B" FOR THE 2-4-FOOT INTERVALS.

⇒ ALL BREATHING ZONE TVA-1000 READINGS WERE LESS THAN 1ppm

EM 1110-1-4000
31 AUG 94

6

HTRW DRILLING LOG (Continuation Sheet)

Hole Number GT01

Project: ENERGY PARK / LONGE

Inspector: JON NICKERSON

Sheet 3 of 6

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	1	SW	0ppm > BKGND		EPL GT01-A	1/1/4/3	50% Recovery
	2						
	3	SW	0ppm > BKGND		EPL GT01-B	2/3/5/4	60% Recovery
	4						
	5	SW	0ppm > BKGND		EPL GT01-C	3/3/3/4	75% Rec.
	6						
	7	SP	0ppm > BKGND		EPL GT01-D	4/3/4/3	60% Recovery
	8						
	9	SP → SM	0ppm > BKGND		EPL-GT01 E	2/2/2/3	75% Rec.
	10						
	11	SP SM	0ppm > BKGND		EPL GT01 F	1/2/3/4	75% Recovery
	12						
	13	SP SM	0ppm		EPL-GT01-G	3/4/4/3	80% Rec.
	14						
	15	SM	0ppm		EPL GT01-H	2/3/4/3	90% Rec.
	16						

PROJECT: HUDSON RIVER PCB FACILITY SITING PROJECT

HOLE NO. EPL-GT01

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0-2'	Tan/brown F.g. Sand; damp at 0'-2'; Then nearly dry	X		
	Well sorted; No inclusions	X		
2'-4'	Tan/brown F.g. Sand, grading @ 38'-4' to coarser grain No	X		
	inclusions		X	
4-6'	Same Tan/brown Sand; moist		X	
6'-8'	Saturated Brown-Tan Sand; m.g. at 7'-8' (grades			X
	From F.g. → m.g. @ 6'-7')			X
	⇒ Water level reading Through augers; @ @ 4' BGS			X
8'-10'	w/ augers @ 10'; @ level @ 5.3'			X
	8'-9': Same brown sand, Then gravelly coarse sand @ 9'-10'			X
	Subrounded quartz pebble inclusions ≈ 6mm - 8mm wide			X
	Saturated, Some silt (<10%)			X
10'-12'	Black silty, coarse sand w/ subrounded quartz pebble			X
	inclusions ≈ 10%			X
12'-14'	Mix of coarse and medium-gr. black sand w/ trace quartz			X
				X
14'-15.5	Same coarse-med sand; black-stained; saturated			
	15.5-16': Fine.g. sand + silt; black; saturated			

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GT01

Project: Energy Park/Lange Facility Hudson River PCB Siting

Inspector: Jon Nickerson

Sheet 5 of 6 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16						
	17	SM	0ppm 7 BKRND		EPL-GT01-F	3/3/4 4/4	75% Rec
	18						
	19	SM	0.0 ppm 7 BKRND		EPL-GT01-J	3/4/5/5	75%
	20						
	21	SM	0 ppm		EPL-GT01-K	4/4/4/4	75% 50% Rec
	22	SC					
	23	SM	0ppm		EPL-GT01-L	3/4/5/8	50% Rec
	24						
	25	SM	0.3ppm			4/4/5/5	75% Rec
	26		B.O.H.				

- Augered to 24'
- Split spoon sampled to 26'

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: EPL-GT01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16'-18': Driller notes flowing sands, silty, black			⊗
	F.g. sand and silt; no inclusions			⊗
	18'-20 F.g.-coarse-grained silty sand; no cohesion; no stratification,			⊗
	minor (≤10%) quartz grains			⊗
	20'-21.5: Same F.g. m.g. coarse gr. sand, black,			⊗
	no inclusions or stratification; loose; saturated			⊗
	21.5'-22': clay ≈10%, w/ silt (25%) and			⊗
	F.g. sand; black; slightly cohesive; saturated			⊗
	22'-24' black F.g.-coarse sand, ~~[illegible]~~ shale fragments (trace)			⊗
	angular; and trace of rounded quartz pebble			⊗
	inclusions; no distinct stratification. No			⊗
	cohesion;			⊗
	24'-25': silty m.g. F.g. sand; saturated, black; no inclusions;			⊗
	~~no~~ shale <10%; angular fragments			
	- water @ 4.8' at end of day (9/29/03)			
	- water @ 5.08' bgs in auger at 0820 on 9/30/03			

Borehole Record for EPL-6702

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

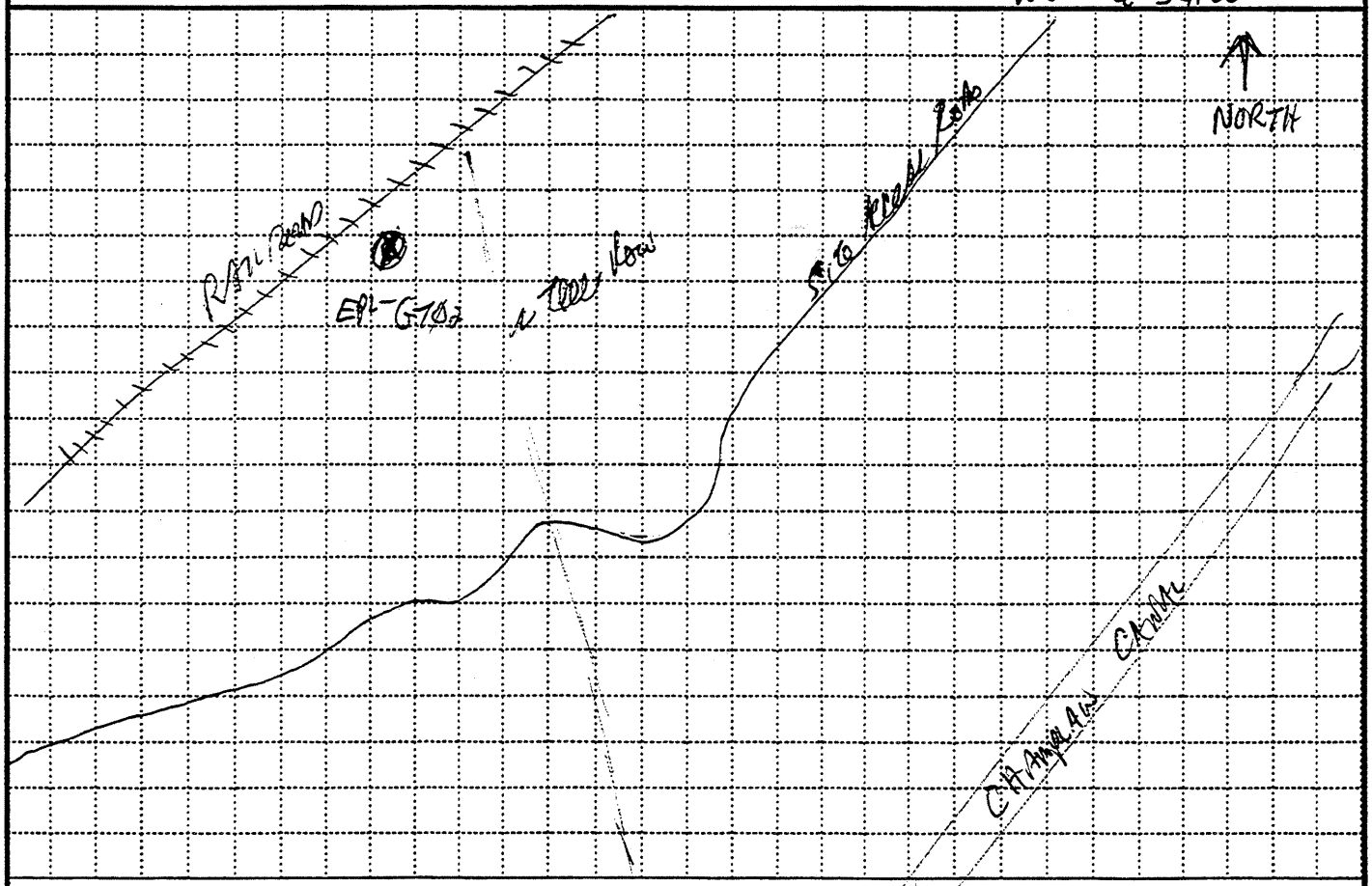
	District: Kansas City	Hole Number: EPA-GT02
1. Company Name: Ecology + Environment, Inc	2. Drill Subcontractor: Geologic, Inc.	Sheet / Sheets: 1 of 6
3. Project: Energy Park / Longo Site Assessment	4. Location: Fort Edward, NY	
5. Name of Driller: Jeff Thew, Dennis Honour	6. Manufacturer's Designation of Drill: CME-45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4 1/2" HSA w/ split spoon: 2"x24"	8. Hole Location: Near Railroad R.O.W. West Side of Longo Field	
	9. Surface Elevation	
	10. Date Started: 9/30/03	11. Date Completed: 9/30/03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 7.8'	
13. Depth Drilled Into Rock: N/A	16. Depth to Water and Elapsed Time After Drilling Completed: Not Recorded	
14. Total Depth of Hole: 24' HSA) 26' split spoon	17. Other Water Level Managements (Specify): Not Recorded	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
	0	1	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	0	0	Moisture	Atterberg	Grain Size	N/A %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
				Jon Peterson

LOCATION SKETCH/COMMENTS SCALE: Not to Scale

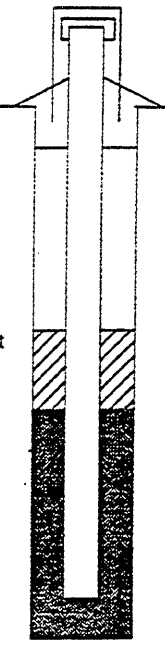


PROJECT	HOLE NO.
Hudson River PCB Facility Siting Project	EPA-GT02

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

EPL-6702



SCREENED WELL

Lock Number _____

Inner Casing Material _____

Stick-up _____ ft

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Top of Grout _____ ft

Quantity of Material Used:
Bentonite Pellets _____

Top of Seal at _____ ft

Cement _____

Borehole _____ inches Diameter

Top of Sand Pack _____ ft

Cement/ Bentonite _____

Grout _____

Top of Screen at _____ ft

Screen Slot Size _____

Screen Type _____

Bottom of Screen at _____ ft

☐ PVC _____

☐ Stainless Steel _____

Bottom of Hole at _____ ft

Pack Type/Size:
☐ Sand _____
☐ Gravel _____
☐ Natural _____

Bottom of Sandpack at _____



OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

GEOTECH BORING ONLY; NO WELL CONSTRUCTION

-Collected one soil sample for particle size, Atterberg, and moisture content analysed. Collected @ 12:31

- Equipment calibrated using appropriate calibration gases EPL-6702-

- Air Breathing Zone readings on TVA-1000 were < 1ppm

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GT02

Project: Energy Park/Lange; Hudson River

Inspector: Jon Nickerson

Sheet 3 of 6 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
		OL	0				
	1	ML	FID: BKRND PID: 0 ppm			4/5/6/7	40% Rec
	2					6/6/5/5	90%
	3	SW	0 FID 0.2 PID				
	4					3/4/3/4	90%
	5	SW	FID: 0 PID 0.5 ppm				
	6					2/4/2/2	75%
	7						
	8	SM	0.5 PID 0-FID				
	9		0.5-PID 0-FID		EPL-GT02-8'-11'	3/4/5/5	100%
	10		0.2 PID 0 FID			3/4/5/5	90%
	11	SW					
	12		0.1 PID 0 ppm FID			2/3/3/4	90%
	13						
	14		2.0 PID 0.1 ppm FID			2/2/3/3	90% Rec
	15						
	16						

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: EPL-GT02

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0"-3"	Topsoil Brown Silty Clay;	⊗	○	○
3"-2':	GRAY SILTY DAMP; Low Cohesion, Low plasticity	⊗	○	○
	down to 3'	○	⊗	○
3'-4'	F-g Brown/Gray SAND; DAMP to 3.8'; driller reported @ 3.8':	○	⊗	○
	→m-g; clean (no silt) g TRACE Silt (<5%)	○	○	⊗
	Continues SAND to 7.8', THEN ABRUPT CHANGE to	○	○	⊗
	BLACK SILTY SAND; SATURATED; NO COHESION; ANGULAR	○	○	⊗
	BLACK SHALE INCLUSION @ 7.9', 8 mm across x 3 mm	○	○	⊗
	THICK; SAND IS UNSTRATIFIED FINE, MED, AND COARSE	○	○	⊗
	MIXTURE, Rounded pebble @ 9.5', 5mm across	○	○	⊗
	10'-11': Continued silty mixture; more pebbles (shale)	○	○	⊗
	11'-12': ABRUPT CHANGE @ 11' to BLACK F-g-m-g,	○	○	⊗
	SAND; SILT <5%; NO INCLUSIONS	○	○	⊗
12'-14':	Continued gray/DARK SAND F-g-m-g; NO SILT	○	○	⊗
	SATURATED; NO PEBBLE INCLUSIONS. Trace of	○	○	⊗
	Coarse SAND @ 13'-13.4'	○	○	⊗
14'-16	grade to V.F gray SAND, well sorted; No INCLUSIONS	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPLGT02

Project: Energy Park / Lenox

Inspector: Jon Nickerson

Sheet 5 of 6 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	17	SCU	0.4 FID 0.2 PID	-	-	3/4/3/3	80% Recovery
	18	SC					
	19	CH	0 ppm			W.O.H. W.O.H. W.O.H. 3	80% Rec
	20						
	21	↓	0 ppm			W.O.R. W.O.R. W.O.H. 1/1	100% Rec
	22						
	23	↓	0 ppm	EPL-GT02-L 12:31		W.O.H. W.O.H. 1/2	100% Rec
	24						
	25	↓	0 ppm			2/2/2/2	
	26						

Bottom of Hole: 24' for HSA
26' for split spooning

PROJECT: Hudson River PCB Facility Siting

HOLE NO. EPL-GT02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content Dry	Moist	Wet
	Same gray sand to 17.5'; then abrupt change to			✓
	A clayey sand. V. F.g. sand, gray/black;			✓
	No silt; mildly cohesive; no plasticity			✓
				✓
	W.O.H = weight of hammer			✓
	- Driller noted hydrostatic conditions (mounding) of			✓
	water on top of clay layer			✓
18.3'	Abrupt change @ 18.3' bgs from F.g. sand w/clay			✓
	to a pure clay; saturated; highly plastic;			✓
	Very cohesive gray/black			✓
	W.O.R = weight of rods			
	⇒ Same gray clay to 26'; lighter in color at 24'-26';			
	Very cohesive; plastic			

Borehole Record for EPL-GT03

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

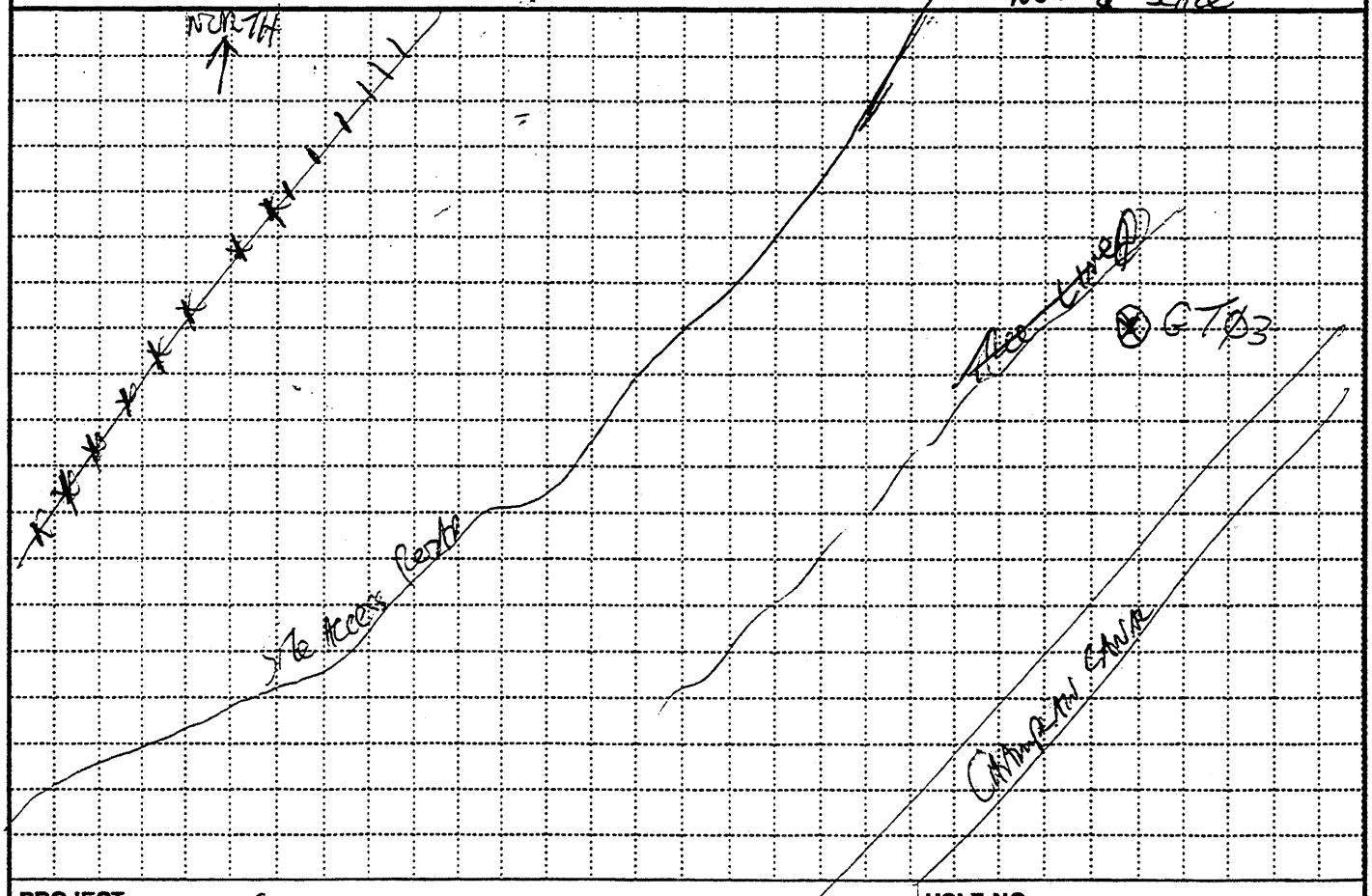
District: Kansas City		Hole Number: GT03
1. Company Name: Ecology + Environment, Inc.	2. Drill Subcontractor: Geologic	Sheet 1 of 6 Sheets
3. Project: Hudson River PCB	4. Location: Energy Park, Lange	
5. Name of Driller: Jeff Thew / Dennis Honour	6. Manufacturer's Designation of Drill: CME-45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4 1/4" HSA; 2" x 24' split spoon	8. Hole Location: East side of site access rd	
	9. Surface Elevation:	
	10. Date Started: 9/30/03	11. Date Completed: 9/30/03
12. Overburden Thickness: >26'	15. Depth Groundwater Encountered: 3.8 feet	
13. Depth Drilled Into Rock: N/A	16. Depth to Water and Elapsed Time After Drilling Completed: Time: N 0.1 hr; Depth: 4.2' BGS	
14. Total Depth of Hole: 26'	17. Other Water Level Managements (Specify): Not recorded	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
	0	1	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	0	0	~~Geotech~~ Moisture	~~Grain~~ Particle Size	Afterbing	N/A %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	x			[signature]

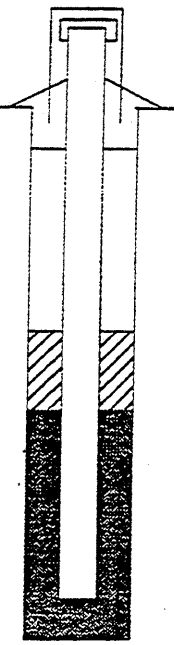
LOCATION SKETCH/COMMENTS SCALE: Not to scale



PROJECT	HOLE NO.
Hudson River PCB Facility Siting	EPL-GT03

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM



SCREENED WELL

Stick-up_____ft

Top of Grout _____ft

Top of Seal at_____ft

Top of Sand Pack _____ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____

Lock Number _____

Inner Casing Material_____

Inner Casing Inside Diameter____ inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets_____

Cement_____

Borehole _____ inches Diameter

Cement/ Bentonite_____

Grout_____

Screen Slot Size _____

Screen Type _____
☐ PVC_____
☐ Stainless Steel ____

Pack Type/Size:
☐ Sand _____
☐ Gravel _____
☐ Natural _____



OPEN-HOLE WELL

Stick-up_____ft

Inner Casing Material_____

Inner Casing Inside Diameter_____inches

Outer Casing Diameter_____inches

Borehole Diameter_____ft

Bedrock_____ft

Bottom of Rock Socket/ Outer Casing _____ft

Bottom of Inner Casing_____ft

Corehole Diameter_____

Bottom of Corehole_____ft

NOTE: See pages 136 and 137 for well construction diagrams

GEOTECHNICAL BORING ONLY; NO WELL CONSTRUCTION

-Collected one soil sample, EPI-GT03-F, from the 11'-13' interval, for moisture content, ~~grain~~ particle size, and Atterberg Limit Analyses. Sample collected @ 15:32

- At breathing zone TVA Readings were Z 1ppm

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GT03

Project: Energy Park / Lenge

Inspector: Jon Nickerson

Sheet 3 of 6

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	1	OL	0.1 ppm on PID			2/3/2/3	50% Rec
	2	ML	0 ppm on FID				
	3	SM	0 FID 0.4 ppm PID			2/2 1-Foot 1-Foot	50% Recovery
	4						
	5		0.15 FID 0.35 (PID)			1/1/2/3	75% Rec
	6	SW					
	7		PID: 0.25 ppm FID: 0.0 ppm			4/5/5/4	100% Rec
	8						
	9	grade to SP	PID = 0.3 FID = 0.15		N/A	2/1/1/1	70% Recov.
	10						
	11		PID 0.1 FID 0.0		EPL-GT03-F	1/1/1/3	100% Rec.
	12						
	13		FID 0.1 PID 0.6			2/2/2/2	90% Rec.
	14	SP					
	15		FID 0.15 PID 0.1			2/2/2/4	90% Rec.
	16	SC					

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: EPL-GT03

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0'-0.5'	ORGANIC SILTY LOAM, BROWN, DAMP	⊗	○	○
0.5-2'	BROWN SILT w/ ROUNDED INCLUSIONS, MINOR SAND SOME COAL FRAGMENTS & ANGULAR, TO FORM.	○	⊗	○
		○	⊗	○
		○	⊗	○
*	A 3': NO TWO BLOWS, RODS DROPPED ONE FOOT PER BLOW, INDICATING A POCKET THAT COULD HAVE BEEN BACKFILLED	○	⊗	○
		○	⊗	○
		○	⊗	○
3'-5'	BROWN SILTY SAND, NO LAMINATIONS, NO INCLUSIONS, SATURATED AT T.P. OF SPOON	○	○	⊗
		○	○	⊗
5'	ABRUPT CHANGE TO GRAY FG, SILTY SANDY SAND, SATURATED SAND, NO INCLUSIONS;	○	○	⊗
		○	○	⊗
8.5'-9.5'	GRADES TO POORLY SORTED SAND w/ GRAVEL 25%, MANY BLACK, ANGULAR AND ROUNDED GRAVEL TO 8 mm; SATURATED	○	○	○
		○	○	○
		○	○	○
	(WATER @ 6.7' BGS, THROUGH TIP - HIGHER READINGS)	○	○	○
11'-12'	CONTINUED GRAVELLY/COARSE SAND/MED SAND; NO FINES, ROUNDED QUARTZ PEBBLE INCLUSIONS TO 8 mm	○	○	○
		○	○	○
*	COLLECTED SAMPLE FOR GRAIN ANALYSIS	○	○	○
15.5'	CHANGES TO BLACK SILTY SAND; F-G AND mgs UNSORTED; NO GRAVEL	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GT03

Project: Energy Park/Lange

Inspector: Jon Nickerson

Sheet 5 of 6 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	17	SC	PID 0.1 FID 0			3/4/5/5	50%
	18						
	19	SC	PID = 0.35 FID = 0.1			3/2/2/3	50% 25% of cuttings slough
	20						
	21	SC	PID = 0 FID = 0			3/3/4/4	25% NATIVE 50% total
	22						
	23		PID=0.2 FID = 0.1			2/2/4/4	50% 25% Rec
	24						
	25		PID=0.1 FID = 0			3/4/5/6	50% NATIVE Recovery
	26						

Bottom of Hole 26' BGS

PROJECT: Hudson River PCB Facility Siting

HOLE NO. EPL-GT03

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
17'	Silty sand (Fg, and med gr); No sorting; Black;			⊗
18'	Saturated			⊗
	Same Poorly Sorted Silty Sand to 20'			⊗
				⊗
	Sloughing in from above causes lower native			⊗
	soil collection			⊗
	Lower silt content at 22'-24', but same			⊗
	mixture of fine med sand; Black; trace silt			⊗
	Some med. gr sand particles are bright white quartz			⊗
	= same to 26'			⊗

Borehole Record for EPL-G704

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

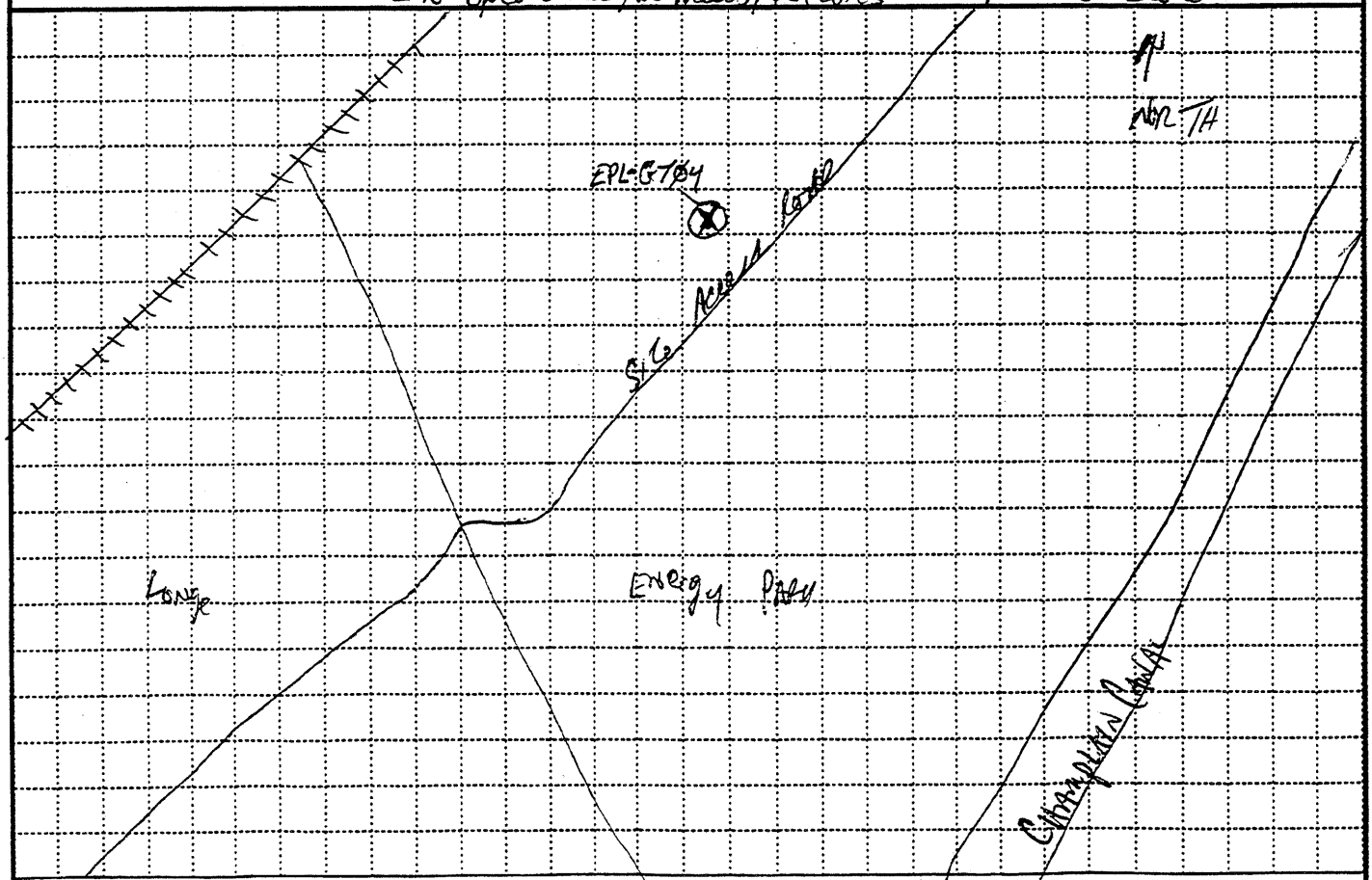
	District: KANSAS CITY	Hole Number: EPL-GT04
1. Company Name: ECOLOGY + ENVIRONMENT, INC	2. Drill Subcontractor: GEOLOGIC	Sheet 1 of Sheets 6
3. Project: ENERGY PARK/LONGE; HUDSON RIVER PCB FACILITY	4. Location: Energy Park/Longe; Fort Edward, NY	
5. Name of Driller: JEFF THEW; DENNIS HONOUR	6. Manufacturer's Designation of Drill: CME-45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4 1/4" HSA; 2" X 24" split spoon	8. Hole Location: Slightly west of site access ROAD. NORTHERN part of ENERGY PARK parcel	
	9. Surface Elevation	
	10. Date Started: 10/1/03	11. Date Completed: 10/1/03
12. Overburden Thickness: 726'	15. Depth Groundwater Encountered: 8.3' BGS	
13. Depth Drilled Into Rock: N/A	16. Depth to Water and Elapsed Time After Drilling Completed: 6.54' BGS After auger ADE removed from hole	
14. Total Depth of Hole: SPLIT SPOON: 26'; HSA → 24	17. Other Water Level Managements (Specify): NOT RECORDED	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
	~~2~~ 130	13	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
—	0	0	GRAIN SIZE	ATTERBERG	MOISTURE	0 %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	X	—		

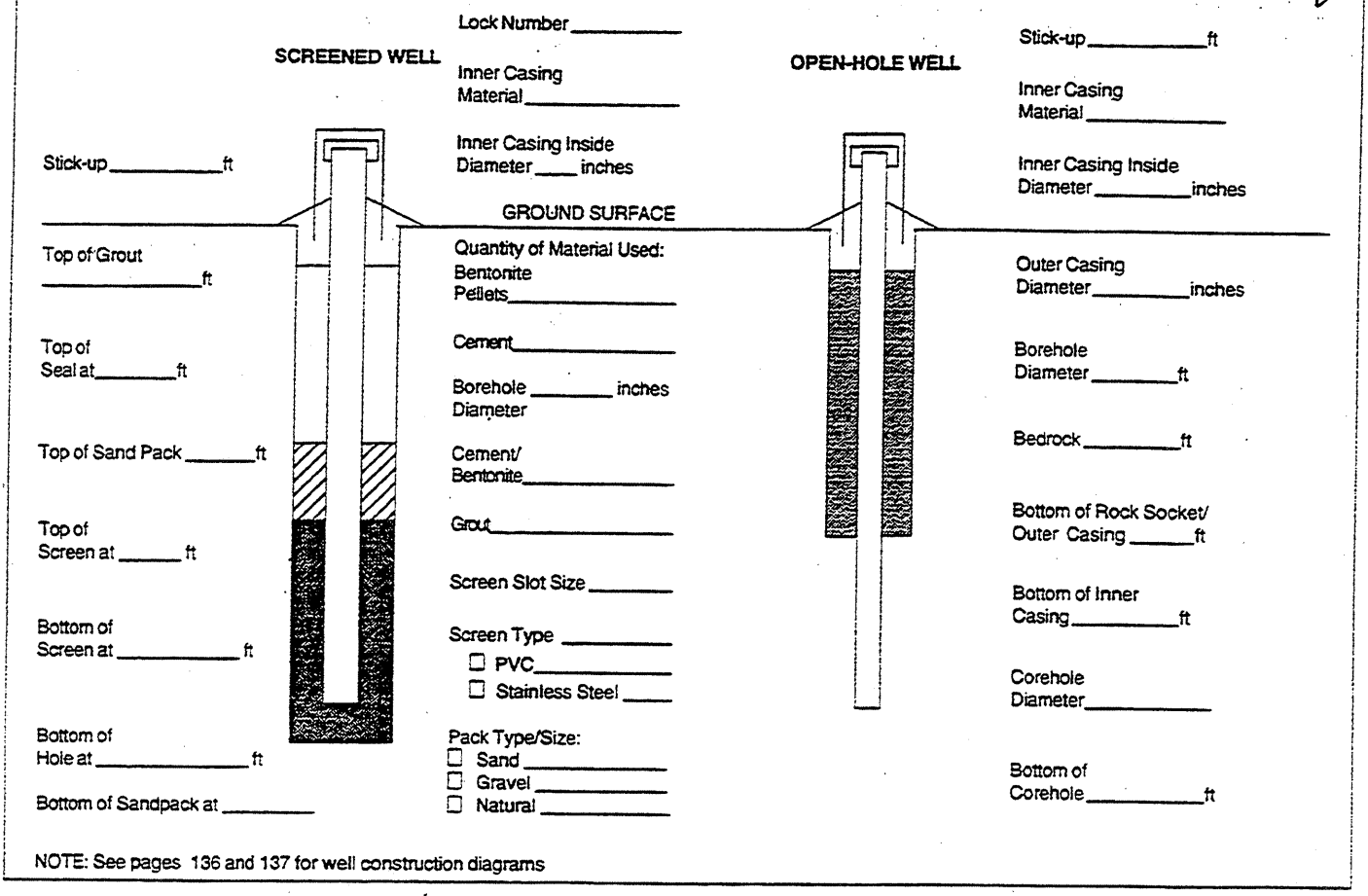
LOCATION SKETCH/COMMENTS IN open area; NO NEARBY FEATURES **SCALE:** NOT TO SCALE



PROJECT	HOLE NO.
HUDSON RIVER PCB FACILITY SITING PROJECT	EPL-GT04

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM



NOTE: See pages 136 and 137 for well construction diagrams

Well not constructed, Geotechnical Boring only

Collected Continuous Moisture profile samples at this location.

- Sample EPL-G704-A submitted for Full Geotechnical Suite (Particle Size, Moisture Content, Atterberg Limits). collected @ 0846 from the 0-2 foot depth interval.

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GT04

Project: Energy Park / Hudson River Lodge

Inspector: Jon Nickerson

Sheet 3 of 6 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	1	OL	PID = 0.3 FID = 0.1		EPL-GT04-A	2/5/5/7	95% Rec.
	2	↓					
	3	↓	PID = 0.1 FID = 0.2		B	2/2/2/1	40% Rec.
	4						
	5	↓	0.6 PID 0.2 FID		C	W.O.R. 1/1/1	30% Rec
	6						
	7	↓	PID = 0.2 FID = 0		D	1/5/2/7	30% Rec
	8						
	9	SW ↓	.25 PID FID = 0.25		E	2/12/12/14	80% Rec
	10	SW	PID = 0.3 FID = 0		F	5/9/7/6	75% Rec
	11	↓ grades to SP @ 11.5-12					
	12		PID = 0.3 FID = 0		G	4/3/4/4	95% Rec
	13	SP					
	14		PID = 0.5 FID = 0.1		H	6/12/12/15	100% Rec
	15	SP					
	16						

PROJECT: HUDSON RIVER PCB FACILITY SITING

HOLE NO.: EPL-GT04

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0'-2'	DARK Brown organic-rich silt w/angular inclusions of various rock types (granite, coal). Organic (manure?) at 0'-0.5' interval. Root matter observed at 4'-4.5'	X		
	Water @ 8.3' BGS			
	Abrupt change @ 8.5' to a tan f.g. sand; no inclusions, grading to a coarse sand mixture, w/ f.g. and m.g. sand 11.5'-12'.			X
12'-14'	Saturated brown m.g., f.g. c.g. sand; no pebble inclusions; darker at depth.			
14'-16'	Same dark sand; again, no inclusions. No stratification of grain sizes. No cohesion			

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-6704

Project: Energy Park / Lunge Hudson River PCB

Inspector: Jon Nickerson

Sheet 5 of 6 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	17	SP	PID = 0.4 FID 0		I	4/5/5/4	30% Rec.
	18	↓					
	19	↓	PID = 0 FID = 0		J	2/3/5/5	40% Rec
	20	SP					
	21	↓ SP	PID = 0.2 FID = 0		K	2/5/8/4	50% Rec
	22	ML	PID = 0.1 FID = 0		L	4/6/6/4	75% Rec
	23	↓					
	24		PID 0.3 FID = 0		M	4/5/6/7	75% Rec
	25	↓					
	26						

Bottom of Hole:
HSA to 24" BGS
Split spoons to 26' BGS

PROJECT: Hudson River Facility Siting

HOLE NO.: EPL-6704

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16-24.5	BROWN/BLACK MIXTURE of FINE medium COARSE GRAINED; NO INCLUSIONS; NO CEMENTATION; NO STRATIFICATION of grain SIZES. COARSE COMPONENT IS PREDOMINANTLY WHITE QUARTZ + SATURATED	○	○	●
21.5	ABRUPT CHANGE TO SILTY SAND; BLACK; LOW COHESION	○	○	●
22-24	MORE FINE SILTY SAND; BLACK; SATURATED; LOW COHESION; HYDROGEN SULFIDE ODOR NOTED.	○	○	●
	SAME @ 26' BGS	○	○	●
	@ AT 10.9' BGS AT COMPLETION of DRILLING THROUGH THE AUGERS	○	○	○
	@ AT 6.54' BGS AFTER AUGERS ARE PULLED	○	○	○

Borehole Record for EPA-GT05

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

.31 AUG 94

HTRW DRILLING LOG

District: Kansas City		Hole Number: EPL-G105
1. Company Name: Ecology and Environment, Inc.	2. Drill Subcontractor: Geologic, Inc	Sheet: 1 of 6

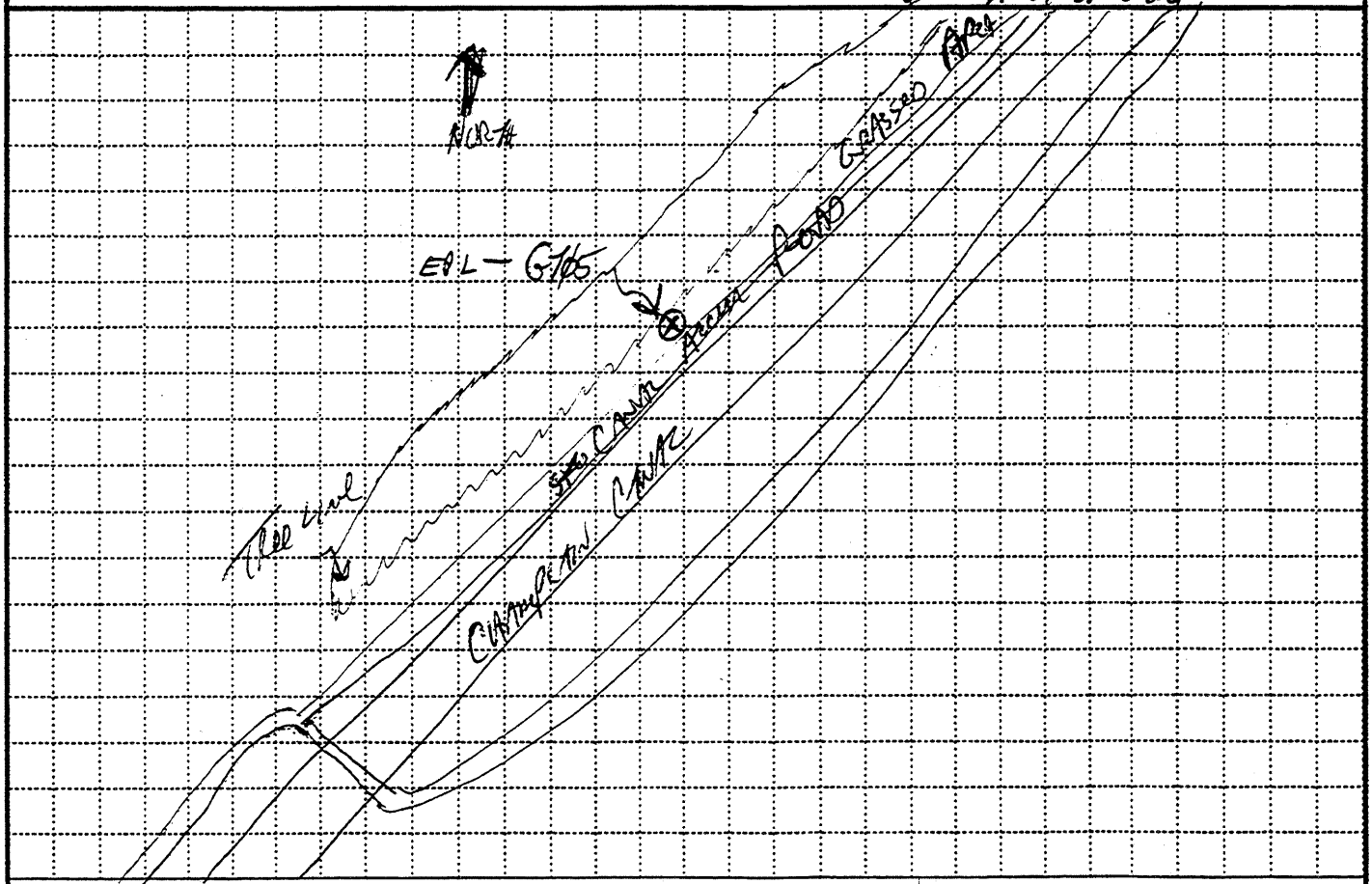
3. Project: Hudson River PCBs / Energy Park / Longe	4. Location: Fort Edward, NY
5. Name of Driller: Jeff Thew / Dennis Honour	6. Manufacturer's Designation of Drill: CME 75-C
7. Sizes and Types of Drilling and Sampling Equipment: 4 1/2" HSA; 2" x 24" split spoon	8. Hole Location: Far East Side of Site, Adjacent to Canal Access Road
	9. Surface Elevation:
	10. Date Started: 10/1/03 — 11. Date Completed: 10/1/03
12. Overburden Thickness: >26'	15. Depth Groundwater Encountered: 3.2' BGS
13. Depth Drilled Into Rock: 0	16. Depth to Water and Elapsed Time After Drilling Completed: Not Recorded
14. Total Depth of Hole: 26'	17. Other Water Level Managements (Specify): Not Recorded

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
		1	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	0	0	Particle Size	Atterberg	Moisture	1/1

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	X			Jon Green

LOCATION SKETCH/COMMENTS — SCALE: Not to Scale



PROJECT	HOLE NO.
Hudson River PCB Facility Siting	EPL-G105

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

PAGE 2 of 4 GT05

SCREENED WELL

Stick-up _____ ft

Top of Grout _____ ft

Top of Seal at _____ ft

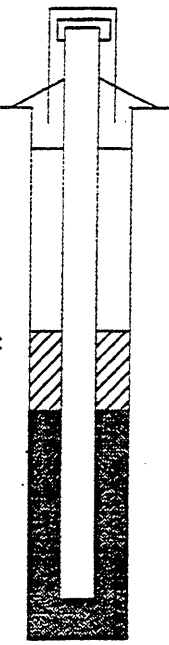
Top of Sand Pack _____ ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____



Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole Diameter _____ inches

Cement/ Bentonite _____

Grout _____

Screen Slot Size _____

Screen Type _____

☐ PVC _____

☐ Stainless Steel _____

Pack Type/Size:

☐ Sand _____

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

GEOTECHNICAL BORING ONLY; NO WELL INSTALLED

Collected one soil sample to be submitted for particle size, Atterburg, and grain size analyses.
EPL-GT05-D, from the 6'-8' interval, at 13:37

- All breathing zone TVA-1000 readings were ≤ 1 ppm

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

EPL-GT05

Project	Inspector	Hole Number	Sheet	Sheets
Energy Park / Lodge	Tom Nicholson	GT05	3	of 6

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	1	ML	PID=23 FID=0.52			W.O.R. 1/1/1	75% Rec
	2						
	3		PID=0 FID=0			W.O.R. 1/1/1	5% Rec
	4						
	5		PID=0.6 FID=0.1			W.O.R. W.O.R. 1/1	50% Rec
	6				EPL-GT05		
	7		PID=0.7			1/1/2	100% Rec
	8	ML SW	FID=0.2				
	9	SC	PID=0.3			W.O.R. 1/1/2	75% Rec
	10	SW	FID=0.2				
	11	MH	PID=0 FID=0			2/4/5/6	100% Rec
	12	SW					
	13		PID=3 FID=13			5/5/2/2	100% Rec
	14	SP	FID=0.2				
	15	PT.	PID=0.2			W.O.R. 1/1/1	
	16	CH					

PROJECT HUDSON RIVER PCB FACILITY SITING

HOLE NO. EPL-GT05

LDL-G705

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0-2:	Spoon ~~was~~ penetrated ~~by~~ FIRST 6" By Weight of Rods (W.O.R)	●	○	○
0'-2':	Brown SILT, MOIST; No PEBBLE INCLUSIONS; MINOR (≈ 15%) V.F. g SAND. NO OTHER STRATIFICATION	○	●	○
2'-4'	SAME SILT. WET! MOD. COHESION WATER at around 3.2'; Very PLASTIC.	○	○	●
4-6':	W.O.H = Weight of Hammer. Very soft material, 2.5 ABRUPT change to gray SANDY SILT. V.F.G. SAND, SILT with PLASTIC; low Cohesion.	○	○	○
6-8.5	F.G SAND, gravel; well sorted; low Cohesion	○	○	●
8.5-8.8	Brown SILTY SAND; MODERATE Cohesion; SATURATED; MOD PLASTICITY	○	○	●
8.8-9.0	GRAY ~~clay~~ clay-SAND. MOD. ~~Cohesion~~ Cohesion; MOD PLASTICITY	○	○	●
9-10.8	GRAY well-graded SAND; Very low Cohesion AND low PLASTICITY	○	○	●
10.8-11.3:	Brown SILT, MOD Cohesion; ~~MOD~~ LIGHT PLASTICITY; SATURATED; NO INCLUSIONS	○	○	●
11.3-13.5	Well-graded GRAY SAND; low Cohesion; Low PLASTICITY	○	○	●
13.5-14.4	gravelly Course/Fine/med SAND MIXTURE; Low Cohesion; NO PLASTICITY. Contains Rounded PEBBLES (8-10mm)	○	○	●
⇒	Water out @ 6.1 with MOISTURE THICKNESS The Augers @ 8' d.bgs.	○	○	●
14.4-14.6	BLACK PEAT. ORGANIC; Low Cohesion, Low PLASTICITY	○	○	●
14.6→	L. gray TIGHT CLAY HIGH Cohesion, HIGH PLASTICITY, NO INCLUSIONS	○	○	●
		○	○	○
		○	○	○
		○	○	○

EM 1110-1-4000
31 AUG 94

EPL-GT05

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: EPL-GT05

Project: Energy Park / Largo

Inspector: Jon Nickerson

Sheet 5 of 6 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	17	CH	PID=0.1 FID=0.1			2/5/5/5	100% Rec
	18						
	19		PID=0.3 FID=0.2			5/5/4/4	100% Rec
	20						
	21		PID=0.16 FID=0.1			5/4/3/2	100% Rec
	22						
	23		PID=0.2 FID=0			@ ~~5/4/3/2~~ 3/2/1/1	25% Rec
	24						
	25	CH	PID=0.2 FID=0			2/1/1/2	75% Rec
	26						

Bottom of Hole: 26', By split spoon Sampling

PROJECT: Hudson River PCB Facility Siting

HOLE NO. EPL-GT05

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16'-18'	GRAY TIGHT VERY COARSE CLAY; HIGHLY PLASTIC; "GREASY".	○	○	⊗
	NO INCLUSIONS	○	○	○
	SAME 18'-20'	○	○	○
	SAME CLAY 20'-22'	○	○	○
	SAME CLAY 22'-24'	○	○	○
	SAME CLAY 24'-26'	○	○	○

Energy Park/Longe/New York State Canal Corporation Site

Supplemental Geotechnical Information

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TABLE 1
SUMMARY

PROJECT: HUDSON RIVER PCBS SUPERFUND SITE
ENERGY PARK/LONGE

FILE NO.: 0104 | **DATE: 16 OCT 03** | **CLASSIFIED BY: AT**

LOCATION OR BORING	SAMPLE NO.	ELEV. OR DEPTH	LL/PL	SAMPLE DESCRIPTION	NAT. W. C. %
EPL-GT01	A	0-2			7.5
EPL-GT01	B	2-4			7.8
EPL-GT01	C	4-6	NP	SAND (SP), GRAY	13.3
EPL-GT01	D	6-8			18.7
EPL-GT01	E	8-10			15.9
EPL-GT01	F	10-12			15.9
EPL-GT01	G	12-14			15.1
EPL-GT01	H	14-16			16.8
EPL-GT01	I	16-18			14.7
EPL-GT01	J	18-20			17.3
EPL-GT01	K	20-22			15.9
EPL-GT01	L	22-24			13.5
EPL-GT01	M	24-26			16.7
EPL-GT03	F	11-12	NP	SILTY SAND (SW-SM), DARK GRAY, TRACE OF GRAVEL	17.2
EPL-GT05	D	6-8	NP	SILTY SAND (SM), GRAY	20.6
EPL-GT02	L	22-24	60/24	CLAY (CH), GRAY	69.0
EPL-GT04	A	0-2	NP	SILTY SAND (SM), GRAY; WITH GRAVEL	12.4
EPL-GT04	B	2-4			14.4
EPL-GT04	C	4-6			13.5
EPL-GT04	D	6-8			16.6
EPL-GT04	E	8-10			16.8

REMARKS: Page 1 of 2

ENCL 1

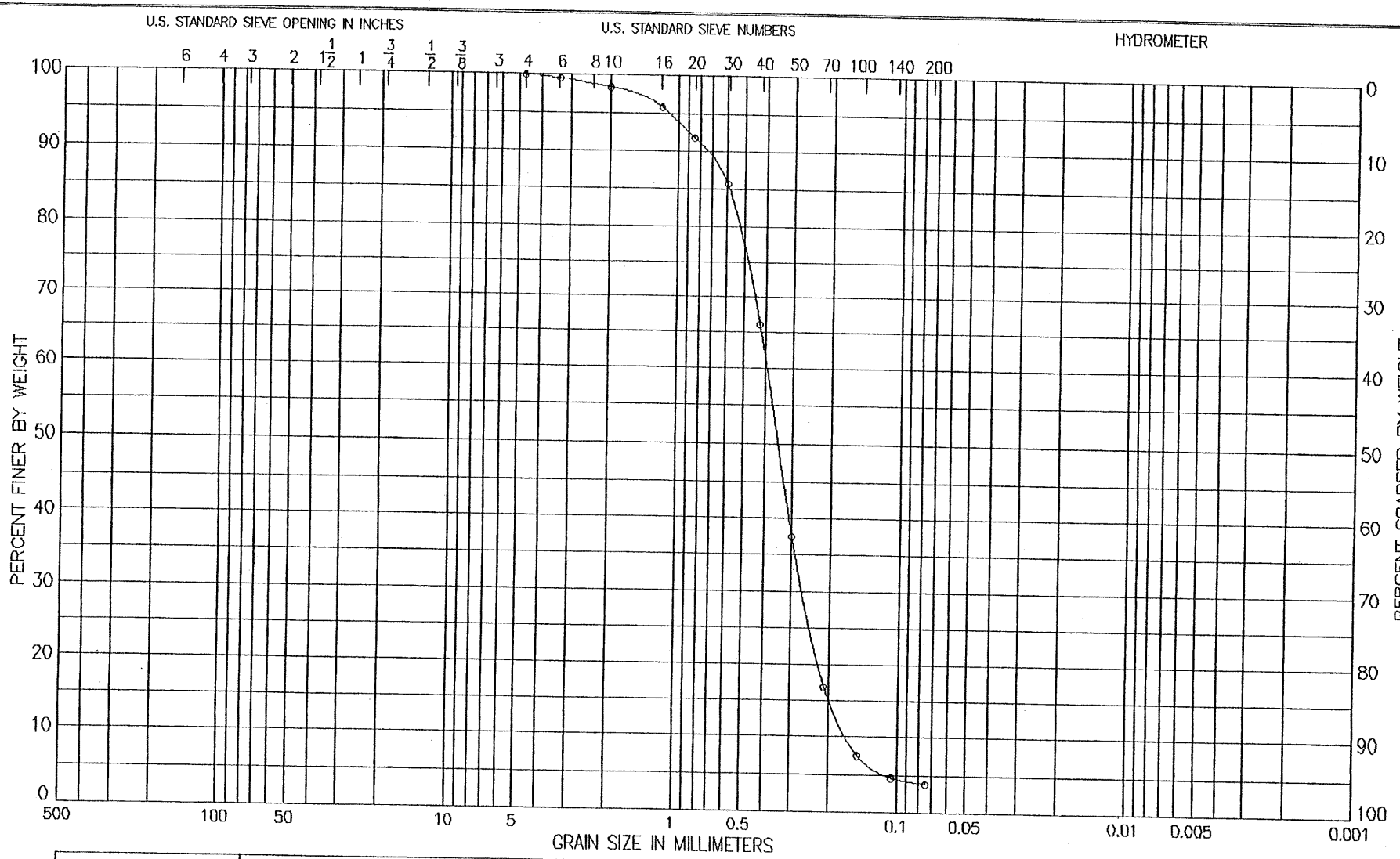
TABLE 1
SUMMARY

PROJECT: HUDSON RIVER PCBS SUPERFUND SITE
ENERGY PARK/LONGE

FILE NO.: 0104 | DATE: 16 OCT 03 | CLASSIFIED BY: AT

LOCATION OR BORING	SAMPLE NO.	ELEV. OR DEPTH	LL/PL	SAMPLE DESCRIPTION	NAT. W. C. %
EPL-GT04	F	10-12			16.8
EPL-GT04	G	12-14			18.6
EPL-GT04	H	14-16			19.7
EPL-GT04	I	16-18			18.0
EPL-GT04	J	18-20			15.5
EPL-GT04	K	20-22			20.4
EPL-GT04	L	22-24			16.2
EPL-GT04	M	24-26			15.0

REMARKS: Page 2 of 2



COBBLES	GRAVEL		SAND			SILT or CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

LL	PL	PI	GS	NAT W,%	ORG,%
NP				13.3	

CLASSIFICATION
SAND (SP), GRAY

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCBS SUPERFUND SITE
ENERGY PARK/LONGE

BORING NO. EPL–GT01 SAMPLE NO. C

DEPTH/ELEV 4–6 DATE 16 OCT 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCBS SUPERFUND SITE
ENERGY PARK/LONGE

BORING: EPL-GT01 SAMPLE: C DF: 0104 .DAT
DEPTH: 4-6 DATE: 16 OCT 03

NON-PLASTIC GS: .00 WC: 13.30
CLASSIFICATION: 108
SAND (SP), GRAY

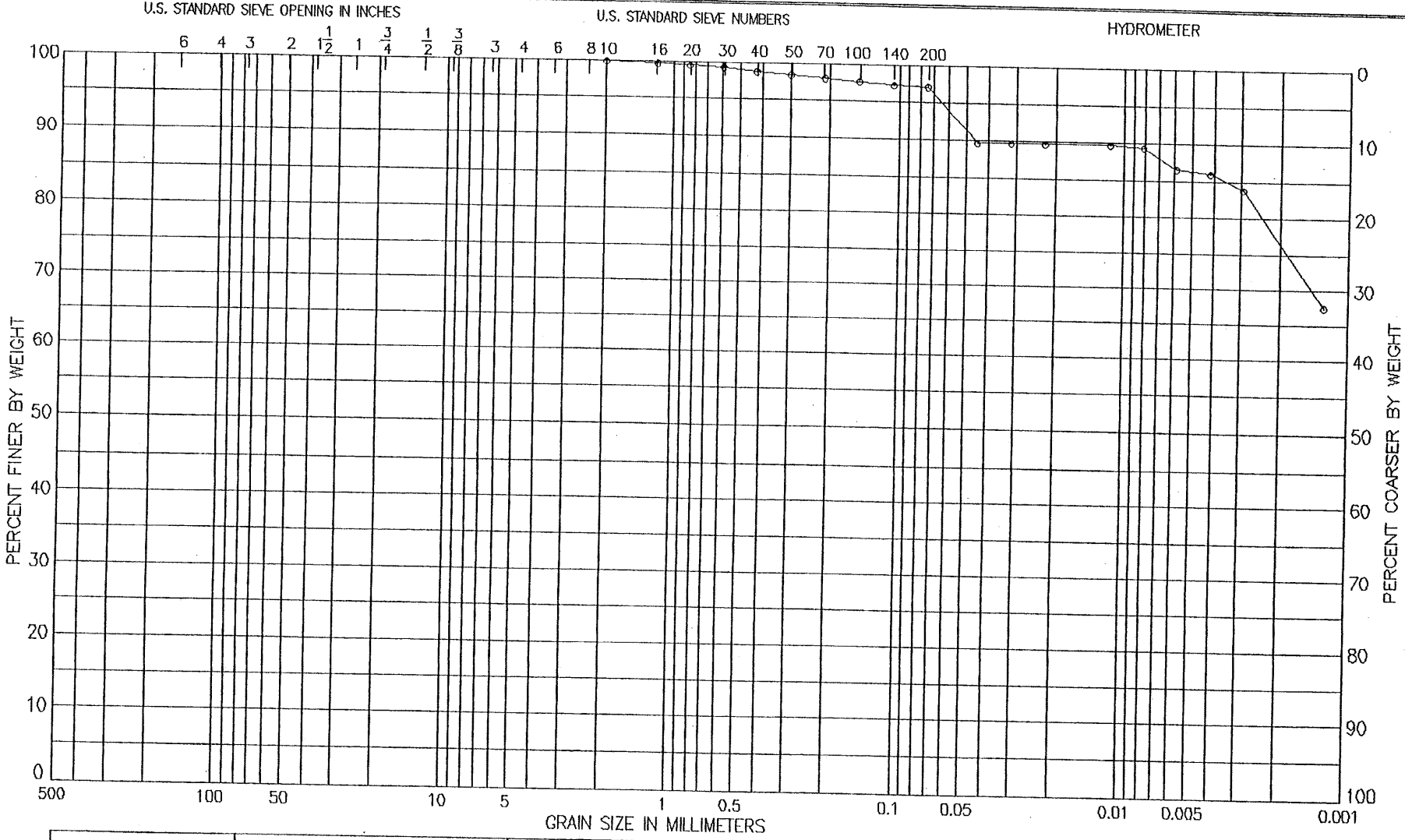
TOTAL WEIGHT OF SAMPLE: .0 gms.
PARTIAL WEIGHT AFTER SPLIT: 75.9 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	No 4	4.750	100.0	.0
.3	No 6	3.350	99.6	.4
1.2	No 10	2.000	98.4	1.6
3.1	No 16	1.180	95.9	4.1
6.2	No 20	.850	91.8	8.2
10.8	No 30	.600	85.8	14.2
25.7	No 40	.425	66.1	33.9
47.4	No 50	.300	37.5	62.5
63.1	No 70	.212	16.9	83.1
70.1	No 100	.150	7.6	92.4
72.3	No 140	.106	4.7	95.3
72.9	No 200	.075	4.0	96.0

PERCENT GRAVEL = .0
PERCENT SAND = 96.0
PERCENT FINES = 4.0

D60 = .40
D30 = .27
D10 = .17
CU = 2.40
CC = 1.09

EDE



COBBLES	GRAVEL		SAND			SILT or CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

LL	PL	PI	GS	NAT W,%	ORG,%
60	24	36	2.70 EST	69.0	

CLASSIFICATION
CLAY (CH), GRAY

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCBS SUPERFUND SITE
ENERGY PARK/LONGE
BORING NO. EPL-GT02 SAMPLE NO. L
DEPTH/ELEV 22-24 DATE 23 OCT 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCBS SUPERFUND SITE
ENERGY PARK/LONGE

BORING: EPL-GT02 SAMPLE: L DF: 0104A .DAT
DEPTH: 22-24 DATE: 23 OCT 03

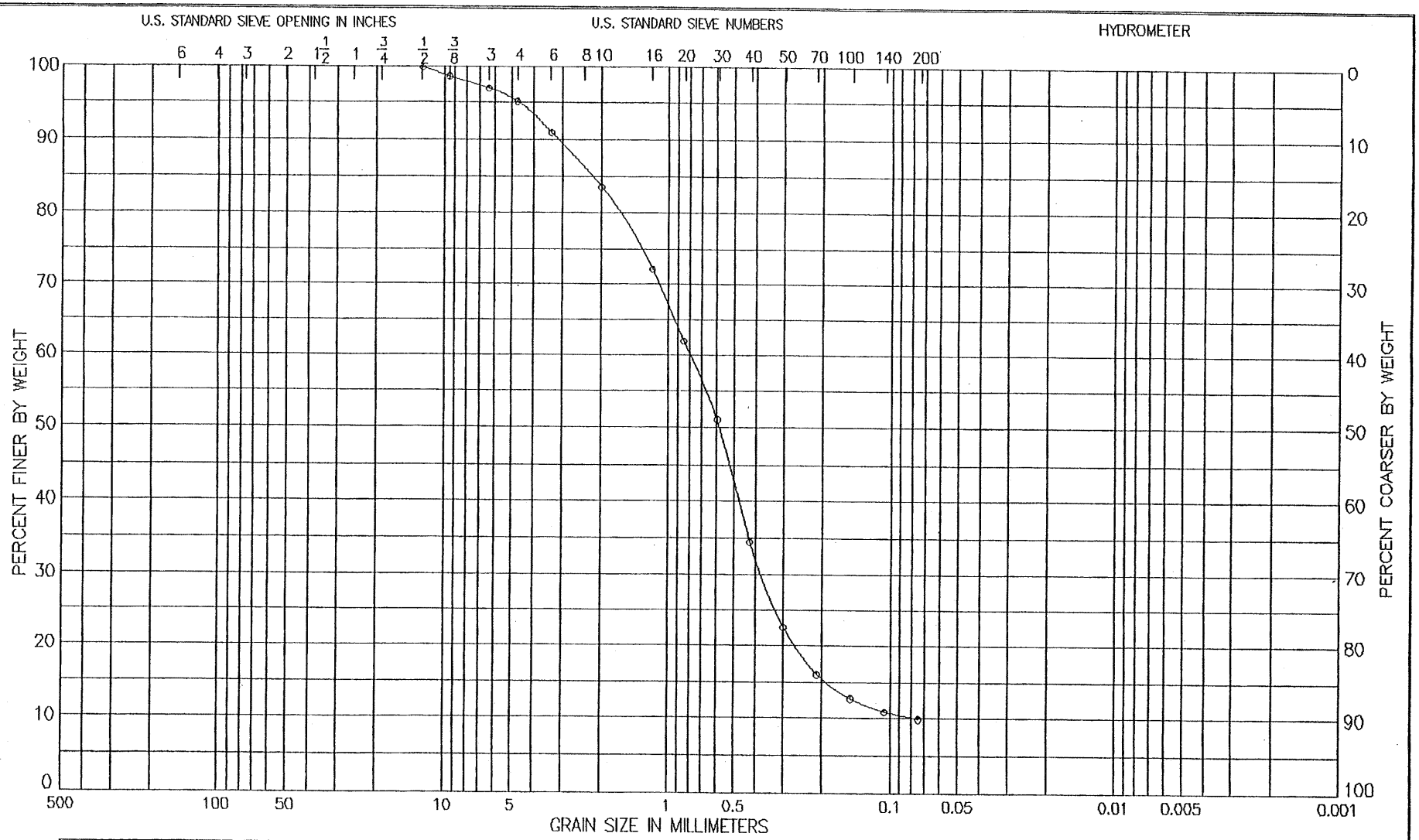
LL: 60 PL: 24 PI: 36 GS: 2.70 est WC: 69.00
CLASSIFICATION: 124
CLAY (CH), GRAY

TOTAL WEIGHT OF SAMPLE: .0 gms.
PARTIAL WEIGHT AFTER SPLIT: 51.7 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	No 10	2.000	100.0	.0
.1	No 16	1.180	99.8	.2
.2	No 20	.850	99.6	.4
.3	No 30	.600	99.4	.6
.6	No 40	.425	98.8	1.2
.8	No 50	.300	98.5	1.5
1.0	No 70	.212	98.1	1.9
1.2	No 100	.150	97.7	2.3
1.4	No 140	.106	97.3	2.7
1.5	No 200	.075	97.1	2.9
HYDROMETER:				
RDGS	TEMP			
29.0	23.5	.0450	89.7	10.3
29.0	23.5	.0318	89.7	10.3
29.0	23.5	.0225	89.7	10.3
29.0	23.5	.0116	89.7	10.3
28.9	23.5	.0082	89.4	10.6
28.0	23.5	.0059	86.6	13.4
27.8	23.5	.0042	86.0	14.0
27.1	23.5	.0030	83.9	16.1
21.8	23.5	.0013	67.6	32.4

PERCENT GRAVEL = .0
PERCENT SAND = 2.9
PERCENT FINES = 97.1

EDE



LL	PL	PI	GS	NAT W,%	ORG,%
NP				17.2	

CLASSIFICATION

SILTY SAND (SW–SM), DARK GRAY; TRACE OF GRAVEL

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCBS SUPERFUND SITE

ENERGY PARK/LONGE

BORING NO. EPL–GT03 SAMPLE NO. F

DEPTH/ELEV 11–12 DATE 16 OCT 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCBS SUPERFUND SITE
ENERGY PARK/LONGE

BORING: EPL-GT03 SAMPLE: F DF: 0104 .DAT
DEPTH: 11-12 DATE: 16 OCT 03

NON-PLASTIC GS: .00 WC: 17.20
CLASSIFICATION: 118
SILTY SAND (SW-SM), DARK GRAY; TRACE OF GRAVEL

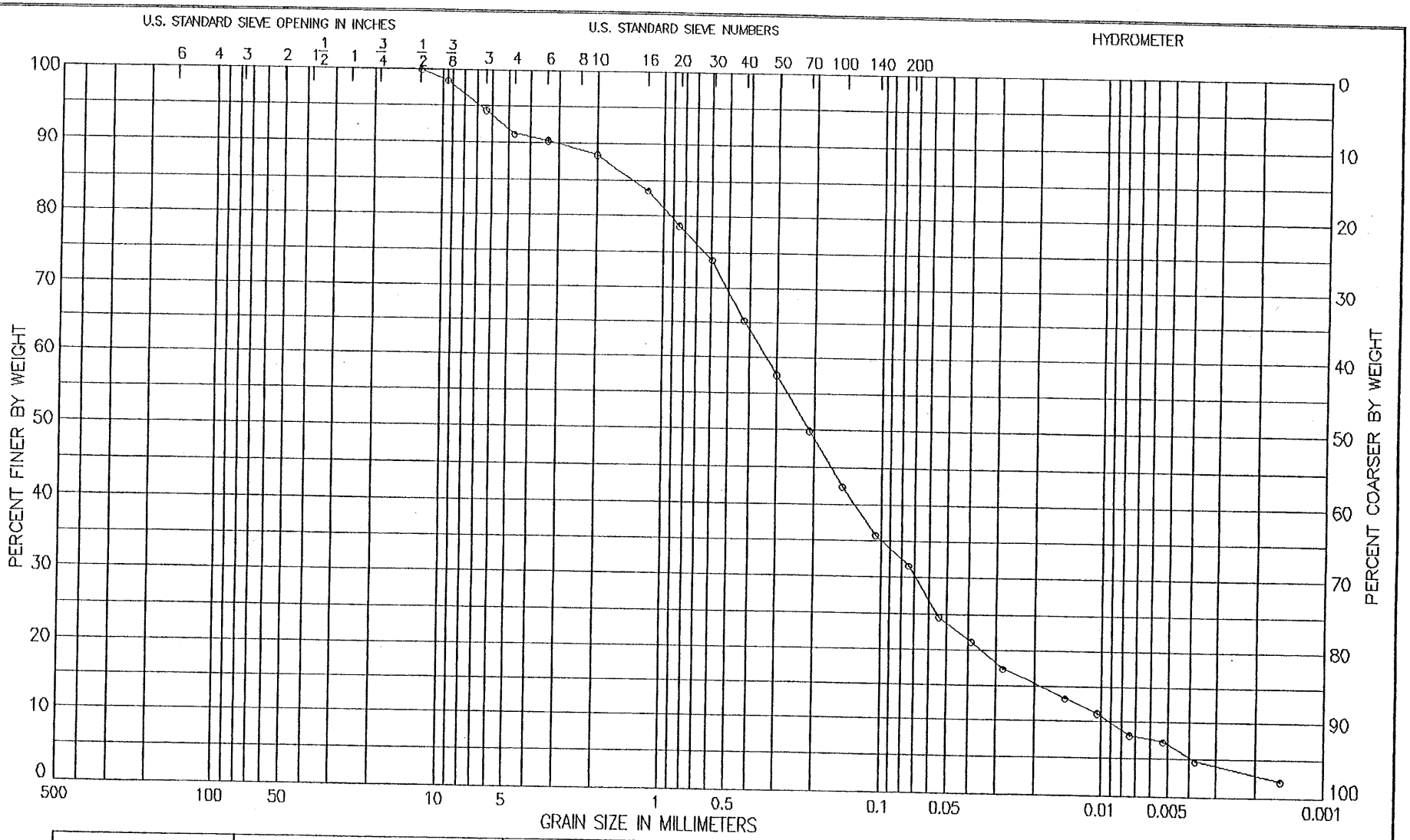
TOTAL WEIGHT OF SAMPLE: 1031.9 gms.
PARTIAL WEIGHT AFTER SPLIT: 84.3 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	1/2 in	12.500	100.0	.0
13.5	3/8 in	9.500	98.7	1.3
17.4	No 3	6.350	97.0	3.0
18.5	No 4	4.750	95.2	4.8
3.7	No 6	3.350	91.0	9.0
10.3	No 10	2.000	83.6	16.4
20.4	No 16	1.180	72.2	27.8
29.4	No 20	.850	62.0	38.0
39.1	No 30	.600	51.1	48.9
53.7	No 40	.425	34.6	65.4
64.3	No 50	.300	22.6	77.4
70.1	No 70	.212	16.0	84.0
73.0	No 100	.150	12.8	87.2
74.6	No 140	.106	11.0	89.0
75.5	No 200	.075	9.9	90.1

PERCENT GRAVEL = 4.8
PERCENT SAND = 85.3
PERCENT FINES = 9.9

D60 = .80
D30 = .38
D10 = .08
CU = 10.46
CC = 2.30

EDE



LL	PL	PI	GS	NAT W,%	ORG,%
NP			2.67 EST	12.4	

CLASSIFICATION
SILTY SAND (SM), GRAY; WITH GRAVEL

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCBS SUPERFUND SITE
ENERGY PARK/LONGE
BORING NO. EPL-GT04 SAMPLE NO. A
DEPTH/ELEV 0-2 DATE 23 OCT 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCBS SUPERFUND SITE
ENERGY PARK/LONGE

BORING: EPL-GT04 SAMPLE: A DF: 0104A .DAT
DEPTH: 0-2 DATE: 23 OCT 03

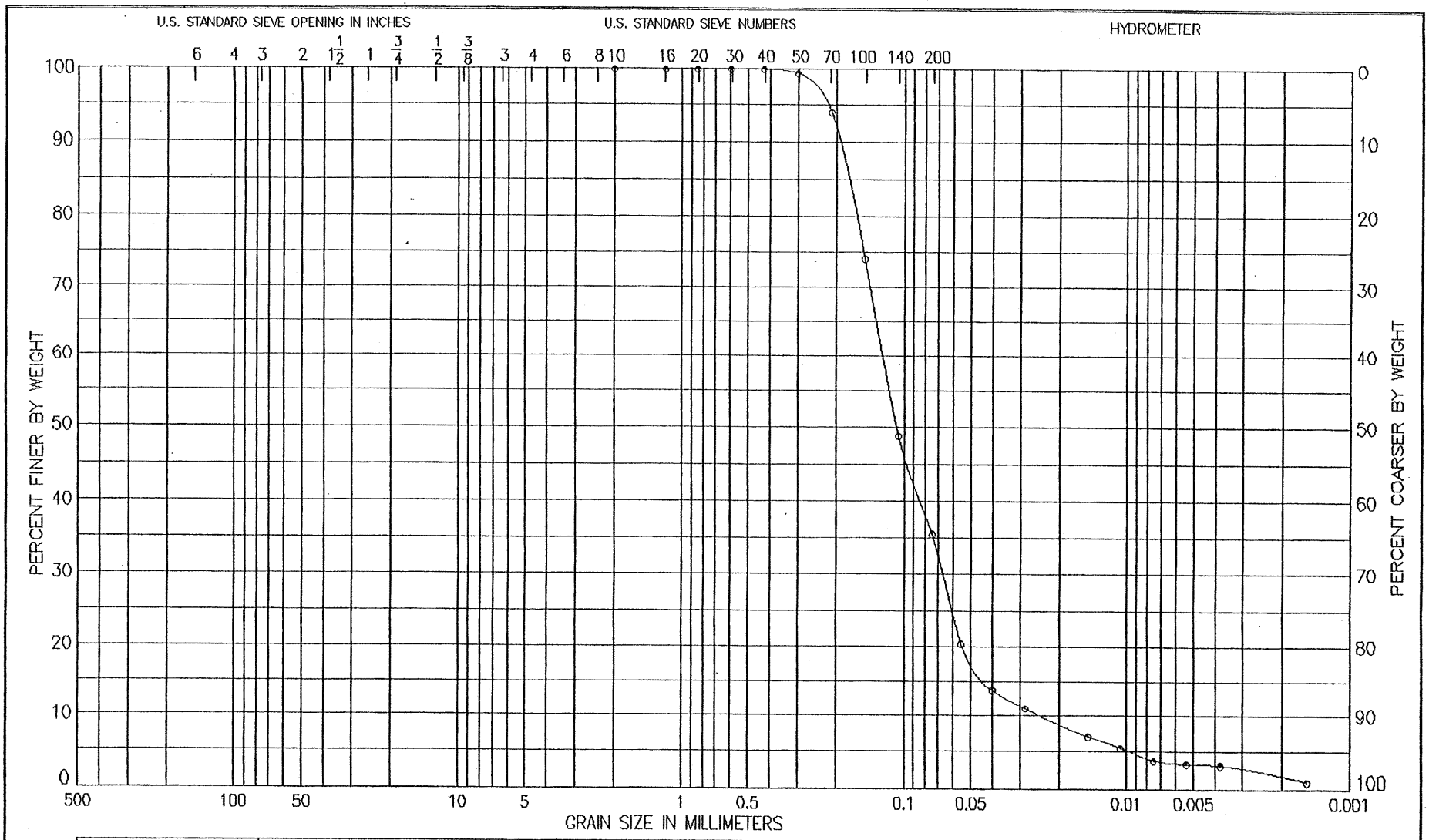
NON-PLASTIC GS: 2.67 est WC: 12.40
CLASSIFICATION: 142
SILTY SAND (SM), GRAY; WITH GRAVEL

TOTAL WEIGHT OF SAMPLE: 522.6 gms.
PARTIAL WEIGHT AFTER SPLIT: 66.1 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	1/2 in	12.500	100.0	.0
7.9	3/8 in	9.500	98.5	1.5
21.4	No 3	6.350	94.4	5.6
16.8	No 4	4.750	91.2	8.8
4.7	No 6	3.350	90.3	9.7
9.3	No 10	2.000	88.5	11.5
3.7	No 16	1.180	83.5	16.5
7.4	No 20	.850	78.6	21.4
10.9	No 30	.600	73.9	26.1
17.3	No 40	.425	65.3	34.7
23.1	No 50	.300	57.6	42.4
28.9	No 70	.212	49.8	50.2
34.4	No 100	.150	42.4	57.6
39.3	No 140	.106	35.9	64.1
42.5	No 200	.075	31.6	68.4
HYDROMETER:				
RDGS	TEMP			
11.3	23.5	.0543	24.6	75.4
9.7	23.5	.0389	21.2	78.8
7.9	23.5	.0279	17.3	82.7
6.0	23.5	.0146	13.3	86.7
5.0	23.5	.0104	11.1	88.9
3.6	23.5	.0075	8.1	91.9
3.2	23.5	.0053	7.3	92.7
2.0	23.5	.0038	4.7	95.3
.8	23.5	.0016	2.1	97.9

PERCENT GRAVEL = 8.8
PERCENT SAND = 59.6
PERCENT FINES = 31.6

EDE



LL	PL	PI	GS	NAT W,%	ORG,%
NP			2.67 EST	20.6	

CLASSIFICATION
SILTY SAND (SM), GRAY

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCBS SUPERFUND SITE
ENERGY PARK/LONGE
BORING NO. EPL-GT05 SAMPLE NO. D
DEPTH/ELEV 6-8 DATE 23 OCT 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCBS SUPERFUND SITE
ENERGY PARK/LONGE

BORING: EPL-GT05 SAMPLE: D DF: 0104A .DAT
DEPTH: 6-8 DATE: 23 OCT 03

NON-PLASTIC GS: 2.67 est WC: 20.60
CLASSIFICATION: 108
SILTY SAND (SM), GRAY

TOTAL WEIGHT OF SAMPLE: .0 gms.
PARTIAL WEIGHT AFTER SPLIT: 72.3 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	No 10	2.000	100.0	.0
.0	No 16	1.180	100.0	.0
.0	No 20	.850	100.0	.0
.0	No 30	.600	100.0	.0
.0	No 40	.425	100.0	.0
.4	No 50	.300	99.4	.6
4.3	No 70	.212	94.1	5.9
18.8	No 100	.150	74.0	26.0
37.0	No 140	.106	48.8	51.2
46.6	No 200	.075	35.5	64.5
HYDROMETER:				
RDGS	TEMP			
9.0	23.5	.0554	20.3	79.7
6.0	23.5	.0401	13.7	86.3
4.8	23.5	.0286	11.1	88.9
3.0	23.5	.0150	7.1	92.9
2.3	23.5	.0107	5.5	94.5
1.5	23.5	.0076	3.8	96.2
1.3	23.5	.0054	3.3	96.7
1.2	23.5	.0038	3.1	96.9
.2	23.5	.0016	.9	99.1

PERCENT GRAVEL = .0
PERCENT SAND = 64.5
PERCENT FINES = 35.5

EDE

Direct Push Technology (DPT)
Bore Logs From The
Old Moreau Dredge Spoils Area/New York State Canal Corporation Site

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Borehole Record for OM-GP01

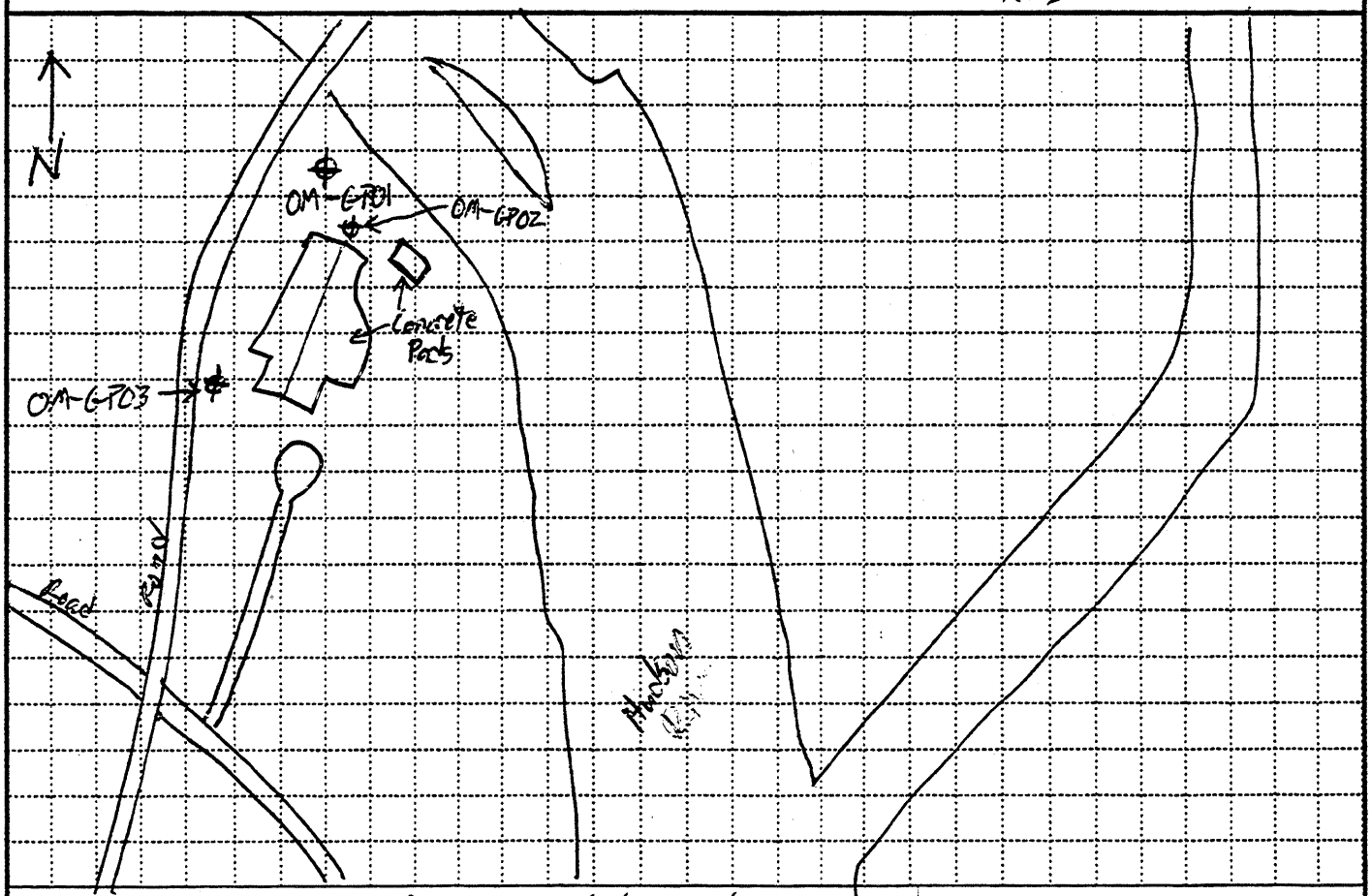
- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

HTRW DRILLING LOG

District: Kansas City		Hole Number: OM-GP01
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic	Sheet 1 of Sheets 8
3. Project: Hudson Facility Siting	4. Location: Moreau, N.Y.	
5. Name of Driller: ~~Joe Mazzal~~ Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Macro-core soil sampler w/ disposable acetate sleeves	8. Hole Location: North end of site ~250' west of River.	
	9. Surface Elevation	
	10. Date Started: 10-2-03	11. Date Completed: 10-2-03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 11' BGS	
13. Depth Drilled into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 24.78' BGS after 25 minutes	
14. Total Depth of Hole: 25'	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals: V & Hg	Other (Specify): SVOCs	Other (Specify): CN	Other (Specify): Pest/PCBs	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert A Meyer			

LOCATION SKETCH/COMMENTS — **SCALE:** NTS



PROJECT: Hudson Superfund Facility Siting	HOLE NO.: OM-GP01

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

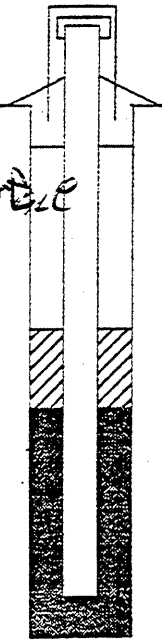
SCREENED WELL

Lock Number un numbered Master Lock

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

Stick-up 2.4 ft



GROUND SURFACE

Top of Grout NA ft

Sand From 2'-Surface

Top of Seal at 2 ft

Top of Sand Pack 4 ft

Top of Screen at 15 ft

Bottom of Screen at 25 ft

Bottom of Hole at 25' ft

Bottom of Sandpack at 25'

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole Diameter _____ inches

Cement/ Bentonite _____

Grout _____

Screen Slot Size .010"

Screen Type Slotted

☒ PVC 1" dia.

☐ Stainless Steel _____

Pack Type/Size:

☒ Sand No. 0

☐ Gravel _____

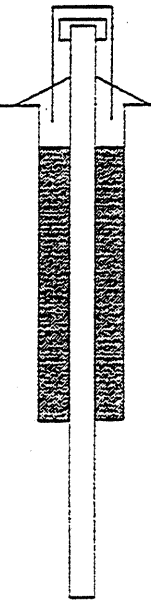
☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches



Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Robert W. Meyer

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP01

Project: Hudson Facility Siting | Inspector: Robert A Myer | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0'-4' CL	FID unless noted	NA		NA	BZ = Breathing Zone
	1		0ppm in BZ and off Soil Cores				
	2						4' Rec
	3						
	4	4' to 8' CL					
	5						4' Rec.
	6						O2/LEL Readings stable
	7						
	8						

PROJECT: Hudson Facility Siting | HOLE NO. OM-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4', Dry to moist light brown/gray CLAY with trace silt & Coarse sand, massive, low to moderate plasticity	⊗	⊗	○
	4' to 8' Dry to moist light brown/gray CLAY with trace silt in few horizontal seams (<1mm thick). No sand.	⊗	⊗	○

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP01

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 5 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 11'	FID unless noted.	NA		NA	3' Run, 8' to 11'
	9	CL	↑ Opm FID & PID in BZ and off Soil Cores				3' Rec.
	10						
	11	11' to 13'			Collect Sample OM-GP01-SB From 11' to 13' BGS Opm FID/PID @ 1002		Water From 11' to 13' BGS 3' Run
	12	SC					3' Rec
	13	13' to 14'					
	14	CL					3' Run 2.7' Rec wet 14' to 17'
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: OM-GP01

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 11' CLAY as above with 3 ≃½" VF Tan sand seams (wet) @ 10.6', 10.25' & 10.05' BGS.	○	⊗	⊗
	11' to 13' CLAY and VF Tan Sand, Water from 11' to 13' BGS	○	○	⊗
	13' to 14' CLAY, Low to Moderate Plasticity, massive, No sand, trace silt in tight seams <1mm thick, Moist	○	⊗	⊗
	14' to 17', CLAY, as above with one seam horizontal, ≃½" thick from 14.92' to 14.97' BGS filled with VF sand.	○	○	⊗
	wet clay 14' to 17'	○	○	⊗

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP01

Project: Hudson Facility Siting | Inspector: Robert a Mayer | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16			NA		NA	~~17'-20'~~ 3' Run 0' Rec.
	17	17' to 20'					
	18	No Recovery	0ppm FID+PID in BZ and off Soil cores				*Felt like Same wet CLAY while Pushing Sampler
	19						
	20	20' to 23' CL					3' Run 2.7' Rec.
	21						
	22						O2/LEL Readings Stable during Drilling.
	23	23' to 25' CL					2' Run 1.3' Rec.
	24						
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: OM-GP01

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
		○	○	⊗
		○	○	○
		○	○	○
	17' to 20' No Recovery; DRILLER Reported Soil felt like very mucky wet clay while pushing Rods	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	20' to 23' CLAY moderate to high plasticity few fine seams (≃1mm) of silt.	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	23' to 25' CLAY as above, with few fine seams (≃1mm) of silt/VF sands	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	B.O.H @ 25' BGS	○	○	○

Borehole Record for OM-GP0Z

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

District: Kansas City		Hole Number: OM-GP02
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc.	Sheet 1 of Sheets 8
3. Project: Hudson Facility Siting	4. Location: Moreau, NY	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Maroo core soil sampler w/dedicated Acetate sleeves using the discreet soil sampler.	8. Hole Location: ~60' North of large Concrete Pad.	
	9. Surface Elevation	
	10. Date Started: 10-2-03	11. Date Completed: 10-2-03
12. Overburden Thickness: >25.4'	15. Depth Groundwater Encountered: 3.75' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 18.42' BGS after 36 minutes	
14. Total Depth of Hole: 25.4' BGS	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals + Hg: ✓	Other (Specify): Pest/PCBs	Other (Specify): SVOCs	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert A Myers			

LOCATION SKETCH/COMMENTS **SCALE:**

See OM-GP01 Log

PROJECT Hudson Facility Siting **HOLE NO.** OM-GP01

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

Lock Number un-numbered / Master Lock

SCREENED WELL

Stick-up 2.32 ft

Top of Grout NA ft

Sand from 2' to surface

Top of Seal at 2 ft

Top of Sand Pack 4 ft

Top of Screen at 15.3 ft

Bottom of Screen at 25.3 ft

Bottom of Hole at 25.4 ft

Bottom of Sandpack at 25.3' BGS

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole 1.75 inches Diameter

Cement/ Bentonite _____

Grout _____

Screen Slot Size .010"

Screen Type slotted

☒ PVC 1" dia.

☐ Stainless Steel ____

Pack Type/Size:

☒ Sand No. 0

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP02

Project: Hudson Facility Siting | Inspector: Robert A Mayer | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 0.85' SM	FID unless Noted	NA		NA	
	1	0.85' to 4' CL gravelly clay (concrete debris) Fill material					
	2		Oppm in BZ & off soil cores				2.9' Rec.
	3						Water @ 3.75' BGS
	4	4' to 4.95' CC (Fill material)					
	5	4.95' to 8' CL					3.9' Rec
	6						
	7						
	8						

PROJECT Hudson Facility Siting | HOLE NO. OM-GP02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	0' to 0.85', moist gray/brown silt & VF Sand loam with some organic material, (wood chips, roots)	
	0.85' to 4.0' Silty CLAY with few VF to Fine Tan Sand and crushed concrete debris throughout (Fill material) Wet @ 3.75' BGS	
	4' to 4.95', Crushed stone debris and little clay, Saturated	
	4.95' to 8', Uniform Tan/Pink moderately Plastic Clay, Wet, No silt/sand seams.	

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP02

Project: Hudson Facility Siting | Inspector: Robert a Moyer | Sheet 5 of 5

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8'-12' CL	FID Unless Noted	NA	1345 Collect Sample OM-GP02-SB From 8' to 10' BGS	NA	
	9		FID = 0.46ppm From 8' to 9.15'				
	10		PID = 55ppm				4.0' Rec
	11		0ppm in BZ & off Soil Cores				
	12	12'-16' CL					
	13						
	14						4.0' Rec
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: OM-GP02

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 12', CLAY, moderate to high plasticity with Samp (40%) angular pebbles (Fine to med. sized) from 8' to 9.15' (Saturated) and fine (<1mm) silt seams from 10.8' to 12' BGS.	○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	12' to 16' Moderately Plastic CLAY with trace silt & Sand (VF to coarse), Wet but No water bearing seams.	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	✓

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP02

Project: Hudson Facility Siting | Inspector: Robert A Meyer | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20'		NA		NA	
		CL					
	17						4.0' Rec.
			0 ppm in BZ & off soil core				
	18						
	19						
	20	20' to 20.6'					
		CL					
		20.6' to 22.75'					
	21	CC					Saturated
							4.0' Rec
	22						
							O2/LEL stable during drilling
		22.75' to 25'					
	23	CL					
	24						
	25						0.85' Rec.

PROJECT: Hudson Facility Siting | HOLE NO.: OM-GP02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20', CLAY as above, wet but no water bearing seams.	○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	20' to 20.6', CLAY as above	○	○	○
		○	○	○
	20.6' to 22.75' Angular medium pebbles with some clay and few VF Sand/Silt, Saturated	○	○	○
		○	○	○
		○	○	○
		○	○	○
	22.75' to 25' Moderately plastic Clay with (3) few silt seams (≤ 1mm)	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	B.O.H @ 25	○	○	○
		○	○	○
		○	○	○
		○	○	○

Borehole Record for OM-GP03

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

District: Kansas City

Hole Number: OM-GP03

1. Company Name: Ecology & Environment Inc.
2. Drill Subcontractor: Northstar/Geologic Inc.
Sheet 1 of 8 Sheets

3. Project: Hudson Superfund Facility Siting
4. Location: Moreau N.Y.
5. Name of Driller: Jud Powell
6. Manufacturer's Designation of Drill: Geoprobe 5400
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" OD. Macro core Soil Sample Rods With dedicated acetate sleeves and discreet Soil Sampling System
8. Hole Location, Southwest ~60' ~~West~~ of large Concrete Pad
9. Surface Elevation:
10. Date Started: 10-2-03
11. Date Completed: 10-2-03
12. Overburden Thickness: >25'
15. Depth Groundwater Encountered:
13. Depth Drilled Into Rock: NA
16. Depth to Water and Elapsed Time After Drilling Completed: 11.22' BGS after 20 minutes
14. Total Depth of Hole: 25'
17. Other Water Level Managements (Specify):
18. Geological Samples: NA — Disturbed: — — Undisturbed: — — 19. Total Number of Core Boxes: NA
20. Samples For Chemical Analysis: VOC ✓ Metals ✓ Other (Specify): SVOC Other (Specify): Pest/PCB Other (Specify): CN 21. Total Core Recovery: NA %
21. Disposition of Hole: Backfilled — Monitoring Well (Temporary) — Other (Specify):
23. Signature of Inspector: Robert C. Morgan

LOCATION SKETCH/COMMENTS — SCALE: NTS

See Drilling Log for OM-GP01

PROJECT: Hudson Superfund Facility Siting — HOLE NO.: OM-GP03

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

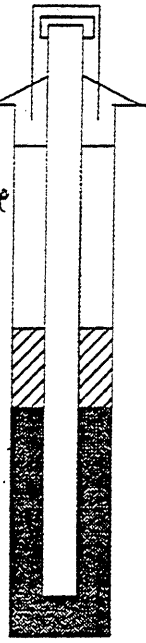
Lock Number un-numbered Master Lock

SCREENED WELL

Stick-up 2.3 ft

Inner Casing Material NA

Inner Casing Inside Diameter NA inches



GROUND SURFACE

Top of Grout NA ft
Sand from 2' to Surface

Top of Seal at 2 ft

Top of Sand Pack 4 ft

Top of Screen at 10 ft

Bottom of Screen at 25 ft

Bottom of Hole at 25 ft

Bottom of Sandpack at 25

Quantity of Material Used:
Bentonite Pellets

Cement

Borehole 1.75" inches Diameter

Cement/ Bentonite

Grout

Screen Slot Size .010"

Screen Type slotted
☒ PVC 1" diameter
☐ Stainless Steel

Pack Type/Size:
☒ Sand No. 0
☐ Gravel
☐ Natural

OPEN-HOLE WELL



Stick-up ft

Inner Casing Material

Inner Casing Inside Diameter inches

Outer Casing Diameter inches

Borehole Diameter ft

Bedrock ft

Bottom of Rock Socket/ Outer Casing ft

Bottom of Inner Casing ft

Corehole Diameter

Bottom of Corehole ft

**Note used 15' of screen from 10' to 25' BGS

NOTE: See pages 136 and 137 for well construction diagrams

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP03

Project: Hudson Facility Siting | Inspector: Robert a Mayer | Sheet 3 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 2.15' CC (Fill Material)	FID unless noted	NA		NA	
	1						
			0ppm in BZ & off soil core				
	2	2.15' to 4' CL					
	3						
	4	4' to 8' CL	0ppm 4-4.25' PID=1.9ppm FID=0.0ppm 0ppm FID/PID	4.25' to 5.1'	Collect Sample OM-GP03-5B @1535 From 4.25' to 5.75' BGS		Water @ 4.25' BGS
	5						
	6						
	7						
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: OM-GP03

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 2.15', Fill Material, Crushed limestone up to 1.5" long, with some moist Clay & trace Silt/VF Sand.	○	⊗	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	2.15' to 4' Moderately plastic light brown CLAY	○	○	○
	with numerous (≈ every 1.5") 1/8" seams	○	○	○
	of Silt/VF Sand. Silt seams are ~~water~~ NOT water	○	○	○
	bearing & Clay is ~~wet.~~ RTN moist to wet	○	○	○
		○	○	○
		○	⊗	⊗
		○	⊗	⊗
	4' to 8' Clay with silt/VF Sand seams as	○	⊗	⊗
	above, seams are water bearing from	○	○	⊗
	4.25' to 8' BGS.	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	⊗

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP02

Project: Hudson Facility Siting | Inspector: Robert a Myers | Sheet 5 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 11' CL		NA		NA	
	9		0 ppm in BZ & ~~off~~ soil cores				3' Run 3' Rec
	10						
	11	11' to 14' CL					
	12						3' Run 3' Rec
	13						
	14	14' to 17' CL					3' Run 2.1' Rec.
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: OM-GP02

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 11' low to Mod. plasticity CLAY with few horizontal seams (≤ 1mm) of silt or VF sand and zones containing ≈50% crushed stone (Limestone). The crushed stone zones are water bearing & Present from 8' to 8.6' BGS & 8.95' to 9.45' BGS.			
	11' to 14' BGS Clay as above with crushed stone zones from: 11.7' to 12.55' and 13.05' to 14' BGS:			
	14' to 17', moderately plastic gray/brown CLAY with trace silt. ~~In horizontal seam~~ RAM No horizontal silt seams.			

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP03
Project: Hudson Facility Siting
Inspector: Robert a Meyer
Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16		0ppm in BZ and off soil Cores	NA		NA	
	17	17' to 20' CL					
	18						3' Run
							2.9' Rec.
	19						
	20	20' to 23' CL					
	21						3' Run
							3' Rec
	22						
	23	23' to 25' CL					2' Run
	24						2' Rec
	25						

O²/LEL Readings stable during drilling

PROJECT: Hudson Facility Siting
HOLE NO.: OM-GP02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	17' to 20', Moderate to high plasticity gray/brown CLAY with trace silt, no horizontal silt seams, wet but not producing water			
	20' to 23' CLAY as above			
	23' to 25', CLAY as above			
	B.O.H @ 25'			

Borehole Record for 0m GP04

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

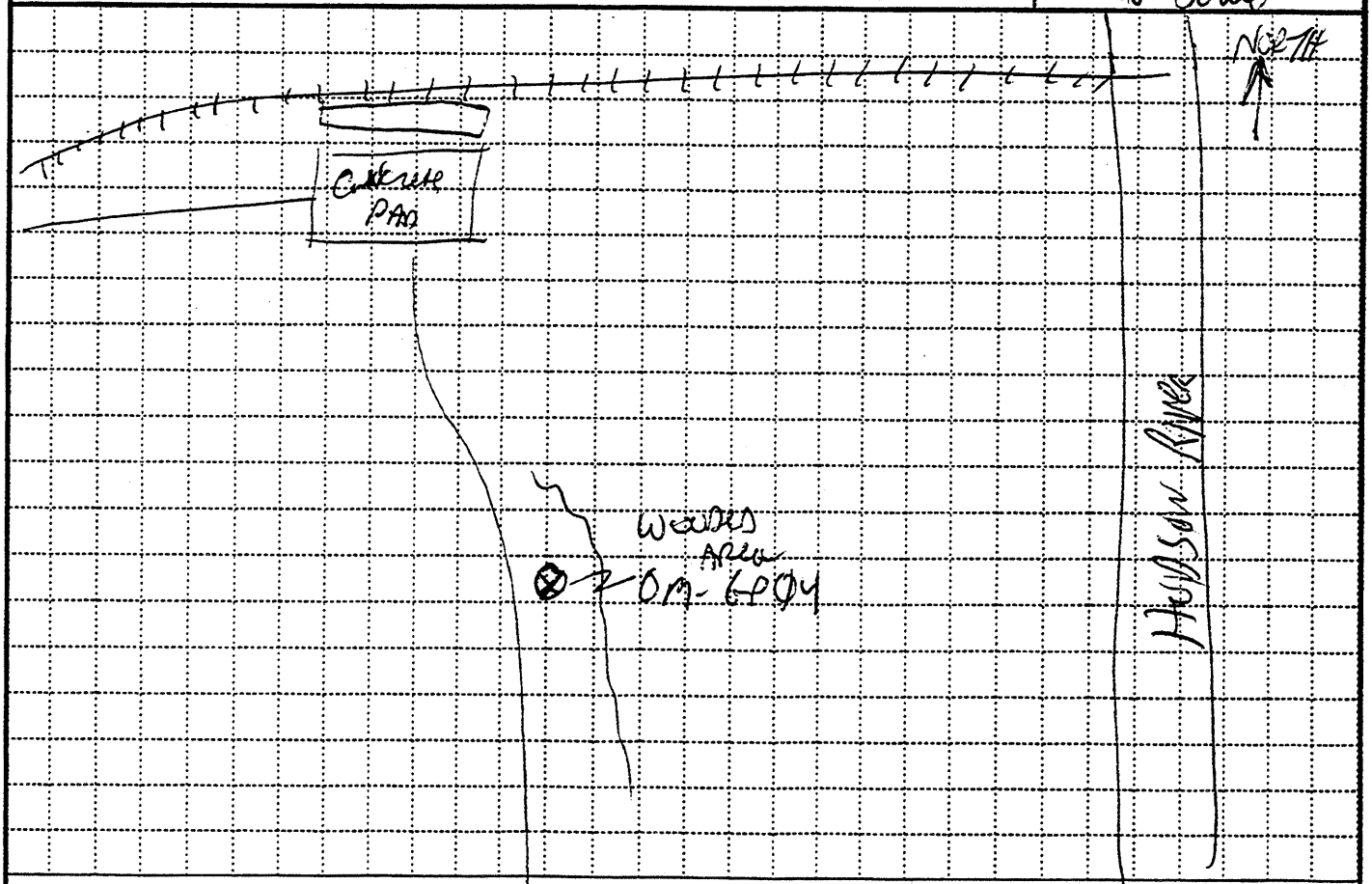
District: Kansas City		Hole Number: GP04
1. Company Name: Ecology and Environment	2. Drill Subcontractor: Geologic, Inc	Sheet 1 of 10 Sheets
3. Project: Hudson River PCB / Old Moreau	4. Location: Moreau, New York	
5. Name of Driller: Jeff Thew / ~~Dennis Hewitt~~ Joe Menzel (2)	6. Manufacturer's Designation of Drill: Geoprobe MP-8 & MV	
7. Sizes and Types of Drilling and Sampling Equipment: Macrocore Sampler on Geoprobe; 1 7/8" Core Hole; Barrel & 2" Hole	8. Hole Location: On Hill West of River	
	9. Surface Elevation:	
	10. Date Started: 10/2/03	11. Date Completed: 10/2/03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 12.8'	
13. Depth Drilled Into Rock: N/A	16. Depth to Water and Elapsed Time After Drilling Completed: 12.9'	
14. Total Depth of Hole: 25'	17. Other Water Level Managements (Specify): Not Recorded	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
	0	0	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
1	OM-GT04	OM-GT04	OM-GT04	SVOCs	Metals	0 %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
		1 ✓		[signature]

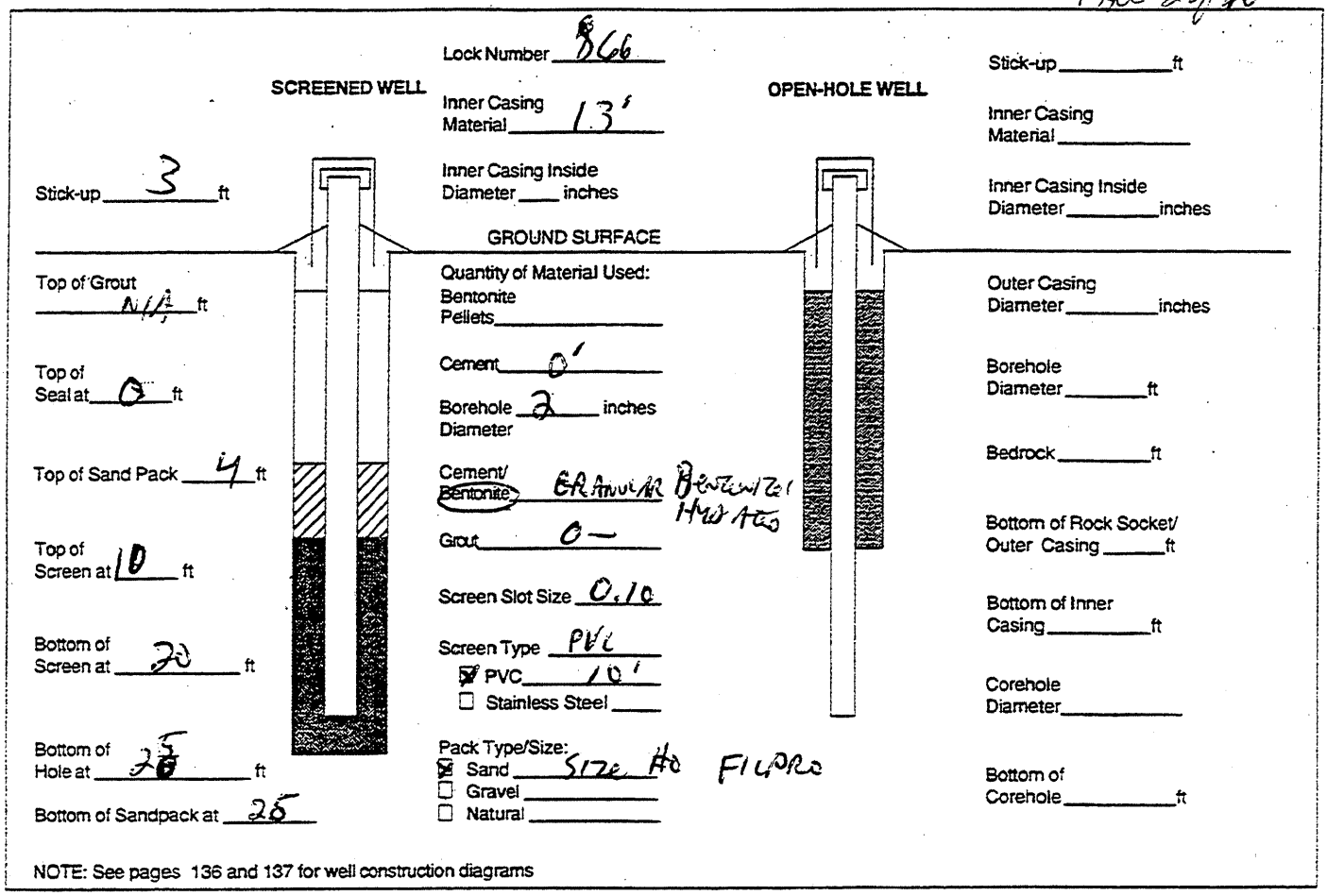
LOCATION SKETCH/COMMENTS SCALE: Not to Scale



PROJECT	HOLE NO.
Hudson River PCB Facility Siting	OM-GP04

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM



NOTE: See pages 136 and 137 for well construction diagrams

SATURATED ZONE IS IN THE 12.8 → 14' ZONE, SOILS ARE DARK BROWN THIN, SILT IS AN AQUITARD. TEAM DECIDED BEST PLACE FOR A SCREEN IS IN THE 10'-20' INTERVAL, NOT THE 15'-25' INTERVAL.

- CONSTRUCT WELL USING 1" PVC; 10' OF SCREEN AND 17' OF RISER.
- SAND PACK

DECON WATER IS FROM WATER AT THE ENERGY PARK SITE TAP

- ALL BREATHING ZONE TVA-1000 WERE < 1 ppm
- USED TVA 1000 # 706479-383
- USED GASTECH GT-402 # 0117048

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP04

Project: Hudson River PCB Project Old Moreau Facility Stony

Inspector: Jon Nickerson

Sheet 3 of 10 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
0				NA		N/A	95%
		SP					
1							
		CH					
2							
		GM					
			FID=0 0.5=PID				
4							
							80% Rec
5							
6			FID= 0.5 PID=0.1				
7							
8		CL					

PROJECT: Hudson River PCB Facility Project

HOLE NO.: OM-GP04

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0-1.5': TAN F.g SILTy SAND; DAMP; Low Cohesion, Loose DENSITy	⊘	○	○
	1.5'-1.8': Brown, TIGHT CLAY; BLACK MOTTLING; ROOTy & HIGHLY @ SLIGHTLY PLASTIC; MODERATELY Cohesive. FIRM	⊘	○	○
	1.8'→4' gravelly SILTy BLACK SAND. CONTAINS WOOD CHIPS; ANGULAR AND ROUNDED gravel. THIS APPEARS TO BE RIVER DREDGE SPOILS	⊘	○	○
		○	○	○
	4'-7.6': SAME gravelly SILTy SAND; BLACK; ANGULAR INCLUSIONS AND ROUNDED INCLUSIONS 2" THICK ROCK @ 6.9"	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	7.6'→8': BROWN TIGHT CLAY; SILTy; Low Cohesion, VERY Low PLASTICITY; DENSE. MOIST	○	○	○
		○	○	○
		○	○	○
		○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP04

Project: Hudson River PCB Facility Siting, Old Moreau

Inspector: Jon Nickerson

Sheet 5 of 18

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) PM	Geotech Sample or Core Box No. (E) NA	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	10					N/A	
	9	SM	FID = 0.2 PID = 0.6				100% Rec
	10						
	11						
	12	CL					
					FID = 16.3 PID = 0.6		
	13	ML	FID = 0.3 PID = 0.1	10:15	Samples 12.8-14.8 # OM-GP04-SB LAB # ~~B4412~~ B14X2		100% Rec
	14						
	15						
	16						

PROJECT: Hudson River PCB Facility

HOLE NO.: OM-GP04

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8'-11.6': Tight Brown silt; Hard; Damp to 9'; water	X		
	Table appears to be @ 9'. ~~No~~ Inclusions; Black	X		
	Mottling. Angular pebble	X		
		X		
		X		
			X	
			X	
			X	
			X	
			X	
			X	
	11.6-12'; Tan Tighter silt; Contains <10% clay;		X	
	No inclusions		X	
			X	
	12' → 12.8': Same silt, then grades to		X	
	Greenish ~~Dry~~ wet silt, Hard, No inclusions		X	
	12.8 → 16': Greenegray silt			X
				X
*	Sample 12.8 → 14.8' BGS; Submit for TCL VOC; SVOC,			X
	PCB/Pesticides; Tal metals, Tal cyanide			X
	Standing water on top of 12.8 level, So we collected			X
	Soil sample for analysis @ top of water table		X	
			X	
	Note. Water is standing on tight silt; Lower end		X	
	of 12'-16' (in 15' zone) is ~~Dry~~ Damp		X	
			X	
	Silt is only damp at 14'.		X	
			X	
			X	
			X	

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP04

Project: Old Moreau / Hudson River PCB Facility Siting

Inspector: Jon Nickerson

Sheet 7 of 20

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
		ML	PID = 0.2 FID = 0.1	N/A		N/A	
	17						50% Rec. Native 50% Slough
	18						
		SM					
	19		PID = 0.2 FID = 0				50% Native Rec. 50% Slough
	20						
	21						
	22	~~SM~~, ~~FAN~~ ML	No Sample				No Recovery
	23						
	24						

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: OM-GP04

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16'-19 Depth intervals not to 20'; Drillers noted slough		✓	
	in Bore Hole, didn't want to overstuff Core Barrel		✓	
	16'-18.4': Greenish-gray silt; ~~saturated~~ moist; no inclusions		✓	
	Hard; No plasticity		✓	
	18.4-21.4' F.g. green sand w/ minor silt;		✓	
	Hard		✓	
			✓	
			✓	
			✓	
			✓	
			✓	
			✓	
			✓	
			✓	
			✓	
			✓	
			✓	
			✓	
			✓	
			✓	
			✓	
	21.4' Continued silty sand (SM) but abruptly		✓	✓
	changes at 21.4 to ~~silty~~ clay silt w/ minor		✓	✓
	F.g. sand, tan ~~dark~~ (moist) crumbly; wet		✓	✓
	at tip			✓
	No recovery 22' → 25'.			✓
				✓
				✓
				✓
				✓
				✓

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-6-PB4

Project: Hudson River PCB Facility Siting — Old Moreau

Inspector: Jon Nickerson

Sheet: 9 of 18

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
		No Recovery	Down Hole FID 0.1 ppm PID = 0 ppm	N/A		N/A	No Recovery
	25	Bottom of Hole					

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: OM-6PB4

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	No Recovery 21' → 25'	○	○	○

Borehole Record for DM-GP05

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

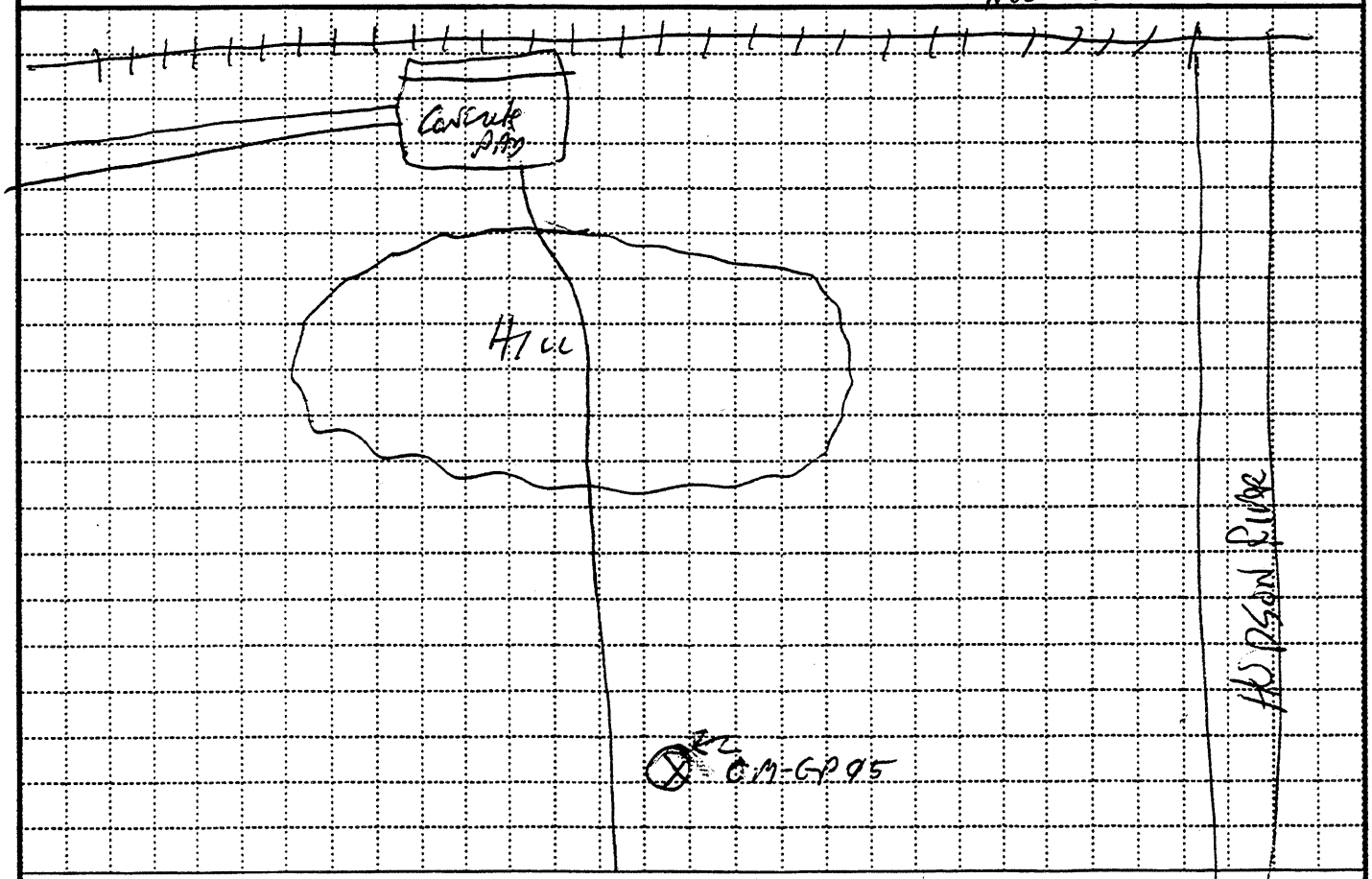
District: Kansas City		Hole Number: OM-GP05
1. Company Name: Ecology + Environment, Inc	2. Drill Subcontractor: Geologic, Inc	Sheet 1 of 10 Sheets
3. Project: Old Moreau	4. Location: Town of Moreau, NY	
5. Name of Driller: Jeff Thew / Dennis Honour	6. Manufacturer's Designation of Drill: ~~CME 45C~~ 8-mu Geoprobe	
7. Sizes and Types of Drilling and Sampling Equipment: Geoprobe w/ Macrocore sampler; 1 7/8" I.D.	8. Hole Location: At Bottom of Hill, West of River	
	9. Surface Elevation:	
	10. Date Started: 10/2/03	11. Date Completed: 10/2/02
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 13.4' BGS	
13. Depth Drilled Into Rock: N/A	16. Depth to Water and Elapsed Time After Drilling Completed: 13.22 Through Casing; 1/2 hour After Construction	
14. Total Depth of Hole: 25 Feet	17. Other Water Level Managements (Specify): Not Recorded	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
0	0	0	N/A

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	2	2	Cyanide 2	PCB 2	SVOCs (2)	0 %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	0	✓	—	Jon Ferreira

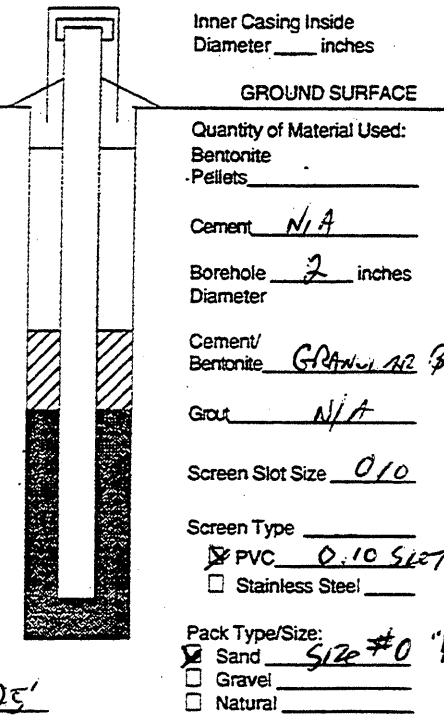
LOCATION SKETCH/COMMENTS SCALE: Not to scale



PROJECT	HOLE NO.
Hudson River PCB Facility Siting	OM-GP05

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM



SCREENED WELL

Lock Number #370 (MASTER)

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

Stick-up 3.8' ft

GROUND SURFACE

Top of Grout N/A ft

Top of Seal at GRADE ft

Top of Sand Pack 4 ft

Top of Screen at 15' ft

Bottom of Screen at 25' ft

Bottom of Hole at 25' ft

Bottom of Sandpack at 25'

Quantity of Material Used:

Bentonite Pellets _____

Cement N/A

Borehole 2 inches Diameter

Cement/ Bentonite GRANULAR BENTONITE

Grout N/A

Screen Slot Size 0.10

Screen Type _____

☒ PVC 0.10 SLOT

☐ Stainless Steel ____

Pack Type/Size:

☒ Sand SIZE #0 "FILPRO" BRAND

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

- Well construction as per work plan. Added a filter sock over screen to minimize entry of fine particles into open bore.

- All TVA-1000 readings w/in BZ were 27 ppm.

- Collected sample OM-GP05-SB1 from the 11'-13' BGS interval @ 13:55. Sample will be submitted for TCL VOCs, SVOCs, PCBs, Pesticides, and TAL metals and Cyanides.

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31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP05

Project: OLD MOREAU

Inspector: JON NICKERSON

Sheet 3 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No.* (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0		ppm	N/A		N/A	
	1	ML	0.2 PID 0.1 FID				
	2	GM					100% Rec.
	3	ML					
	4		PID = 0.3 FID = 0.1				
	5						
	6	COLOR CHANGE					100% Rec
	7	ML					
	8	SM					

PROJECT: HUDSON RIVER PCB FACILITY SITING

HOLE NO.: GM - GP05

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0-0.9'	TAN SILT; DAMP; VERY SOFT; NO PLASTICITY; MINOR FINE SAND	●	○	○
0.9-2.8	GRAVELLY SILTY SAND; BLACK; CONTAINS ANGULAR AND ROUNDED INCLUSIONS; APPEARS TO BE ORANGE SPALLS FROM HISTORIC HUDSON RIVER BRICKS; ONE CLAY RICH ZONE @ 1.9'→2.1'; NOT NATIVE; FILL	●	○	○
2.8→4.9	DARK BROWN SILT; SOFT; LOW COHESION; NO PLASTICITY; NO INCLUSIONS; DAMP; VERY CRUMBLY WHEN SQUEEZED	●	○	○
4.9→6.2	SAME TEXTURE, BUT LIGHTER TAN	●	○	○
6.2→7.5	CLAY SILT; VERY SOFT; NO COHESION; DAMP; LIGHT TAN	●	○	○
7.5→9cF.g.	TAN TAN SILTY SAND; DAMP; SILT ≈25%; VERY LITTLE COHESION	●	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP05

Project: OLD MOREAU

Inspector: JON NICKERSON

Sheet 5 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
				N/A		N/A	
	9	SW					
	10		PID = 3.2				75% Rec.
	11		FID = 0.42 @ 10.5' BGS		Sample OM-GP05-SB-F		
	12		Sample: PID = 3.2 FID = 0.42				
	13						85% Rec.
	14		PID = 2.4 FID = 0.35				
	15	SP					
	16						

PROJECT: HUDSON RIVER PCB FACILITY SITING

HOLE NO.: OM-GP05

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
9.0 → 15.1	TAN well graded medium-grained SAND, grading to COARSE SAND at Around 11.7 → 12' COARSE SAND CONTAINS ROUNDED PEBBLE INCLUSIONS (<10%) UP TO 5 mm IN DIAMETER DRY NO COHESION SOFT	X		
	WATER @ 13.4' BGS			X
	SAMPLE: AT 13:55; 11'-13' BGS OM EP05-SB1			X
15.1' → 17.3	GRAVELLY SAND, BROWN, ~~SUBANGULAR~~ (2) SUBROUNDED PEBBLES to 2.5 cm; BLACK GRAVEL FRAGMENTS (ANGULAR) to 3 mm; ROUNDED INCLUSIONS ≈ 15% of SOIL			X

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP05
Project: Old Moreau
Inspector: Jon Nicholson
Sheet 7 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	17	SP	0.95 PID FID = 0.1	N/A		N/A	100% Rec; Drilled Only 3' Due to Soft Sands
	18	SW					
		SP	PID = 1.1 FID = 0.1		17.0 - 18.6' OM GP05 SB-12		
	19		PID = 1.0 FID = 0.0				
	20						100% Rec; Drilled Only 3 Feet Due to Flowing Sands
		SP					
	21						
		SM					
	22						
			0.65 PID 0.4 FID				100%
	23						
	24						

PROJECT: Hudson River PCB Facility Siting
HOLE NO.: OM-GP05

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	Gravelly sand, as described above, continued to 17.3' BGS			
17.3'-18	Brown Mg. sand; no gravel, no inclusions, soft; low density			
18-20.9'	Gravelly brown sands w/ angular inclusions to 1.5cm. in diameter; saturated			
	* Red staining 18.4' → 18.6' BGS; staining appears to be an iron stain			
	Second sample: 17'-18.6'; Time: 14:47 # OM-GP05-SB2			
20.9' → 21.5	Gray gravelly sand w/ angular inclusions; saturated; no cohesion; inclusions are rounded; up to 5mm diameter			
21.5 → 25	Gray sandy silt; sand is v.f.g. moderately cohesive, low plasticity			

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OM-GP05

Project: Old Moreau

Inspector: Jon Nickerson

Sheet 9 of 10 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
		Sm	See Above, 21'-24'	N/A	None	N/A	50% Rec.
	25						
			Bottom of Hole				

PROJECT: Hudson River PCB Facility Siting

HOLE NO. OM-GP05

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	24'-25': As described on previous page	○	○	⊗
		○	○	○
		○	○	○
		○	○	○

Direct Push Technology (DPT)
Bore Logs From The
Georgia Pacific/New York State Canal Corporation Site

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Borehole Record for GBGP01

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

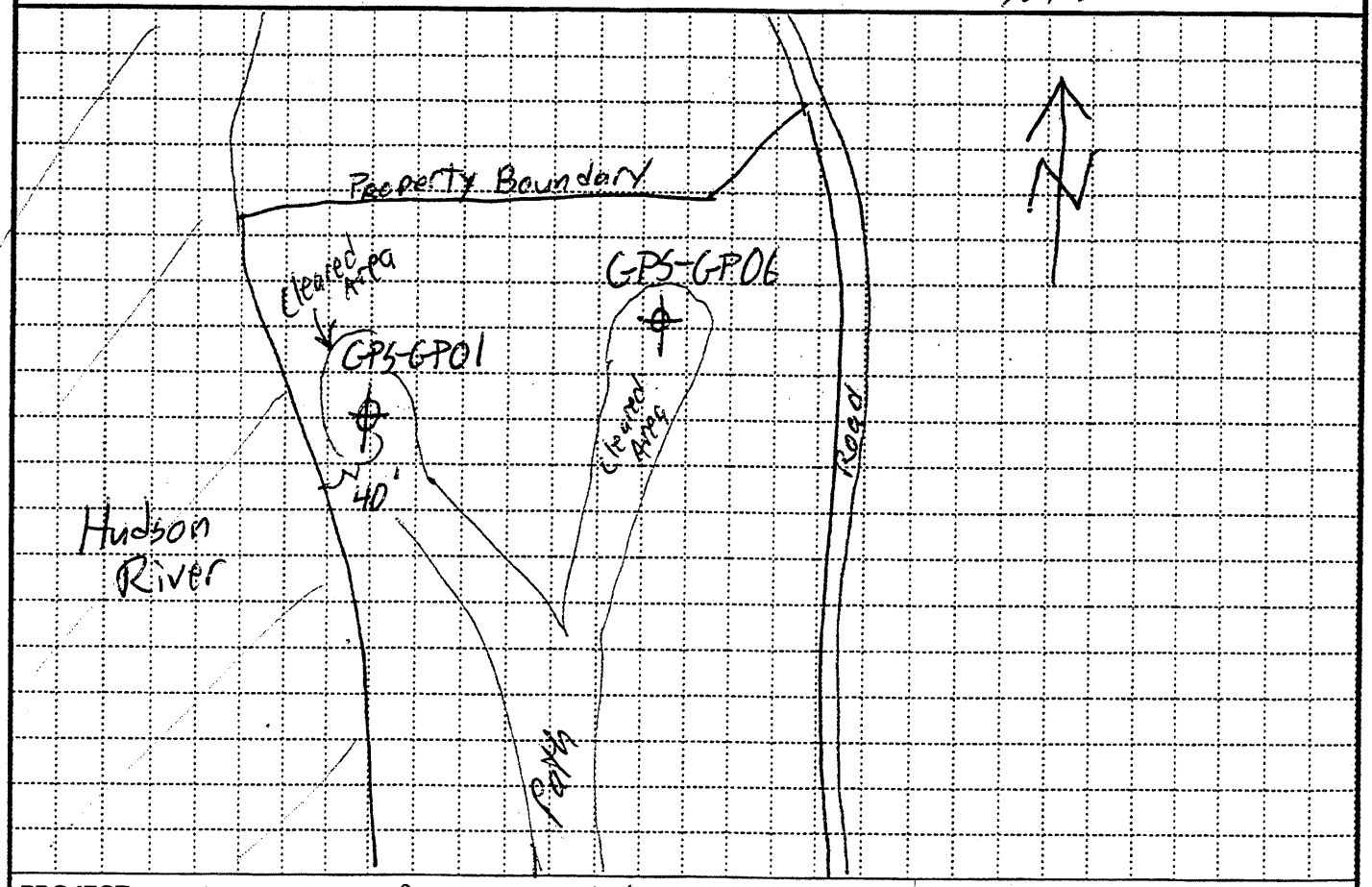
31 AUG 94

HTRW DRILLING LOG

	District: Kansas City		Hole Number: GP-GP01
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc.		Sheet: 1 of Sheets: 8
3. Project: Hudson Superfund Facility Siting		4. Location: Greenwich, NY	
5. Name of Driller: Jud Powell		6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Macro core Geoprobe rods with acetate sleeves and discreet soil sampling system		8. Hole Location: North end of site, 40' East of Hudson River	
		9. Surface Elevation	
		10. Date Started: 10-9-03	11. Date Completed: 10-9-03
12. Overburden Thickness: 24.9'		15. Depth Groundwater Encountered: 6.6' BGS	
13. Depth Drilled Into Rock: ~~NA BGS~~ 0.1'		16. Depth to Water and Elapsed Time After Drilling Completed: 6.65' BGS @ 12 minutes	
14. Total Depth of Hole: 25'		17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOC	Other (Specify): Pest/PCB	Other (Specify): CN	21. Total Core Recovery: NA%	
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert A Mayer			

LOCATION SKETCH/COMMENTS SCALE: NTS



PROJECT: Hudson Superfund Facility Siting		HOLE NO.: GP-GP01	

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

Lock Number unnumbered Master Lock

SCREENED WELL

Inner Casing Material NA

Stick-up 3.15 ft

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Top of Grout NA ft

Quantity of Material Used:
Bentonite Pellets

Top of Seal at 2 ft

Cement

Borehole Diameter 1.75' inches

Top of Sand Pack 4 ft

Cement/ Bentonite

Top of Screen at 15 ft

Grout

Screen Slot Size .010"

Bottom of Screen at 25 ft

Screen Type slotted
☒ PVC Sch. 40, 1" dia.
☐ Stainless Steel

Bottom of Hole at 25 ft

Pack Type/Size:
☒ Sand No. 0
☐ Gravel
☐ Natural

Bottom of Sandpack at 25'

OPEN-HOLE WELL

Stick-up ft

Inner Casing Material

Inner Casing Inside Diameter inches

Outer Casing Diameter inches

Borehole Diameter ft

Bedrock ft

Bottom of Rock Socket/ Outer Casing ft

Bottom of Inner Casing ft

Corehole Diameter

Bottom of Corehole ft

NOTE: See pages 136 and 137 for well construction diagrams

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GP-GP01

Project: Hudson Facility Siting | Inspector: Robert A Meyers | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' Fill	FID Unless noted	NA		NA	
	1		0.4 ppm FID 0.1 ppm PID				4' Run 1.9' Rec
	2						
	3						
	4	4' to ≃ 5.5' fill					
	5	5.5' to 8' ML	40 ppm FID 1 ppm PID				4' Run 3.4' Rec
	6						Water @ 6.6' BGS
	7						
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: GP-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4', Fill Material, Ash/Cinders and decomposing Wood shavings with some silt, VF to Coarse sand and fine to med. pebbles.			
	4' to 5.5' Fill as above.			
	5.5' to 8', Clayey light gray silt with little VF sand, slightly plastic. Water @ 6.6' BGS			

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GP-GP01

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 5 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 12' Fill/SM	↑ 20ppm FID ≈2ppm PID	NA		NA	
	9						4' Run 3.8' Rec
	10		↑ 65ppm FID ≈15ppm PID		0900 Collect GPS-GP01-SB from 10' to 12' BGS		
	11						
	12	12' to 16' Fill/SM					4' Run 2.9' Rec
	13		32ppm FID 6ppm PID				
	14						
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: GP-GP01

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 12', Wet, Gray silt and VF to Fine sand with decomposing wood shavings,	○	○	⊗
	12' to 16', Silty VF to Fine Sand and wood shavings as above	○	○	⊗

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GP-GP01

Project: Hudson Facility Siting | Inspector: Robert A Myer | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20'	↑	NA		NA	
		Fill/SM	26ppm FID				4' Run
	17		0.2ppm PID				2.7' Rec
	18						
	19						
	20	20' to 24'	↓				4' Run
		SM	≈17ppm FID				3.3' Rec
	21		≈0.3ppm PID				
	22						
	23						
	24	24' to 25'	≈4ppm FID				1' Run
		SM	0ppm PID				0.45' Rec
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: GP-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 18.7', Silt/Sand and wood shavings as above	○	○	✓
	18.7' to 20', VF to Fine Sand with 25% Silt, No Fill (Natural)	○	○	○
	20' to 24', VF to Fine Sand with few Silt	○	○	○
	24' to 24.9', Same as above	○	○	○
	24.9' to 25', Weathered Gray Shale (Top of ~~Bedrock~~ REFUSAL)	○	○	✓

B-197

B.O.H @ 25' BGS

Borehole Record for GPS-GP02

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

HTRW DRILLING LOG

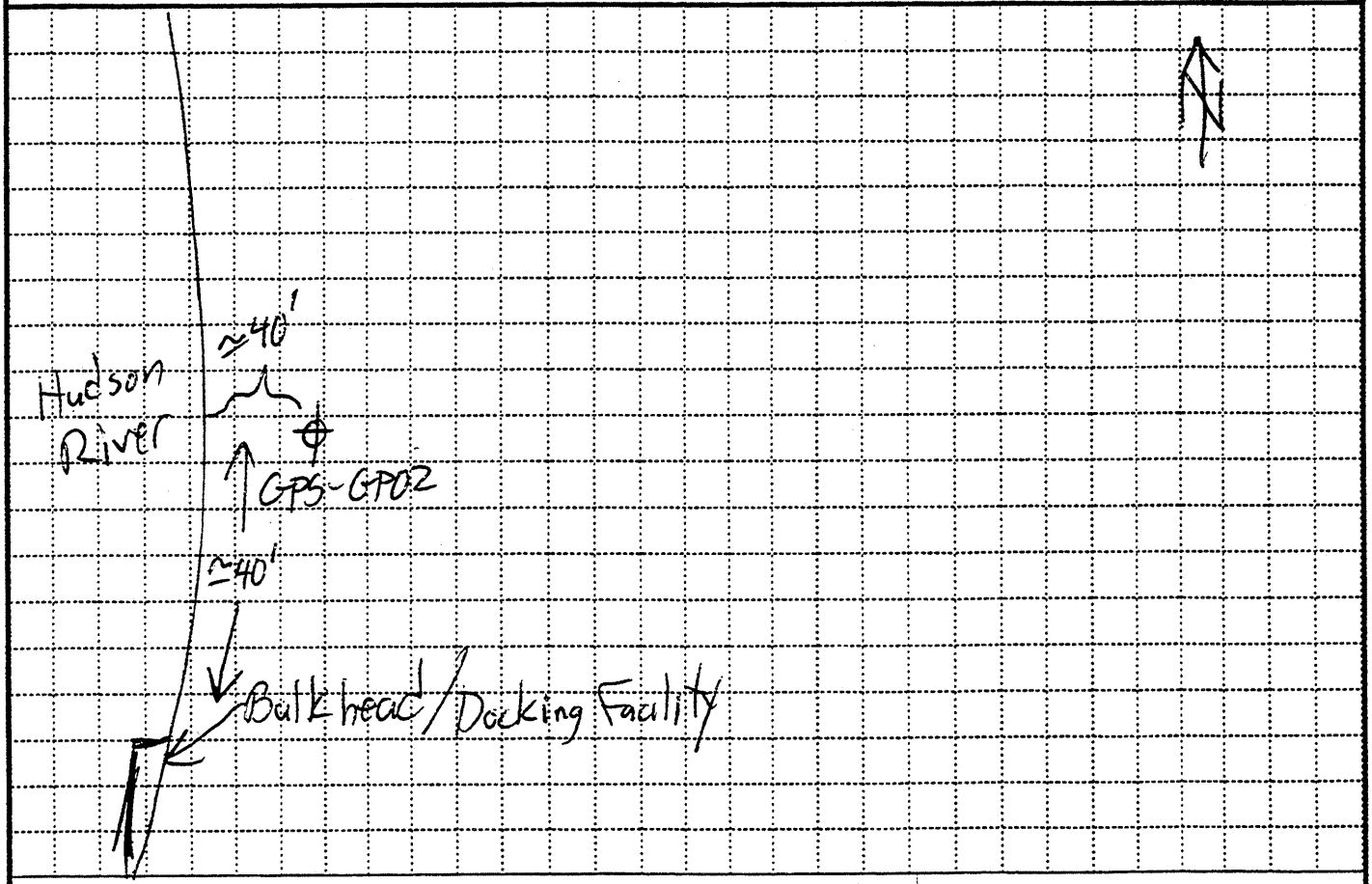
District: Kansas City

Hole Number: GPS-GP02

1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar / Geologic Inc.
Sheet: 1 of 8 Sheets	
3. Project: Hudson Superfund Facility Siting	4. Location: Greenwich, NY
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Geoprobe Macro-Core Rods with acetate sleeves and discreet sampling system.	8. Hole Location: North section of site, ~40' from River (East)
	9. Surface Elevation
	10. Date Started: 10-8-03 / 11. Date Completed: 10-8-03
12. Overburden Thickness: 9.1'	15. Depth Groundwater Encountered: 7' BGS
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 6.35' BGS after 18 minutes
14. Total Depth of Hole: 9.3'	17. Other Water Level Managements (Specify)

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOC's	Other (Specify): Pest/PCBs	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert A Mayo			

LOCATION SKETCH/COMMENTS SCALE: NTS



PROJECT: Hudson Superfund Facility Siting

HOLE NO.: GPS-GP02

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

Lock Number unnumbered Master lock

SCREENED WELL

Stick-up 2.5 ft

Top of Grout _____ ft

Sand 0.5' to surface

Top of Seal at 0.5 ft

Top of Sand Pack 3 ft

Top of Screen at 4.3 ft

Bottom of Screen at 9.3 ft

Bottom of Hole at 9.3 ft

Bottom of Sandpack at 9.3' BGS

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets _____

Cement _____

Borehole 1.75 inches Diameter

Cement/ Bentonite _____

Grout _____

Screen Slot Size .010"

Screen Type slotted

☒ PVC sch. 40, 1" dia.

☐ Stainless Steel ____

Pack Type/Size:
☒ Sand No. 0
☐ Gravel _____
☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP02

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 3 of 5

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' Fill	FID Unless Noted	NA		NA	4' Run 3.1' Rec
	1						
	2		0 ppm in BZ & off soil				
	3						
	4	4' to 5' ML & Fill					4' Run 3.5' Rec.
	5						
	6						
	7				1700 Collect Sample GPS-GP02-5B 7' to 9'		Water @ ~7' BGS
	8						
	9						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP02

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4', to 0.2' Silt loam Topsoil.	⊗	○	○
	0.2' to 4' black Fill Material (Cinders)	○	○	○
	Silt ~~to~~ and VF to coarse Sand sized ~~particles~~	○	○	○
	with angular fine to med. pebble sized	○	○	○
	particles.	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	4' to 8' Fill Material as above with Silt and trace	○	○	○
	fine pebbles from 4.4' to 6.1' BGS.	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		⊗	○	○
		⊗	○	○
		○	⊗	○
		○	⊗	○
		○	⊗	○
		○	⊗	○
	Water @ 7' BGS	○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗
		○	○	⊗

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP02

Project: Hudson Facility Siting | Inspector: Robert A Meyers | Sheet 5 of 6

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 9.1' SM/CL	0ppm in BZ & Soil core	NA	See Page 3 of 6	NA	1.3' Run 1.3' Rec.
	9	9.1' to 9.3 Weathered Shale					Refusal @ 9.3' BGS
		Shale Bedrock Refusal @ 9.3' BGS					
	10						
	11						
	12						
	13						
	14						
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP02

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 8.7', light brown silt & VF Sand with trace clay;	○	○	⊗
		○	○	⊗
	8.7' to 9.1', Silty light brown CLAY, Wet/Confining layer	○	○	⊗
	9.1' to 9.3', Weathered dark gray shale, DRY	⊗	○	○
	Refusal @ 9.3' BGS	○	○	○
		○	○	○
	B.O.H @ 9.3' BGS	○	○	○
		○	○	○
		○	○	○

Borehole Record for GP5-GP03

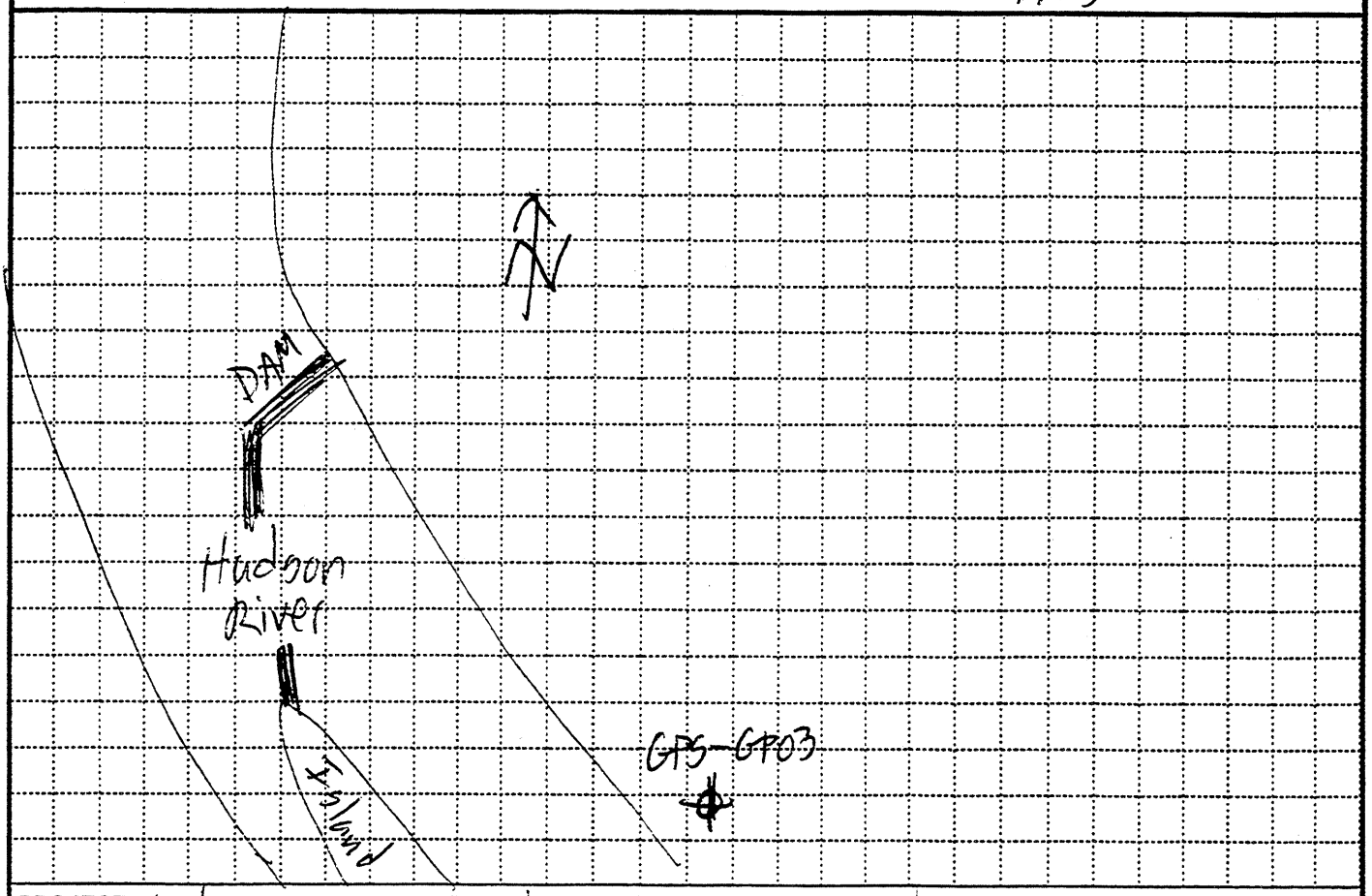
- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

HTRW DRILLING LOG

	District: Kansas City		Hole Number: GPS-GP03
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc.		Sheet: 1 of 8
3. Project: Hudson Superfund Facility Siting		4. Location: Greenwich NY	
5. Name of Driller: Jud Powell		6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" OD. Geoprobe Macro-Core Rods with acetate sleeves		8. Hole Location: West Edge (Central) of site, South of Dam. (40' from River)	
		9. Surface Elevation	
		10. Date Started: 10-8-03	11. Date Completed: 10-8-03
12. Overburden Thickness: >25.5'		15. Depth Groundwater Encountered: 9.5' BGS	
13. Depth Drilled Into Rock: NA		16. Depth to Water and Elapsed Time After Drilling Completed: 14.36' after 18 minutes.	
14. Total Depth of Hole: 25.5'		17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA	
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOCs	Other (Specify): Pest/PCBs	Other (Specify): CN	21. Total Core Recovery: NA %
21. Disposition of Hole	Backfilled	Monitoring Well (Temporary)	Other (Specify)	23. Signature of Inspector: Robert A Meyer		

LOCATION SKETCH/COMMENTS **SCALE:** NTS



PROJECT Hudson Superfund Facility Siting **HOLE NO.** GPS-GP03

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

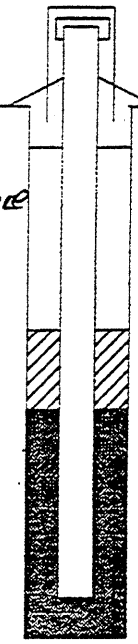
SCREENED WELL

Lock Number Unnumbered Master Lock

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

Stick-up 2.05 ft



GROUND SURFACE

Top of Grout NA ft

Sand 2' to surface

Top of Seal at 2 ft

Top of Sand Pack 4 ft

Top of Screen at 15.5 ft

Bottom of Screen at 25.5' ft

Bottom of Hole at 25.5 ft

Bottom of Sandpack at 25.5'

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole Diameter 1.75 inches

Cement/ Bentonite _____

Grout _____

Screen Slot Size .010"

Screen Type slotted

☒ PVC sch. 40, 1" dia.

☐ Stainless Steel _____

Pack Type/Size:

☒ Sand No. 0

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Robert A Moyer

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP03

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 3 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' Fill (Ash)	FID Unless noted	NA		NA	4' Run 2.4' Rec
	1						
	2						
	3						
	4	4' to 8' Fill (Ash)					4' Run 0.75' rec.
	5						
	6						
	7						
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4', Fill Material (Ash) with 0.15' clayey Brown silt @ Surface, and some rounded fine pebbles/Sand throughout	✓		
	4' to 8' Fill Material (Ash) with some Sand and fine rounded pebbles			

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number GPS-GP03

Project Hudson Facility Siting | Inspector Robert A Magar | Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 9.3' Fill	0 ppm BZ & Soil	NA		NA	
	9	9.3' to 12' ML		9.5'	1520 Collect GPS-GP03-SB Plus Duplicate 9.5' to 12.0'		Water @ 9.5'
	10		~50 ppm FID ~0.5 ppm PID				
	11						
	12	12' to 16 SM/CC	PID = 0.3 ppm FID = 0 ppm				4' Run 4' Rec
	13						
	14						
	15						
	16						

PROJECT Hudson Facility Siting | HOLE NO. GPS-GP03

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 9.3' Fill (Ash) as above, dry to Moist	⊗	⊗	○
	9.3' to 12', Clayey Silt and VF Sand with trace Fine rounded pebbles	○	○	⊗
	Water @ 9.5' BGS	○	○	○
	12' to 16', Gray Silt & VF Sand with some coars sand and fine Pebbles & trace clay	○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP03

Project: Hudson Facility Siting | Inspector: Robert a Myer | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20'	↑	NA		NA	
		SM/CC	31 ppm PID				
			0.3 PID				
	17						4' Run
							4' Rec.
	18						
			0.3 ppm PID				
			0 ppm FID				
	19		↓				
	20	20' to 24'					
		ML	0.4 ppm PID				
			0.2 ppm FID				4' Run
	21						4' Rec.
	22						
			30 ppm FID				
			0.2 ppm PID				
	23						
	24	24' to 25'					1' Run
		ML	0 ppm FID/PID				1' Rec.
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20' Gray Silt and VF Sand with some coarse sand and fine rounded pebbles, and trace clay	○	○	⊘
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	20' to 24' Gray Silt with trace VF Sand, Clay & Rounded fine/med Pebbles & weathered shale,	○	○	⊘
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	24' to 25' Silt as above	○	○	○
		○	○	○
	B.O.H @ 25' BGS	○	○	○

Borehole Record for GPS-GP04

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

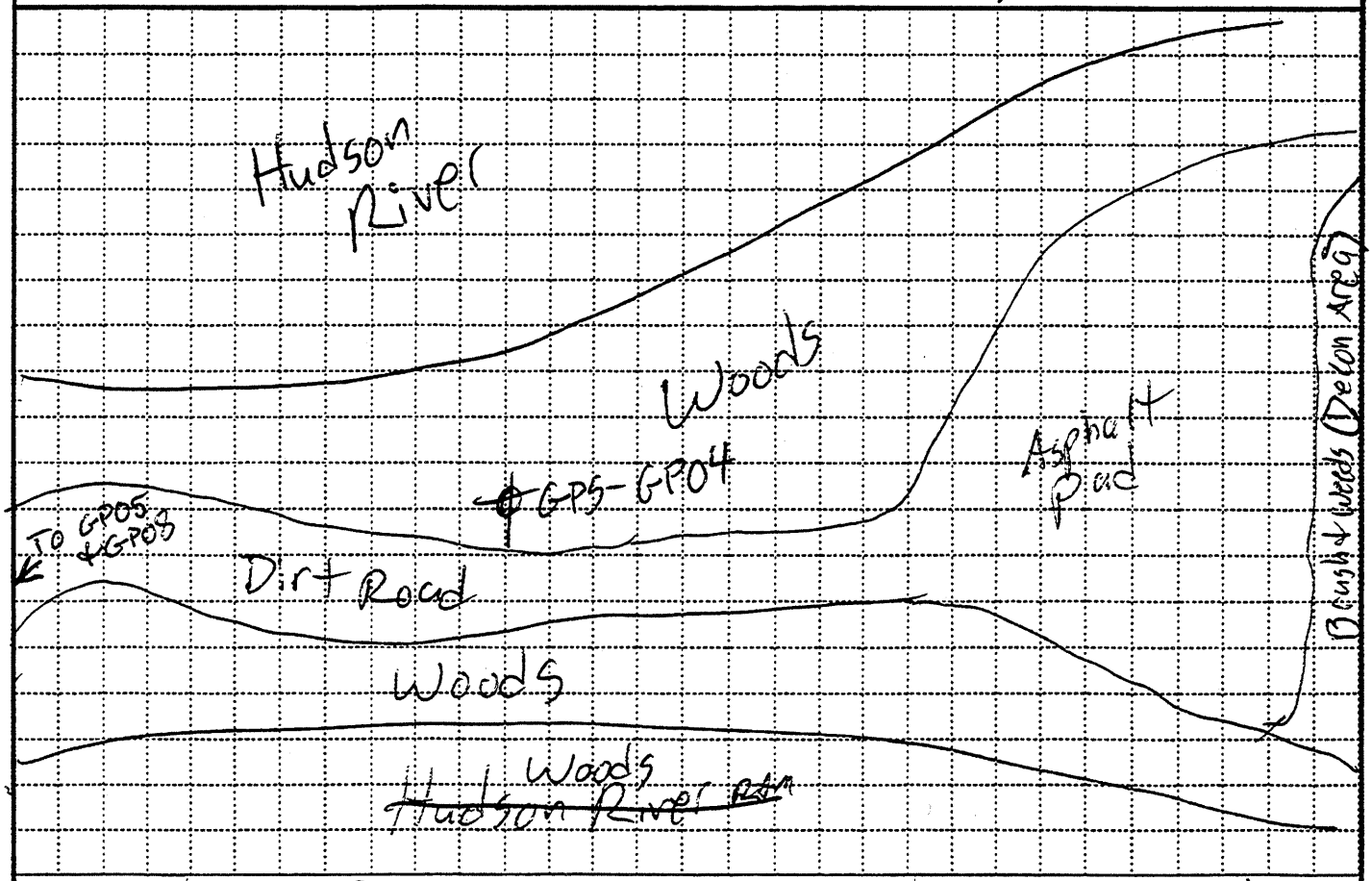
District: Kansas City		Hole Number: GPS-GP04
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc.	Sheet 1 of 8 Sheets
3. Project: Hudson Superfund Facility Siting	4. Location: Greenwich, NY	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" Geoprobe Macro-core Rods w/acetate sleeves and discrete soil sampling system	8. Hole Location: South end of site, ≈50' East of Hudson River	
	9. Surface Elevation:	
	10. Date Started: 10-8-03	11. Date Completed: 10-8-03
12. Overburden Thickness: 25.7'	15. Depth Groundwater Encountered: 22.2' BGS	
13. Depth Drilled Into Rock: Rock / Refusal @ 25.7' BGS	16. Depth to Water and Elapsed Time After Drilling Completed: 20.28' BGS after 10 minutes	
14. Total Depth of Hole: 25.7' BGS	17. Other Water Level Managements (Specify):	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
NA	—	—	NA

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	✓	✓	SVOCs	Pest/PCB	CN	NA %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
		Temporary		[signature]

LOCATION SKETCH/COMMENTS **SCALE:** NTS



PROJECT Hudson Superfund Facility Siting **HOLE NO.** GPS-GP04

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

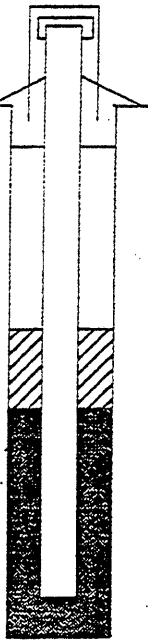
Lock Number unnumbered MasterLock

SCREENED WELL

Inner Casing Material NA

Stick-up ≈2.5 ft

Inner Casing Inside Diameter NA inches



GROUND SURFACE

Top of Grout NA ft
Sand 2' to Surface

Top of Seal at 2 ft

Top of Sand Pack 4 ft

Top of Screen at 15.7 ft

Bottom of Screen at 25.7 ft

Bottom of Hole at 25.7 ft

Bottom of Sandpack at 25.7

Quantity of Material Used:
Bentonite Pellets

Cement

Borehole 1.75" inches Diameter

Cement/ Bentonite

Grout

Screen Slot Size .010"

Screen Type slotted
☒ PVC Sch. 40
☐ Stainless Steel

Pack Type/Size:
☒ Sand No. 0
☐ Gravel
☐ Natural

OPEN-HOLE WELL

Stick-up ft

Inner Casing Material

Inner Casing Inside Diameter inches



Outer Casing Diameter inches

Borehole Diameter ft

Bedrock ft

Bottom of Rock Socket/ Outer Casing ft

Bottom of Inner Casing ft

Corehole Diameter

Bottom of Corehole ft

NOTE: See pages 136 and 137 for well construction diagrams

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP04

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 0.6' GM 0.6' to 4.0' ML	FID Unless noted 0ppm in BZ and off soil core	NA		NA	4' Run 3.5' Rec.
	4	4'-8' ML					4' Run 4' Rec.
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP04

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 0.6', moist top soil, med. brown Silt with some Sand & Rounded fine pebbles	○	⊘	○
	0.6' to 4.0', Tan Silt w/ trace rounded fine pebbles, dry	⊘	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	4' to 8' Silt as above, dry	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
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		○	○	○
		○	○	○

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP04

Project: Hudson Facility Siting | Inspector: Robert A Mayer | Sheet 5 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 9' ML	0ppm in BZ and off Soil Cores	NA		NA	
	9	9' to 12' GM					4' Run 3.5' Rec
	10						
	11						
	12	12' to 16' GM					
	13						4' Run 3.4' Rec
	14						
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP04

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 9', Dry silt as above	⊗	○	○
		⊗	○	○
		⊗	○	○
	9' to 12' VF to coarse Sand and fine to med. pebbles (Subrounded to rounded), dry, with little silt	⊗	○	○
		⊗	○	○
		⊗	○	○
		⊗	○	○
		⊗	○	○
		⊗	○	○
		⊗	○	○
		⊗	○	○
		⊗	○	○
		⊗	○	○
		⊗	○	○
	12' to 16', Sand, Gravel (Pebbles) & Silt as above, Dry to Moist	⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
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		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○
		⊗	⊗	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP04

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20' GM		NA		NA	
	17		Oppm in BZ and off soil core				
	18						4' Run 3.4' Rec
	19						
	20	20' to 22.2' GM					Caved stable during drilling
	21						
	22	22.2' to 24' ML			1405 Collect Sample GPS-GP04-SB 22' to 24'		4' Run 4' Rec Water @ 22.2' BGS
	23						
	24	24' to 25.7' ML					1.7' Run 1.1' Rec
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP04

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20 VF to coarse Sand and Gravel (fine to med. Pebbles (rounded) with some silt, Dry to Moist	⊗	⊗	○
	20' to 22.2' Sand, pebbles & Silt as above Water @ 22.2' BGS	⊗	⊗	○
	22.2' to 25.7' Clayey Gray Silt (Saturated) Water @ 22.2' BGS	○	○	⊗
	B.O.H @ 25.7' BGS	○	○	⊗

Borehole Record for GP5-GP05

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

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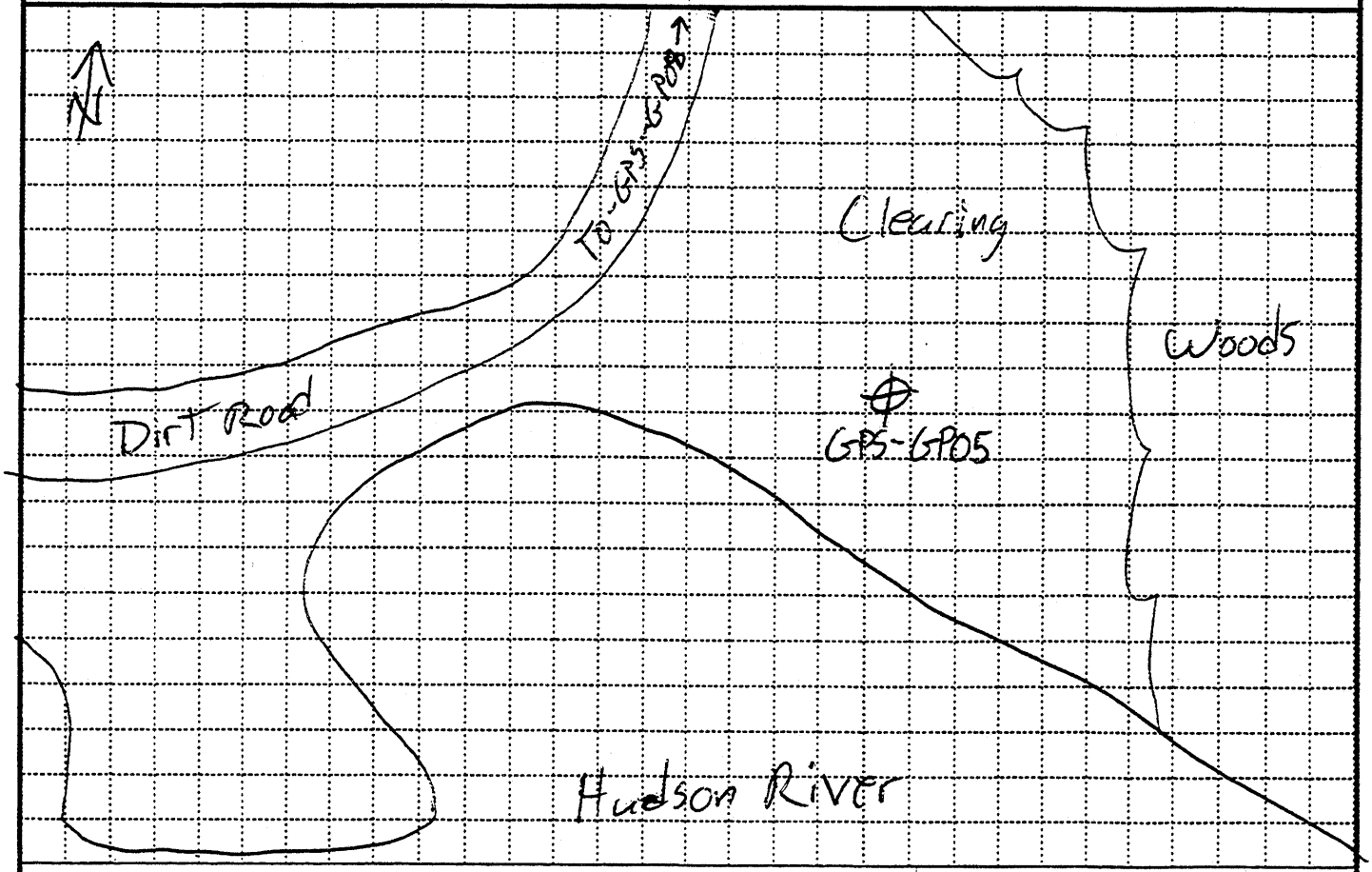
HTRW DRILLING LOG

District: Kansas City		Hole Number: GPS-GP05
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc.	Sheet 1 of 8 Sheets
3. Project: Hudson Superfund facility Siting	4. Location: Greenwich, N.Y.	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Geoprobe macro-core Rods with acetate sleeves and discreet Soil Sampling System.	8. Hole Location: South End Near River	
	9. Surface Elevation	
	10. Date Started: 10-8-03	11. Date Completed: 10-8-03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: ≃ 14' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 15.61' after 14 minutes	
14. Total Depth of Hole: 25'	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOC	Other (Specify): Pest/PCB	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector			

LOCATION SKETCH/COMMENTS **SCALE:** NTS



PROJECT Hudson Superfund Facility Siting **HOLE NO.** GPS-GP05

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

Lock Number unnumbered Master Lock

SCREENED WELL

Inner Casing Material NA

Stick-up 2.6 ft

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Top of Grout NA ft

Quantity of Material Used:
Bentonite Pellets

Top of Seal at 2' ft

Cement

Borehole 1.75 inches Diameter

Top of Sand Pack 4' ft

Cement/ Bentonite

Top of Screen at 14.35 ft

Grout

Screen Slot Size .010"

Bottom of Screen at 24.35 ft

Screen Type slotted

☒ PVC sch. 40

☐ Stainless Steel

Bottom of Hole at 25' ft

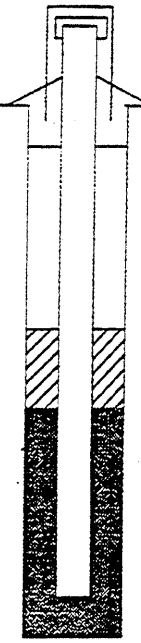
Pack Type/Size:

☒ Sand No. 0

Bottom of Sandpack at 25'

☐ Gravel

☐ Natural



OPEN-HOLE WELL

Stick-up ____ ft

Inner Casing Material

Inner Casing Inside Diameter ____ inches

Outer Casing Diameter ____ inches

Borehole Diameter ____ ft

Bedrock ____ ft

Bottom of Rock Socket/ Outer Casing ____ ft

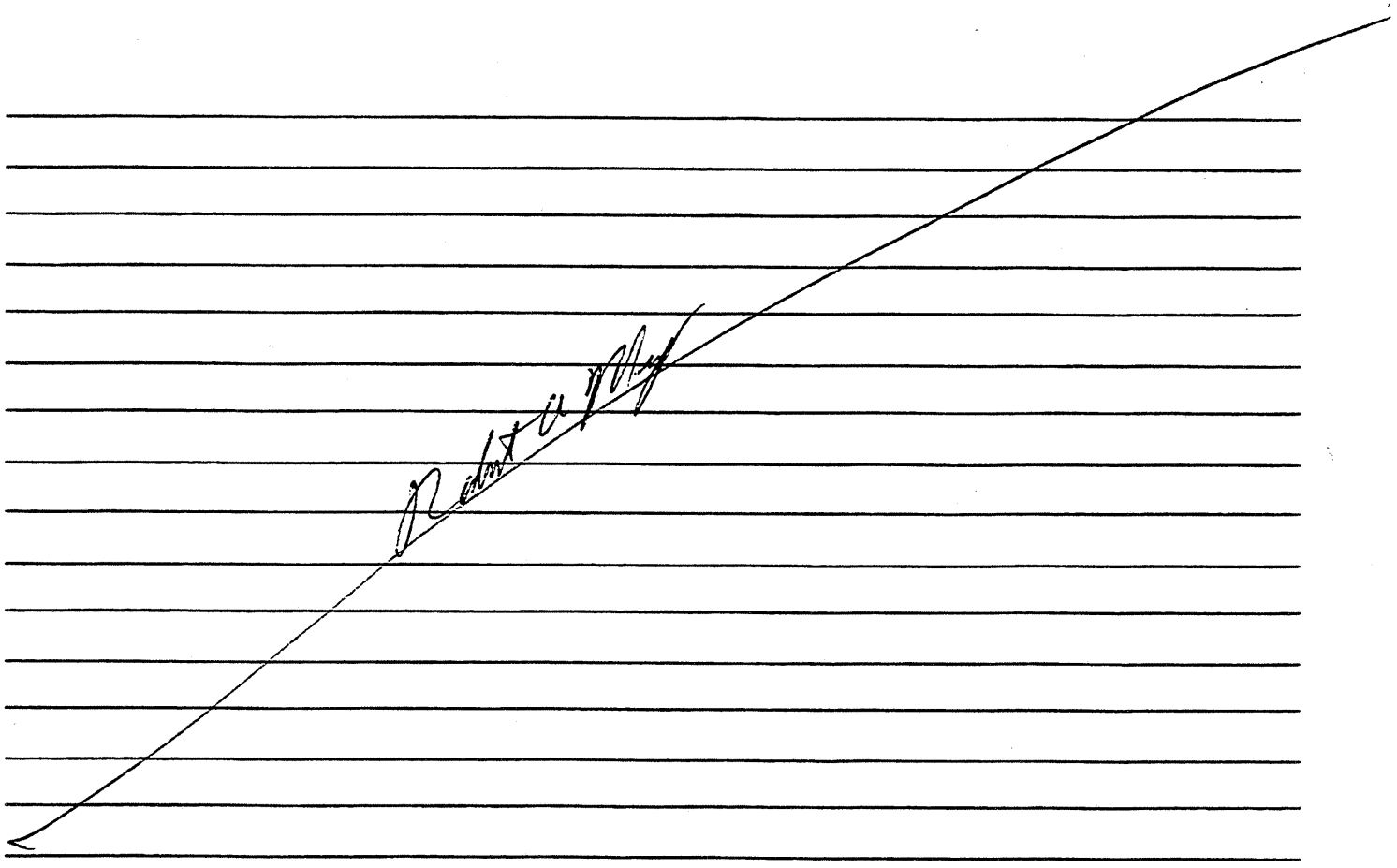
Bottom of Inner Casing ____ ft

Corehole Diameter

Bottom of Corehole ____ ft



NOTE: See pages 136 and 137 for well construction diagrams



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31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP05

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 1.9' Fill	FID Unless Noted	NA		NA	4' Run 1.9' Rec. (Note Recovered top 1.9')
	1						
	2	1.9' to 4' No Recovery	0 ppm in BZ & off Fill				
	3						
	4	4' to 7' Fill					
	5						4' Run 2.6' Rec.
	6						
	7	7' to 8'	0 ppm in BZ & off Soil Core				
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP05

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 1.9', Fill Materials, Dry, cinders/Asphalt, Brick, and concrete	⊗	○	○
	1.9' to 4', No Recovery	○	○	○
	4' to 7', Fill as above	○	○	○
	7' to 8', VF ~~to C~~ Sand and Silt with few coarse sand and fine subrounded pebbles Moist	○	⊗	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP05

Project: Hudson Facility Siting | Inspector: [signature] | Sheet 5 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 12' Fill		NA		NA	
			0ppm in BZ & off Fill				4' Run 2.8' Rec
	9						
	10						
	11						
	12	12' to ≃ 14' Fill			1057 Collect Sample GPS-GP05-SB1 12' to 16'		
	13		PID=2.5ppm FID=0.4ppm				4' Run 1.9' Rec
	14	14' to 16' SM/SC					Water @ ≃ 14' BGS
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO. GPS-GP05

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	8' to 12', Fill Material, 35% brick, 25% cinders &/or Asphalt, 15% crushed stone/concrete with some Silt & VF to Fine Tan to brown sand.	
	12' to ≈14' Fill as above	
	≈14' to 16', brown Silt & VF Sand with Trace angular fine Pebbles (Natural) & little clay	

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number GPS-GP05

Project Hudson Facility Siting | Inspector Robert A Myers | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to ≃ 18'		NA		NA	4' Run
		~~SM/RAM~~ CC					2.4' Rec
	17		0 ppm in BZ and off soil				
	18	≃18' to 20'					
		Weathered shale					
	19						
	20	20' to 24'					
		GM					
	21						4' Run
							4' Rec
			22'		1130		
			20 ppm FID		Collect extra sample		
			5 ppm PID		GPS-GP05-SB2		
	23				from 22' to 24' BGS		
	24		FID = 15 ppm				1' Run
	25		PID = 4 ppm				1' Rec.

PROJECT Hudson Facility Siting | HOLE NO. GPS-GP05

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	≃16' to 18' silty Clay and shale Fragments, brown	○	○	⊘
	≃18' to 20' Weathered shale and some gray silt ~~y clay~~, Saturated.	○	○	○
	20' to 24', Gray Silt, VF Sand & angular fine pebbles / coarse sand.	○	○	○
	24' to 25' Same as above	○	○	○
	B.O.H @ 25' BGS	○	○	○

Borehole Record for GPS-GP06

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

District: Kansas City		Hole Number: GPS-GP06
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic	Sheet: 1 of Sheets: 8
3. Project: Hudson Superfund Facility Siting	4. Location: Greenwich, NY	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" OD Geoprobe Rods with acetate sleeves and discrete soil sampling System	8. Hole Location: In woods (cleared area) Northend of site/upgradient.	
	9. Surface Elevation	
	10. Date Started: 10-9-03	11. Date Completed: 10-9-03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 5' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 4.93' after 12 minutes	
14. Total Depth of Hole: 25'	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA	
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOCs	Other (Specify): Pest/PCBs	Other (Specify): CN	21. Total Core Recovery: NA %
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert C. Ryan		

LOCATION SKETCH/COMMENTS — **SCALE:**

See GPS-GP01 Log

PROJECT Hudson Superfund Facility Siting	**HOLE NO.** GPS-GP06

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

Lock Number un-numbered Master Lock

SCREENED WELL

Stick-up 2.5 ft

Top of Grout NA ft
Sand 1' to Surface

Top of Seal at 1 ft

Top of Sand Pack 3 ft

Top of Screen at 5 ft

Bottom of Screen at 15 ft

Bottom of Hole at 25' ft

Bottom of Sandpack at 15'

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets

Cement

Borehole 1.75" inches Diameter

Cement/ Bentonite

Grout

Screen Slot Size .010"

Screen Type slotted
☒ PVC sch. 40, 1" dia.
☐ Stainless Steel

Pack Type/Size:
☒ Sand No. 0
☐ Gravel
☐ Natural

Note: Hole was allowed to collapse up to 15' BGS.

NOTE: See pages 136 and 137 for well construction diagrams

OPEN-HOLE WELL

Stick-up ft

Inner Casing Material

Inner Casing Inside Diameter inches

Outer Casing Diameter inches

Borehole Diameter ft

Bedrock ft

Bottom of Rock Socket/ Outer Casing ft

Bottom of Inner Casing ft

Corehole Diameter

Bottom of Corehole ft

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31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP06

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' SM	FID = 0 ppm PID = 0.4 ppm	NA		NA	
	1						4' Run 3.3' Rec.
	2						
	3						
	4	4' to 8' SM	0 ppm FID/PID				
	5						4' Run 3.4' Rec.
	6						Water @ ≈5' BGS
	7						
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP06

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	0' to 1.2', Med brown Silt with little clay and VF to Med Sand & few Shale fragments, Moist	
	1.2' to ≃ 3.2' Tan Silty Clay, slightly plastic, moist.	
	3.2' to 4', VF to fine Sand and Silt, Gray/brown.	
	4' to 8', VF Tan/Gray Sand and Silt, water @ ≃ 5' BGS, little Clay.	

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP06

Project: Hudson Facility Siting | Inspector: Robert A Meyer | Sheet 5 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 12' SM/SC	0ppm in BZ & off soil conc	NA		NA	
	9						4' Run 4' Rec
	10				1042 Collect GPS-GP06-SB from 10' to 12' BGS		
	11						
	12	12' to 16' SM/SC BAM					
	13						4' Run 4' Rec.
	14						
	15						
	15.5						
	16						

PROJECT ~~GPS-GP06~~ Hudson Facility Siting | HOLE NO. GPS-GP06

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 12' Tan/Gray VF to Fine Sand and Silt with little Clay. Iron staining (heavy) from 10' to 12' BGS.	○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	12' to 15.3', VF to Fine Tan/Gray Sand with little Silt	○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	15.3' to 16' light Gray Clayey Silt with little VF Sand	○	○	○
		○	○	○
		○	○	○
		○	○	⊗

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP06

Project: Hudson Facility Siting | Inspector: Robert A Mayer | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20'		NA		NA	
		SW					
	17		NA				4' Run
							No Recovery
	18						flowing fine sand
	19						
	20	20' to 24'					
		SW					
	21		0ppm FID/PID off soil & in BZ				4' Run
							1.3' Rec
	22						
	23		O2/LEL Readings Stable during drilling				
	24	24' to 25'					1' Run
	25	SW					0.2' Rec

PROJECT: Hudson Facility Siting | HOLE NO. GPS-GP06

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20', No Recovery, flowing fine Sand coming out of the sampler.	○	○	⊗
		○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	20' to 24', VF to Fine flowing Tan Sand,	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	24' to 25' Same as above	○	○	○
		○	○	○
		○	○	○
	B.O.H @ 25' BGS	○	○	⊗

Borehole Record for GP5-GP07

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

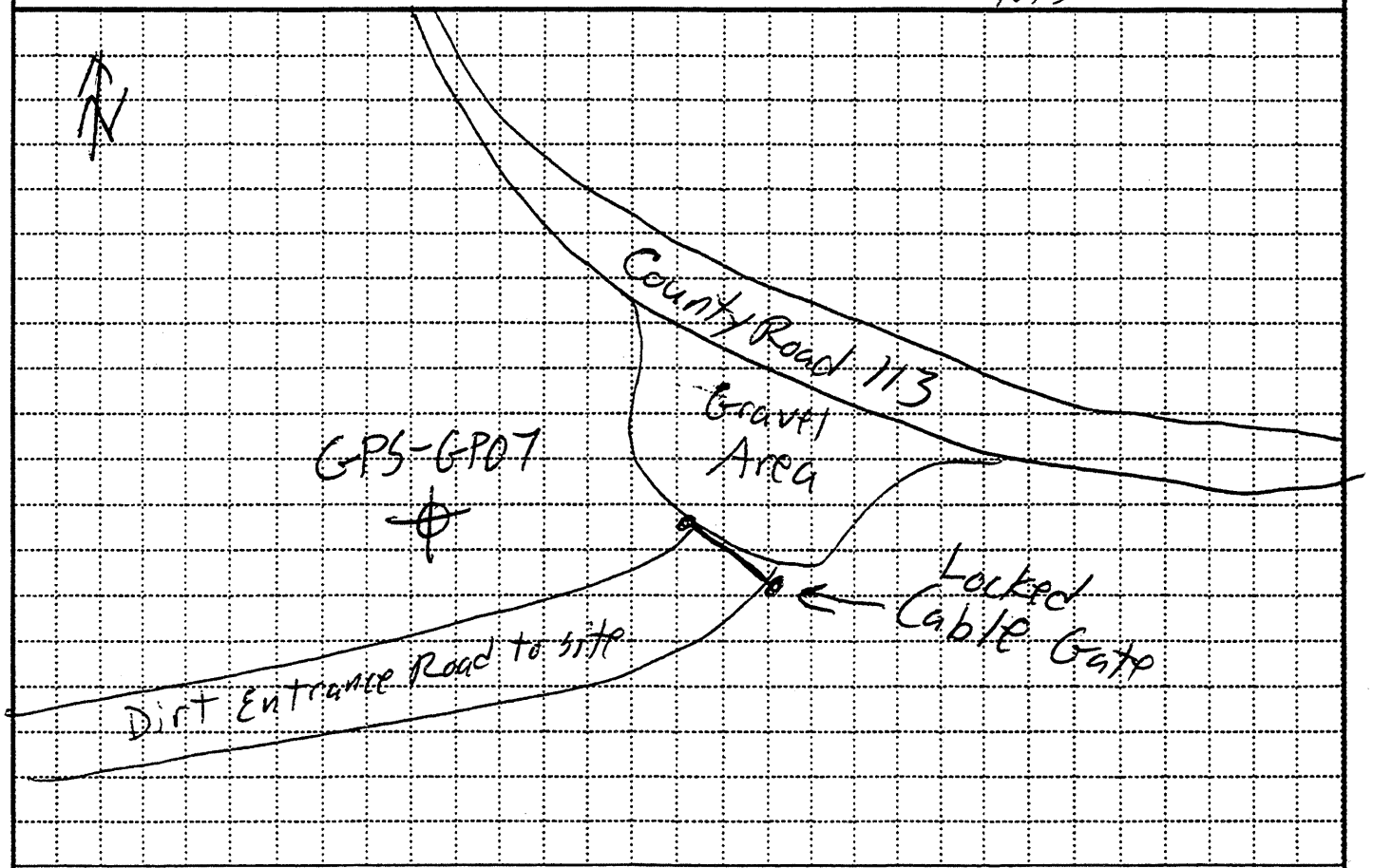
31 AUG 94

HTRW DRILLING LOG

	District: Kansas City	Hole Number: GPS-GP07
1. Company Name: Ecology & Environment Inc	2. Drill Subcontractor: Northstar/Geologic Inc.	Sheet 1 of 3 Sheets
3. Project: Hudson Superfund Facility Siting	4. Location: Greenwich, N.Y.	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Geoprobe Macro-core Rods with acetate sleeves and discrete soil sampling system	8. Hole Location: Center of site, just inside entrance off County Road 113	
	9. Surface Elevation	
	10. Date Started: 10-9-03	11. Date Completed: 10-9-03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 9' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 10.14' BGS ~~after~~ after 10 minutes	
14. Total Depth of Hole: 25'	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOCs	Other (Specify): Pest/PCBs	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert A Myers			

LOCATION SKETCH/COMMENTS SCALE: NTS



PROJECT: Hudson Superfund Facility Siting	HOLE NO.: GPS-GP07

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

Lock Number un-numbered Master Lock

SCREENED WELL

Stick-up 2.4 ft

Top of Grout NA ft

Top of Seal at 0.5 ft

Top of Sand Pack 3 ft

Top of Screen at 10 ft

Bottom of Screen at 20 ft

Bottom of Hole at 25 ft

Bottom of Sandpack at 20'

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets _____

Cement _____

Borehole 1.75" inches Diameter

Cement/ Bentonite _____

Grout _____

Screen Slot Size .010"

Screen Type slotted
☒ PVC sch. 40, 1" dia
☐ Stainless Steel ____

Pack Type/Size:
☒ Sand No. 0
☐ Gravel _____
☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

★ Bottom 5' allowed to collapse

NOTE: See pages 136 and 137 for well construction diagrams

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31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GP5-GP07

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 3.4' Fill and Silt	FID Unless Noted ↑	NA		NA	4' Run 3.1' Rec.
	1		0ppm FID				
			9ppm PID (moisture)				
	2						
	3	3.4' to 4' CL					
	4	4' to 8' SM/ML					
			3ppm FID				
	5		1ppm PID				4' Run 4' Rec.
	6						
	7						
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: GP5-GP07

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 3.4' Fill Material (Cinders, Ash & crushed limestone) with some brown silt.			
	3.4' to 4.0' Silty brown Clay with trace VF Sand Moist			
	4' to 8', Silt & VF Sand with few Clayey Silt and Silty Clay, Slightly to NON-Plastic. Moist			

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP07

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 12' SM	0.6 PID 3.6 FID	NA	1225 Collect GPS-GP07-SB3 9' to 11'	NA	4' Run 3.7' Rec. Water @ 9' BGS
	9						
	10						
	11						
	12	12' to 16' SM	Oppm FID/PID in BZ & ~~off~~ soil				4' Run 4' Rec
	13						
	14						
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP07

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 12', water @ 9' BGS., light gray Silt and VF to Fine sand with few Clay.	○	⊗	○
		○	⊗	○
		○	⊗	○
		○	⊗	○
		○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	12' to 16' Gray VF to Fine Sand and Silt with trace clay	○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP07

Project: Hudson Facility Siting | Inspector: Robert A Meyer | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 18.2' SM	0ppm FID/PID in BZ and off Soil Core	NA		NA	4' Run 3.1' Rec
	17						
	18	18.2' to 19.3' CL					
	19	19.3' to 20' SP					
	20	20' to 24' SW					4' Run 3.1' Rec
	21						
	22						
	23						
	24	24' to 25' SW					1' Run 0.9' Rec
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP07

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	16' to 18.2' Gray VF to Fine Sand and Silt	Wet
	18.2' to 19.3' Gray Silty Clay	
	19.3' to 20' Med. to Coarse sand and fine rounded pebbles, little silt.	
	20' to 24', VF to Fine gray Sand, flowing	
	24' to 25', Sand as above	

Borehole Record for GPS-GP08

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

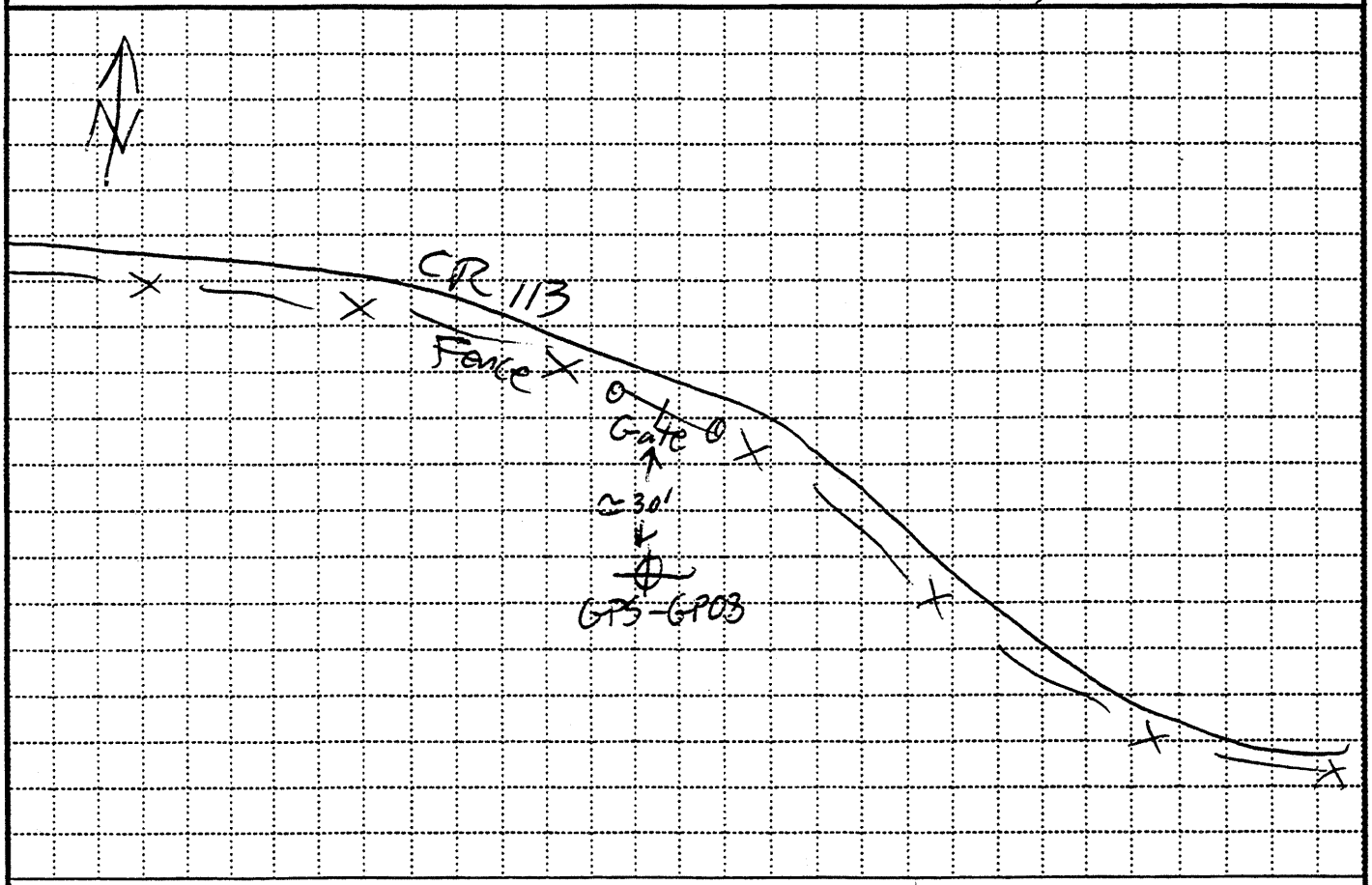
31 AUG 94

HTRW DRILLING LOG

	District: Kansas City	Hole Number: GP5-GP08
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc	Sheet: 1 of Sheets: 8
3. Project: Hudson Superfund Facility Siting	4. Location: Greenwich NY	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" Geoprobe Macro-core Rods with acetate sleeves and discreet soil sampling system	8. Hole Location: South Section Near C.R. 113	
	9. Surface Elevation	
	10. Date Started: 10-8-03	11. Date Completed: 10-8-03
12. Overburden Thickness: 18.5' BGS	15. Depth Groundwater Encountered: 5.3' BGS	
13. Depth Drilled Into Rock: NA (Rock @ 18.5' BGS)	16. Depth to Water and Elapsed Time After Drilling Completed: 9.74' BGS @ 17 min	
14. Total Depth of Hole: 18.5' BGS	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOCs	Other (Specify): Pest/PCBs	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert A Meyer			

LOCATION SKETCH/COMMENTS SCALE: NTS



PROJECT: Hudson Superfund Facility Siting	HOLE NO.: GP5-GP08

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

Lock Number unnumbered Master Lock

SCREENED WELL

Stick-up ~1.2' ft

Top of Grout NA ft

Sand 1' to surface

Top of Seal at 1 ft

Top of Sand Pack 3 ft

Top of Screen at 5.5 ft

Bottom of Screen at 18.5' ft

Bottom of Hole at 18.5 ft

Bottom of Sandpack at 18.5'

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole 1.75" inches Diameter

Cement/ Bentonite _____

Grout _____

Screen Slot Size .010"

Screen Type slotted

☒ PVC sch. 40

☐ Stainless Steel ____

Pack Type/Size:

☒ Sand No. 0

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP08

Project: Hudson Facility Siting | Inspector: Robert A Magee | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 2.3' Fill GM	FID unless noted ↑ 0ppm in ~~BZ~~ & off soil	NA		NA	4' Run 3.7' Rec.
	1						
	2	2.3' to 4' CL					
	3						
	4	4' to 5.3' CL					4' Run 4' Rec. Water @ 5.3' BGS
	5	5.3' to 7.8'	0ppm in ~~BZ~~ & soil core		0855 collect GPS-GP08-SB 5.3' to 7.3'		
	6						
	7						
	8	7.8' to 8' CL					

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP08

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 2.3', Dry to moist Fill Material, brown to black Silt, VF to coarse Sand & angular Fine to med. pebbles, cinders throughout			
	2.3' to 4.0' Silty tan Clay, slight to Moderate plasticity, moist			
	4' to 5.3' CLAY as above			
	5.3' to 7.8' VF Gray & Tan Sand with some silt Water @ 5.3' BGS			
	7.8' to 8', silty/Sandy Clay, tan, wet			

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP08

Project: Hudson Facility Siting | Inspector: Robert A Meyer | Sheet 5 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8'to 12'		NA		NA	4' Run
		SM					4' Rec.
	9						
			Opgm in BZ & Soil Core				
	10						
	11						
	12	12' to 16'					
		SM					
							4' Run
	13						0.4' Rec, Silt + Sand flowing out of Sampler
	14						
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP08

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 12' Tan to Pale gray Silt & VF Sand.	○	○	⊗
	~~flowing out of acetate sleeve~~ SAMPLE	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	12' to 16', Tan/Pale gray (flowing out of acetate	○	○	○
	sleeve) Silt and VF Sand.	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GP08

Project: Hudson Facility Siting | Inspector: Robert A Mayer | Sheet 7 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 18.5'		NA		NA	
		SM	0ppm in BZ & Soil Core				2.5' Run 0.3' Rec Silt+Sand flowing out of acetate sleeve.
	17						
	18		02/LEL stable during Drilling				@ Refusal Rock @ 18.5' BGS
	19						
	20						
	21						
	22						
	23						
	24						
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: GPS-GP08

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 18.5', Silt + VF sand flowing out of acetate sleeve.	○	○	⊗
		○	○	◐
		○	○	◐
		○	○	◐
		○	○	◐
		○	○	◐
		○	○	◐
		○	○	◐
		○	○	◐
	~~Rock~~/Refusal @ 18.5' BGS, Solid No chips Recovered.	○	○	✓
	(8) 18.5' = B.O.H	○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

Geotechnical Bore Logs
From The
Georgia Pacific/New York State Canal Corporation Site

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Borehole Record for GTSG701

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

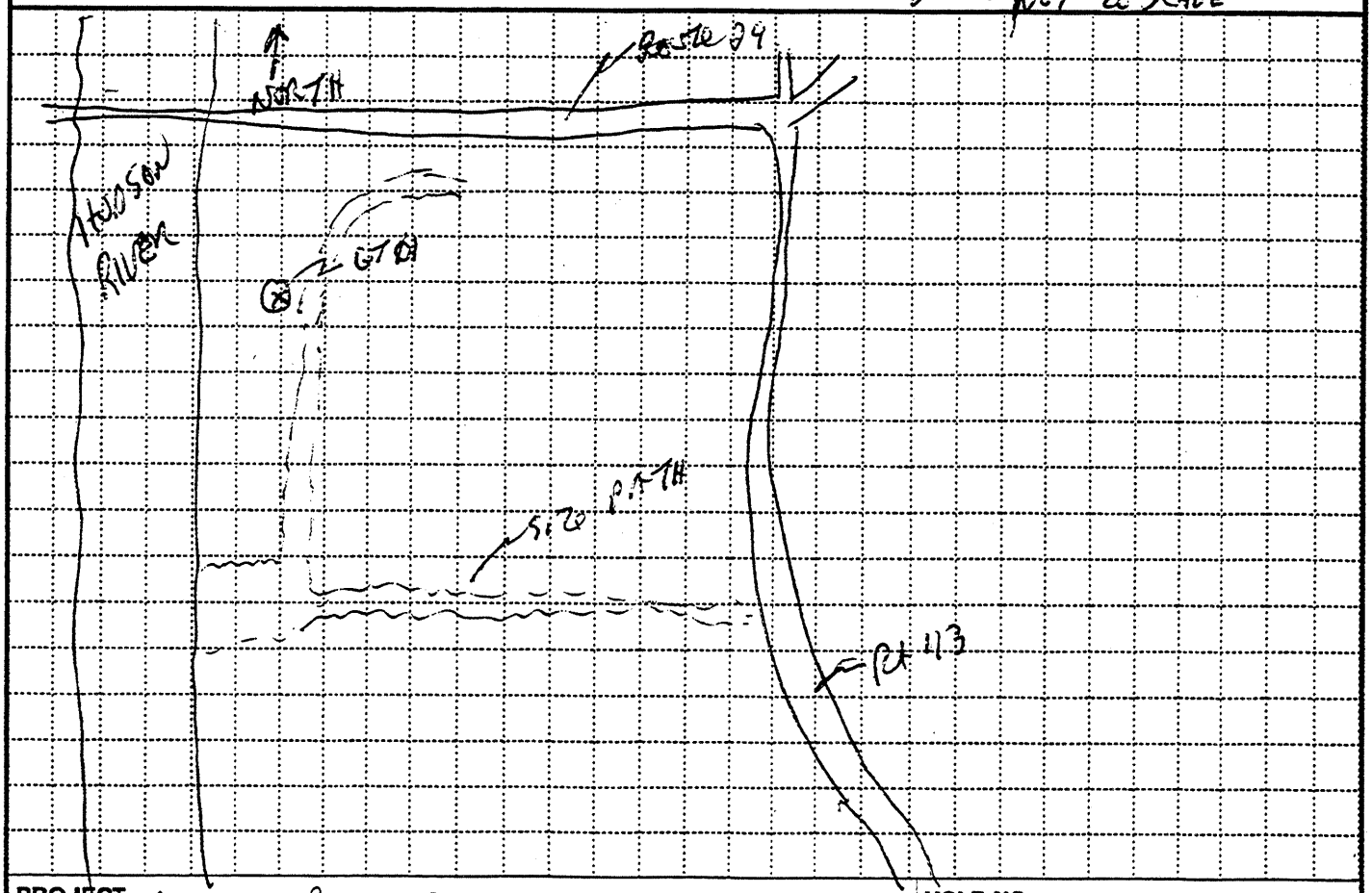
	District: Kansas City Corp	Hole Number: GPS-GTO1
1. Company Name: Ecology And Environment, Inc	2. Drill Subcontractor: Geologic / Nor Thstar Drilling	Sheet: 1 of 8
3. Project: Georgia Pacific	4. Location: Thomson, NY	
5. Name of Driller: Steve LARAMIE	6. Manufacturer's Designation of Drill: CME-45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4¼" HSA; 2"X24" SPLIT SPOON	8. Hole Location: NW Corner of Site, ~20' East of Hudson River	
	9. Surface Elevation:	
	10. Date Started: 10/8/03	11. Date Completed: 10/8/03
12. Overburden Thickness: 21'	15. Depth Groundwater Encountered: 15'	
13. Depth Drilled into Rock: 0.2'	16. Depth to Water and Elapsed Time After Drilling Completed: 16.1 1 hour after augers / ~~Open Hole~~	
14. Total Depth of Hole: 21.2'	17. Other Water Level Measurements (Specify): OPEN hole after drilling augers	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
	0	~~Particle Size~~ Moisture (16) Attachment (1)	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	0	0	~~Attachment~~			0 %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	X	—	—	

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



PROJECT: HUDSON RIVER PCB FACILITY SITING HOLE NO. GPS-GTO1

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

SCREENED WELL

Stick-up _____ ft

Top of Grout _____ ft

Top of Seal at _____ ft

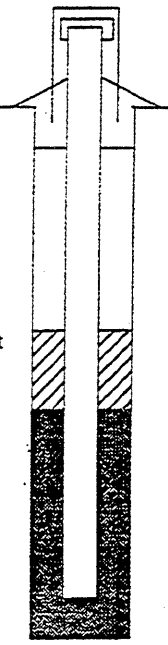
Top of Sand Pack _____ ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____



Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole Diameter _____ inches

Cement/ Bentonite _____

Grout _____

Screen Slot Size _____

Screen Type _____

☐ PVC _____

☐ Stainless Steel _____

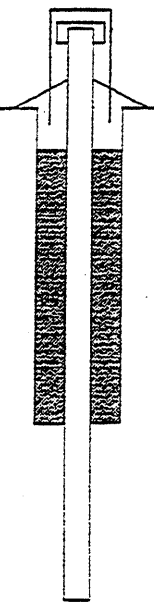
Pack Type/Size:

☐ Sand _____

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

No well constructed; Bore Hole for Geotechnical purposes only

- Driven additional split spoon sampler 0 → 4' so as to provide sufficient volume for suite of geotechnical analyses. PID = 0.35 ; FID = 0.1
- Sample volume collected from 2.0 → 2.6' BGS 10:50
  Sample No.: GPS-GT01-B, collected @ 0847
- Decon water source: Northstar Shop, which draws from the local municipal water supply
- Breathing zone TVA-1000 readings all <1ppm

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GT01

Project: Georgia Pacific / [illegible] (2)

Inspector: Jon Nicholson

Sheet 3 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	1	OL	PID = 0	NA	GPS-GT01A	3/6/6/4	70%
		Gm	FID = 0				
		Fine SD			0845		
	2	SM			GPS-GT01-B	2/2/4/4	90%
			PID = 0.1				
	3		FID = 0.0				
		CL			0847		
	4						
			PID =			2/3/4/5	0%
			FID =				
	5				No recovery for sample		
	6						
			PID = 0		GPS-GT01	4/5/5/5	75%
		mtl	FID = 0				
	7				0900		
					D		
	8						

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: GPS-GT01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0'-0.4'	Brown silty Loam; Trace gravel; Roots, Dry			
0.4'-0.8'	Brown ~~Sandy~~ gravelly Sand; Rounded Clasts to 1.5 cm Diameter, ~~Trace~~ Silt ≈ 20%			
0.8'-1.5	Black gravelly Sand; Damp; Silt ≈ 5%			
1.5'-3.1	Tan V.F.G. Silty Sand Damp No inclusions, Soft.			
3.1 → 6.8	Tan Clay Silt. Mod Cohesion; Low Plasticity, Hard			
At 34'	Split Spoon Blocked By Cobble Fragment			
6.8	Tan Clay Silt; But Higher Silt Content; Clay ≈ 10%			
↓ 8.3				

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GT01

Project: Georgia Pacific

Inspector: Jon Nickerson

Sheet: 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	9	MH CH	PID = 0 FID = 0	N/A	GPS-GT01-E 0907	8/2/1/1 ~~3/1/2~~ 0	95% Rec
	10		FID = 0 PID = 0.1			2/2/2/2	
	11				GPS-GT01-F 0912		100% Rec
	12	Sm CH	FID = 0. PID = 0.2			wait/ 1/2/2	
	13				G 0920		100% Rec.
	14		FID = 0 PID = 0.25				
	15				H 0929	wait/ wait wait wait	100% Rec
	16	Sm					

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: GPS-GT01

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content Dry	Moist	Wet
8.3 →	Grade & A Silty Clay Tan ~~Mod~~ Highly Plastic; ~~mod~~ Cohesion. Damp No inclusions. Soft. ~~Tan~~ ~~S~~ Silt ≈15-20%			
	Wet @ 10.1 Feet BGS			
11.9	Black F.g. S. Not well Sorted. No inclusions. Silt ≈ 25% wet			
12.2				
12.2 →	~~15.8~~ Dark Gray/Black Silty Clay. Highly Plastic; Cohesive; No inclusions. Saturated. Very Soft			
	Contains Minor (1/2") Silty Sand Lens of V.F.g. Sand at 15.8 → 15.9' BGS. Saturated. No inclusions Silt ≈ 25%			
15.8'				

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GT01

Project: Georgia Pacific

Inspector: Jon Nickerson

Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
		CH		N/A			
	17		PID = 0 PID = 0		0939 F	1/1/1/2	100% Rec
	18		PID = 0 PID = 0		0948 J	WOH/WOH/WOH/3	100%
		CH/SC					
	19						
		CH					
	20		PID = 0 PID = 0.6		1010 K	WOH WOH 50/.2	
	21	SPLIT SPOON REFUSAL					
		BOTTOM OF HOLE 21.2' BGS					
	22						
	23						
	24						

PROJECT: HUDSON RIVER PCB FACILITY SITING

HOLE NO. GPS-GT01

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
18 → 18.9	GRADES INTO A SILTY CLAY; DARK GRAY/BLACK; SATURATED; MED. PLASTICITY; MED COHESION	
18.9 →	WET @ HIGHLY COHESIVE GRAY CLAY; SATURATED; SOFT; HIGHLY PLASTIC	
21.2 →	GRAY SILTY, ~~HIGHLY~~ TRACE LAMINATED DRY	
21.6	AUGER REFUSAL.	

Borehole Record for GPS-GT02

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG

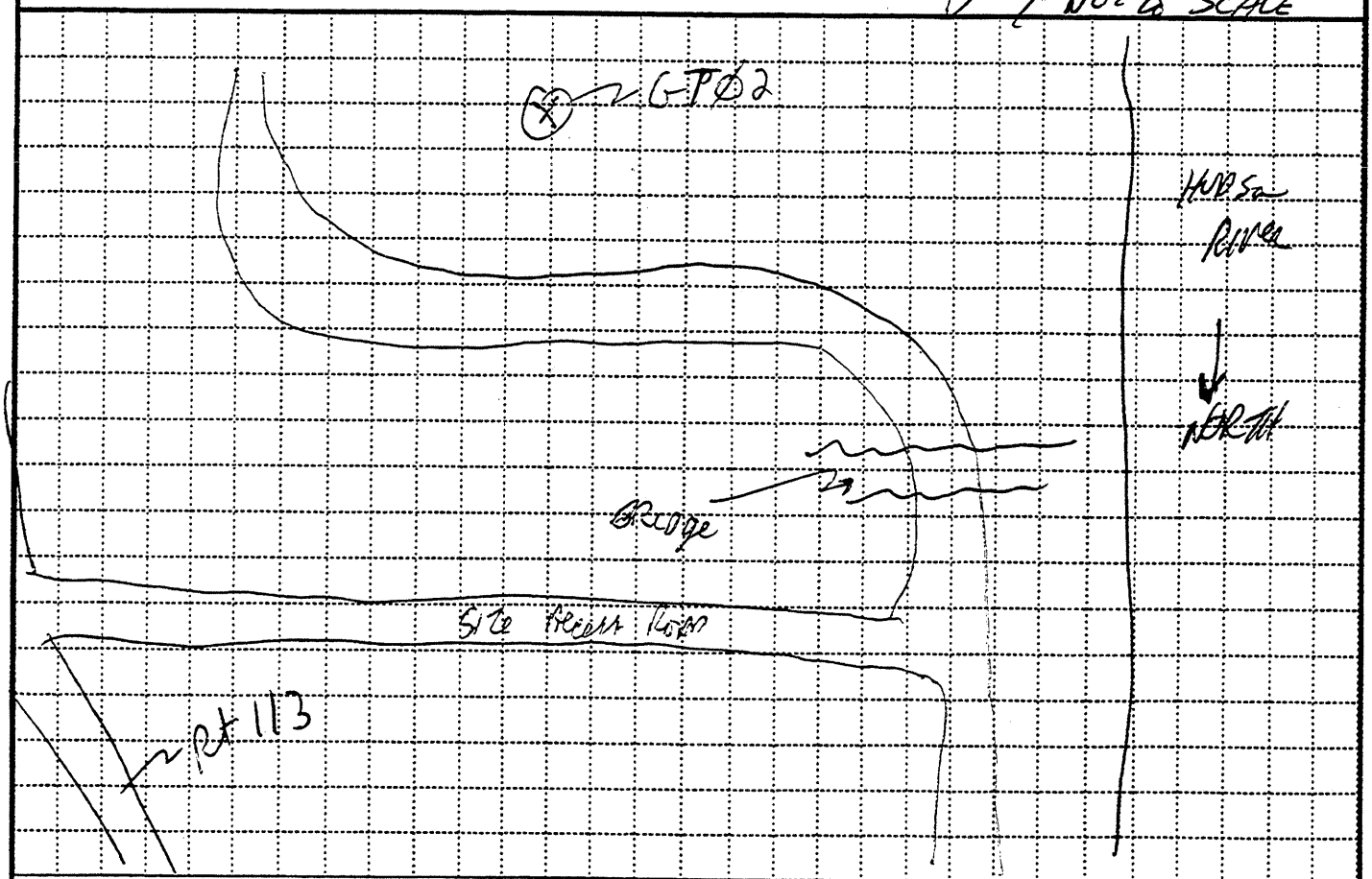
District: Kansas City Corps		Hole Number: GPS-GT02
1. Company Name: Ecology And Environment, Inc	2. Drill Subcontractor: Geologic / Northstar Drilling	Sheet: 1 of 70
3. Project: Georgia Pacific	4. Location: Thomson NY	
5. Name of Driller	6. Manufacturer's Designation of Drill: CME 45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4¼" HSA; 2" X 24" Split Spoon	8. Hole Location: Central Part of Site; South of Canal	
	9. Surface Elevation	
	10. Date Started: 10/8/03	11. Date Completed: 10/8/03
12. Overburden Thickness: 14'	15. Depth Groundwater Encountered: ~~Saturated~~ @ 1' on top of Liner, NO Free @	
13. Depth Drilled Into Rock: 0.2'	16. Depth to Water and Elapsed Time After Drilling Completed: NO Free water over encountered	
14. Total Depth of Hole: 14.2'	17. Other Water Level Managements (Specify): NA	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
	0	1	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
			Moisture	Atterberg	Grain Size	0 %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	X			Jon Fellerson

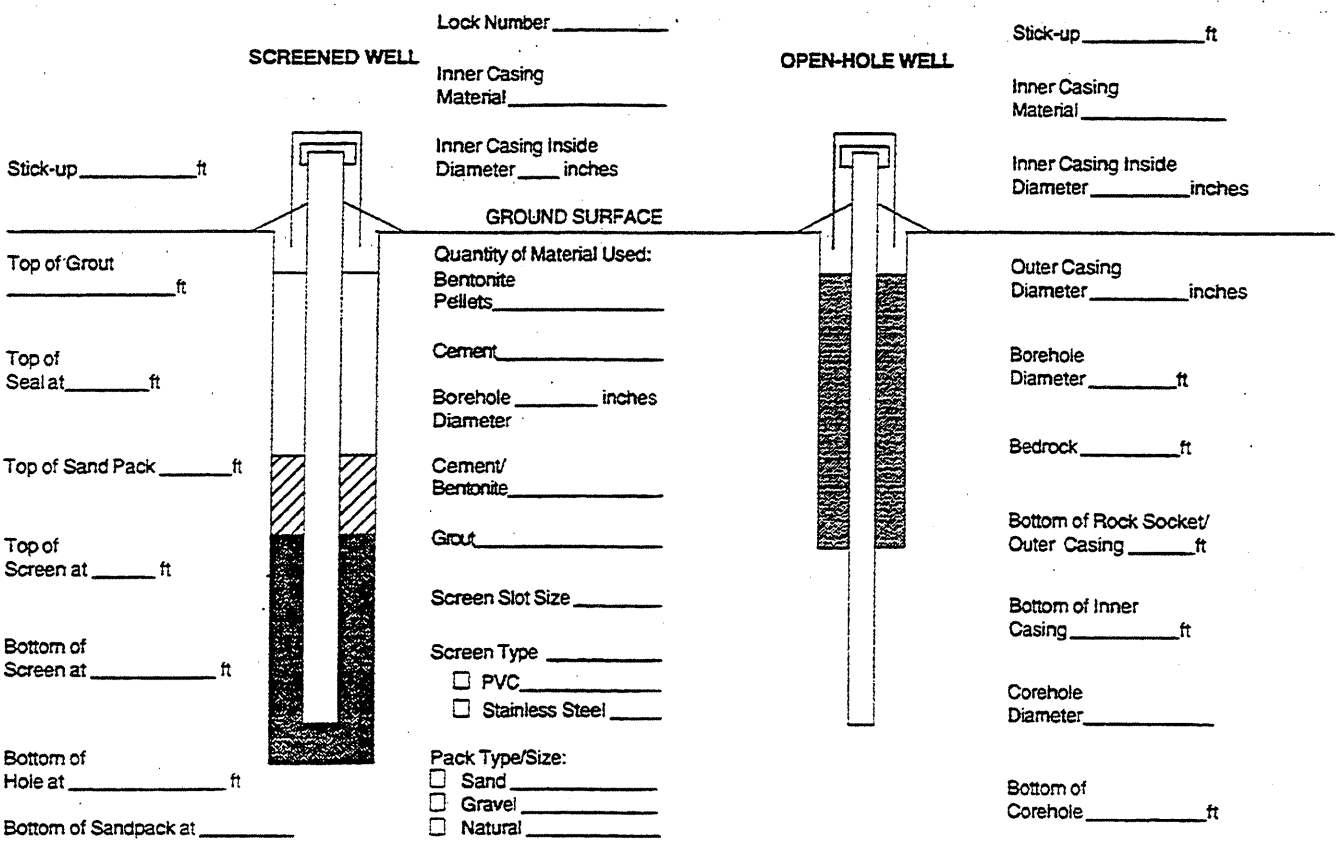
LOCATION SKETCH/COMMENTS SCALE: Not to Scale



PROJECT	HOLE NO.
Hudson River PCB Facility Siting	GPS-GT02

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM



NOTE: See pages 136 and 137 for well construction diagrams

Well not constructed; drilled borehole for geotechnical information only

- Collected sample GPS-GT02-B @ 13:02 submit for particle size, Atterberg limit, and moisture content analyses

- Breathing zone TVA readings all < 1 ppm.

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GT02
Project: Georgia Pacific
Inspector: Jon Nickerson
Sheet 3 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	1	Plastic liner at 1.0 GM	PID 10.1 FID 2.6	N/A		2/4/4/4	50%
	2	GM					
	3	SM	PID = 35 FID = 3.3 @ 3.5' BGS		@13:02 B GPS-GT02-B	6/3/4/5	50%
	4	SM	PID = 33.4 FID = 2.6			3/2/3/4	80%
	5						
	6		PID = 35.3 FID = 4.7			3/3/3/3	80%
	7						
	8						

PROJECT: Hudson River Facility Siting
HOLE NO.: GPS-GT02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0	Brown Gravelly sand w/ silt ≈15%. wet to			
↓	0.5-0.1' BGS, tapering off in moisture to dryness @			
	1.0 BGS Rounded gravel, and angular, subangular			
2.2	clasts, as well. Plastic sheet @ 1.0' BGS.			
	Clasts to 1.5 cm in length.			
2.2	Tight, mod. hard tan silt; dry; low density			
↓	Low cohesion; no plasticity. Clay ≈10%			
	Trace V.F.g. sand: well-rounded grains			
4.2	Sand/silt mixture, well-rounded V.F.g. quartz sand. Silt			
	is brown tan. Damp.			
	6.8: Minor (<10%) inclusions: 3 mm in length;			
	Very well rounded;			
	~~Fid readings~~ OVA on ~~TVA indicates Fid readings are not methane~~			

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GT02

Project: Georgia Pacific

Inspector: Jon Nicholson

Sheet 3 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	9	SM SW SM SW	PID = 8.2 0-35	N/A		2/2/3/3	90% Rec.
	10	SM SW SM	PID = 8.3 FID = 1.1			2/2/3/3	
	11	SW SM SW SM SW					90% Rec
	12	SM	PID = 4.5 FID = 0			1/1/2/4	90% Rec
	13						
	14	WEATHERED BLACK SHALE Bottom of Hole @ 14.2' BGS	PID = 1.6 FID = 0.0			50/0.2	10%
	15						
	16						

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: GPS-GT02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
		●	○	○
8	SAME SAND / SILT MIXTURE AS ABOVE, WITH	●	○	○
↓	DISTINCT INTERVALS (1"-2" WIDE) OF V. F-g	●	○	○
↓	SAND - F-g SAND BROWN ~~DAMP~~ DRY. NO INCLUSIONS	●	○	○
		●	○	○
		●	○	○
	DAMPNESS INCREASES AT 10'-10.5'; NOW MOIST	○	●	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	Auger Refusal @ 14.0' BGS	○	○	○
	14.0: WEATHERED BEDROCK SHALE; VERY FINELY LAMINATED	○	○	○
	DAMP.	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

Borehole Record for GPS-GTW3

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

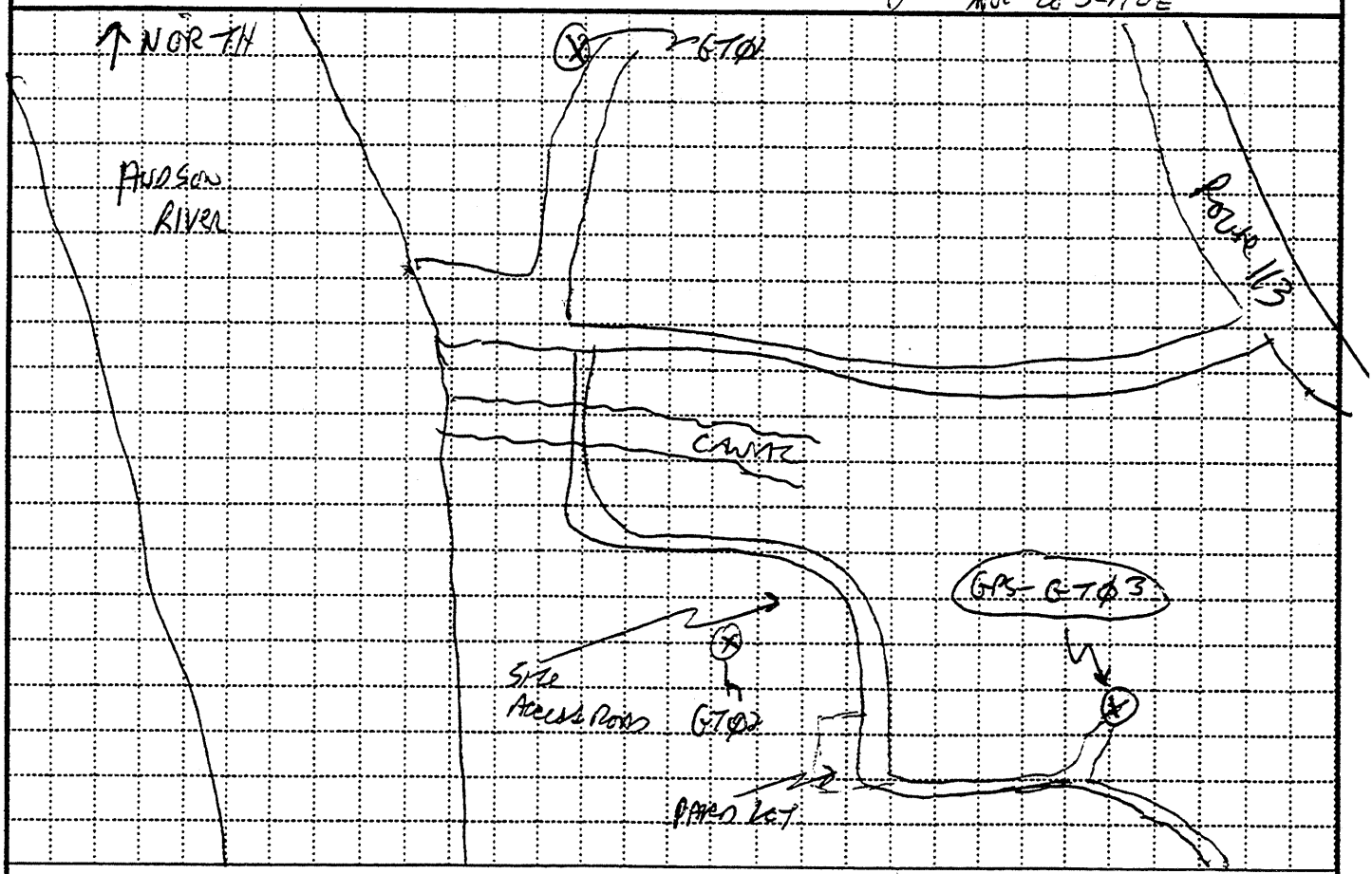
	District: Kansas City	Hole Number: GPS GT03
1. Company Name: ECOLOGY & ENVIRONMENT, INC.	2. Drill Subcontractor: NORTHSTAR DRILLING	Sheet 1 of 9 Sheets
3. Project: Georgia Pacific	4. Location: Thomson NY	
5. Name of Driller: STEVE LARAMIE	6. Manufacturer's Designation of Drill: CME 45C	
7. Sizes and Types of Drilling and Sampling Equipment: ~~4¼"~~ 4¼" HSA; 2" X 24" SPLIT SPOON SAMPLER	8. Hole Location: ON CR NORTH of SITE ACCESS ROAD S. of CANAL	
	9. Surface Elevation	
	10. Date Started: 10/8/03	11. Date Completed: 10/8/03
12. Overburden Thickness: 17.8'	15. Depth Groundwater Encountered: 16.3	
13. Depth Drilled Into Rock: 0	16. Depth to Water and Elapsed Time After Drilling Completed: NOT READ	
14. Total Depth of Hole: 17.8'	17. Other Water Level Managements (Specify): N/A	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
		13	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	0	0	MOISTURE	ATTERBERG	GRAIN SIZE	N/A %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
—	X	—	—	[signature]

LOCATION SKETCH/COMMENTS — SCALE: NOT TO SCALE



PROJECT	HOLE NO.
HUDSON RIVER PCB FACILITY SITING PROJECT	GPS GT03

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

SCREENED WELL

Stick-up _____ ft

Top of Grout _____ ft

Top of Seal at _____ ft

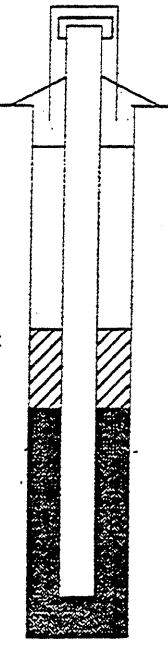
Top of Sand Pack _____ ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____



Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets _____

Cement _____

Borehole Diameter _____ inches

Cement/ Bentonite _____

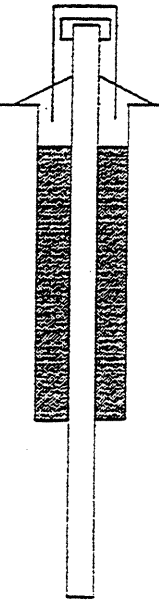
Grout _____

Screen Slot Size _____

Screen Type _____
- ☐ PVC _____
- ☐ Stainless Steel _____

Pack Type/Size:
- ☐ Sand _____
- ☐ Gravel _____
- ☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

GEOTECHNICAL BORING ONLY; NO WELL INSTALLED

Collected Geotech Suite Sample from the 1'-2' Depth interval GPS-GT03-A at 15:18.
Collected a 2nd Geotech Suite Sample from the 12'-14' Depth interval at 15:10 GPS-GT03-G
Due to encountering a horizon type not previously characterized.

- Breathing zone TVA Readings all <1ppm

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GT03

Project: Georgia-Pacific

Inspector: Jon Nicholson

Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	1	OL	PID = 0.45	N/A	GPS-GT03-A	4/3/5/7	95%
		MH	FID = 0.1		15:18		
		GM					
		SP			A		
	2	~~MH~~ SM	15:18				
			PID = 0.47			2/4/5/5	
			FID = 0.83				
	3						50%
			15:23		GPS-GT03-B		
	4						
			PID = 0.95		GPS-GT03-C	1/2/4	80%
			FID = 1.2				
	5						
		SW	15:31				
	6						
			PID = .95		GPS-GT03-D	4/4/3/3	75%
			FID = 0.60				
	7	~~GM/GP~~ (B)					
			15:36				
	8						

PROJECT: HUDSON RIVER PCB FACILITY SITING

HOLE NO.: GPS GT03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0		○	○	○
0.5	ORGANIC SILTY LOAM; POORLY; GRAVEL 10%; DAMP	⊗	○	○
0.5–0.7	BROWN SILTY CLAY	●	○	○
0.7 → 0.9	GRAVEL/SILT/SAND MIXTURE; BROWN; DAMP, SOME ROOTS; HARD PEBBLES ARE ANGULAR AND SUBANGULAR	●	○	○
0.9 → 1.5	BLACK SAND/~~gravel~~ gravel MIXTURE; APPEARS TO POSSIBLY BE FINE ANGULAR GRAVEL CLASTS; DRY	●	○	○
1.5 →	BROWN SANDY SILT; LOCAL COHESION; HARD; VERY LITTLE PLASTICITY; DAMP. SAND IS V.F.G BROWN SAND	●	○	○
5.8	BROWN ~~SILTY~~ F.G.–M.G SAND; F.G; LITTLE SILT; DAMP; NO INCLUSIONS	●	○	○
	GRADES TO COARSER SAND at 6.5, THEN SAND IS FINE AND MEDIUM-GRAINED SAND at 6.8 NO PEBBLES	●	○	○
8.8	ROUNDED GRAVEL/SAND MIXTURE, TRACE SILT, (45%) POORLY SORTED NO STRATIFICATION WITH INTERVAL; SAND; SILT AND SAND ARE BROWN NO COHESION NO PLASTICITY	●	○	○
		⊗	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GT03
Project: Georgia Pacific
Inspector: Jon Nicholson
Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	9	SW ↓ GP	PID=1.65 FID=1.1 15:52	N/A	GPS GT03-E	4/6/7/7	75% Rec.
	10		PID=0.22 FID=0.6		GPS GT03-F 16:04	9/8/7/7	60% Rec.
	12		PID=0.15 FID=0.42		GPS GT03 G 16:10	5/6/8/6	50% Rec.
	14	SP~~A~~ SM	PID=0.15 FID=0.4		GPS GT03 H 16:14	5/7/6/7	5% Rec.
	16						

PROJECT: Hudson River PCB Facility Siting
HOLE NO. GPS-GT03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
8.8 ↓	See description written on page 4			
	10'-12': CLASTS INCREASE IN SIZE & 3 Cm; well-Rounded, SUB Rounded; MOSTLY QUARTZ CLASTS. DRY.			
12.9→14	SAND IS more Angular; less Rounding STILL well-graded.			
14.4	ROUND CLAYS & well graded SAND; gravel 10%; Dry; Some Fines			

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GPS-GT03
Project: Georgia Pacific
Inspector: Jon Nickerson
Sheet: 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	17	SM GP ↓ CH ~~CL~~ CC	PID = 0.25 FID = 0.38	NA	GPS-GT03-I 16:29	7/8/50/12	50%
	18	REFUSAL BLACK WEATHERED SHALE	~~PID = 0.1~~ ~~FID = 0.3~~		GPS-GT03-J 16:37	6/4/50/0.3 (2)/10	30%
	19	Bottom of Hole @ 17.8' BGS					
	20						
	21						
	22						
	23						
	24						

PROJECT: HUDSON RIVER PCB FACILITY SITING
HOLE NO.: GPS-GT03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16 - 16.2	well graded sand, as described above			
16.2 → 17.0	Gravelly sand; rounded clasts to 1 (m)	X		X
	wet; trace silt			
	water @ 16.3' BGS			
17	wet silty clay, highly plastic, very cohesive.			
↓				
17.2	wet gravel / clay / sand mixture. Rounded clasts			
	w/ some shale fragments brown.			
↓				
17.8	weathered black shale, damp. Highly fractured			X

Georgia Pacific/New York State Canal Corporation Site

Supplemental Geotechnical Information

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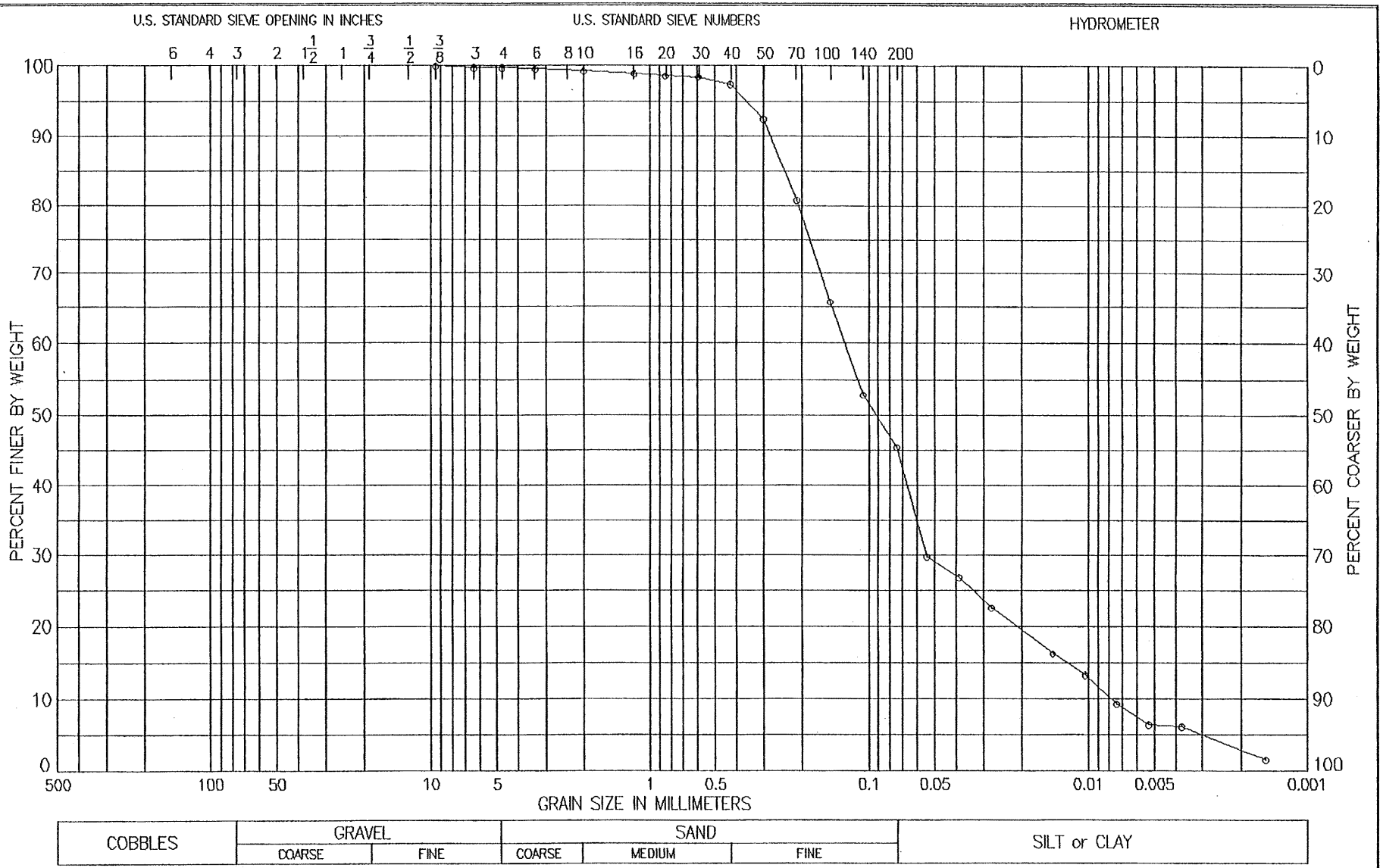
TABLE 1
SUMMARY

PROJECT: HUDSON RIVER PCB FACILITY SITING PROJECT

FILE NO.: 0204 | DATE: | CLASSIFIED BY: AT AND LDD

LOCATION OR BORING	SAMPLE NO.	ELEV. OR DEPTH	LL/PL	SAMPLE DESCRIPTION	NAT. W.C. %
GPS-GT01	A	0-2			14.0
GPS-GT01	B	2-4	21/18	SILTY SAND (SM), BROWN	18.9
GPS-GT01	D	6-8			23.9
GPS-GT01	E	8-10			28.9
GPS-GT01	F	10-12			34.8
GPS-GT01	G	12-14			23.0
GPS-GT01	H	14-16			30.6
GPS-GT01	I	16-18			24.1
GPS-GT01	J	18-20			24.7
GPS-GT01	K	20-21			23.3
GPS-GT02	B	2-4	25/21	SANDY SILTY CLAY (CL), BROWN	16.5
GPS-GT03	A	0.9-1.5	NP	GRAVELLY SILTY SAND (SM), GRAY	16.7
GPS-GT03	B	2-4			22.8
GPS-GT03	C	4-6			15.5
GPS-GT03	D	6-8			5.7
GPS-GT03	E	8-10			4.3
GPS-GT03	F	10-12			4.7
GPS-GT03	G	12-14	NP	GRAVELLY SILTY SAND (SW-SM), GRAY	5.7
GPS-GT03	H	14-16			4.9
GPS-GT03	I	16-17			28.6

REMARKS:



LL	PL	PI	GS	NAT W,%	ORG,%
21	18	3	2.68 EST	18.9	

CLASSIFICATION
SILTY SAND (SM), BROWN

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCB FACILITY SITING
PROJECT
BORING NO. GPS-GT01 SAMPLE NO. B
DEPTH/ELEV 2-4 DATE 06 NOV 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCB FACILITY SITING
PROJECT

BORING: GPS-GT01 SAMPLE: B DF: 0204 .DAT
DEPTH: 2-4 DATE: 06 NOV 03

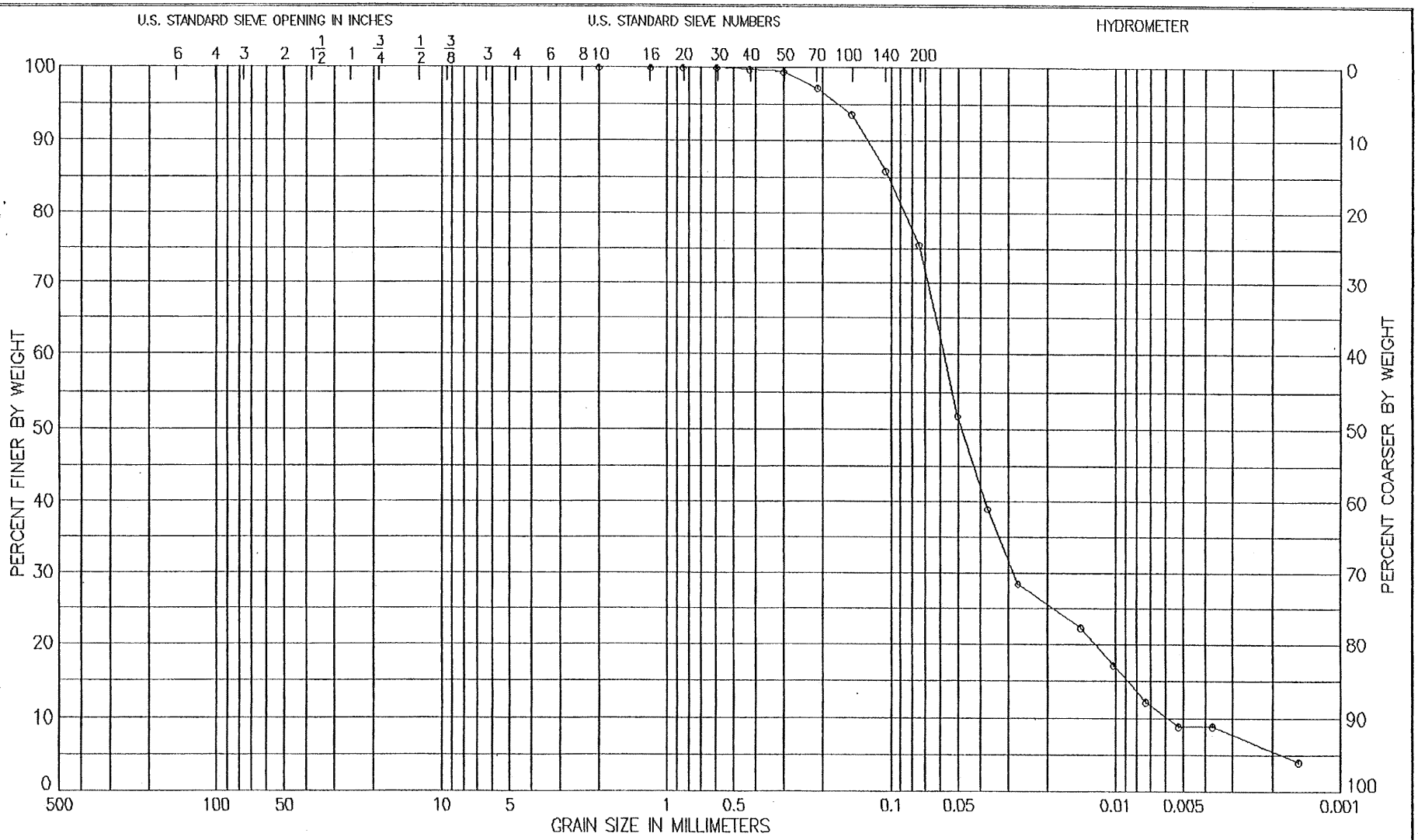
LL: 21 PL: 18 PI: 3 GS: 2.68 est WC: 18.90
CLASSIFICATION: 144
SILTY SAND (SM), BROWN

TOTAL WEIGHT OF SAMPLE: 513.8 gms.
PARTIAL WEIGHT AFTER SPLIT: 59.5 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	3/8 in	9.500	100.0	.0
1.2	No 3	6.350	99.8	.2
.0	No 4	4.750	99.8	.2
.9	No 6	3.350	99.6	.4
1.4	No 10	2.000	99.3	.7
.2	No 16	1.180	99.0	1.0
.4	No 20	.850	98.7	1.3
.5	No 30	.600	98.5	1.5
1.1	No 40	.425	97.5	2.5
4.1	No 50	.300	92.5	7.5
11.1	No 70	.212	80.8	19.2
20.1	No 100	.150	65.8	34.2
27.8	No 140	.106	52.9	47.1
32.3	No 200	.075	45.4	54.6
HYDROMETER:				
RDGS	TEMP			
11.1	23.0	.0542	29.8	70.2
10.0	23.0	.0387	26.9	73.1
8.4	23.0	.0277	22.6	77.4
6.0	23.0	.0146	16.2	83.8
4.9	23.0	.0104	13.3	86.7
3.4	23.0	.0074	9.3	90.7
2.3	23.0	.0053	6.4	93.6
2.1	23.5	.0038	6.1	93.9
.5	23.0	.0016	1.6	98.4

PERCENT GRAVEL = .2
PERCENT SAND = 54.4
PERCENT FINES = 45.4

EDE



LL	PL	PI	GS	NAT W,%	ORG,%
25	21	4	2.68 EST	16.5	

CLASSIFICATION
SANDY SILTY CLAY (CL), BROWN

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCB FACILITY SITING
PROJECT
BORING NO. GPS-GT02 SAMPLE NO. B
DEPTH/ELEV 2-4 DATE 06 NOV 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCB FACILITY SITING
PROJECT

BORING: GPS-GT02 SAMPLE: B DF: 0204 .DAT
DEPTH: 2-4 DATE: 06 NOV 03

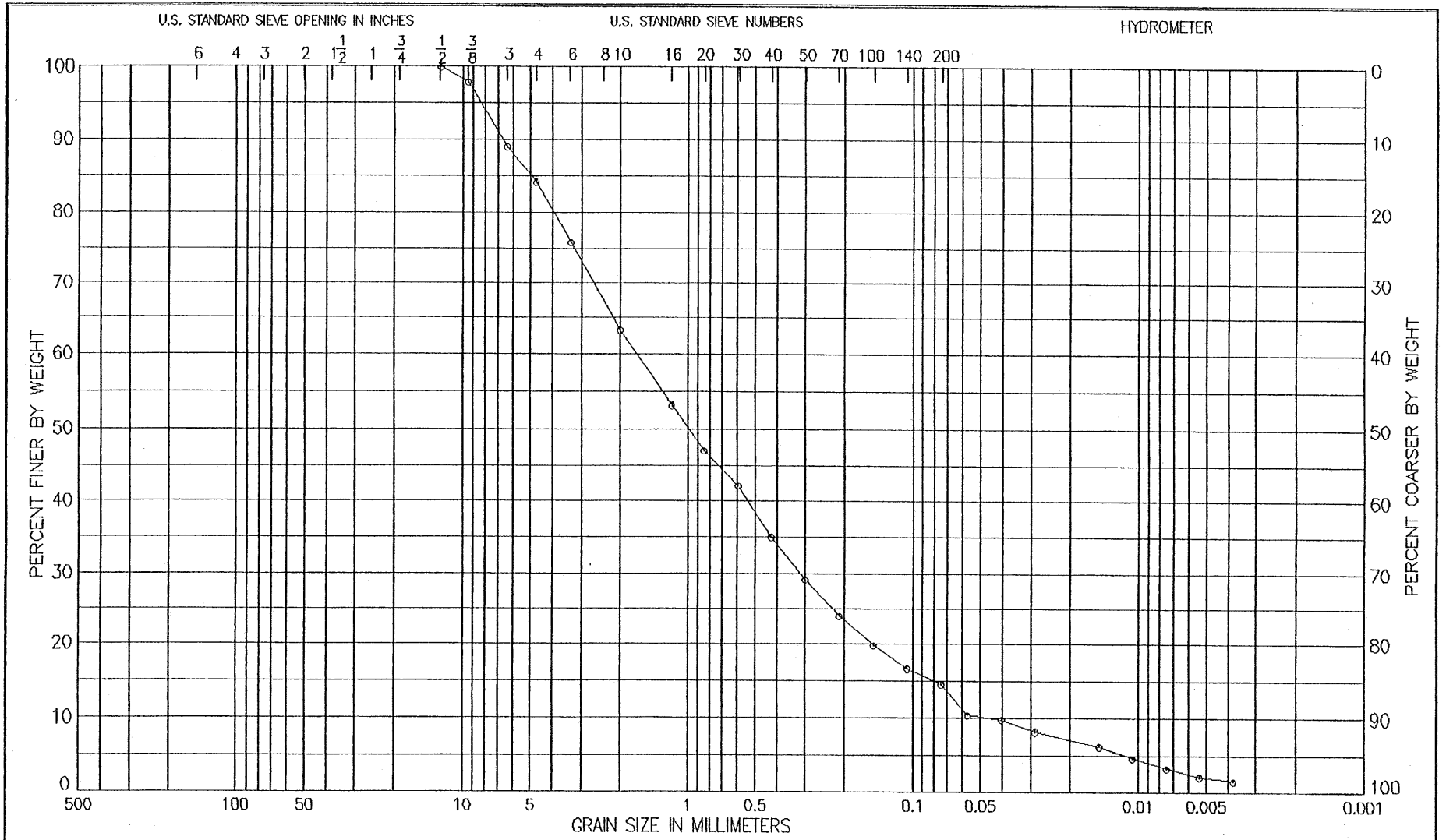
LL: 25 PL: 21 PI: 4 GS: 2.68 est WC: 16.50
CLASSIFICATION: 162
SANDY SILTY CLAY (CL), BROWN

TOTAL WEIGHT OF SAMPLE: .0 gms.
PARTIAL WEIGHT AFTER SPLIT: 58.8 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	No 10	2.000	100.0	.0
.0	No 16	1.180	100.0	.0
.0	No 20	.850	100.0	.0
.0	No 30	.600	100.0	.0
.1	No 40	.425	99.8	.2
.3	No 50	.300	99.5	.5
1.6	No 70	.212	97.3	2.7
3.7	No 100	.150	93.7	6.3
8.3	No 140	.106	85.9	14.1
14.4	No 200	.075	75.5	24.5
HYDROMETER:				
RDGS	TEMP			
19.0	23.0	.0505	51.8	48.2
14.3	23.0	.0373	39.1	60.9
10.4	23.0	.0273	28.5	71.5
8.1	23.0	.0144	22.2	77.8
6.2	23.0	.0103	17.1	82.9
4.4	23.0	.0074	12.2	87.8
3.2	23.0	.0053	9.0	91.0
3.1	23.5	.0037	9.0	91.0
1.4	23.0	.0015	4.1	95.9

PERCENT GRAVEL = .0
PERCENT SAND = 24.5
PERCENT FINES = 75.5

EDE



LL	PL	PI	GS	NAT W,%	ORG,%
NP			2.67 EST	16.7	

CLASSIFICATION
GRAVELLY SILTY SAND (SM), GRAY

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCB FACILITY SITING
PROJECT
BORING NO. GPS-GT03 SAMPLE NO. A
DEPTH/ELEV 0.9-1.5 DATE 06 NOV 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCB FACILITY SITING
PROJECT

BORING: GPS-GT03 SAMPLE: A DF: 0204 .DAT
DEPTH: 0.9-1.5 DATE: 06 NOV 03

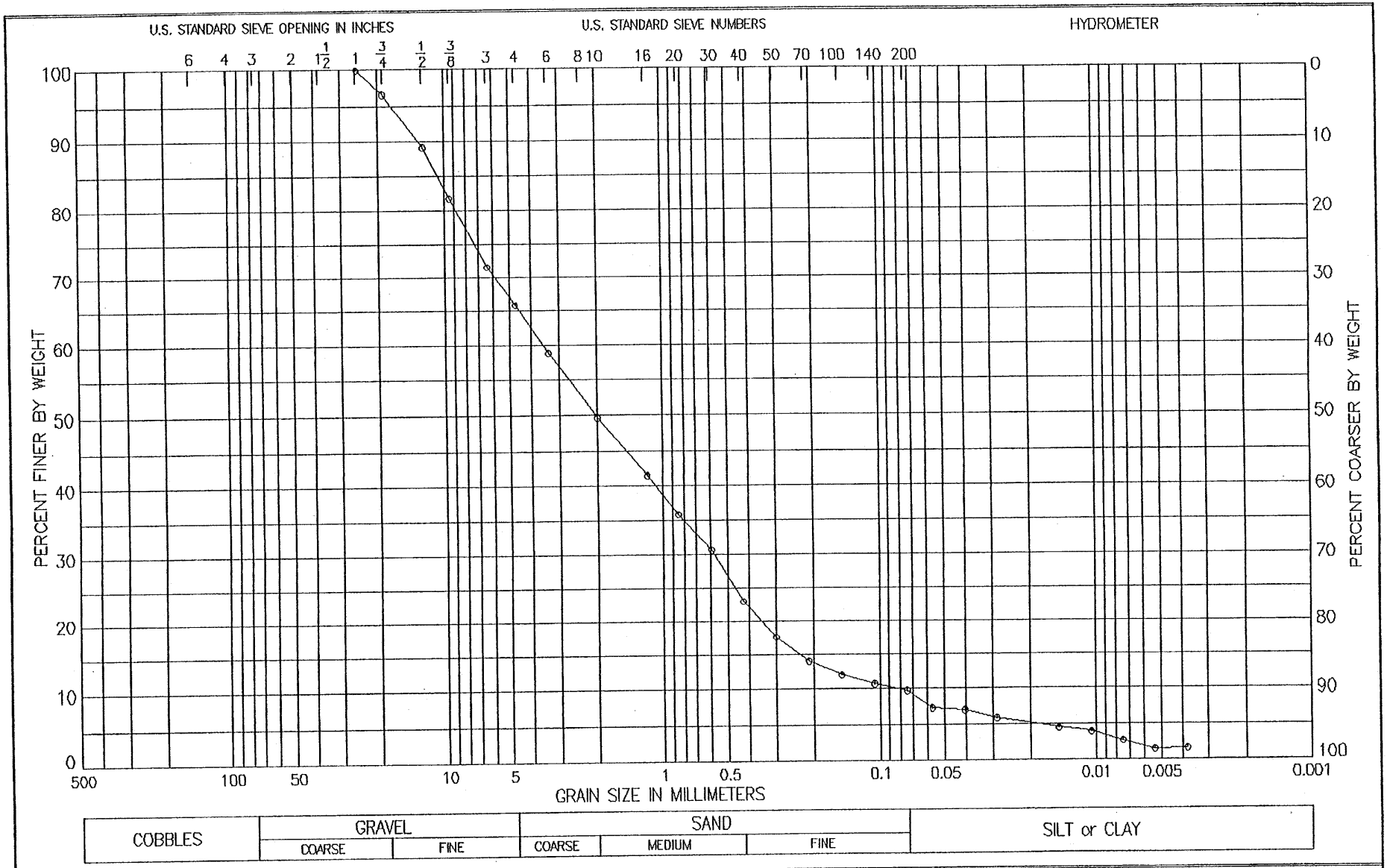
NON-PLASTIC GS: 2.67 est WC: 16.70
CLASSIFICATION: 180
GRAVELLY SILTY SAND (SM), GRAY

TOTAL WEIGHT OF SAMPLE: 553.6 gms.
PARTIAL WEIGHT AFTER SPLIT: 51.5 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	1/2 in	12.500	100.0	.0
11.2	3/8 in	9.500	98.0	2.0
49.3	No 3	6.350	89.1	10.9
27.2	No 4	4.750	84.2	15.8
46.1	No 6	3.350	75.8	24.2
69.4	No 10	2.000	63.3	36.7
8.2	No 16	1.180	53.2	46.8
13.2	No 20	.850	47.1	52.9
17.2	No 30	.600	42.2	57.8
23.0	No 40	.425	35.0	65.0
27.8	No 50	.300	29.1	70.9
32.0	No 70	.212	24.0	76.0
35.4	No 100	.150	19.8	80.2
38.0	No 140	.106	16.6	83.4
39.7	No 200	.075	14.5	85.5
HYDROMETER:				
RDGS	TEMP			
5.2	23.0	.0571	10.4	89.6
4.9	23.0	.0404	9.8	90.2
4.1	23.0	.0288	8.3	91.7
3.1	23.0	.0150	6.3	93.7
2.3	23.0	.0107	4.7	95.3
1.6	23.0	.0076	3.3	96.7
1.0	23.0	.0054	2.2	97.8
.6	23.5	.0038	1.6	98.4

PERCENT GRAVEL = 15.8
PERCENT SAND = 69.7
PERCENT FINES = 14.5

EDE



LL	PL	PI	GS	NAT W,%	ORG,%
NP			2.67 EST	5.7	

CLASSIFICATION
GRAVELLY SILTY SAND (SW–SM), GRAY

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCB FACILITY SITING
PROJECT
BORING NO. GPS–GT03 SAMPLE NO. G
DEPTH/ELEV 12–14 DATE 06 NOV 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCB FACILITY SITING
PROJECT

BORING: GPS-GT03 SAMPLE: G DF: 0204 .DAT
DEPTH: 12-14 DATE: 06 NOV 03

NON-PLASTIC GS: 2.67 est WC: 5.70
CLASSIFICATION: 198
GRAVELLY SILTY SAND (SW-SM), GRAY

TOTAL WEIGHT OF SAMPLE: 1494.0 gms.
PARTIAL WEIGHT AFTER SPLIT: 57.4 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	1 in	25.000	100.0	.0
49.6	3/4 in	19.100	96.7	3.3
112.0	1/2 in	12.500	89.2	10.8
111.0	3/8 in	9.500	81.8	18.2
151.2	No 3	6.350	71.6	28.4
85.6	No 4	4.750	65.9	34.1
104.5	No 6	3.350	58.9	41.1
138.1	No 10	2.000	49.7	50.3
9.4	No 16	1.180	41.5	58.5
15.9	No 20	.850	35.9	64.1
21.9	No 30	.600	30.7	69.3
30.8	No 40	.425	23.0	77.0
37.1	No 50	.300	17.6	82.4
41.2	No 70	.212	14.0	86.0
43.5	No 100	.150	12.0	88.0
45.0	No 140	.106	10.7	89.3
46.1	No 200	.075	9.8	90.2
HYDROMETER:				
RDGS	TEMP			
5.2	23.0	.0571	7.3	92.7
5.0	23.0	.0404	7.1	92.9
4.2	23.0	.0288	5.9	94.1
3.2	23.0	.0150	4.6	95.4
2.8	23.0	.0106	4.0	96.0
1.9	23.0	.0076	2.8	97.2
1.0	23.0	.0054	1.5	98.5
1.0	23.5	.0038	1.7	98.3

PERCENT GRAVEL = 34.1
PERCENT SAND = 56.1
PERCENT FINES = 9.8

D60 = 3.57
D30 = .58
D10 = .08
CU = 43.38
CC = 1.16

EDE

Direct Push Technology (DPT)
Bore Logs From The
New York State Canal Corporation/Allco/Leyerle Site

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Borehole Record for NCC-GP01

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

District: Kansas City		Hole Number: NCC-GP01
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar / Geologic Inc.	Sheet 1 of 3
3. Project: Hudson Facility Siting	4. Location: Halfmoon, NY.	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" OD. Geoprobe Rods with acetate sleeves and discrete soil sampling System	8. Hole Location: East of Rt 4, south end of site	
	9. Surface Elevation	
	10. Date Started: 10-9-03	11. Date Completed: 10-9-03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: ~14' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 13.35' after 11 minutes	
14. Total Depth of Hole: 25'	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —			19. Total Number of Core Boxes: NA	
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): 5 VOCs	Other (Specify): Pest/PCBs	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert A Myer			

LOCATION SKETCH/COMMENTS **SCALE:**

See NCC-GP03 Log

PROJECT Hudson Superfund Facility Siting **HOLE NO.** NCC-GP01

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

Lock Number un-numbered Master Lock

SCREENED WELL

Stick-up 2.5 ft

Top of Grout NA ft

Sand 2' to surface

Top of Seal at 2 ft

Top of Sand Pack 4 ft

Top of Screen at 13 ft

Bottom of Screen at 23 ft

Bottom of Hole at 25 ft

Bottom of Sandpack at 23' BGS

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets

Cement

Borehole Diameter 1.75 inches

Cement/ Bentonite

Grout

Screen Slot Size .010"

Screen Type slotted

☒ PVC sch. 40, 1" dia.

☐ Stainless Steel

Pack Type/Size:

☒ Sand No. 0

☐ Gravel

☐ Natural

OPEN-HOLE WELL

Stick-up ft

Inner Casing Material

Inner Casing Inside Diameter inches

Outer Casing Diameter inches

Borehole Diameter ft

Bedrock ft

Bottom of Rock Socket/ Outer Casing ft

Bottom of Inner Casing ft

Corehole Diameter

Bottom of Corehole ft

NOTE: See pages 136 and 137 for well construction diagrams

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: NCC-GP01

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 3 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' TO 4' Fill (CC)		N/A		NA	
	1		0 ppm FID/PID in BZ and off soil core				4' Run 1.8' Rec
	2						
	3						
	4	4' to 8' Fill (CC)					
	5						4' Run 1.9' Rec.
	6						
	7						
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: NCC-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4', Fill Materials, Shale Fragments and silty clay with some VF to Coarse sand, Gray dry to Moist	⊗	⊗	○
	4' to 8', Moist, Fill as above	✓	✓	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: NCC-GP01

Project: Hudson Facility Siting

Inspector: Robert a Meyer

Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to ≃10' Fill (CC)	0ppm FID/PID	NA		NA	4' Run 2.6' Rec.
	9						
	10	≃10' to 12' CL					
	11						
	12	12' to 16' CL					4' Run 1.6' Rec.
	13						
	14						Water @ ≃14' BGS
	15						
	16						

PROJECT: Hudson Facility Siting

HOLE NO.: NCC-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to ≃10', Fill as above, shale fragments	○	○	○
	≃10' to 12', Silty Gray/brown Clay with trace silt and shale Fragments	○	○	○
	12' to 16', Silty Clay as above Water @ ≃ 14' BGS	○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: NCC-GP01

Project: Hudson Facility Siting | Inspector: Robert A Meyer | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 19.5' CL	↑ 0 ppm in BZ and off soil	NA		NA	4' Run 3.9' Rec.
	17						
	18						
	19						
		19.5' to 20' SP					
	20						
	21						4' Run 3.4' Rec.
	22		FID=0.2 ppm PID=0.5 ppm		1740 Collect NCC-GP01-SB From 22' to 24' BGS		
	23						
	24						1' Run 0.9' Rec.
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: NCC-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 19.5' Silty brown Clay with little VF sand	○	○	⊗
	19.5' to 20' VF to coarse Sand and some Rounded fine pebbles, iron staining	○	○	○
	20' to 24' Sand and pebbles as above with iron staining and little silt.	○	○	○
	24' to 25' mix of silt, VF to Coarse sand and fine rounded Pebbles	○	○	○
	B.O.H @ 25' BGS	○	○	○

Borehole Record for NCC-GP02

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

District: Kansas City		Hole Number: NCC-GP02
1. Company Name: Ecology + Env	2. Drill Subcontractor: Northstar Drilling	Sheet 1 of 4 Sheets
3. Project: Canal Corp / Alco / Leyerle	4. Location: Halfmoon, NY	
5. Name of Driller: Steve Laramie; Northstar Drilling	6. Manufacturer's Designation of Drill: CME-45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4 1/4 HSA; 2" X 24" split spoon	8. Hole Location: North of Driveway Area at Alco Buildings	
	9. Surface Elevation:	
	10. Date Started: 10/7/03	11. Date Completed: 10/7/03
12. Overburden Thickness: 3.8'	15. Depth Groundwater Encountered: N/A Dry Hole	
13. Depth Drilled Into Rock: 3.1'	16. Depth to Water and Elapsed Time After Drilling Completed: N/A	
14. Total Depth of Hole: 6.9'	17. Other Water Level Managements (Specify): N/A	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
	0	1	

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery %
SVOCs, Cyanide, PCB/Pest	01	01	Grain Size	Moisture	Atterberg	N/A

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	X	—		[signature]

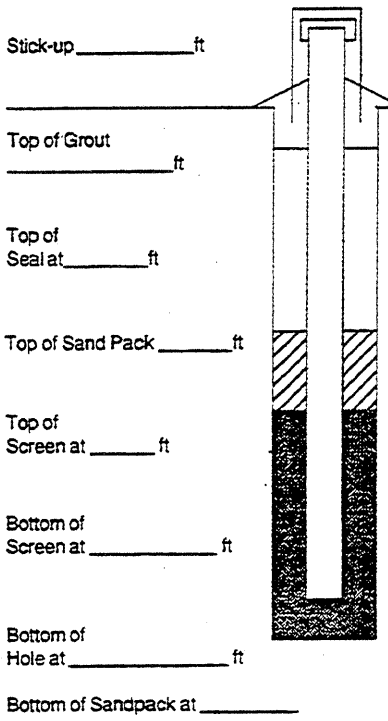
LOCATION SKETCH/COMMENTS SCALE:

See Figure for GT01

PROJECT **HOLE NO.** NCC-GP02

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM



Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets _____
Cement _____
Borehole _____ inches Diameter
Cement/ Bentonite _____
Grout _____
Screen Slot Size _____
Screen Type _____
☐ PVC _____
☐ Stainless Steel ____
Pack Type/Size:
☐ Sand _____
☐ Gravel _____
☐ Natural _____



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

DRY Hole; no well constructed

-Sample NCC-GP02-SB Collected for VOC, SVOC, PCB/Pesticide, TAL Metals, TAL Cyanide @ 15:30. from TH 0'-2' Depth Interval

- All Breathing Zone TVA-1000 Reading < 1 ppm.

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: NCC-GP02

Project: NYS Canal Corp/Alco/Leyerle

Inspector: Jon Nickerson

Sheet 3 of 4 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
		OL		N/A			
	1	GM	PID = 0.45 FID = 0.38		NCC-GP02-SB 15:30	3" spoon used; Blow counts not appropriate	90%
	2		PID = 0.45 FID = 0.32			3/3/5/31	
	3	ML					
	4	Weathered Shale	PID = 1.45 FID = 0.35			20/50/.4	30%
	5						
	6		PID = 0.2 FID = 0.54			33/50/.04	
	7	Bottom of hole = 6.9' BGS					
	8						

PROJECT: Hudson River PCB Facility Siting

HOLE NO. NCC-GP02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content Dry	Moist	Wet
	0-0.4 Brown silty loam; gravel 20%; Dry			
	0.4- Dry gravelly silty; Brown, very low cohesion; No plasticity			
	Angular gravel ≈10%.			
	Continuation.			
	~~0.4~~- Gravel/silt/sand mixture. Brown Angular			
	clasts of black shale ≈ 15%			
	2.8 Grades to a brown clay silt; minor gravel (10%)			
	Damp; low-mod cohesion. Low plasticity; soft. Gravel			
	consists of angular black shale fragments			
	3.8': Moist			
	3.8 → 6.9 Gray weathered shale. Dry. Angular;			
	Trace silt			
	Fine laminations ~~preserved in~~ noted in 5.5'-6.0'			
	interval			
	Auger refusal at 6.0 feet BGS. Split spoon			
	refusal at 6.9 feet BGS. Dry black/			
	gray shale; more competent with depth.			

Borehole Record for ~~NCC-GT03~~ NCC-GP03

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

10/1/03

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HTRW DRILLING LOG

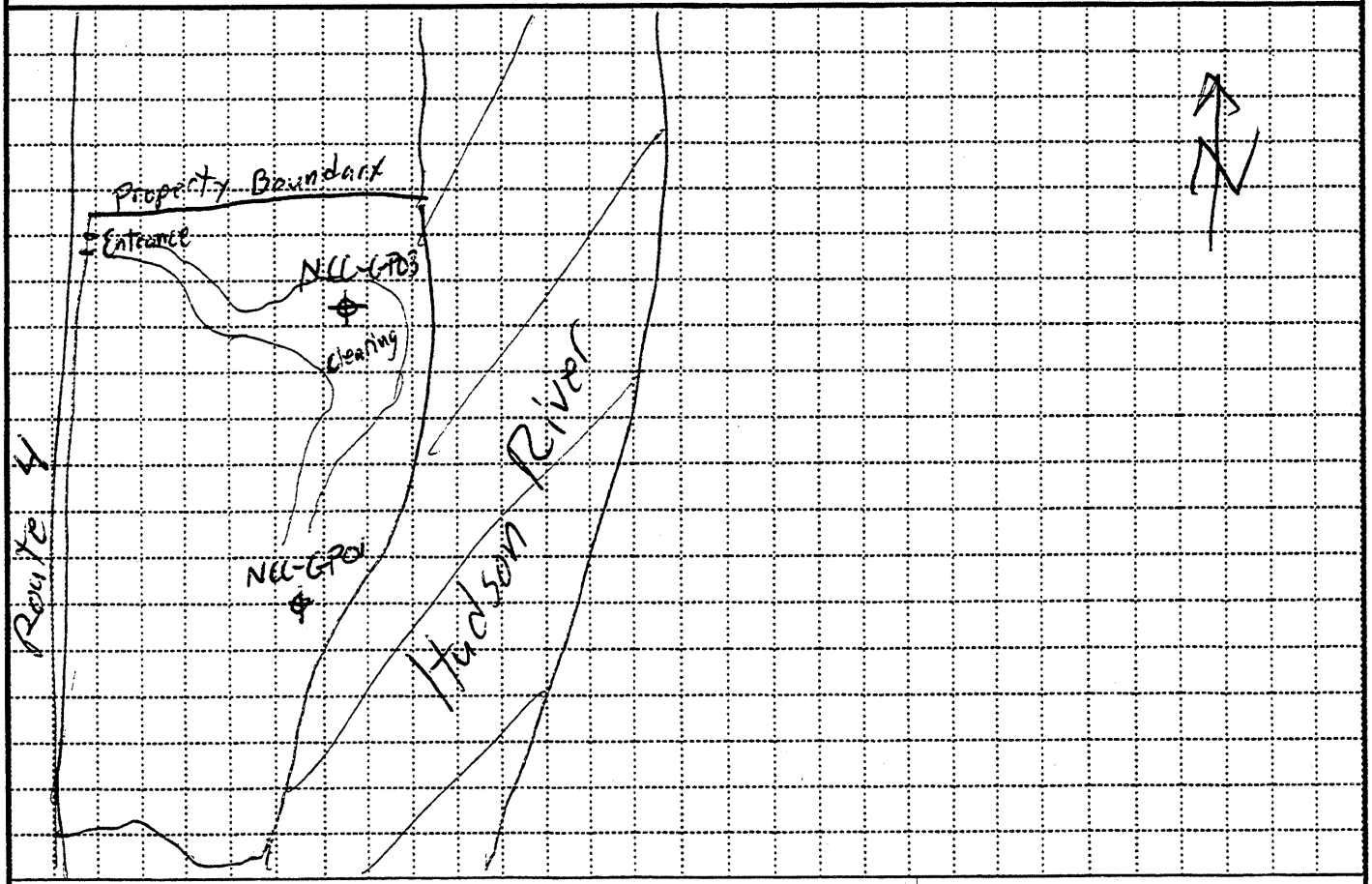
District: Kansas City Corps		Hole Number: NCC-GP03
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc	Sheet 1 of 8 Sheets
3. Project: Hudson Superfund Facility Siting	4. Location: Halfmoon, NY	
5. Name of Driller: ~~Steve Labarnia/Dennis Hendrickson~~ Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" OD Geoprobe Rods with Acetate Sleeves and Discrete Soil Sampling system	8. Hole Location: East of Rt. 4, North end of property	
	9. Surface Elevation:	
	10. Date Started: 10-9-03	11. Date Completed: 10-9-03
12. Overburden Thickness: 22.9'	15. Depth Groundwater Encountered: 13.4' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 10.08' BGS after 20 minutes	
14. Total Depth of Hole: 22.9'	17. Other Water Level Managements (Specify):	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
NA	—	—	NA

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	✓	✓	SVOC	Pest/PCB	CN	NA %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
		Temporary		Robert [illegible]

LOCATION SKETCH/COMMENTS **SCALE:**



PROJECT	HOLE NO.
Hudson River PCB Facility Siting	NCC-GP03

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

Well 2

Lock Number un-numbered Master Lock

SCREENED WELL

Stick-up 2.65 ft

Top of Grout NA ft

Top of Seal at 2 ft

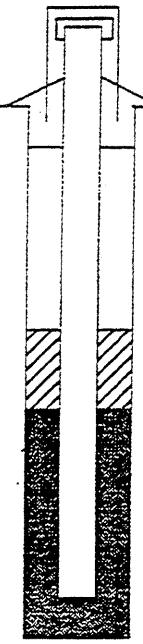
Top of Sand Pack 4 ft

Top of Screen at 11 ft

Bottom of Screen at 21 ft

Bottom of Hole at 22.9 ft

Bottom of Sandpack at 22.9



Inner Casing Material NA

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole Diameter 1.75 inches

Cement/ Bentonite _____

Grout _____

Screen Slot Size .010"

Screen Type slotted

☒ PVC sch. 40, 1" dia.

☐ Stainless Steel ____

Pack Type/Size:

☒ Sand No. 0

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

HTRW DRILLING LOG (Continuation Sheet)

Project	Inspector	Hole Number	Sheet / Sheets
NYS Canal Corp	Joe Nickerson RA / Robert A Myers	NCC-GP03	3 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
		0' to 4' GM (Fill)	0ppm FID/PID BZ & Soil	NA	N/A	NA	
	1						4' Run 2.2' Rec.
	2						
	3						
	4	4' to 8' GM (Fill)					
	5						
	6						4' Run 3.3' Rec.
	7						
	8						

PROJECT	HOLE NO.
Hudson River PCB Facility Siting	NCC-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4', Angular gray Shale Fragments with some VF to Coarse Sand and Silt	⊗	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		⊗	○	○
	4' to 8', Shale Fragments as above	⊗	⊗	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		✓	✓	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: NCC-GP03

Project: Hudson Facility Siting | Inspector: Robert a Mayo | Sheet 5 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 12' GM	0ppm FID/PID BZ & soil	NA		NA	
	9						4' Run 3.3' Rec
	10		0.3 ppm FID and ≃0.2 ppm PID				
	11		0ppm FID/PID BZ & soil				
	12	12' to 16' CL					
	13		3.2 PID ≃0.5 FID				4' Run 4' Rec. Water @ 13.4' BGS
	14				1540 collect NCC-GP03-SB From 14' to 16' BGS		
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: NCC-GP03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	8' to 12', Shale Fragments with Some VF to coarse Sand and Silt and Trace clay. Wet clay layer from ≈ 10.5' to 10.9' BGS.	
	12' to 16', Silty Clay with some angular shale few VF to coarse sand Water @ 13.4' BGS	

EM 1110-1-4000
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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: NCL-GP03

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20' GP	0ppm FID/PID in BZ and Soil core	NA		NA	4' Run 4' Rec
	17						
	18						
	19						
	20	20' to 21.4' GP					2.9' Run 2.7' Rec.
	21	21.4' to 22.9' CC					
	22	Refusal @ 22.9' BGS					

PROJECT: Hudson Facility Siting | HOLE NO.: NCL-GP03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20' Med. to coarse sand and fine pebbles with little clayey silt	○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	20' to 22.9', Refusal @ 22.9' BGS	○	○	○
	20' to 21.4', Sand and pebbles as above with	○	○	✓
	silty Clay and rounded fine to coarse	○	○	○
	pebbles from 21.4' to 22.9'	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	B.O.H @ 22.9' BGS	○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

Geotecnical Bore Logs
From The
New York State Canal Corporation/Allco/Leyerle Site

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Borehole Record for NCG-670 /~~NCG-6705~~

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

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HTRW DRILLING LOG

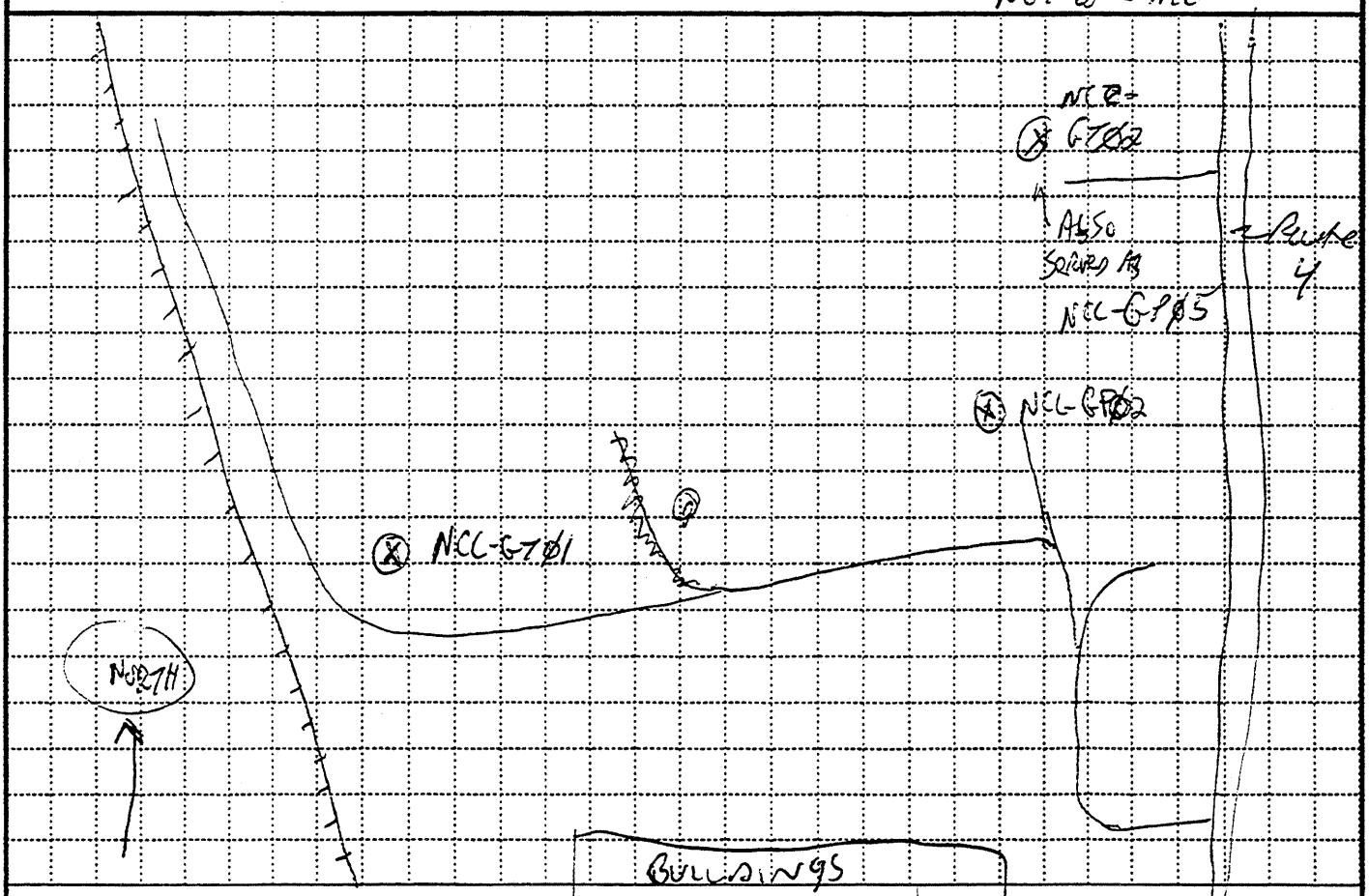
District: Kansas City Corp		Hole Number: NCC-GT01
1. Company Name: Ecology + Environment, Inc	2. Drill Subcontractor: Geologic / Nortastar	Sheet 1 of ~~2~~ 4 Sheets
3. Project: NYS Canal Corp/Alco/Leyerle Hudson River PCB Facility Siting	4. Location: Halfmoon, NY	
5. Name of Driller	6. Manufacturer's Designation of Drill: CME-45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4 1/4" HSA; 2" X 24" Split Spoon Sampler	8. Hole Location: SW Corner of Alco property, East of Railroad	
	9. Surface Elevation	
	10. Date Started: 10/7/03	11. Date Completed: 10/7/03
12. Overburden Thickness: 6.5'	15. Depth Groundwater Encountered: 2.0	
13. Depth Drilled Into Rock: 0' into Competent Rock	16. Depth to Water and Elapsed Time After Drilling Completed: 1.8' Wangers Withdrawn	
14. Total Depth of Hole: 6.5'	17. Other Water Level Managements (Specify): N/A	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
		~~4~~ 1	None

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
0	0	0	0	0	0	0 %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	X 1			[signature]

LOCATION SKETCH/COMMENTS SCALE: Not to Scale



PROJECT	HOLE NO.
~~New York State Canal~~ Hudson River PCB Facility	NCC-GT01

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

SCREENED WELL

Stick-up _____ ft

Top of Grout _____ ft

Top of Seal at _____ ft

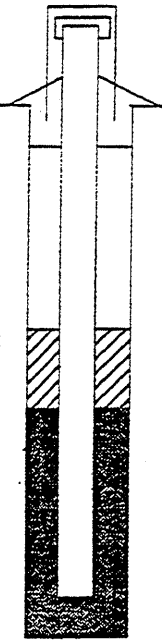
Top of Sand Pack _____ ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____



Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole Diameter _____ inches

Cement/ Bentonite _____

Grout _____

Screen Slot Size _____

Screen Type _____

☐ PVC _____

☐ Stainless Steel _____

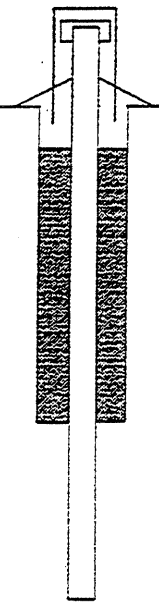
Pack Type/Size:

☐ Sand _____

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

- No well installed Borehole drilled for Geotechnical purposes only

- Collected soil for full analysis from 0'-2' interval
Suite of geotech

Sample Number NCC-GT01-A, at 14:10, from the 0'-2' interval (particle size, moisture content, atterberg limits)
(B) 10/7/03

- All breathing zone TVA-1000 readings <1 ppm

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: NCC-GT01

Project: NY Canal Corp/Allco/Leyerle

Inspector: Jon Nickerson

Sheet 3 of 4

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	1	GM	PID = 0.8 FID = 1.2	N/A	NCC-GT01-A	2/4/2/3 14:10	30% Rec
	2	GM (no sand)					
	3	CC	PID = 2.3 FID = 1.1			5/8/14/15 14:16	30% Rec
	4		PID = 1.8 FID = 2.7			22/50/0.3 14:26	60%
	5	Split spoon Refusal Weathered Shale					
	6	Auger Refusal	PID = 0.85 FID = 0.73			50/0.1	@ 5%
	7		Bottom	of Hole = 6.5' BGS			
	8						

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: NCC-GT01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
0'-.04	Brown Organic Silt Loam w/Gravel 30%	
0.4-1.6	Gravel/Sand/Silt; Brown; Damp; m.g. F.g. And C.g. Sand. Gravel: Angular - Subangular Clasts	
1.6	Silty Gravel; Angular Clasts; Trace F.g. Sand	
	2': Water Table	
2.0'-4.8	Clay Content ~~5~~ 10% Clay gravel-silt mixture, Rounded and Subrounded Clasts. Sand = m.g. And F.g.; Brown. Clay provides low-mod cohesion, minimal plasticity. Saturated	
4.8	Split Spoon Refusal Abrupt change to Dry weathered Black Shale Gray; Silt 10%	
6.5	Auger Refusal	

Borehole Record for NCL-G702 / GP05

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

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HTRW DRILLING LOG

	District: KANSAS CITY CORPS	Hole Number: NCC-GT02
1. Company Name: ECOLOGY AND ENVIRONMENT INC	2. Drill Subcontractor: GEOLOGIC/NORTHSTAR	Sheet 1 of 10
3. Project: HUDSON RIVER PCB FACILITY SITING / NYS CANAL CORP	4. Location: HALFMOON, NY	
5. Name of Driller: DENNIS HOWES / STEVE LARAMEE	6. Manufacturer's Designation of Drill: CME-45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4¼" HSA; 2" X 24" SPLIT SPOON SAMPLER	8. Hole Location: 100' West of Pt 4, NE Side of NCC PARCEL	
	9. Surface Elevation	
	10. Date Started: 10/7/03	11. Date Completed: 10/8/03
12. Overburden Thickness: 11'	15. Depth Groundwater Encountered: NOT ENCOUNTERED	
13. Depth Drilled Into Rock: 0'	16. Depth to Water and Elapsed Time After Drilling Completed: —	
14. Total Depth of Hole: 11'	17. Other Water Level Managements (Specify): —	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
	0	6	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	1	1	PCB/Pest	CYANIDE	SVOCs	0 %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
				Jon Peterson

LOCATION SKETCH/COMMENTS SCALE:

NCC-
Refer to GT01 LOCATION ~~FOR~~ SKETCH FOR DETAILS

PROJECT	HOLE NO.
HUDSON RIVER PCB FACILITY SITING	NCC-GT02

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

SCREENED WELL

Stick-up _____ ft

Top of Grout _____ ft

Top of Seal at _____ ft

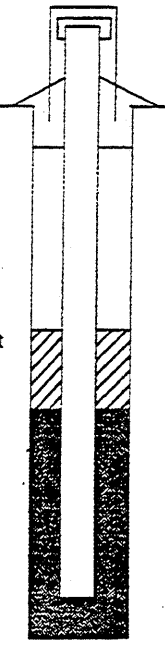
Top of Sand Pack _____ ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____



Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole Diameter _____ inches

Cement/ Bentonite _____

Grout _____

Screen Slot Size _____

Screen Type _____

☐ PVC _____

☐ Stainless Steel _____

Pack Type/Size:

☐ Sand _____

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

- No well Constructed; Borehole for Geotechnical Information only

- Collected ~~Ge~~ Geoprobe Sample NCC-GP05-SB at the 4'-6' interval of GT02

This Geotechnical Boring was selected & also serve as a Geoprobe Boring, as the Geoprobe could not bore through this rock/weathered rock matrix.

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: NCC-GTO2
Project: NYS CANAL Corp
Inspector: Jon NICKERSON
Sheet: 3 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	1	GM	PID = 0.6 FID = 0.2	NA	NCC-GP07-A	3/5/5/4	30% Rec
	2		PID = 4.2 FID = 0.3	NCC-GP05-SB	NCC-GP07-B	3/12/40 50	80% Rec
	3	BLACK SHALE FRAGMENTS GW			NCC-GP07-SB	10:10	
	4		PID = 0.3		NCC-GP07-C	12/40 50/03	
	5	SPLIT SPOON REFUSAL					
	6	WEATHERED SHALE	PID = 0.3		10:16		
	7				NCC-GP07-D	24/50 50/04	50%
	8				1624		

PROJECT: HUDSON RIVER PCB FACILITY SITING
HOLE NO.: NCC-GTO2

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0-2.6	GRAVEL/SILT/SAND MIXTURE BROWN FINE SILT; BROWN M.g AND C.g SAND; GRAVEL CASY TO 2cm IN LENGTH; ROUNDED	X		
2.6' → 5.3	BLACK SHALE; APPEAR TO BE CRUSHED BY THE SPLIT SPOON SAMPLE COLLECTION PROCESS. TRACE of V.F.g SAND AND BROWN SILT; LIKELY WAS W/IN NATURAL FRACTURES of SHALE. DRILLER STATES IT IS A GRAVEL LAYER; ~~NOT~~ BEDROCK? DRY.	X		
	AT 5.3: REFUSAL. SHALE FRAGMENTS IN THE 5.0 → 5.3 INTERVAL ARE larger (UP TO 1cm); SHARP, ANGULAR; SILT AND V.F.g SAND PRESENT ≤10%. NO ROUNDED INCLUSIONS IN gravels all gravel is BLACK SHALE			
	AUGERED TO 6'. DRILLER INDICATE DRILLING IS NO MORE RESISTANT WITH DEPTH			

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: NCC-GT02

Project: NYS Canal Corp/Alco/Leyerle

Inspector: Jon Nickerson

Sheet 5 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	9	Weathered Black Shale	PID = 0.25	N/A	NCC-GT02-E 11:31	50/0	5%; ~~Likely~~ @
	10		PID = 1.3		NCC-GT02-F 11:40	50/0.3	5%
	11	Bottom of Hole: 11.0' BGS					
	12						
	13						
	14						
	15						
	16						

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: NCC-GT02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
		●	○	○
	WEATHERED SHALE CONTINUES	●	○	○
	REFUSAL ON SPLIT SPOON @ 8'	●	○	○
		●	○	○
		●	○	○
		●	○	○
		●	○	○
		●	○	○
		●	○	○
		●	○	○
11.0	~~AUGER~~ REFUSAL @ Auger Refusal. Completely Dry Weathered Shale, Now Competent.	●	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

Borehole Record for NCC-GT03

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

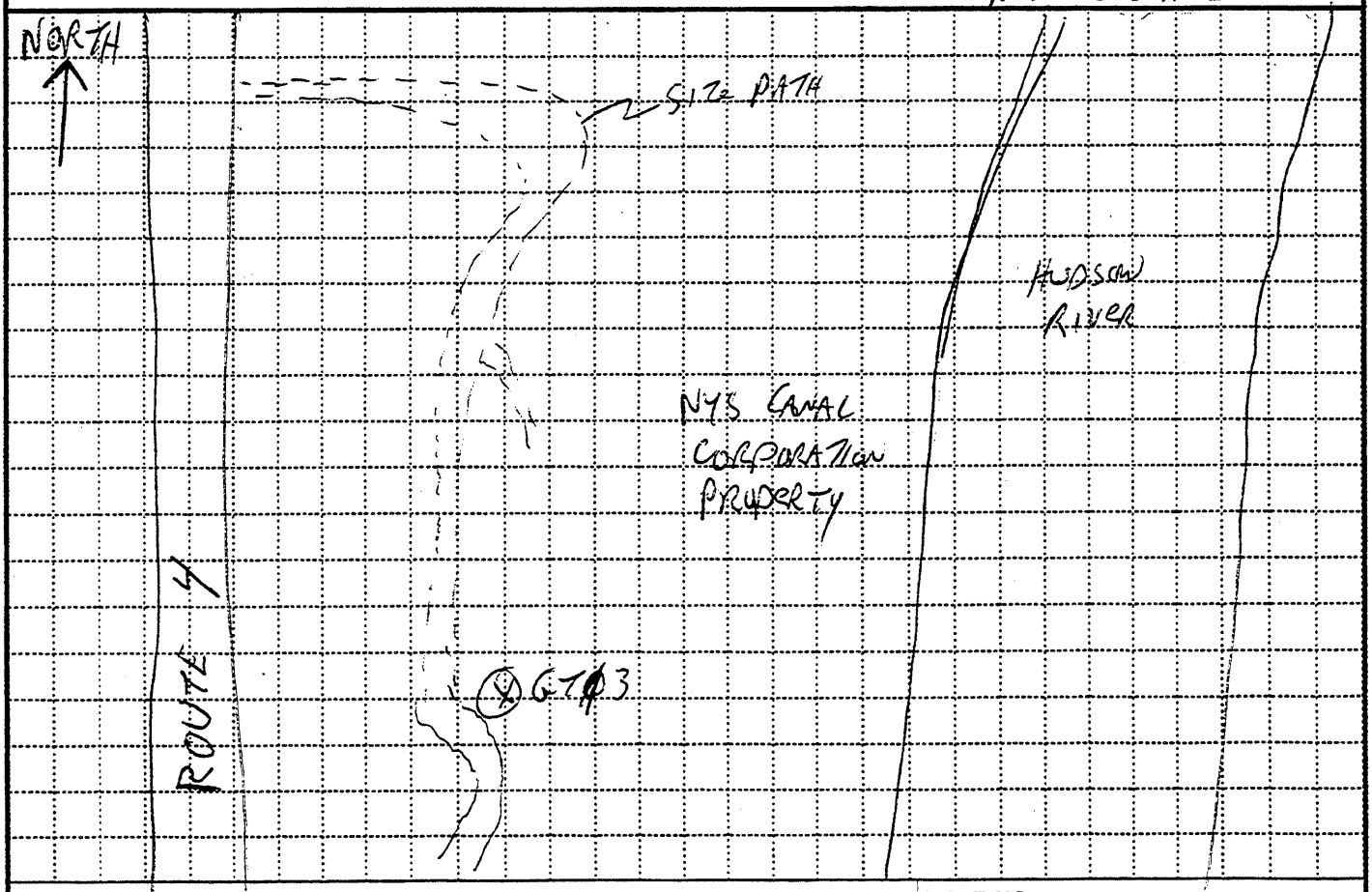
District: Kansas City		Hole Number: NCC-GT03
1. Company Name: Ecology and Environment, Inc	2. Drill Subcontractor: Northstar / Geologic	Sheet 1 of 10 Sheets
3. Project: NYS Canal Corp / Auco / Leyerle	4. Location: Halfmoon, NY	
5. Name of Driller: Steve Laramie	6. Manufacturer's Designation of Drill: CME-45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4 1/4" HSA; 2" X 24" Split Spoons	8. Hole Location: NYS Canal Corp; Central Part of Site	
	9. Surface Elevation:	
	10. Date Started: 10/9/03	11. Date Completed: 10/9/03
12. Overburden Thickness: >26'	15. Depth Groundwater Encountered:	
13. Depth Drilled Into Rock: 0	16. Depth to Water and Elapsed Time After Drilling Completed: @ in augers ≈ 17.7'	
14. Total Depth of Hole: 26'	17. Other Water Level Managements (Specify):	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
	0	13	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	0	0	0	0	0	N/A %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	X 1			Jim Mickerson

LOCATION SKETCH/COMMENTS **SCALE:** Not to Scale



PROJECT	HOLE NO.
Hudson River PCB Facility Siting	NCC-GT03

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

SCREENED WELL

Stick-up _____ ft

Top of Grout _____ ft

Top of Seal at _____ ft

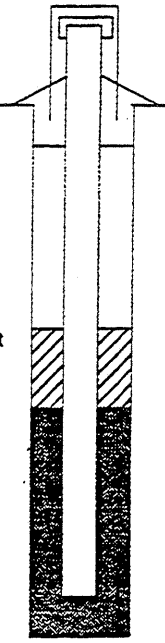
Top of Sand Pack _____ ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____



Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole Diameter _____ inches

Cement/ Bentonite _____

Grout _____

Screen Slot Size _____

Screen Type _____

☐ PVC _____

☐ Stainless Steel _____

Pack Type/Size:

☐ Sand _____

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

- Borehole drilled for geotechnical purposes only, no well constructed

- Samples collected for continuous moisture profiling

- Sample collected from the 4'-6' depth interval: NCC-GT03C- at 08:50; will submit for particle size and Atterburg limits, in addition to moisture content analysis

- All breating zone TVA-1000 readings were < 1 ppm

HTRW DRILLING LOG (Continuation Sheet)

Project	Inspector	Hole Number	Sheet	Sheets
NYS Canal Corp/Auco/Legoria	Jon Nickerson	NCC-GT03	3	of 0

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
		OL			N/A		
		GM ↓	FID = 0.1 PID = 0.1	NCC-GT03-A 0841		3/4/3/2	50% Rec
	1						
	2	Weathered Shale/GW	FID = 0 FID = 0	NCC-GT03-B 0847		2/2/2/7	60% Rec.
	3	GW/GM ↓					
	4	GM ↓	PID = 0.5 FID = 1.1	NCC-GT03-C 0850		6/4/2/2	20% Rec.
	5	GM ↓					
	6		PID = 0.2 FID = 0	NCC-GT03-D 0859		2/2/2/3	50% Rec.
	7						
	8						

PROJECT	HOLE NO.
Hudson River PCB Facility Siting	NCC-GT03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0	~~WEA~~ Organic Silty Loam; Rooty; Damp; contains 20% gravel; Angular Black shale.		X	
.3		X		
	Weathered shale w/ 10% silt, Angular Black fragments; Some Diameter ~~of sp~~ As large as split spoon	X		
2	All weathered shale; Trace silt. Angular Gravel Dry	X		
3.8	Gravel/silt/sand. All Black shale fragments, Angular. This appears to be Dredge spoil matrix. Dry	X		
	Damp @ 6.0 Feet		X	
8			X	

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: NCC-GT03

Project: NYS Canal Corp / Alco / Lyonie

Inspector: Jon Nilkerson

Sheet 5 of 10 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	9	Gm	PID = 0.2 FID = 0.3	NCC-GT03-E 0900	N/A	1/2/2/2	60% Rec
	10 11		PID = 0.3 FID = 0.51	NCC-GT03-F 0915		1/4/3/3	20%
	12 13		PID = 0.35 FID = 0.4	NCC-GT03-G 0917		6/5/5/4	60%
	14 15 16		PID = 0.9 FID = 0.15	NCC-GT03-H 0923		1/23/41/12	15%

PROJECT: Hudson River PCB Facility Siting

HOLE NO. NCC-GT03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
		○	○	○
		○	○	○
8	WEATHERED BLACK SHALE; TRACE SILT, SAND-SIZED	○	⊗	○
	PARTICLES ~ 20%. ANGULAR GRAVEL CLASTS	○	⊗	○
	TO 2 CM IN DIAMETER. SAND IS ANGULAR, BLACK	○	⊗	○
↓		○	○	○
		○	○	○
		○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: NCC-GT03

Project: NYS Canal Corp/Alco/Legerie

Inspector: Jon Nickerson

Sheet 7 of 10 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	17	GM	PID = 0.3 FID = 0.25 0932	NCC-GT03-I 0932	NA	4/2/4/5	15 30% Rec
	18	CL					
	19	ML	PID = 1.4 FID = 1.4	NCC-GT03-J 0940		1/1/2/3	95 50% Rec
	20		PID = 0.35 FID = 1.4	NCC-GT03-K 0951		WOH/1/4/14	90% Rec
	21	OL/MA					
	22	SP	PID = 0.65 FID = 0.7	NCC-GT03-L 1004		10/10/8/8	85% Rec
	23	GM					
	24						

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: NCC-GT03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
		○	○	○
	CONTINUED WEATHERED SHALE	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
17.6	ABRUPT CHANGE TO A GRAVELLY SILT L. BLACK, CLASTS ROUNDED, UP TO 0.5 CM IN LENGTH MOIST MOD. PLASTICITY, MOD COHESION, SOFT	○	○	○
		○	○	○
		○	○	○
		○	○	○
18.1	GRADES TO SILTY (CLAY) C/ V.F. SAND. BLACK	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
20.3	BECOMES MORE SILTY/CLAY; LIGHTER, ORGANIC TO TOP. (BOAT-EM)	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	WATER @ 21.7' BGS	○	○	○
21.	WELL-GRADED COARSE SAND, SATURATED. WELL ROUNDED GRAINS. NO FINES. SATURATED.	○	○	●
		○	○	●
		○	○	●
		○	○	●
23	GRAVEL/SILT/SAND; SATURATED BROWN. WELL ROUNDED CLASTS OF ALL SIZES. CLASTS TO 2 CM IN DIAMETER.	○	○	●
		○	○	●
		○	○	●
		○	○	●

HTRW DRILLING LOG (Continuation Sheet)

Project	Inspector	Hole Number	Sheet	Sheets
NYS Canal Corp / Allegheny	Jon Nickerson	NCC-GT03	9 of	10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	25	GM	PID=0.35 FID=0.6	NCC-GT03 m 10:16	N/A	5/14/20/26	80% Res
	26						

Bottom of Hole: 26.0 Feet

PROJECT	HOLE NO.
Hudson River PCB Facility Siting	NCC-GT03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	GRAVEL / SAND / SILT MIXTURE. ALL ROUNDED CLASTS, ALL BLACK, SATURATED	○	○	⊗

New York State Canal Corporation/Allco/Leyerle Site

Supplemental Geotechnical Information

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TABLE 1
SUMMARY

PROJECT: HUDSON RIVER PCB FACILITY SITING PROJECT

FILE NO.: 0204 | DATE: | CLASSIFIED BY: AT AND LDD

LOCATION OR BORING	SAMPLE NO.	ELEV. OR DEPTH	LL/PL	SAMPLE DESCRIPTION	NAT. W. C. %
NCC-GT01	A	0-2	66/35	GRAVELLY SILTY SAND (SM), GRAY	28.5
NCC-GT02	A	0-2			6.8
NCC-GT02	B	2-4	24/17	GRAVELLY CLAYEY SAND (SP-SC), GRAY	5.0
NCC-GT02	C	4-6			5.1
NCC-GT02	D	6-8			4.3
NCC-GT02	E	8-10			3.7
NCC-GT02	F	10-12			4.5
NCC-GT03	A	0-2			3.6
NCC-GT03	B	2-4			3.7
NCC-GT03	C	4-6	NP	GRAVELLY SILTY SAND (SW-SM), GRAY	4.7
NCC-GT03	D	6-8			4.8
NCC-GT03	E	8-10			5.6
NCC-GT03	F	10-12			6.7
NCC-GT03	G	12-14			2.7
NCC-GT03	H	14-16			4.7

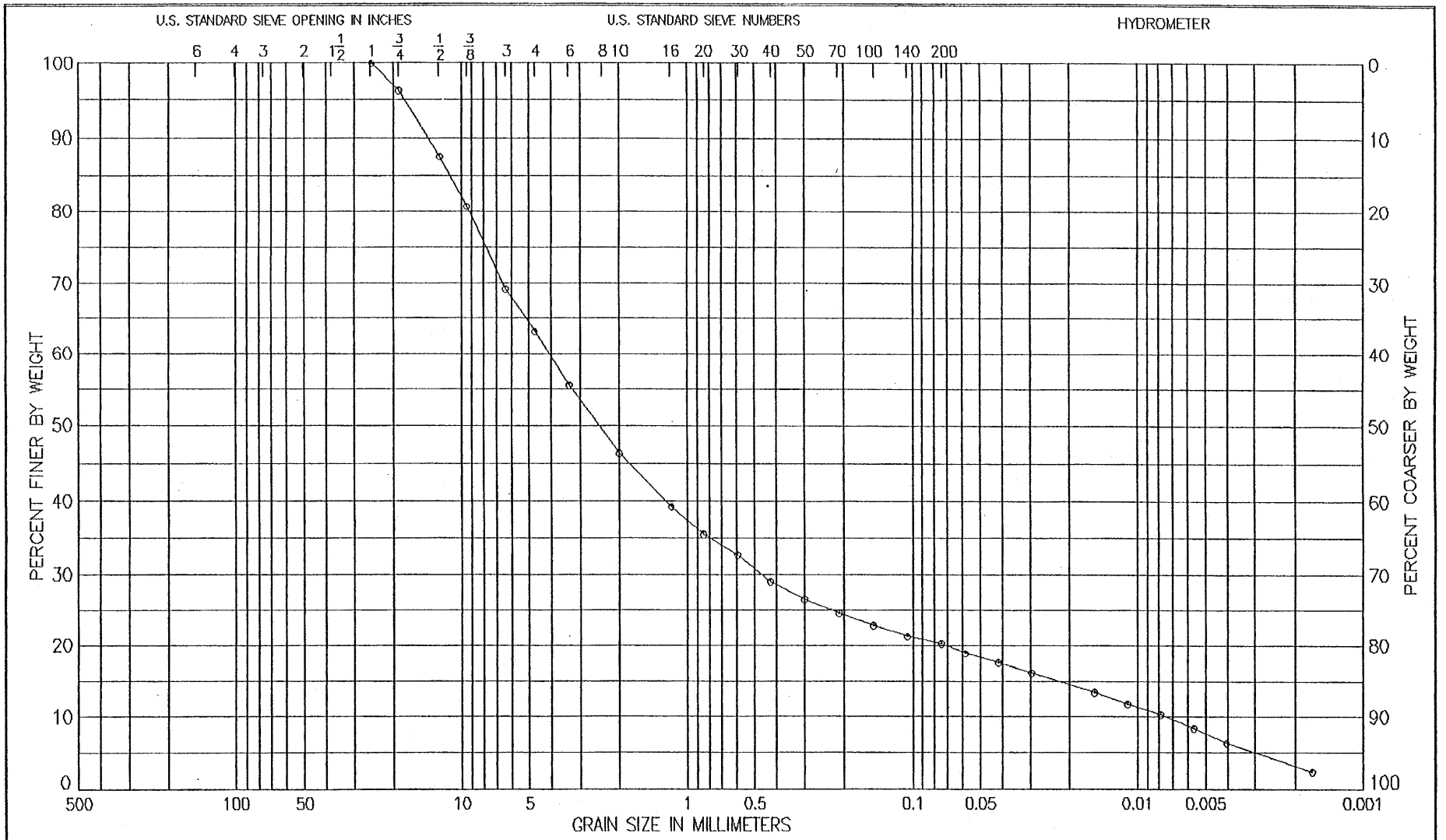
REMARKS:

TABLE 1
SUMMARY

PROJECT: HUDSON RIVER PCB FACILITY SITING PROJECT

FILE NO.: 0204				DATE:	CLASSIFIED BY: AT AND LDD
LOCATION OR BORING	SAMPLE NO.	ELEV. OR DEPTH	LL/PL	SAMPLE DESCRIPTION	NAT. W. C. %
NCC-GT03	I	16-18			6.7
NCC-GT03	J	18-20			34.6
NCC-GT03	K	20-22			79.7
NCC-GT03	L	22-24			21.6
NCC-GT03	M	24-26			13.7

REMARKS:



LL	PL	PI	GS	NAT W,%	ORG,%
66	35	31	2.40 EST	28.5	

CLASSIFICATION

GRAVELLY SILTY SAND (SM), GRAY

INSUFFICIENT SAMPLE FOR ACCURATE GRADATION

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCB FACILITY SITING

PROJECT

BORING NO. NCC-GT01 SAMPLE NO. A

DEPTH/ELEV 0-2 DATE 06 NOV 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCB FACILITY SITING
PROJECT

BORING: NCC-GT01 SAMPLE: A DF: 0204 .DAT
DEPTH: 0-2 DATE: 06 NOV 03

LL: 66 PL: 35 PI: 31 GS: 2.40 est WC: 28.50
CLASSIFICATION: 270
GRAVELLY SILTY SAND (SM), GRAY

TOTAL WEIGHT OF SAMPLE: 807.0 gms.
PARTIAL WEIGHT AFTER SPLIT: 54.4 gms.
INSUFFICIENT SAMPLE FOR ACCURATE GRADATION

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	1 in	25.000	100.0	.0
30.1	3/4 in	19.100	96.3	3.7
69.8	1/2 in	12.500	87.6	12.4
55.7	3/8 in	9.500	80.7	19.3
92.4	No 3	6.350	69.3	30.7
48.9	No 4	4.750	63.2	36.8
61.7	No 6	3.350	55.6	44.4
75.0	No 10	2.000	46.3	53.7
8.2	No 16	1.180	39.3	60.7
12.6	No 20	.850	35.6	64.4
15.9	No 30	.600	32.7	67.3
20.2	No 40	.425	29.1	70.9
23.1	No 50	.300	26.6	73.4
25.5	No 70	.212	24.6	75.4
27.6	No 100	.150	22.8	77.2
29.4	No 140	.106	21.3	78.7
30.6	No 200	.075	20.2	79.8
HYDROMETER:				
RDGS	TEMP			
12.9	23.0	.0585	19.0	81.0
12.0	23.0	.0417	17.6	82.4
11.0	23.0	.0297	16.2	83.8
9.1	23.0	.0156	13.4	86.6
8.0	23.0	.0111	11.8	88.2
6.9	23.5	.0079	10.4	89.6
5.6	23.5	.0057	8.5	91.5
4.2	23.5	.0041	6.4	93.6
1.4	23.5	.0017	2.3	97.7

PERCENT GRAVEL = 36.8
PERCENT SAND = 43.0
PERCENT FINES = 20.2

EDE

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCB FACILITY SITING
PROJECT

BORING: NCC-GT02 SAMPLE: B DF: 0204 .DAT
DEPTH: 2-4 DATE: 06 NOV 03

LL: 24 PL: 17 PI: 7 GS: 2.70 est WC: 5.00
CLASSIFICATION: 288
GRAVELLY CLAYEY SAND (SP-SC), GRAY

TOTAL WEIGHT OF SAMPLE: 540.3 gms.
PARTIAL WEIGHT AFTER SPLIT: 57.8 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	3/4 in	19.100	100.0	.0
4.7	1/2 in	12.500	99.1	.9
7.5	3/8 in	9.500	97.7	2.3
27.8	No 3	6.350	92.6	7.4
39.1	No 4	4.750	85.4	14.6
59.1	No 6	3.350	74.4	25.6
98.5	No 10	2.000	56.2	43.8
12.7	No 16	1.180	43.8	56.2
21.0	No 20	.850	35.8	64.2
27.0	No 30	.600	29.9	70.1
34.5	No 40	.425	22.7	77.3
38.6	No 50	.300	18.7	81.3
41.1	No 70	.212	16.2	83.8
43.1	No 100	.150	14.3	85.7
44.7	No 140	.106	12.7	87.3
45.7	No 200	.075	11.8	88.2

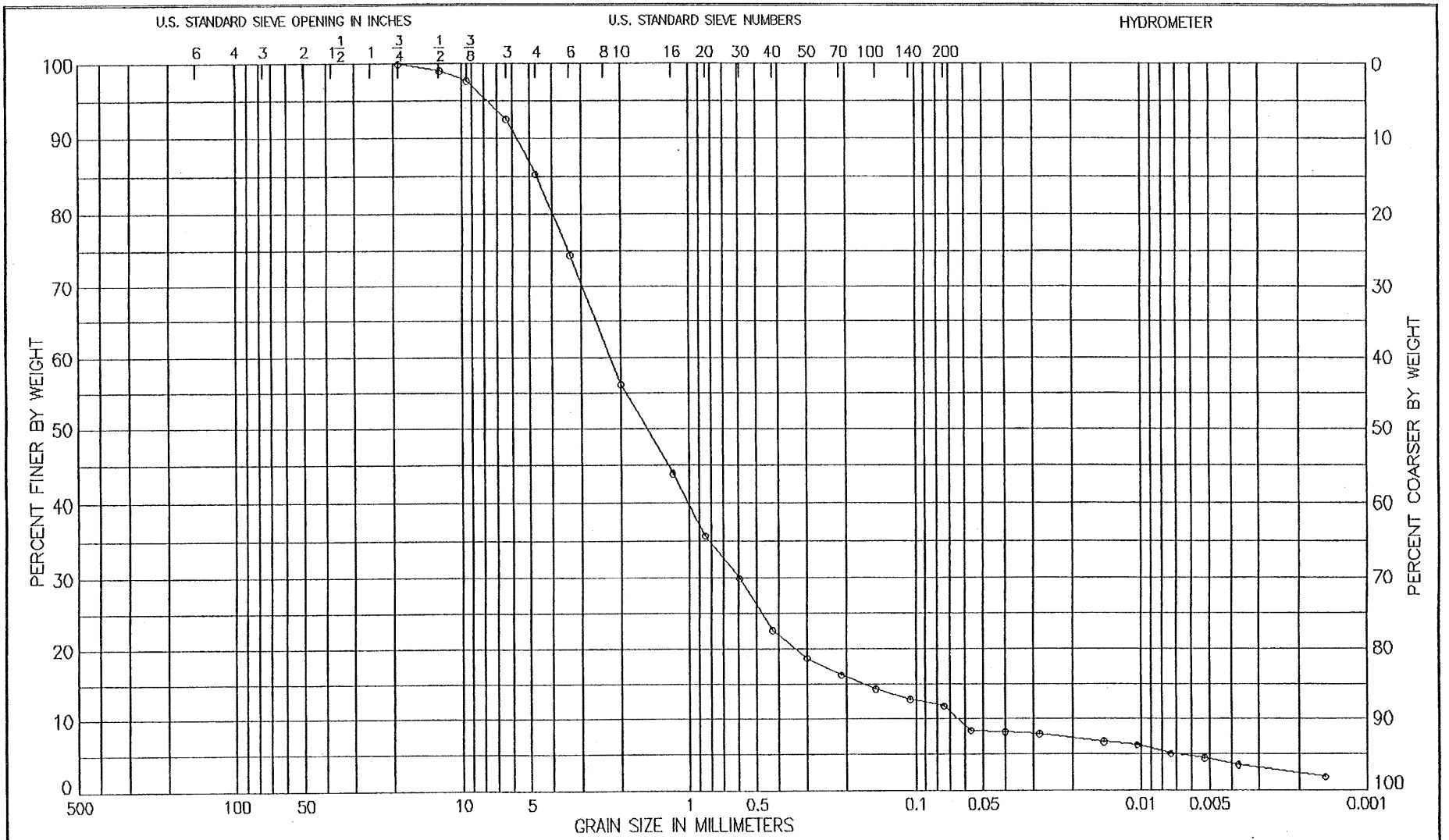
HYDROMETER:

RDGS	TEMP			
5.3	23.0	.0565	8.3	91.7
5.2	23.0	.0400	8.2	91.8
5.0	23.0	.0283	7.9	92.1
4.3	23.0	.0147	6.8	93.2
4.0	23.0	.0104	6.3	93.7
3.1	23.5	.0074	5.1	94.9
2.7	23.5	.0053	4.5	95.5
2.1	23.5	.0037	3.6	96.4
1.0	23.5	.0015	1.9	98.1

PERCENT GRAVEL = 14.6
PERCENT SAND = 73.6
PERCENT FINES = 11.8

D60 = 2.28
D30 = .60
D10 = .02
CU =121.54
CC = 8.47

EDE

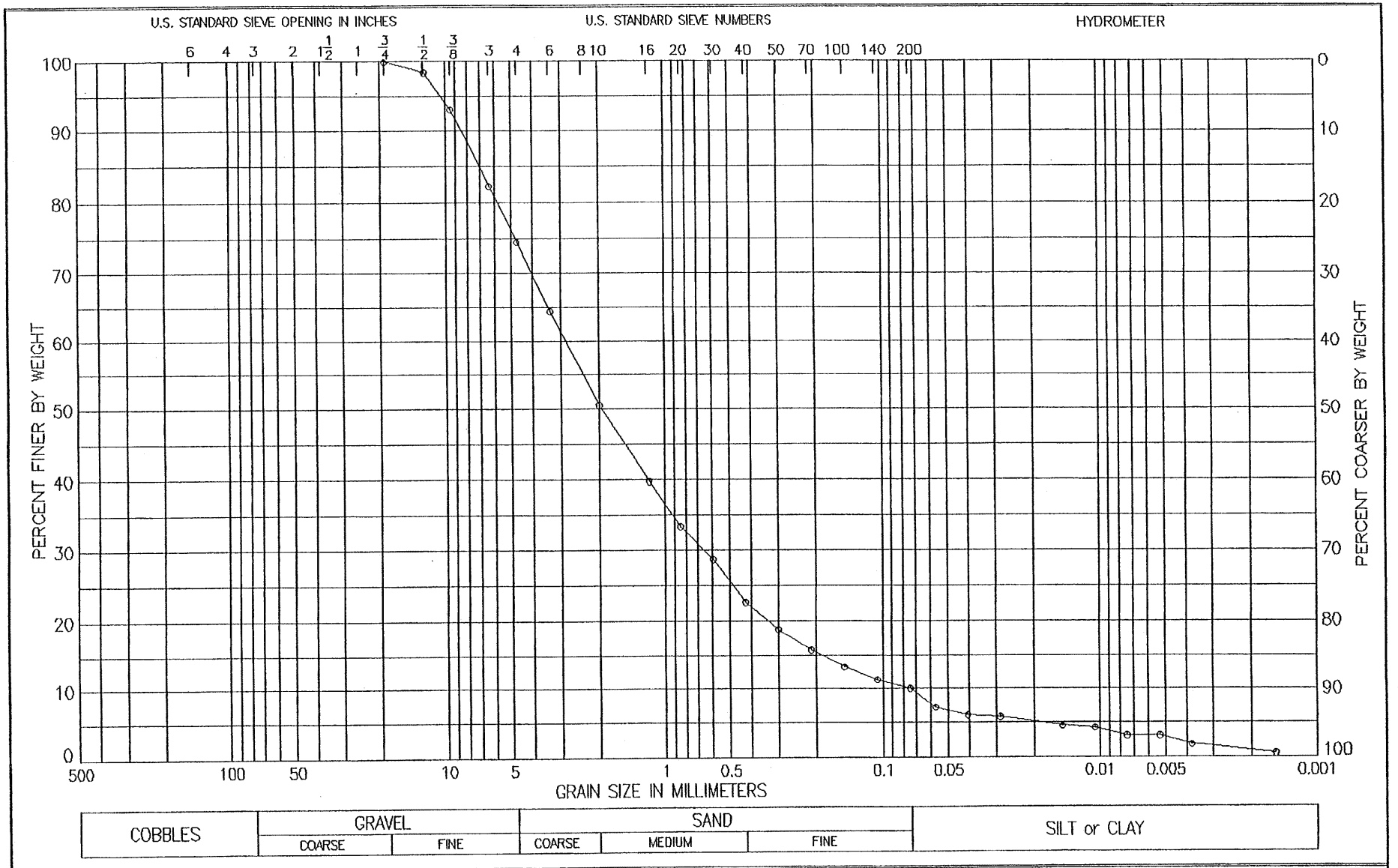


LL	PL	PI	GS	NAT W,%	ORG,%
24	17	7	2.70 EST	5.0	

CLASSIFICATION
GRAVELLY CLAYEY SAND (SP–SC), GRAY

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCB FACILITY SITING
PROJECT
BORING NO. NCC–GT02 SAMPLE NO. B
DEPTH/ELEV 2–4 DATE 06 NOV 03



LL	PL	PI	GS	NAT W,%	ORG,%
NP			2.67 EST	4.7	

CLASSIFICATION
GRAVELLY SILTY SAND (SW–SM), GRAY

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCB FACILITY SITING

PROJECT

BORING NO. NCC–GT03 SAMPLE NO. C

DEPTH/ELEV 4–6 DATE 06 NOV 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCB FACILITY SITING
PROJECT

BORING: NCC-GT03 SAMPLE: C DF: 0204 .DAT
DEPTH: 4-6 DATE: 06 NOV 03

NON-PLASTIC GS: 2.67 est WC: 4.70
CLASSIFICATION: 306
GRAVELLY SILTY SAND (SW-SM), GRAY

TOTAL WEIGHT OF SAMPLE: 842.6 gms.
PARTIAL WEIGHT AFTER SPLIT: 56.7 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	3/4 in	19.100	100.0	.0
13.0	1/2 in	12.500	98.5	1.5
44.8	3/8 in	9.500	93.1	6.9
90.7	No 3	6.350	82.4	17.6
66.4	No 4	4.750	74.5	25.5
84.5	No 6	3.350	64.5	35.5
117.6	No 10	2.000	50.5	49.5
12.0	No 16	1.180	39.8	60.2
19.2	No 20	.850	33.4	66.6
24.5	No 30	.600	28.7	71.3
31.2	No 40	.425	22.7	77.3
35.6	No 50	.300	18.8	81.2
39.0	No 70	.212	15.8	84.2
41.8	No 100	.150	13.3	86.7
44.0	No 140	.106	11.3	88.7
45.4	No 200	.075	10.1	89.9
HYDROMETER:				
RDGS	TEMP			
5.0	23.0	.0572	7.3	92.7
4.2	23.0	.0407	6.1	93.9
4.0	23.0	.0288	5.8	94.2
3.1	23.0	.0150	4.6	95.4
2.9	23.0	.0106	4.3	95.7
2.0	23.5	.0075	3.1	96.9
2.0	23.5	.0053	3.1	96.9
1.1	23.5	.0038	1.9	98.1
.2	23.5	.0016	.6	99.4

PERCENT GRAVEL = 25.5
PERCENT SAND = 64.4
PERCENT FINES = 10.1

D60 = 2.92
D30 = .67
D10 = .07
CU = 39.78
CC = 2.10

EDE

Direct Push Technology (DPT)
Bore Logs From The
Bruno/Brickyard Associates/Alonzo Site

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Borehole Record for BBA-GP01

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG

District: Kansas City		Hole Number: BBA-GP01
1. Company Name: Ecology & Environment Inc	2. Drill Subcontractor: Northstar/Geologic	Sheet 1 of Sheets 8
3. Project: Hudson Superfund Facility Siting	4. Location: Schaghticoke, NY	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Geoprobe Rods with acetate sleeves and discrete soil sampling system	8. Hole Location: West of ofc. Bldg and North of Metal workshop Bldng.	
	9. Surface Elevation:	
	10. Date Started: 10-10-03	11. Date Completed: 10-10-03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 7.8' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 5.65' BGS after 10 minutes	
14. Total Depth of Hole: 25'	17. Other Water Level Managements (Specify):	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA	
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOCs	Other (Specify): Pest/PCBs	Other (Specify): CN	21. Total Core Recovery: NA %
21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector: Robert A Mayer		

LOCATION SKETCH/COMMENTS SCALE: —

See GP02 Log

PROJECT: Hudson Superfund Facility Siting	HOLE NO.: BBA-GP01

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

Lock Number un-numbered Master Lock

SCREENED WELL

Stick-up 2.6' ft

Top of Grout NA ft

Sand 2' to surface

Top of Seal at 2 ft

Top of Sand Pack 4 ft

Top of Screen at 6 ft

Bottom of Screen at 16 ft

Bottom of Hole at 25 ft

Bottom of Sandpack at 16'

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole 1.75" inches Diameter

Cement/ Bentonite _____

Grout _____

Screen Slot Size .010"

Screen Type slotted

☒ PVC sch. 40, 1" diameter

☐ Stainless Steel ____

Pack Type/Size:

☒ Sand No. 0

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

* Hole allowed to collapse to 16' BTS

NOTE: See pages 136 and 137 for well construction diagrams

Robert A. Meyers

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GP01

Project: Hudson Facility Siting | Inspector: Robert a Myers | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' Fill	FID=3.1ppm PID=0ppm of soil core FID/PID = 0ppm in BZ	NA ← methane from decomposing wood.		NA	4' Run 1.7' Rec
	4	4' to 7.4' Fill (brick)	0ppm FID/PID in BZ and off soil core				4' Run 2.6' Rec
	7.4	7.4' to 8' ML					Wet @ 7.8' BGS
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: BBA-GP01

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4', Fill Materials, brick, wood decomposing, and little cinders/Ash. Moist	○	⊗	○
	4' to 7.4', Fill Materials, Brick Fragments, Moist	○	○	○
	7.4' to 8', Tan Silt + VF Sand, wet @ ≈ 7.8' bgs	○	⊗	○
		○	⊗	⊗
		○	○	⊗

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GP01

Project: Hudson Facility Siting | Inspector: Robert a Myer | Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 12' SW	0ppm in BZ and off-soil core	NA	1020 collect BBA-GP01-SB from 8' to 10' BGS with Duplicate.	NA	Saturated 4' Run 3.8' Rec
	9						
	10						
	11						
	12	12' to 16' SW					
	13						4' Run 4.0' Rec
	14						
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: BBA-GP01

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 12', VF to Fine Sand, Saturated, Tan	○	○	⊗
	12' to 16' VF to Fine Tan Sand	○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GP01
Project: Hudson Facility Siting
Inspector: Robert A Meyer
Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 18.9' SW	0ppm in BZ and off soil core	NA		NA	4' Run 3.4' Rec.
	17						
	18						
	19	18.9' to 20' ML					
	20	20' to 24' ML					4' Run
	21						
	22						
	23						
	24	24' to 25' ML					1' Run 0.8' Rec.
	25						

PROJECT: Hudson Facility Siting
HOLE NO.: BBA-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 18.9', VF to Fine Tan Sand			
	18.9' to 20', Clayey gray Silt with trace VF Sand.			
	20' to 24', Silt as above			
	24' to 25', Silt as above			
	B.O.H @ 25' BGS			

Borehole Record for BBA-GP02

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG

District: Kansas City

Hole Number: BBA-GP02

Sheet: 1 of 8

1. Company Name: Ecology & Environment Inc.

2. Drill Subcontractor: Northstar / Geologic

3. Project: Hudson Superfund Facility Siting

4. Location: Schaghticoke, NY

5. Name of Driller: Jud Powell

6. Manufacturer's Designation of Drill: Geoprobe 5400

7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Geoprobe rods with acetate sleeves and discrete soil sampling system

8. Hole Location: ~60' ~~South~~ East of Brick office Building.

9. Surface Elevation:

10. Date Started: 10-10-03

11. Date Completed: 10-10-03

12. Overburden Thickness: > 25'

15. Depth Groundwater Encountered: 7.6' BGS

13. Depth Drilled Into Rock: NA

16. Depth to Water and Elapsed Time After Drilling Completed: 15.3' after 11 minutes

14. Total Depth of Hole: 25'

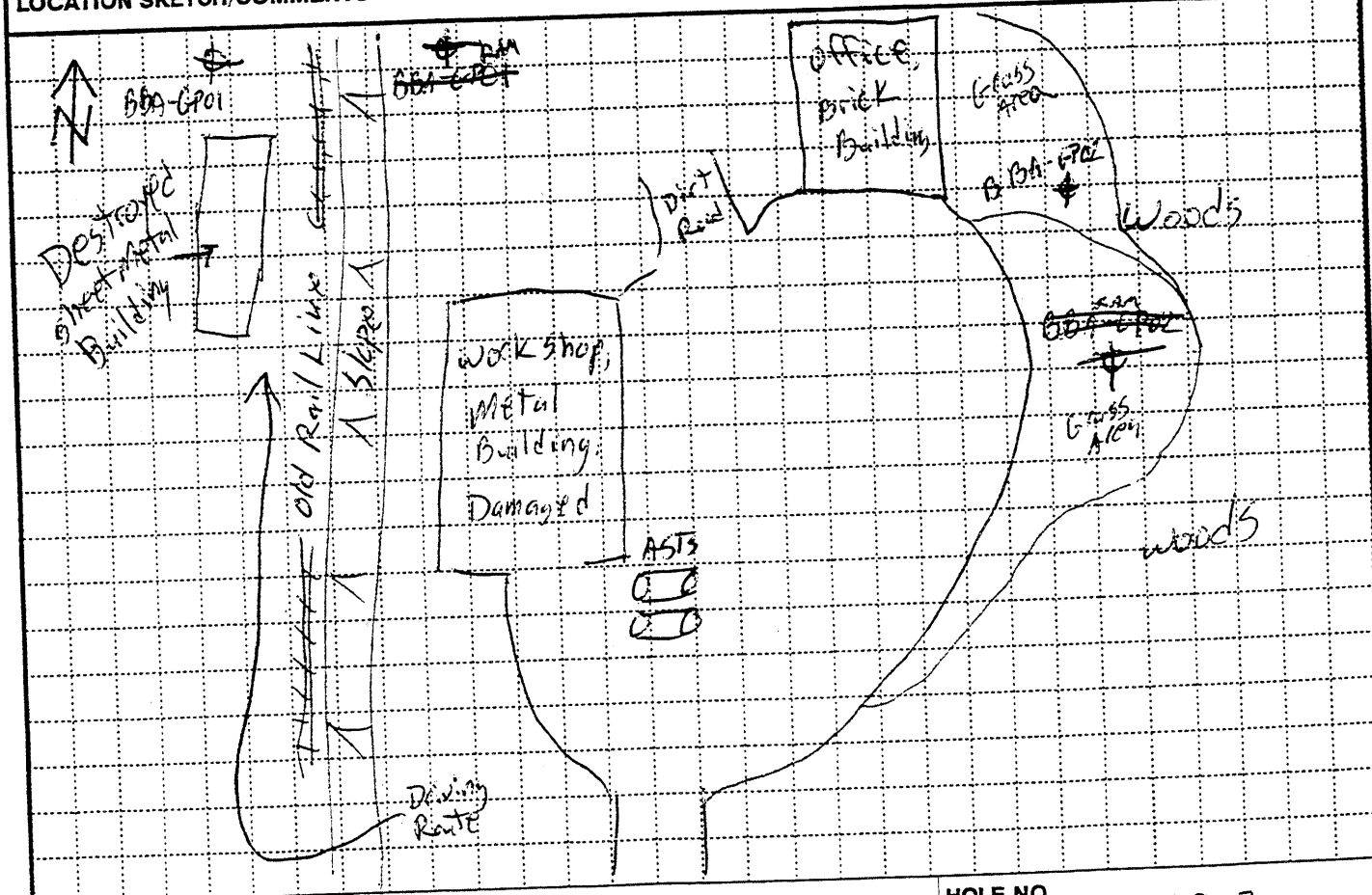
17. Other Water Level Managements (Specify):

18. Geological Samples: NA — Disturbed: — — Undisturbed: — — 19. Total Number of Core Boxes: NA

20. Samples For Chemical Analysis: VOC ✓ — Metals ✓ — Other (Specify): SVOCs — Other (Specify): Pest/PCBs — Other (Specify): CN — 21. Total Core Recovery: NA %

21. Disposition of Hole: Backfilled — Monitoring Well (Temporary) — Other (Specify) — 23. Signature of Inspector: Robert A Mayer

LOCATION SKETCH/COMMENTS — SCALE: NTS



PROJECT: Hudson Superfund Facility ~~Siting~~

HOLE NO.: BBA-GP02

(Proponent: CECW-EG)

ENG FORM 5056-R, AUG 94

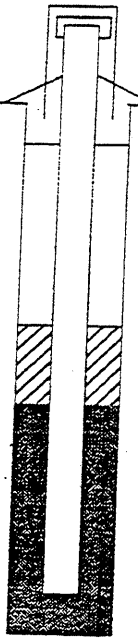
Lock Number un-numbered Master Lock

SCREENED WELL

Inner Casing Material N.A

Stick-up 2.55' ft

Inner Casing Inside Diameter NA inches



GROUND SURFACE

Top of Grout NA ft

Sand 0.5' to surface

Top of Seal at 0.5 ft

Top of Sand Pack 4 ft

Top of Screen at 6 ft

Bottom of Screen at 16 ft

Bottom of Hole at 25 ft

Bottom of Sandpack at ≈18' BGS

* Hole was allowed to collapse up to 18' BGS

Quantity of Material Used:

Bentonite Pellets

Cement

Borehole 1.75 inches Diameter

Cement/ Bentonite

Grout

Screen Slot Size .010"

Screen Type slotted

☒ PVC sch. 40 1" dia.

☐ Stainless Steel

Pack Type/Size:

☒ Sand No. 0

☐ Gravel

☐ Natural

OPEN-HOLE WELL



Stick-up ft

Inner Casing Material

Inner Casing Inside Diameter inches

Outer Casing Diameter inches

Borehole Diameter ft

Bedrock ft

Bottom of Rock Socket/ Outer Casing ft

Bottom of Inner Casing ft

Corehole Diameter

Bottom of Corehole ft

NOTE: See pages 136 and 137 for well construction diagrams

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GP02

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' CL	↑	NA		NA	
	1		0 ppm PID/FID in BZ and off soil core				4' Run 3.4' Rec
	2						
	3						
	4	4' to 8' CL					
	5						4' Run 4' Rec
	6						
	7				0910 Collect Sample BBA-GP02-SB from 7' to 11' BGS with MS/MSD		Water @ 7.6' BGS
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: BBA-GP02

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4', Silty Tan CLAY with trace brick fragments and trace VF Sand Dry to Moist from 0' to 3.7', Moist from 3.7' to 4.0'			
	4' to 8', Silty Tan CLAY with little VF to Fine sand and trace coarse sand, Moist			
	Water @ 7.6' BGS			

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GP02

Project: Hudson Facility Siting

Inspector: Robert A Myers

Sheet 5 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 11.2' GM	↑	NA		NA	Water @ 7.6' BGS
							4' Run
	9		0ppm in BZ and off soil core				3.5' Rec.
	10						
	11	11.2' to 12' CL					
	12	12' to 16' CL					4' Run
							4' Rec.
	13						
	14						
	15						
	16						

PROJECT: Hudson Facility Siting

B-392

HOLE NO. BBA-GP02

ENG FORM 5056A B AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 11.2', silt and VF to Coarse sand (Tan) with some (40%) Fine to med. pebbles. Saturated	○	○	⊗
	11.2' to 12', Gray uniform CLAY, moderately Plastic, trace silt	○	○	○
	12' to 16', Gray CLAY as above	○	○	○

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GP02

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet: 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20' CL	↑ 0ppm in BZ and soil coil	NA		NA	4' Run 4' Rec.
	17						
	18						
	19						
	20	20' to 24' CL					4' Run 4' Rec
	21						
	22						
	23						
	24	24' to 25' CL					1' Run 1' Rec.
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: BBA-GP02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20', Gray Uniform CLAY, trace silt moderate to high Plasticity, wet but not producing significant Water	○	○	○
	20' to 24' CLAY as above	○	○	○
	24' to 25', CLAY as above	○	○	○
	B.O.H @ 25' BGS	○	○	○

Borehole Record for BBA-GP04

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

HTRW DRILLING LOG

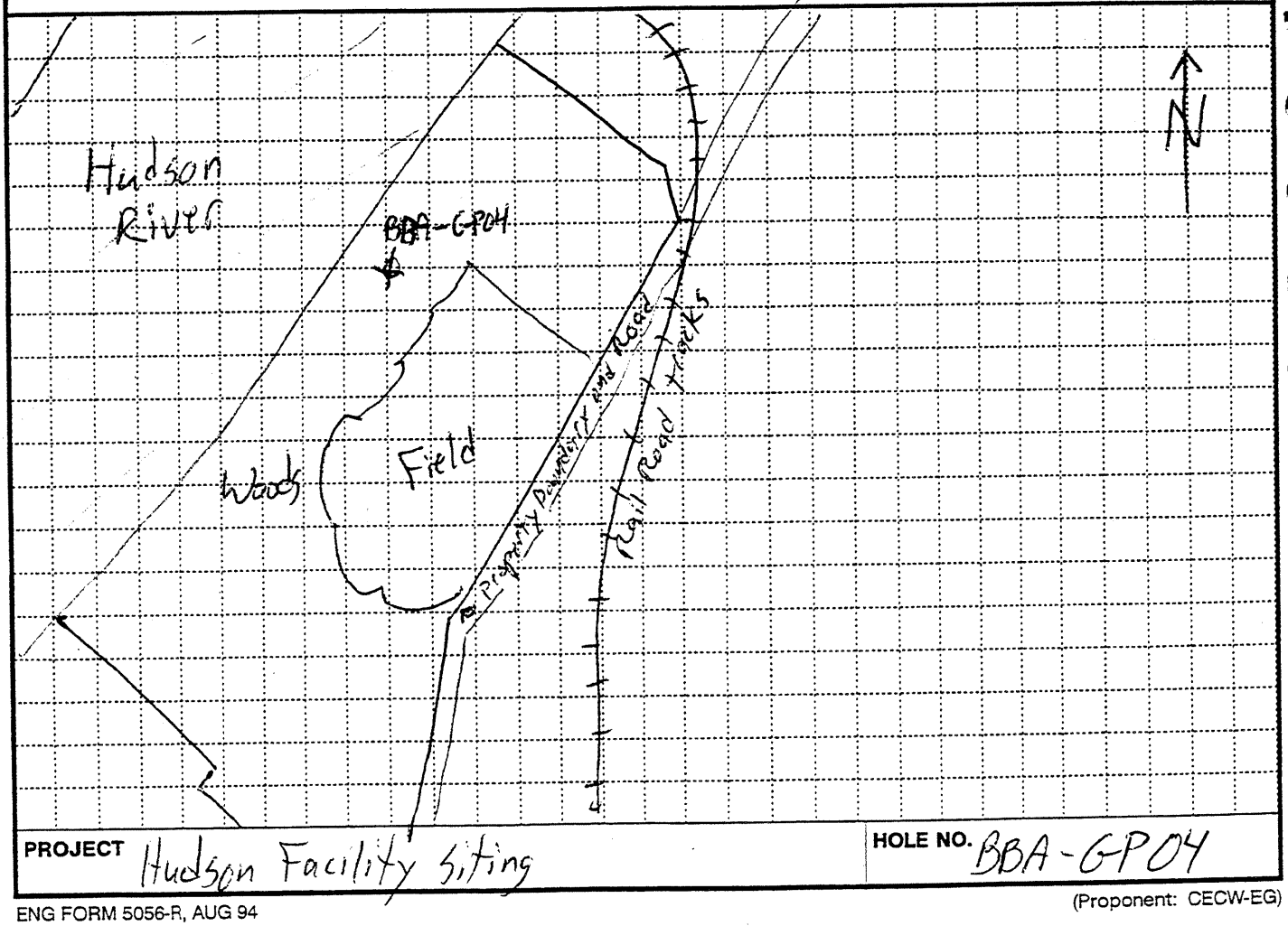
District: Kansas City		Hole Number: BBA-GP04
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc.	Sheet: 1 of 8 Sheets
3. Project: Hudson Superfund Facility Siting	4. Location: Schaghticoke	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" OD Geoprobe Macro core Rods with acetate sleeves and discrete soil sampling system	8. Hole Location: North end of site ≈400' west of Hudson River	
	9. Surface Elevation	
	10. Date Started: 10-10-03	11. Date Completed: 10-10-03
12. Overburden Thickness: 12.9'	15. Depth Groundwater Encountered: 8' BGS	
13. Depth Drilled Into Rock: 1.1'	16. Depth to Water and Elapsed Time After Drilling Completed: 8.65' BGS after 7 minutes	
14. Total Depth of Hole: 14	17. Other Water Level Managements (Specify)	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
NA	—	—	NA

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	✓	✓	SVOC's	Pest/PCB's	CN	NA %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
		Temporary		Robert A Meyer

LOCATION SKETCH/COMMENTS **SCALE:**



PROJECT Hudson Facility Siting **HOLE NO.** BBA-GP04

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

Lock Number un-numbered Master Lock

SCREENED WELL

Inner Casing Material NA

Stick-up 2.8' ft

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Top of Grout NA ft

Sand 0.5' to Surface

Top of Seal at 0.5 ft

Quantity of Material Used:

Bentonite Pellets

Cement

Borehole Diameter 1.75" inches

Top of Sand Pack 2 ft

Cement/ Bentonite

Grout

Top of Screen at 3.5' ft

Screen Slot Size .010"

Screen Type slotted

☒ PVC Sch. 40, 1" dia.

☐ Stainless Steel

Bottom of Screen at 13.5 ft

Bottom of Hole at 14' ft

Pack Type/Size:

☒ Sand No. 0

☐ Gravel

☐ Natural

Bottom of Sandpack at 14'

OPEN-HOLE WELL

Stick-up ft

Inner Casing Material

Inner Casing Inside Diameter inches

Outer Casing Diameter inches

Borehole Diameter ft

Bedrock ft

Bottom of Rock Socket/ Outer Casing ft

Bottom of Inner Casing ft

Corehole Diameter

Bottom of Corehole ft

NOTE: See pages 136 and 137 for well construction diagrams

Robert A. Nagy

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GP04

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' GP		NA		NA	
	1		0 ppm in BZ and off Soil core				4' Run 1.4' Rec
	2						
	3						
	4	4' to 7.3' GP					
	5						4' Run 2.3' Rec
	6						
	7						
	8	7.3' to 8.0' CL					

PROJECT: Hudson Facility Siting | HOLE NO.: BBA-GP04

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	0' to 4.0', Top 0.2' is Silt/Sand Loam, 0.2' to 4' is VF to coarse sand and fine to med. rounded pebbles.	
	4' to 7.8', Sand & pebbles as above	
	7.8' to 8', Silty brown CLAY	

B-401

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GP04

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 11.6' SM/SC	0ppm in BZ and of soil cores	NA	1215 Collect BBA-GP04-SB From 8'-10' BGS	NA	Water @ ~8' BGS
	9						
	10						
	11						
	11.6	11.6' to 12' GP					
	12	12' to 12.9' GP					
	12.9	12.9' to 14 Weathered Shale					
	14	Refusal @ 14' BGS					
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: BBA-GP04

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 11.6' Brown Silt with some VF Sand and little clay.	○	○	⊗
	11.6' to 12' VF to coarse sand and rounded fine pebbles.	○	○	○
	12' to 12.9' Same as above	○	○	○
	12.9' to 14', Weather Shale, 45° bedding plane. Refusal @ 14' BGS	○	○	○

Geotechnical Bore Logs
From The
Bruno/Brickyard Associates/Alonzo Site

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Borehole Record for BGA-GT01 / GP03

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

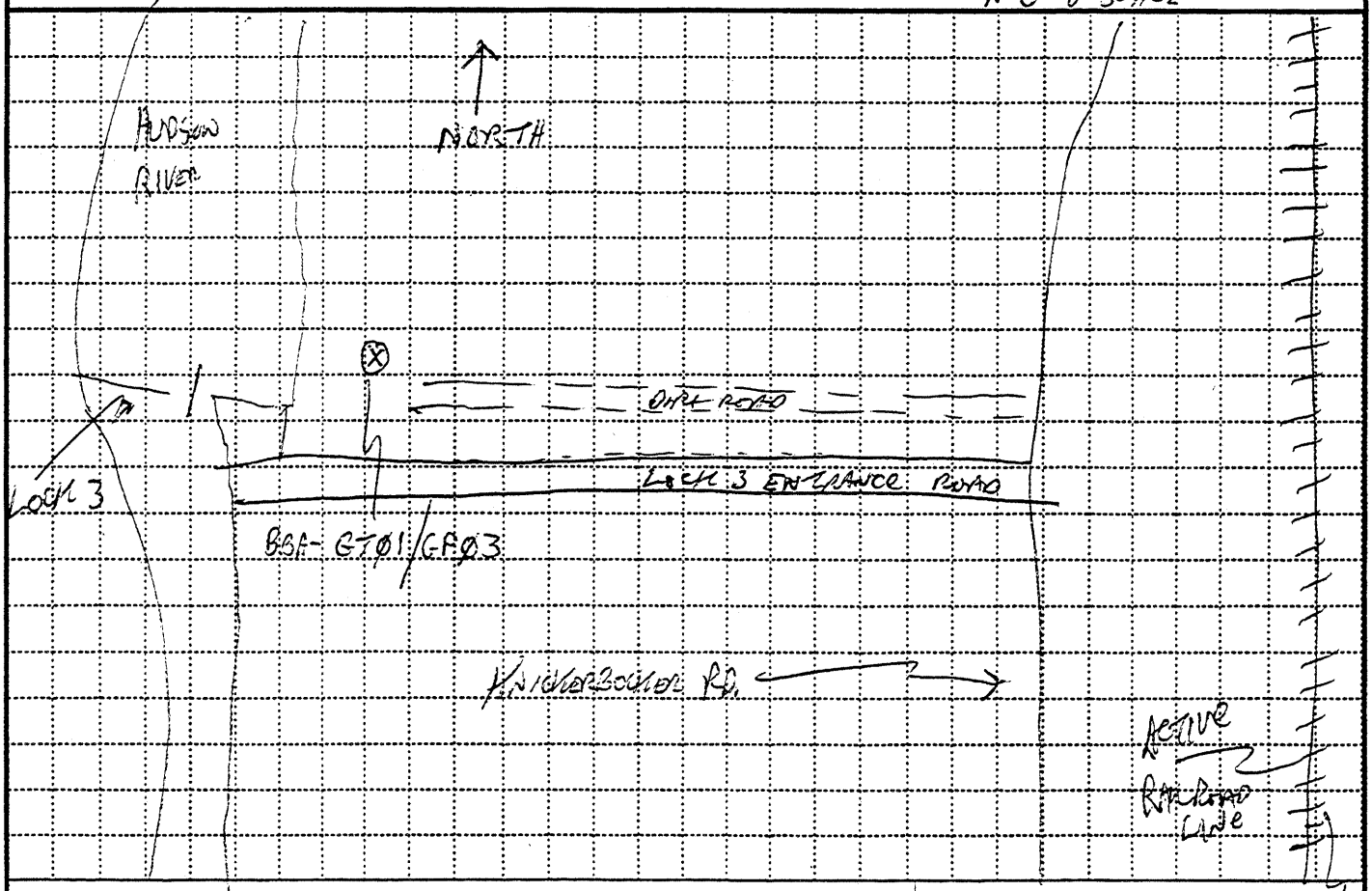
District: USACE Kansas City		Hole Number: BBA-GT01
1. Company Name: Ecology and Environment	2. Drill Subcontractor: Northstar Drilling	Sheet 1 of ~~2~~ 8
3. Project: Bruno/Bicknell/Alon 20	4. Location: West of Riverbottom Rd East of Lock	
5. Name of Driller: Steve Laramie, Dennis Honoker	6. Manufacturer's Designation of Drill: CME-45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4 1/4" HSA; 2" X 24" Split Spoon	8. Hole Location: SW Corner of Alon 20 property, Northeast of Lock	
	9. Surface Elevation	
	10. Date Started: 10/9/03	11. Date Completed: 10/9/03
12. Overburden Thickness: 17.6'	15. Depth Groundwater Encountered: 5.8' BGS	
13. Depth Drilled Into Rock: ~~9~~ 0.7'	16. Depth to Water and Elapsed Time After Drilling Completed: Not Recorded	
14. Total Depth of Hole: 18.3'	17. Other Water Level Managements (Specify): Not Recorded	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
	0	9	0

20. Samples For Chemical Analysis	VOC	Metals SVOC	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
TAL Metals Organics	~~5~~	PCB Aroclors	Atterberg Limits	Particle Gradation	Moisture	N/A %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	-	X	-	

LOCATION SKETCH/COMMENTS SCALE: Not to Scale



PROJECT	HOLE NO.
Hudson River PCB Facility Siting	BBA-GT01

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

SCREENED WELL

Lock Number 866

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

Stick-up 1.32 ft

GROUND SURFACE

Top of Grout — ft

Top of Seal at 0 ft

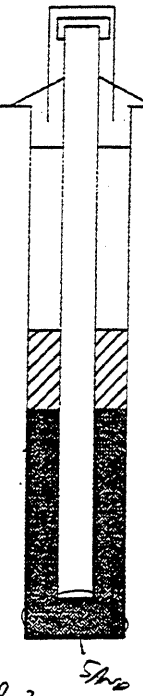
Top of Sand Pack 2.8 ft

Top of Screen at 3.8 ft

Bottom of Screen at 13.8 ft

Bottom of Hole at 18.3 ft

Bottom of Sandpack at 18.3



Quantity of Material Used:

Bentonite Pellets 2.8'

Cement 0-

Borehole Diameter 8 inches

Cement/ Bentonite None

Grout None

Screen Slot Size 0.10

Screen Type _____

☒ PVC 0.10

☐ Stainless Steel ____

Pack Type/Size:

☒ Sand 0

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches



Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

- Well constructed as per work plan. However top of screen to grade interval was too short to install 2' of sand above screen and 3' of bentonite.
⇒ Driller backfilled very bottom of hole w/ ~~bentonite~~ sand for 3' (18.3' → 15.3') & a sand pack is 18.3 → 15.3
- No TVA readings > 1.0 ppm in BZ
⇒ To gather sufficient volume for both the full geotechnical analytical suite, as well as the chemical analytical suite, we drove the 3" diameter split spoon to the 5'-7' interval and collected the required volume. This location was 1' north of the original sampling borehole. It was backfilled with soil cuttings.
Sample: BBA-GT01-C, collected @ 13:37.
- Collected soil sample BBA-~~GT01~~ GP03-SB at 5.8' BGS; will submit for TCL VOCs, SVOCs, PCB/pesticides; TAL metals, TAL cyanide. This is because this GT location doubled as a geoprobe location. A GW MW also will be installed for the same reason.

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GT01/GP03

Project: BRUNO/BRICKYARD/ALENZO

Inspector: TOM NICKERSON

Sheet 3 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	1	SM	PID = 2.6	BBA-GT01-A 13:20	—	2/2/3/4	60% Rec
	2	GM	PID = 1.3	BBA-GT01-B 13:23	—	5/5/3/5	50% Rec.
	3						
	4		PID = 0.1	BBA-GT01-C 13:34	—	5/3/3/2	50% Rec.
	5				BBA-GP03-SB 15:35		
▼	6	SW	PID = 0.2	BBA-GT01-D 13:39		1/2/1/1	75% Rec.
	7	SW/ML					
	8						

PROJECT: HUDSON RIVER PCB FACILITY SITING PROJECT

HOLE NO.: BBA-GT01/GP03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0	Gravelly brown silt; dry/damp low cohesions no plasticity. Gravel clasts are angular some v. f.g. sand			
2	Abrupt change to black sand/gravel/silt mixture containing green glass fragments damp		X	
	Wet at 5.8		X	
5.8	Brown well-graded m.g. sands well-rounded grains; soft			X
	→ Collect soil sample BBA-GP03-SB @ 15:35			
6.9	Black v. f.g. sandy silt. Saturated. Trace gravel: subrounded clasts. Mod. cohesion; slight plasticity. Contains a root at 7.4			

HTRW DRILLING LOG (Continuation Sheet)

Project	Inspector	Hole Number	Sheet	Sheets
Bruno/Brickyard/Alonzo	Jon Nickerson	BBA-G701/G703	5	of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	9	SM	PID=0.55	BBA-G701-E 1356	–	1/2/2/1	60% Rec
	10	ML	PID=0.9	BBA-G701-F 1401	–	2/1/12/1	50% Rec
	11						
	12		PID=0.8	BBA-G701-G 14:06	–	4/4/5/6	95% Rec
	13						
	14	ML	PID=0.25	BBA-G701-H 1416	–	1/1/3/2	90%
	15	SM					
	16						

PROJECT	HOLE NO.
Hudson River PCB Facility Siting	BBA-G701/G703

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	SATURATED ~~the~~ SILTY V-F-g SAND. SATURATED BLACK NO INCLUSIONS SAND GRAINS ~~are~~ VARY: WELL ROUNDED - SUBROUNDED			
10	V.F-g SANDY SILT SATURATED MOD. COHESIVE, MOD PLASTICITY. TRACE GRAVEL (ANGULAR CLASTS TO 4 mm IN LENGTH) 2 ROOTS NOTED			
14.9	BROWN SILTY V.F-g SAND LOW-MOD COHESIONS ~~NO~~ ~~PLAS~~ HIGH PLASTICITY. NO INCLUSIONS. SATURATED			

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GT01/EPA

Project: Bruno/Brickyard/Alonzo

Inspector: Jon Nickerson

Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	17	Sm	PID = 0.2	BBA-GT01-I 19:30	-	2/4/15/	50/0.3 100%
		ML					
	18	Weathered Gray Shale	PID = 0	No Sample	-	50/0.3	5%
	19		Bottom of Hole @ 18.5' BGS				
	20						
	21						
	22						
	23						
	24						

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: BBA-GT01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	V.F.g. SAND, As DESCRIBED ABOVE	○ ○ ●
12.3	GRAY V.F.g. SAND / SILT MIXTURE. SATURATED. (Trace gravel) Well Rounded Clasts to max. 5 mm.	○ ○ ●
17.8	WEATHERED Gray Shale. Highly FRACTURED. MOIST at 17.6'. DRY AT 17.8'	○ ○ ●
	Auger Refusal @ 18.5' BGS	○ ○ ○

Borehole Record for BBA-GT02

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

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HTRW DRILLING LOG

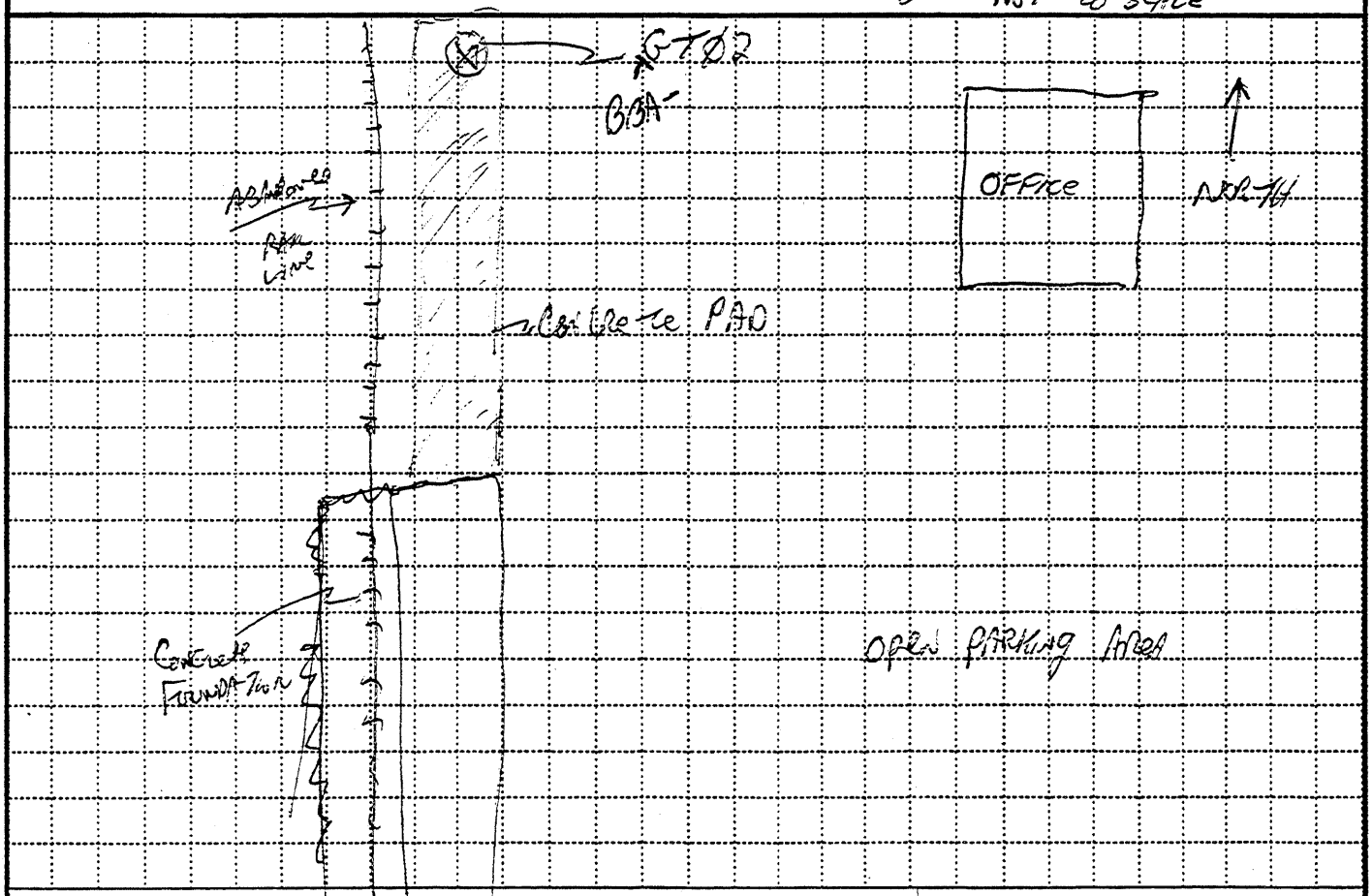
District: Kansas City		Hole Number: BBA-GT02
1. Company Name: Ecology + Environment, Inc	2. Drill Subcontractor: Northstar Drilling	Sheet 1 of 10 Sheets
3. Project: Bruno/Brickyard/Alonzo	4. Location: Schagticoke NY	
5. Name of Driller: Steve Laramie/Dennis Honour	6. Manufacturer's Designation of Drill: CME 45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4 1/4" HSA; 2" X 24" Split Spoon	8. Hole Location: North end of Concrete PAD, N of Warehouse	
	9. Surface Elevation:	
	10. Date Started: 10/10/03	11. Date Completed: 10/10/03
12. Overburden Thickness: >26'	15. Depth Groundwater Encountered:	
13. Depth Drilled Into Rock: 0	16. Depth to Water and Elapsed Time After Drilling Completed: 14.3' BGS Through Augers; 0 hrs	
14. Total Depth of Hole: 26.0'	17. Other Water Level Managements (Specify):	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
	0	After Berg: 1; Grain size: 13	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	0	0	~~Grain~~ 13	Moisture: 13		N/A %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	X			[signature]

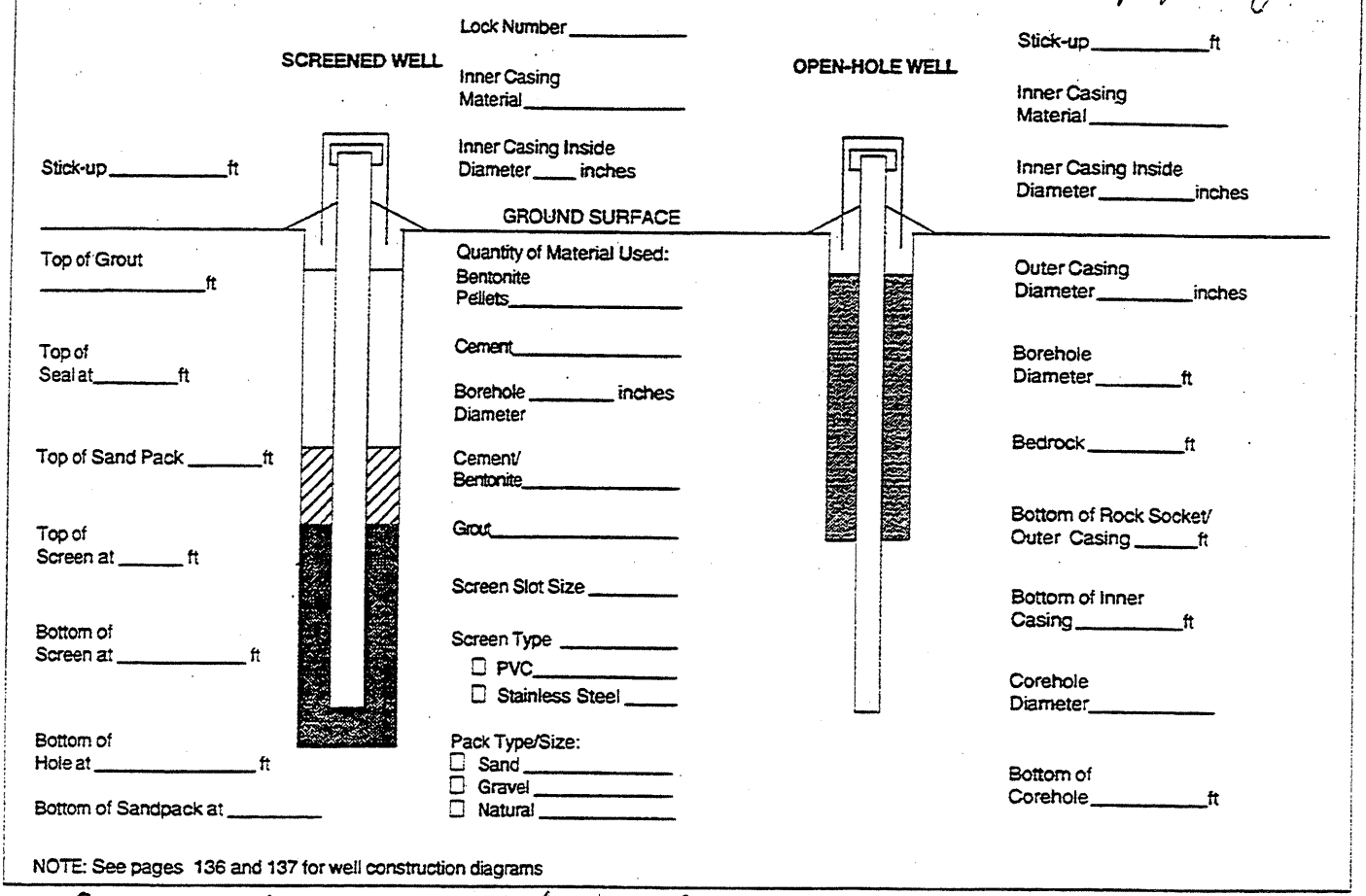
LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



PROJECT	HOLE NO.
Hudson River PCB Facility Siting	BBA-GT02

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM



NOTE: See pages 136 and 137 for well construction diagrams

Geotechnical Boring only; Well NOT Constructed

- Minimal Recovery @ 0'-2' Spoon Due to Concrete. Augered Through 3" of Concrete.
- Used 3" Spoon on the 2'-4' Depth Interval Due to the Need to Collect Sufficient Soil Volume for the Field Geotech Analytical Suite. Same for 4'-6' Collected Sample BGA-GT02-C @ 0942 @ 3'-5.5' BGS.
- Backfilled Hole w/ Bentonite to 19.5' BGS, Then Used Cuttings to Backfill Remainder of Hole.
- All TVA-1000 Readings in Breathing Zone were at 1ppm

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GT02

Project: BRUNO BRICKYARD ALONZO

Inspector: JON NICKERSON

Sheet 3 of 10 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) PPM	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
		SP/SM	PID = 0.15 FID 0.1	BBA-GT02-A 0908	-	1/50 0.1	25% Rec
	1	Concrete					
	2	Crushed brick + clay					
	3		PID = 1.1 FID = 0	BBA-GT02-B 0936	- Diameter	A 3" spoon used for volume; Blow count not collected; not within ASTM standard. 7/8/5/7	30% Rec.
	4	CL	PID = 1.5 FID = 0.25	BBA-GT02-C 0942	-	2/3/4/6 using 3" spoon	90% Rec
	5						
	6		PID = 1.3 FID = 0.2	BBA-GT02-D 0950	-	3/4/4/4	~~60~~ 80% Rec.
	7						
	8						

PROJECT: HUDSON RIVER PCB FACILITY SITING

HOLE NO.: BBA-GT02

NARRATIVE LITHOLOGIC DESCRIPTION

Moisture Content: Dry / Moist / Wet

Dry Brown Sand, Coarse, Grading to Med-Fine Sand.
Rounded gravel inclusions, 10%; Dry Some Silt,

0.6 Concrete Pad

1.3 Crushed Brick + Clay; Damp. Clay does not appear
To be native; Appears to be part of fill

~~Brown~~

3.9 Brown Clay; Damp; Low-Mod Plasticity; Highly
Cohesive. Hard.

Collected Geotech Analytical Suite Volume at
5.0 - 5.5' BGS. @ 0942. Sample BBA-GT02-C.

Same Tight Brown Clay, As Described Above

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BGA-GT03

Project: Bound Brook Area Associates

Inspector: Jon Nickerson

Sheet 5 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8		PID = 1.3 FID = 0.1	BGA-GT03-E 10:04	—	2/4/4/10	90% Rec.
	9	CL					
	10		PID = 1.3 FID = 0.2	BGA-GT03-F 10:28	—	2/6/6/9	100%
	11						
	12	Sm	PID = 0.4 FID = 0	BGA-GT03-G 10:34	—	4/6/5/7	95%
	13						
	14	SW	PID = 0.6 FID = 0.9	BGA-GT03-H 10:47	—	WOH/1/1/1	100%
	15						
	16						

PROJECT: Hudson River PCB Treaty Siting

HOLE NO.: BGA-GT03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
8	GRAY WET SILT. CLAY 10%; HIGHLY PLASTIC,			X
1	VERY LOW COHESION			X
	BROWN CLAY; HARD; ~~MINIMAL~~ NO PLASTICITY; CRUMBLY;	X		
	NO INCLUSIONS, DRY			
	CLAY LIGHTENS TO A GREY COLOR @ AROUND 10.2'-10.5'			
11.6	ABRUPT CHANGE TO BROWN SILT, V.F.G SAND. DAMP.			
	ROUNDED SAND GRAINS SATURATED AT 12.2.			X
13.5	GRADES TO A F.G-M.G SAND, NO FINES			
	SATURATED, BROWN, WELL-ROUNDED GRAINS, PREDOMINANTLY			
	QUARTZ.			

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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GT02

Project: BTUNG/BRICKYARD/ALCOA

Inspector: JON NICKERSON

Sheet 7 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	17	~~SP~~ SW (2)	PID=0.4 FID=0.5	BBA-GT02-I	–	1/1/1/2	18" Rec
		SM		10:54			
	18		PID=0.2 FID=0.1	BBA-GT02-J	–	WOH/ 1/2/3	10" Rec
	19			11:02			
	20	ML	PID =0.85 FID 0.6	BBA-GT02-K	–	WOH/ 1/1/1	14" Rec.
	21			11:07			
	22	CL	PID=0.3 FID=0.1	BBA-GT02-L	–	1/2/2/2	6" Rec
	23			11:10			
	24						

PROJECT: HUDSON RIVER PCB FACILITY SITING

HOLE NO.: BBA-GT02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
		○	○	⊗
	SAME well-graded SAND AS ABOVE	○	○	○
		○	○	⊗
		○	○	⊗
		○	○	⊗
17.1	SILTY SAND, BROWN; WELL ROUNDED SAND GRAINS NO GRAVEL. FULLY SATURATED	○	○	⊗
		○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
19.8	GRAY TIGHT SANDY SILT; SOFT; SATURATED, SAND IS ROUNDED-SUBROUNDED	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
21.8	HIGHLY PLASTIC TIGHT CLAY, GREASY; HIGHLY COHESIVE NO INCLUSIONS GRAY	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	⊗

EM 1110-1-4000
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HTRW DRILLING LOG (Continuation Sheet)

Hole Number: BBA-GT02

Project: BRUNO/BRICKYARD/ALONZO

Inspector: JON NICKERSON

Sheet 9 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
		CH	P.D = 0.4	BBA-GT02-M	-	2/4/3/4	80%
	25		FID = 0.2				Rec.
				11:19			
	26						
		BOTTOM OF HOLE = 26.0'					

PROJECT: HUDSON RIVER PCB FACILITY SITING PROJECT

HOLE NO. BBA-GT02

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
		○	○	○
	Continuation of Highly PLASTIC GRAY CLAY; Highly Cohesive. NO INCLUSIONS	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
26		○	○	○
		○	○	○
		○	○	○
		○	○	○

Bruno/Brickyard Associates/Alonzo Site

Supplemental Geotechnical Information

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TABLE 1
SUMMARY

PROJECT: HUDSON RIVER PCB FACILITY SITING PROJECT

FILE NO.: 0204 | DATE: | CLASSIFIED BY: AT AND LDD

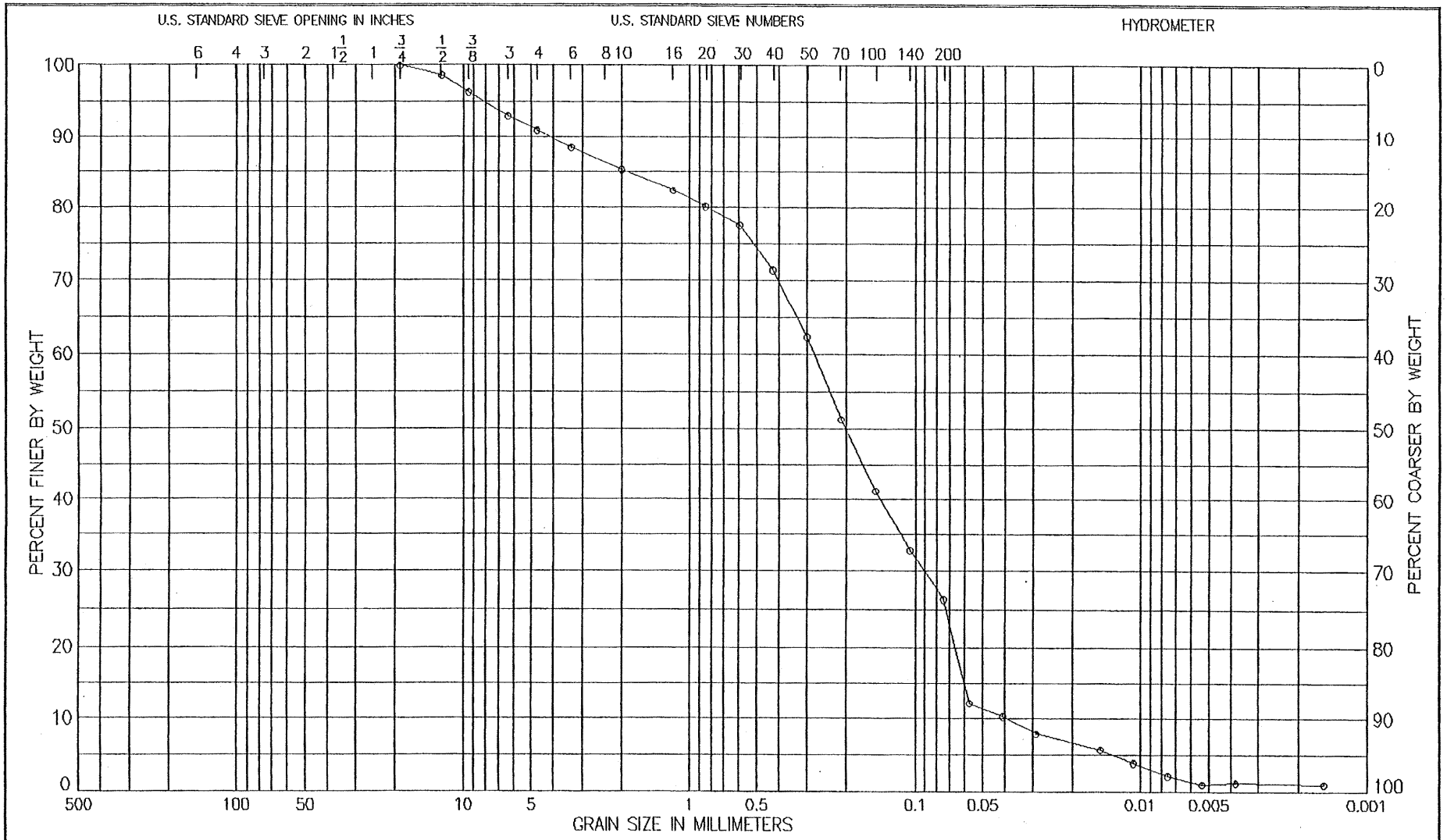
LOCATION OR BORING	SAMPLE NO.	ELEV. OR DEPTH	LL/PL	SAMPLE DESCRIPTION	NAT. W. C. %
BBA-GTO1	A	0-2			10.8
BBA-GTO1	B	2-4			8.2
BBA-GTO1	C	4-6	NP	SILTY SAND (SM), GRAY; WITH GRAVEL	15.4
BBA-GTO1	D	6-8			63.9
BBA-GTO1	E	8-10			24.6
BBA-GTO1	F	10-12			33.7
BBA-GTO1	G	12-14			25
BBA-GTO1	H	14-16			21.4
BBA-GTO1	I	16-17			22.8
BBA-GTO2	A	0-0.6			12.5
BBA-GTO2	B	2-2.5			16.1
BBA-GTO2	C	5-5.5	27/17	SANDY CLAY (CL), GRAY	21.4
BBA-GTO2	D	7-7.5			20.6
BBA-GTO2	E	8-10			24.2
BBA-GTO2	F	10-12			22.4
BBA-GTO2	G	12-14			21.9
BBA-GTO2	H	15-16			32.2
BBA-GTO2	I	17-18			21.0
BBA-GTO2	J	19-20			21.3
BBA-GTO2	K	20-22			19.4
BBA-GTO2	L	22-24			35.0

REMARKS:

TABLE 1
SUMMARY

PROJECT: HUDSON RIVER PCB FACILITY SITING PROJECT

FILE NO.: 0204				DATE:	CLASSIFIED BY: AT AND LDD
LOCATION OR BORING	SAMPLE NO.	ELEV. OR DEPTH	LL/PL	SAMPLE DESCRIPTION	NAT. W. C. %
BBA-GTO2	M	24-26			26.8



LL	PL	PI	GS	NAT W,%	ORG,%
NP			2.67 EST	15.4	

CLASSIFICATION
SILTY SAND (SM), GRAY; WITH GRAVEL

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCB FACILITY SITING

PROJECT

BORING NO. BBA-GT01 SAMPLE NO. C

DEPTH/ELEV 4-6 DATE 06 NOV 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCB FACILITY SITING
PROJECT

BORING: BBA-GT01 SAMPLE: C DF: 0204 .DAT
DEPTH: 4-6 DATE: 06 NOV 03

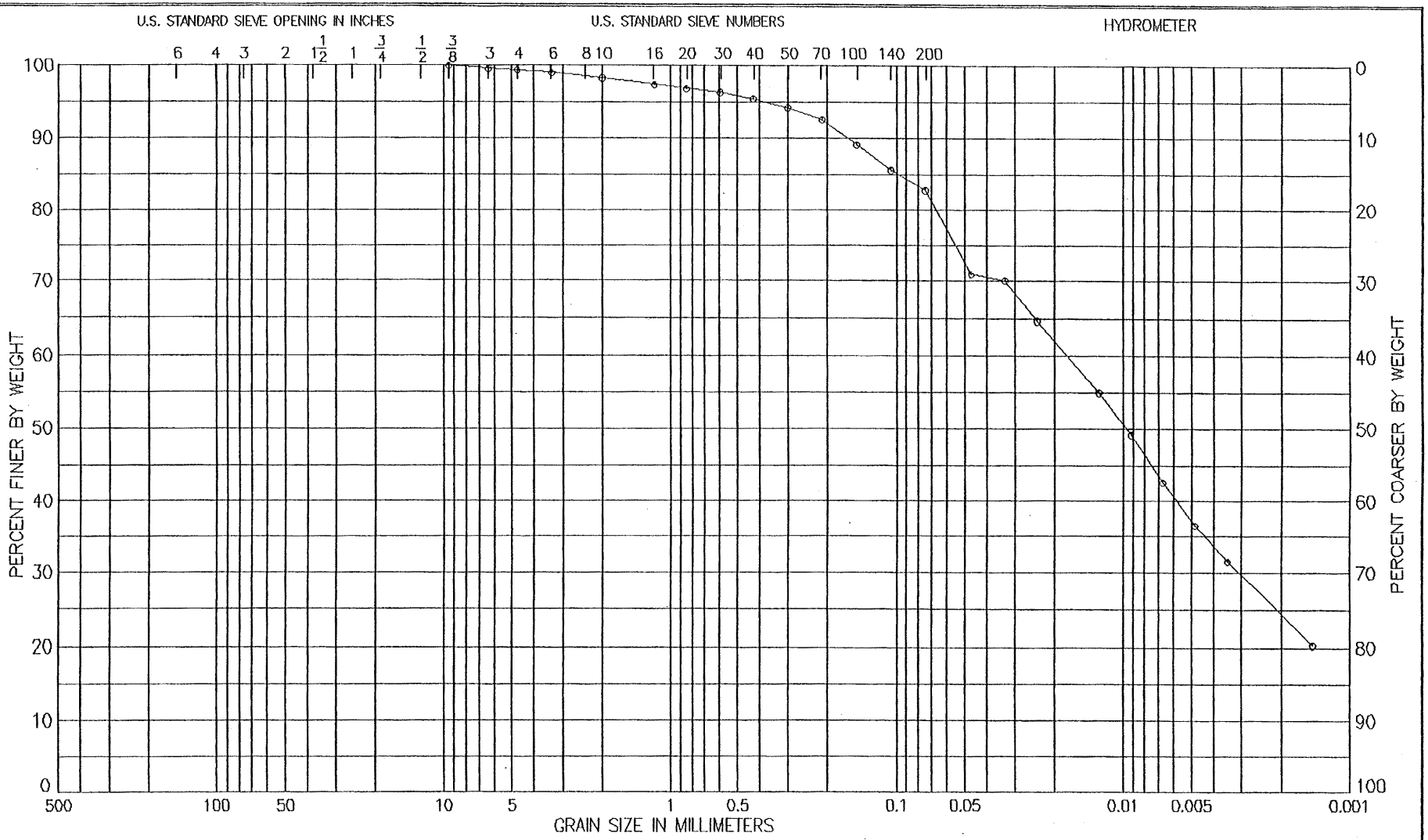
NON-PLASTIC GS: 2.67 est WC: 15.40
CLASSIFICATION: 108
SILTY SAND (SM), GRAY; WITH GRAVEL

TOTAL WEIGHT OF SAMPLE: 1008.2 gms.
PARTIAL WEIGHT AFTER SPLIT: 68.5 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	3/4 in	19.100	100.0	.0
13.1	1/2 in	12.500	98.7	1.3
22.9	3/8 in	9.500	96.4	3.6
34.6	No 3	6.350	93.0	7.0
20.6	No 4	4.750	91.0	9.0
24.5	No 6	3.350	88.5	11.5
33.1	No 10	2.000	85.2	14.8
2.3	No 16	1.180	82.4	17.6
4.1	No 20	.850	80.1	19.9
6.2	No 30	.600	77.5	22.5
11.1	No 40	.425	71.4	28.6
18.3	No 50	.300	62.5	37.5
27.3	No 70	.212	51.3	48.7
35.4	No 100	.150	41.2	58.8
42.1	No 140	.106	32.9	67.1
47.3	No 200	.075	26.4	73.6
HYDROMETER:				
RDGS	TEMP			
6.1	22.5	.0574	12.1	87.9
5.2	22.5	.0409	10.3	89.7
4.0	22.5	.0292	8.0	92.0
2.9	22.5	.0152	5.8	94.2
2.0	22.5	.0108	4.0	96.0
1.0	23.0	.0076	2.2	97.8
.4	23.0	.0054	1.0	99.0
.4	23.5	.0038	1.2	98.8
.3	23.5	.0016	1.0	99.0

PERCENT GRAVEL = 9.0
PERCENT SAND = 64.6
PERCENT FINES = 26.4

EDE



LL	PL	PI	GS	NAT W,%	ORG,%
27	17	10	2.70 EST	21.4	

CLASSIFICATION
SANDY CLAY (CL), GRAY

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCB FACILITY SITING
PROJECT
BORING NO. BBA-GT02 SAMPLE NO. C
DEPTH/ELEV 5-5.5 DATE 06 NOV 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCB FACILITY SITING
PROJECT

BORING: BBA-GT02 SAMPLE: C DF: 0204 .DAT
DEPTH: 5-5.5 DATE: 06 NOV 03

LL: 27 PL: 17 PI: 10 GS: 2.70 est WC: 21.40
CLASSIFICATION: 126
SANDY CLAY (CL), GRAY

TOTAL WEIGHT OF SAMPLE: 444.4 gms.
PARTIAL WEIGHT AFTER SPLIT: 55.9 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	3/8 in	9.500	100.0	.0
1.7	No 3	6.350	99.6	.4
.8	No 4	4.750	99.4	.6
1.7	No 6	3.350	99.1	.9
3.3	No 10	2.000	98.3	1.7
.5	No 16	1.180	97.4	2.6
.8	No 20	.850	96.9	3.1
1.1	No 30	.600	96.4	3.6
1.6	No 40	.425	95.5	4.5
2.3	No 50	.300	94.3	5.7
3.3	No 70	.212	92.5	7.5
5.2	No 100	.150	89.2	10.8
7.2	No 140	.106	85.6	14.4
8.8	No 200	.075	82.8	17.2

HYDROMETER:

RDGS	TEMP			
25.3	23.0	.0470	70.9	29.1
25.0	23.0	.0333	70.1	29.9
23.1	23.0	.0241	64.8	35.2
19.6	23.0	.0129	55.0	45.0
17.5	23.0	.0093	49.2	50.8
15.2	23.0	.0067	42.7	57.3
13.0	23.0	.0048	36.6	63.4
11.1	23.5	.0035	31.6	68.4
7.1	23.5	.0015	20.4	79.6

PERCENT GRAVEL = .6
PERCENT SAND = 16.6
PERCENT FINES = 82.8

EDE

Direct Push Technology (DPT)
Bore Logs From The
State of New York/First Rensellaer/Marine Management
Site

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Borehole Record for MM-GP01

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

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HTRW DRILLING LOG

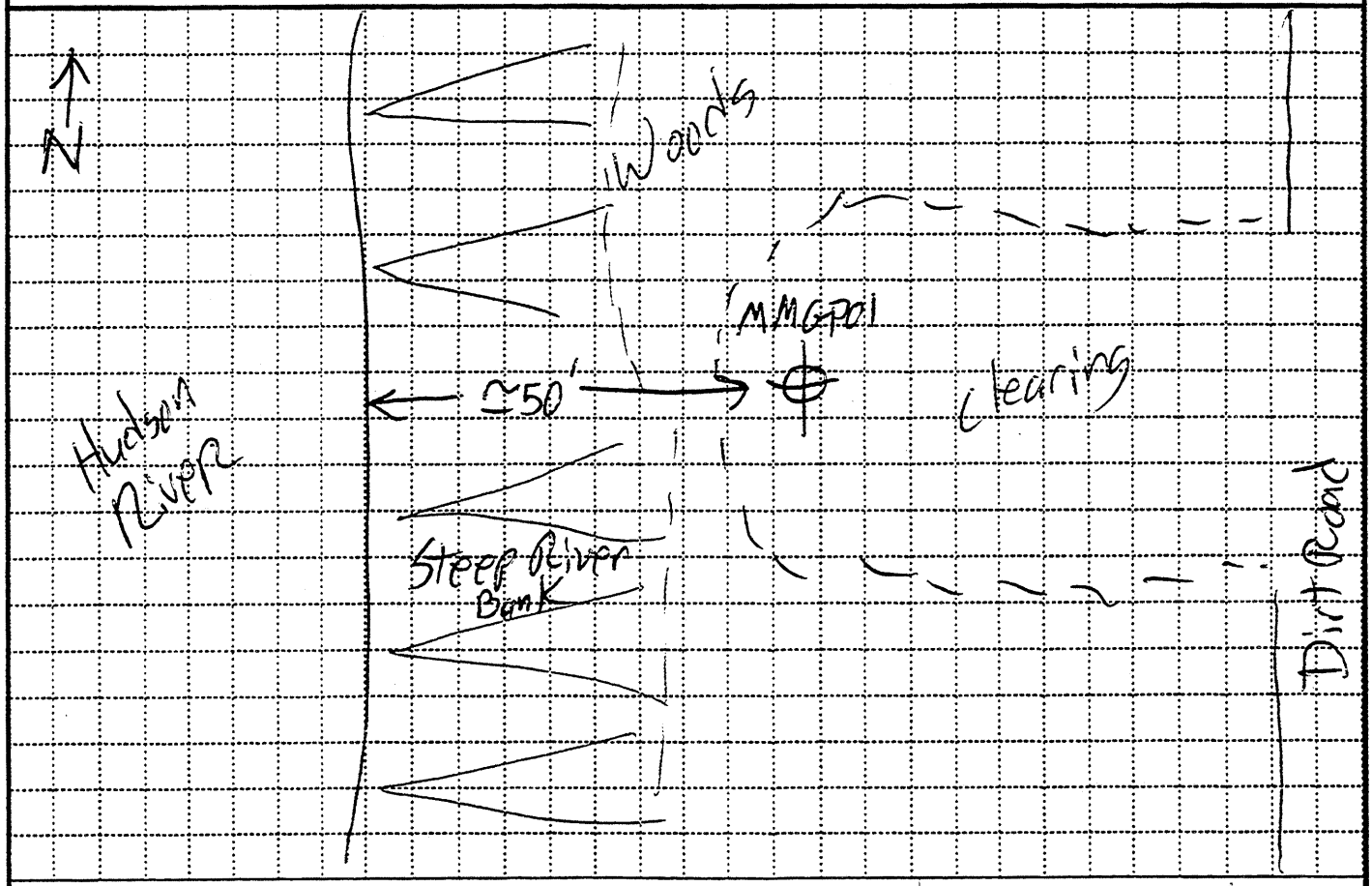
District: Kansas City

Hole Number: MM-GP01

1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic
Sheet: 1 of Sheets: 8	
3. Project: Hudson Facility Siting	4. Location: State of NY (first Rensselaer/Marine Management)
5. Name of Driller	6. Manufacturer's Designation of Drill: Geoprobe 5400
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" Geoprobe Macro core Soil Sampler Rods w/acetate sleeves & Discrete soil Sampling System	8. Hole Location: Northernmost Marine Management Property (in woods)
	9. Surface Elevation
	10. Date Started: 10-6-03 / 11. Date Completed: 10-6-03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 18.8' BGS
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 17.11' BGS after 20 minutes
14. Total Depth of Hole: 25'	17. Other Water Level Managements (Specify)

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOCs	Other (Specify): Pest/PCB's	Other (Specify): C.M	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert A. Meyer			

LOCATION SKETCH/COMMENTS — SCALE: NTS



PROJECT: Hudson Superfund Facility Siting

HOLE NO.: MM-GP01

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

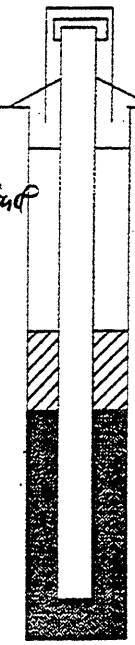
Lock Number Un-numbered Master Lock

SCREENED WELL

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

Stick-up 2.4 ft



GROUND SURFACE

Top of Grout _____ ft

Sand from 2' to surface

Top of Seal at 2 ft

Top of Sand Pack 4 ft

Top of Screen at 15 ft

Bottom of Screen at 25 ft

Bottom of Hole at 25 ft

Bottom of Sandpack at 25' BGS

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole Diameter 1.75 inches

Cement/ Bentonite _____

Grout _____

Screen Slot Size .010"

Screen Type slotted

☒ PVC sch. 40

☐ Stainless Steel ____

Pack Type/Size:

☒ Sand No. 0

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Robert A Myers

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GP01

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0'to 4' Fill Materid GM	FID unless Noted	NA		NA	
	1		Oppm in BZ and off Soil Core				4' Run 2.1' Rec
	2						
	3						
	4	4' to 8' Fill Material GM					4' Run 1.3' Rec
	5		Oppm in BZ and off Soil Core				
	6						
	7						
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: MM-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	0' to 4', Fill Material, dry to moist mix of Silt, VF to coarse sand and fine to med. pebbles with 20% Ash, rusted metal and glass fragments, brick fragments, cinders	
	4' to 8', Fill Material as above with little clay.	

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GP01

Project: Hudson Facility Siting | Inspector: Robert a Meyers | Sheet: 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 12' Fill Material GM	FID= 0ppm in BZ and off soil Corp PID = 0.4ppm off soil/Fill	NA	1205 Collect Sample MM-GP01-5B (Fill Material) From 8'-12'	NA	4' Run 1.9' Rec
	9						
	10						
	11						
	12	12' to 16' Fill Material GM					4' Run 2.9' Rec
	13		0ppm in BZ and off Soil Core				
	14						
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: MM-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 12', Fill Material as above, Moist	○	⊗	○
	12' to 16', ~~12' to 14.5'~~ RAM, Fill as above, moist	○	⊗	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GP01

Project: Hudson Facility Siting

Inspector: Robert A Meyer

Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 18.50' Fill Material GM		NA		NA	
	17		0ppm in BZ and at soil core				4' Run 4' Rec
	18						Water @ 18.8' bgs
	19	18.5' to 20' SP					
	20	20' to 24' SP					
	21		0ppm in BZ and at soil core				4' Run 4' Rec
	22						0% LEL Readings stable during drilling
	23						
	24	24' to 25' SP	0ppm in BZ and at soil core				1' Run 1' Rec
	25						

PROJECT: Hudson Facility Siting

HOLE NO.: MM-GP01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	16 to 18.5', Fill as above	
	Brown 18.5' to 20', VF to Coarse Sand with trace Silt, Wet @ 18.8' BGS, No Fill.	
	20' to 22.7', Brown Sand as above	
	22.7' to 24', Gray VF to coarse sand and silt with trace fine to med. gebbles & trace clay.	
	24' to 25', Same as above B.O.H @ 25' BGS	

Borehole Record for MM-GPQ2

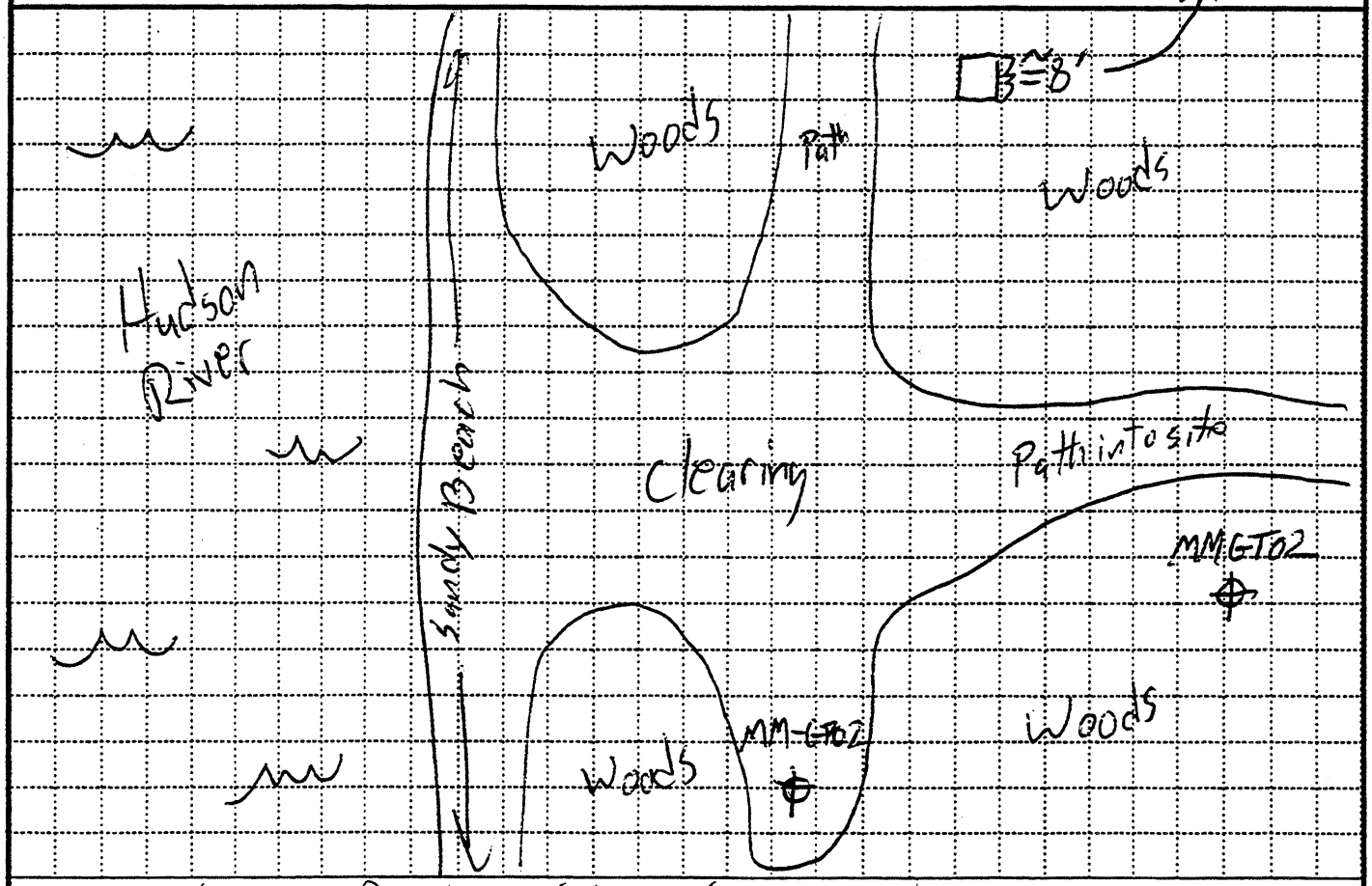
- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

HTRW DRILLING LOG

District: Kansas City		Hole Number: MM-GP02
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc	Sheet: 1 of 8 Sheets
3. Project: Hudson Superfund Facility Siting	4. Location: ≃60' East of Hudson River; Marine Management Project	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" Geoprobe Macro-core soil Sampler Rods w/acetate sleeves & discreet soil sampling system	8. Hole Location: ≃60' East of Hudson River	
	9. Surface Elevation	
	10. Date Started: 10-3-03	11. Date Completed: 10-3-03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 6.2' BGS	
13. Depth Drilled into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 4.42' BGS after 34 minutes	
14. Total Depth of Hole: 25' BGS	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals & Hg: ✓	Other (Specify): 5 VOCs	Other (Specify): Pest/PCBs	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well (Temporary)	Other (Specify)	23. Signature of Inspector: Robert Wright			

LOCATION SKETCH/COMMENTS — **SCALE:** ~~AT SRP~~



PROJECT Hudson Superfund Facility Siting — **HOLE NO.** MM-GP02

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

SCREENED WELL

Stick-up 2.6 ft

Top of Grout _____ ft

Sand From 2' to Surface

Top of Seal at 2 ft

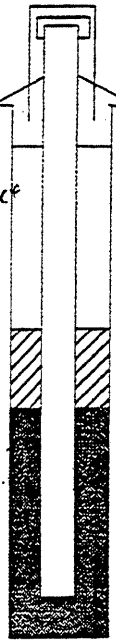
Top of Sand Pack 4 ft

Top of Screen at 15 ft

Bottom of Screen at 25' ft

Bottom of Hole at 25' ft

Bottom of Sandpack at 25' BGS



Lock Number un-numbered MasterLock

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole Diameter 1.75" inches

Cement/ Bentonite _____

Grout _____

Screen Slot Size .010"

Screen Type slotted

☒ PVC 1" dia., Sch. 40

☐ Stainless Steel ____

Pack Type/Size:

☒ Sand No. 0

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GP02

Project: Hudson Facility Siting

Inspector: Robert A Mayo

Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 3.6' Fill Material GM	FID unless Noted	NA		NA	
	1						4' Run 2.6' Rec.
	2		0 ppm in BZ & off soil Cores				
	3						
	4	3.6' to 4.0' SW 4.0' to 8.0' SW					
	5						4' Run 3.7' Rec
	6		FID = 0.4 ppm PID = 0 ppm		0351 Collect Sample MM-GP02-SB From 6' to 8' BGS		water @ 6.2' BGS
	7						
	8						

PROJECT: Hudson Facility Siting

HOLE NO.: MM-GP02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	0' to 3.6', Fill materials, Silt & VF to Med. Sand with few coarse Sand & Rounded to angular fine pebbles. Small pieces of brick & concrete.	
	3.6' to 4.0' Fine to coarse Sand with trace fine to med. pebbles (rounded to Angular). traces asphalt & brink.	
	4.0' to 8.0' Sand as above, with rust stain at 6.7' to 6.8' and Water @ 6.2' BGS.	

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GP02

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 5 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 12' SW		NA		NA	
	9						
			0 ppm in BZ & off soil cores				4' Run 4' Rec
	10						
	11						
	12	12'-16' SW					
	13						4' Run 4' Rec.
	14						
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: MM-GP02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 12', VF to Coarse Sand with few rounded fine to med. pebbles. No staining	○	○	⊘
	12' to 16', Sand as above	○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GP02

Project: Hudson Facility Siting

Inspector: Robert a Mayle

Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20' SW		NA		NA	
	17						4' Run 3.8' Rec.
	18		0 ppm in BZ & off soil Comp				
	19						
	20	20' to 24' SW					
	21						4' Run 3.6' Rec.
	22						O_2/LEL readings stable during drilling
	23						
	24	24' to 25' SW					1' Run 0.9' Rec.
	25						

PROJECT: Hudson Facility Siting

HOLE NO.: MM-GP02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20', VF to coarse sand with little rounded fine to med. pebbles	○	○	⊗
	20' to 24', Sand & Pebbles as above.	○	○	○
	24' to 25' Sand & Pebbles as above	○	○	○
	B.O.H @ 25' BGS	○	○	○

Borehole Record for MM-GP04

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

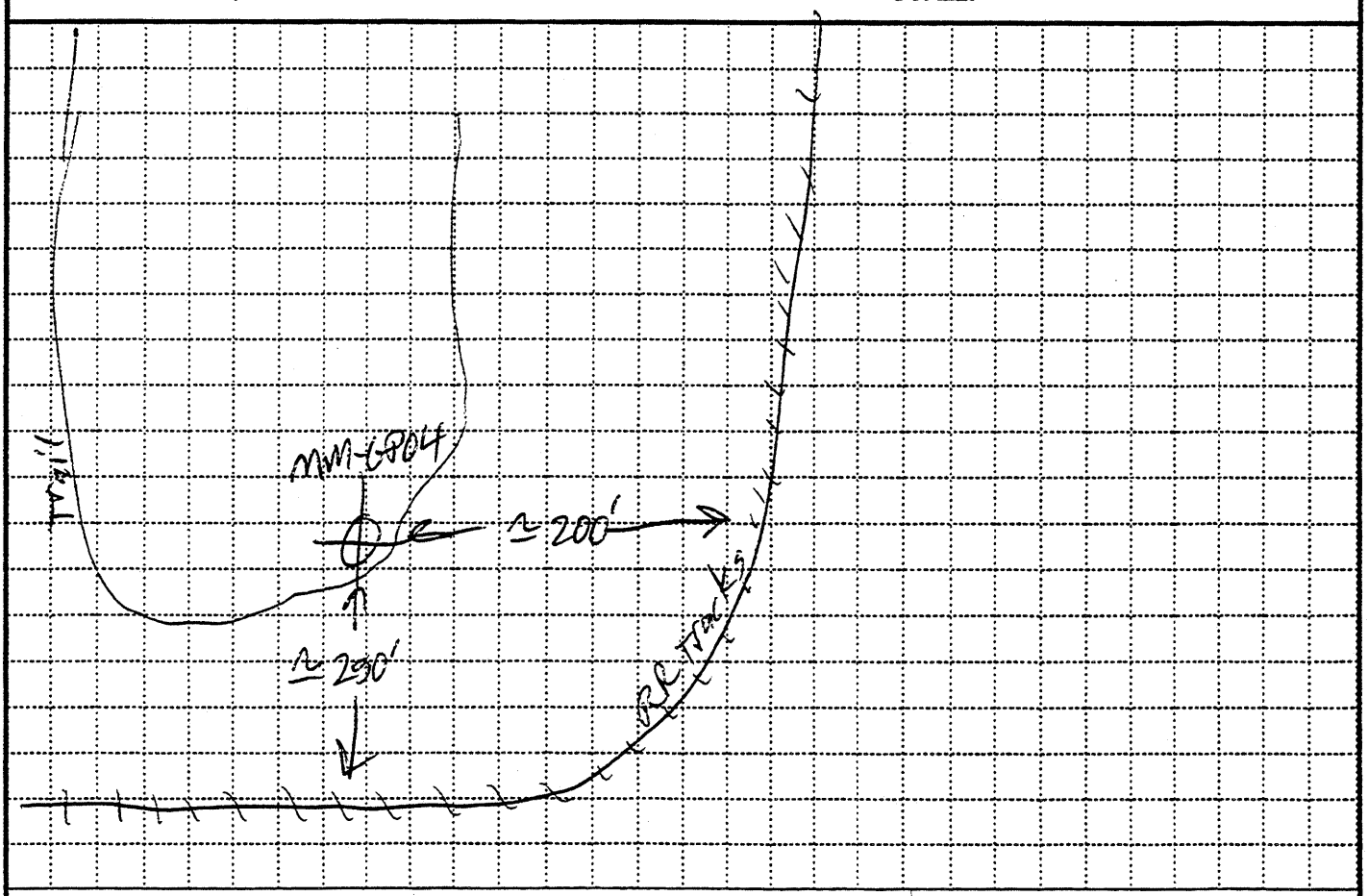
31 AUG 94

HTRW DRILLING LOG

District: Kansas City		Hole Number: MM-GP04
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc.	Sheet 1 of 8 Sheets
3. Project: Hudson Superfund Facility Siting	4. Location: State of NY/First Rensselaer/Marine Management	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Geoprobe macro-core soil sampling rods w/ acetate sleeves and discreet sampling system	8. Hole Location: First Rensselaer Property, ~250'N and 200'W of RR Tracks	
	9. Surface Elevation	
	10. Date Started: 10-6-04	11. Date Completed: 10-6-04
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 8.6' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 14.5' BGS after 21 minutes	
14. Total Depth of Hole: 25' BGS	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA		
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOC	Other (Specify): Pest./PCB	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: Robert A Meyers			

LOCATION SKETCH/COMMENTS **SCALE:**



PROJECT Hudson Facility Siting	**HOLE NO.** MM-GP04

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

Lock Number Unnumbered Master Lock

SCREENED WELL

Stick-up 2.9 ft

Top of Grout NA ft
Sand from 2' to surface

Top of Seal at 2 ft

Top of Sand Pack 4 ft

Top of Screen at 14.5 ft

Bottom of Screen at 24.5 ft

Bottom of Hole at 25' ft

Bottom of Sandpack at 24.5'

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets

Cement

Borehole Diameter 1.75" inches

Cement/ Bentonite

Grout

Screen Slot Size .010"

Screen Type Slotted
☒ PVC Sch. 40
☐ Stainless Steel

Pack Type/Size:
☒ Sand No. 0
☐ Gravel
☐ Natural

OPEN-HOLE WELL

Stick-up ft

Inner Casing Material

Inner Casing Inside Diameter inches

Outer Casing Diameter inches

Borehole Diameter ft

Bedrock ft

Bottom of Rock Socket/ Outer Casing ft

Bottom of Inner Casing ft

Corehole Diameter

Bottom of Corehole ft

NOTE: See pages 136 and 137 for well construction diagrams

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GP04

Project: Hudson Facility Siting | Inspector: Robert a Myers | Sheet 3 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' GM	FID unless Noted	NA		NA	4' Run 3.4' Rec.
	1						
	2		0ppm in BZ and off Soil Core				
	3						
	4	4' to 6.2' GM					
	5						4' Run 4' Rec.
	6	6.2' to 7.1' CL					
	7	7.1' to 8' GP					
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: MM-GP04

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4', VF to Coarse Sand and fine pebbles with some silt and some Fill Material (cinders) throughout.			
	4' to 6.2' Same as above			
	6.2' to 7.1', Gray moderately plastic Clay			
	7.1' to 8' Gray & brown VF to coarse sand and fine pebbles, dry, loose, Fill			

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GP04

Project: Hudson Facility Siting | Inspector: Robert A Meyer | Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 11.2' CC	↑ FID = 5.2 ppm PID = 0.3 ppm ↓	NA	1350 Collect Sample MM-GP04-SB from 8'-10'	NA	water @ 8.6' BGS
	9						4' Run 3.1' Rec
	10		0 ppm in BZ & on soil core ↓				
	11	11.2-12' CL					
	12	12'-16' CL					
	13						4' Run 4' Rec Natural
	14						
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: MM-GP04

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 11.2', Clayey fine to med. pebbles and VF to Coarse sand, Water @ 8.6' BGS Fill, Iron staining @ 8.9' BGS.	○	⊗	○
		○	⊗	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	Gray	○	○	○
	11.2' to 12', low plasticity clayey Silt with some VF sand, Natural, and trace rounded fine to med. pebbles.	○	○	○
		○	○	○
		○	○	○
		○	○	○
	12' to 16', Clayey Silt with some VF Sand as above	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	⊗

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GP04

Project: Hudson Facility Siting | Inspector: Robert A Myer | Sheet 7 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20'		NA		NA	4' Run,
		No Recovery					No Recovery
	17	(slid out of acetate sleeve)					
	18						
	19						
	20	20' to 24					
		GM					
	21		Oppm in BZ and off Soil Core				4' Run 2.8' Rec
	22						O2/LEL Readings stable during drilling.
	23						
	24	24' to 25'					1' Run
	25	GM					0.6' Rec

PROJECT: Hudson Facility Siting | HOLE NO.: MM-GP04

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20', No Recovery	○	○	⊖
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	20' to 24', Dark gray silt and VF to coarse sand with little fine pebbles (angular).	○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	24' to 25' Same as above, with no pebbles, Sands flaring.	○	○	○
		○	○	○
	B.O.H @ 25' BGS	○	○	○
		○	○	○

Geotechnical Bore Logs
From The
State of New York/First Rensellaer/Marine Management Site

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Borehole Record for MW-6701

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

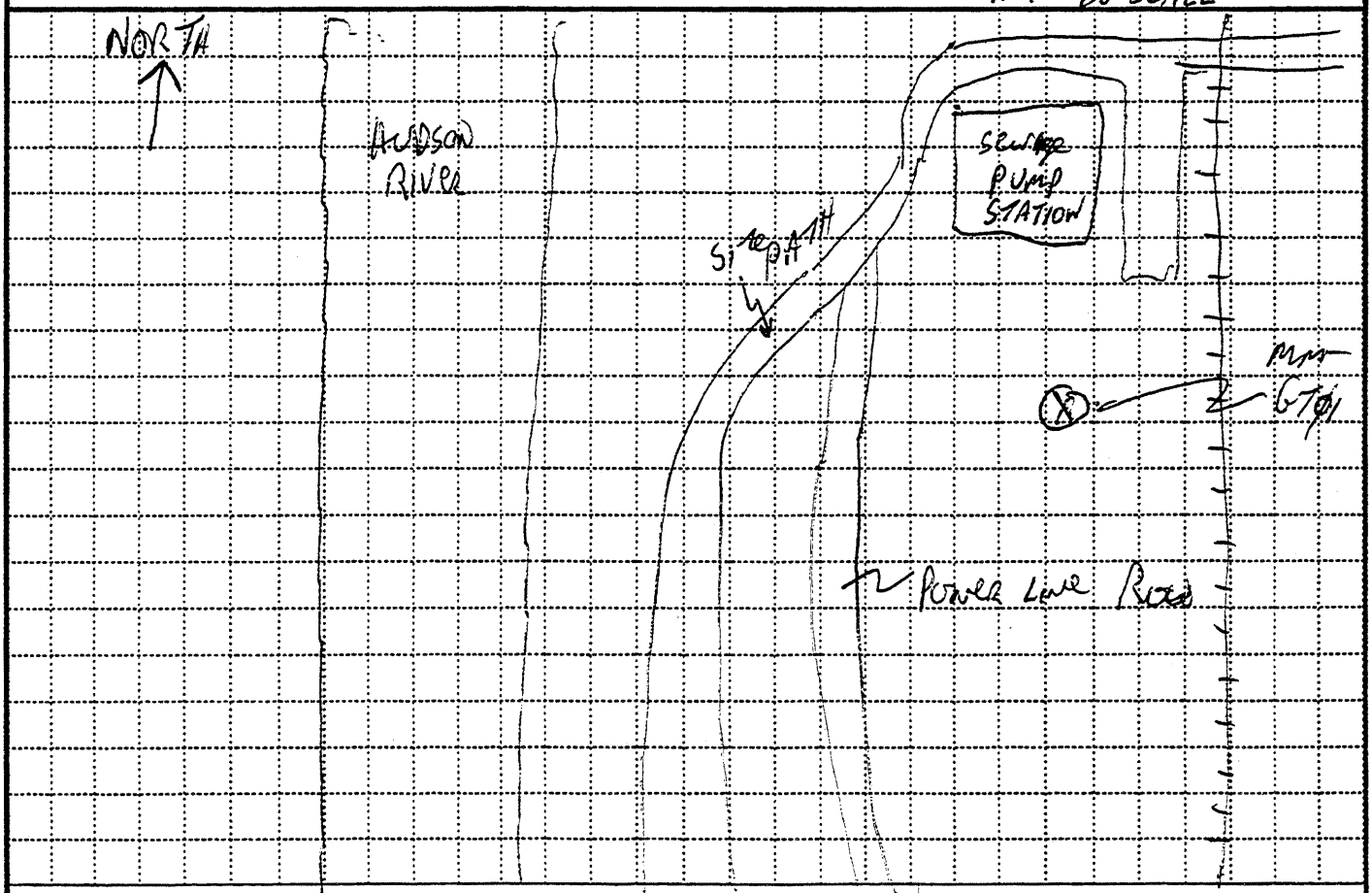
	District: KANSAS CITY	Hole Number: MM-GT01
1. Company Name: ECOLOGY AND ENVIRONMENT, INC	2. Drill Subcontractor: GEOLOGIC / NORTHSTAR DRILLING	Sheet 1 of 10 Sheets
3. Project: MARINE MANAGEMENT	4. Location: RENSSELAER, NY	
5. Name of Driller: STEVE LAFRANCE	6. Manufacturer's Designation of Drill: CME-45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4¼" HOLLOW STEM AUGER; 2" X 24" SPLIT SPOON	8. Hole Location: NORTHERN END OF SITE, WEST OF RAILROAD	
	9. Surface Elevation: 0	
	10. Date Started: 10/6/03	11. Date Completed: 10/6/03
12. Overburden Thickness: > 26'	15. Depth Groundwater Encountered: APPROX 16.2' BGS	
13. Depth Drilled Into Rock: 0'	16. Depth to Water and Elapsed Time After Drilling Completed: DRY HOLE AT COMPLETION OF SPLIT SPOONING	
14. Total Depth of Hole: 26'	17. Other Water Level Management (Specify): N/A	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
		1	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
	0	0	0	0	—	0 %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	X			[signature]

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



PROJECT	HOLE NO.
HUDSON RIVER PCB FACILITY SITING PROJECT	MM-GT01

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

SCREENED WELL

Stick-up _____ ft

Top of Grout _____ ft

Top of Seal at _____ ft

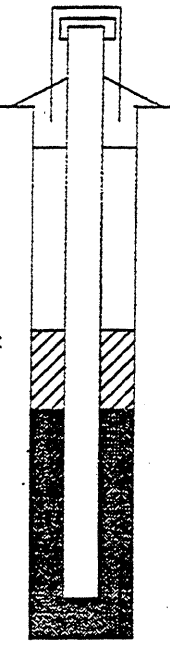
Top of Sand Pack _____ ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____



Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole Diameter _____ inches

Cement/ Bentonite _____

Grout _____

Screen Slot Size _____

Screen Type _____

☐ PVC _____

☐ Stainless Steel _____

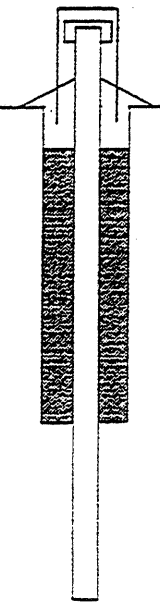
Pack Type/Size:

☐ Sand _____

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

No well constructed; Geotechnical boring only

⇒ Insufficient soil volume for all required analyses in the 2'-4' split spoon, so a 3" split spoon was driven to the side of the main GT borehole.

Sample: MM-GT01-[illegible] Time: 13:25 Depth: 2'-4' - submitted for particle size, Atterberg limits and moisture content

Backfilled borehole w/ bentonite 25' → 16', then used cuttings for backfill to grade

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GT01

Project: MARINE MANAGEMENT

Inspector: Jon NIELSON

Sheet 3B of 6

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	1	FILL	PID = 1.0 FID = 0.85	N/A	—	5/6/4/8	60%
		SM					
	2		PID = 0.1 FID = 0.3			6/6/6/5	
	3	GM			MM-GT01-B 13:25		50%
	4		PID = 0.6 FID = 0.3			4/4/4/4	
	5	GM					50%
	6		PID = 0.2 FID = 0.4			5/6/5/7	50%
	7	SP					
	8						

PROJECT: HUDSON RIVER PCB FACILITY SITING PROJECT

HOLE NO.: MM-GT01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
0-0.8':	FILL, CONSISTING OF BRICK FRAGMENTS AND BROWN DRY/MOIST SILTY CLAY; PLASTIC FRAGMENTS WITHIN IT, AS WELL. DRY.	Moist
0.8 → 2':	DRY BROWN SANDY SILT. PEBBLES (ROUNDED AND SUB-ROUNDED) PRESENT. GRAVEL AT 1.4'-2.0' INTERVAL	Moist
2' → 4'	GRAVEL/SILT/SAND MIXTURE. DRY. ROUNDED PARTICLES; NO COHESION. LIGHT DENSITY. PARTICLE ≤ 1 CM IN LENGTH	Moist
⇒	SELECT TUBE INTERVAL FOR FULL GEOTECH ANALYSIS - WILL DRIVE A COMPARISON 3" SPOON LATER	Moist
4-4.3	GRADING TO AMINO CONSISTENT SAND MIXTURE. LESS GRAVEL. SILT ≈ 1/3. DRY. LIGHT TAN	
4.3-7.2	LESS GRAVEL; MORE SILT. DRY; TAN SILTY SAND. GRAVEL 10%: ROUNDED	
7.2 → 8	TAN QUALLY SAND; NO SILT. ABRUPT CHANGE, WELL STRATIFIED. DRY. GRAVEL CLASTS TO 4 mm; SUB-ROUNDED AND ROUNDED. QUARTZ-RICH GRAINS (ALL)	
8'	(9)	

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-G-T01
Project: MARINE MANAGEMENT
Inspector: Jon Nickerson
Sheet 5 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	9	SP ML	PID = 0.6 FID = 0.2	N/A	-	1/2/1/2	100% Rec.
	10	Sm	PID = 0.6 FID = 1.1		-	1/1/1/4	100% Rec.
	11						
	12	Sm ML	PID = 0.4 FID = 0.65			2/2/3/4	75%
	13						
	14		PID = 3.3 FID = 27.2			1/1/2/4	75%
	15						
	16						

PROJECT: Hudson River PCB Facility Study
HOLE NO.: MM-G-T01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
		○	○	○
		○	○	○
		○	○	○
8-9.2	Brown Dry F.g. - m.g SAND; TRACE fine GRAVEL ~ 25%; Rounded clasts ≤ 5mm Diameter	○	○	○
		○	○	○
		○	○	○
9.2 → 9.8	Soft Brown Dark SILT, CLAY ~10%. Moderately Cohesive; Moderately PLASTIC. NO INCLUSIONS	○	○	○
		○	○	○
9.8 - 11.6	DARKER SANDY SILT; DAMP; Mod. Cohesion; Moderately PLASTICITY	○	○	○
		○	○	○
11.6 - 12.1	Lower Cohesion, same Dark SANDY SILT; SAND % ~ 20% - 25%.	○	○	○
		○	○	○
		○	○	○
	WATER AT 12' BGS.	○	○	○
12.1 → 14	DARK INORGANIC SILT; SAND TRACE; NO INCLUSIONS	○	○	○
		○	○	○
14 - 16	Continues INORGANIC SILT; ~~SAND~~ SAND ≤ 10% DAMP; WOOD FRAGMENT @ 15.5'; 4@2 cm IN LENGTH. Mod. Cohesion; Mod. PLASTICITY	○	○	○
		○	○	○
		○	○	○
		○	○	○
	FID Spike @ 14.9' BGS. Generally 0.4 on Span Except for AT 14.9 BGS. No STAINING; NO OBVIOUS Source of ORGANIC VAPOR. LIKELY METHANE	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GT01

Project: MARINE MANAGEMENT

Inspector: Tom Nickerson

Sheet: 7 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	17	ML	PID = 0.35 FID = 2.2	N/A		1/3/4/2	90% Sec.
		PT					
		CH					
	18		PID = 0.3 FID = 0.25			W.O.H/ W.O.H/ 1/1	
	19						
	20		PID = 0.0 FID = 0.0			W.O.H/ W.O.H/ W.O.H/1	
	21						
	22		PID = 0.0 FID = 0.0			H/4/3/3	
	23						
	24						

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: MM-GT01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content Dry	Moist	Wet
16.2	BGS: Water Table? Wet. But not standing water			
	Dark (Black) Inorganic Silt; Trace V.F.G. Sand			
17.1	Peat w/ Silt Brown; Rooty. ~~Dry~~ Moist			
17.4 → 18	~~Light~~ Soft, Highly Plastic, Highly Cohesive Black Clay; Damp. Greasy			
18' → 20'	Continued Soft Clay; Dark; Highly Cohesive; Highly Plastic. Wet.			
	WOH: Weight of Hammer			
20 → 22	Same Clay			
22-24	Same Greasy Highly Cohesive, Highly Plastic Gray / Black Clay Lighter's in Color @ 23.6 → 24' to a Medium Gray.			

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GT01

Project: MARINE MANAGEMENT

Inspector: Jon Nickerson

Sheet 9 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E) N/A	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	25	Cit	PID = 0.4 FID = 0.1			2/3/3/3	
	26	BOTTOM OF HOLE @ 26.0'					

PROJECT: HUDSON RIVER PCB FACILITY SITING

HOLE NO.: MM-GT01

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
		○	●	○
		○	●	○
	Some DARK, soft clay.	○	●	○
		○	●	○
	=> NO STANDING water in hole after drilling	○	●	○
		○	○	○
		○	○	○
		○	○

Borehole Record for MM-6702

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

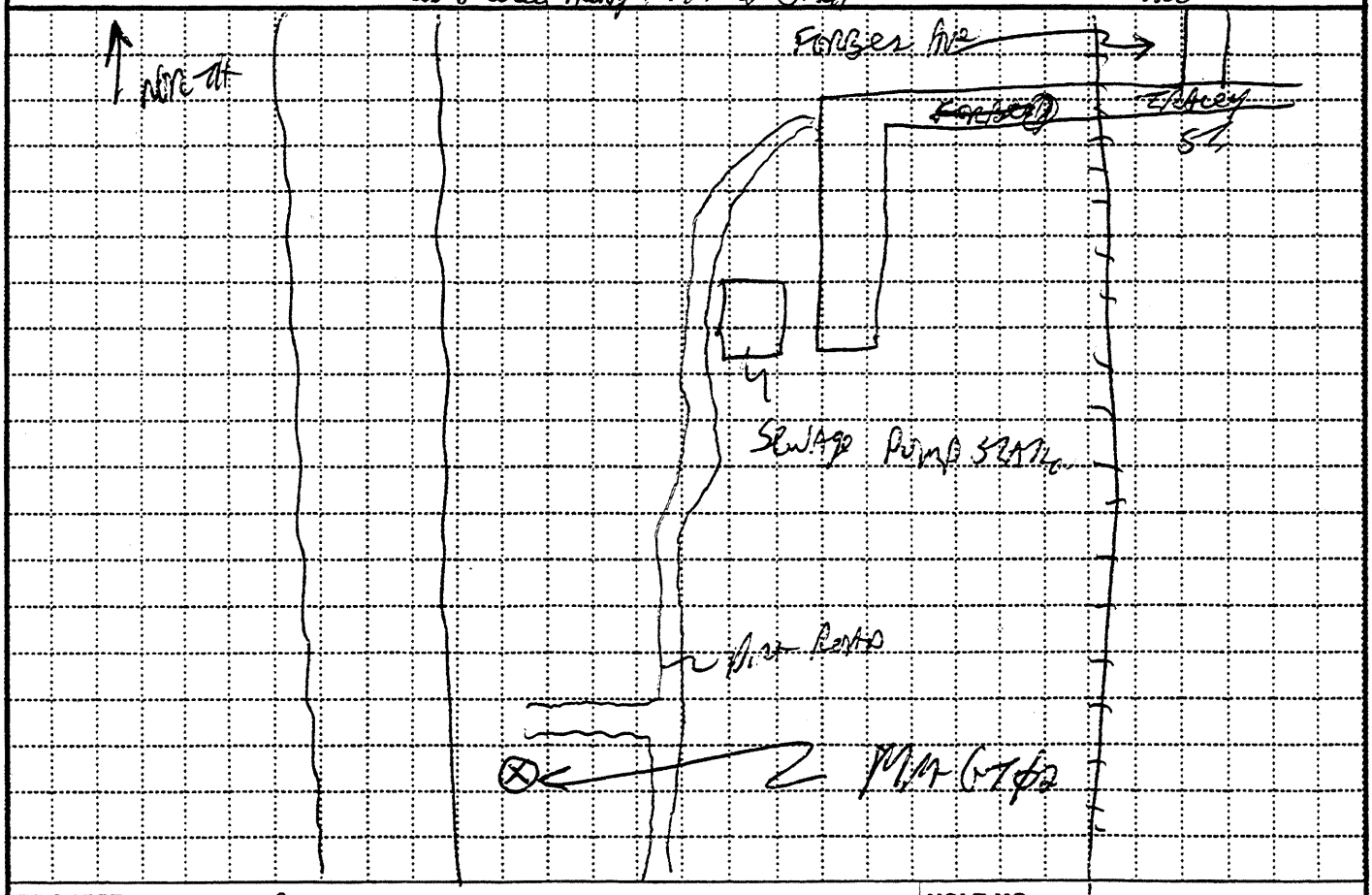
District: Kansas City Corps		Hole Number: MM-GT02
1. Company Name: Ecology + Environmental Inc	2. Drill Subcontractor:	Sheet 1 of 10 Sheets
3. Project: Hudson River PCB Facility Siting / Marine Management	4. Location: Middle of Site, Near River West of Dirt access Road	
5. Name of Driller: Jeff Talen / Joe Menzel	6. Manufacturer's Designation of Drill: CME-45C	
7. Sizes and Types of Drilling and Sampling Equipment: 4 1/4" HSA; 2" X 24" Split Spoon	8. Hole Location: Rensselaer, NY	
	9. Surface Elevation:	
	10. Date Started: 10/3/03	11. Date Completed: 10/3/03
12. Overburden Thickness: > 26' ft	15. Depth Groundwater Encountered: Approx 4.8' BGS	
13. Depth Drilled Into Rock: 0	16. Depth to Water and Elapsed Time After Drilling Completed: 3.6' BGS After pulling augers	
14. Total Depth of Hole: 26'	17. Other Water Level Managements (Specify): Not Recorded	

18. Geological Samples	Disturbed	Undisturbed	19. Total Number of Core Boxes
Yes	0	13	0

20. Samples For Chemical Analysis	VOC	Metals	Other (Specify)	Other (Specify)	Other (Specify)	21. Total Core Recovery
0	0	0	Grain Size	Moisture	Atterberg	0 %

21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector
	X	No		[signature]

LOCATION SKETCH/COMMENTS Wooded area Along PATH to BEACH **SCALE:** NOT to SCALE



PROJECT	HOLE NO.
Hudson River PCB Facility Siting	MM-GT02

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

Page 8 of 10

SCREENED WELL

Stick-up _____ ft

Top of Grout _____ ft

Top of Seal at _____ ft

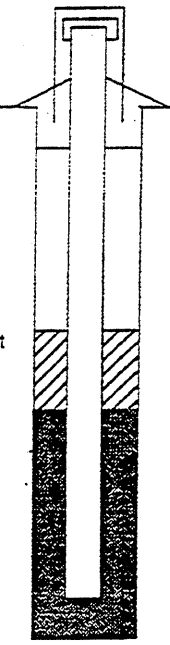
Top of Sand Pack _____ ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____



Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole _____ inches Diameter

Cement/ Bentonite _____

Grout _____

Screen Slot Size _____

Screen Type _____

☐ PVC _____

☐ Stainless Steel _____

Pack Type/Size:

☐ Sand _____

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL



Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

No well construction; geotechnical sample only

We are collecting a continuous moisture profile sample set from MM-GT02.

Flowing sands have been a problem from approximately 4' on down.

- Water @ 3.6' BGS after pulling augers from hole

- Collected sample MM-GT02-H at 11:16: submit for Atterberg, particle size, and moisture content analyses

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: GT02

Project: MARINE MANAGEMENT

Inspector: JEN NILSSON

Sheet 3 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	OL	PID=0 FID=0	N/A		2/2/2/6	
	1	GM			OM-GT03-A		50% Rec
	2		PID=0 FID=0.2		B	10/8/4/4	60% Rec
	3	SP					
	4						
	5		PID=0 FID=0		C	4/4/1	30% Rec
	6						
	7	SW	PID=0.2 FID=0		D	1/1/4/2	60% Rec.
	8						

PROJECT: HUDSON RIVER AOC FACILITY SITING

HOLE NO. MM-GT02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content Dry	Moist	Wet
	~~0'-0.5' Silty Brown Loam~~	✓		
	0'-0.5': Brown organic-rich SILT; DAMP; Roots present	✓		
	0.5'-2' Brown M.G. SAND w/ gravel; Angular	✓		
	Clasts to 1" in Diameter. Dry; Non-Cohesive	✓		
	Minor (Trace) SILT present.	✓		
	2'-3' Continued M.G. Brown SAND, less gravel;	✓		
	Trace SILT SOFT; Non-Cohesive; DAMP	✓		
3'→	Grades to small gravel; Coarser SAND; Trace			
	SILT Brown ~~DAMP~~; Dry; Rounded grains,			
	Rounded gravel			
4'-6'	Brown gravelly SAND; wet; M.G.; gravel clasts are Rounded			
	Saturated			
	Water at around 4.5' BGS			
	Water @ 5.3' BGS Reading Through augers			
	with Augers at 8' BGS			
6'-8'	Same gravelly SAND, Brown, But no Fines			✓
	Rounded clasts, SATURATED			✓
				✓
				✓
				✓
				✓
				✓
				✓
				✓
				✓
				✓
				✓

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GT02
Project: Marine Management
Inspector: Jon Nickerson
Sheet 5 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	9	SP SW	PID = 0 FID = 0	N/A	E	2/2/3/3	50% Rec
	10	SP SW DARKER MATERIAL	PID = 0 FID = 0		F	1/2/3/6	30% Rec
	12	SP SW	PID = 0 FID = 0.8		G	3/4/5/5	75% Rec
	14		PID = 0.2 FID = 0.1		H	1/2/3/4	100% Rec
	15	SW					
	16						

PROJECT: Hudson River PCB Facility Siting
HOLE NO.: MM-GT02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
8'-10'	Continued coarse-mg sand w/gravel; Rounded clasts Brown			
10'-12'	Same material; grades to Black. Saturated. One larger gravel piece 1.1" in diameter. Some fines ≈ 10%			
12'-16'	Same coarse-med gravelly sand; trace fines in 12-12.6 ~~zone~~ interval, ~~but~~ Rounded grains; saturated; low cohesion, soft			
11:16	Collected sample MM-GT02-H for Atterberg limits, moisture content, and ~~grain~~ particle size analysis			

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GT02

Project: Marine Management

Inspector: Jon Nickerson

Sheet 7 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	17	SW	PID = 0.1 FID = 0.2	N/A	I	5/6/6/5	100% Rec
	18	SW	PID=0.1 FID=0.4		J	3/4/3/4	100% Rec
	19						
	20		PID=0 FID=0		K	2/3/2/3	75% Native Rec 25% Cave-in
	21						
	22		PID=0.1 FID=0		L	2/4/4/4	50% Native Rec 50% Cave-in
	23						
	24						

PROJECT: Hudson River PCB Facility Siting

HOLE NO. MM-GT02

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16-18:	CONTINUED GRAVELLY COARSE-MED BROWN/BLACK SAND SATURATED SOFT, LOW COHESION; ROUNDED AND SUBROUNDED CLASTS	○	○	●
18'-20'	CONTINUED GRAVELLY COARSE-MED BROWN/ BLACK SAND	○	○	●
20'-22'	SAME MATERIAL CONTINUES	○	○	●

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-6 T02

Project: MARINE MANAGEMENT

Inspector: JON MCPHERSON

Sheet 9 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) PDM	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	25	SW	PID = 0 FID = 0	N/A	M	3/3/4/3	
	26	BOTTOM OF HOLE					

PROJECT: HUDSON RIVER PCB FACILITY SITING

HOLE NO.: MM-6 T02

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	CONTINUED GRAVELLY COARSE SAND; TRACE FINES; SOFT; ROUNDED CLASTS; BLACK/DARK BROWN COLOR	○	○	✓
		○	○	✓
		○	○	✓
		○	○	✓
		○	○	✓
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
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		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

Borehole Record for MM-GT03

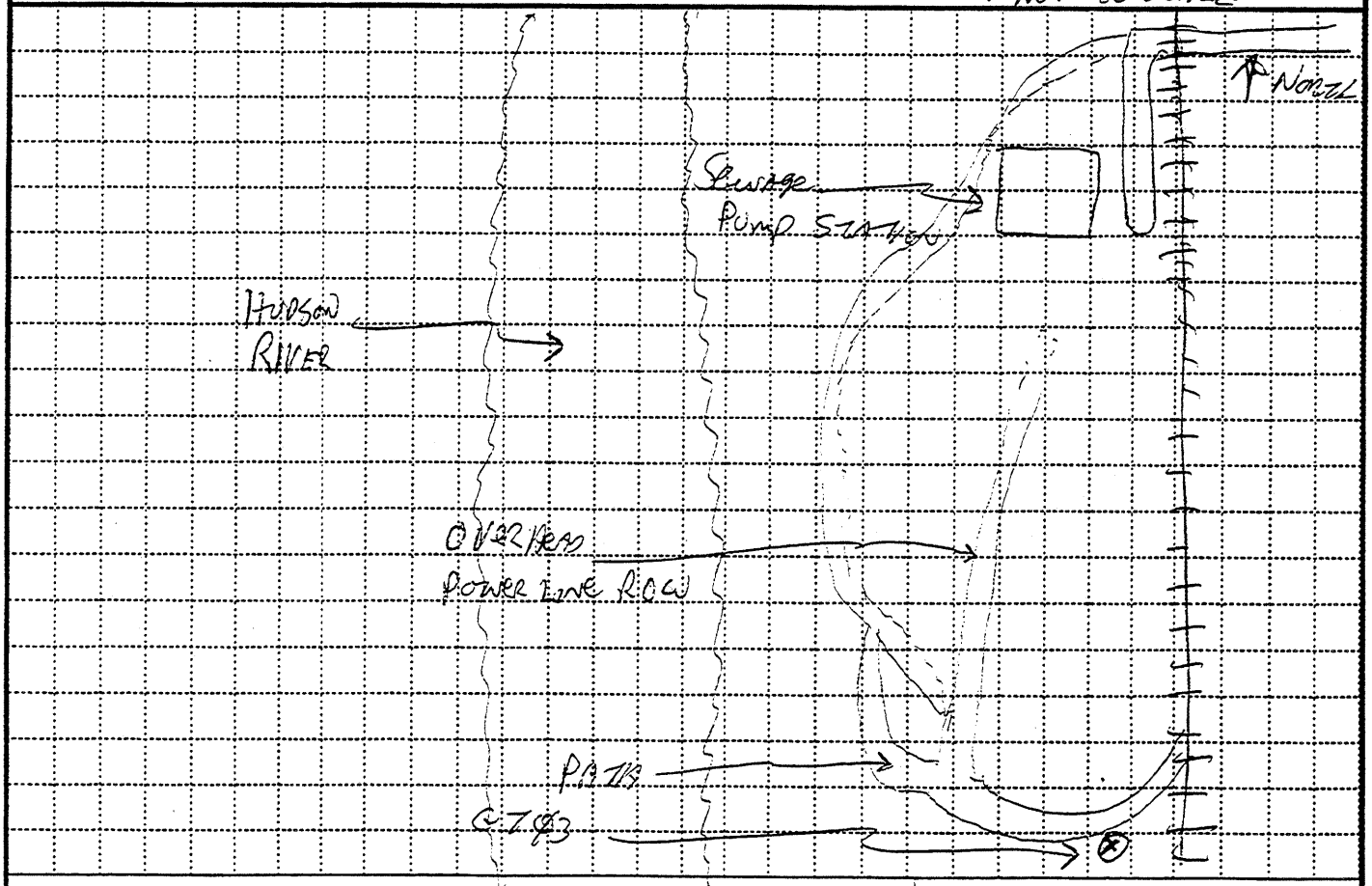
- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

1. Company Name: ECOLOGY & ENVIRONMENT, INC.	2. Drill Subcontractor: GEOLOGIC, INC.; NORTHSTAR DRILLING	District: KANSAS CITY	Hole Number: MM-GT03
3. Project: HUDSON RIVER PCB FACILITY SITING / MARINE MANAGEMENT	4. Location: RENSSELAER N.Y.		Sheet: 1 of 1 Sheets
5. Name of Driller: STEVE LARAMIE	6. Manufacturer's Designation of Drill: CME C-45		
7. Sizes and Types of Drilling and Sampling Equipment: ~~4 1/4" HSA~~ 2" X 24" SPLIT SPOON	8. Hole Location: SOUTHERN END OF PROPERTY, APPROX 100' FROM RR		
	9. Surface Elevation		
	10. Date Started: 10/6/03	11. Date Completed: 10/6/03	
12. Overburden Thickness: >26'	15. Depth Groundwater Encountered: DRY		
13. Depth Drilled Into Rock: 0	16. Depth to Water and Elapsed Time After Drilling Completed: NOT RECORDED		
14. Total Depth of Hole: 26'	17. Other Water Level Managements (Specify): NOT RECORDED		
18. Geological Samples: Disturbed	Undisturbed: 13	19. Total Number of Core Boxes	
20. Samples For Chemical Analysis: VOC / Metals	Other (Specify): GRAIN SIZE / Other (Specify): MOISTURE / Other (Specify): ATTERBURG	21. Total Core Recovery: N/A %	
21. Disposition of Hole: Backfilled X / Monitoring Well	Other (Specify): ~~ATTERBURG~~	23. Signature of Inspector	

LOCATION SKETCH/COMMENTS SCALE: NOT TO SCALE



PROJECT	HOLE NO.
HUDSON RIVER PCB FACILITY SITING	MM-GT03

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

SCREENED WELL

Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

Stick-up _____ ft

GROUND SURFACE

Top of Grout _____ ft

Top of Seal at _____ ft

Top of Sand Pack _____ ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____

Quantity of Material Used:

Bentonite Pellets _____

Cement _____

Borehole _____ inches Diameter

Cement/ Bentonite _____

Grout _____

Screen Slot Size _____

Screen Type _____

☐ PVC _____

☐ Stainless Steel ____

Pack Type/Size:

☐ Sand _____

☐ Gravel _____

☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

NO well constructed; Geotechnical boring

- All drilling procedure followed those specified by the project work plan

- Continuous Moisture profiling completed at this location

- Sample MM-G703-C, collected from the 4'-6' interval at 16:36 was submitted for particle size and Atterberg limits, in addition to moisture content analysis.

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GP03
Project: MARINE MANAGEMENT
Inspector: Tom Nickerson
Sheet 3 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	1	FILL	PID = 0.2 FID = 0.1	N/A	MM-GP03-A 16:31	2/4/8/6	80% rec.
	2	CL	PID = 0.3 FID = 0.2		MM-GP03-B 16:34	6/5/5/5	30% rec.
	3						
	4		PID = 0.8 FID = 0.4		MM-GP03-C 16:36	3/3/3/8	
	5						
	6		PID = 0.6 FID = 0.6		MM-GP03-D 16:39	8/4/8/5	
	7	GP					
	8						

PROJECT: HUDSON RIVER PCB FACILITY SITING
HOLE NO.: MM-GP03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
0 - 1.9'	FILL, CONSISTING OF BROWN SILT MIXED WITH RED BRICK, PLASTICS, ANGULAR GRAVEL, CINDERS. NON-CALCAREOUS DRY	○	●	○
1.8 - 2	GRAY CLAY-SILT; DAMP; LOW-MOD COHESIVE; LOW PLASTICITY	○	○	○
	WATER @ 4' BGS			
6.5	GRAVELLY M.G. SAND, ROUNDED CLASTS < 2CM IN LENGTH. DRY, NON-CALCAREOUS, LOW DENSITY, POORLY SORTED. CLASTS ARE PREDOMINANTLY QUARTZ PEBBLES	○	○	○
	END OF BORING @ 8' DRY, NOT SATURATED	○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MMGT03

Project: MARINE MANAGEMENT

Inspector: JON NICKERSON

Sheet 5 of 10 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) ppm	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	9	Sm	PID = 0.7 FID = 0.4	N/A	E 16:42	W.O.H./1/1/2	95% Rec.
	10	~~Sm~~ MH					
	11		PID = 0.2 FID = 0		F 16:48	1/3/4/5	75% Rec
	12						
	13	Sm	PID = 1.2 FID = 0.85		G 16:54	3/4/6/9	75%
	14		PID = ~~38.2~~ 0.25 (N) FID = 38.2		H 16:59	1/1/2/3	75%
	15						
	16						

PROJECT: HUDSON RIVER PCB FACILITY SITING Project

HOLE NO.: MM-GT03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	~~5' Silty Sand~~			
8-9.4	Sandy silts; dark, damp; low-med cohesion, low-med ~~cohesion~~ plasticity			
9.4 → 13.2	V.F.g. ~~sandy~~ silty sand; dark, damp; no inclusions			
	Wet @ 12' bgs			⊗
13.2 →	Silty sand; V.F.g. sand; damp, med cohesion, low plasticity, trace angular gravel. Damp; not saturated			
	FID hit is likely methane; darn color of clay indicates poor oxygenation of matrix			

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GT03

Project: MARine MAnagement

Inspector: Jon Nickerson

Sheet 7 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) (ppm)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
		Sm		N/A	F		
	17	GP	P.D = 0.65 F.D = 0.2		17:005	4/3/2/2	90%
		CH					
	18				J		
	19		P.D = 0.65 F.D = 0.9		17:09	1/1/2/2	60%
	20						
	21		P.D = 0.35 F.D = 0.42		K	1/2/2/2	60%
	22				17:13		
	23		P.D = 0.9 F.D = 0.7		L	w.o.h. 1/3/2	60%
	24				17:18		

PROJECT: Hudson River PCB Facility Siting

HOLE NO.: MM-GT03

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content Dry	Moist	Wet
	Silty sands to 16.9, then abrupt change to gravel/sand/silt mixture angular, sub rounded, and rounded clasts. Saturated			
17.3 →	~~The~~ Soft, saturated gray clay; no inclusions; highly plastic; high cohesion. Slippery			
	Methane at around 17', in the ~~top of~~ gravel on top of the clay			

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: MM-GT03
Project: MARINE MANAGEMENT
Inspector: JON NICKERSON
Sheet 9 of 10

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D) PID	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	25	CH	PID=0.7 FID=0.5	N/A	M 1778	2/2/2/3	90% Rec
	26						
		Bottom of Hole At 26'					

PROJECT: HUDSON RIVER PCB FACILITY SITING
HOLE NO.: MM-GT03

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
		○	○	○
	SAME Clay. Dark, Cohesive, PLASTIC, To 26'.	○	○	○
	Wet Greasy	○	○	○
		○	○	○
	=> Water Level Rising after Auger in Hole,	○	○	○
	At Total Depth = DRY.	○	○	○
		○	○	○
	=> Rising After Augers are Pulled: 8.3' BGS	○	○	○
		○	○	○
	-Install Bentonite To 95'	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
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		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

State of New York/First Rensellaer/Marine Management Site

Supplemental Geotechnical Information

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TABLE 1
SUMMARY

PROJECT: HUDSON RIVER PCB FACILITY SITING PROJECT

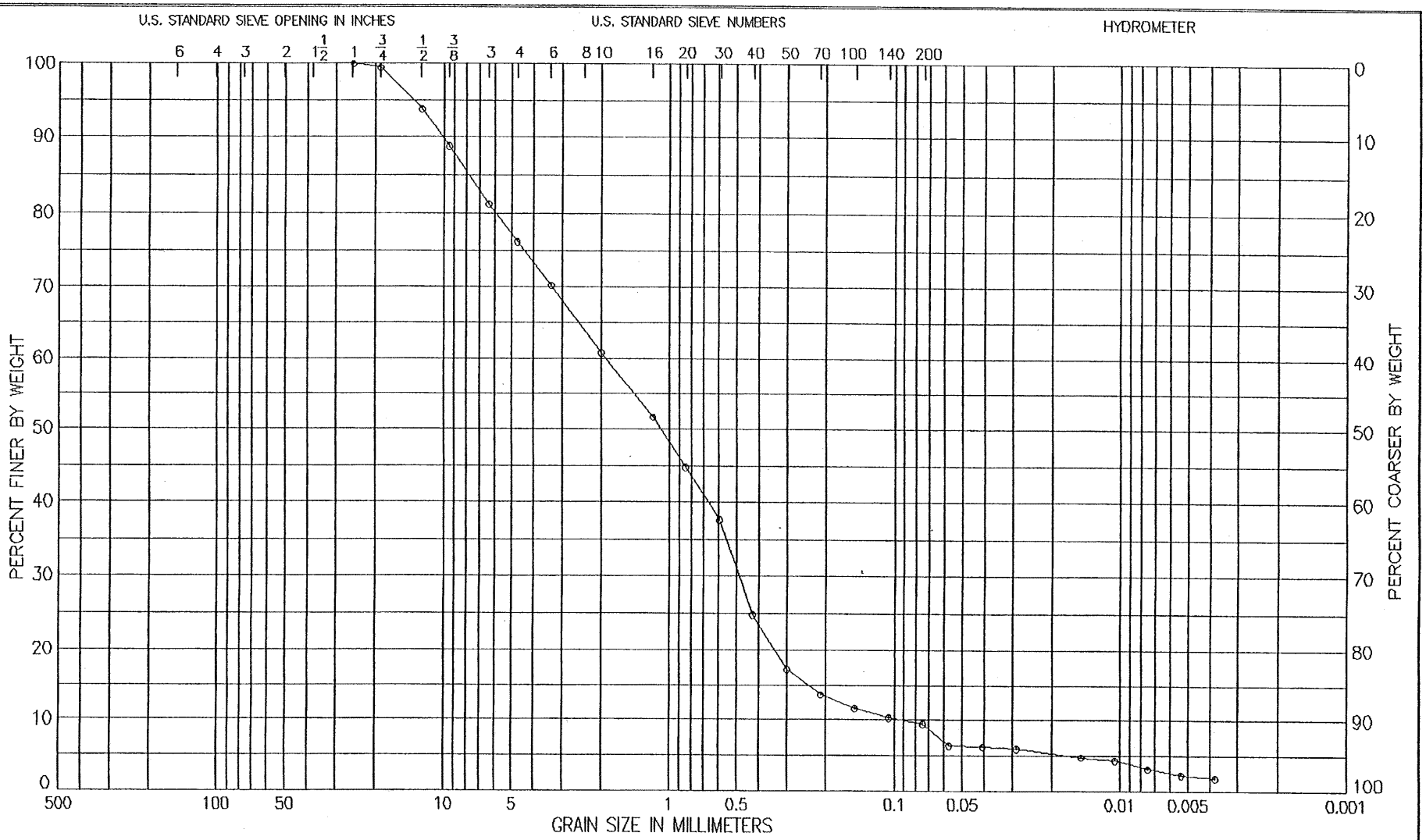
FILE NO.: 0204				**DATE:**	**CLASSIFIED BY: AT AND LDD**
LOCATION OR BORING	**SAMPLE NO.**	**ELEV. OR DEPTH**	**LL/PL**	**SAMPLE DESCRIPTION**	**NAT. W. C. %**
MM-GT01	B		NP	GRAVELLY SILTY SAND (SW-SM), GRAY	3.0
MM-GT02	A	0-2			13.5
MM-GT02	B	2-4			5.6
MM-GT02	C	4-6			18.8
MM-GT02	D	6-8			18.0
MM-GT02	E	8-10			15.6
MM-GT02	F	10-12			30.1
MM-GT02	G	12-14			12.3
MM-GT02	H	14-16	NP	SILTY SAND (SP-SM), GRAY; WITH GRAVEL	17.5
MM-GT02	I	16-18			18.5
MM-GT02	J	18-20			13.4
MM-GT02	K				15.7
MM-GT02	L				13.5
MM-GT02	M				15.4
MM-GT03	A	0-2			21.7
MM-GT03	B	2-4			25.5
MM-GT03	C	4-6	33/18	SANDY CLAY (CL), GRAY; WITH GRAVEL	23.6
MM-GT03	D	6-8			4.6
MM-GT03	E	8-10			33.7
MM-GT03	F	10-12			37.7
MM-GT03	G	12-14			21.6

REMARKS:

TABLE 1
SUMMARY

PROJECT: HUDSON RIVER PCB FACILITY SITING PROJECT

FILE NO.: 0204				DATE:	CLASSIFIED BY: AT AND LDD
LOCATION OR BORING	SAMPLE NO.	ELEV. OR DEPTH	LL/PL	SAMPLE DESCRIPTION	NAT. W. C. %
MM-GT03	H	14-16			43.2
MM-GT03	I	16-18			31.6
MM-GT03	J	18-20			38.6
MM-GT03	K				29.9
MM-GT03	L				50.9
MM-GT03	M				32.3



LL	PL	PI	GS	NAT W,%	ORG,%
NP			2.67 EST	3.0	

CLASSIFICATION
GRAVELLY SILTY SAND (SW–SM), GRAY

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCB FACILITY SITING
PROJECT
BORING NO. MM–GT01 SAMPLE NO. B
DEPTH/ELEV DATE 06 NOV 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCB FACILITY SITING
PROJECT

BORING: MM-GT01 SAMPLE: B DF: 0204 .DAT
DEPTH: DATE: 06 NOV 03

NON-PLASTIC GS: 2.67 est WC: 3.00
CLASSIFICATION: 216
GRAVELLY SILTY SAND (SW-SM), GRAY

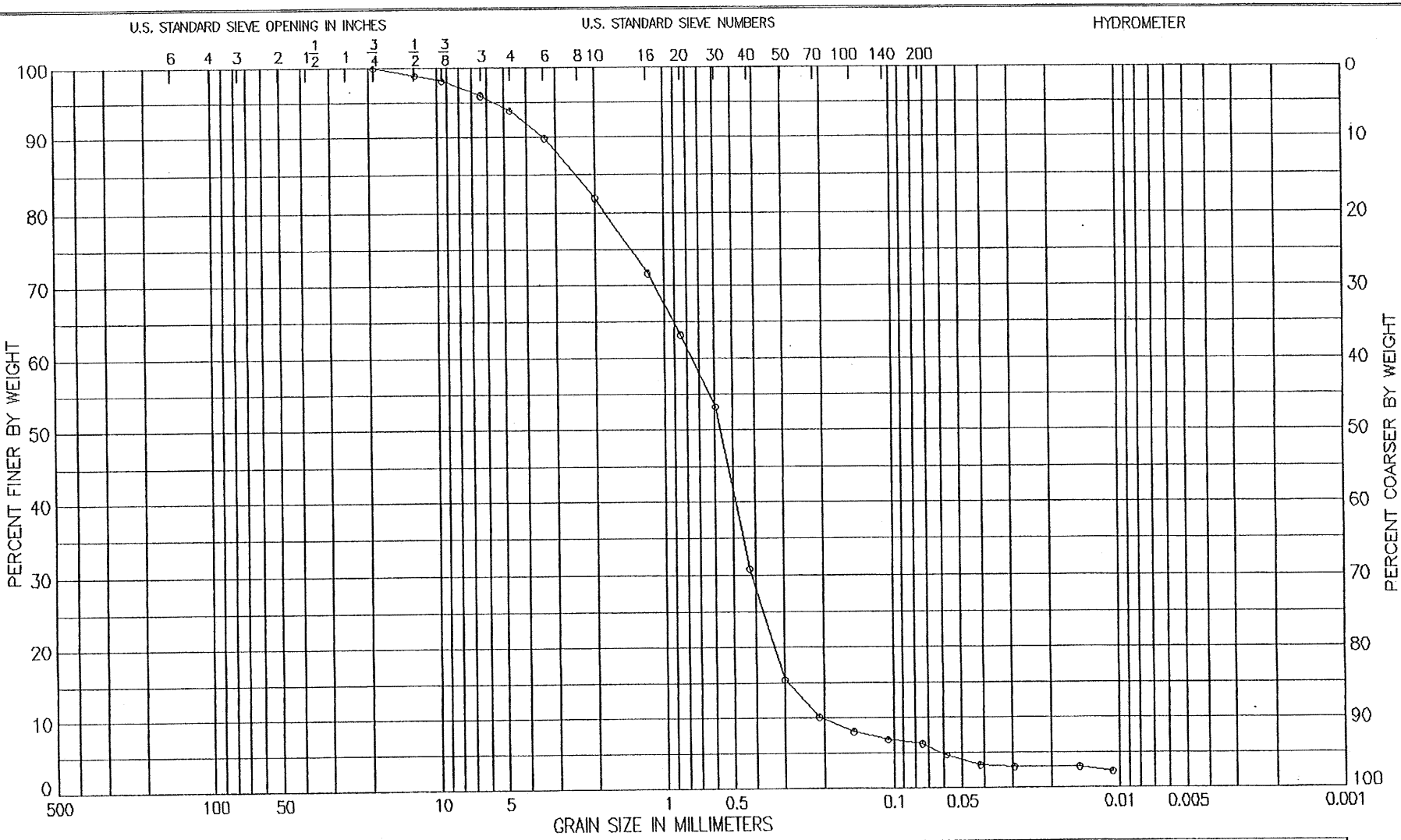
TOTAL WEIGHT OF SAMPLE: 1763.0 gms.
PARTIAL WEIGHT AFTER SPLIT: 66.8 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	1 in	25.000	100.0	.0
9.2	3/4 in	19.100	99.5	.5
98.3	1/2 in	12.500	93.9	6.1
90.3	3/8 in	9.500	88.8	11.2
132.8	No 3	6.350	81.2	18.8
89.1	No 4	4.750	76.2	23.8
105.0	No 6	3.350	70.2	29.8
165.4	No 10	2.000	60.9	39.1
10.1	No 16	1.180	51.7	48.3
17.6	No 20	.850	44.8	55.2
25.4	No 30	.600	37.7	62.3
39.5	No 40	.425	24.9	75.1
47.9	No 50	.300	17.2	82.8
51.8	No 70	.212	13.7	86.3
54.0	No 100	.150	11.7	88.3
55.5	No 140	.106	10.3	89.7
56.4	No 200	.075	9.5	90.5
HYDROMETER:				
RDGS	TEMP			
4.3	23.0	.0575	6.4	93.6
4.2	23.0	.0407	6.3	93.7
4.0	23.0	.0288	6.0	94.0
3.2	23.0	.0150	4.8	95.2
2.9	23.0	.0106	4.4	95.6
2.1	23.0	.0075	3.2	96.8
1.5	23.0	.0054	2.3	97.7
1.1	23.5	.0038	1.9	98.1

PERCENT GRAVEL = 23.8
PERCENT SAND = 66.7
PERCENT FINES = 9.5

D60 = 1.92
D30 = .49
D10 = .09
CU = 20.28
CC = 1.34

EDE



LL	PL	PI	GS	NAT W,%	ORG,%
NP			2.67 EST	17.5	

CLASSIFICATION
SILTY SAND (SP-SM), GRAY; WITH GRAVEL

GRADATION CURVE | LABORATORY USAE WES – STF/GL

PROJECT HUDSON RIVER PCB FACILITY SITING
PROJECT
BORING NO. MM-GT02 SAMPLE NO. H
DEPTH/ELEV 14-16 DATE 06 NOV 03

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCB FACILITY SITING
PROJECT

BORING: MM-GTO2 SAMPLE: H DF: 0204 .DAT
DEPTH: 14-16 DATE: 06 NOV 03

NON-PLASTIC GS: 2.67 est WC: 17.50
CLASSIFICATION: 234
SILTY SAND (SP-SM), GRAY; WITH GRAVEL

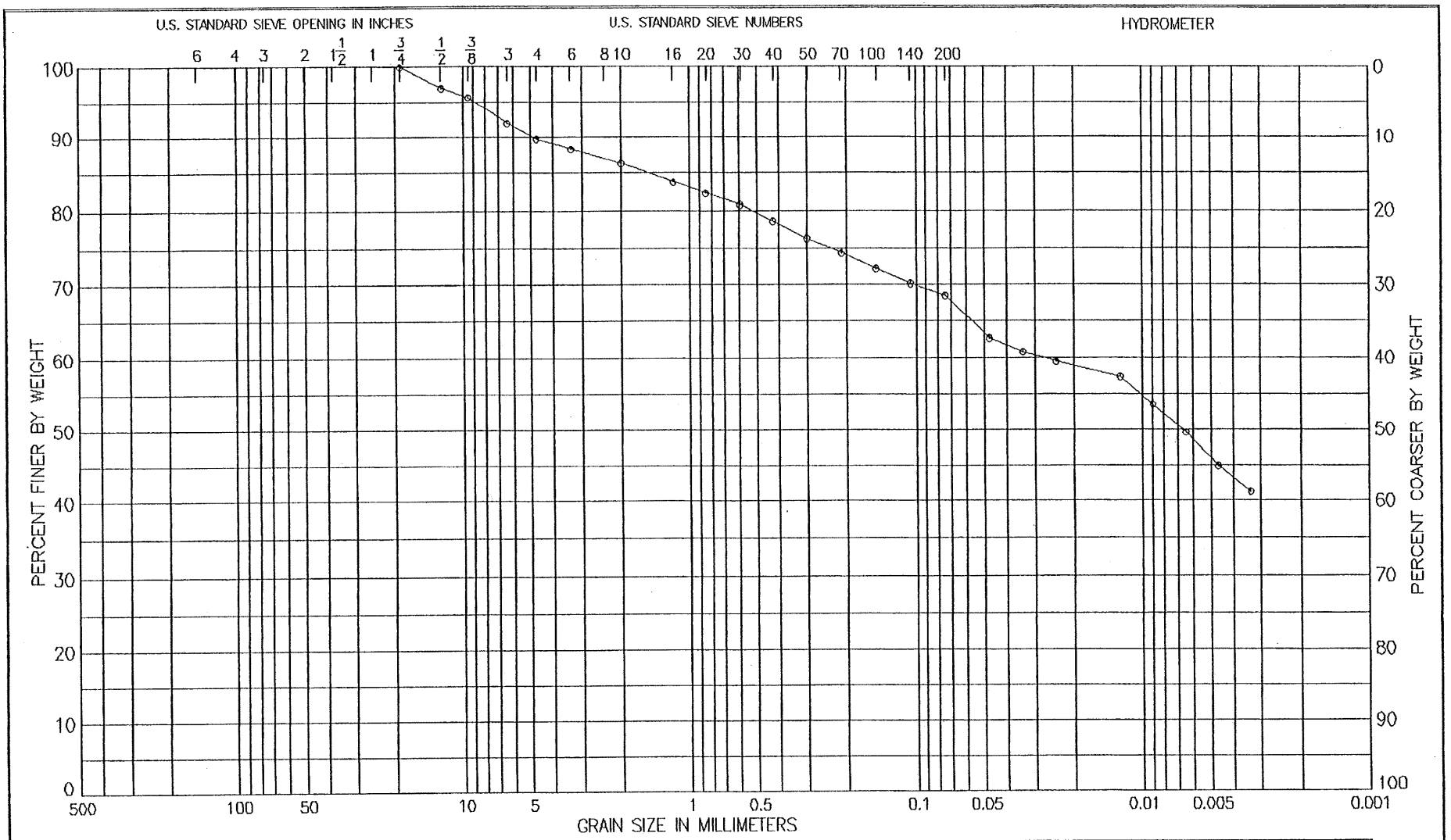
TOTAL WEIGHT OF SAMPLE: 1440.0 gms.
PARTIAL WEIGHT AFTER SPLIT: 56.2 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	3/4 in	19.100	100.0	.0
15.8	1/2 in	12.500	98.9	1.1
11.1	3/8 in	9.500	98.1	1.9
31.0	No 3	6.350	96.0	4.0
31.3	No 4	4.750	93.8	6.2
56.1	No 6	3.350	89.9	10.1
115.4	No 10	2.000	81.9	18.1
7.0	No 16	1.180	71.7	28.3
12.8	No 20	.850	63.2	36.8
19.7	No 30	.600	53.2	46.8
35.0	No 40	.425	30.9	69.1
45.6	No 50	.300	15.4	84.6
49.2	No 70	.212	10.2	89.8
50.6	No 100	.150	8.2	91.8
51.4	No 140	.106	7.0	93.0
51.8	No 200	.075	6.4	93.6
HYDROMETER:				
RDGS	TEMP			
1.9	23.0	.0585	4.7	95.3
1.3	23.0	.0416	3.3	96.7
1.2	23.0	.0294	3.0	97.0
1.2	23.0	.0152	3.0	97.0
.9	23.0	.0108	2.3	97.7

PERCENT GRAVEL = 6.2
PERCENT SAND = 87.4
PERCENT FINES = 6.4

D60 = .77
D30 = .42
D10 = .21
CU = 3.74
CC = 1.10

EDE



LL	PL	PI	GS	NAT W,%	ORG,%
33	18	15	2.70 EST	23.6	

CLASSIFICATION
SANDY CLAY (CL), GRAY; WITH GRAVEL

PROJECT HUDSON RIVER PCB FACILITY SITING

PROJECT

BORING NO. MM-GT03 SAMPLE NO. C

DEPTH/ELEV 4-6 DATE 06 NOV 03

GRADATION CURVE | LABORATORY USAE WES – STF/GL

SIEVE ANALYSIS

PROJECT: HUDSON RIVER PCB FACILITY SITING
PROJECT

BORING: MM-GT03 SAMPLE: C DF: 0204 .DAT
DEPTH: 4-6 DATE: 06 NOV 03

LL: 33 PL: 18 PI: 15 GS: 2.70 est WC: 23.60
CLASSIFICATION: 252
SANDY CLAY (CL), GRAY; WITH GRAVEL

TOTAL WEIGHT OF SAMPLE: 936.0 gms.
PARTIAL WEIGHT AFTER SPLIT: 52.5 gms.

WEIGHTS gm.	SIEVE SIZE or NUMBER	OPENING mm	PERCENT FINER	PERCENT COARSER
.0	3/4 in	19.100	100.0	.0
27.6	1/2 in	12.500	97.1	2.9
12.0	3/8 in	9.500	95.8	4.2
35.4	No 3	6.350	92.0	8.0
20.6	No 4	4.750	89.8	10.2
13.4	No 6	3.350	88.4	11.6
18.7	No 10	2.000	86.4	13.6
1.6	No 16	1.180	83.7	16.3
2.5	No 20	.850	82.2	17.8
3.4	No 30	.600	80.8	19.2
4.7	No 40	.425	78.6	21.4
6.1	No 50	.300	76.3	23.7
7.3	No 70	.212	74.3	25.7
8.6	No 100	.150	72.2	27.8
9.8	No 140	.106	70.2	29.8
10.8	No 200	.075	68.6	31.4

HYDROMETER:

RDGS	TEMP			
23.9	23.0	.0477	62.7	37.3
23.2	23.0	.0340	60.9	39.1
22.7	23.0	.0242	59.6	40.4
21.9	23.0	.0126	57.5	42.5
20.4	23.0	.0090	53.6	46.4
18.9	23.0	.0065	49.6	50.4
17.1	23.0	.0047	44.9	55.1
15.6	23.5	.0033	41.3	58.7

PERCENT GRAVEL = 10.2
PERCENT SAND = 21.2
PERCENT FINES = 68.6

EDE

Direct Push Technology (DPT)
Bore Logs From The
OG Real Estate Site

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Borehole Record for OG-GP01

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

31 AUG 94

HTRW DRILLING LOG

District: Kansas City

Hole Number: OG-GP01

Sheet 1 of 8

1. Company Name: Ecology & Environment Inc.

2. Drill Subcontractor: Northstar/Geologic Inc.

3. Project: Hudson Superfund Facility Siting

4. Location: Bethlehem, NY

5. Name of Driller: Jud Powell

6. Manufacturer's Designation of Drill: Geoprobe 5400

7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Geoprobe Macro-Core rods with acetate sleeves and discreet soil sampling system.

8. Hole Location: Eastern edge (central) Portion of site, along Electrical Right of Way

9. Surface Elevation:

10. Date Started: 10-7-03

11. Date Completed: 10-7-03

12. Overburden Thickness: > 25'

15. Depth Groundwater Encountered: 2.5' BGS

13. Depth Drilled Into Rock: NA

16. Depth to Water and Elapsed Time After Drilling Completed: 3.73' BGS after 15 minutes

14. Total Depth of Hole: 25'

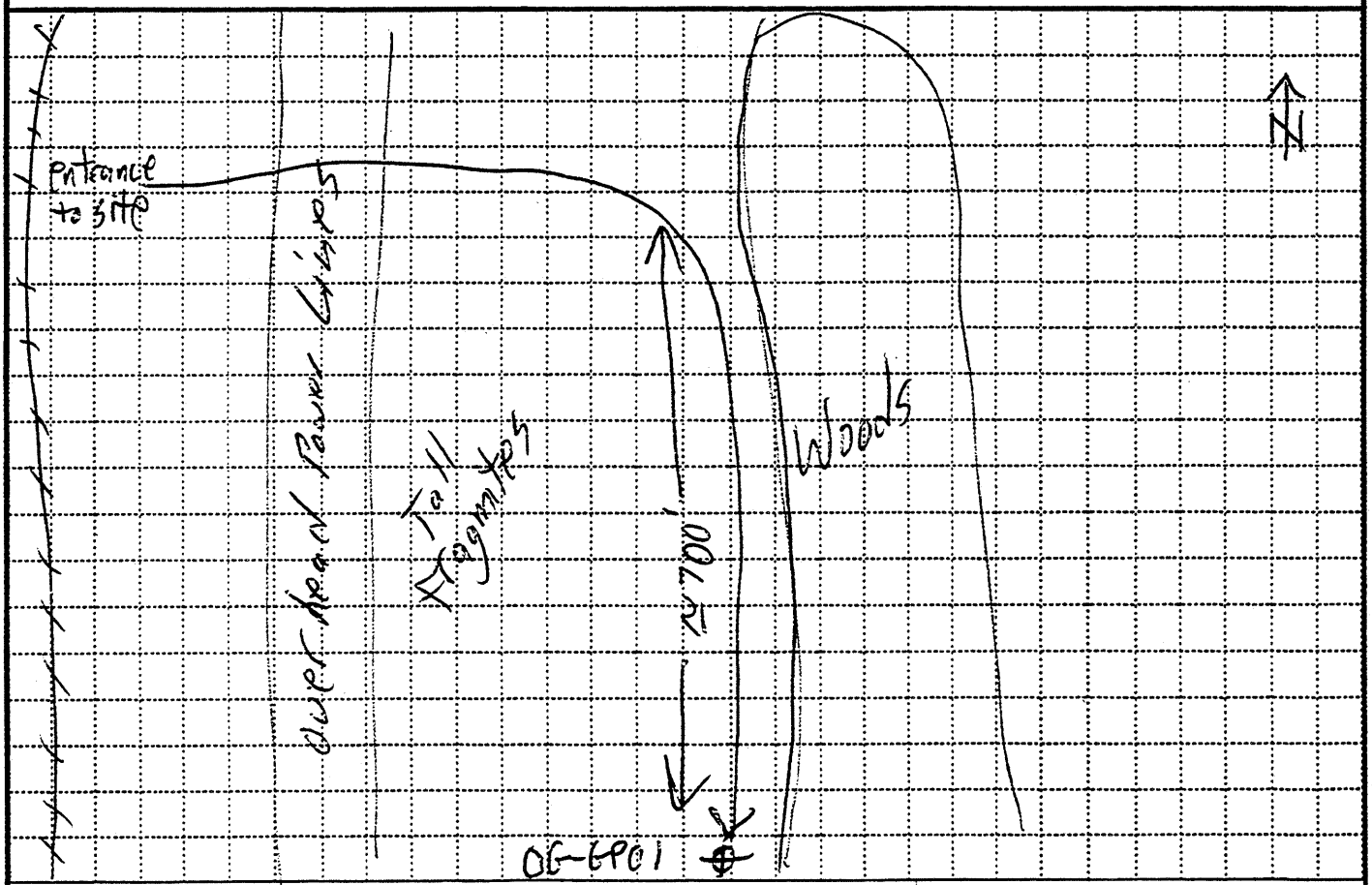
17. Other Water Level Managements (Specify):

18. Geological Samples: NA | Disturbed: — | Undisturbed: — | 19. Total Number of Core Boxes: NA

20. Samples For Chemical Analysis: VOC ✓ | Metals ✓ | Other (Specify): SVOC's | Other (Specify): Pest/PCB's | Other (Specify): CN | 21. Total Core Recovery: NA %

21. Disposition of Hole: Backfilled | Monitoring Well (Temporary) | Other (Specify) | 23. Signature of Inspector: Robert A Meyer

LOCATION SKETCH/COMMENTS SCALE: NTS



PROJECT: Hudson Superfund Facility Siting

HOLE NO.: OG-GP01

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

Lock Number unnumbered MasterLab

SCREENED WELL

Stick-up 2.35 ft

Top of Grout NA ft

Top of Seal at 1 ft
Sand from 1' bgs to Surface

Top of Sand Pack 3 ft

Top of Screen at 5.35 ft

Bottom of Screen at 15.35 ft

Bottom of Hole at 25' ft

Bottom of Sandpack at 16'

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets _____

Cement _____

Borehole 1.75" inches Diameter

Cement/ Bentonite _____

Grout _____

Screen Slot Size .010"

Screen Type slotted
☒ PVC Sch. 40
☐ Stainless Steel ____

Pack Type/Size:
☒ Sand No. 0
☐ Gravel _____
☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Robert A Negrete

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OG-GP01

Project: Hudson Facility Siting | Inspector: Robert A Magee | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' ML	FID unless noted	NA		NA	4' Run 3.6' Rec. Water @ 2.5' BGS
	1		0ppm BZ & soil				
	2				0910 Collect OG-GP01-SB From 2.5' to 4.0'		
	3		off soil core FID = 0.4ppm PID = 1.6ppm				
	4	4' to 8' ML					
	5		0ppm BZ & soil				4' Run 4' Rec Saturated
	6						
	7						
	8						

PROJECT: Hudson Facility Siting | HOLE NO. OG-GP01

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0'to4', Dark gray Silt and VF sand, water @ 2.5' BGS, uniform & Natural	○	⊗	○
		○	○	○
		○	○	○
		○	○	○
		○	⊗	○
		○	⊗	⊗
		○	⊗	⊗
		○	⊗	⊗
		○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	4'~8' Dark gray Silt & VF Sand, saturated,	○	○	○
	alternating horizontal bands of Silt & VF Sand	○	○	○
	ranging in thickness from 1mm to 6cm.	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OG-GP01

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 11.3' ML	↑	NA		NA	
	9		0ppm BZ & soil				4' Run 4' Rec
	10						
	11	11.3 to 11.5 is CL 11.5 to 12 ML					
	12	12' to 16' ML	↓				4' Run 4' Rec
	13		0ppm BZ & soil				
	14						
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO. OG-GP01

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 11.3', Dark gray to black silt & VF Sand with horizontal layering as above	○	○	⊗
	11.3' to 11.5' Silty CLAY tan/Gray, soft	○	○	○
	11.5' to 12 VF Sand in thin layers of Drk gray and black w/ some silt	○	○	○
	12' to 16', VF Sand & silt as above	○	○	○

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OG-GP01

Project: Hudson Facility Siting

Inspector: Robert A Meyer

Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20' ML	FID Unless Noted	NA		NA	
	17		0ppm in BZ & off Soil Core				4' Run 4' Rec
	18						
	19						
	20	20' to 23.6' ML	FID≈0.5ppm PID≈0ppm				4' Run 4' Rec
	21						
	22						O2/LEL stable during drilling
	23						
	24	23.6' to 24' is CL 24' to 25' is CL					1' Run 1' Rec
	25						

PROJECT: Hudson Facility Siting

HOLE NO. OG-GP01

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 19.2', VF Sand & silt as above	○	○	⊗
	~~19.~~	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	19.2' to 20' VF to Medium grained gray sand with	○	○	○
	clam shell Fragments & 2 pieces of	○	○	○
	wood (Small pieces of branches or roots).	○	○	○
	20' to 23.6' Same as above	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	23.6' to 24', Med. to Coarse pebbles with little	○	○	○
	Sandy Clay	○	○	○
	24' to 25', Same as above	○	○	○
		○	○	○
	B.O.H @ 25' BGS	○	○	○

Borehole Record for OG-GP02

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

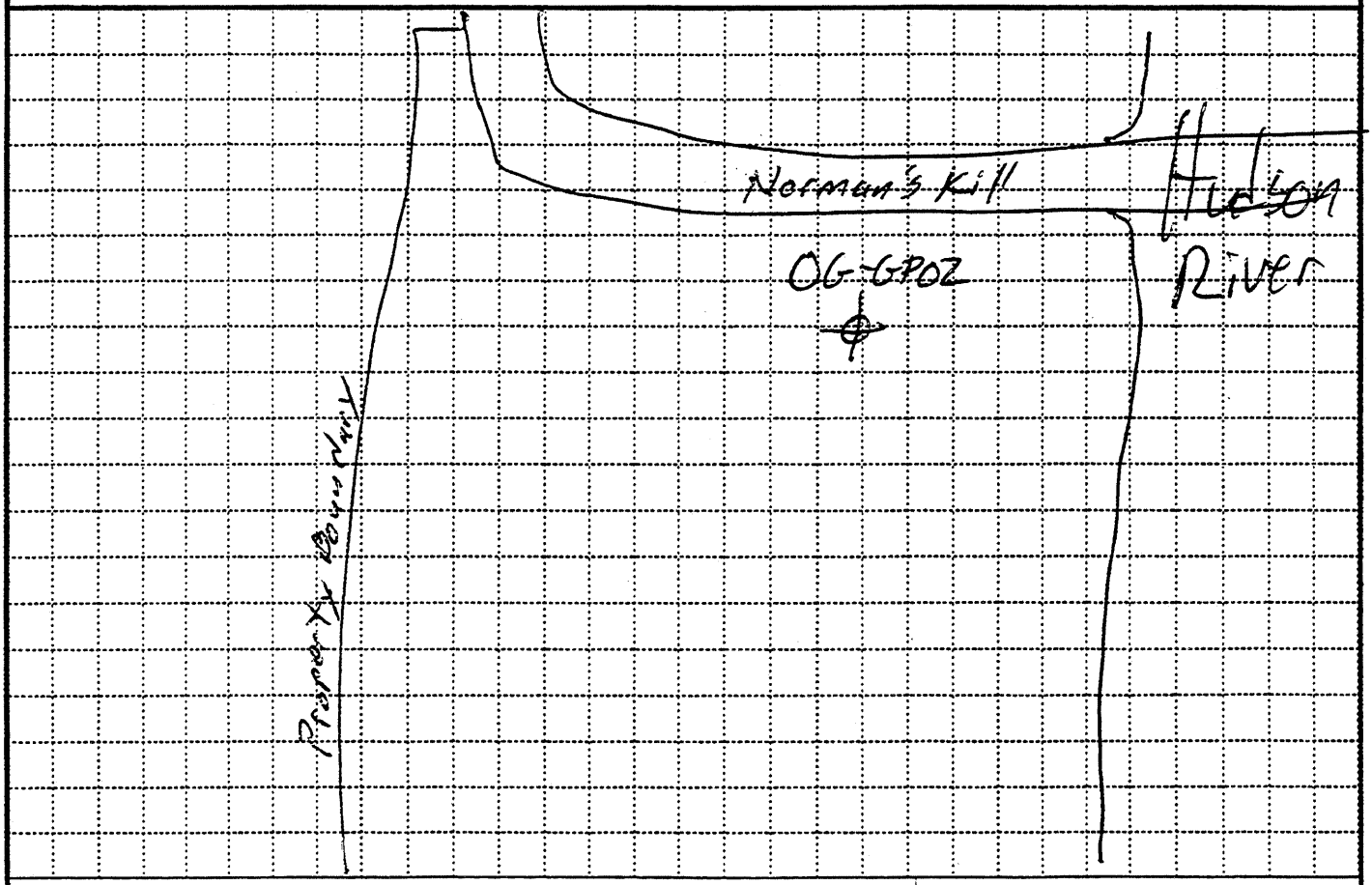
31 AUG 94

HTRW DRILLING LOG

District: Kansas City		Hole Number: OG-GP02
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar/Geologic Inc.	Sheet 1 of Sheets 8
3. Project: Hudson Superfund Facility Siting	4. Location: Bethlehem, NY	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: 1.75" O.D. Geoprobe Macro-core rods with acetate sleeves and discreet sampling System	8. Hole Location: North edge of site, near center	
	9. Surface Elevation	
	10. Date Started: 10-7-03	11. Date Completed: 10-7-03
12. Overburden Thickness: >25.1'	15. Depth Groundwater Encountered: 13.8' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 13.97' BGS after 25 minutes	
14. Total Depth of Hole: 25.1'	17. Other Water Level Managements (Specify)	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —			19. Total Number of Core Boxes: NA	
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOC's	Other (Specify): Pest/PCB	Other (Specify): CN	21. Total Core Recovery: NA %	
21. Disposition of Hole	Backfilled	Monitoring Well	Other (Specify)	23. Signature of Inspector: Robert A Mayer			

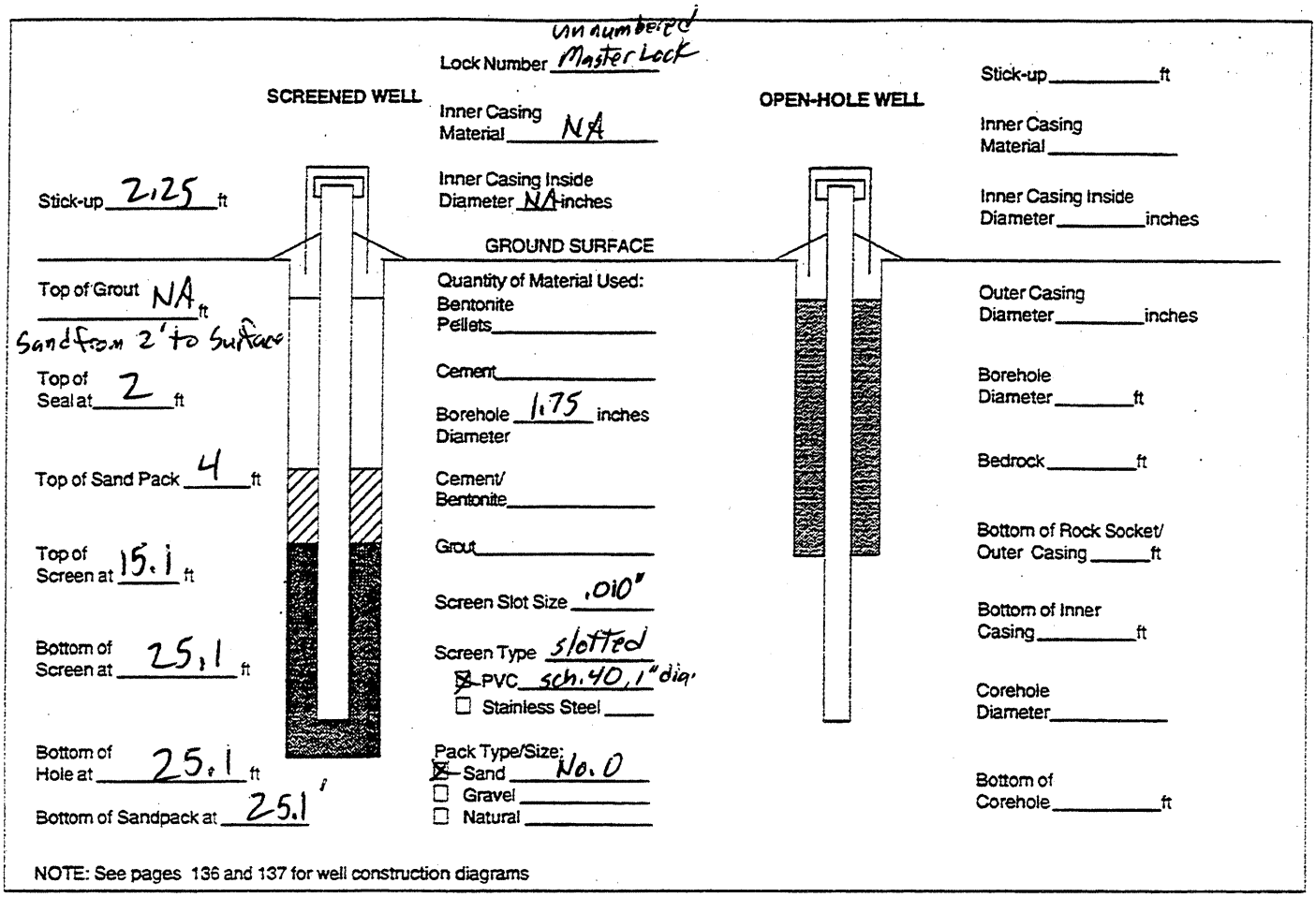
LOCATION SKETCH/COMMENTS SCALE: NTS



PROJECT Hudson Facility Siting **HOLE NO.** OG-GP02

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM



NOTE: See pages 136 and 137 for well construction diagrams

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OG-GP02

Project: Hudson Facility Siting | Inspector: Robert A Meyer | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4'	FID Unless noted	NA		NA	4' Run
		ML					3.9' Rec.
	1		0ppm in BZ and soil core				
	2						
	3						
	4	4' to 8'	4 4ppm PID & 0ppm FID of soil core,				
	5	ML	0ppm FID/PID in BZ				4' Run 2.4' Rec.
	6						
	7	CL					
	8						

PROJECT Hudson Facility Siting | HOLE NO. OG-GP02

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	0' to 1.3', Gray clayey silt with few VF sand & trace coarse sand / fine pebbles (rounded) Moist	Moist
	1.3' to 4.0', Med. brown Clayey Silt with few VF sand & trace coarse sand & rounded fine to med. pebbles	Moist
	4' to 8', Same as above for Top 0.8', then broken Limestone cobble from 0.8' to 1.1', then Fine to med. uniform sand from 1.1' to 1.7' from Top, then bottom (From 1.7' to 2.4' from Top) is Silty med. brown Clay (Low Plasticity).	Moist

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OG-GP02

Project: Hudson Facility Sitings | Inspector: Robert A Myers | Sheet 5 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8'-12' ML	↑	NA		NA	
	9						4' Run 4' Rec.
	10		0 ppm in BZ and off soil Core				
	11		↓				
	12	12' to 14.4' ML	0 ppm in BZ & off soil				
	13						4' Run 4' Rec.
	14	14.4' to 16' SW	13.8' ↑ 1 ppm PID 3 ppm FID		1150 Collect OG-GP02-S13 13.8' to 15.8'		Water @ 13.8' BGS
	15		↓				
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: OG-GP02

De: th(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	8' to 12', med. brown Silt and VF sand with trace clay, Becoming Moist to wet @ 10.5' BGS			
	12' to 14.4' Same as above, Water @ 13.8'			
	~~13.8~~ 14.4' to 16' VF to Fine Sand, iron staining in narrow horizontal band (2mm to 4mm) between 14.8 and ~~14.9'~~ 15.1'			

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OG-GP02

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 7 of 8

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 20' SP		NA		NA	
	17		0ppm in BZ and off soil core				4' Run. 3.8' Rec.
	18						
	19						
	20	20'-24' SW					
	21						4' Run 4' Rec.
	22						
	23						O2/LEL stable during drilling
	24	24' to 25' SW					1' Run 1' Rec.
	25						

PROJECT: Hudson Facility Siting | HOLE NO.: OG-GP02

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 20', VF to med. sand with little silt and few coarse sand / fine rounded pebbles	○	○	⊗
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	✓
		○	○	⊗
	20' to 24' VF to Fine gray/brown Sand with trace coarse sand and fine rounded pebbles from 22.4' to 23.1'	○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
		○	○	○
	24' to 25', VF to Fine gray/brown ~~Sand~~ F-M Sand.	○	○	○
		○	○	○
		○	○	○
	B.O.H @ 25'	○	○	⊗

Borehole Record for 06-GP03

- HTRW Drilling Log
- Narrative Lithologic Description and Well Construction Diagram
- Well Development Record
- Well Development -- Parameter Measurements
- Groundwater Purge and Sampling Log
- Investigation - Derived Waste Inventory Sheet

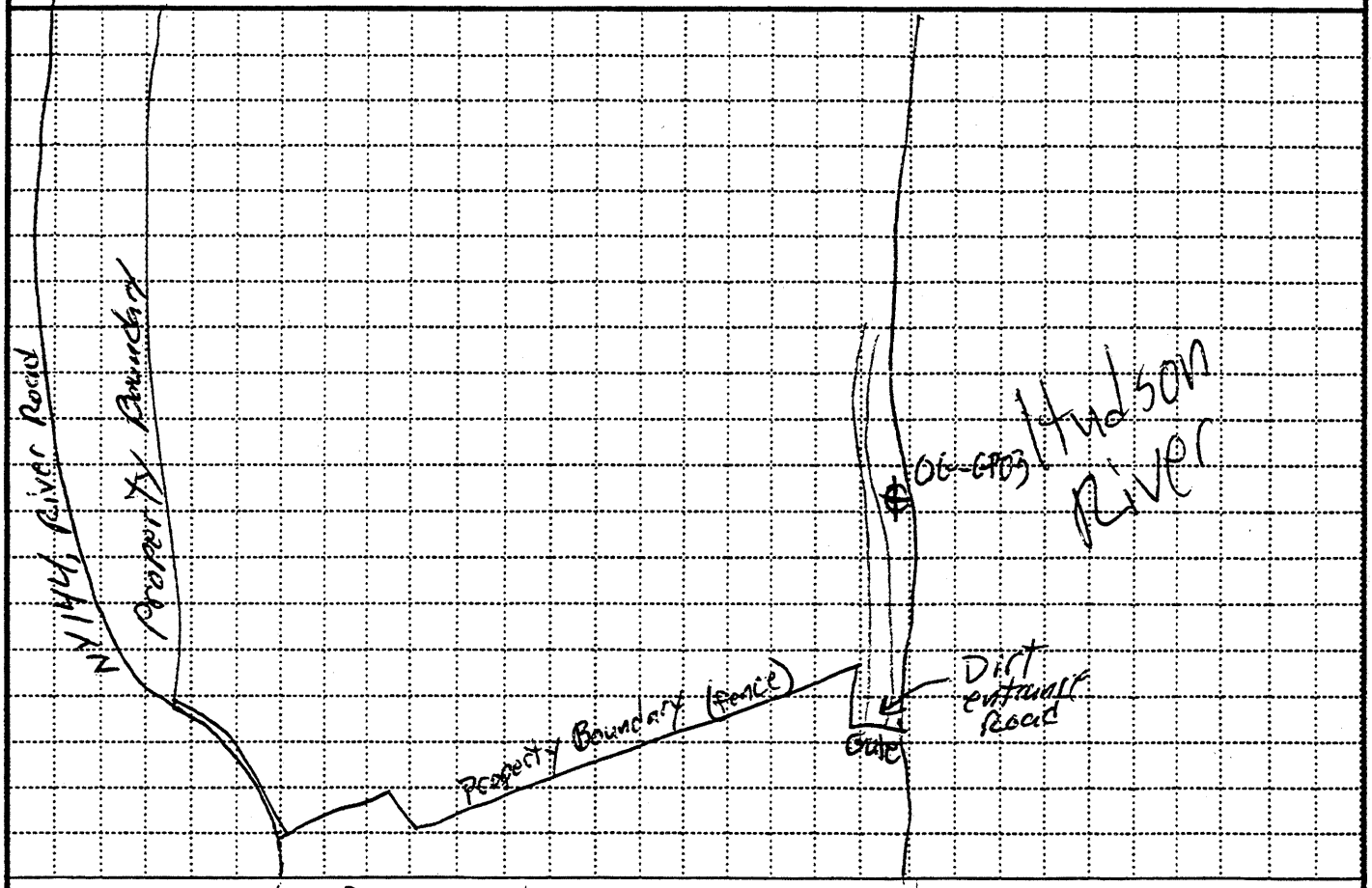
31 AUG 94

HTRW DRILLING LOG

District: Kansas City		Hole Number: OG-GP03
1. Company Name: Ecology & Environment Inc.	2. Drill Subcontractor: Northstar / Geologic Inc	Sheet 1 of 8 Sheets
3. Project: Hudson Facility Siting	4. Location: Bethlehem N.Y.	
5. Name of Driller: Jud Powell	6. Manufacturer's Designation of Drill: Geoprobe 5400	
7. Sizes and Types of Drilling and Sampling Equipment: Geoprobe, 1.75" O.D. macro-core rods with acetate sleeves using discreet soil sampling system	8. Hole Location: South end of Site, East of Dirt Rd ≃ 2'	
	9. Surface Elevation:	
	10. Date Started: 10-7-03	11. Date Completed: 10-7-03
12. Overburden Thickness: >25'	15. Depth Groundwater Encountered: 14.8' BGS	
13. Depth Drilled Into Rock: NA	16. Depth to Water and Elapsed Time After Drilling Completed: 16.22' BGS after 16 minutes	
14. Total Depth of Hole: 25'	17. Other Water Level Managements (Specify):	

18. Geological Samples: NA	Disturbed: —		Undisturbed: —		19. Total Number of Core Boxes: NA	
20. Samples For Chemical Analysis	VOC: ✓	Metals: ✓	Other (Specify): SVOC	Other (Specify): Pest/PCB	Other (Specify): CN	21. Total Core Recovery: NA %
21. Disposition of Hole	Backfilled	Monitoring Well: Temporary	Other (Specify)	23. Signature of Inspector: [signature]		

LOCATION SKETCH/COMMENTS **SCALE:**



PROJECT: Hudson Superfund Facility Siting	HOLE NO. OG-GP03

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DRILL LOG FORM

Lock Number Unnumbered Master Lock

SCREENED WELL

Stick-up 2.45 ft

Top of Grout NA ft

Sand from 2' to Surface

Top of Seal at 2 ft

Top of Sand Pack 4 ft

Top of Screen at 15 ft

Bottom of Screen at 25 ft

Bottom of Hole at 25 ft

Bottom of Sandpack at 25

Inner Casing Material NA

Inner Casing Inside Diameter NA inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets

Cement

Borehole 1.75 inches Diameter

Cement/ Bentonite

Grout

Screen Slot Size .010"

Screen Type slotted

☒ PVC sch. 40

☐ Stainless Steel

Pack Type/Size:

☒ Sand No. 0

☐ Gravel

☐ Natural

OPEN-HOLE WELL

Stick-up ft

Inner Casing Material

Inner Casing Inside Diameter inches

Outer Casing Diameter inches

Borehole Diameter ft

Bedrock ft

Bottom of Rock Socket/ Outer Casing ft

Bottom of Inner Casing ft

Corehole Diameter

Bottom of Corehole ft

NOTE: See pages 136 and 137 for well construction diagrams

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OG-GP03

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 3 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	0	0' to 4' MH	FID unless Noted	NA		NA	4' Run 3.7' Rec.
	1						
	2		0 ppm in BZ and soil Cores				
	3						
	4	4' to 8' SM					4' Run 4' Rec.
	5		FID = 0.5 ppm PID = 0.2 ppm				
	6						
	7						
	8						

PROJECT: Hudson Facility Siting | HOLE NO.: OG-GP03

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0' to 4.0', Dry brown Silt becoming pale gray @ 3.5' BGS with little VF to Coarse Sand and few fine to med. pebbles (angular to rounded).	✓		
	4' to 4.6' Silt as above			
	4.6' to 8' Gray/black Silt & VF Sand with trace fine rounded pebbles, dry			

EM 1110-1-4000
31 AUG 94

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OG-GP03

Project: Hudson Facility Siting | Inspector: Robert A Myers | Sheet 5 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	8	8' to 12' SM	FID unless noted	NA		NA	
	9						
			FID ≃ 5ppm PID ≃ .5ppm				
	10						
	11						
	12	12' to 16' SM					
	13		FID = 5ppm PID = 1ppm				
	14				1340 collect OG-GP03-SB 14' to 16'		
	15						
	16						

PROJECT: Hudson Facility Siting | HOLE NO.: OG-GP03

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry / Moist / Wet
	8' to 12' black silt & VF sand, moist	Moist
	12' – 12.8' Same as above	Moist
	12.8' to 16', Gray Silt with some VF sand. Wet @ 14.8'	Wet

HTRW DRILLING LOG (Continuation Sheet)

Hole Number: OG-GP03

Project: Hudson Facility Siting | Inspector: Robert A Meyer | Sheet 7 of 8 Sheets

Elevation (A)	Depth (B)	Description of Materials (C)	Field Screening Results (D)	Geotech Sample or Core Box No. (E)	Analytical Sample No. (F)	Blow Count (G)	Remarks (H)
	16	16' to 16.7' SM		NA		NA	
		16.7' to 19.75' CL	0 ppm in BZ & off soil core				
	17						4' Run 4' Rec.
	18						
	19						
		19.75' to 20' ML					
	20	20' to 22.1 ML					
	21						4' Run 3.1' Rec
	22	22.1' to 25' SM					O2/LEL stable during drilling
	23						
	24	24' to 25' SM					1' Run 1' Rec
	25						

PROJECT: Hudson Facility Siting | HOLE NO. OG-GP03

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	16' to 16.7', Gray/black Silt with little VF Sand and trace angular gravel.	○	○	⊘
	16.7 to 19.75', Silty Gray CLAY, moderately Plastic	○	○	○
	19.75' to 20', Gray Clayey Silt, with slight plasticity	○	○	○
	20' to ~~22.1'~~ 22.1', silt as above	○	○	○
	22.1' to 24', VF to Fine Gray Sand with little silt.	○	○	○
	24' to 25', ~~Salt~~ Sand as above with little silt	○	○	○
	B.O.H @ 25' BGS	○	○	○

Appendix C

Survey Data

Survey Data

SITE #	SITE DESCRIPTION	POINT #	POINT DESCRIPTION	GROUND ELEVATION	MEASUREMENT TO TOP	TOP OF VC ELEVATION	MISCELLANEOUS DESCRIPTORS	ELEVATIONS FOR MISC. DESCRIPTORS
#1	ENERGY PARK	105	GP 01	135.11	2.09	137.2	-	-
		118	GP 02	137.91	2.51	140.42	-	-
		102	GP 03	135.52	2.47	137.99	-	-
		114	GP 04	129.47	2.32	131.79	-	-
		135	GP 05	132	2.53	134.53	-	-
		109	GP 06	135.07	-	NO PVC	-	-
		133	GP 07	132.58	-	NO PVC	-	-
		157	BMN	-	-	-	Top of last concrete step above culvert	128.13
		158	BMN	-	-	-	Top of steel grate above culvert	130.42
		261	PST; WATER	-	-	-	Gauge top	128.89
				-	-	-	Gauge 3-foot mark	127.84
				-	-	-	Top of gauge post	128.89
#2	OLD MOREAU	516	GP 01	157.67	2.52	160.19	-	-
		504	GP 02	141.79	2.41	144.2	-	-
		552	GP 03	155.84	2.53	158.37	-	-
		591	GP 04	143.5	2.50	146	-	-
		566	GP 05	133.43	2.50	135.93	-	-
		567	EX. 2" PVC	133.38	1.80	135.18	-	-
		593	EX. 2" PVC	132.41	3.20	135.61	-	-
		524	PST; WATER	-	-	-	Gauge top	121.73
				-	-	-	Gauge 3-foot mark	121.21
				-	-	-	Top of gauge post	121.73
				-	-	-	Top of water	120.31

Survey Data

SITE #	SITE DESCRIPTION	POINT #	POINT DESCRIPTION	GROUND ELEVATION	MEASUREMENT TO TOP	TOP OF VC ELEVATION	MISCELLANEOUS DESCRIPTORS	ELEVATIONS FOR MISC. DESCRIPTORS
#3	GEORGIA PACIFIC SITE	1121	GP 01	108.4	3.20	111.60	-	-
		1117	GP 02	108.68	2.51	111.19	-	-
		1142	GP 03	102.76	2.00	104.76	-	-
		1161	GP 04	112.02	2.46	114.48	-	-
		1182	GP 05	100.71	2.60	103.31	-	-
		1125	GP 06	110.76	2.48	113.24	-	-
		1008	GP 07	112.98	2.40	115.38	-	-
		1001	GP 08	113.36	1.38	114.74	-	-
		1010	SW/SE 04	-	-20.80	-	Measuring point on bridge	116.4
			SW/SE 04	-	-	-	Top of water	95.6
		1169	SW/SE 05	-	-18.95	-	Measuring point on bridge	113.66
			SW/SE 05	-		-	Top of water	94.71
			SW/SE 05	-	-19.95	-	Top of sediment	93.71
		1184	PST; WATER	-	-	-	Gauge top	96.95
				-	-	-	Gauge 3-foot mark	96.62
				-	-	-	Top of water	95.86
				-	-	-	Top of gauge post	98.52
		1131		-	-	-	Top of step at dock	96.95
#4	ALONZO/ BRICKYARD	2303	GP 01	131.88	2.51	134.39	-	-
		2307	GP 02	144.41	2.46	146.87	-	-
		1851	GP 03/GT 01	76.45	1.32	77.77	-	-
		1881	GP 04	77.57	2.81	80.38	-	-
		1825	PST EX. GAUGE				Top of gauge plate	75.49

Survey Data

SITE #	SITE DESCRIPTION	POINT #	POINT DESCRIPTION	GROUND ELEVATION	MEASUREMENT TO TOP	TOP OF VC ELEVATION	MISCELLANEOUS DESCRIPTORS	ELEVATIONS FOR MISC. DESCRIPTORS
#5	NEW YORK STATE CANAL CORPORATION/ALLCO/LEYERLE	2516	GP 01	48.53	2.49	51.02	-	-
		2407	GP 02	52.51	-	NO PVC	-	-
		2488	GP 03	43.56	2.64	46.2	-	-
		2486	GP 04	65.89	-	NO PVC	-	-
		2401	GP O5/GT 02	51.52	-	NO PVC	-	-
		2520	PST; WATER	-	-	-	Gauge top	33.78
				-	-	-	Gauge 3-foot mark	33.45
				-	-	-	Top of gauge post	34.76
#6	MARINE MANAGEMENT							
		3003	GP O1	-	-	-	Top of Conc.	18.73
		3004		-	-	-	Top of Riser	20.66
		3005		-	-	20.52		
		3025	GP 02	-	-	-	Top of Conc.	5.87
		3026		-	-	-	Top of Riser	7.91
		3027		-	-	7.75		
		3031	GP 04	-	-	-	Top of Conc.	15.50
		3032		-	-	-	Top of Riser	17.52
		3033		-	-	17.22		
		3010	PST; WATER	-	-	-	Top of gauge post	5.96
				-	-	-	Gauge top	5.49
				-	-	-	Gauge 3-foot mark	5.16
#7	OG REAL ESTATE	3702	GP 01	10.28	-	-	-	-
		3703	GP 01	-	-	12.94	-	-
		3514	GP 02	14.26	2.20	16.46	-	-
		3540	GP 03	17.95	2.45	20.4	-	-
		3515	EX. MW	21.26	2.31	23.57	-	-
		3543	PST; WATER	-	-	-	Top of gauge post	6.19
				-	-	-	Gauge top	5.39
				-	-	-	Gauge 3-foot mark	5.06

Appendix D

Analytical Test Results and Data Usability Supplemental Information

D Analytical Test Results and Data Usability Supplemental Information

Laboratory analysis, and data validation, reporting, and assessment were conducted as described in Section 4 of the *Quality Assurance Project Plan (QAPP) for the Phase II Environmental Site Assessment at the Final Candidate Sites for the Sediment Processing/Transfer Facility*, included as Appendix B of the *Hudson River PCBs Superfund Site Facility Siting Work Plan* (Ecology and Environment, Inc. August 2003). Data qualifiers were added to the reported results to indicate limitations on data usability. Data qualifiers for detected results are included on the analytical summary tables in this section. Data qualifiers for all results are included on the complete data tables included in this appendix. Data qualifiers added during the data validation process were evaluated relative to the specific data needs for the project. Data qualifiers were not adjusted, but the impact of the analytical deviations on the specific usability of the data for facility site assessment is summarized in Section 3.2.3 of this *Data Summary Report: Site-Specific Field Investigations of Final Candidate Sites.*

Field Quality Control Samples

Field quality control (QC) samples were collected and analyzed as presented in Section 2.5 of the *QAPP,* with the exception of field quality assurance (QA) split samples. Field QA splits for non-Contract Laboratory Program (CLP) samples were a U.S. Army Corps of Engineers (USACE) specific requirement that was later waived based on the minimal number of samples collected for these analyses. Field QC samples were not collected on a site-specific basis and the results for all QC samples are presented herein.

Trip blanks were purchased from the vendor that supplied the sample containers and were shipped with each set of water samples. Trip blank results are summarized on Table D-1-1 and complete analytical results are presented in Table D-1-2. The trip blanks had low levels of acetone, methylene chloride, and chloroform and somewhat higher levels of 2-butanone. With the exception of 2-butanone, the compounds detected in the trip blank also were detected in laboratory method blanks at similar levels below the Contract Required Reporting Limit (CRDL). The low level results in most samples are qualified "U" as non-detected and reported results were elevated to the CRDL. 2-Butanone was not present in any of the associated water samples at levels above the CRDL.

Field duplicates were collected at various sites for representative matrices. The field duplicates were collected at the required frequency for both solid and water matrices. The field duplicates are included on the analytical summary tables in Section 3 of each FCS report and on the complete data tables presented herein. Table D-2-1 to 12 show the relative percent difference (RPD) of the detected analytes in each field duplicate. The RPD is a measure of the overall precision of the sampling and analytical program. Field duplicates show generally good precision for all matrices. Overall, the organic compounds are present at low levels, and in most cases the compounds were detected in one but not both of the field duplicates. Therefore, the RPD could not be calculated.

Rinseate samples were not required for most sampling procedures because the sampling equipment was disposable or dedicated to a particular sample. Two rinseate samples were collected and the results are summarized on Table D-3-1; complete analytical results are presented in Table D-3-2. Rinseate RB-A was collected from the Eckman dredge used to collect sample GPS-SE05. Rinseate RB-B was collected from split spoons that were used to collect boring samples GPS-GP01-SB, NCC-GP02-SB, and NCC-GP-5-SB. Low levels of metals and bis(2-ethylhexyl)phthalate were detected in the rinseates. The levels in the samples were much higher than rinseates for all analytes except zinc. Zinc levels in the samples are less than fives times the blank level and may be attributable to field background.

Laboratory Quality Control Procedures

Liberty Analytical conducted organic analysis for Target Compound List (TCL) analytes and E & E's Analytical Services Center (ASC) conducted analysis for herbicides (see QAPP Section 2.4). The laboratory QC parameters included method blanks, matrix spikes/matrix spike duplicates (MS/MSDs), surrogates, and instrument calibration. All data are valid and acceptable except for those analytes flagged "R" as unusable. Analytes are qualified "J" as estimated or "JN" as presumptive evidence, i.e., the analyte is present at an estimated concentration. Data also are flagged "U" as non-detected and reported results may be elevated to the CRDL or "UJ" as non-detected at an estimated reporting value. A general description of the laboratory QC results is provided below. The specific results are represented as qualifiers on the individual data points.

- Method blanks show low levels of common laboratory contaminants, including acetone, methylene chloride, toluene, 2-butanone, and bis(2-ethylhexyl)phthalate. In almost all the cases, the sample results were less than 10 times the method blank and below the CRDL. The results were flagged "U" and reported at the CRDL.

- Surrogate recoveries were generally within acceptable limits. A few samples were flagged "J" and "UJ" due to surrogate recoveries.

- MS/MSD data are used in conjunction with other laboratory QC data to evaluate the overall precision and accuracy. No action was taken based on MS/MSD data alone and no additional QC warranted qualification of the data.

- Calibration was monitored based on the percent relative standard deviation (%RSD) for initial calibration and percent difference (%D) for continuing calibration. Many detected analytes were flagged "J" as estimated, based on calibration criteria. Many non-detected analytes were reported ""UJ" as having an estimated reporting limit based on calibration criteria.

- Internal standards measure the performance and sensitivity of each analysis for TCL volatiles and semivolatiles. Internal standards outside the accepted range indicate potential matrix effects. Many detected analytes were flagged "J" as estimated based on internal standard areas. Many non-detected analytes were reported "UJ" as having an estimated reporting limit based on internal standard areas. In some cases, non-

detect analytes were rejected because the internal standard areas were sufficiently low.

- Compound identification for pesticide fractions was based on analysis on second dissimilar column and retention time. Many analytes below the CRDL were flagged "U" as non-detect and reported at the CRDL due to high variability between the primary and confirmation analysis. Some pesticides were flagged "JN" or "R" as rejected due to the percent difference.

For analysis of volatile and semivolatile organic compounds, the laboratory reported tentatively identified compounds (TICs) on the hard copy reports. The TICs were evaluated by the data validator and rejected "R" or flagged "U" if the TICs also were present in the method blank, considered an artifact of the analysis, or given no designation as to the type of compound present. The remaining TICs will be evaluated by the project chemist and categorized for each site as necessary. In all cases, TIC-reported values are considered to be highly estimated.

Chemtech conducted inorganic analysis for Target Analyte List (TAL) metals and mercury and EPA's Region 2 laboratory conducted analysis for TAL total cyanide and TOC (see QAPP Section 2.4). The laboratory QC parameters included method blanks, MS/MSDs, CRDL standard, inductively coupled plasma (ICP) serial dilution, and instrument calibration. All data are valid and acceptable except for those analytes flagged "R" as unusable. Analytes are qualified "J" as estimated. Analytes present below the CRDL but above the instrument detection limit (IDL) are flagged "B" as present at an estimated concentration. Data also are flagged "U" as non-detected and reported results may be elevated to the CRDL or "UJ" as non-detected at an estimated reporting value. A general description of the laboratory QC results is provided below. The specific results are represented as qualifiers on the individual data points

- CRDL standards measure the laboratory accuracy at low concentrations. Many analytes, in particular mercury, were flagged "J" as estimated within ranges near the CRDL. Some thallium non-detected values were flagged "R" as rejected.

- ICP spectroscopy serial dilution measures the laboratory accuracy at high concentrations. Many analytes, in particular cations, were flagged "J" as estimated due to serial dilution recoveries.

- Data validation did not indicate any concerns with method blanks that result in qualification of data.

- MS/MSD data are used directly to qualify samples in the sample delivery group (SDG). When the matrix spike recovery was outside the range and the sample results were less than the four times the spike, the sample results were qualified "J" as estimated. Most of the affected analytes were low energy metals such as silver, arsenic, and selenium, which are typically subject to matrix effects.

Complete Data Tables

The analytical results were provided in electronic data deliverables (EDDs) from the laboratory. The electronic results were processed into a database and link to the field data.

The data were used to generate complete analytical data tables for each FCS as noted below:

EPL	Energy Park/Longe/NYS Canal Corporation	Tables D-4-1 to 5
OM	Old Moreau Dredge Spoils Area / NYS Canal Corporation	Tables D-5-1 to 5
GPS	Georgia Pacific/NYS Canal Corporation Site	Tables D-6-1 to 5
NCC	NYS Canal Corporation/Allco/Leyerle	Tables D-7-1 to 5
BBA	Bruno/Brickyard Associates/Alonzo	Tables D-8-1 to 5
MM	State of New York/First Rensselaer/Marine Management Site	Tables D-9-1 to 3
OG	OG Real Estate	Tables D-10-1 to 5

Table D-1-1
Analytical Data Summary of Detected Analytes for Trip Blank Samples

Method	Analyte	Sample ID:	TB-093003	TB-100103	TB-100203	TB-100603	TB-100703	TB-100903	TB-101003	TB-101303	TB-101403	TB-101503
		Date:	9/30/2003	10/1/2003	10/2/2003	10/6/2003	10/7/2003	10/9/2003	10/10/2003	10/13/2003	10/14/2003	10/15/2003
TCL Volatile Organic Compounds (µg/L)												
	1,1,2-Trichloro-1,2,2-Trifluoroethane		10 U	10 U	10 U	10 U	10 U	10 U	**2 J**	10 U	10 U	10 U
	1,2-Dibromo-3-Chloropropane		**10 R**	**10 R**	**10 R**	**10 R**	**10 R**	10 U	10 U	10 U	10 U	10 U
	2-Butanone		**200**	**170 J**	**160**	**180**	**12**	**91**	**8 J**	**190**	10 U	**25 J**
	Acetone		**5 J**	**4 J**	**5 J**	**4 J**	**5 J**	10 U	10 U	10 U	10 UJ	10 UJ
	Bromoform		10 U	10 U	10 U	10 U	10 U	10 U	**2 J**	10 U	10 UJ	10 U
	Chloroform		**5 J**	**3 J**	**5 J**	**4 J**	**5 J**	**4 J**	**5 J**	10 U	**4 J**	**5 J**
	Dibromochloromethane		10 U	10 U	10 U	10 U	10 U	10 U	**2 J**	10 U	10 U	10 U
	Methylene Chloride		**1 J**	**1 J**	**1 J**	**1 J**	**2 J**	**3 J**	**4 J**	**3 J**	**2 J**	**3 J**
	Toluene		10 U	10 U	10 U	10 U	**2 J**	10 U	10 U	10 U	10 U	10 U

Key:

J = The reported value is an estimated quantity.

TB = Trip blank sample.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

µg/L = Micrograms per liter.

Table D-1-1
Analytical Data Summary of Detected Analytes for Trip Blank Samples

Method / Analyte	Sample ID: TB-101603 Date: 10/16/2003
TCL Volatile Organic Compounds (µg/l	
1,1,2-Trichloro-1,2,2-Trifluoroethane	10 U
1,2-Dibromo-3-Chloropropane	10 U
2-Butanone	10 U
Acetone	10 UJ
Bromoform	10 UJ
Chloroform	**5 J**
Dibromochloromethane	10 U
Methylene Chloride	10 U
Toluene	10 U

Key:

J = The reported value is an estimate

TB = Trip blank sample.

TCL = Target Compound List.

U = The analyte was analyzed for but

µg/L = Micrograms per liter.

Table D-1-2
Complete Analytical Data Summary for Trip Blank Samples

Method / Analyte	Sample ID: / Date:	TB-093003 9/30/2003	TB-100103 10/1/2003	TB-100203 10/2/2003	TB-100603 10/6/2003	TB-100703 10/7/2003	TB-100903 10/9/2003	TB-101003 10/10/2003	TB-101303 10/13/2003	TB-101403 10/14/2003	TB-101503 10/15/2003	TB-101603 10/16/2003
TCL Volatile Organic Compounds (µg/L)												
1,1,1-Trichloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		10 U	10 U	10 U	10 U	10 U	10 U	**2 J**	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 UJ
1,1-Dichloroethene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane		**10 R**	**10 R**	**10 R**	**10 R**	**10 R**	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone		**200**	**170 J**	**160**	**180**	**12**	**91**	**8 J**	**190**	10 U	**25 J**	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 UJ	10 U
4-Methyl-2-Pentanone		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone		**5 J**	**4 J**	**5 J**	**4 J**	**5 J**	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ
Benzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform		10 U	10 U	10 U	10 U	10 U	10 U	**2 J**	10 U	10 UJ	10 U	10 UJ
Bromomethane		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ
Carbon Tetrachloride		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform		**5 J**	**3 J**	**5 J**	**4 J**	**5 J**	**4 J**	**5 J**	10 U	**4 J**	**5 J**	**5 J**
Chloromethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyclohexane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 UJ
Dibromochloromethane		10 U	10 U	10 U	10 U	10 U	10 U	**2 J**	10 U	10 U	10 U	10 U
Dichlorodifluoromethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U
Ethylbenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table D-1-2
Complete Analytical Data Summary for Trip Blank Samples

Method / Analyte	Sample ID: / Date:	TB-093003 9/30/2003	TB-100103 10/1/2003	TB-100203 10/2/2003	TB-100603 10/6/2003	TB-100703 10/7/2003	TB-100903 10/9/2003	TB-101003 10/10/2003	TB-101303 10/13/2003	TB-101403 10/14/2003	TB-101503 10/15/2003	TB-101603 10/16/2003
Isopropylbenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl Acetate		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 UJ	10 U
Methyl Tert-Butyl Ether		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylcyclohexane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride		**1 J**	**1 J**	**1 J**	**1 J**	**2 J**	**3 J**	**4 J**	**3 J**	**2 J**	**3 J**	10 U
Styrene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene		10 U	10 U	10 U	10 U	**2 J**	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes (Total)		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Key:

J = The reported value is an estimated quantity.

TB = Trip blank sample.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.

µg/L = Micrograms per liter.

Table D-2-1
Field Duplicate Data Summary of Detected Analytes
for Surface Soil Samples From Sample Location OM-SS04

Analyte	Sample ID: OM-SS04 Date: 10/1/2003 Depth: 0 - 2 in	OM-SS04/D 10/1/2003 0 - 2 in	RPD	RPD Rating
TCL Volatile Organic Compounds (µg/Kg)				
Methyl Acetate	ND	3.0	NC	
TCL Semivolatile Organic Compounds (µg/Kg)				
Benzo(a)anthracene	460	ND	NC	
Benzo(a)pyrene	520	ND	NC	
Benzo(b)fluoranthene	540	ND	NC	
Benzo(g,h,i)Perylene	320	ND	NC	
Benzo(k)fluoranthene	580	ND	NC	
Bis(2-Ethylhexyl)Phthalate	ND	970	NC	
Chrysene	590	ND	NC	
Dibenzo(a,h)anthracene	190	ND	NC	
Fluoranthene	720	ND	NC	
Indeno(1,2,3-cd)pyrene	450	ND	NC	
Phenanthrene	290	ND	NC	
Pyrene	630	ND	NC	
TCL Pesticides and PCBs (µg/Kg)				
4,4'-DDE	ND	0.88	NC	
4,4'-DDT	ND	4.5	NC	
alpha-Chlordane	2.0	ND	NC	
Endosulfan I	ND	1.0	NC	
gamma-Chlordane	1.8	ND	NC	
TAL Metals and Mercury (mg/Kg)				
Aluminum	12300	15400	22%	Good
Arsenic	4.4	6.3	36%	Good
Barium	153	158	3%	Good
Beryllium	0.64	0.77	18%	Good
Calcium	17700	31300	56%	Good
Chromium	22.0	26.4	18%	Good
Cobalt	13.9	15.7	12%	Good
Copper	26.6	31.3	16%	Good
Iron	22700	28800	24%	Good
Lead	13.0	15.9	20%	Good
Magnesium	7810	12000	42%	Good
Manganese	668	728	9%	Good
Nickel	31.3	35.7	13%	Good
Potassium	1800	2170	19%	Good
Selenium	ND	0.73	NC	
Sodium	167	ND	NC	
Vanadium	27.4	32.2	16%	Good
Zinc	70.9	79.0	11%	Good

Table D-2-1
Field Duplicate Data Summary of Detected Analytes
for Surface Soil Samples From Sample Location OM-SS04

Key:

/D = Duplicate sample.
Good = RPD is less than 70% for Solid Matrix and 40% for Water Matrix.
mg/Kg = Milligrams per kilogram.
ND = Not Detected.
NC = Not Calculated .
NS = Not Sampled.
NYS = New York State.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PCB = Polychlorinated biphenyl.
Poor = RPD is greater than 70% for Solid Matrix and 40% for Water Matrix.
RPD = Relative Percent Difference.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
µg/Kg = Micrograms per kilogram.
% = Percent.

Table D-2-2
Field Duplicate Data Summary of Detected Analytes
for Surface Soil Samples From Sample Location BBA-SS05

Analyte	Sample ID: BBA-SS05 Date: 10/3/2003 Depth: 0 - 2 in	BBA-SS05/D 10/3/2003 0 - 2 in	RPD	RPD Rating
TCL Semivolatile Organic Compounds (µg/Kg)				
4-Chloro-3-Methylphenol	ND	94	NC	
Anthracene	ND	91	NC	
Benzo(a)anthracene	ND	110	NC	
Benzo(a)pyrene	110	86	24%	Good
Benzo(b)fluoranthene	190	270	35%	Good
Caprolactam	ND	160	NC	
Chrysene	170	330	64%	Good
Fluoranthene	130	200	42%	Good
Indeno(1,2,3-cd)pyrene	ND	120	NC	
Phenanthrene	83	180	74%	Poor
Pyrene	130	210	47%	Good
TCL Pesticides and PCBs (µg/Kg)				
4,4'-DDD	4.6	ND	NC	
4,4'-DDT	6.7	8.2	20%	Good
Dieldrin	ND	5.0	NC	
Endrin Ketone	6.5	6.3	3%	Good
TAL Metals and Mercury (mg/Kg)				
Arsenic	6.2	9.4	41%	Good
Barium	17.9	38.7	73%	Poor
Beryllium	0.1	0.1	0%	Good
Calcium	1110	1040	7%	Good
Chromium	1.2	1.4	15%	Good
Cobalt	1.4	1.4	0%	Good
Copper	11.0	9.2	18%	Good
Iron	6060	7320	19%	Good
Lead	10.8	10.4	4%	Good
Magnesium	361	373	3%	Good
Manganese	57.6	65.8	13%	Good
Nickel	2.3	2.9	23%	Good
Potassium	196	187	5%	Good
Selenium	1.2	2.3	63%	Good
Sodium	195	ND	NC	
Vanadium	4.7	4.8	2%	Good
Zinc	13.4	14.6	9%	Good
Mercury	0.14	0.34	83%	Poor
Total Cyanide (mg/Kg)				
Cyanide Tot.	0.21	0.17	21%	Good

Table D-2-2
Field Duplicate Data Summary of Detected Analytes
for Surface Soil Samples From Sample Location BBA-SS05

Key:

BBA = Bruno/Brickyard Associates/Alonzo Site.
/D = Duplicate sample.
Good = RPD is less than 70% for Solid Matrix and 40% for Water Matrix.
mg/Kg = Milligrams per kilogram.
ND = Not Detected.
NC = Not Calculated .
NS = Not Sampled.
PCB = Polychlorinated biphenyl.
Poor = RPD is greater than 70% for Solid Matrix and 40% for Water Matrix.
RPD = Relative Percent Difference.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
µg/Kg = Micrograms per kilogram.
% = Percent.

Table D-2-3
Field Duplicate Data Summary of Detected Analytes
for Surface Soil Samples From Sample Location MM-SS01

Analyte	Sample ID: MM-SS01 Date: 10/8/2003 0 - 2 in	MM-SS01/D 10/8/2003 0 - 2 in	RPD	RPD Rating
TCL Semivolatile Organic Compounds (µg/Kg)				
4-Chloro-3-methylphenol	ND	120	NC	
4-Nitrophenol	ND	440	NC	
Acenaphthylene	85	130	42%	Good
Anthracene	210	310	38%	Good
Benzo(a)anthracene	740	1100	39%	Good
Benzo(a)pyrene	840	1100	27%	Good
Benzo(b)fluoranthene	910	2300	87%	Poor
Benzo(g,h,i)perylene	420	700	50%	Good
Benzo(k)fluoranthene	890	ND	NC	
Bis(2-ethylhexyl)phthalate	87	210	83%	Poor
Carbazole	130	160	21%	Good
Chrysene	880	1300	39%	Good
Dibenzo(a,h)anthracene	300	480	46%	Good
Fluoranthene	1300	1900	38%	Good
Fluorene	ND	84	NC	
Indeno(1,2,3-cd)pyrene	700	1100	44%	Good
Phenanthrene	830	1300	44%	Good
Pyrene	1300	2000	42%	Good
TCL Pesticide and PCBs (µg/Kg)				
4,4'-DDE	5.5	7.4	29%	Good
4,4'-DDT	24	32	29%	Good
Endrin Aldehyde	3.9	4.5	14%	Good
TAL Metals and Mercury (mg/Kg)				
Aluminum	5960	6380	7%	Good
Antimony	2.1	4.4	71%	Poor
Arsenic	6.3	9.4	39%	Good
Barium	231	269	15%	Good
Beryllium	0.38	0.43	12%	Good
Cadmium	1.1	1.2	9%	Good
Calcium	12900	12400	4%	Good
Chromium	28.0	23.6	17%	Good
Cobalt	6.5	7.5	14%	Good
Copper	54.1	59.7	10%	Good
Iron	17200	19100	10%	Good
Lead	499	773	43%	Good
Magnesium	4520	4590	2%	Good
Manganese	353	404	13%	Good
Nickel	40.3	45.1	11%	Good

Table D-2-3
Field Duplicate Data Summary of Detected Analytes
for Surface Soil Samples From Sample Location MM-SS01

Analyte	Sample ID: / Date:	MM-SS01 10/8/2003 0 - 2 in	MM-SS01/D 10/8/2003 0 - 2 in	RPD	RPD Rating
Potassium		954	1070	11%	Good
Selenium		1.3	1.7	27%	Good
Silver		0.97	1.2	21%	Good
Vanadium		20.9	24.3	15%	Good
Zinc		481	531	10%	Good
Mercury		0.52	0.56	7%	Good
Total Cyanide (mg/Kg)					
Cyanide		0.35	ND	NC	

Key:

/D = Duplicate sample.
Good = RPD is less than 70% for Solid Matrix and 40% for Water Matrix.
mg/Kg = Milligrams per kilogram.
MM = State of New York/First Rensselaer/Marine Management Site.
ND = Not Detected.
NC = Not Calculated .
NS = Not Sampled.
PCB = Polychlorinated biphenyl.
Poor = RPD is greater than 70% for Solid Matrix and 40% for Water Matrix.
RPD = Relative Percent Difference.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
µg/Kg = Micrograms per kilogram.
% = Percent.

Table D-2-4
Field Duplicate Data Summary of Detected Analytes
for Subsurface Soil Samples From Sample Location EPL-GP05-SB

Analyte	Sample ID: / Date:	EPL-GP05-SB 10/1/03	EPL-GP05-SB/D 10/1/03	RPD	RPD Rating
TCL Semivolatile Organic Compounds (µg/Kg)					
Di-n-octylphthalate		100	ND	NC	
TAL Metals and Mercury (mg/Kg)					
Aluminum		3090	3570	14%	Good
Barium		17.2	20.8	19%	Good
Beryllium		0.18	0.20	11%	Good
Calcium		2150	9460	126%	Poor
Chromium		3.3	7.1	73%	Poor
Cobalt		2.8	2.9	4%	Good
Copper		7.2	8.5	17%	Good
Iron		3810	5050	28%	Good
Lead		2.2	14.6	148%	Poor
Magnesium		1260	2260	57%	Good
Manganese		25.2	57.3	78%	Poor
Nickel		4.0	6.7	50%	Good
Potassium		185	339	59%	Good
Selenium		ND	0.97	NC	
Sodium		ND	158	NC	
Vanadium		7.6	9.7	24%	Good
Zinc		28.3	35.3	22%	Good

Key:

/D = Duplicate sample.
EPL = Energy Park/Longe site/NYS Canal Corporation Site.
Good = RPD is less than 70% for Solid Matrix and 40% for Water Matrix.
mg/Kg = Milligrams per kilogram.
ND = Not Detected.
NC = Not Calculated.
NS = Not Sampled.
NYS = New York State.
Poor = RPD is greater than 70% for Solid Matrix and 40% for Water Matrix.
RPD = Relative Percent Difference.
-SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
µg/Kg = Micrograms per kilogram.
% = Percent.

Table D-2-5
Field Duplicate Data Summary of Detected Analytes
for Subsurface Soil Samples From Sample Location GPS-GP03-SB

Analyte	Sample ID: / Date: / Depth:	GPS-GP03-SB 10/8/2003 9.5 - 12 ft	GPS-GP03-SB/D 10/8/2003 9.5 - 12 ft	RPD	RPD Rating
TCL Volatile Organic Compounds (µg/Kg)					
Acetone		25.00	ND	NC	
Carbon Disulfide		0.80	ND	NC	
Cyclohexane		0.50	0.60	18%	Good
TAL Metals and Mercury (mg/Kg)					
Aluminum		8710	8660	1%	Good
Arsenic		8.20	13.20	47%	Good
Barium		82	95	15%	Good
Beryllium		1	1	5%	Good
Calcium		2990	2580	15%	Good
Chromium		11	14	22%	Good
Cobalt		11.20	14.30	24%	Good
Copper		22.00	20.70	6%	Good
Iron		27800	28600	3%	Good
Lead		12.80	11.70	9%	Good
Magnesium		4050	3660	10%	Good
Manganese		2360	1880	23%	Good
Nickel		21.10	24.60	15%	Good
Potassium		517	576	11%	Good
Vanadium		16.80	17.40	4%	Good
Zinc		52.90	55.10	4%	Good

Key:

/D = Duplicate sample.
GPS = Georgia Pacific Site/NYS Canal Corporation Site.
mg/Kg = Milligrams per kilogram.
Good = RPD is less than 70% for Solid Matrix and 40% for Water Matrix.
ND = Not Detected.
NC = Not Calculated .
NS = Not Sampled.
NYS = New York State.
Poor = RPD is greater than 70% for Solid Matrix and 40% for Water Matrix.
RPD = Relative Percent Difference.
-SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
µg/Kg = Micrograms per kilogram.
% = Percent.

Table D-2-6
Field Duplicate Data Summary of Detected Analytes
for Subsurface Soil Samples From Sample Location BBA-SS05

Sample ID: / Date:	BBA-SS05 10/3/2003	BBA-SS05/D 10/3/2003	RPD	RPD Rating
TCL Volatile Organic Compounds (µg/Kg)				
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.40	ND	NC	
Trichlorofluoromethane	ND	0.80	NC	
TCL Pesticides (µg/Kg)				
4,4'-DDE	ND	0.80	NC	
TAL Metals and Mercury (mg/Kg)				
Aluminum	4570	3850	17%	Good
Arsenic	3.3	3.0	10%	Good
Barium	27.6	21.3	26%	Good
Beryllium	0.23	0.22	4%	Good
Calcium	1970	1590	21%	Good
Chromium	7.2	6.6	9%	Good
Cobalt	8.5	6.5	27%	Good
Copper	13.5	13.3	1%	Good
Iron	12000	10400	14%	Good
Lead	6.1	7.1	15%	Good
Magnesium	2260	1840	20%	Good
Manganese	340	213	46%	Good
Nickel	14	11	23%	Good
Potassium	552.0	479.0	14%	Good
Vanadium	12	13	6%	Good
Zinc	35.6	33.5	6%	Good

Key:

BBA = Bruno/Brickyard Associates/Alonzo Site.
/D = Duplicate sample.
Good = RPD is less than 70% for Solid Matrix and 40% for Water Matrix.
mg/Kg = Milligrams per kilogram.
ND = Not Detected.
NC = Not Calculated .
NS = Not Sampled.
PCB = Polychlorinated biphenyl.
Poor = RPD is greater than 70% for Solid Matrix and 40% for Water Matrix.
RPD = Relative Percent Difference.
-SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
µg/Kg = Micrograms per kilogram.
% = Percent.

Table D-2-7
Field Duplicate Data Summary of Detected Analytes
for Sediment Samples From Sample Location NCC-SE06

Analyte	Sample ID: / Date:	NCC-SE06 10/2/2003	NCC-SE06/D 10/2/2003	RPD	RPD Rating
TCL Volatile Organic Compounds (µg/Kg)					
Trichlorofluoromethane		0.40	NS	NC	
TAL Metals and Mercury (mg/Kg)					
Aluminum		7570	NS	NC	
Arsenic		5.4	NS	NC	
Barium		80.5	NS	NC	
Beryllium		0.4	NS	NC	
Cadmium		ND	NS	NC	
Calcium		3240	NS	NC	
Chromium		10.4	NS	NC	
Cobalt		9	NS	NC	
Copper		19	NS	NC	
Iron		21900	NS	NC	
Lead		15.3	NS	NC	
Magnesium		4490	NS	NC	
Manganese		835	NS	NC	
Nickel		18.3	NS	NC	
Potassium		787	NS	NC	
Selenium		ND	NS	NC	
Sodium		352	NS	NC	
Vanadium		12.6	NS	NC	
Zinc		63.6	NS	NC	
Total Organic Carbon (mg/Kg)					
Total Organic Carbon		8100	8600	6%	Good
Percent Solids (%)					
Percent Solids		72	NS	NC	

Key:

/D = Duplicate sample.
Good = RPD is less than 70% for Solid Matrix and 40% for Water Matrix.
mg/Kg = Milligrams per kilogram.
ND = Not Detected.
NC = Not Calculated .
NCC = NYS Canal Corporation / Allco / Leyerle site.
NS = Not Sampled.
NYS = New York State.
Poor = RPD is greater than 70% for Solid Matrix and 40% for Water Matrix.
RPD = Relative Percent Difference.
SE = Sediment sample.
TAL = Target Analyte List.
TCL = Target Compound List.
µg/Kg = Micrograms per kilogram.

Table D-2-7
Field Duplicate Data Summary of Detected Analytes
for Sediment Samples From Sample Location NCC-SE06

Analyte	Sample ID: / Date:	NCC-SE06 / 10/2/2003	NCC-SE06/D / 10/2/2003	RPD	RPD Rating
TCL Volatile Organic Compounds (µg/Kg)					

% = Percent.

Table D-2-8
Field Duplicate Data Summary of Detected Analytes
for Sediment Samples From Sample Location BBA-SE01

Sample ID: / Date:	BBA-SE01 10/6/03	BBA-SE01/D 10/6/03	RPD	RPD Rating
TCL Semivolatile Organic Compounds (µg/L)				
Cyclohexane	0.30	ND	NC	
Toluene	0.50	ND	NC	
Fluoranthene	7.0	ND	NC	
Benzo(g,h,i)perylene	ND	150	NC	
TAL Metals and Mercury (µg/L)				
Arsenic	7.6	5.4	34%	Good
Barium	44.3	39.9	10%	Good
Beryllium	0.34	0.39	14%	Good
Calcium	2320	1960	17%	Good
Chromium	6.5	5.6	15%	Good
Cobalt	7.6	7.3	4%	Good
Copper	10.8	9.6	12%	Good
Iron	21100	16600	24%	Good
Lead	9.0	11.1	21%	Good
Magnesium	2920	2090	33%	Good
Manganese	530	527	1%	Good
Nickel	12.2	10.2	18%	Good
Potassium	439	388	12%	Good
Vanadium	10.1	8.9	13%	Good
Zinc	40.1	33.7	17%	Good
Total Organic Carbon (mg/Kg)	6200	4800	25%	Good
Percent Solids (%)	81	78	4%	Good

Key:

BBA = Bruno/Brickyard Associates/Alonzo Site.
/D = Duplicate sample.
Good = RPD is less than 70% for Solid Matrix and 40% for Water Matrix.
mg/Kg = Milligrams per kilogram.
ND = Not Detected.
NC = Not Calculated .
NS = Not Sampled.
Poor = RPD is greater than 70% for Solid Matrix and 40% for Water Matrix.
RPD = Relative Percent Difference.
SE = Sediment sample.
TAL = Target Analyte List.
TCL = Target Compound List.
µg/Kg = Micrograms per kilogram.
% = Percent.

Table D-2-9
Field Duplicate Data Summary of Detected Analytes
for Ground Water Samples From Sample Location BBA-GP03-GW

Analyte	Sample ID: / Date:	BBA-GP03-GW 10/15/2003	BBA-GP03-GW/D 10/15/2003	RPD	RPD Rating
Analyte					
TAL Metals and Mercury (µg/L)					
Barium		55.50	56.10	1%	Good
Calcium		70300	70100	0%	Good
Chromium		7.50	ND	NC	
Cobalt		1.90	ND	NC	
Copper		1.50	1.80	18%	Good
Iron		4230	4030	5%	Good
Lead		ND	ND	NC	
Magnesium		21700	21600	0%	Good
Manganese		1150	1140	1%	Good
Nickel		8.40	ND	NC	
Potassium		1620	1630	1%	Good
Selenium		ND	ND	NC	
Sodium		9640	9640	0%	Good
Zinc		26.60	28.70	8%	Good

Key:

BBA = Bruno/Brickyard Associates/Alonzo Site.
/D = Duplicate sample.
Good = RPD is less than 70% for Solid Matrix and 40% for Water Matrix.
GW = Groundwater sample.
ND = Not Detected.
NC = Not Calculated .
NS = Not Sampled.
Poor = RPD is greater than 70% for Solid Matrix and 40% for Water Matrix.
RPD = Relative Percent Difference.
TAL = Target Analyte List.
µg/L = Micrograms per liter.
% = Percent.

Table D-2-10
Field Duplicate Data Summary of Detected Analytes
for Surface Water Samples From Sample Location GPS-SW03

Analyte	Sample ID: / Date:	GPS-SW03 10/9/2003	GPS-SW03/D 10/9/2003	RPD	RPD Rating
TAL Metals and Mercury (µg/L)					
Aluminum		216	256	17%	Good
Barium		15.00	15.70	5%	Good
Calcium		18100	18100	0%	Good
Copper		3.70	4.10	10%	Good
Iron		597	886	39%	Good
Magnesium		5440	5430	0%	Good
Manganese		54.2	65.2	18%	Good
Nickel		2.3	9.8	124%	Poor
Potassium		1690	1730	2%	Good
Sodium		6210	6130	1%	Good
Vanadium		3.0	3.0	0%	Good
Zinc		39.0	34.5	12%	Good
Anions (mg/L)					
Chloride		9.69	9.56	1%	Good
Fluoride		0.08	0.11	25%	Good
Sulfate		17.1	16.8	2%	Good
Hardness (mg/L)					
Hardness (As CaCO3)		145	165	13%	Good

Key:

/D = Duplicate sample.
GPS = Georgia Pacific Site/NYS Canal Corporation Site.
Good = RPD is less than 70% for Solid Matrix and 40% for Water Matrix.
mg/L = Milligrams per liter
ND = Not Detected.
NC = Not Calculated .
NS = Not Sampled.
NYS = New York State.
Poor = RPD is greater than 70% for Solid Matrix and 40% for Water Matrix.
RPD = Relative Percent Difference.
SW = Surface water sample.
TAL = Target Analyte List.
µg/L = Micrograms per liter.
% = Percent.

Table D-2-11
Field Duplicate Data Summary of Detected Analytes
for Surface Water Samples From Sample Location NCC-SW04

Analyte	Sample ID: / Date:	NCC-SW04/D 10/2/2003	NCC-SW04 10/2/2003	RPD	RPD Rating
Analyte					
TAL Metals and Mercury (µg/L)					
Barium		30.0	28.9	4%	Good
Calcium		37500	37300	1%	Good
Copper		2.4	1.2	67%	Poor
Iron		63.8	51.7	21%	Good
Magnesium		11400	11300	1%	Good
Manganese		156	151	3%	Good
Nickel		3.00	ND	NC	
Potassium		1270	1310	3%	Good
Selenium		ND	3.10	NC	
Sodium		4230	4870	14%	Good
Zinc		21.0	19.3	8%	Good
Anions (mg/L)					
Chloride		5.32	5.31	0%	Good
Fluoride		0.13	0.12	6%	Good
Sulfate		3.40	3.38	1%	Good
Hardness (mg/L)					
Hardness (As CaCO3)		235	250	6%	Good

Key:

/D = Duplicate sample.
Good = RPD is less than 70% for Solid Matrix and 40% for Water Matrix.
mg/L = Milligrams per liter
ND = Not Detected.
NC = Not Calculated .
NCC = NYS Canal Corporation / Allco / Leyerle site.
NS = Not Sampled.
NYS = New York State.
Poor = RPD is greater than 70% for Solid Matrix and 40% for Water Matrix.
RPD = Relative Percent Difference.
SW = Surface water sample.
TAL = Target Analyte List.
µg/L = Micrograms per liter.
% = Percent.

Table D-3-1
Analytical Data Summary of Detected Analytes for Rinsate Blank Samples

Analyte / Sample ID: / Date:	RB-A 10/9/2003	RB-B 10/9/2003
TCL Volatile Organic Compounds (µg/L)		
Methylene Chloride	**6 J**	**6 J**
TCL Semivolatile Organic Compounds (µg/L)		
Bis(2-Ethylhexyl)Phthalate	**2 J**	10 U
Di-n-Butylphthalate	**6 J**	**4 J**
TAL Metals and Mercury (µg/L)		
Aluminum	**63 B**	**47.7 B**
Calcium	38.6 U	**86 B**
Copper	**4 B**	1 U
Potassium	**31.1 B**	29.8 U
Vanadium	**2 B**	**1.3 B**
Zinc	**41 J**	**25.5 J**
Mercury	0.1 U	0.1 U

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

J = The reported value is an estimated quantity.

RB = Rinsate blank sample.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

µg/L = Micrograms per liter.

Table D-3-2
Complete Analytical Data Summary for Rinsate Blank Samples

Analyte / Sample ID: / Date:	RB-A 10/9/2003	RB-B 10/9/2003
TCL Volatile Organic Compounds (µg/L)		
1,1,1-Trichloroethane	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U
1,1-Dichloroethane	10 U	10 U
1,1-Dichloroethene	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U
1,2-Dibromo-3-Chloropropane	10 U	10 U
1,2-Dibromoethane	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U
1,2-Dichloroethane	10 U	10 U
1,2-Dichloropropane	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U
2-Butanone	10 U	10 U
2-Hexanone	10 U	10 U
4-Methyl-2-Pentanone	10 U	10 U
Acetone	10 U	10 U
Benzene	10 U	10 U
Bromodichloromethane	10 U	10 U
Bromoform	10 U	10 U
Bromomethane	10 U	10 U
Carbon Disulfide	10 U	10 U
Carbon Tetrachloride	10 U	10 U
Chlorobenzene	10 U	10 U
Chloroethane	10 U	10 U
Chloroform	10 U	10 U
Chloromethane	10 U	10 U
Cis-1,2-Dichloroethene	10 U	10 U
Cis-1,3-Dichloropropene	10 U	10 U
Cyclohexane	10 U	10 U
Dibromochloromethane	10 U	10 U
Dichlorodifluoromethane	10 U	10 U
Ethylbenzene	10 U	10 U
Isopropylbenzene	10 U	10 U
Methyl Acetate	10 U	10 U
Methyl Tert-Butyl Ether	10 U	10 U
Methylcyclohexane	10 U	10 U
Methylene Chloride	**6 J**	**6 J**
Styrene	10 U	10 U
Tetrachloroethene	10 U	10 U
Toluene	10 U	10 U
Trans-1,2-Dichloroethene	10 U	10 U
Trans-1,3-Dichloropropene	10 U	10 U
Trichloroethene	10 U	10 U
Trichlorofluoromethane	10 U	10 U
Vinyl Chloride	10 U	10 U
Xylenes (Total)	10 U	10 U

Table D-3-2
Complete Analytical Data Summary for Rinsate Blank Samples

Analyte	Sample ID: / Date:	RB-A 10/9/2003	RB-B 10/9/2003
TCL Semivolatile Organic Compounds (µg/L)			
1,1'-Biphenyl		10 U	10 U
2,2'-Oxybis(1- Chloropropane)		10 U	10 U
2,4,5-Trichlorophenol		25 U	25 U
2,4,6-Trichlorophenol		10 U	10 U
2,4-Dichlorophenol		10 U	10 U
2,4-Dimethylphenol		10 U	10 U
2,4-Dinitrophenol		25 UJ	25 UJ
2,4-Dinitrotoluene		10 U	10 U
2,6-Dinitrotoluene		10 U	10 U
2-Chloronaphthalene		10 U	10 U
2-Chlorophenol		10 U	10 U
2-Methylnaphthalene		10 U	10 U
2-Methylphenol		10 U	10 U
2-Nitroaniline		25 U	25 U
2-Nitrophenol		10 U	10 U
3,3'-Dichlorobenzidine		10 UJ	10 U
3-Nitroaniline		25 U	25 U
4,6-Dinitro-2-Methylphenol		25 U	25 U
4-Bromophenyl-Phenylether		10 U	10 U
4-Chloro-3-Methylphenol		10 U	10 U
4-Chloroaniline		10 U	10 U
4-Chlorophenyl-Phenyl Ether		10 U	10 U
4-Methylphenol		10 U	10 U
4-Nitroaniline		25 U	25 U
4-Nitrophenol		25 UJ	25 UJ
Acenaphthene		10 U	10 U
Acenaphthylene		10 U	10 U
Acetophenone		10 U	10 U
Anthracene		10 U	10 U
Atrazine		10 U	10 U
Benzaldehyde		10 U	10 U
Benzo(A)Anthracene		10 U	10 U
Benzo(A)Pyrene		10 U	10 U
Benzo(B)Fluoranthene		10 U	10 U
Benzo(G,H,I)Perylene		10 UJ	10 UJ
Benzo(K)Fluoranthene		10 U	10 U
Bis(2-Chloroethoxy)Methane		10 U	10 U
Bis-(2-Chloroethyl)Ether		10 U	10 U
Bis(2-Ethylhexyl)Phthalate		**2 J**	10 U
Butylbenzylphthalate		10 U	10 U
Caprolactam		10 U	10 U
Carbazole		10 UJ	10 UJ
Chrysene		10 U	10 U
Dibenzo(A,H)-Anthracene		10 U	10 U
Dibenzofuran		10 U	10 U
Diethylphthalate		10 U	10 U
Dimethylphthalate		10 U	10 U
Di-N-Butylphthalate		**6 J**	**4 J**

Table D-3-2
Complete Analytical Data Summary for Rinsate Blank Samples

Analyte / Sample ID: / Date:	RB-A 10/9/2003	RB-B 10/9/2003
Di-N-Octylphthalate	10 U	10 U
Fluoranthene	10 U	10 U
Fluorene	10 U	10 U
Hexachlorobenzene	10 U	10 U
Hexachlorobutadiene	10 U	10 U
Hexachlorocyclo-Pentadiene	10 UJ	10 UJ
Hexachloroethane	10 U	10 U
Indeno(1,2,3-Cd)-Pyrene	10 U	10 U
Isophorone	10 U	10 U
Naphthalene	10 U	10 U
Nitrobenzene	10 U	10 U
N-Nitroso Diphenylamine	10 U	10 U
N-Nitroso-Di-N Propylamine	10 U	10 U
Pentachlorophenol	25 U	25 U
Phenanthrene	10 U	10 U
Phenol	10 U	10 U
Pyrene	10 U	10 U
TCL Pesticide and PCBs (µg/L)		
4,4'-DDD	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U
Alpha-BHC	0.05 U	0.05 U
Alpha-Chlordane	0.05 U	0.05 U
Aroclor-1016	1 U	1 U
Aroclor-1221	2 U	2 U
Aroclor-1232	1 U	1 U
Aroclor-1242	1 U	1 U
Aroclor-1248	1 U	1 U
Aroclor-1254	1 U	1 U
Aroclor-1260	1 U	1 U
Beta-BHC	0.05 U	0.05 U
Delta-BHC	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U
Endosulfan Sulfate	0.1 U	0.1 U
Endrin	0.1 U	0.1 U
Endrin Aldehyde	0.1 U	0.1 U
Endrin Ketone	0.1 U	0.1 U
Gamma-BHC (Lindane)	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U
Heptachlor Epoxide	0.05 U	0.05 U
Methoxychlor	0.5 U	0.5 U
Toxaphene	5 U	5 U

Table D-3-2
Complete Analytical Data Summary for Rinsate Blank Samples

Analyte	Sample ID: / Date:	RB-A 10/9/2003	RB-B 10/9/2003
TAL Metals and Mercury (µg/L)			
Aluminum		**63 B**	**47.7 B**
Antimony		9.2 U	9.2 U
Arsenic		5.8 U	5.8 U
Barium		1.2 U	1.2 U
Beryllium		0.1 U	0.1 U
Cadmium		0.7 U	0.7 U
Calcium		38.6 U	**86 B**
Chromium		1 U	1 U
Cobalt		1.3 U	1.3 U
Copper		**4 B**	1 U
Iron		27.9 U	27.9 U
Lead		2.2 U	2.2 U
Magnesium		39.5 U	39.5 U
Manganese		0.4 UJ	0.4 UJ
Nickel		2.3 U	2.3 U
Potassium		**31.1 B**	29.8 U
Selenium		3.8 U	3.8 U
Silver		1.4 UJ	1.4 UJ
Sodium		470 U	470 U
Thallium		6.8 U	6.8 U
Vanadium		**2 B**	**1.3 B**
Zinc		**41 J**	**25.5 J**
Mercury		0.1 U	0.1 U
Total Cyanide (µg/L)			
Cyanide Tot.		5 U	5 U

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

J = The reported value is an estimated quantity.

RB = Rinsate blank sample.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/L = Micrograms per liter.

Table D-4-1
Complete Analytical Data Summary for Surface Soil Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID:	EPL-SS01	EPL-SS02	EPL-SS03	EPL-SS04	EPL-SS05	EPL-SS06	EPL-SS07	EPL-SS08	EPL-SS09
	Date:	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)										
1,1,1-Trichloroethane		13 U	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane		13 U	--	--	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-Trifluoroethane		1 J	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane		13 U	--	--	--	--	--	--	--	--
1,1-Dichloroethane		13 U	--	--	--	--	--	--	--	--
1,1-Dichloroethene		13 U	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene		13 U	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane		13 U	--	--	--	--	--	--	--	--
1,2-Dibromoethane		13 U	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene		13 U	--	--	--	--	--	--	--	--
1,2-Dichloroethane		13 U	--	--	--	--	--	--	--	--
1,2-Dichloropropane		13 U	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene		13 U	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene		13 U	--	--	--	--	--	--	--	--
2-Butanone		13 U	--	--	--	--	--	--	--	--
2-Hexanone		13 U	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone		13 U	--	--	--	--	--	--	--	--
Acetone		13 U	--	--	--	--	--	--	--	--
Benzene		13 U	--	--	--	--	--	--	--	--
Bromodichloromethane		13 U	--	--	--	--	--	--	--	--
Bromoform		13 U	--	--	--	--	--	--	--	--
Bromomethane		13 U	--	--	--	--	--	--	--	--
Carbon Disulfide		13 U	--	--	--	--	--	--	--	--
Carbon Tetrachloride		13 U	--	--	--	--	--	--	--	--
Chlorobenzene		13 U	--	--	--	--	--	--	--	--
Chloroethane		13 U	--	--	--	--	--	--	--	--
Chloroform		13 U	--	--	--	--	--	--	--	--
Chloromethane		13 U	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene		13 U	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene		13 U	--	--	--	--	--	--	--	--
Cyclohexane		13 U	--	--	--	--	--	--	--	--
Dibromochloromethane		13 U	--	--	--	--	--	--	--	--
Dichlorodifluoromethane		13 U	--	--	--	--	--	--	--	--

Table D-4-1
Complete Analytical Data Summary for Surface Soil Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID: EPL-SS01 Date: 9/29/2003 Depth: 0 - 2 in	EPL-SS02 9/29/2003 0 - 2 in	EPL-SS03 9/29/2003 0 - 2 in	EPL-SS04 9/29/2003 0 - 2 in	EPL-SS05 9/29/2003 0 - 2 in	EPL-SS06 9/29/2003 0 - 2 in	EPL-SS07 9/29/2003 0 - 2 in	EPL-SS08 9/29/2003 0 - 2 in	EPL-SS09 9/29/2003 0 - 2 in
Ethylbenzene	13 U	--	--	--	--	--	--	--	--
Isopropylbenzene	13 U	--	--	--	--	--	--	--	--
Methyl Acetate	13 U	--	--	--	--	--	--	--	--
Methyl tert-Butyl Ether	13 U	--	--	--	--	--	--	--	--
Methylcyclohexane	13 U	--	--	--	--	--	--	--	--
Methylene Chloride	13 U	--	--	--	--	--	--	--	--
Styrene	13 U	--	--	--	--	--	--	--	--
Tetrachloroethene	13 U	--	--	--	--	--	--	--	--
Toluene	13 U	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	13 U	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	13 U	--	--	--	--	--	--	--	--
Trichloroethene	13 U	--	--	--	--	--	--	--	--
Trichlorofluoromethane	13 U	--	--	--	--	--	--	--	--
Vinyl Chloride	13 U	--	--	--	--	--	--	--	--
Xylenes (Total)	13 U	--	--	--	--	--	--	--	--
TCL Semivolatile Organic Compounds									
1,1'-Biphenyl	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
2,2'-Oxybis(1- Chloropropane)	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
2,4,5-Trichlorophenol	1200 U	990 U	1000 U	970 U	1000 U	1000 U	1000 U	1600 U	1400 U
2,4,6-Trichlorophenol	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
2,4-Dichlorophenol	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
2,4-Dimethylphenol	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
2,4-Dinitrophenol	1200 UJ	990 UJ	1000 UJ	970 UJ	1000 UJ	1000 UJ	1000 UJ	1600 UJ	1400 UJ
2,4-Dinitrotoluene	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
2,6-Dinitrotoluene	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
2-Chloronaphthalene	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
2-Chlorophenol	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
2-Methylnaphthalene	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
2-Methylphenol	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
2-Nitroaniline	1200 U	990 U	1000 U	970 U	1000 U	1000 U	1000 U	1600 U	1400 UJ
2-Nitrophenol	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
3,3'-Dichlorobenzidine	490 UJ	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
3-Nitroaniline	1200 U	990 U	1000 U	970 U	1000 U	1000 U	1000 U	1600 U	1400 U
4,6-Dinitro-2-Methylphenol	1200 U	990 U	1000 U	970 U	1000 U	1000 U	1000 U	1600 U	1400 U

Table D-4-1
Complete Analytical Data Summary for Surface Soil Samples
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Analyte	Sample ID:	EPL-SS01	EPL-SS02	EPL-SS03	EPL-SS04	EPL-SS05	EPL-SS06	EPL-SS07	EPL-SS08	EPL-SS09
	Date:	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
4-Bromophenyl-Phenylether		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
4-Chloro-3-Methylphenol		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
4-Chloroaniline		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
4-Chlorophenyl-Phenyl Ether		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
4-Methylphenol		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
4-Nitroaniline		1200 U	990 U	1000 U	970 U	1000 U	1000 U	1000 U	1600 U	1400 U
4-Nitrophenol		1200 U	990 UJ	1000 UJ	970 UJ	1000 UJ	1000 UJ	1000 UJ	1600 UJ	1400 UJ
Acenaphthene		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Acenaphthylene		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Acetophenone		**110 J**	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Anthracene		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Atrazine		490 U	390 U	400 U	380 U	400 U	400 U	**91 J**	630 U	550 U
Benzaldehyde		490 U	390 UJ	400 UJ	380 UJ	400 UJ	400 UJ	410 UJ	**180 J**	550 UJ
Benzo(a)anthracene		**200 J**	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Benzo(a)pyrene		**180 J**	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Benzo(b)fluoranthene		**340 J**	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Benzo(g,h,i)perylene		**130 J**	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Benzo(k)fluoranthene		**320 J**	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Bis(2-Chloroethoxy)Methane		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Bis-(2-Chloroethyl)Ether		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Bis(2-Ethylhexyl)Phthalate		490 U	390 U	400 U	380 U	400 U	**480**	410 U	**510 J**	550 U
Butylbenzylphthalate		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Caprolactam		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Carbazole		490 UJ	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Chrysene		**300 J**	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Dibenzo(a,h)-anthracene		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Dibenzofuran		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Diethylphthalate		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Dimethylphthalate		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Di-n-Butylphthalate		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Di-n-Octylphthalate		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Fluoranthene		**220 J**	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Fluorene		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Hexachlorobenzene		490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U

Table D-4-1
Complete Analytical Data Summary for Surface Soil Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Sample ID:	EPL-SS01	EPL-SS02	EPL-SS03	EPL-SS04	EPL-SS05	EPL-SS06	EPL-SS07	EPL-SS08	EPL-SS09
Date:	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003
Analyte / Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Hexachlorobutadiene	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Hexachlorocyclo-Pentadiene	490 UJ	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Hexachloroethane	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Indeno(1,2,3-cd)-pyrene	**200 J**	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Isophorone	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Naphthalene	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Nitrobenzene	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
n-Nitroso Diphenylamine	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
n-Nitroso-Di-n Propylamine	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Pentachlorophenol	1200 U	990 UJ	1000 UJ	970 UJ	1000 UJ	1000 UJ	1000 UJ	1600 UJ	1400 UJ
Phenanthrene	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Phenol	490 U	390 U	400 U	380 U	400 U	400 U	410 U	630 U	550 U
Pyrene	**230 J**	390 UJ	400 UJ	380 UJ	400 UJ	400 UJ	410 UJ	630 UJ	550 UJ
TCL Pesticides and PCBs (µg/Kg)									
4,4'-DDD	4.9 U	3.9 U	4 U	3.8 U	4 U	4 U	4.1 U	6.3 U	5.5 U
4,4'-DDE	**3.6 J**	3.9 U	4 U	3.8 U	4 U	4 U	4.1 U	**7.7**	**2.6 J**
4,4'-DDT	4.9 U	3.9 U	4 U	3.8 U	4 U	4 U	4.1 U	6.3 U	5.5 U
Aldrin	2.5 U	2 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	3.3 U	2.8 U
Alpha-BHC	2.5 U	2 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	3.3 U	2.8 U
Alpha-Chlordane	2.5 U	2 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	3.3 U	2.8 U
Aroclor-1016	49 U	39 U	40 U	38 U	40 U	40 U	41 U	63 U	55 U
Aroclor-1221	100 U	80 U	82 U	78 U	82 U	82 U	83 U	130 U	110 U
Aroclor-1232	49 U	39 U	40 U	38 U	40 U	40 U	41 U	63 U	55 U
Aroclor-1242	49 U	39 U	40 U	38 U	40 U	40 U	41 U	63 U	55 U
Aroclor-1248	49 U	39 U	40 U	38 U	40 U	40 U	41 U	63 U	55 U
Aroclor-1254	**93 J**	39 U	40 U	38 U	40 U	40 U	41 U	**150**	**57 J**
Aroclor-1260	49 U	39 U	40 U	38 U	**500**	40 U	41 U	63 U	55 U
Beta-BHC	2.5 U	2 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	3.3 U	2.8 U
Delta-BBHC	2.5 U	2 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	3.3 U	2.8 U
Dieldrin	4.9 U	3.9 U	4 U	3.8 U	**3.1 J**	4 U	4.1 U	6.3 U	5.5 U
Endosulfan I	2.5 U	2 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	3.3 U	2.8 U
Endosulfan II	4.9 U	3.9 U	4 U	3.8 U	4 U	4 U	4.1 U	6.3 U	5.5 U
Endosulfan Sulfate	4.9 U	3.9 U	4 U	3.8 U	4 U	4 U	4.1 U	6.3 U	5.5 U
Endrin	4.9 U	3.9 U	4 U	3.8 U	4 U	4 U	4.1 U	6.3 U	5.5 U

Table D-4-1
Complete Analytical Data Summary for Surface Soil Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID:	EPL-SS01	EPL-SS02	EPL-SS03	EPL-SS04	EPL-SS05	EPL-SS06	EPL-SS07	EPL-SS08	EPL-SS09
	Date:	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Endrin Aldehyde		4.9 U	3.9 U	4 U	3.8 U	4 U	4 U	4.1 U	6.3 U	5.5 U
Endrin Ketone		4.9 U	3.9 U	4 U	3.8 U	4 U	4 U	4.1 U	6.3 U	5.5 U
Gamma-BHC (Lindane)		2.5 U	2 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	3.3 U	2.8 U
Gamma-Chlordane		2.5 U	2 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	3.3 U	2.8 U
Heptachlor		2.5 U	2 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	3.3 U	2.8 U
Heptachlor Epoxide		2.5 U	2 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	3.3 U	2.8 U
Methoxychlor		25 U	20 U	21 U	20 U	21 U	21 U	21 U	33 U	28 U
Toxaphene		250 U	200 U	210 U	200 U	210 U	210 U	210 U	330 U	280 U
Herbicides (µg/Kg)										
2,4,5-T		24.0 U	--	--	--	--	--	--	--	--
2,4,5-TP (SILVEX)		24.0 U	--	--	--	--	--	--	--	--
2,4-D		24.0 U	--	--	--	--	--	--	--	--
2,4-DB		24.0 U	--	--	--	--	--	--	--	--
Dalapon		71.8 U	--	--	--	--	--	--	--	--
Dicamba		24.0 U	--	--	--	--	--	--	--	--
Dichlorprop		24.0 U	--	--	--	--	--	--	--	--
Dinoseb		24.0 U	--	--	--	--	--	--	--	--
MCPA		7180 U	--	--	--	--	--	--	--	--
MCPP		7180 U	--	--	--	--	--	--	--	--
TAL Metals and Mercury (mg/Kg)										
Aluminum		**7220**	**8630**	**7630**	**11000**	**8340**	**8620**	**8600**	**12600**	**12400**
Antimony		1.6 U	1.7 U	1.7 U	1.6 U	1.8 U	1.6 U	1.6 U	2.4 U	2.1 U
Arsenic		1 U	**1.3 B**	**1.2 B**	**4.9**	**2.1 B**	**2.7**	**2.8**	**13.1**	**9.7**
Barium		**47.7**	**44.4 B**	**33.5 B**	**75.5**	**28.8 B**	**61**	**66.5**	**88.6**	**83**
Beryllium		**0.33 B**	**0.4 B**	**0.28 B**	**0.48 B**	**0.49 B**	**0.42 B**	**0.41 B**	**3.1**	**1.6**
Cadmium		**0.18 B**	0.12 U	0.12 U	0.11 U	0.12 U	0.11 U	**0.69 B**	0.17 U	0.15 U
Calcium		**4300**	**9940**	**3740**	**49400**	**2970**	**33000**	**47200**	**4990**	**3130**
Chromium		**9.5 J**	**10 J**	**6.7 J**	**14.7 J**	**8.1 J**	**13.7 J**	**12.4 J**	**43.5 J**	**31.4 J**
Cobalt		**3.3 B**	**4.1 B**	**2.8 B**	**7.5 B**	**2.8 B**	**6.3 B**	**7.4 B**	**5.7 B**	**12.6 B**
Copper		**13.3**	**18.9**	**13.1**	**25**	**13.7**	**22.9**	**33.7**	**18.8**	**18.5**
Iron		**7150**	**8980**	**6010**	**18100**	**10000**	**12900**	**13800**	**96800**	**99900**
Lead		**18.7**	**17.1**	**8.5**	**61.4**	**10.9**	**63.4**	**21**	**44.6**	**50.8**
Magnesium		**1360**	**2690**	**1880**	**5000**	**1510**	**4750**	**7070**	**1340 B**	**1550**
Manganese		**113**	**123**	**51.4**	**379**	**47.9**	**283**	**342**	**302**	**592**

Table D-4-1
Complete Analytical Data Summary for Surface Soil Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID:	EPL-SS01	EPL-SS02	EPL-SS03	EPL-SS04	EPL-SS05	EPL-SS06	EPL-SS07	EPL-SS08	EPL-SS09
	Date:	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003	9/29/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Nickel		6.8 B	7.3 B	5.3 B	14.8	5.9 B	13.8	13.4	17	17
Potassium		360 B	830 B	347 B	2060 J	257 B	1750 J	1920 J	525 B	388 B
Selenium		0.43 U	0.44 U	0.45 U	0.53 BJ	0.7 BJ	0.43 U	0.77 BJ	1.6 BJ	0.56 U
Silver		0.34 U	0.35 U	0.35 U	0.34 U	0.37 U	0.34 U	0.33 U	0.5 U	0.44 U
Sodium		185 B	278 B	160 B	376 B	188 B	345 B	334 B	183 U	161 U
Thallium		0.97 B	0.98 U	0.99 U	0.95 U	1 U	0.94 U	0.93 U	2 B	1.2 U
Vanadium		14.9	15	10.5 B	27.2	32.1	18.6	22.4	599	208
Zinc		43.7	45.4	36.8	92.6	33.1	87.5	74.4	37.5	58.7
Mercury		0.05 U	0.07 B	0.06 U	0.06 U	0.06 U	0.05 U	0.09 B	0.19	0.16
Total Cyanide (mg/Kg)										
Cyanide Tot.		0.17 U	0.14 U	0.15	0.2	0.23	0.33	0.14 U	0.94	1.2
Total Petroleum Hydrocarbons (mg/Kg)										
n-Hexane Extractable Material		1540	- -	- -	- -	- -	- -	- -	- -	- -
Percent Moisture (wt%)										
Percent Moisture		33	- -	- -	- -	- -	- -	- -	- -	- -
Percent Solids (%)										
Percent Solids		69	84	82	86	83	82	84	54	61

Table D-4-1
Complete Analytical Data Summary for Surface Soil Samples from the Energy Park/Longe/NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
EPL = Energy Park/Longe site/NYS Canal Corporation Site.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NYS = New York State.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
wt. % = Percent weight.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Source: Ecology and Environment, Inc., 2004

Table D-4-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	EPL-GP01-SB 9/29/2003 10.2 - 12 ft	EPL-GP02-SB 9/30/2003 9 - 10.9 ft	EPL-GP03-SB 9/30/2003 9.6 - 11 ft	EPL-GP04-SB 10/1/2003 4 - 6 ft	EPL-GP05-SB 10/1/2003 5 - 8 ft	EPL-GP05-SB/D 10/1/2003 5 - 8 ft	EPL-GP06-SB 10/1/2003 9.4 - 11 ft	EPL-GP07-SB 10/1/2003 7 - 9 ft
TCL Volatile Organic Compounds (µg/Kg)									
1,1,1-Trichloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		10 U	**0.8 J**	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Acetone		10 U	20 UJ	10 U	10 U	10 U	10 U	10 U	15 U
Benzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyclohexane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table D-4-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID:	EPL-GP01-SB	EPL-GP02-SB	EPL-GP03-SB	EPL-GP04-SB	EPL-GP05-SB	EPL-GP05-SB/D	EPL-GP06-SB	EPL-GP07-SB
	Date:	9/29/2003	9/30/2003	9/30/2003	10/1/2003	10/1/2003	10/1/2003	10/1/2003	10/1/2003
	Depth:	10.2 - 12 ft	9 - 10.9 ft	9.6 - 11 ft	4 - 6 ft	5 - 8 ft	5 - 8 ft	9.4 - 11 ft	7 - 9 ft
Ethylbenzene		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Methyl Acetate		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-Butyl Ether		10 U	10 U	10 U	10 U	10 U	10 U	10 U	**0.6 J**
Methylcyclohexane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Styrene		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Toluene		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane		10 U	**1 J**	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes (Total)		10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
TCL Semivolatile Organic Compounds (µg/Kg)									
1,1'-Biphenyl		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
2,2'-Oxybis(1- Chloropropane)		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
2,4,5-Trichlorophenol		1000 U	1100 U	990 U	990 U	1000 U	1000 U	930 U	980 U
2,4,6-Trichlorophenol		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
2,4-Dichlorophenol		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
2,4-Dimethylphenol		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
2,4-Dinitrophenol		1000 UJ	1100 UJ	990 UJ	990 UJ	1000 UJ	1000 UJ	930 UJ	980 UJ
2,4-Dinitrotoluene		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
2,6-Dinitrotoluene		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
2-Chloronaphthalene		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
2-Chlorophenol		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
2-Methylnaphthalene		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
2-Methylphenol		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
2-Nitroaniline		1000 U	1100 U	990 U	990 U	1000 U	1000 U	930 U	980 U
2-Nitrophenol		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
3,3'-Dichlorobenzidine		400 UJ	420 UJ	390 UJ	390 UJ	410 UJ	410 U	370 UJ	390 UJ
3-Nitroaniline		1000 U	1100 U	990 U	990 U	1000 U	1000 U	930 U	980 U
4,6-Dinitro-2-Methylphenol		1000 U	1100 U	990 U	990 U	1000 U	1000 UJ	930 U	980 U

Table D-4-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte / Sample ID: / Date: / Depth:	EPL-GP01-SB 9/29/2003 10.2 - 12 ft	EPL-GP02-SB 9/30/2003 9 - 10.9 ft	EPL-GP03-SB 9/30/2003 9.6 - 11 ft	EPL-GP04-SB 10/1/2003 4 - 6 ft	EPL-GP05-SB 10/1/2003 5 - 8 ft	EPL-GP05-SB/D 10/1/2003 5 - 8 ft	EPL-GP06-SB 10/1/2003 9.4 - 11 ft	EPL-GP07-SB 10/1/2003 7 - 9 ft
4-Bromophenyl-Phenylether	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
4-Chloro-3-Methylphenol	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
4-Chloroaniline	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
4-Chlorophenyl-Phenyl Ether	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
4-Methylphenol	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
4-Nitroaniline	1000 U	1100 U	990 U	990 U	1000 U	1000 U	930 U	980 U
4-Nitrophenol	1000 U	1100 U	990 U	990 U	1000 U	1000 UJ	930 U	980 U
Acenaphthene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Acenaphthylene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Acetophenone	400 U	**100 J**	390 U	390 U	410 U	410 U	370 U	390 U
Anthracene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Atrazine	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Benzaldehyde	400 U	420 U	390 U	390 U	410 U	410 UJ	370 U	390 U
Benzo(a)anthracene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Benzo(a)pyrene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Benzo(b)fluoranthene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Benzo(g,h,i)perylene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Benzo(k)fluoranthene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Bis(2-Chloroethoxy)Methane	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Bis-(2-Chloroethyl)Ether	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Bis(2-Ethylhexyl)Phthalate	400 U	420 U	**86 J**	390 U	410 U	410 U	370 U	390 U
Butylbenzylphthalate	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Caprolactam	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Carbazole	400 UJ	420 UJ	390 UJ	390 UJ	410 UJ	410 U	370 UJ	390 UJ
Chrysene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Dibenzo(a,h)-anthracene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Dibenzofuran	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Diethylphthalate	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Dimethylphthalate	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Di-n-Butylphthalate	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Di-n-Octylphthalate	400 U	420 U	390 U	390 U	**100 J**	410 U	370 U	390 U
Fluoranthene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Fluorene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Hexachlorobenzene	400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U

Table D-4-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	EPL-GP01-SB 9/29/2003 10.2 - 12 ft	EPL-GP02-SB 9/30/2003 9 - 10.9 ft	EPL-GP03-SB 9/30/2003 9.6 - 11 ft	EPL-GP04-SB 10/1/2003 4 - 6 ft	EPL-GP05-SB 10/1/2003 5 - 8 ft	EPL-GP05-SB/D 10/1/2003 5 - 8 ft	EPL-GP06-SB 10/1/2003 9.4 - 11 ft	EPL-GP07-SB 10/1/2003 7 - 9 ft
Hexachlorobutadiene		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Hexachlorocyclo-Pentadiene		400 UJ	420 UJ	390 UJ	390 UJ	410 UJ	410 U	370 UJ	390 UJ
Hexachloroethane		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Indeno(1,2,3-cd)-pyrene		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Isophorone		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Naphthalene		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Nitrobenzene		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
n-Nitroso Diphenylamine		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
n-Nitroso-Di-n Propylamine		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Pentachlorophenol		1000 U	1100 U	990 U	990 U	1000 U	1000 UJ	930 U	980 U
Phenanthrene		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Phenol		400 U	420 U	390 U	390 U	410 U	410 U	370 U	390 U
Pyrene		400 U	420 U	390 U	390 U	410 U	410 UJ	370 U	390 U
TCL Pesticides and PCBs (µg/Kg)									
4,4'-DDD		4 U	4.2 U	3.9 U	3.9 U	4.1 U	4.1 U	3.7 U	3.9 U
4,4'-DDE		4 U	4.2 U	3.9 U	3.9 U	4.1 U	4.1 U	3.7 U	3.9 U
4,4'-DDT		4 U	4.2 U	3.9 U	3.9 U	4.1 U	4.1 U	3.7 U	3.9 U
Aldrin		2 U	2.2 U	2 U	2 U	2.1 U	2.1 U	1.9 U	2 U
Alpha-BHC		2 U	2.2 UJ	2 U	2 U	2.1 U	2.1 UJ	1.9 U	2 U
Alpha-Chlordane		2 U	2.2 U	2 U	2 U	2.1 U	2.1 U	1.9 U	2 U
Aroclor-1016		40 U	42 U	39 U	39 U	41 U	41 U	37 U	39 U
Aroclor-1221		81 U	85 U	80 U	80 U	83 U	84 U	75 U	79 U

Table D-4-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	EPL-GP01-SB 9/29/2003 10.2 - 12 ft	EPL-GP02-SB 9/30/2003 9 - 10.9 ft	EPL-GP03-SB 9/30/2003 9.6 - 11 ft	EPL-GP04-SB 10/1/2003 4 - 6 ft	EPL-GP05-SB 10/1/2003 5 - 8 ft	EPL-GP05-SB/D 10/1/2003 5 - 8 ft	EPL-GP06-SB 10/1/2003 9.4 - 11 ft	EPL-GP07-SB 10/1/2003 7 - 9 ft
Aroclor-1232		40 U	42 U	39 U	39 U	41 U	41 U	37 U	39 U
Aroclor-1242		40 U	42 U	39 U	39 U	41 U	41 U	37 U	39 U
Aroclor-1248		40 U	42 U	39 U	39 U	41 U	41 U	37 U	39 U
Aroclor-1254		40 U	42 U	39 U	39 U	41 U	41 U	37 U	39 U
Aroclor-1260		40 U	42 U	39 U	39 U	41 U	41 U	37 U	39 U
Beta-BHC		2 U	2.2 U	2 U	2 U	2.1 U	2.1 U	1.9 U	**2.8**
Delta-BBHC		2 U	2.2 U	2 U	2 U	2.1 U	2.1 U	1.9 U	2 U
Dieldrin		4 U	4.2 U	3.9 U	3.9 U	4.1 U	4.1 U	3.7 U	3.9 U
Endosulfan I		2 U	2.2 U	2 U	2 U	2.1 U	2.1 U	1.9 U	2 U
Endosulfan II		4 U	4.2 U	3.9 U	3.9 U	4.1 U	4.1 U	3.7 U	3.9 U
Endosulfan Sulfate		4 U	4.2 U	3.9 U	3.9 U	4.1 U	4.1 U	3.7 U	3.9 U
Endrin		4 U	4.2 U	3.9 U	3.9 U	4.1 U	4.1 U	3.7 U	3.9 U
Endrin Aldehyde		4 U	4.2 U	3.9 U	3.9 U	4.1 U	4.1 U	3.7 U	3.9 U
Endrin Ketone		4 U	4.2 U	3.9 U	3.9 U	4.1 U	4.1 U	3.7 U	3.9 U
Gamma-BHC (Lindane)		2 U	2.2 U	2 U	2 U	2.1 U	2.1 UJ	1.9 U	2 U
Gamma-Chlordane		2 U	2.2 U	2 U	2 U	2.1 U	2.1 U	1.9 U	2 U
Heptachlor		2 U	2.2 U	2 U	2 U	2.1 U	2.1 U	1.9 U	2 U
Heptachlor Epoxide		2 U	2.2 U	2 U	2 U	2.1 U	2.1 U	1.9 U	2 U
Methoxychlor		20 U	22 U	20 U	20 U	21 U	21 U	19 U	20 U
Toxaphene		200 U	220 U	200 U	200 U	210 U	210 U	190 U	200 U

Table D-4-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	EPL-GP01-SB 9/29/2003 10.2 - 12 ft	EPL-GP02-SB 9/30/2003 9 - 10.9 ft	EPL-GP03-SB 9/30/2003 9.6 - 11 ft	EPL-GP04-SB 10/1/2003 4 - 6 ft	EPL-GP05-SB 10/1/2003 5 - 8 ft	EPL-GP05-SB/D 10/1/2003 5 - 8 ft	EPL-GP06-SB 10/1/2003 9.4 - 11 ft	EPL-GP07-SB 10/1/2003 7 - 9 ft
TAL Metals and Mercury (mg/Kg)									
Aluminum		3840	12500	5170	2110	3090	3570	2850	2450
Antimony		1.7 U	1.7 U	1.6 U	1.8 U	1.8 U	1.8 U	1.6 U	1.8 U
Arsenic		1.1 U	5.2	0.99 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U
Barium		20 B	94.7	33.1 B	7.4 B	17.2 B	20.8 B	11.3 B	10.8 B
Beryllium		0.12 B	0.59 B	0.25 B	0.12 B	0.18 B	0.2 B	0.13 B	0.16 B
Cadmium		0.12 U	0.12 U	0.11 U	0.13 U	0.12 U	0.12 U	0.11 U	0.13 U
Calcium		1500	36000	1550	1270	2150	9460	1320	1660
Chromium		3 J	17.1 J	5.7 J	2.3 B	3.3	7.1	6.7	2.2 B
Cobalt		2.1 B	9.2 B	3.5 B	2.1 B	2.8 B	2.9 B	2.4 B	2.5 B
Copper		5.3 B	28.3	8.5	3.6 B	7.2	8.5	4.2 B	4.4 B
Iron		4260	18700	5620	3350	3810	5050	3810	3920
Lead		2.1 J	43.1	5	1.6 J	2.2 J	14.6	2.5 J	1.6 J
Magnesium		1430	5370	1820	1240 B	1260	2260	1280	1270
Manganese		25.7	409	33.3	22.3	25.2	57.3	23.1	21.6
Nickel		3.7 B	16.2	4.6 B	3 B	4 B	6.7 B	4.2 B	3 B
Potassium		227 B	3020 J	592 B	141 B	185 B	339 B	237 B	104 B
Selenium		0.46 U	0.44 U	0.43 U	0.48 U	0.47 U	0.97 BJ	0.43 U	0.48 U
Silver		0.36 U	0.35 U	0.34 U	0.38 UJ	0.37 UJ	0.38 UJ	0.34 UJ	0.38 UJ
Sodium		131 U	402 B	151 B	137 U	134 U	158 B	125 U	138 U
Thallium		1 U	0.97 U	0.95 U	1.1 U	1 U	1.1 U	0.96 U	1.1 U
Vanadium		7.4 B	29.7	12.1	5.3 B	7.6 B	9.7 B	5.4 B	6.6 B
Zinc		32.9	90.3	34.5	21.7	28.3	35.3	20.9	21.9
Mercury		0.06 U	0.07 B	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Total Cyanide (mg/Kg)									
Cyanide Tot.		0.15 U	0.15 U	0.15 U	0.14 U	0.77 UL	0.15 U	0.14 U	0.15 U
Percent Solids (%)									
Percent Solids		82	82	82	83	78	83	89	81

Table D-4-2
Complete Analytical Data Summary for Subsurface Soil Samples from the Energy Park/Longe/NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
EPL = Energy Park/Longe site/NYS Canal Corporation Site.
ft = Feet.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NYS = New York State.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Source: Ecology and Environment, Inc., 2004

Table D-4-3
Complete Analytical Data Summary for Surface Water Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID: / Date:	EPL-SW01 9/30/2003	EPL-SW02 9/30/2003	EPL-SW03 9/30/2003
TCL Volatile Organic Compounds (µg/L)				
1,1,1-Trichloroethane		10 U	10 U	10 U
1,1,2,2-Tetrachloroethane		10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		**1 J**	10 U	10 U
1,1,2-Trichloroethane		10 U	10 U	10 U
1,1-Dichloroethane		10 U	10 U	10 U
1,1-Dichloroethene		10 U	10 U	10 U
1,2,4-Trichlorobenzene		10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane		**10 R**	**10 R**	**10 R**
1,2-Dibromoethane		10 U	10 U	10 U
1,2-Dichlorobenzene		10 U	10 U	10 U
1,2-Dichloroethane		10 U	10 U	10 U
1,2-Dichloropropane		10 U	10 U	10 U
1,3-Dichlorobenzene		10 U	10 U	10 U
1,4-Dichlorobenzene		10 U	10 U	10 U
2-Butanone		10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U
4-Methyl-2-Pentanone		10 U	10 U	10 U
Acetone		10 UJ	10 UJ	10 UJ
Benzene		10 U	10 U	10 U
Bromodichloromethane		10 U	10 U	10 U
Bromoform		10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U
Carbon Disulfide		10 U	10 U	10 U
Carbon Tetrachloride		10 U	10 U	10 U
Chlorobenzene		10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U
Chloroform		10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U
cis-1,2-Dichloroethene		10 U	10 U	10 U
cis-1,3-Dichloropropene		10 U	10 U	10 U
Cyclohexane		10 U	10 U	10 U

Table D-4-3
Complete Analytical Data Summary for Surface Water Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID: / Date:	EPL-SW01 / 9/30/2003	EPL-SW02 / 9/30/2003	EPL-SW03 / 9/30/2003
Dibromochloromethane		10 U	10 U	10 U
Dichlorodifluoromethane		10 U	10 U	10 U
Ethylbenzene		10 U	10 U	10 U
Isopropylbenzene		10 U	10 U	10 U
Methyl Acetate		10 U	10 U	10 U
Methyl tert-Butyl Ether		10 U	10 U	10 U
Methylcyclohexane		10 U	10 U	10 U
Methylene Chloride		10 U	10 U	10 U
Styrene		10 U	10 U	10 U
Tetrachloroethene		10 U	10 U	10 U
Toluene		10 U	10 U	10 U
trans-1,2-Dichloroethene		10 U	10 U	10 U
trans-1,3-Dichloropropene		10 U	10 U	10 U
Trichloroethene		10 U	10 U	10 U
Trichlorofluoromethane		10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U
Xylenes (Total)		10 U	10 U	10 U
TCL Semivolatile Organic Compounds (µg/L)				
1,1'-Biphenyl		10 U	10 U	10 U
2,2'-Oxybis(1- Chloropropane)		10 U	10 U	10 U
2,4,5-Trichlorophenol		25 U	25 U	25 U
2,4,6-Trichlorophenol		10 U	10 U	10 U
2,4-Dichlorophenol		10 U	10 U	10 U
2,4-Dimethylphenol		10 U	10 U	10 U
2,4-Dinitrophenol		25 UJ	25 UJ	25 UJ
2,4-Dinitrotoluene		10 U	10 U	10 U
2,6-Dinitrotoluene		10 U	10 U	10 U
2-Chloronaphthalene		10 U	10 U	10 U
2-Chlorophenol		10 U	10 U	10 U
2-Methylnaphthalene		10 U	10 U	10 U
2-Methylphenol		10 U	10 U	10 U
2-Nitroaniline		25 U	25 U	25 U

Table D-4-3
Complete Analytical Data Summary for Surface Water Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID: / Date:	EPL-SW01 9/30/2003	EPL-SW02 9/30/2003	EPL-SW03 9/30/2003
2-Nitrophenol		10 U	10 U	10 U
3,3'-Dichlorobenzidine		10 U	10 U	10 U
3-Nitroaniline		25 U	25 U	25 U
4,6-Dinitro-2-Methylphenol		25 U	25 U	25 U
4-Bromophenyl-Phenylether		10 U	10 U	10 U
4-Chloro-3-Methylphenol		10 U	10 U	10 U
4-Chloroaniline		10 U	10 U	10 U
4-Chlorophenyl-Phenyl Ether		10 U	10 U	10 U
4-Methylphenol		10 U	10 U	10 U
4-Nitroaniline		25 U	25 U	25 U
4-Nitrophenol		25 UJ	25 UJ	25 UJ
Acenaphthene		10 U	10 U	10 U
Acenaphthylene		10 U	10 U	10 U
Acetophenone		10 U	10 U	10 U
Anthracene		10 U	10 U	10 U
Atrazine		10 U	10 U	10 U
Benzaldehyde		10 UJ	10 UJ	10 UJ
Benzo(a)anthracene		10 U	10 U	10 U
Benzo(a)pyrene		10 U	10 U	10 U
Benzo(b)fluoranthene		10 U	10 U	10 U
Benzo(g,h,i)perylene		10 U	10 U	10 U
Benzo(k)fluoranthene		10 U	10 U	10 U
Bis(2-Chloroethoxy)Methane		10 U	10 U	10 U
Bis-(2-Chloroethyl)Ether		10 U	10 U	10 U
Bis(2-Ethylhexyl)Phthalate		**8 J**	10 U	10 U
Butylbenzylphthalate		10 U	10 U	10 U
Caprolactam		10 U	10 U	10 U
Carbazole		10 U	10 U	10 U
Chrysene		10 U	10 U	10 U
Dibenzo(a,h)-anthracene		10 U	10 U	10 U
Dibenzofuran		10 U	10 U	10 U
Diethylphthalate		10 U	10 U	10 U

Table D-4-3
Complete Analytical Data Summary for Surface Water Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID: / Date:	EPL-SW01 9/30/2003	EPL-SW02 9/30/2003	EPL-SW03 9/30/2003
Dimethylphthalate		10 U	10 U	10 U
Di-n-Butylphthalate		10 U	10 U	10 U
Di-n-Octylphthalate		10 U	10 U	10 U
Fluoranthene		10 U	10 U	10 U
Fluorene		10 U	10 U	10 U
Hexachlorobenzene		10 U	10 U	10 U
Hexachlorobutadiene		10 U	10 U	10 U
Hexachlorocyclo-Pentadiene		10 U	10 U	10 U
Hexachloroethane		10 U	10 U	10 U
Indeno(1,2,3-cd)-pyrene		10 U	10 U	10 U
Isophorone		10 U	10 U	10 U
Naphthalene		10 U	10 U	10 U
Nitrobenzene		10 U	10 U	10 U
n-Nitroso Diphenylamine		10 U	10 U	10 U
n-Nitroso-Di-n Propylamine		10 U	10 U	10 U
Pentachlorophenol		25 UJ	25 UJ	25 UJ
Phenanthrene		10 U	10 U	10 U
Phenol		10 U	10 U	10 U
Pyrene		10 UJ	10 UJ	10 UJ
TCL Pesticides and PCBs (µg/L)				
4,4'-DDD		0.1 U	0.1 U	0.1 U
4,4'-DDE		0.1 U	0.1 U	0.1 U
4,4'-DDT		0.1 U	0.1 U	0.1 U
Aldrin		0.05 U	0.05 U	0.05 U
Alpha-BHC		0.05 U	0.05 U	0.05 U
Alpha-Chlordane		0.05 U	0.05 U	0.05 U
Aroclor-1016		1 U	1 U	1 U
Aroclor-1221		2 U	2 U	2 U
Aroclor-1232		1 U	1 U	1 U
Aroclor-1242		1 U	1 U	1 U
Aroclor-1248		1 U	1 U	1 U
Aroclor-1254		1 U	1 U	1 U

Table D-4-3
Complete Analytical Data Summary for Surface Water Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID: / Date:	EPL-SW01 9/30/2003	EPL-SW02 9/30/2003	EPL-SW03 9/30/2003
Aroclor-1260		1 U	1 U	1 U
Beta-BHC		0.05 U	0.05 U	0.05 U
Delta-BBHC		0.05 U	0.05 U	0.05 U
Dieldrin		0.1 U	0.1 U	0.1 U
Endosulfan I		0.05 U	0.05 U	0.05 U
Endosulfan II		0.1 U	0.1 U	0.1 U
Endosulfan Sulfate		0.1 U	0.1 U	0.1 U
Endrin		0.1 U	0.1 U	0.1 U
Endrin Aldehyde		0.1 U	0.1 U	0.1 U
Endrin Ketone		0.1 U	0.1 U	0.1 U
Gamma-BHC (Lindane)		0.05 U	0.05 U	0.05 U
Gamma-Chlordane		0.05 U	0.05 U	0.05 U
Heptachlor		0.05 U	0.05 U	0.05 U
Heptachlor Epoxide		0.05 U	0.05 U	0.05 U
Methoxychlor		0.5 U	0.5 U	0.5 U
Toxaphene		5 U	5 U	5 U
TAL Metals and Mercury (µg/L)				
Aluminum		**458**	**510**	**560**
Antimony		7.2 U	7.2 U	7.2 U
Arsenic		4.4 UJ	4.4 UJ	4.4 UJ
Barium		**25.2 B**	**22.1 B**	**28.8 B**
Beryllium		0.1 U	0.1 U	0.1 U
Cadmium		0.5 U	0.5 U	0.5 U
Calcium		**30900**	**30800**	**30000**
Chromium		**1.7 B**	**1.9 B**	**2.6 B**
Cobalt		**1.7 B**	1.4 U	**3.1 B**
Copper		**3.5 B**	**3.6 B**	**5.8 B**
Iron		**1670**	**1740**	**2470**
Lead		2.6 U	2.6 U	2.6 U
Magnesium		**9130**	**9320**	**9100**
Manganese		**78.8**	**107**	**163**
Nickel		**3 B**	**3 B**	**4.1 B**

Table D-4-3
Complete Analytical Data Summary for Surface Water Samples from the Energy Park/Longe/NYS Canal Corporation Site

Analyte / Sample ID: / Date:	EPL-SW01 9/30/2003	EPL-SW02 9/30/2003	EPL-SW03 9/30/2003
Potassium	**3990 B**	**4040 B**	**3930 B**
Selenium	1.9 U	**3.1 B**	1.9 U
Silver	1.5 U	1.5 U	1.5 U
Sodium	**15700 J**	**14400 J**	**15200 J**
Thallium	4.2 U	4.2 U	4.2 U
Vanadium	**1.8 B**	**2.1 B**	**4.2 B**
Zinc	**26.4 J**	**24.4 J**	**35 J**
Mercury	0.1 U	0.1 U	0.1 U
Total Cyanide (µg/L)			
Cyanide Tot.	5 U	5 U	**8**
Anions (mg/L)			
Bromide	0.100 U	0.100 U	0.100 U
Chloride	**26.6**	**26**	**23.2**
Fluoride	**0.102**	**0.121**	**0.107**
Nitrate-N	**0.396**	**0.388**	**0.726**
Nitrite-N	0.100 U	0.100 U	0.100 U
Phosphate	0.100 U	0.100 U	0.100 U
Sulfate	**23**	**24.1**	**23.6**
Hardness (mg/L)			
Hardness (As CaCO3)	**275**	**270**	**285**

Table D-4-3
Complete Analytical Data Summary for Surface Water Samples from the Energy Park/Longe/NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
EPL = Energy Park/Longe site/NYS Canal Corporation Site.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/L = Milligrams per liter
NYS = New York State.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SW = Surface water sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.
- = Sample was not analyzed for this parameter.

Table D-4-3
Complete Analytical Data Summary for Surface Water Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Source: Ecology and Environment, Inc., 2004
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Table D-4-4
Complete Analytical Data Summary for Sediment Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID:	EPL-SE01	EPL-SE02	EPL-SE03
	Date:	9/30/2003	9/30/2003	9/30/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)				
1,1,1-Trichloroethane		10 U	17 U	21 UJ
1,1,2,2-Tetrachloroethane		10 U	17 U	21 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane		10 U	17 U	21 UJ
1,1,2-Trichloroethane		10 U	17 U	21 UJ
1,1-Dichloroethane		10 U	17 U	21 UJ
1,1-Dichloroethene		10 U	17 U	21 UJ
1,2,4-Trichlorobenzene		10 U	17 U	21 UJ
1,2-Dibromo-3-Chloropropane		10 U	17 U	21 UJ
1,2-Dibromoethane		10 U	17 U	21 UJ
1,2-Dichlorobenzene		10 U	17 U	21 UJ
1,2-Dichloroethane		10 U	17 U	21 UJ
1,2-Dichloropropane		10 U	17 U	21 UJ
1,3-Dichlorobenzene		10 U	17 U	21 UJ
1,4-Dichlorobenzene		10 U	17 U	21 UJ
2-Butanone		10 U	17 U	21 UJ
2-Hexanone		10 U	17 U	21 UJ
4-Methyl-2-Pentanone		10 U	17 U	21 UJ
Acetone		10 U	17 U	21 UJ
Benzene		10 U	17 U	21 UJ
Bromodichloromethane		10 U	17 U	21 UJ
Bromoform		10 U	17 U	21 UJ
Bromomethane		10 U	17 U	21 UJ
Carbon Disulfide		10 U	17 U	21 UJ
Carbon Tetrachloride		10 U	17 U	21 UJ
Chlorobenzene		10 U	17 U	21 UJ
Chloroethane		10 U	17 U	21 UJ
Chloroform		10 U	17 U	21 UJ
Chloromethane		10 U	17 U	21 UJ
cis-1,2-Dichloroethene		10 U	17 U	21 UJ
cis-1,3-Dichloropropene		10 U	17 U	21 UJ
Cyclohexane		10 U	17 U	21 UJ
Dibromochloromethane		10 U	17 U	21 UJ
Dichlorodifluoromethane		10 U	17 U	21 UJ
Ethylbenzene		10 U	17 U	21 UJ
Isopropylbenzene		10 U	17 U	21 UJ
Methyl Acetate		10 U	17 U	21 UJ
Methyl tert-Butyl Ether		10 U	17 U	21 UJ
Methylcyclohexane		10 U	17 U	21 UJ
Methylene Chloride		10 U	17 U	21 UJ
Styrene		10 U	17 U	21 UJ
Tetrachloroethene		10 U	17 U	21 UJ
Toluene		10 U	17 U	21 UJ
trans-1,2-Dichloroethene		10 U	17 U	21 UJ

Table D-4-4
Complete Analytical Data Summary for Sediment Samples from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID: EPL-SE01 Date: 9/30/2003 Depth: 0 - 2 in	EPL-SE02 9/30/2003 0 - 2 in	EPL-SE03 9/30/2003 0 - 2 in
trans-1,3-Dichloropropene	10 U	17 U	21 UJ
Trichloroethene	10 U	17 U	21 UJ
Trichlorofluoromethane	10 U	17 U	**3 J**
Vinyl Chloride	10 U	17 U	21 UJ
Xylenes (Total)	10 U	17 U	21 UJ
TCL Semivolatile Organic Compounds (µg/Kg)			
1,1'-Biphenyl	430 U	600 U	770 UJ
2,2'-Oxybis(1- Chloropropane)	430 U	600 U	770 UJ
2,4,5-Trichlorophenol	1100 U	1500 U	1900 UJ
2,4,6-Trichlorophenol	430 U	600 U	770 UJ
2,4-Dichlorophenol	430 U	600 U	770 UJ
2,4-Dimethylphenol	430 U	600 U	770 UJ
2,4-Dinitrophenol	1100 UJ	1500 UJ	1900 UJ
2,4-Dinitrotoluene	430 U	600 U	770 UJ
2,6-Dinitrotoluene	430 U	600 U	770 UJ
2-Chloronaphthalene	430 U	600 U	770 UJ
2-Chlorophenol	430 U	600 U	770 UJ
2-Methylnaphthalene	430 U	600 U	770 UJ
2-Methylphenol	430 U	600 U	770 UJ
2-Nitroaniline	1100 U	1500 U	1900 UJ
2-Nitrophenol	430 U	600 U	770 UJ
3,3'-Dichlorobenzidine	430 UJ	600 UJ	770 UJ
3-Nitroaniline	1100 U	1500 U	1900 UJ
4,6-Dinitro-2-Methylphenol	1100 U	1500 U	1900 UJ
4-Bromophenyl-Phenylether	430 U	600 U	770 UJ
4-Chloro-3-Methylphenol	430 U	600 U	770 UJ
4-Chloroaniline	430 U	600 U	770 UJ
4-Chlorophenyl-Phenyl Ether	430 U	600 U	770 UJ
4-Methylphenol	430 U	600 U	770 UJ
4-Nitroaniline	1100 U	1500 U	1900 UJ
4-Nitrophenol	1100 U	1500 U	1900 UJ
Acenaphthene	430 U	600 U	770 UJ
Acenaphthylene	430 U	600 U	770 UJ
Acetophenone	**120 J**	**120 J**	**190 J**
Anthracene	430 U	600 U	770 UJ
Atrazine	430 U	600 U	770 UJ
Benzaldehyde	430 U	600 U	770 UJ
Benzo(a)anthracene	430 U	600 U	770 UJ
Benzo(a)pyrene	430 U	600 U	770 UJ
Benzo(b)fluoranthene	430 U	600 U	770 UJ
Benzo(g,h,i)perylene	430 U	600 U	770 UJ
Benzo(k)fluoranthene	430 U	600 U	770 UJ
Bis(2-Chloroethoxy)Methane	430 U	600 U	770 UJ
Bis-(2-Chloroethyl)Ether	430 U	600 U	770 UJ
Bis(2-Ethylhexyl)Phthalate	430 U	600 U	770 UJ

Table D-4-4
Complete Analytical Data Summary for Sediment Samples
from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	EPL-SE01 9/30/2003 0 - 2 in	EPL-SE02 9/30/2003 0 - 2 in	EPL-SE03 9/30/2003 0 - 2 in
Butylbenzylphthalate		430 U	600 U	770 UJ
Caprolactam		430 U	600 U	770 UJ
Carbazole		430 UJ	600 UJ	770 UJ
Chrysene		430 U	600 U	770 UJ
Dibenzo(a,h)-anthracene		430 U	600 U	770 UJ
Dibenzofuran		430 U	600 U	770 UJ
Diethylphthalate		430 U	600 U	770 UJ
Dimethylphthalate		430 U	600 U	770 UJ
Di-n-Butylphthalate		430 U	600 U	770 UJ
Di-n-Octylphthalate		430 U	600 U	770 UJ
Fluoranthene		430 U	600 U	770 UJ
Fluorene		430 U	600 U	770 UJ
Hexachlorobenzene		430 U	600 U	770 UJ
Hexachlorobutadiene		430 U	600 U	770 UJ
Hexachlorocyclo-Pentadiene		430 UJ	600 UJ	770 UJ
Hexachloroethane		430 U	600 U	770 UJ
Indeno(1,2,3-cd)-pyrene		430 U	600 U	770 UJ
Isophorone		430 U	600 U	770 UJ
Naphthalene		430 U	600 U	770 UJ
Nitrobenzene		430 U	600 U	770 UJ
n-Nitroso Diphenylamine		430 U	600 U	770 UJ
n-Nitroso-Di-n Propylamine		430 U	600 U	770 UJ
Pentachlorophenol		1100 U	1500 U	1900 UJ
Phenanthrene		430 U	600 U	770 UJ
Phenol		430 U	600 U	770 UJ
Pyrene		430 U	600 U	770 UJ
TCL Pesticide and PCBs (µg/Kg)				
4,4'-DDD		4.3 U	6 U	7.7 UJ
4,4'-DDE		4.3 U	**2.7 J**	**9 J**
4,4'-DDT		4.3 U	6 U	7.7 UJ
Aldrin		2.2 U	3.1 U	4 UJ
Alpha-BHC		2.2 U	3.1 U	4 UJ
Alpha-Chlordane		2.2 U	3.1 U	**1.7 J**
Aroclor-1016		43 U	60 U	77 UJ
Aroclor-1221		87 U	120 U	160 UJ
Aroclor-1232		43 U	60 U	77 UJ
Aroclor-1242		43 U	60 U	77 UJ
Aroclor-1248		43 U	60 U	77 UJ
Aroclor-1254		43 U	**77**	**75**
Aroclor-1260		43 U	60 U	77 UJ
Beta-BHC		2.2 U	3.1 U	4 UJ
Delta-BBHC		2.2 U	3.1 U	4 UJ
Dieldrin		4.3 U	6 U	7.7 UJ
Endosulfan I		2.2 U	3.1 U	**1.1 J**
Endosulfan II		4.3 U	6 U	7.7 UJ

Table D-4-4
Complete Analytical Data Summary for Sediment Samples from the Energy Park/Longe/NYS Canal Corporation Site

Analyte	Sample ID:	EPL-SE01	EPL-SE02	EPL-SE03
	Date:	9/30/2003	9/30/2003	9/30/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in
Endosulfan Sulfate		4.3 U	6 U	7.7 UJ
Endrin		4.3 U	6 U	7.7 UJ
Endrin Aldehyde		4.3 U	6 U	7.7 UJ
Endrin Ketone		4.3 U	6 U	7.7 UJ
Gamma-BHC (Lindane)		2.2 U	3.1 U	4 UJ
Gamma-Chlordane		2.2 U	3.1 U	4 UJ
Heptachlor		2.2 U	3.1 U	4 UJ
Heptachlor Epoxide		2.2 U	3.1 U	4 UJ
Methoxychlor		22 U	31 U	40 UJ
Toxaphene		220 U	310 U	400 UJ
TAL Metals and Mercury (mg/Kg)				
Aluminum		**4630**	**9330**	**9230**
Antimony		2 U	2.2 U	2.5 U
Arsenic		1.2 U	**4.1**	1.5 U
Barium		**28.4 B**	**64**	**80.5**
Beryllium		**0.31 B**	**0.82 B**	**0.82 B**
Cadmium		0.14 U	0.15 U	0.17 U
Calcium		**2170**	**3740**	**4660**
Chromium		**6.9 J**	**16.3 J**	**16.4 J**
Cobalt		**3.6 B**	**7.5 B**	**5.5 B**
Copper		**7.1**	**11.5**	**13.3**
Iron		**7760**	**20200**	**13300**
Lead		**7.2**	**14**	**11.9**
Magnesium		**1930**	**2580**	**2280**
Manganese		**47.6**	**195**	**108**
Nickel		**7.2 B**	**12.1**	**9.2 B**
Potassium		**335 B**	**455 B**	**414 B**
Selenium		0.52 U	**1 BJ**	0.65 U
Silver		0.41 U	0.45 U	0.52 U
Sodium		149 U	**212 B**	**327 B**
Thallium		1.2 U	1.3 U	1.4 U
Vanadium		**17.7**	**76.8**	**80.8**
Zinc		**38.9**	**54.5**	**45.8**
Mercury		0.07 U	0.08 U	0.08 U
Total Cyanide (mg/Kg)				
Cyanide Tot.		0.18 U	**0.35**	0.23 U
Total Organic Carbon (mg/Kg)				
Organic Carbon, Tot.		**9200**	**33000**	**62000**
Percent Solids (%)				
Percent Solids, 105DegC		**66**	**54**	**51**

Table D-4-4
Complete Analytical Data Summary for Sediments Samples from the Energy Park/Longe/NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
EPL = Energy Park/Longe site/NYS Canal Corporation Site.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NYS = New York State.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SE = Sediment sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Table D-4-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Energy Park/Longe/NYS Canal Corporation Site

Analyte / Sample ID: / Date:	EPL-GP01-GW 10/16/2003	EPL-GP02-GW 10/16/2003	EPL-GP03-GW 10/16/2003	EPL-GP04-GW 10/16/2003	EPL-GP05-GW 10/16/2003
TCL Volatile Organic Compounds (µg/L)					
1,1,1-Trichloroethane	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,1-Dichloroethene	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2-Butanone	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	10 U	10 U	10 U	10 U	10 U
Acetone	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzene	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U
Bromoform	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Bromomethane	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Carbon Tetrachloride	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U
Cyclohexane	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene	10 U	10 U	10 U	10 U	10 U
Methyl Acetate	10 U	10 U	10 U	10 U	10 U
Methyl tert-Butyl Ether	10 U	10 U	10 U	10 U	10 U
Methylcyclohexane	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U

Table D-4-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Energy Park/Longe/NYS Canal Corporation Site

Analyte / Sample ID: / Date:	EPL-GP01-GW 10/16/2003	EPL-GP02-GW 10/16/2003	EPL-GP03-GW 10/16/2003	EPL-GP04-GW 10/16/2003	EPL-GP05-GW 10/16/2003
Trichloroethene	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	10 U	10 U	10 U	10 U	10 U
Xylenes (Total)	10 U	10 U	10 U	10 U	10 U
TCL Semivolatile Organic Compounds (µg/L)					
1,1'-Biphenyl	10 U	10 U	10 U	10 U	10 U
2,2'-Oxybis(1- Chloropropane)	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	26 U	25 U	25 U	26 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 UJ	26 UJ	25 UJ	25 UJ	26 UJ
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	26 U	25 U	25 U	26 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
3-Nitroaniline	25 UJ	26 UJ	25 UJ	25 UJ	26 UJ
4,6-Dinitro-2-Methylphenol	25 U	26 U	25 U	25 U	26 U
4-Bromophenyl-Phenylether	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-Phenyl Ether	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	25 UJ	26 UJ	25 UJ	25 UJ	26 UJ
4-Nitrophenol	25 U	26 U	25 U	25 U	26 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
Acetophenone	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Atrazine	10 U	10 U	10 U	10 U	10 U
Benzaldehyde	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Bis(2-Chloroethoxy)Methane	10 U	10 U	10 U	10 U	10 U
Bis-(2-Chloroethyl)Ether	10 U	10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl)Phthalate	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U

Table D-4-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Energy Park/Longe/NYS Canal Corporation Site

Analyte / Sample ID: / Date:	EPL-GP01-GW 10/16/2003	EPL-GP02-GW 10/16/2003	EPL-GP03-GW 10/16/2003	EPL-GP04-GW 10/16/2003	EPL-GP05-GW 10/16/2003
Caprolactam	10 U	10 U	10 U	10 U	10 U
Carbazole	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Chrysene	10 U	10 U	10 U	10 U	10 U
Dibenzo(a,h)-anthracene	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Di-n-Butylphthalate	10 U	10 U	10 U	10 U	10 U
Di-n-Octylphthalate	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclo-Pentadiene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)-pyrene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
n-Nitroso Diphenylamine	10 U	10 U	10 U	10 U	10 U
n-Nitroso-Di-n Propylamine	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Pentachlorophenol	25 U	26 U	25 U	25 U	26 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Phenol	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U
TCL Pesticides and PCBs (µg/L)					
4,4'-DDD	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor-1016	1 U	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U	1 U
Aroclor-1260	1 U	1 U	1 U	1 U	1 U
Beta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BBHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

Table D-4-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Energy Park/Longe/NYS Canal Corporation Site

Analyte / Sample ID: / Date:	EPL-GP01-GW 10/16/2003	EPL-GP02-GW 10/16/2003	EPL-GP03-GW 10/16/2003	EPL-GP04-GW 10/16/2003	EPL-GP05-GW 10/16/2003
Endrin	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Aldehyde	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Ketone	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	5 U	5 U	5 U	5 U	5 U
TAL Metals and Mercury (µg/L)					
Aluminum	**244**	**324**	**275**	**149 B**	**182 B**
Antimony	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Arsenic	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Barium	**36.3 B**	**39.2 B**	**68.3 B**	**19.3 B**	**25.3 B**
Beryllium	0.1 U	0.1 U	**0.1 B**	0.1 U	**0.12 B**
Cadmium	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Calcium	**47000**	**42300**	**42500**	**35600**	**40200**
Chromium	**2.3 B**	1 U	1 U	1 U	**1.2 B**
Cobalt	**2.9 B**	1.3 U	**1.7 B**	1.3 U	1.3 U
Copper	**2.1 B**	1 U	**1.3 B**	**1.5 B**	1 U
Iron	**4840**	**6550**	**2390**	**4060**	**3530**
Lead	2.2 U	2.2 U	**3.1**	2.2 U	2.2 U
Magnesium	**9680**	**9110**	**7900**	**8530**	**9300**
Manganese	**119**	**176**	**119**	**121**	**164**
Nickel	**8.6 B**	**2.9 B**	**5 B**	2.3 U	2.3 U
Potassium	**4710 B**	**4480 B**	**12300 J**	**1310 B**	**1100 B**
Selenium	3.8 U	3.8 U	3.8 U	**5**	3.8 U
Silver	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Sodium	**34700 J**	**9890 J**	**19300 J**	**12100 J**	**6900 J**
Thallium	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
Vanadium	**1.3 B**	**3.8 B**	0.9 U	**1.7 B**	**2 B**
Zinc	**26.8**	**33.9**	**29.9**	**27.5**	**20.8**
Mercury	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Total Cyanide (µg/L)					
Cyanide Tot.	5 U	5 U	5 U	5 U	5 U

Table D-4-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Energy Park/Longe/NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
EPL = Energy Park/Longe site/NYS Canal Corporation Site.
GW = Groundwater sample.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/L = Milligrams per liter
NYS = New York State.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.
- = Sample was not analyzed for this parameter.

Table D-4-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Energy Park/Longe/NYS Canal Corporation Site

Source: Ecology and Environment, Inc., 2004

Table D-5-1
Complete Analytical Data Summary for Surface Soil Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID: OM-SS01 Date: 10/1/2003 Depth: 0 - 2 in	OM-SS02 10/1/2003 0 - 2 in	OM-SS03 10/1/2003 0 - 2 in	OM-SS04 10/1/2003 0 - 2 in	OM-SS04/D 10/1/2003 0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)					
1,1,1-Trichloroethane	11 U	--	--	12 U	11 U
1,1,2,2-Tetrachloroethane	11 U	--	--	12 U	11 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	11 U	--	--	12 U	11 U
1,1,2-Trichloroethane	11 U	--	--	12 U	11 U
1,1-Dichloroethane	11 U	--	--	12 U	11 U
1,1-Dichloroethene	11 U	--	--	12 U	11 U
1,2,4-Trichlorobenzene	11 U	--	--	12 U	11 U
1,2-Dibromo-3-Chloropropane	11 U	--	--	12 U	11 U
1,2-Dibromoethane	11 U	--	--	12 U	11 U
1,2-Dichlorobenzene	11 U	--	--	12 U	11 U
1,2-Dichloroethane	11 U	--	--	12 U	11 U
1,2-Dichloropropane	11 U	--	--	12 U	11 U
1,3-Dichlorobenzene	11 U	--	--	12 U	11 U
1,4-Dichlorobenzene	11 U	--	--	12 U	11 U
2-Butanone	11 U	--	--	12 U	11 U
2-Hexanone	11 U	--	--	12 U	11 U
4-Methyl-2-Pentanone	11 U	--	--	12 U	11 U
Acetone	11 U	--	--	12 U	11 U
Benzene	11 U	--	--	12 U	11 U
Bromodichloromethane	11 U	--	--	12 U	11 U
Bromoform	11 U	--	--	12 U	11 U
Bromomethane	11 U	--	--	12 U	11 U
Carbon Disulfide	11 U	--	--	12 U	11 U
Carbon Tetrachloride	11 U	--	--	12 U	11 U
Chlorobenzene	11 U	--	--	12 U	11 U
Chloroethane	11 U	--	--	12 U	11 U
Chloroform	11 U	--	--	12 U	11 U
Chloromethane	11 U	--	--	12 U	11 U
cis-1,2-Dichloroethene	11 U	--	--	12 U	11 U
cis-1,3-Dichloropropene	11 U	--	--	12 U	11 U
Cyclohexane	11 U	--	--	12 U	11 U
Dibromochloromethane	11 U	--	--	12 U	11 U
Dichlorodifluoromethane	11 U	--	--	12 U	11 U
Ethylbenzene	11 U	--	--	12 U	11 U
Isopropylbenzene	**2 J**	--	--	12 U	11 U
Methyl Acetate	**1 J**	--	--	12 U	**3 J**
Methyl tert-Butyl Ether	11 U	--	--	12 U	11 U
Methylcyclohexane	11 U	--	--	12 U	11 U
Methylene Chloride	11 U	--	--	12 U	11 U
Styrene	11 U	--	--	12 U	11 U
Tetrachloroethene	11 U	--	--	12 U	11 U
Toluene	11 U	--	--	12 U	11 U
trans-1,2-Dichloroethene	11 U	--	--	12 U	11 U
trans-1,3-Dichloropropene	11 U	--	--	12 U	11 U
Trichloroethene	11 U	--	--	12 U	11 U
Trichlorofluoromethane	11 U	--	--	12 U	11 U
Vinyl Chloride	11 U	--	--	12 U	11 U
Xylenes (Total)	**51**	--	--	12 U	11 U

Table D-5-1
Complete Analytical Data Summary for Surface Soil Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID:	OM-SS01	OM-SS02	OM-SS03	OM-SS04	OM-SS04/D
	Date:	10/1/2003	10/1/2003	10/1/2003	10/1/2003	10/1/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Semivolatile Organic Compounds (µg/Kg)						
1,1'-Biphenyl		450 U	420 U	380 U	440 U	450 U
2,2'-Oxybis(1- Chloropropane)		450 U	420 U	380 U	440 U	450 U
2,4,5-Trichlorophenol		1100 U	1100 U	970 U	1100 U	1100 U
2,4,6-Trichlorophenol		450 U	420 U	380 U	440 U	450 U
2,4-Dichlorophenol		450 U	420 U	380 U	440 U	450 U
2,4-Dimethylphenol		450 U	420 U	380 U	440 U	450 U
2,4-Dinitrophenol		1100 UJ	1100 UJ	970 UJ	1100 UJ	1100 UJ
2,4-Dinitrotoluene		450 U	420 U	380 U	440 U	450 U
2,6-Dinitrotoluene		450 U	420 U	380 U	440 U	450 U
2-Chloronaphthalene		450 U	420 U	380 U	440 U	450 U
2-Chlorophenol		450 U	420 U	380 U	440 U	450 U
2-Methylnaphthalene		450 U	420 U	380 U	440 U	450 U
2-Methylphenol		450 U	420 U	380 U	440 U	450 U
2-Nitroaniline		1100 U	1100 UJ	970 UJ	1100 U	1100 U
2-Nitrophenol		450 U	420 U	380 U	440 U	450 U
3,3'-Dichlorobenzidine		450 UJ	420 U	380 U	440 UJ	450 U
3-Nitroaniline		1100 U	1100 U	970 U	1100 U	1100 U
4,6-Dinitro-2-Methylphenol		1100 U	1100 U	970 U	1100 U	1100 UJ
4-Bromophenyl-Phenylether		450 U	420 U	380 U	440 U	450 U
4-Chloro-3-Methylphenol		450 U	420 U	380 U	440 U	450 U
4-Chloroaniline		450 U	420 U	380 U	440 U	450 U
4-Chlorophenyl-Phenyl Ether		450 U	420 U	380 U	440 U	450 U
4-Methylphenol		450 U	420 U	380 U	440 U	450 U
4-Nitroaniline		1100 U	1100 U	970 U	1100 U	1100 U
4-Nitrophenol		1100 U	1100 UJ	970 UJ	1100 U	1100 UJ
Acenaphthene		450 U	420 U	380 U	440 U	450 U
Acenaphthylene		450 U	420 U	380 U	440 U	450 U
Acetophenone		450 U	420 U	380 U	440 U	450 U
Anthracene		450 U	420 U	380 U	440 U	450 U
Atrazine		450 U	420 U	380 U	440 U	450 U
Benzaldehyde		450 U	420 UJ	380 UJ	440 U	450 UJ
Benzo(a)anthracene		450 U	420 U	380 U	**460**	450 U
Benzo(a)pyrene		450 U	420 U	380 U	**520**	450 U
Benzo(b)fluoranthene		450 U	420 U	380 U	**540**	450 U
Benzo(g,h,i)perylene		450 U	420 U	380 U	**320 J**	450 U
Benzo(k)fluoranthene		450 U	420 U	380 U	**580**	450 U
Bis(2-Chloroethoxy)Methane		450 U	420 U	380 U	440 U	450 U
Bis-(2-Chloroethyl)Ether		450 U	420 U	380 U	440 U	450 U
Bis(2-Ethylhexyl)Phthalate		450 U	420 U	380 U	440 U	**970**
Butylbenzylphthalate		450 U	420 U	380 U	440 U	450 U
Caprolactam		450 U	420 U	380 U	440 U	450 U
Carbazole		450 UJ	420 U	380 U	440 UJ	450 U
Chrysene		450 U	420 U	380 U	**590**	450 U
Dibenzo(a,h)-anthracene		450 U	420 U	380 U	**190 J**	450 U
Dibenzofuran		450 U	420 U	380 U	440 U	450 U
Diethylphthalate		450 U	420 U	380 U	440 U	450 U
Dimethylphthalate		450 U	420 U	380 U	440 U	450 U
Di-n-Butylphthalate		450 U	420 U	380 U	440 U	450 U

Table D-5-1
Complete Analytical Data Summary for Surface Soil Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID: OM-SS01 Date: 10/1/2003 Depth: 0 - 2 in	OM-SS02 10/1/2003 0 - 2 in	OM-SS03 10/1/2003 0 - 2 in	OM-SS04 10/1/2003 0 - 2 in	OM-SS04/D 10/1/2003 0 - 2 in
Di-n-Octylphthalate	450 U	**110 J**	380 U	440 U	450 U
Fluoranthene	450 U	420 U	380 U	**720**	450 U
Fluorene	450 U	420 U	380 U	440 U	450 U
Hexachlorobenzene	450 U	420 U	380 U	440 U	450 U
Hexachlorobutadiene	450 U	420 U	380 U	440 U	450 U
Hexachlorocyclo-Pentadiene	450 UJ	420 U	380 U	440 UJ	450 U
Hexachloroethane	450 U	420 U	380 U	440 U	450 U
Indeno(1,2,3-cd)-pyrene	450 U	420 U	380 U	**450**	450 U
Isophorone	450 U	420 U	380 U	440 U	450 U
Naphthalene	450 U	420 U	380 U	440 U	450 U
Nitrobenzene	450 U	420 U	380 U	440 U	450 U
n-Nitroso Diphenylamine	450 U	420 U	380 U	440 U	450 U
n-Nitroso-Di-n Propylamine	450 U	420 U	380 U	440 U	450 U
Pentachlorophenol	1100 U	1100 UJ	970 UJ	1100 U	1100 UJ
Phenanthrene	450 U	420 U	380 U	**290 J**	450 U
Phenol	450 U	420 U	380 U	440 U	450 U
Pyrene	450 U	420 UJ	380 UJ	**630**	450 UJ
TCL Pesticides and PCBs (µg/Kg)					
4,4'-DDD	4.5 U	4.2 U	3.8 U	4.4 U	4.5 U
4,4'-DDE	4.5 U	4.2 U	3.8 U	4.4 U	**0.88 J**
4,4'-DDT	4.5 U	4.2 U	3.8 U	4.4 U	**4.5 J**
Aldrin	2.3 U	2.2 U	2 U	2.3 U	2.3 U
Alpha-BHC	2.3 U	2.2 U	2 U	2.3 U	2.3 UJ
Alpha-Chlordane	2.3 U	2.2 U	2 U	**2 J**	2.3 U
Aroclor-1016	45 U	42 U	38 U	44 U	45 U
Aroclor-1221	92 U	85 U	78 U	89 U	91 U
Aroclor-1232	45 U	42 U	38 U	44 U	45 U
Aroclor-1242	45 U	42 U	38 U	44 U	45 U
Aroclor-1248	45 U	42 U	38 U	44 U	45 U
Aroclor-1254	45 U	42 U	38 U	44 U	45 U
Aroclor-1260	45 U	42 U	38 U	44 U	45 U
Beta-BHC	2.3 U	2.2 U	2 U	2.3 U	2.3 U
Delta-BBHC	2.3 U	2.2 U	2 U	2.3 U	2.3 U
Dieldrin	4.5 U	4.2 U	3.8 U	4.4 U	4.5 U
Endosulfan I	2.3 U	2.2 U	2 U	2.3 U	**1 J**
Endosulfan II	4.5 U	4.2 U	3.8 U	4.4 U	4.5 U
Endosulfan Sulfate	4.5 U	4.2 U	3.8 U	4.4 U	4.5 U
Endrin	4.5 U	4.2 U	3.8 U	4.4 U	4.5 U
Endrin Aldehyde	4.5 U	4.2 U	3.8 U	4.4 U	4.5 U
Endrin Ketone	4.5 U	4.2 U	3.8 U	4.4 U	4.5 U
Gamma-BHC (Lindane)	2.3 U	2.2 U	2 U	2.3 U	2.3 UJ
Gamma-Chlordane	2.3 U	2.2 U	2 U	**1.8 J**	2.3 U
Heptachlor	2.3 U	2.2 U	2 U	2.3 U	2.3 U
Heptachlor Epoxide	2.3 U	2.2 U	2 U	2.3 U	2.3 U
Methoxychlor	23 U	22 U	20 U	23 U	23 U
Toxaphene	230 U	220 U	200 U	230 U	230 U
Herbicides (µg/Kg)					
2,4,5-T	--	--	--	21.9 U	19.9 U
2,4,5-TP (SILVEX)	--	--	--	21.9 U	19.9 U

Table D-5-1
Complete Analytical Data Summary for Surface Soil Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID: OM-SS01 Date: 10/1/2003 Depth: 0 - 2 in	OM-SS02 10/1/2003 0 - 2 in	OM-SS03 10/1/2003 0 - 2 in	OM-SS04 10/1/2003 0 - 2 in	OM-SS04/D 10/1/2003 0 - 2 in
2,4-D	--	--	--	21.9 U	19.9 U
2,4-DB	--	--	--	21.9 U	19.9 U
Dalapon	--	--	--	65.4 U	59.7 U
Dicamba	--	--	--	21.9 U	19.9 U
Dichlorprop	--	--	--	21.9 U	19.9 U
Dinoseb	--	--	--	21.9 U	19.9 U
MCPA	--	--	--	6540 U	5970 U
MCPP	--	--	--	6540 U	5970 U
TAL Metals and Mercury (mg/Kg)					
Aluminum	**19200**	**7840**	**4070**	**12300**	**15400**
Antimony	2 U	1.8 U	1.6 U	1.8 U	2 U
Arsenic	**5.3**	1.1 U	**1.1 B**	**4.4**	**6.3**
Barium	**186**	**29.6 B**	**15.2 B**	**153**	**158**
Beryllium	**0.97 B**	**0.3 B**	**0.22 B**	**0.64 B**	**0.77 B**
Cadmium	0.14 U	0.13 U	**0.28 B**	0.13 U	0.14 U
Calcium	**23200**	**2450**	**22200**	**17700**	**31300**
Chromium	**32.7**	**5.3**	**4**	**22**	**26.4**
Cobalt	**20.8**	**4.4 B**	**3.2 B**	**13.9**	**15.7**
Copper	**27.4**	**5.7 B**	**18.7**	**26.6**	**31.3**
Iron	**31300**	**10300**	**7350**	**22700**	**28800**
Lead	**20.2**	**8.7**	**15.5**	**13**	**15.9**
Magnesium	**9500**	**1600**	**12000**	**7810**	**12000**
Manganese	**1000**	**122**	**135**	**668**	**728**
Nickel	**38.5**	**5.3 B**	**5.1 B**	**31.3**	**35.7**
Potassium	**2430 J**	**244 B**	**324 B**	**1800 J**	**2170 J**
Selenium	0.52 U	**0.57 BJ**	0.43 UJ	0.49 UJ	**0.73 BJ**
Silver	0.41 UJ	0.38 UJ	0.34 UJ	0.38 UJ	0.41 UJ
Sodium	149 U	138 U	**175 B**	**167 B**	151 U
Thallium	1.1 U	1.1 U	0.94 U	1.1 U	1.2 U
Vanadium	**42.2**	**16.2**	**10.6 B**	**27.4**	**32.2**
Zinc	**84.3**	**31.8**	**1150**	**70.9**	**79**
Mercury	0.07 U	0.06 U	0.05 U	0.06 U	0.07 U
Total Cyanide (mg/Kg)					
Cyanide Tot.	**0.29**	**0.23**	**0.34**	0.16 U	0.16 U
Total Petroleum Hydrocarbons (mg/Kg)					
n-Hexane Extractable Material	--	--	--	281 U	262 U
Percent Moisture (wt%)					
Percent Moisture	--	--	--	**30.2**	**23.7**
Percent Solids (%)					
Percent Solids	**75**	**80**	**88**	**76**	77

Table D-5-1
Complete Analytical Data Summary for Surface Soil Samples from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NYS = New York State.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
wt. % = Percent weight.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Table D-5-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	OM-GP01-SB 10/2/2003 11 - 13 ft	OM-GP02-SB 10/2/2003 8 - 10 ft	OM-GP03-SB 10/2/2003 4.25 - 5.75 ft	OM-GP04-SB 10/2/2003 12.8 - 14.8 ft	OM-GP05-SB1 10/2/2003 11 - 13 ft	OM-GP05-SB2 10/2/2003 17 - 18.6 ft
TCL Volatile Organic Compounds (µg/Kg)							
1,1,1-Trichloroethane		10 U	10 UJ	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane		10 U	10 UJ	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		10 U	10 UJ	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane		10 U	10 UJ	10 U	10 U	10 U	10 U
1,1-Dichloroethane		10 U	10 UJ	10 U	10 U	10 U	10 U
1,1-Dichloroethene		10 U	10 UJ	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene		10 U	10 UJ	10 U	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane		10 U	10 UJ	10 U	10 U	10 U	10 U
1,2-Dibromoethane		10 U	10 UJ	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene		10 U	10 UJ	10 U	10 U	10 U	10 U
1,2-Dichloroethane		10 U	10 UJ	10 U	10 U	10 U	10 U
1,2-Dichloropropane		10 U	10 UJ	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene		10 U	10 UJ	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene		10 U	10 UJ	10 U	10 U	10 U	10 U
2-Butanone		10 U	10 UJ	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 UJ	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone		10 U	10 UJ	10 U	10 U	10 U	10 U
Acetone		10 U	10 UJ	10 U	**15**	10 U	25 U
Benzene		10 U	10 UJ	10 U	10 U	10 U	10 U
Bromodichloromethane		10 U	10 UJ	10 U	10 U	10 U	10 U
Bromoform		10 U	10 UJ	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 UJ	10 U	10 U	10 U	10 U
Carbon Disulfide		10 U	10 UJ	10 U	10 U	10 U	10 U
Carbon Tetrachloride		10 U	10 UJ	10 U	10 U	10 U	10 U
Chlorobenzene		10 U	10 UJ	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 UJ	10 U	10 U	10 U	10 U
Chloroform		10 U	10 UJ	10 U	10 U	10 U	10 U
Chloromethane		10 U	10 UJ	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene		10 U	10 UJ	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene		10 U	10 UJ	10 U	10 U	10 U	10 U
Cyclohexane		10 U	10 UJ	10 U	10 U	10 U	10 U
Dibromochloromethane		10 U	10 UJ	10 U	10 U	10 U	10 U
Dichlorodifluoromethane		10 U	10 UJ	10 U	10 U	10 U	10 U
Ethylbenzene		10 U	10 UJ	10 U	10 U	10 U	10 U
Isopropylbenzene		10 U	10 UJ	10 U	10 U	10 U	10 U
Methyl Acetate		10 U	10 UJ	10 U	10 U	10 U	10 U
Methyl tert-Butyl Ether		10 U	10 UJ	10 U	10 U	10 U	10 U
Methylcyclohexane		10 U	10 UJ	10 U	10 U	10 U	10 U
Methylene Chloride		10 U	10 UJ	10 U	10 U	10 U	10 U
Styrene		10 U	10 UJ	10 U	10 U	10 U	10 U
Tetrachloroethene		10 U	10 UJ	10 U	10 U	10 U	10 U
Toluene		**1 J**	10 UJ	**1 J**	10 U	10 U	10 U
trans-1,2-Dichloroethene		10 U	10 UJ	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene		10 U	10 UJ	10 U	10 U	10 U	10 U
Trichloroethene		10 U	10 UJ	10 U	10 U	10 U	10 U
Trichlorofluoromethane		**0.7 J**	**1 J**	**0.8 J**	10 U	10 U	10 U
Vinyl Chloride		10 U	10 UJ	10 U	10 U	10 U	10 U
Xylenes (Total)		10 U	10 UJ	10 U	10 U	10 U	10 U

Table D-5-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID:	OM-GP01-SB	OM-GP02-SB	OM-GP03-SB	OM-GP04-SB	OM-GP05-SB1	OM-GP05-SB2
	Date:	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003
	Depth:	11 - 13 ft	8 - 10 ft	4.25 - 5.75 ft	12.8 - 14.8 ft	11 - 13 ft	17 - 18.6 ft
TCL Semivolatile Organic Compounds (µg/Kg)							
1,1'-Biphenyl		460 U	470 U	440 U	400 U	340 U	430 U
2,2'-Oxybis(1- Chloropropane)		460 U	470 U	440 U	400 U	340 U	430 U
2,4,5-Trichlorophenol		1200 U	1200 U	1100 U	1000 U	860 U	1100 U
2,4,6-Trichlorophenol		460 U	470 U	440 U	400 U	340 U	430 U
2,4-Dichlorophenol		460 U	470 U	440 U	400 U	340 U	430 U
2,4-Dimethylphenol		460 U	470 U	440 U	400 U	340 U	430 U
2,4-Dinitrophenol		1200 UJ	1200 UJ	1100 UJ	1000 UJ	860 UJ	1100 UJ
2,4-Dinitrotoluene		460 U	470 U	440 U	400 U	340 U	430 U
2,6-Dinitrotoluene		460 U	470 U	440 U	400 U	340 U	430 U
2-Chloronaphthalene		460 U	470 U	440 U	400 U	340 U	430 U
2-Chlorophenol		460 U	470 U	440 U	400 U	340 U	430 U
2-Methylnaphthalene		460 U	470 U	440 U	400 U	340 U	430 U
2-Methylphenol		460 U	470 U	440 U	400 U	340 U	430 U
2-Nitroaniline		1200 UJ	1200 UJ	1100 UJ	1000 UJ	860 UJ	1100 UJ
2-Nitrophenol		460 U	470 U	440 U	400 U	340 U	430 U
3,3'-Dichlorobenzidine		460 U	470 U	440 U	400 U	340 U	430 U
3-Nitroaniline		1200 U	1200 U	1100 U	1000 U	860 U	1100 U
4,6-Dinitro-2-Methylphenol		1200 U	1200 U	1100 U	1000 U	860 U	1100 U
4-Bromophenyl-Phenylether		460 U	470 U	440 U	400 U	340 U	430 U
4-Chloro-3-Methylphenol		460 U	470 U	440 U	400 U	340 U	430 U
4-Chloroaniline		460 U	470 U	440 U	400 U	340 U	430 U
4-Chlorophenyl-Phenyl Ether		460 U	470 U	440 U	400 U	340 U	430 U
4-Methylphenol		460 U	470 U	440 U	400 U	340 U	430 U
4-Nitroaniline		1200 U	1200 U	1100 U	1000 U	860 U	1100 U
4-Nitrophenol		1200 UJ	1200 UJ	1100 UJ	1000 UJ	860 UJ	1100 UJ
Acenaphthene		460 U	470 U	440 U	400 U	340 U	430 U
Acenaphthylene		460 U	470 U	440 U	400 U	340 U	430 U
Acetophenone		460 U	470 U	440 U	400 U	340 U	430 U
Anthracene		460 U	470 U	440 U	400 U	340 U	430 U
Atrazine		460 U	470 U	440 U	400 U	340 U	430 U
Benzaldehyde		460 UJ	470 UJ	440 UJ	400 UJ	340 UJ	430 UJ
Benzo(a)anthracene		460 U	470 U	440 U	400 U	340 U	430 U
Benzo(a)pyrene		460 U	470 U	440 U	400 U	340 U	430 U
Benzo(b)fluoranthene		460 U	470 U	440 U	400 U	340 U	430 U
Benzo(g,h,i)perylene		460 U	470 U	440 U	400 U	340 U	430 U
Benzo(k)fluoranthene		460 U	470 U	440 U	400 U	340 U	430 U
Bis(2-Chloroethoxy)Methane		460 U	470 U	440 U	400 U	340 U	430 U
Bis-(2-Chloroethyl)Ether		460 U	470 U	440 U	400 U	340 U	430 U
Bis(2-Ethylhexyl)Phthalate		460 U	470 U	440 U	400 U	340 U	430 U
Butylbenzylphthalate		460 U	470 U	440 U	400 U	340 U	430 U
Caprolactam		460 U	470 U	440 U	400 U	340 U	430 U
Carbazole		460 U	470 U	440 U	400 U	340 U	430 U
Chrysene		460 U	470 U	440 U	400 U	340 U	430 U
Dibenzo(a,h)-anthracene		460 U	470 U	440 U	400 U	340 U	430 U
Dibenzofuran		460 U	470 U	440 U	400 U	340 U	430 U
Diethylphthalate		460 U	470 U	440 U	400 U	340 U	430 U
Dimethylphthalate		460 U	470 U	440 U	400 U	340 U	430 U
Di-n-Butylphthalate		460 U	470 U	440 U	400 U	340 U	430 U

Table D-5-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	OM-GP01-SB 10/2/2003 11 - 13 ft	OM-GP02-SB 10/2/2003 8 - 10 ft	OM-GP03-SB 10/2/2003 4.25 - 5.75 ft	OM-GP04-SB 10/2/2003 12.8 - 14.8 ft	OM-GP05-SB1 10/2/2003 11 - 13 ft	OM-GP05-SB2 10/2/2003 17 - 18.6 ft
Di-n-Octylphthalate		460 U	470 U	440 U	400 U	340 U	430 U
Fluoranthene		460 U	470 U	440 U	400 U	340 U	430 U
Fluorene		460 U	470 U	440 U	400 U	340 U	430 U
Hexachlorobenzene		460 U	470 U	440 U	400 U	340 U	430 U
Hexachlorobutadiene		460 U	470 U	440 U	400 U	340 U	430 U
Hexachlorocyclo-Pentadiene		460 U	470 U	440 U	400 U	340 U	430 U
Hexachloroethane		460 U	470 U	440 U	400 U	340 U	430 U
Indeno(1,2,3-cd)-pyrene		460 U	470 U	440 U	400 U	340 U	430 U
Isophorone		460 U	470 U	440 U	400 U	340 U	430 U
Naphthalene		460 U	470 U	440 U	400 U	340 U	430 U
Nitrobenzene		460 U	470 U	440 U	400 U	340 U	430 U
n-Nitroso Diphenylamine		460 U	470 U	440 U	400 U	340 U	430 U
n-Nitroso-Di-n Propylamine		460 U	470 U	440 U	400 U	340 U	430 U
Pentachlorophenol		1200 UJ	1200 UJ	1100 UJ	1000 UJ	860 UJ	1100 UJ
Phenanthrene		460 U	470 U	440 U	400 U	340 U	430 U
Phenol		460 U	470 U	440 U	400 U	340 U	430 U
Pyrene		460 UJ	470 UJ	440 UJ	400 UJ	340 UJ	430 UJ
TCL Pesticide and PCBs (µg/Kg)							
4,4'-DDD		4.6 U	4.7 U	4.4 U	4 U	3.4 U	4.3 U
4,4'-DDE		4.6 UJ	4.7 UJ	4.4 UJ	4 U	3.4 UJ	4.3 UJ
4,4'-DDT		4.6 U	4.7 U	4.4 U	4 U	3.4 U	**1.8 J**
Aldrin		2.4 U	2.4 U	2.3 U	2.1 U	1.8 U	2.2 U
Alpha-BHC		2.4 U	2.4 U	2.3 U	2.1 U	1.8 U	2.2 U
Alpha-Chlordane		2.4 U	2.4 U	2.3 U	2.1 U	1.8 U	2.2 U
Aroclor-1016		46 U	47 U	44 U	40 U	34 U	43 U
Aroclor-1221		93 U	96 U	89 U	82 U	70 U	87 U
Aroclor-1232		46 U	47 U	44 U	40 U	34 U	43 U
Aroclor-1242		46 U	47 U	44 U	40 U	34 U	43 U
Aroclor-1248		46 U	47 U	44 U	40 U	34 U	43 U
Aroclor-1254		46 U	47 U	44 U	40 U	34 U	43 U
Aroclor-1260		46 U	47 U	44 U	40 U	34 U	43 U
Beta-BHC		2.4 U	2.4 U	2.3 U	2.1 U	1.8 U	2.2 U
Delta-BBHC		2.4 U	2.4 U	2.3 U	2.1 U	1.8 U	2.2 U
Dieldrin		4.6 U	4.7 U	4.4 U	4 U	3.4 U	4.3 U
Endosulfan I		2.4 U	2.4 U	2.3 U	2.1 U	1.8 U	2.2 U
Endosulfan II		4.6 UJ	4.7 UJ	4.4 UJ	4 U	3.4 UJ	4.3 UJ
Endosulfan Sulfate		4.6 U	4.7 U	4.4 U	4 U	3.4 U	4.3 U
Endrin		4.6 U	4.7 U	4.4 U	4 U	3.4 U	4.3 U
Endrin Aldehyde		4.6 UJ	4.7 UJ	4.4 UJ	4 U	3.4 UJ	4.3 UJ
Endrin Ketone		4.6 UJ	4.7 UJ	4.4 UJ	4 U	3.4 UJ	4.3 UJ
Gamma-BHC (Lindane)		2.4 U	2.4 U	2.3 U	2.1 U	1.8 U	2.2 U
Gamma-Chlordane		2.4 UJ	2.4 UJ	2.3 UJ	2.1 U	1.8 UJ	2.2 UJ
Heptachlor		2.4 U	2.4 U	2.3 U	2.1 U	1.8 U	2.2 U
Heptachlor Epoxide		2.4 U	2.4 U	2.3 U	2.1 U	1.8 U	2.2 U
Methoxychlor		24 U	24 U	23 U	21 U	18 U	22 U
Toxaphene		240 U	240 U	230 U	210 U	180 U	220 U
TAL Metals and Mercury (mg/Kg)							
Aluminum		**7660**	**17900**	**19500**	**14100**	**5230**	**4260**
Antimony		2 U	2 U	2 U	1.6 U	2.3 U	1.8 U

Table D-5-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID:	OM-GP01-SB	OM-GP02-SB	OM-GP03-SB	OM-GP04-SB	OM-GP05-SB1	OM-GP05-SB2
	Date:	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003
	Depth:	11 - 13 ft	8 - 10 ft	4.25 - 5.75 ft	12.8 - 14.8 ft	11 - 13 ft	17 - 18.6 ft
Arsenic		3	4.8	4.7	0.99 U	1.8 B	7.1
Barium		79.8	184	207	62.8	31.9 B	82.8
Beryllium		0.42 B	0.94 B	1.1 B	0.52 B	0.29 B	0.24 B
Cadmium		0.14 U	0.14 U	0.14 U	0.11 U	0.16 U	0.13 U
Calcium		12700	54500	34600	2880	2190	1770
Chromium		11.5	28.2	29.1	12.5	3.5	3.6
Cobalt		7.9 B	15.4	16.9	5.7	4.6 B	11 B
Copper		14.3	30.7	31.2	10.8 J	6 BJ	7.6 J
Iron		16300	31600	35100	13800	12300	24600
Lead		5.4	13.4	13.6	3.8	1.6 J	2.9 J
Magnesium		5390	13100	12500	2500	1960	1520
Manganese		235	681	678	54	195	106
Nickel		15.4	39.5	44.3	9.7	5.8 B	10.4
Potassium		1170 B	3190 J	3390 J	576 B	403 B	349 B
Selenium		1.6 J	0.53 UJ	0.52 UJ	0.87 BJ	0.6 U	0.48 U
Silver		0.42 UJ	0.42 UJ	0.41 UJ	0.34 U	0.48 U	0.38 U
Sodium		195 B	190 B	220 B	123 U	174 U	138 U
Thallium		1.2 U	1.2 U	1.2 U	0.94 U	1.3 U	1.1 U
Vanadium		18.4	31.8	35.3	26.1	10.7 B	10.9 B
Zinc		44.2	84.2	93.3	38	37.1	54.2
Mercury		0.07 U	0.06 U	0.07 U	0.05 U	0.08 U	0.06 U
Total Cyanide (mg/Kg)							
Cyanide Tot.		0.18 U	0.18 U	0.16 U	0.15 U	0.12 U	0.15 U
Percent Solids (%)							
Percent Solids, 105DegC		67	69	74	83	97	80

Table D-5-2
Complete Analytical Data Summary for Subsurface Soil Samples from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
ft = Feet.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NYS = New York State.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
-SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
wt. % = Percent weight.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Source: Ecology and Environment, Inc., 2004

Table D-5-3
Complete Analytical Data Summary for Surface Water Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID: / Date:	OM-SW01 9/30/2003	OM-SW02 9/30/2003	OM-SW05 9/30/2003	OM-SW07 10/1/2003
TCL Volatile Organic Compounds (µg/L)					
1,1,1-Trichloroethane		10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane		10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		10 U	10 U	10 U	10 U
1,1,2-Trichloroethane		10 U	10 U	10 U	10 U
1,1-Dichloroethane		10 U	10 U	10 U	10 U
1,1-Dichloroethene		10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene		10 U	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane		**10 R**	**10 R**	**10 R**	**10 R**
1,2-Dibromoethane		10 U	10 U	10 U	10 U
1,2-Dichlorobenzene		10 U	10 U	10 U	10 U
1,2-Dichloroethane		10 U	10 U	10 U	10 U
1,2-Dichloropropane		10 U	10 U	10 U	10 U
1,3-Dichlorobenzene		10 U	10 U	10 U	10 U
1,4-Dichlorobenzene		10 U	10 U	10 U	10 U
2-Butanone		10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone		10 U	10 U	10 U	10 U
Acetone		10 UJ	10 UJ	10 UJ	10 UJ
Benzene		10 U	10 U	10 U	10 U
Bromodichloromethane		10 U	10 U	10 U	10 U
Bromoform		10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U
Carbon Disulfide		10 U	10 U	10 U	10 U
Carbon Tetrachloride		10 U	10 U	10 U	10 U
Chlorobenzene		10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U
Chloroform		10 U	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene		10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene		10 U	10 U	10 U	10 U
Cyclohexane		10 U	10 U	10 U	10 U
Dibromochloromethane		10 U	10 U	10 U	10 U
Dichlorodifluoromethane		10 U	10 U	10 U	10 U
Ethylbenzene		10 U	10 U	10 U	10 U
Isopropylbenzene		10 U	10 U	10 U	10 U
Methyl Acetate		10 U	10 U	10 U	10 U
Methyl tert-Butyl Ether		10 U	10 U	10 U	10 U
Methylcyclohexane		10 U	10 U	10 U	10 U
Methylene Chloride		10 U	10 U	10 U	10 U
Styrene		10 U	10 U	10 U	10 U
Tetrachloroethene		10 U	10 U	10 U	10 U
Toluene		10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene		10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene		10 U	10 U	10 U	10 U
Trichloroethene		10 U	10 U	10 U	10 U
Trichlorofluoromethane		10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U

Table D-5-3
Complete Analytical Data Summary for Surface Water Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID: / Date:	OM-SW01 9/30/2003	OM-SW02 9/30/2003	OM-SW05 9/30/2003	OM-SW07 10/1/2003
Xylenes (Total)		10 U	10 U	10 U	10 U
TCL Semivolatile Organic Compounds (µg/L)					
1,1'-Biphenyl		10 U	10 U	10 U	10 U
2,2'-Oxybis(1- Chloropropane)		10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol		25 U	25 U	25 U	25 U
2,4,6-Trichlorophenol		10 U	10 U	10 U	10 U
2,4-Dichlorophenol		10 U	10 U	10 U	10 U
2,4-Dimethylphenol		10 U	10 U	10 U	10 U
2,4-Dinitrophenol		25 UJ	25 UJ	25 UJ	25 UJ
2,4-Dinitrotoluene		10 U	10 U	10 U	10 U
2,6-Dinitrotoluene		10 U	10 U	10 U	10 U
2-Chloronaphthalene		10 U	10 U	10 U	10 U
2-Chlorophenol		10 U	10 U	10 U	10 U
2-Methylnaphthalene		10 U	10 U	10 U	10 U
2-Methylphenol		10 U	10 U	10 U	10 U
2-Nitroaniline		25 U	25 U	25 U	25 U
2-Nitrophenol		10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine		10 U	10 U	10 U	10 U
3-Nitroaniline		25 U	25 U	25 U	25 U
4,6-Dinitro-2-Methylphenol		25 U	25 U	25 U	25 UJ
4-Bromophenyl-Phenylether		10 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol		10 U	10 U	10 U	10 U
4-Chloroaniline		10 U	10 U	10 U	10 U
4-Chlorophenyl-Phenyl Ether		10 U	10 U	10 U	10 U
4-Methylphenol		10 U	10 U	10 U	10 U
4-Nitroaniline		25 U	25 U	25 U	25 U
4-Nitrophenol		25 UJ	25 UJ	25 UJ	25 UJ
Acenaphthene		10 U	10 U	10 U	10 U
Acenaphthylene		10 U	10 U	10 U	10 U
Acetophenone		10 U	10 U	10 U	10 U
Anthracene		10 U	10 U	10 U	10 U
Atrazine		10 U	10 U	10 U	10 U
Benzaldehyde		10 UJ	10 UJ	10 UJ	10 UJ
Benzo(a)anthracene		10 U	10 U	10 U	10 U
Benzo(a)pyrene		10 U	10 U	10 U	10 U
Benzo(b)fluoranthene		10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene		10 U	10 U	10 U	10 U
Benzo(k)fluoranthene		10 U	10 U	10 U	10 U
Bis(2-Chloroethoxy)Methane		10 U	10 U	10 U	10 U
Bis-(2-Chloroethyl)Ether		10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl)Phthalate		10 U	10 U	10 U	**3 J**
Butylbenzylphthalate		10 U	10 U	10 U	10 U
Caprolactam		10 U	10 U	10 U	10 U
Carbazole		10 U	10 U	10 U	10 U
Chrysene		10 U	10 U	10 U	10 U
Dibenzo(a,h)-anthracene		10 U	10 U	10 U	10 U
Dibenzofuran		10 U	10 U	10 U	10 U
Diethylphthalate		10 U	10 U	10 U	10 U

Table D-5-3
Complete Analytical Data Summary for Surface Water Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte / Sample ID: / Date:	OM-SW01 9/30/2003	OM-SW02 9/30/2003	OM-SW05 9/30/2003	OM-SW07 10/1/2003
Dimethylphthalate	10 U	10 U	10 U	10 U
Di-n-Butylphthalate	10 U	10 U	10 U	10 U
Di-n-Octylphthalate	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U
Hexachlorocyclo-Pentadiene	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)-pyrene	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U
n-Nitroso Diphenylamine	10 U	10 U	10 U	10 U
n-Nitroso-Di-n Propylamine	10 U	10 U	10 U	10 U
Pentachlorophenol	25 UJ	25 UJ	25 UJ	25 UJ
Phenanthrene	10 U	10 U	10 U	10 U
Phenol	10 U	10 U	10 U	10 U
Pyrene	10 UJ	10 UJ	10 UJ	10 UJ
TCL Pesticides and PCBs (µg/L)				
4,4'-DDD	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-BHC	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor-1016	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U
Aroclor-1260	1 U	1 U	1 U	1 U
Beta-BHC	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BBHC	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate	0.1 U	0.1 U	0.1 U	0.1 U
Endrin	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Aldehyde	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Ketone	0.1 U	0.1 U	0.1 U	0.1 U
Gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	5 U	5 U	5 U	5 U

Table D-5-3
Complete Analytical Data Summary for Surface Water Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID: / Date:	OM-SW01 9/30/2003	OM-SW02 9/30/2003	OM-SW05 9/30/2003	OM-SW07 10/1/2003
TAL Metals and Mercury (µg/L)					
Aluminum		**105 B**	**162 B**	19 U	19 U
Antimony		7.2 U	7.2 U	7.2 U	7.2 U
Arsenic		4.4 UJ	4.4 UJ	4.4 UJ	4.4 UJ
Barium		**58.2 B**	**27.9 B**	**11.8 B**	**10.7 B**
Beryllium		0.1 U	0.1 U	0.1 U	0.1 U
Cadmium		0.5 U	0.5 U	0.5 U	0.5 U
Calcium		**84400**	**25300**	**11400**	**10100**
Chromium		**1.7 B**	**1.6 B**	1.1 U	1.1 U
Cobalt		**2.2 B**	1.4 U	**1.7 B**	**2.2 B**
Copper		**2.8 B**	**5.5 B**	1.2 U	1.2 U
Iron		**560**	**950**	**372**	**323**
Lead		2.6 U	**6.1**	2.6 U	2.6 U
Magnesium		**15800**	**5190**	**2090 B**	**1680 B**
Manganese		**90.6**	**138**	**55.4**	**43.1**
Nickel		**4.5 B**	1.8 U	1.8 U	1.8 U
Potassium		**1660 B**	**779 B**	**492 B**	**776 B**
Selenium		1.9 U	1.9 U	1.9 U	1.9 U
Silver		1.5 U	1.5 U	1.5 U	1.5 U
Sodium		**10300 J**	**7140 J**	**6820 J**	**254000 J**
Thallium		4.2 U	4.2 U	4.2 U	4.2 U
Vanadium		**3.1 B**	**2.6 B**	**2.1 B**	1.6 U
Zinc		**140 J**	**177 J**	**33.5 J**	**17.3 B**
Mercury		**0.13 B**	0.1 U	0.1 U	0.1 U
Total Cyanide (µg/L)					
Cyanide Tot.		5 U	5 U	5 U	5 U
Anions (mg/L)					
Bromide		0.100 U	0.100 U	0.100 U	0.100 U
Chloride		**6.6**	**9.87**	**10.8**	**11.1**
Fluoride		**0.149**	**0.0914 J**	**0.0813 J**	**0.092 J**
Nitrate-N		**0.111**	**0.177**	**0.182**	**0.2**
Nitrite-N		0.100 U	0.100 U	0.100 U	0.100 U
Phosphate		0.100 U	0.100 U	0.100 U	0.100 U
Sulfate		**29.8**	**15.7**	**10.4**	**10.7**
Hardness (mg/L)					
Hardness (As CaCO3)		**440**	**235**	**185**	**175**

Table D-5-3
Complete Analytical Data Summary for Surface Water Samples from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/L = Milligrams per liter
NYS = New York State.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SW = Surface water sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.
- = Sample was not analyzed for this parameter.

Table D-5-4
Complete Analytical Data Summary for Sediment Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID:	OM-SE01	OM-SE02	OM-SE03	OM-SE04	OM-SE05	OM-SE06	OM-SE07
	Date:	9/30/2003	9/30/2003	9/30/2003	9/30/2003	9/30/2003	9/30/2003	10/1/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)								
1,1,1-Trichloroethane		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
1,1,2,2-Tetrachloroethane		13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		13 U	**1 J**	**0.8 J**	14 U	29 UJ	15 U	10 U
1,1,2-Trichloroethane		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
1,1-Dichloroethane		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
1,1-Dichloroethene		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
1,2,4-Trichlorobenzene		13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
1,2-Dibromo-3-Chloropropane		13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
1,2-Dibromoethane		13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
1,2-Dichlorobenzene		13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
1,2-Dichloroethane		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
1,2-Dichloropropane		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
1,3-Dichlorobenzene		13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
1,4-Dichlorobenzene		13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
2-Butanone		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
2-Hexanone		13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
4-Methyl-2-Pentanone		13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
Acetone		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Benzene		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Bromodichloromethane		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Bromoform		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Bromomethane		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Carbon Disulfide		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Carbon Tetrachloride		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Chlorobenzene		13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
Chloroethane		13 UJ	24 UJ	14 UJ	14 UJ	29 UJ	15 U	10 U
Chloroform		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Chloromethane		13 U	**1 J**	14 U	14 U	29 UJ	15 U	10 U
cis-1,2-Dichloroethene		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
cis-1,3-Dichloropropene		13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U

Table D-5-4
Complete Analytical Data Summary for Sediment Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte / Sample ID:	OM-SE01	OM-SE02	OM-SE03	OM-SE04	OM-SE05	OM-SE06	OM-SE07
Date:	9/30/2003	9/30/2003	9/30/2003	9/30/2003	9/30/2003	9/30/2003	10/1/2003
Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Cyclohexane	13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Dibromochloromethane	13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Dichlorodifluoromethane	13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Ethylbenzene	13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
Isopropylbenzene	13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
Methyl Acetate	13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Methyl tert-Butyl Ether	13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Methylcyclohexane	13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Methylene Chloride	10 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Styrene	13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
Tetrachloroethene	13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
Toluene	13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
trans-1,2-Dichloroethene	13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
trans-1,3-Dichloropropene	13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Trichloroethene	13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Trichlorofluoromethane	13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Vinyl Chloride	13 U	24 UJ	14 U	14 U	29 UJ	15 U	10 U
Xylenes (Total)	13 U	24 UJ	14 U	14 U	29 UJ	15 UJ	10 U
TCL Semivolatile Organic Compounds (µg/Kg)							
1,1'-Biphenyl	530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
2,2'-Oxybis(1- Chloropropane)	530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
2,4,5-Trichlorophenol	1300 U	1800 UJ	1300 U	1100 U	2200 UJ	1400 U	1100 U
2,4,6-Trichlorophenol	530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
2,4-Dichlorophenol	530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
2,4-Dimethylphenol	530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
2,4-Dinitrophenol	1300 UJ	1800 UJ	1300 UJ	1100 UJ	2200 UJ	1400 UJ	1100 UJ
2,4-Dinitrotoluene	530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
2,6-Dinitrotoluene	530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
2-Chloronaphthalene	530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
2-Chlorophenol	530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
2-Methylnaphthalene	530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U

Table D-5-4
Complete Analytical Data Summary for Sediment Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID:	OM-SE01	OM-SE02	OM-SE03	OM-SE04	OM-SE05	OM-SE06	OM-SE07
	Date:	9/30/2003	9/30/2003	9/30/2003	9/30/2003	9/30/2003	9/30/2003	10/1/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
2-Methylphenol		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
2-Nitroaniline		1300 U	1800 UJ	1300 U	1100 U	2200 UJ	1400 U	1100 U
2-Nitrophenol		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
3,3'-Dichlorobenzidine		530 UJ	720 UJ	520 UJ	450 UJ	870 UJ	570 U	420 U
3-Nitroaniline		1300 U	1800 UJ	1300 U	1100 U	2200 UJ	1400 U	1100 U
4,6-Dinitro-2-Methylphenol		1300 U	1800 UJ	1300 UJ	1100 UJ	2200 UJ	1400 UJ	1100 UJ
4-Bromophenyl-Phenylether		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
4-Chloro-3-Methylphenol		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
4-Chloroaniline		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
4-Chlorophenyl-Phenyl Ether		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
4-Methylphenol		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
4-Nitroaniline		1300 U	1800 UJ	1300 U	1100 U	2200 UJ	1400 U	1100 U
4-Nitrophenol		1300 U	1800 UJ	1300 U	1100 U	2200 UJ	1400 UJ	1100 UJ
Acenaphthene		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Acenaphthylene		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Acetophenone		530 U	**240 J**	520 U	450 U	870 UJ	570 U	420 U
Anthracene		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Atrazine		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Benzaldehyde		530 U	720 UJ	520 U	450 U	870 UJ	**420 J**	420 UJ
Benzo(a)anthracene		530 U	**190 J**	520 U	450 U	**430 J**	570 U	420 U
Benzo(a)pyrene		530 U	**190 J**	520 U	450 U	**450 J**	570 U	420 U
Benzo(b)fluoranthene		530 U	**160 J**	520 U	450 U	**470 J**	570 U	420 U
Benzo(g,h,i)perylene		530 U	720 UJ	520 U	450 U	**270 J**	570 U	420 U
Benzo(k)fluoranthene		530 U	**220 J**	520 U	450 U	**390 J**	570 U	420 U
Bis(2-Chloroethoxy)Methane		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Bis-(2-Chloroethyl)Ether		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Bis(2-Ethylhexyl)Phthalate		**410 J**	**390 J**	520 U	450 U	**340 J**	570 U	420 U
Butylbenzylphthalate		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Caprolactam		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Carbazole		530 UJ	720 UJ	520 UJ	450 UJ	870 UJ	570 U	420 U
Chrysene		530 U	**250 J**	520 U	450 U	**550 J**	570 U	420 U

Table D-5-4
Complete Analytical Data Summary for Sediment Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID:	OM-SE01	OM-SE02	OM-SE03	OM-SE04	OM-SE05	OM-SE06	OM-SE07
	Date:	9/30/2003	9/30/2003	9/30/2003	9/30/2003	9/30/2003	9/30/2003	10/1/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Dibenzo(a,h)-anthracene		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Dibenzofuran		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Diethylphthalate		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Dimethylphthalate		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Di-n-Butylphthalate		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Di-n-Octylphthalate		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Fluoranthene		530 U	**310 J**	520 U	450 U	**720 J**	570 U	420 U
Fluorene		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Hexachlorobenzene		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Hexachlorobutadiene		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Hexachlorocyclo-Pentadiene		530 UJ	720 UJ	520 UJ	450 UJ	870 UJ	570 U	420 U
Hexachloroethane		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Indeno(1,2,3-cd)-pyrene		530 U	720 UJ	520 U	450 U	**350 J**	570 U	420 U
Isophorone		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Naphthalene		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Nitrobenzene		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
n-Nitroso Diphenylamine		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
n-Nitroso-Di-n Propylamine		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Pentachlorophenol		1300 U	1800 UJ	1300 U	1100 U	2200 UJ	1400 UJ	1100 UJ
Phenanthrene		530 U	720 UJ	520 U	450 U	**290 J**	570 U	420 U
Phenol		530 U	720 UJ	520 U	450 U	870 UJ	570 U	420 U
Pyrene		530 U	**370 J**	520 U	450 U	**750 J**	570 UJ	420 UJ
TCL Pesticide and PCBs (µg/Kg)								
4,4'-DDD		5.3 U	7.2 UJ	5.2 U	4.5 U	8.7 UJ	5.7 U	4.2 U
4,4'-DDE		**14 J**	**40 J**	5.2 U	**5.7 JN**	**46 J**	**4.9 J**	4.2 U
4,4'-DDT		5.3 U	7.2 UJ	5.2 U	4.5 U	8.7 UJ	5.7 U	4.2 U
Aldrin		2.7 U	3.7 UJ	2.7 U	2.3 U	4.5 UJ	2.9 U	2.2 U
Alpha-BHC		2.7 UJ	3.7 UJ	2.7 U	2.3 U	4.5 UJ	2.9 UJ	2.2 UJ
Alpha-Chlordane		2.7 U	3.7 UJ	2.7 U	2.3 U	4.5 UJ	2.9 U	2.2 U
Aroclor-1016		53 U	72 UJ	52 U	45 U	87 UJ	57 U	42 U
Aroclor-1221		110 U	150 UJ	110 U	91 U	180 UJ	120 U	86 U

Table D-5-4
Complete Analytical Data Summary for Sediment Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID:	OM-SE01	OM-SE02	OM-SE03	OM-SE04	OM-SE05	OM-SE06	OM-SE07
	Date:	9/30/2003	9/30/2003	9/30/2003	9/30/2003	9/30/2003	9/30/2003	10/1/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Aroclor-1232		53 U	72 UJ	52 U	45 U	87 UJ	57 U	42 U
Aroclor-1242		53 U	**19000 J**	52 U	45 U	87 UJ	57 U	42 U
Aroclor-1248		**1600 J**	72 UJ	**130 J**	**360**	**2600 J**	**520**	**440 J**
Aroclor-1254		53 U	**3300 J**	52 U	**110**	**3800 J**	57 U	42 U
Aroclor-1260		**93 J**	**780 J**	52 U	45 U	87 UJ	57 U	42 U
Beta-BHC		2.7 U	3.7 UJ	2.7 U	**7.8 J**	4.5 UJ	2.9 U	2.2 U
Delta-BBHC		2.7 U	3.7 UJ	2.7 U	2.3 U	4.5 UJ	2.9 U	2.2 U
Dieldrin		**14**	**49 J**	**1.8 J**	**4.6 JN**	**49 J**	5.7 U	**3 J**
Endosulfan I		**4 R**	**22 JN**	**1 J**	**5.8 J**	**15 R**	**4.4 J**	2.2 U
Endosulfan II		5.3 U	7.2 UJ	5.2 U	4.5 U	8.7 UJ	5.7 U	4.2 U
Endosulfan Sulfate		5.3 U	7.2 UJ	5.2 U	4.5 U	**38 J**	5.7 U	4.2 U
Endrin		5.3 U	7.2 UJ	5.2 U	4.5 U	8.7 UJ	5.7 U	4.2 U
Endrin Aldehyde		5.3 U	7.2 UJ	5.2 U	4.5 U	8.7 UJ	5.7 U	4.2 U
Endrin Ketone		5.3 U	7.2 UJ	5.2 U	4.5 U	8.7 UJ	5.7 U	4.2 U
Gamma-BHC (Lindane)		2.7 U	3.7 UJ	2.7 U	2.3 U	4.5 UJ	2.9 UJ	2.2 UJ
Gamma-Chlordane		2.7 U	3.7 UJ	2.7 U	2.3 U	4.5 UJ	2.9 U	**3.5**
Heptachlor		2.7 U	3.7 UJ	2.7 U	2.3 U	4.5 UJ	2.9 U	2.2 U
Heptachlor Epoxide		2.7 U	3.7 UJ	2.7 U	2.3 U	4.5 UJ	2.9 U	2.2 U
Methoxychlor		27 U	37 UJ	27 U	23 U	45 UJ	29 U	22 U
Toxaphene		270 U	370 UJ	270 U	230 U	450 UJ	290 U	220 U
TAL Metals and Mercury (mg/Kg)								
Aluminum		**10300**	**10700**	**16100**	**5040**	**7380**	**4090**	**4240**
Antimony		**2.8 B**	**4.5 B**	2 U	2 U	**3.8 B**	2.4 U	1.9 U
Arsenic		**2.2 B**	**2.8 B**	**2.5 B**	1.2 U	**2.5 B**	**1.9 B**	**4.6**
Barium		**86.3**	**93.3**	**110**	**161**	**52.1 B**	**277**	**56**
Beryllium		**0.46 B**	**0.49 B**	**0.71 B**	**0.21 B**	**0.3 B**	**0.2 B**	**0.26 B**
Cadmium		**0.89 B**	**10.4**	0.14 U	0.14 U	**8.3**	0.17 U	0.13 U
Calcium		**10800**	**4800**	**6220**	**4140**	**2570**	**6180**	**13500**
Chromium		**26.4 J**	**214 J**	**15.5 J**	**5.5 J**	**275 J**	**4.5**	**15.5**
Cobalt		**7.4 B**	**9.9 B**	**10.2 B**	**11.2 B**	**6 B**	**12.4 B**	**5 B**
Copper		**24.8**	**52.8**	**18.7**	**6.9 B**	**47.6**	**5.3 B**	**14.6**

Table D-5-4
Complete Analytical Data Summary for Sediment Samples
from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID:	OM-SE01	OM-SE02	OM-SE03	OM-SE04	OM-SE05	OM-SE06	OM-SE07
	Date:	9/30/2003	9/30/2003	9/30/2003	9/30/2003	9/30/2003	9/30/2003	10/1/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Iron		13900	14000	21100	41200	7230	34300	23400
Lead		38	238	13.4	1.5 J	271	4.7	33.5
Magnesium		5640	3070	3650	1470	1290 B	1380 B	1870
Manganese		142	150	132	1010	70.4	3860	216
Nickel		17.7	20.6	19.6	13.4	14.5	15.1	9.3 B
Potassium		714 B	691 B	1080 B	429 B	267 B	318 B	346 B
Selenium		0.61 U	1.4 BJ	0.76 BJ	0.54 U	0.83 BJ	0.64 U	0.51 UJ
Silver		0.48 U	0.59 U	0.41 U	0.43 U	0.5 U	0.5 UJ	0.4 UJ
Sodium		291 B	270 B	150 U	155 U	310 B	184 U	147 U
Thallium		1.4 U	1.7 U	1.2 U	1.2 U	1.4 U	1.4 U	1.1 U
Vanadium		31.6	46.7	33.4	10.4 B	43.3	9.5 B	11.9 B
Zinc		1650	981	75.6	31.1	288	36.2	115
Mercury		0.07 U	0.99	0.07 U	0.07 U	0.63	0.08 U	0.1 B
Total Cyanide (mg/Kg)								
Cyanide Tot.		0.89	3.1	0.27	0.16 U	11	1 L	0.4
Total Organic Carbon (mg/Kg)								
Organic Carbon, Tot.		28000	51000	47000	6900	73000	38000	8200
Percent Solids (%)								
Percent Solids, 105DegC		54	37	63	75	28	53	92

Table D-5-4
Complete Analytical Data Summary for Sediment Samples from the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

/D = Duplicate sample.

in = Inches.

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

mg/Kg = Milligrams per kilogram.

NYS = New York State.

OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.

PCB = Polychlorinated biphenyl.

R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.

SE = Sediment sample.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/Kg = Micrograms per kilogram.

- = Sample was not analyzed for this parameter.

% = Percent.

Source: Ecology and Environment, Inc., 2004

Table D-5-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID: / Date:	OM-GP01-GW 10/16/2003	OM-GP02-GW 10/16/2003	OM-GP03-GW 10/15/2003	OM-GP04-GW 10/15/2003	OM-GP05-GW 10/14/2003
TCL Volatile Organic Compounds (µg/L)						
1,1,1-Trichloroethane		10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane		10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane		10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane		10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene		10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,2-Dibromo-3-Chloropropane		10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane		10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane		10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane		10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U
2-Butanone		10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
4-Methyl-2-Pentanone		10 U	10 U	10 U	10 U	10 U
Acetone		10 UJ	10 U	10 U	10 U	10 U
Benzene		10 U	10 U	10 U	10 U	10 U
Bromodichloromethane		10 U	10 U	10 U	10 U	10 U
Bromoform		10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U
Carbon Disulfide		10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride		10 U	10 U	10 U	10 U	10 U
Chlorobenzene		10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U
Chloroform		10 U	10 U	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene		10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U
Cyclohexane		10 U	10 U	10 U	10 U	10 U
Dibromochloromethane		10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane		10 U	10 U	10 U	10 U	10 U
Ethylbenzene		10 U	10 U	10 U	10 U	10 U
Isopropylbenzene		10 U	10 U	10 U	10 U	10 U
Methyl Acetate		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Methyl tert-Butyl Ether		10 U	10 U	10 U	10 U	10 U
Methylcyclohexane		10 U	10 U	10 U	10 U	10 U
Methylene Chloride		10 U	10 U	10 U	10 U	10 U
Styrene		10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		10 U	10 U	10 U	10 U	10 U
Toluene		10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene		10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U

Table D-5-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte	Sample ID: / Date:	OM-GP01-GW 10/16/2003	OM-GP02-GW 10/16/2003	OM-GP03-GW 10/15/2003	OM-GP04-GW 10/15/2003	OM-GP05-GW 10/14/2003
Trichloroethene		10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane		10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U
Xylenes (Total)		10 U	10 U	10 U	10 U	10 U
TCL Semivolatile Organic Compounds (µg/L)						
1,1'-Biphenyl		10 U	10 U	10 U	11 U	10 U
2,2'-Oxybis(1- Chloropropane)		10 U	10 U	10 U	11 U	10 U
2,4,5-Trichlorophenol		25 U	25 U	25 U	28 U	25 U
2,4,6-Trichlorophenol		10 U	10 U	10 U	11 U	10 U
2,4-Dichlorophenol		10 U	10 U	10 U	11 U	10 U
2,4-Dimethylphenol		10 U	10 U	10 U	11 U	10 U
2,4-Dinitrophenol		25 U	25 U	25 UJ	28 UJ	25 UJ
2,4-Dinitrotoluene		10 U	10 U	10 U	11 U	10 U
2,6-Dinitrotoluene		10 U	10 U	10 U	11 U	10 U
2-Chloronaphthalene		10 U	10 U	10 U	11 U	10 U
2-Chlorophenol		10 U	10 U	10 U	11 U	10 U
2-Methylnaphthalene		10 U	10 U	10 U	11 U	10 U
2-Methylphenol		10 U	10 U	10 U	11 U	10 U
2-Nitroaniline		25 U	25 U	25 U	28 U	25 U
2-Nitrophenol		10 U	10 U	10 U	11 U	10 U
3,3'-Dichlorobenzidine		10 UJ	10 UJ	10 UJ	11 U	10 UJ
3-Nitroaniline		25 U	25 U	25 UJ	28 U	25 UJ
4,6-Dinitro-2-Methylphenol		25 U	25 U	25 U	28 U	25 U
4-Bromophenyl-Phenylether		10 U	10 U	10 U	11 U	10 U
4-Chloro-3-Methylphenol		10 U	10 U	10 U	11 U	10 U
4-Chloroaniline		10 U	10 U	10 U	11 U	10 U
4-Chlorophenyl-Phenyl Ether		10 U	10 U	10 U	11 U	10 U
4-Methylphenol		10 U	10 U	10 U	11 U	10 U
4-Nitroaniline		25 U	25 U	25 UJ	28 UJ	25 UJ
4-Nitrophenol		25 U	25 U	25 U	28 UJ	25 U
Acenaphthene		10 U	10 U	10 U	11 U	10 U
Acenaphthylene		10 U	10 U	10 U	11 U	10 U
Acetophenone		10 U	10 U	10 U	11 U	10 U
Anthracene		10 U	10 U	10 U	11 U	10 U
Atrazine		10 U	10 U	10 U	11 U	10 U
Benzaldehyde		10 U	10 U	10 UJ	11 UJ	10 UJ
Benzo(a)anthracene		10 U	10 U	10 U	11 U	10 U
Benzo(a)pyrene		10 U	10 U	10 U	11 U	10 U
Benzo(b)fluoranthene		10 U	10 U	10 U	11 U	10 U
Benzo(g,h,i)perylene		10 U	10 U	10 U	11 U	10 U
Benzo(k)fluoranthene		10 U	10 U	10 U	11 U	10 U
Bis(2-Chloroethoxy)Methane		10 U	10 U	10 U	11 U	10 U
Bis-(2-Chloroethyl)Ether		10 U	10 U	10 U	11 U	10 U
Bis(2-Ethylhexyl)Phthalate		10 U	10 U	10 U	11 U	10 U
Butylbenzylphthalate		10 U	10 U	10 U	11 U	10 U

Table D-5-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte / Sample ID: / Date:	OM-GP01-GW 10/16/2003	OM-GP02-GW 10/16/2003	OM-GP03-GW 10/15/2003	OM-GP04-GW 10/15/2003	OM-GP05-GW 10/14/2003
Caprolactam	**1900**	**3 J**	**3600**	**44**	10 U
Carbazole	10 UJ	10 UJ	10 UJ	11 U	10 UJ
Chrysene	10 U	10 U	10 U	11 U	10 U
Dibenzo(a,h)-anthracene	10 U	10 U	10 U	11 U	10 U
Dibenzofuran	10 U	10 U	10 U	11 U	10 U
Diethylphthalate	**3 J**	10 U	**9 J**	11 U	10 U
Dimethylphthalate	10 U	10 U	10 U	11 U	10 U
Di-n-Butylphthalate	10 U	10 U	**2 J**	11 U	10 U
Di-n-Octylphthalate	10 U	10 U	10 U	11 U	10 U
Fluoranthene	10 U	10 U	10 U	11 U	10 U
Fluorene	10 U	10 U	10 U	11 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	11 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	11 U	10 U
Hexachlorocyclo-Pentadiene	10 U	10 U	10 UJ	11 U	10 UJ
Hexachloroethane	10 U	10 U	10 U	11 U	10 U
Indeno(1,2,3-cd)-pyrene	10 U	10 U	10 U	11 U	10 U
Isophorone	10 U	10 U	10 U	11 U	10 U
Naphthalene	10 U	10 U	10 U	11 U	10 U
Nitrobenzene	10 U	10 U	10 U	11 U	10 U
n-Nitroso Diphenylamine	10 U	10 U	10 U	11 U	10 U
n-Nitroso-Di-n Propylamine	10 U	10 U	10 UJ	11 U	10 UJ
Pentachlorophenol	25 U	25 U	25 U	28 U	25 U
Phenanthrene	10 U	10 U	10 U	11 U	10 U
Phenol	10 U	10 U	10 U	11 U	10 U
Pyrene	10 U	10 U	10 U	11 U	10 U
TCL Pesticides and PCBs (µg/L)					
4,4'-DDD	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U
Alpha-BHC	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U
Alpha-Chlordane	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U
Aroclor-1016	1 U	1 U	1 UJ	1 U	1 U
Aroclor-1221	2 U	2 U	2 UJ	2 U	2 U
Aroclor-1232	1 U	1 U	1 UJ	1 U	1 U
Aroclor-1242	1 U	1 U	1 UJ	1 U	1 U
Aroclor-1248	1 U	1 U	1 UJ	**1.6**	1 U
Aroclor-1254	1 U	1 U	1 UJ	1 U	1 U
Aroclor-1260	1 U	1 U	1 UJ	1 U	1 U
Beta-BHC	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U
Delta-BBHC	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U
Endosulfan Sulfate	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U

Table D-5-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site

Analyte / Sample ID: / Date:	OM-GP01-GW 10/16/2003	OM-GP02-GW 10/16/2003	OM-GP03-GW 10/15/2003	OM-GP04-GW 10/15/2003	OM-GP05-GW 10/14/2003
Endrin	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U
Endrin Aldehyde	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U
Endrin Ketone	**0.068 J**	0.1 U	0.1 UJ	0.1 U	0.1 U
Gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U
Heptachlor Epoxide	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U
Methoxychlor	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Toxaphene	5 U	5 U	5 UJ	5 U	5 U
TAL Metals and Mercury (µg/L)					
Aluminum	**30.3 B**	**85.7 B**	**689**	**95.1 B**	**71.9 B**
Antimony	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Arsenic	5.8 U	5.8 U	5.8 U	**9.2 B**	5.8 U
Barium	**78.9 B**	**114 B**	**95.7 B**	**38.8 B**	**225**
Beryllium	0.1 U	**0.12 B**	**0.16 B**	0.1 U	0.1 U
Cadmium	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Calcium	**60200**	**76100**	**78600**	**205000**	**106000**
Chromium	1 U	1 U	1 U	1 U	1 U
Cobalt	**4.8 B**	**10.5 B**	**3.7 B**	**5.6 B**	**14.3 B**
Copper	**3.9 B**	**2.8 B**	**4.7 B**	1 U	1 U
Iron	27.9 U	27.9 U	**923**	**84300**	**99900**
Lead	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
Magnesium	**91500**	**114000**	**81700**	**33500**	**21300**
Manganese	**59.4**	**967**	**819**	**10600 J**	**4450 J**
Nickel	2.3 U	**4.6 B**	**6.1 B**	2.3 U	**3.2 B**
Potassium	**2750 B**	**8320 J**	**3980 B**	**899 B**	**2390 B**
Selenium	3.8 U	**5.2 J**	**5.6 J**	3.8 U	3.8 U
Silver	1.4 U	1.4 U	1.4 U	1.4 UJ	1.4 UJ
Sodium	**23800 J**	**55500 J**	**54200 J**	**2950 B**	**22700**
Thallium	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
Vanadium	0.9 U	0.9 U	0.9 U	**2 B**	**2.6 B**
Zinc	**37.2**	**33**	**35.2**	**19.3 B**	**18.9 B**
Mercury	0.1 UJ	0.1 UJ	0.1 UJ	0.1 U	0.1 U
Total Cyanide (µg/L)					
Cyanide Tot.	5 U	5 U	5 U	5 U	5 U

Table D-5-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
GW = Groundwater sample.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/L = Milligrams per liter
NYS = New York State.
OM = Old Moreau Dredge Spoils Area / NYS Canal Corporation Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.
- = Sample was not analyzed for this parameter.

Table D-6-1
Complete Analytical Data Summary for Surface Soil Samples
from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-SS01 Date: 10/9/2003 Depth: 0 - 2 in	GPS-SS02 10/8/2003 0 - 2 in	GPS-SS03 10/8/2003 0 - 2 in	GPS-SS04 10/8/2003 0 - 2 in	GPS-SS05 10/8/2003 0 - 2 in	GPS-SS06 10/8/2003 0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)						
1,1,1-Trichloroethane	10 U	--	--	--	10 U	11 U
1,1,2,2-Tetrachloroethane	10 U	--	--	--	10 U	11 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.6 J	--	--	--	10 U	11 U
1,1,2-Trichloroethane	10 U	--	--	--	10 U	11 U
1,1-Dichloroethane	10 U	--	--	--	10 U	11 U
1,1-Dichloroethene	10 UJ	--	--	--	10 U	11 U
1,2,4-Trichlorobenzene	10 U	--	--	--	10 U	11 U
1,2-Dibromo-3-Chloropropane	10 U	--	--	--	10 U	11 U
1,2-Dibromoethane	10 U	--	--	--	10 U	11 U
1,2-Dichlorobenzene	10 U	--	--	--	10 U	11 U
1,2-Dichloroethane	10 U	--	--	--	10 U	11 U
1,2-Dichloropropane	10 U	--	--	--	10 U	11 U
1,3-Dichlorobenzene	10 U	--	--	--	10 U	11 U
1,4-Dichlorobenzene	10 U	--	--	--	10 U	11 U
2-Butanone	10 U	--	--	--	10 U	11 U
2-Hexanone	10 U	--	--	--	10 U	11 U
4-Methyl-2-Pentanone	10 U	--	--	--	10 U	11 U
Acetone	10 U	--	--	--	10 U	11 U
Benzene	10 U	--	--	--	10 U	11 U
Bromodichloromethane	10 U	--	--	--	10 U	11 U
Bromoform	10 U	--	--	--	10 U	11 U
Bromomethane	10 UJ	--	--	--	10 U	11 U
Carbon Disulfide	10 UJ	--	--	--	10 U	11 U
Carbon Tetrachloride	10 U	--	--	--	10 U	11 U
Chlorobenzene	10 U	--	--	--	10 U	11 U
Chloroethane	10 U	--	--	--	10 U	11 U
Chloroform	10 U	--	--	--	10 U	11 U
Chloromethane	10 U	--	--	--	10 U	11 U
cis-1,2-Dichloroethene	10 U	--	--	--	10 U	11 U
cis-1,3-Dichloropropene	10 U	--	--	--	10 U	11 U
Cyclohexane	10 U	--	--	--	10 U	11 U
Dibromochloromethane	10 U	--	--	--	10 UJ	11 UJ
Dichlorodifluoromethane	10 U	--	--	--	10 U	11 U
Ethylbenzene	10 U	--	--	--	10 U	11 U
Isopropylbenzene	10 U	--	--	--	10 U	11 U
Methyl Acetate	10 U	--	--	--	10 U	11 U
Methyl tert-Butyl Ether	10 U	--	--	--	10 U	11 U
Methylcyclohexane	10 U	--	--	--	10 U	11 U
Methylene Chloride	10 U	--	--	--	10 U	11 U
Styrene	10 U	--	--	--	10 U	11 U
Tetrachloroethene	10 U	--	--	--	10 U	11 U
Toluene	10 U	--	--	--	10 U	11 U
trans-1,2-Dichloroethene	10 U	--	--	--	10 U	11 U
trans-1,3-Dichloropropene	10 U	--	--	--	10 U	11 U
Trichloroethene	10 U	--	--	--	10 U	11 U
Trichlorofluoromethane	10 U	--	--	--	10 UJ	11 UJ
Vinyl Chloride	10 U	--	--	--	10 U	11 U
Xylenes (Total)	10 U	--	--	--	10 U	11 U

Table D-6-1
Complete Analytical Data Summary for Surface Soil Samples
from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-SS01 Date: 10/9/2003 Depth: 0 - 2 in	GPS-SS02 10/8/2003 0 - 2 in	GPS-SS03 10/8/2003 0 - 2 in	GPS-SS04 10/8/2003 0 - 2 in	GPS-SS05 10/8/2003 0 - 2 in	GPS-SS06 10/8/2003 0 - 2 in
TCL Semivolatile Organic Compounds (µg/Kg)						
1,1'-Biphenyl	460 U	380 U	410 U	450 U	390 U	430 U
2,2'-Oxybis(1- Chloropropane)	460 U	380 U	410 U	450 U	390 U	430 U
2,4,5-Trichlorophenol	1200 U	940 U	1000 U	1100 U	980 U	1100 U
2,4,6-Trichlorophenol	460 U	380 U	410 U	450 U	390 U	430 U
2,4-Dichlorophenol	460 U	380 U	410 U	450 U	390 U	430 U
2,4-Dimethylphenol	460 U	380 U	410 U	450 U	390 U	430 U
2,4-Dinitrophenol	1200 U	940 U	1000 U	1100 U	980 UJ	1100 UJ
2,4-Dinitrotoluene	460 U	380 U	410 U	450 U	390 U	430 U
2,6-Dinitrotoluene	460 U	380 U	410 U	450 U	390 U	430 U
2-Chloronaphthalene	460 U	380 U	410 U	450 U	390 U	430 U
2-Chlorophenol	460 U	380 U	410 U	450 U	390 U	430 U
2-Methylnaphthalene	460 U	380 U	410 U	450 U	390 U	430 U
2-Methylphenol	460 U	380 U	410 U	450 U	390 U	430 U
2-Nitroaniline	1200 U	940 U	1000 U	1100 U	980 U	1100 U
2-Nitrophenol	460 U	380 U	410 U	450 U	390 U	430 U
3,3'-Dichlorobenzidine	460 UJ	380 UJ	410 UJ	450 UJ	390 U	430 U
3-Nitroaniline	1200 U	940 U	1000 U	1100 U	980 U	1100 U
4,6-Dinitro-2-Methylphenol	1200 U	940 U	1000 U	1100 U	980 U	1100 U
4-Bromophenyl-Phenylether	460 U	380 U	410 U	450 U	390 U	430 U
4-Chloro-3-Methylphenol	460 U	380 U	410 U	450 U	390 U	430 U
4-Chloroaniline	460 U	380 U	410 U	450 U	390 U	430 U
4-Chlorophenyl-Phenyl Ether	460 U	380 U	410 U	450 U	390 U	430 U
4-Methylphenol	460 U	380 U	410 U	450 U	390 U	430 U
4-Nitroaniline	1200 U	940 U	1000 U	1100 U	980 U	1100 U
4-Nitrophenol	1200 UJ	940 UJ	1000 UJ	1100 UJ	980 UJ	1100 UJ
Acenaphthene	460 U	380 U	410 U	450 U	390 U	430 U
Acenaphthylene	460 U	**88 J**	410 U	450 U	**150 J**	430 U
Acetophenone	460 U	380 U	410 U	450 U	390 U	430 U
Anthracene	460 U	**110 J**	410 U	450 U	**120 J**	430 U
Atrazine	460 U	380 U	410 U	450 U	390 U	430 U
Benzaldehyde	**98 J**	380 U	410 U	450 U	390 U	430 U
Benzo(a)anthracene	460 U	**250 J**	410 U	450 U	**520**	430 U
Benzo(a)pyrene	460 U	**330 J**	410 U	450 U	**490**	430 U
Benzo(b)fluoranthene	460 U	**530**	410 U	**110 J**	**770**	430 U
Benzo(g,h,i)perylene	460 U	**250 J**	410 U	450 U	**290 J**	430 U
Benzo(k)fluoranthene	**110 J**	**500**	410 U	**110 J**	**510**	430 U
Bis(2-Chloroethoxy)Methane	460 U	380 U	410 U	450 U	390 U	430 U
Bis-(2-Chloroethyl)Ether	460 U	380 U	410 U	450 U	390 U	430 U
Bis(2-Ethylhexyl)Phthalate	460 U	380 U	410 U	450 U	**81 J**	**100 J**
Butylbenzylphthalate	460 U	380 U	410 U	450 U	390 U	430 U
Caprolactam	460 U	380 U	410 U	450 U	390 U	430 U
Carbazole	460 UJ	380 UJ	410 UJ	450 UJ	390 UJ	430 UJ
Chrysene	**110 J**	**420**	410 U	**120 J**	**750**	430 U
Dibenzo(a,h)-anthracene	460 U	**110 J**	410 U	450 U	**190 J**	430 U
Dibenzofuran	460 U	380 U	410 U	450 U	390 U	430 U
Diethylphthalate	460 U	380 U	410 U	450 U	390 U	430 U
Dimethylphthalate	460 U	380 U	410 U	450 U	390 U	430 U
Di-n-Butylphthalate	460 U	380 U	410 U	450 U	**180 J**	430 U

Table D-6-1
Complete Analytical Data Summary for Surface Soil Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-SS01 Date: 10/9/2003 Depth: 0 - 2 in	GPS-SS02 10/8/2003 0 - 2 in	GPS-SS03 10/8/2003 0 - 2 in	GPS-SS04 10/8/2003 0 - 2 in	GPS-SS05 10/8/2003 0 - 2 in	GPS-SS06 10/8/2003 0 - 2 in
Di-n-Octylphthalate	460 U	380 U	410 U	450 U	390 U	430 U
Fluoranthene	**170 J**	**520**	410 U	**160 J**	**1100**	430 U
Fluorene	460 U	380 U	410 U	450 U	390 U	430 U
Hexachlorobenzene	460 U	380 U	410 U	450 U	390 U	430 U
Hexachlorobutadiene	460 U	380 U	410 U	450 U	390 U	430 U
Hexachlorocyclo-Pentadiene	460 UJ	380 UJ	410 UJ	450 UJ	390 U	430 U
Hexachloroethane	460 U	380 U	410 U	450 U	390 U	430 U
Indeno(1,2,3-cd)-pyrene	460 U	**370 J**	410 U	450 U	**420**	430 U
Isophorone	460 U	380 U	410 U	450 U	390 U	430 U
Naphthalene	460 U	380 U	410 U	450 U	390 U	430 U
Nitrobenzene	460 U	380 U	410 U	450 U	390 U	430 U
n-Nitroso Diphenylamine	460 U	380 U	410 U	450 U	390 U	430 U
n-Nitroso-Di-n Propylamine	460 U	380 U	410 U	450 U	390 U	430 U
Pentachlorophenol	1200 U	940 U	1000 U	1100 U	980 U	1100 U
Phenanthrene	460 U	**170 J**	410 U	450 U	**530**	430 U
Phenol	460 U	380 U	410 U	450 U	390 U	430 U
Pyrene	**160 J**	**530**	410 U	**140 J**	**1000**	430 U
TCL Pesticides and PCBs (µg/Kg)						
4,4'-DDD	4.6 U	3.8 U	4.1 U	4.5 U	3.9 U	4.3 U
4,4'-DDE	**9.1**	**9.7 JN**	4.1 U	4.5 U	**16**	4.3 U
4,4'-DDT	4.6 U	3.8 U	4.1 U	4.5 U	**36 J**	4.3 U
Aldrin	2.4 U	1.9 U	2.1 U	2.3 U	2 U	2.2 U
Alpha-BHC	2.4 U	1.9 U	2.1 U	2.3 U	2 U	2.2 U
Alpha-Chlordane	2.4 U	1.9 U	2.1 U	2.3 U	**2.4**	2.2 U
Aroclor-1016	46 U	38 U	41 U	45 U	39 U	43 U
Aroclor-1221	93 U	76 U	83 U	91 U	79 U	87 U
Aroclor-1232	46 U	38 U	41 U	45 U	39 U	43 U
Aroclor-1242	46 U	38 U	41 U	45 U	39 U	43 U
Aroclor-1248	46 U	38 U	41 U	45 U	**150**	43 U
Aroclor-1254	46 U	**970**	41 U	45 U	**440**	43 U
Aroclor-1260	46 U	**630**	41 U	45 U	39 U	43 U
Beta-BHC	2.4 U	**3.6 R**	2.1 U	2.3 U	2 U	2.2 U
Delta-BBHC	2.4 U	1.9 U	2.1 U	2.3 U	2 U	2.2 U
Dieldrin	4.6 U	3.8 U	4.1 U	4.5 U	**11 J**	4.3 U
Endosulfan I	2.4 U	1.9 U	2.1 U	2.3 U	2 U	2.2 U
Endosulfan II	4.6 U	3.8 U	4.1 U	4.5 U	3.9 U	4.3 U
Endosulfan Sulfate	4.6 U	3.8 U	4.1 U	4.5 U	3.9 U	4.3 U
Endrin	4.6 U	3.8 U	4.1 U	4.5 U	3.9 U	4.3 U
Endrin Aldehyde	4.6 U	3.8 U	4.1 U	4.5 U	**11**	4.3 U
Endrin Ketone	4.6 U	3.8 U	4.1 U	4.5 U	3.9 U	4.3 U
Gamma-BHC (Lindane)	2.4 U	1.9 U	2.1 U	2.3 U	2 U	2.2 U
Gamma-Chlordane	2.4 U	1.9 U	2.1 U	2.3 U	2 U	2.2 U
Heptachlor	2.4 U	1.9 U	2.1 U	2.3 U	2 U	2.2 U
Heptachlor Epoxide	2.4 U	1.9 U	2.1 U	2.3 U	2 U	2.2 U
Methoxychlor	24 U	19 U	21 U	23 U	**20 J**	22 U
Toxaphene	240 U	190 U	210 U	230 U	200 U	220 U

Table D-6-1
Complete Analytical Data Summary for Surface Soil Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-SS01 Date: 10/9/2003 Depth: 0 - 2 in	GPS-SS02 10/8/2003 0 - 2 in	GPS-SS03 10/8/2003 0 - 2 in	GPS-SS04 10/8/2003 0 - 2 in	GPS-SS05 10/8/2003 0 - 2 in	GPS-SS06 10/8/2003 0 - 2 in
Herbicides (µg/Kg)						
2,4,5-T	--	--	--	--	--	--
2,4,5-TP (SILVEX)	--	--	--	--	--	--
2,4-D	--	--	--	--	--	--
2,4-DB	--	--	--	--	--	--
Dalapon	--	--	--	--	--	--
Dicamba	--	--	--	--	--	--
Dichlorprop	--	--	--	--	--	--
Dinoseb	--	--	--	--	--	--
MCPA	--	--	--	--	--	--
MCPP	--	--	--	--	--	--
TAL Metals and Mercury (mg/Kg)						
Aluminum	8340	7830	8760	8160	3020	9700
Antimony	2 U	1.6 U	1.7 U	1.9 U	101	1.8 U
Arsenic	7.1 J	7.7 J	5.2 J	9.9 J	27.5 J	8.9 J
Barium	75.3	75.8	38.5 B	81.4	204	140
Beryllium	0.35 B	0.51 B	0.27 B	0.3 B	0.32 B	0.45 B
Cadmium	0.44 B	0.11 U	0.12 U	0.13 U	0.12 U	0.13 U
Calcium	6320	18100	2680	13200	1150 B	2190
Chromium	26.1	25.7	9.5	12.2	73.7	23.3
Cobalt	9.5 B	11.8	7.5 B	9.2 B	13.1	9.2 B
Copper	721	85.1	19.4	33.5	774	41.4
Iron	31900	27000	19700	26400	121000	19800
Lead	1230	203	11.7	72	2470	174
Magnesium	4070	4300	5070	7280	804 B	3380
Manganese	701	390	454	622	584	431
Nickel	34	31.4	17.1	24	54.3	17.2
Potassium	677 B	1070 B	506 B	728 B	268 B	816 B
Selenium	0.52 UJ	0.42 UJ	0.45 UJ	0.5 UJ	0.44 U	0.49 U
Silver	0.41 U	0.33 U	0.35 U	0.39 U	7.4	0.38 U
Sodium	151 U	120 U	129 U	143 U	128 U	140 U
Thallium	1.5 B	0.92 U	0.99 U	1.1 U	3.6	1.1 U
Vanadium	149	32.4	10 B	44.3	60.5	18.4
Zinc	271	169	49.8	94.6	636	196
Mercury	0.06 U	0.17 J	0.06 U	0.17 J	7.7	0.06 U
Total Cyanide (mg/Kg)						
Cyanide Tot.	0.18	0.3	0.23	0.3	0.42	0.15 U
Total Petroleum Hydrocarbons (mg/Kg)						
n-Hexane Extractable Material	1500	--	--	--	--	--
Percent Moisture (wt%)						
Percent Moisture	19.7	--	--	--	--	--
Percent Solids (%)						
Percent Solids, 105DegC	70	68	85	72	86	78

Table D-6-1
Complete Analytical Data Summary for Surface Soil Samples
from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-SS07 Date: 10/8/2003 Depth: 0 - 2 in	GPS-SS08 10/8/2003 0 - 2 in	GPS-SS09 10/8/2003 0 - 2 in	GPS-SS10 10/9/2003 0 - 2 in	GPS-SS11 10/9/2003 0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)					
1,1,1-Trichloroethane	--	13 U	--	11 U	28 U
1,1,2,2-Tetrachloroethane	--	13 U	--	11 UJ	28 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	13 U	--	11 UJ	**5 J**
1,1,2-Trichloroethane	--	13 U	--	11 U	28 U
1,1-Dichloroethane	--	13 U	--	11 U	28 U
1,1-Dichloroethene	--	13 U	--	11 UJ	28 UJ
1,2,4-Trichlorobenzene	--	13 U	--	11 UJ	28 UJ
1,2-Dibromo-3-Chloropropane	--	13 U	--	11 UJ	28 UJ
1,2-Dibromoethane	--	13 U	--	11 UJ	28 UJ
1,2-Dichlorobenzene	--	13 U	--	11 UJ	28 UJ
1,2-Dichloroethane	--	13 U	--	11 U	28 U
1,2-Dichloropropane	--	13 U	--	11 U	28 U
1,3-Dichlorobenzene	--	13 U	--	11 UJ	28 UJ
1,4-Dichlorobenzene	--	13 U	--	11 UJ	28 UJ
2-Butanone	--	13 U	--	11 U	28 U
2-Hexanone	--	13 U	--	11 UJ	28 UJ
4-Methyl-2-Pentanone	--	13 U	--	11 UJ	28 UJ
Acetone	--	13 U	--	11 U	28 U
Benzene	--	13 U	--	11 U	28 U
Bromodichloromethane	--	13 U	--	11 U	28 U
Bromoform	--	13 U	--	11 U	28 U
Bromomethane	--	13 U	--	11 UJ	28 UJ
Carbon Disulfide	--	13 U	--	11 UJ	28 UJ
Carbon Tetrachloride	--	13 U	--	11 U	28 U
Chlorobenzene	--	13 U	--	11 UJ	28 UJ
Chloroethane	--	13 U	--	11 U	28 U
Chloroform	--	13 U	--	11 U	28 U
Chloromethane	--	13 U	--	11 U	28 U
cis-1,2-Dichloroethene	--	13 U	--	11 U	28 U
cis-1,3-Dichloropropene	--	13 U	--	11 U	28 U
Cyclohexane	--	13 U	--	11 U	28 U
Dibromochloromethane	--	13 UJ	--	11 U	28 U
Dichlorodifluoromethane	--	13 U	--	11 U	28 U
Ethylbenzene	--	13 U	--	11 UJ	28 UJ
Isopropylbenzene	--	13 U	--	11 UJ	28 UJ
Methyl Acetate	--	13 U	--	11 U	28 U
Methyl tert-Butyl Ether	--	13 U	--	11 U	28 U
Methylcyclohexane	--	13 U	--	11 U	28 U
Methylene Chloride	--	13 U	--	11 U	**65**
Styrene	--	13 U	--	11 UJ	28 UJ
Tetrachloroethene	--	13 U	--	11 UJ	28 UJ
Toluene	--	13 U	--	11 UJ	28 UJ
trans-1,2-Dichloroethene	--	13 U	--	11 U	28 U
trans-1,3-Dichloropropene	--	13 U	--	11 U	28 U
Trichloroethene	--	13 U	--	11 U	28 U
Trichlorofluoromethane	--	13 UJ	--	11 U	28 U
Vinyl Chloride	--	13 U	--	11 U	28 U
Xylenes (Total)	--	13 U	--	11 UJ	28 UJ

Table D-6-1
Complete Analytical Data Summary for Surface Soil Samples
from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-SS07 Date: 10/8/2003 Depth: 0 - 2 in	GPS-SS08 10/8/2003 0 - 2 in	GPS-SS09 10/8/2003 0 - 2 in	GPS-SS10 10/9/2003 0 - 2 in	GPS-SS11 10/9/2003 0 - 2 in
TCL Semivolatile Organic Compounds (µg/Kg)					
1,1'-Biphenyl	450 U	390 U	400 U	420 U	620 U
2,2'-Oxybis(1- Chloropropane)	450 U	390 U	400 U	420 U	620 U
2,4,5-Trichlorophenol	1100 U	990 U	1000 U	1100 U	1600 U
2,4,6-Trichlorophenol	450 U	390 U	400 U	420 U	620 U
2,4-Dichlorophenol	450 U	390 U	400 U	420 U	620 U
2,4-Dimethylphenol	450 U	390 U	400 U	420 U	620 U
2,4-Dinitrophenol	1100 UJ	990 UJ	1000 UJ	1100 U	1600 U
2,4-Dinitrotoluene	450 U	390 U	400 U	420 U	620 U
2,6-Dinitrotoluene	450 U	390 U	400 U	420 U	620 U
2-Chloronaphthalene	450 U	390 U	400 U	420 U	620 U
2-Chlorophenol	450 U	390 U	400 U	420 U	620 U
2-Methylnaphthalene	450 U	390 U	400 U	420 U	620 U
2-Methylphenol	450 U	390 U	400 U	420 U	620 U
2-Nitroaniline	1100 U	990 U	1000 U	1100 U	1600 U
2-Nitrophenol	450 U	390 U	400 U	420 U	620 U
3,3'-Dichlorobenzidine	450 U	390 U	400 U	420 UJ	620 UJ
3-Nitroaniline	1100 U	990 U	1000 U	1100 UJ	1600 UJ
4,6-Dinitro-2-Methylphenol	1100 U	990 U	1000 U	1100 U	1600 U
4-Bromophenyl-Phenylether	450 U	390 U	400 U	420 U	620 U
4-Chloro-3-Methylphenol	**100 J**	390 U	400 U	420 U	620 U
4-Chloroaniline	450 U	390 U	400 U	420 U	620 U
4-Chlorophenyl-Phenyl Ether	450 U	390 U	400 U	420 U	620 U
4-Methylphenol	450 U	390 U	400 U	420 U	620 U
4-Nitroaniline	1100 U	990 U	1000 U	1100 U	1600 U
4-Nitrophenol	**590 J**	990 UJ	1000 UJ	1100 U	1600 U
Acenaphthene	450 U	390 U	400 U	420 U	620 U
Acenaphthylene	450 U	390 U	400 U	**1100**	620 U
Acetophenone	450 U	390 U	400 U	420 U	620 U
Anthracene	450 U	390 U	400 U	**1000**	620 U
Atrazine	450 U	390 U	400 U	420 U	620 U
Benzaldehyde	450 U	390 U	400 U	420 U	620 U
Benzo(a)anthracene	450 U	**90 J**	400 U	**2700**	**130 J**
Benzo(a)pyrene	450 U	**89 J**	400 U	**2600**	**130 J**
Benzo(b)fluoranthene	450 U	**130 J**	400 U	**4500**	**140 J**
Benzo(g,h,i)perylene	450 U	390 U	400 U	**1600**	620 U
Benzo(k)fluoranthene	450 U	**110 J**	400 U	**2000**	**180 J**
Bis(2-Chloroethoxy)Methane	450 U	390 U	400 U	420 U	620 U
Bis-(2-Chloroethyl)Ether	450 U	390 U	400 U	420 U	620 U
Bis(2-Ethylhexyl)Phthalate	450 U	390 U	400 U	**190 J**	620 U
Butylbenzylphthalate	450 U	390 U	400 U	420 U	620 U
Caprolactam	450 U	390 U	400 U	420 U	620 U
Carbazole	450 UJ	390 UJ	400 UJ	**300 J**	620 UJ
Chrysene	450 U	**150 J**	400 U	**3200**	**140 J**
Dibenzo(a,h)-anthracene	450 U	390 U	400 U	**730**	620 U
Dibenzofuran	450 U	390 U	400 U	420 U	620 U
Diethylphthalate	450 U	390 U	400 U	420 U	620 U
Dimethylphthalate	450 U	390 U	400 U	420 U	620 U
Di-n-Butylphthalate	450 U	390 U	400 U	420 U	620 U

Table D-6-1
Complete Analytical Data Summary for Surface Soil Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-SS07 Date: 10/8/2003 Depth: 0 - 2 in	GPS-SS08 10/8/2003 0 - 2 in	GPS-SS09 10/8/2003 0 - 2 in	GPS-SS10 10/9/2003 0 - 2 in	GPS-SS11 10/9/2003 0 - 2 in
Di-n-Octylphthalate	450 U	390 U	400 U	**390 J**	620 U
Fluoranthene	450 U	**190 J**	400 U	**4400**	**190 J**
Fluorene	450 U	390 U	400 U	420 U	620 U
Hexachlorobenzene	450 U	390 U	400 U	420 U	620 U
Hexachlorobutadiene	450 U	390 U	400 U	420 U	620 U
Hexachlorocyclo-Pentadiene	450 UJ	390 U	400 UJ	420 U	620 U
Hexachloroethane	450 U	390 U	400 U	420 U	620 U
Indeno(1,2,3-cd)-pyrene	450 U	**81 J**	400 U	**2700**	**130 J**
Isophorone	450 U	390 U	400 U	420 U	620 U
Naphthalene	450 U	390 U	400 U	420 U	620 U
Nitrobenzene	450 U	390 U	400 U	420 U	620 U
n-Nitroso Diphenylamine	450 U	390 U	400 U	420 U	620 U
n-Nitroso-Di-n Propylamine	450 U	390 U	400 U	420 U	620 U
Pentachlorophenol	1100 U	990 U	1000 U	1100 U	1600 U
Phenanthrene	450 U	390 U	400 U	**640**	620 U
Phenol	450 U	390 U	400 U	420 U	620 U
Pyrene	450 U	**190 J**	400 U	**4400**	**230 J**
TCL Pesticides and PCBs (µg/Kg)					
4,4'-DDD	4.5 U	3.9 U	4 U	4.2 U	6.2 U
4,4'-DDE	**1 J**	**1.3 J**	4 U	4.2 U	6.2 U
4,4'-DDT	4.5 U	**2.8 J**	4 U	**15 J**	6.2 U
Aldrin	2.3 U	2 U	2.1 U	2.2 U	3.2 U
Alpha-BHC	2.3 U	2 U	2.1 U	2.2 U	3.2 U
Alpha-Chlordane	2.3 U	2 U	2.1 U	2.2 U	3.2 U
Aroclor-1016	45 U	39 U	40 U	42 U	62 U
Aroclor-1221	91 U	80 U	82 U	85 U	130 U
Aroclor-1232	45 U	39 U	40 U	42 U	62 U
Aroclor-1242	45 U	39 U	40 U	42 U	62 U
Aroclor-1248	45 U	39 U	40 U	42 U	62 U
Aroclor-1254	45 U	39 U	40 U	42 U	62 U
Aroclor-1260	45 U	39 U	40 U	42 U	62 U
Beta-BHC	**2.3 J**	2 U	2.1 U	**5.5 R**	3.2 U
Delta-BBHC	2.3 U	2 U	2.1 U	2.2 U	3.2 U
Dieldrin	4.5 U	3.9 U	4 U	4.2 U	6.2 U
Endosulfan I	2.3 U	2 U	2.1 U	2.2 U	3.2 U
Endosulfan II	4.5 U	3.9 U	4 U	4.2 U	6.2 U
Endosulfan Sulfate	4.5 U	3.9 U	4 U	4.2 U	6.2 U
Endrin	4.5 U	3.9 U	4 U	4.2 U	6.2 U
Endrin Aldehyde	4.5 U	3.9 U	4 U	4.2 U	6.2 U
Endrin Ketone	4.5 U	3.9 U	4 U	**47**	6.2 U
Gamma-BHC (Lindane)	2.3 U	2 U	2.1 U	2.2 U	**0.9 J**
Gamma-Chlordane	2.3 U	2 U	2.1 U	2.2 U	3.2 U
Heptachlor	2.3 U	2 U	2.1 U	2.2 U	3.2 U
Heptachlor Epoxide	2.3 U	2 U	2.1 U	2.2 U	3.2 U
Methoxychlor	23 U	20 U	21 U	**49 J**	32 U
Toxaphene	230 U	200 U	210 U	220 U	320 U

Table D-6-1
Complete Analytical Data Summary for Surface Soil Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-SS07 Date: 10/8/2003 Depth: 0 - 2 in	GPS-SS08 10/8/2003 0 - 2 in	GPS-SS09 10/8/2003 0 - 2 in	GPS-SS10 10/9/2003 0 - 2 in	GPS-SS11 10/9/2003 0 - 2 in
Herbicides (µg/Kg)					
2,4,5-T	--	--	--	22.9 U	--
2,4,5-TP (SILVEX)	--	--	--	22.9 U	--
2,4-D	--	--	--	22.9 U	--
2,4-DB	--	--	--	56.6	--
Dalapon	--	--	--	68.6 U	--
Dicamba	--	--	--	22.9 U	--
Dichlorprop	--	--	--	22.9 U	--
Dinoseb	--	--	--	22.9 U	--
MCPA	--	--	--	6860 U	--
MCPP	--	--	--	6860 U	--
TAL Metals and Mercury (mg/Kg)					
Aluminum	8470	3630	6440	3660	2120
Antimony	1.9 U	13 B	1.8 U	2.2 B	3.1 U
Arsenic	5.2 J	4.5	25 J	12.5	1.9 U
Barium	67.4	99	59.1	65	38 B
Beryllium	0.38 B	0.28 B	0.41 B	0.33 B	0.08 B
Cadmium	0.13 U	12	0.12 U	0.13 U	0.33 B
Calcium	3630	1840	2130	6760	10100
Chromium	10.9	16.9	8.5	12.6	13
Cobalt	8.7 B	5.9 B	6.1 B	7.8 B	3.2 B
Copper	20.9	180	22	49.3	25.2
Iron	17700	15300	22800	15700	11000
Lead	73	612	15.5	111	36.8
Magnesium	4060	1080 B	2660	3100	1450 B
Manganese	497	223	204	337	224
Nickel	21.5	17.6	12.7	19	13.6
Potassium	764 B	266 B	512 B	509 B	582 B
Selenium	0.51 U	0.59 B	0.47 U	0.49 U	1.3 U
Silver	0.4 U	0.37 B	0.37 U	0.39 U	0.46 U
Sodium	146 U	129 U	135 U	142 U	156 U
Thallium	1.1 U	0.99 U	1 U	1.1 U	2.3 U
Vanadium	44.8	28	15	41	34
Zinc	85.7	1630	40.6	144	320
Mercury	0.07 U	0.83	0.06 U	0.07 BJ	0.09 BR
Total Cyanide (mg/Kg)					
Cyanide Tot.	0.16 U	0.3	0.14 U	0.15 U	0.32 U
Total Petroleum Hydrocarbons (mg/Kg)					
n-Hexane Extractable Material	--	--	--	800	1360
Percent Moisture (wt%)					
Percent Moisture	--	--	--	21.9	58.5
Percent Solids (%)					
Percent Solids, 105DegC	75	84	83	78	37

Table D-6-1
Complete Analytical Data Summary for Surface Soil Samples from the Georgia Pacific/NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
in = Inches.
GPS = Georgia Pacific Site/NYS Canal Corporation Site.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NYS = New York State.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
wt. % = Percent weight.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Source: Ecology and Environment, Inc., 2004

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	GPS-GP01-SB 10/9/2003 10 - 12 ft	GPS-GP02-SB 10/8/2003 7 - 9 ft	GPS-GP03-SB 10/8/2003 9.5 - 12 ft	GPS-GP03-SB/D 10/8/2003 9.5 - 12 ft	GPS-GP04-SB 10/8/2003 22 - 24 ft	GPS-GP05-SB1 10/8/2003 12 - 16 ft	GPS-GP05-SB2 10/8/2003 22 - 24 ft	GPS-GP06-SB 10/9/2003 10 - 12 ft	GPS-GP07-SB 10/9/2003 9 - 11 ft
TCL Volatile Organic Compounds (µg/Kg)										
1,1,1-Trichloroethane		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
1,1,2,2-Tetrachloroethane		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		**7 J**	10 U	10 U	12 U	10 U	10 U	10 U	10 UJ	**1 J**
1,1,2-Trichloroethane		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
1,1-Dichloroethane		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
1,1-Dichloroethene		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 UJ	11 U
1,2,4-Trichlorobenzene		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
1,2-Dibromo-3-Chloropropane		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
1,2-Dibromoethane		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
1,2-Dichlorobenzene		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
1,2-Dichloroethane		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
1,2-Dichloropropane		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
1,3-Dichlorobenzene		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
1,4-Dichlorobenzene		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
2-Butanone		**86 J**	10 U	10 U	12 U	10 U	10 U	10 U	10 U	**9 J**
2-Hexanone		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
4-Methyl-2-Pentanone		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Acetone		**520 J**	20 U	**25 J**	12 UJ	19 UJ	10 UJ	47 UJ	10 U	**63**
Benzene		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Bromodichloromethane		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Bromoform		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Bromomethane		23 U	10 U	10 U	12 UJ	10 U	10 U	10 UJ	10 UJ	11 U
Carbon Disulfide		23 UJ	10 UJ	**0.8 J**	12 UJ	**0.4 J**	10 U	**2 J**	10 UJ	**1 J**
Carbon Tetrachloride		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Chlorobenzene		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Chloroethane		23 U	10 U	10 U	12 UJ	10 U	10 U	10 UJ	10 U	11 U
Chloroform		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Chloromethane		23 U	10 U	10 U	12 UJ	10 U	10 U	10 UJ	10 U	11 U
cis-1,2-Dichloroethene		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
cis-1,3-Dichloropropene		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Cyclohexane		23 U	10 U	**0.5 J**	**0.6 J**	**1 J**	10 U	10 U	10 U	11 U

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	GPS-GP01-SB 10/9/2003 10 - 12 ft	GPS-GP02-SB 10/8/2003 7 - 9 ft	GPS-GP03-SB 10/8/2003 9.5 - 12 ft	GPS-GP03-SB/D 10/8/2003 9.5 - 12 ft	GPS-GP04-SB 10/8/2003 22 - 24 ft	GPS-GP05-SB1 10/8/2003 12 - 16 ft	GPS-GP05-SB2 10/8/2003 22 - 24 ft	GPS-GP06-SB 10/9/2003 10 - 12 ft	GPS-GP07-SB 10/9/2003 9 - 11 ft
Dibromochloromethane		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Dichlorodifluoromethane		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Ethylbenzene		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Isopropylbenzene		23 UJ	10 UJ	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Methyl Acetate		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Methyl tert-Butyl Ether		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Methylcyclohexane		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Methylene Chloride		41 UJ	10 U	10 U	12 U	10 U	10 U	10 U	15 U	11 U
Styrene		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Tetrachloroethene		23 UJ	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Toluene		**46 J**	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
trans-1,2-Dichloroethene		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
trans-1,3-Dichloropropene		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Trichloroethene		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Trichlorofluoromethane		23 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
Vinyl Chloride		23 U	10 U	10 U	12 UJ	10 U	10 U	10 UJ	10 U	11 U
Xylenes (Total)		**4 J**	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U
TCL Semivolatile Organic Compounds (µg/Kg)										
1,1'-Biphenyl		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
2,2'-Oxybis(1- Chloropropane)		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
2,4,5-Trichlorophenol		1300 U	1200 U	1000 U	1200 U	1100 U	970 U	1100 U	1100 U	1000 U
2,4,6-Trichlorophenol		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
2,4-Dichlorophenol		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
2,4-Dimethylphenol		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
2,4-Dinitrophenol		1300 U	1200 U	1000 UJ	1200 UJ	1100 UJ	970 UJ	1100 UJ	1100 U	1000 U
2,4-Dinitrotoluene		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
2,6-Dinitrotoluene		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
2-Chloronaphthalene		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
2-Chlorophenol		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
2-Methylnaphthalene		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
2-Methylphenol		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
2-Nitroaniline		1300 U	1200 U	1000 U	1200 U	1100 U	970 U	1100 U	1100 U	1000 U

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID:	GPS-GP01-SB	GPS-GP02-SB	GPS-GP03-SB	GPS-GP03-SB/D	GPS-GP04-SB	GPS-GP05-SB1	GPS-GP05-SB2	GPS-GP06-SB	GPS-GP07-SB
	Date:	10/9/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/9/2003	10/9/2003
	Depth:	10 - 12 ft	7 - 9 ft	9.5 - 12 ft	9.5 - 12 ft	22 - 24 ft	12 - 16 ft	22 - 24 ft	10 - 12 ft	9 - 11 ft
2-Nitrophenol		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
3,3'-Dichlorobenzidine		520 UJ	490 UJ	400 U	490 U	440 U	380 U	450 U	420 UJ	400 UJ
3-Nitroaniline		1300 UJ	1200 UJ	1000 U	1200 U	1100 U	970 U	1100 U	1100 UJ	1000 UJ
4,6-Dinitro-2-Methylphenol		1300 U	1200 U	1000 U	1200 U	1100 U	970 U	1100 U	1100 U	1000 U
4-Bromophenyl-Phenylether		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
4-Chloro-3-Methylphenol		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
4-Chloroaniline		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
4-Chlorophenyl-Phenyl Ether		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
4-Methylphenol		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
4-Nitroaniline		1300 U	1200 U	1000 U	1200 U	1100 U	970 U	1100 U	1100 U	1000 UJ
4-Nitrophenol		1300 U	1200 U	1000 UJ	1200 UJ	1100 UJ	970 UJ	1100 UJ	1100 U	1000 U
Acenaphthene		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Acenaphthylene		520 U	490 U	400 U	490 U	440 U	**310 J**	450 U	420 U	400 U
Acetophenone		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Anthracene		520 U	490 U	400 U	490 U	440 U	**280 J**	450 U	420 U	400 U
Atrazine		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Benzaldehyde		520 U	490 U	400 U	490 U	440 U	380 U	**230 J**	420 U	400 U
Benzo(a)anthracene		520 U	490 U	400 U	490 U	440 U	**690**	450 U	420 U	400 U
Benzo(a)pyrene		520 U	490 U	400 U	490 U	440 U	**940**	450 U	420 U	400 U
Benzo(b)fluoranthene		520 U	490 U	400 U	490 U	440 U	**1100**	450 U	420 U	400 U
Benzo(g,h,i)perylene		520 U	490 U	400 U	490 U	440 U	**540**	450 U	420 U	400 U
Benzo(k)fluoranthene		520 U	490 U	400 U	490 U	440 U	**990**	450 U	420 U	400 U
Bis(2-Chloroethoxy)Methane		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Bis-(2-Chloroethyl)Ether		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Bis(2-Ethylhexyl)Phthalate		520 U	**1100**	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Butylbenzylphthalate		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Caprolactam		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Carbazole		520 UJ	490 UJ	400 UJ	490 UJ	440 UJ	**140 J**	450 UJ	420 UJ	400 UJ
Chrysene		520 U	490 U	400 U	490 U	440 U	**980**	450 U	420 U	400 U
Dibenzo(a,h)-anthracene		520 U	490 U	400 U	490 U	440 U	**290 J**	450 U	420 U	400 U
Dibenzofuran		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Diethylphthalate		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID:	GPS-GP01-SB	GPS-GP02-SB	GPS-GP03-SB	GPS-GP03-SB/D	GPS-GP04-SB	GPS-GP05-SB1	GPS-GP05-SB2	GPS-GP06-SB	GPS-GP07-SB
	Date:	10/9/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/9/2003	10/9/2003
	Depth:	10 - 12 ft	7 - 9 ft	9.5 - 12 ft	9.5 - 12 ft	22 - 24 ft	12 - 16 ft	22 - 24 ft	10 - 12 ft	9 - 11 ft
Dimethylphthalate		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Di-n-Butylphthalate		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Di-n-Octylphthalate		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Fluoranthene		520 U	490 U	400 U	490 U	440 U	**1700**	450 U	420 U	400 U
Fluorene		520 U	490 U	400 U	490 U	440 U	**84 J**	450 U	420 U	400 U
Hexachlorobenzene		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Hexachlorobutadiene		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Hexachlorocyclo-Pentadiene		520 U	490 U	400 U	490 UJ	440 U	380 U	450 UJ	420 U	400 UJ
Hexachloroethane		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Indeno(1,2,3-cd)-pyrene		520 U	490 U	400 U	490 U	440 U	**860**	450 U	420 U	400 U
Isophorone		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Naphthalene		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Nitrobenzene		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
n-Nitroso Diphenylamine		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
n-Nitroso-Di-n Propylamine		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Pentachlorophenol		1300 U	1200 U	1000 U	1200 U	1100 U	970 U	1100 U	1100 U	1000 U
Phenanthrene		520 U	490 U	400 U	490 U	440 U	**1000**	450 U	420 U	400 U
Phenol		520 U	490 U	400 U	490 U	440 U	380 U	450 U	420 U	400 U
Pyrene		520 U	490 U	400 U	490 U	440 U	**1300**	450 U	420 U	400 U
TCL Pesticides and PCBs (µg/Kg)										
4,4'-DDD		**1.5 J**	4.9 U	4 U	4.9 U	4.4 U	3.8 U	4.5 U	4.2 U	4 U
4,4'-DDE		5.2 U	4.9 U	4 U	4.9 U	4.4 U	**1.2 J**	4.5 U	4.2 U	4 U
4,4'-DDT		5.2 U	4.9 U	4 U	4.9 U	4.4 U	3.8 U	4.5 U	**1.1 J**	4 U
Aldrin		2.7 U	2.5 U	2.1 U	2.5 U	2.3 U	2 U	2.3 U	2.2 U	2.1 U
Alpha-BHC		2.7 U	2.5 U	2.1 U	2.5 U	2.3 U	2 U	2.3 U	2.2 U	2.1 U
Alpha-Chlordane		2.7 U	2.5 U	2.1 U	2.5 U	2.3 U	2 U	2.3 U	2.2 U	2.1 U
Aroclor-1016		52 U	49 U	40 U	49 U	44 U	38 U	45 U	42 U	40 U
Aroclor-1221		100 U	100 U	82 U	99 U	89 U	78 U	92 U	86 U	82 U
Aroclor-1232		52 U	49 U	40 U	49 U	44 U	38 U	45 U	42 U	40 U
Aroclor-1242		52 U	49 U	40 U	49 U	44 U	38 U	45 U	42 U	40 U
Aroclor-1248		52 U	49 U	40 U	49 U	44 U	38 U	45 U	42 U	40 U
Aroclor-1254		52 U	49 U	40 U	49 U	44 U	38 U	45 U	42 U	40 U

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	GPS-GP01-SB 10/9/2003 10 - 12 ft	GPS-GP02-SB 10/8/2003 7 - 9 ft	GPS-GP03-SB 10/8/2003 9.5 - 12 ft	GPS-GP03-SB/D 10/8/2003 9.5 - 12 ft	GPS-GP04-SB 10/8/2003 22 - 24 ft	GPS-GP05-SB1 10/8/2003 12 - 16 ft	GPS-GP05-SB2 10/8/2003 22 - 24 ft	GPS-GP06-SB 10/9/2003 10 - 12 ft	GPS-GP07-SB 10/9/2003 9 - 11 ft
Aroclor-1260		52 U	49 U	40 U	49 U	44 U	38 U	45 U	42 U	40 U
Beta-BHC		2.7 U	**6.7**	2.1 U	2.5 U	2.3 U	2 U	2.3 U	2.2 U	2.1 U
Delta-BBHC		2.7 U	2.5 U	2.1 U	2.5 U	2.3 U	2 U	2.3 U	2.2 U	2.1 U
Dieldrin		5.2 U	4.9 U	4 U	4.9 U	4.4 U	3.8 U	4.5 U	4.2 U	4 U
Endosulfan I		2.7 U	2.5 U	2.1 U	2.5 U	2.3 U	2 U	2.3 U	2.2 U	2.1 U
Endosulfan II		5.2 U	4.9 U	4 U	4.9 U	4.4 U	3.8 U	4.5 U	4.2 U	4 U
Endosulfan Sulfate		5.2 U	4.9 U	4 U	4.9 U	4.4 U	3.8 U	4.5 U	4.2 U	4 U
Endrin		5.2 U	4.9 U	4 U	4.9 U	4.4 U	3.8 U	4.5 U	4.2 U	4 U
Endrin Aldehyde		5.2 U	4.9 U	4 U	4.9 U	4.4 U	3.8 U	4.5 U	4.2 U	4 U
Endrin Ketone		5.2 U	4.9 U	4 U	4.9 U	4.4 U	3.8 U	4.5 U	4.2 U	4 U
Gamma-BHC (Lindane)		2.7 U	**1.5 J**	2.1 U	2.5 U	2.3 U	2 U	2.3 U	2.2 U	2.1 U
Gamma-Chlordane		2.7 U	2.5 U	2.1 U	2.5 U	2.3 U	2 U	2.3 U	2.2 U	2.1 U
Heptachlor		2.7 U	2.5 U	2.1 U	2.5 U	2.3 U	2 U	2.3 U	2.2 U	2.1 U
Heptachlor Epoxide		2.7 U	2.5 U	2.1 U	2.5 U	2.3 U	2 U	2.3 U	2.2 U	2.1 U
Methoxychlor		27 U	25 U	21 U	25 U	23 U	**26 JN**	23 U	22 U	21 U
Toxaphene		270 U	250 U	210 U	250 U	230 U	200 U	230 U	220 U	210 U
TAL Metals and Mercury (mg/Kg)										
Aluminum		**2620**	**4370**	**8710**	**8660**	**6860**	**9440**	**4760**	**7550**	**6390**
Antimony		2.8 U	2.3 U	1.8 U	1.8 U	1.9 U	2.1 U	2.1 U	2.5 U	2.3 U
Arsenic		1.8 U	1.5 U	**8.2 J**	**13.2**	**4**	**3**	**1.5 B**	**5.7**	1.4 U
Barium		**24.6 B**	**35.4 B**	**81.9**	**95.3**	**70.3**	**144**	**46.1 B**	**31.9 B**	**24.9 B**
Beryllium		**0.12 B**	**0.22 B**	**0.54 B**	**0.57 B**	**0.33 B**	**0.4 B**	**0.32 B**	**0.46 B**	**0.21 B**
Cadmium		0.21 U	0.18 U	0.12 U	0.12 U	0.13 U	0.15 U	0.14 U	0.19 U	0.17 U
Calcium		**1990**	**2340**	**2990**	**2580**	**39800**	**12800**	**2820**	**1090 B**	**1400**
Chromium		**4.4**	**6.6**	**11.2**	**14**	**12.5**	**41.7**	**6.4 B**	**9.2**	**7.9**
Cobalt		**2.6 B**	**4.5 B**	**11.2 B**	**14.3**	**10.3 B**	**8.1 B**	**5.4**	**10.3 B**	**6.6 B**
Copper		**4 B**	**11.8**	**22**	**20.7**	**24.6**	**128**	**8.5**	**27.2**	**11**
Iron		**5110**	**12200**	**27800**	**28600**	**18500**	**12200**	**9210**	**22400**	**12300**
Lead		**6**	**18.1**	**12.8**	**11.7**	**12.5**	**229**	**5.9**	**11.2**	**7.2**
Magnesium		**1120 B**	**1440**	**4050**	**3660**	**15400**	**7200**	**2260**	**3230**	**2820**
Manganese		**81.3**	**74.3**	**2360**	**1880**	**757**	**333**	**114**	**231**	**100**
Nickel		**3.7 B**	**6 B**	**21.1**	**24.6**	**17.8**	**15.2**	**9.1 B**	**14.6**	**11.4**

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID:	GPS-GP01-SB	GPS-GP02-SB	GPS-GP03-SB	GPS-GP03-SB/D	GPS-GP04-SB	GPS-GP05-SB1	GPS-GP05-SB2	GPS-GP06-SB	GPS-GP07-SB
	Date:	10/9/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/9/2003	10/9/2003
	Depth:	10 - 12 ft	7 - 9 ft	9.5 - 12 ft	9.5 - 12 ft	22 - 24 ft	12 - 16 ft	22 - 24 ft	10 - 12 ft	9 - 11 ft
Potassium		**238 B**	**302 B**	**517 B**	**576 B**	**1090 B**	**837 B**	**383 B**	**605 B**	**392 B**
Selenium		1.2 U	0.96 U	0.46 U	0.47 U	**0.61 B**	0.56 U	0.55 U	1 U	0.95 U
Silver		0.42 U	0.35 U	0.37 U	0.37 U	0.4 U	**3.4**	0.43 U	0.37 U	0.35 U
Sodium		142 U	119 U	134 U	136 U	145 U	**192 B**	158 U	126 U	117 U
Thallium		2.1 U	1.7 U	1 U	1 U	1.1 U	1.2 U	1.2 U	1.8 U	1.7 U
Vanadium		**8 B**	**15.6**	**16.8**	**17.4**	**10.8 B**	**19.9**	**11.1 B**	**11.4 B**	**9.7 B**
Zinc		**26.9**	**44.5**	**52.9**	**55.1**	**47.7**	**244**	**37.4**	**49.3**	**36.5**
Mercury		**0.27 R**	**0.07 BR**	0.06 U	0.06 U	0.06 U	**1.1**	0.07 U	0.06 U	0.06 U
Total Cyanide (mg/Kg)										
Cyanide Tot.		0.29 U	**0.31**	0.15 U	0.15 U	0.16 U	**0.21**	0.15 U	0.15 U	0.15 U
Percent Solids (%)										
Percent Solids, 105DegC		**41**	**77**	**80**	**78**	**76**	**80**	**80**	**79**	**82**

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	GPS-GP08-SB / 10/8/2003 / 5.3 - 7.3 ft
TCL Volatile Organic Compounds (µg/Kg)		
1,1,1-Trichloroethane		10 U
1,1,2,2-Tetrachloroethane		10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		10 U
1,1,2-Trichloroethane		10 U
1,1-Dichloroethane		10 U
1,1-Dichloroethene		10 U
1,2,4-Trichlorobenzene		10 U
1,2-Dibromo-3-Chloropropane		10 U
1,2-Dibromoethane		10 U
1,2-Dichlorobenzene		10 U
1,2-Dichloroethane		10 U
1,2-Dichloropropane		10 U
1,3-Dichlorobenzene		10 U
1,4-Dichlorobenzene		10 U
2-Butanone		10 U
2-Hexanone		10 U
4-Methyl-2-Pentanone		10 U
Acetone		10 UJ
Benzene		10 U
Bromodichloromethane		10 U
Bromoform		10 U
Bromomethane		10 UJ
Carbon Disulfide		10 UJ
Carbon Tetrachloride		10 U
Chlorobenzene		10 U
Chloroethane		10 UJ
Chloroform		10 U
Chloromethane		10 UJ
cis-1,2-Dichloroethene		10 U
cis-1,3-Dichloropropene		10 U
Cyclohexane		10 U

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-GP08-SB Date: 10/8/2003 Depth: 5.3 - 7.3 ft
Dibromochloromethane	10 U
Dichlorodifluoromethane	10 U
Ethylbenzene	10 U
Isopropylbenzene	10 U
Methyl Acetate	10 U
Methyl tert-Butyl Ether	10 U
Methylcyclohexane	10 U
Methylene Chloride	10 U
Styrene	10 U
Tetrachloroethene	10 U
Toluene	10 U
trans-1,2-Dichloroethene	10 U
trans-1,3-Dichloropropene	10 U
Trichloroethene	10 U
Trichlorofluoromethane	10 U
Vinyl Chloride	10 UJ
Xylenes (Total)	10 U
TCL Semivolatile Organic Compounds (µg/Kg)	
1,1'-Biphenyl	400 U
2,2'-Oxybis(1- Chloropropane)	400 U
2,4,5-Trichlorophenol	1000 U
2,4,6-Trichlorophenol	400 U
2,4-Dichlorophenol	400 U
2,4-Dimethylphenol	400 U
2,4-Dinitrophenol	1000 UJ
2,4-Dinitrotoluene	400 U
2,6-Dinitrotoluene	400 U
2-Chloronaphthalene	400 U
2-Chlorophenol	400 U
2-Methylnaphthalene	400 U
2-Methylphenol	400 U
2-Nitroaniline	1000 U

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	GPS-GP08-SB / 10/8/2003 / 5.3 - 7.3 ft
2-Nitrophenol		400 U
3,3'-Dichlorobenzidine		400 U
3-Nitroaniline		1000 U
4,6-Dinitro-2-Methylphenol		1000 U
4-Bromophenyl-Phenylether		400 U
4-Chloro-3-Methylphenol		400 U
4-Chloroaniline		400 U
4-Chlorophenyl-Phenyl Ether		400 U
4-Methylphenol		400 U
4-Nitroaniline		1000 U
4-Nitrophenol		1000 UJ
Acenaphthene		400 U
Acenaphthylene		400 U
Acetophenone		400 U
Anthracene		400 U
Atrazine		400 U
Benzaldehyde		400 U
Benzo(a)anthracene		400 U
Benzo(a)pyrene		400 U
Benzo(b)fluoranthene		400 U
Benzo(g,h,i)perylene		400 U
Benzo(k)fluoranthene		400 U
Bis(2-Chloroethoxy)Methane		400 U
Bis-(2-Chloroethyl)Ether		400 U
Bis(2-Ethylhexyl)Phthalate		400 U
Butylbenzylphthalate		400 U
Caprolactam		400 U
Carbazole		400 UJ
Chrysene		400 U
Dibenzo(a,h)-anthracene		400 U
Dibenzofuran		400 U
Diethylphthalate		400 U

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	GPS-GP08-SB / 10/8/2003 / 5.3 - 7.3 ft
Dimethylphthalate		400 U
Di-n-Butylphthalate		400 U
Di-n-Octylphthalate		400 U
Fluoranthene		400 U
Fluorene		400 U
Hexachlorobenzene		400 U
Hexachlorobutadiene		400 U
Hexachlorocyclo-Pentadiene		400 U
Hexachloroethane		400 U
Indeno(1,2,3-cd)-pyrene		400 U
Isophorone		400 U
Naphthalene		400 U
Nitrobenzene		400 U
n-Nitroso Diphenylamine		400 U
n-Nitroso-Di-n Propylamine		400 U
Pentachlorophenol		1000 U
Phenanthrene		400 U
Phenol		400 U
Pyrene		400 U
TCL Pesticides and PCBs (µg/Kg)		
4,4'-DDD		4 U
4,4'-DDE		4 U
4,4'-DDT		4 U
Aldrin		2.1 U
Alpha-BHC		2.1 U
Alpha-Chlordane		2.1 U
Aroclor-1016		40 U
Aroclor-1221		82 U
Aroclor-1232		40 U
Aroclor-1242		40 U
Aroclor-1248		40 U
Aroclor-1254		40 U

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-GP08-SB Date: 10/8/2003 Depth: 5.3 - 7.3 ft
Aroclor-1260	40 U
Beta-BHC	2.1 U
Delta-BBHC	2.1 U
Dieldrin	4 U
Endosulfan I	2.1 U
Endosulfan II	4 U
Endosulfan Sulfate	4 U
Endrin	4 U
Endrin Aldehyde	4 U
Endrin Ketone	4 U
Gamma-BHC (Lindane)	2.1 U
Gamma-Chlordane	2.1 U
Heptachlor	2.1 U
Heptachlor Epoxide	2.1 U
Methoxychlor	21 U
Toxaphene	210 U
TAL Metals and Mercury (mg/Kg)	
Aluminum	**6900**
Antimony	1.7 U
Arsenic	**6.4**
Barium	**30 B**
Beryllium	**0.26 B**
Cadmium	0.12 U
Calcium	**1370**
Chromium	**10.1**
Cobalt	**5.2 B**
Copper	**14.7**
Iron	**14600**
Lead	**7.8**
Magnesium	**3350**
Manganese	**206**
Nickel	**14.5**

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: / Date: / Depth:	GPS-GP08-SB / 10/8/2003 / 5.3 - 7.3 ft
Potassium		**627 B**
Selenium		0.44 U
Silver		0.35 U
Sodium		128 U
Thallium		0.98 U
Vanadium		**10.1 B**
Zinc		**39.8**
Mercury		0.05 U
Total Cyanide (mg/Kg)		
Cyanide Tot.		0.14 U
Percent Solids (%)		
Percent Solids, 105DegC		**84**

Table D-6-2
Complete Analytical Data Summary for Subsurface Soil Samples from the Georgia Pacific/NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
ft = Feet.
GPS = Georgia Pacific Site/NYS Canal Corporation Site.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NYS = New York State.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
-SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
wt. % = Percent weight.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Source: Ecology and Environment, Inc., 2004

Table D-6-3
Complete Analytical Data Summary for Surface Water Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: / Date:	GPS-SW02 10/9/2003	GPS-SW03 10/9/2003	GPS-SW03/D 10/9/2003	GPS-SW04 10/9/2003	GPS-SW05 10/9/2003
TCL Volatile Organic Compounds (µg/L)						
1,1,1-Trichloroethane		10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane		10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane		10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane		10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene		10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene		10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane		10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane		10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane		10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane		10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U
2-Butanone		10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone		10 U	10 U	10 U	10 U	10 U
Acetone		10 U	10 U	10 U	10 U	10 U
Benzene		10 U	10 U	10 U	10 U	10 U
Bromodichloromethane		10 U	10 U	10 U	10 U	10 U
Bromoform		10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U
Carbon Disulfide		10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride		10 U	10 U	10 U	10 U	10 U
Chlorobenzene		10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U
Chloroform		10 U	10 U	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene		10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U
Cyclohexane		10 U	10 U	10 U	10 U	10 U
Dibromochloromethane		10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane		10 U	10 U	10 U	10 U	10 U
Ethylbenzene		10 U	10 U	10 U	10 U	10 U
Isopropylbenzene		10 U	10 U	10 U	10 U	10 U
Methyl Acetate		10 U	10 U	10 U	10 U	10 U
Methyl tert-Butyl Ether		10 U	10 U	10 U	10 U	10 U
Methylcyclohexane		10 U	10 U	10 U	10 U	10 U
Methylene Chloride		10 U	10 U	10 U	10 U	10 U
Styrene		10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		10 U	10 U	10 U	10 U	10 U
Toluene		10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene		10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U
Trichloroethene		10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane		10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U
Xylenes (Total)		10 U	10 U	10 U	10 U	10 U

Table D-6-3
Complete Analytical Data Summary for Surface Water Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: / Date:	GPS-SW02 10/9/2003	GPS-SW03 10/9/2003	GPS-SW03/D 10/9/2003	GPS-SW04 10/9/2003	GPS-SW05 10/9/2003
TCL Semivolatile Organic Compounds (µg/L)						
1,1'-Biphenyl		10 U	10 U	10 U	10 U	10 U
2,2'-Oxybis(1- Chloropropane)		10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol		25 U	25 U	25 U	25 U	25 U
2,4,6-Trichlorophenol		10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol		10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol		10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol		25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
2,4-Dinitrotoluene		10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene		10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene		10 U	10 U	10 U	10 U	10 U
2-Chlorophenol		10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene		10 U	10 U	10 U	10 U	10 U
2-Methylphenol		10 U	10 U	10 U	10 U	10 U
2-Nitroaniline		25 U	25 U	25 U	25 U	25 U
2-Nitrophenol		10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine		10 U	10 UJ	10 UJ	10 U	10 U
3-Nitroaniline		25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-Methylphenol		25 U	25 U	25 U	25 U	25 U
4-Bromophenyl-Phenylether		10 U	10 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol		10 U	10 U	10 U	10 U	10 U
4-Chloroaniline		10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-Phenyl Ether		10 U	10 U	10 U	10 U	10 U
4-Methylphenol		10 U	10 U	10 U	10 U	10 U
4-Nitroaniline		25 U	25 U	25 U	25 U	25 U
4-Nitrophenol		25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
Acenaphthene		10 U	10 U	10 U	10 U	10 U
Acenaphthylene		10 U	10 U	10 U	10 U	10 U
Acetophenone		10 U	10 U	10 U	10 U	10 U
Anthracene		10 U	10 U	10 U	10 U	10 U
Atrazine		10 U	10 U	10 U	10 U	10 U
Benzaldehyde		10 U	10 U	10 U	**3 J**	10 U
Benzo(a)anthracene		10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene		10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene		10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(k)fluoranthene		10 U	10 U	10 U	10 U	10 U
Bis(2-Chloroethoxy)Methane		10 U	10 U	10 U	10 U	10 U
Bis-(2-Chloroethyl)Ether		10 U	10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl)Phthalate		10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate		10 U	10 U	10 U	10 U	10 U
Caprolactam		10 U	10 U	10 U	**96**	**39**
Carbazole		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Chrysene		10 U	10 U	10 U	10 U	10 U
Dibenzo(a,h)-anthracene		10 U	10 U	10 U	10 U	10 U
Dibenzofuran		10 U	10 U	10 U	10 U	10 U
Diethylphthalate		10 U	10 U	10 U	10 U	10 U
Dimethylphthalate		10 U	10 U	10 U	10 U	10 U
Di-n-Butylphthalate		10 U	10 U	10 U	10 U	10 U
Di-n-Octylphthalate		10 U	10 U	10 U	10 U	10 U

Table D-6-3
Complete Analytical Data Summary for Surface Water Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: / Date:	GPS-SW02 10/9/2003	GPS-SW03 10/9/2003	GPS-SW03/D 10/9/2003	GPS-SW04 10/9/2003	GPS-SW05 10/9/2003
Fluoranthene		10 U	10 U	10 U	10 U	10 U
Fluorene		10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene		10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene		10 U	10 U	10 U	10 U	10 U
Hexachlorocyclo-Pentadiene		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Hexachloroethane		10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)-pyrene		10 U	10 U	10 U	10 U	10 U
Isophorone		10 U	10 U	10 U	10 U	10 U
Naphthalene		10 U	10 U	10 U	10 U	10 U
Nitrobenzene		10 U	10 U	10 U	10 U	10 U
n-Nitroso Diphenylamine		10 U	10 U	10 U	10 U	10 U
n-Nitroso-Di-n Propylamine		10 U	10 U	10 U	10 U	10 U
Pentachlorophenol		25 U	25 U	25 U	25 U	25 U
Phenanthrene		10 U	10 U	10 U	10 U	10 U
Phenol		10 U	10 U	10 U	10 U	10 U
Pyrene		10 U	10 U	10 U	10 U	10 U
TCL Pesticides and PCBs (µg/L)						
4,4'-DDD		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Aldrin		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-BHC		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-Chlordane		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor-1016		1 U	1 U	1 U	1 U	1 U
Aroclor-1221		2 U	2 U	2 U	2 U	2 U
Aroclor-1232		1 U	1 U	1 U	1 U	1 U
Aroclor-1242		1 U	1 U	1 U	**1.1 J**	1 U
Aroclor-1248		1 U	1 U	1 U	1 U	1 U
Aroclor-1254		1 U	1 U	1 U	1 U	1 U
Aroclor-1260		1 U	1 U	1 U	1 U	1 U
Beta-BHC		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BBHC		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan I		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Aldehyde		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Ketone		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Gamma-BHC (Lindane)		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-Chlordane		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene		5 U	5 U	5 U	5 U	5 U
TAL Metals and Mercury (µg/L)						
Aluminum		**48.3 B**	**216**	**256**	**3750**	**3560**
Antimony		9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Arsenic		5.8 U	5.8 U	5.8 U	5.8 U	**16.4**
Barium		**33.7 B**	**15 B**	**15.7 B**	**232**	**216**

Table D-6-3
Complete Analytical Data Summary for Surface Water Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte / Sample ID: / Date:	GPS-SW02 10/9/2003	GPS-SW03 10/9/2003	GPS-SW03/D 10/9/2003	GPS-SW04 10/9/2003	GPS-SW05 10/9/2003
Beryllium	0.1 U	0.1 U	0.1 U	**0.28 B**	**0.27 B**
Cadmium	0.7 U	0.7 U	0.7 U	**3.9 B**	**4 B**
Calcium	**98000**	**18100**	**18100**	**121000**	**86500**
Chromium	1 U	1 U	**12.8**	**24.8**	**45.1**
Cobalt	1.3 U	1.3 U	1.3 U	**2.4 B**	**5.1 B**
Copper	**1 B**	**3.7 B**	**4.1 B**	**24.1 B**	**36.1**
Iron	**1190**	**597**	**886**	**14500**	**38400**
Lead	2.2 U	2.2 U	2.2 U	**79.7**	**316**
Magnesium	**27600**	**5440**	**5430**	**18800**	**17900**
Manganese	**280 J**	**54.2 J**	**65.2 J**	**608 J**	**819 J**
Nickel	2.3 U	**2.3 B**	**9.8 B**	**8 B**	**18.4 B**
Potassium	**111 B**	**1690 B**	**1730 B**	**10100**	**6790**
Selenium	3.8 U	3.8 U	3.8 U	**13.2**	**84.6**
Silver	1.4 UJ	1.4 UJ	1.4 UJ	1.4 UJ	1.4 UJ
Sodium	**2820 B**	**6210**	**6130**	**16600**	**58200**
Thallium	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
Vanadium	0.9 U	**3 B**	**3 B**	**55.7**	**23.6 B**
Zinc	**25.6 J**	**39 J**	**34.5 J**	**185 J**	**361 J**
Mercury	0.1 U	0.1 U	0.1 U	**0.25**	**0.31**
Total Cyanide (µg/L)					
Cyanide Tot.	5 U	5 U	5 U	5 U	5 U
Anions (mg/L)					
Bromide	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Chloride	**1.46**	**9.69**	**9.56**	**27.1**	**89.2**
Fluoride	**0.176**	**0.083 J**	**0.107**	**0.0973 J**	**0.103**
Nitrate-N	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Nitrite-N	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Phosphate	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Sulfate	**6.19**	**17.1**	**16.8**	**37.5**	**21.1**
Hardness (mg/L)					
Hardness (As CaCO3)	**500**	**145**	**165**	**480**	**400**

Table D-6-4
Complete Analytical Data Summary for Sediment Samples
from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID:	GPS-SE01	GPS-SE02	GPS-SE03	GPS-SE04	GPS-SE05
	Date:	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)						
1,1,1-Trichloroethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
1,1,2,2-Tetrachloroethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane		14 U	**3 J**	**3 J**	36 UJ	8500 UJ
1,1,2-Trichloroethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
1,1-Dichloroethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
1,1-Dichloroethene		14 U	15 U	38 UJ	36 UJ	8500 UJ
1,2,4-Trichlorobenzene		14 U	15 U	38 UJ	36 UJ	8500 UJ
1,2-Dibromo-3-Chloropropane		14 U	15 U	38 UJ	36 UJ	8500 UJ
1,2-Dibromoethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
1,2-Dichlorobenzene		14 U	15 U	38 UJ	36 UJ	8500 UJ
1,2-Dichloroethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
1,2-Dichloropropane		14 U	15 U	38 UJ	36 UJ	8500 UJ
1,3-Dichlorobenzene		14 U	15 U	38 UJ	36 UJ	8500 UJ
1,4-Dichlorobenzene		14 U	15 U	38 UJ	36 UJ	8500 UJ
2-Butanone		14 U	15 U	38 UJ	36 UJ	8500 UJ
2-Hexanone		14 U	15 U	38 UJ	36 UJ	8500 UJ
4-Methyl-2-Pentanone		14 U	15 U	38 UJ	36 UJ	8500 UJ
Acetone		14 U	15 U	38 UJ	36 UJ	8500 UJ
Benzene		14 U	15 U	38 UJ	36 UJ	8500 UJ
Bromodichloromethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
Bromoform		14 U	15 U	38 UJ	36 UJ	8500 UJ
Bromomethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
Carbon Disulfide		14 UJ	15 UJ	38 UJ	**3 J**	8500 UJ
Carbon Tetrachloride		14 U	15 U	38 UJ	36 UJ	8500 UJ
Chlorobenzene		14 U	15 U	38 UJ	36 UJ	8500 UJ
Chloroethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
Chloroform		14 U	15 U	38 UJ	36 UJ	8500 UJ
Chloromethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
cis-1,2-Dichloroethene		14 U	15 U	38 UJ	36 UJ	8500 UJ
cis-1,3-Dichloropropene		14 U	15 U	38 UJ	36 UJ	8500 UJ
Cyclohexane		14 U	15 U	38 UJ	36 UJ	8500 UJ
Dibromochloromethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
Dichlorodifluoromethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
Ethylbenzene		14 U	15 U	38 UJ	36 UJ	8500 UJ
Isopropylbenzene		14 UJ	15 U	38 UJ	36 UJ	8500 UJ
Methyl Acetate		14 U	15 U	38 UJ	**10 J**	**15000 J**
Methyl tert-Butyl Ether		14 U	15 U	38 UJ	36 UJ	8500 UJ
Methylcyclohexane		14 U	15 U	38 UJ	36 UJ	8500 UJ
Methylene Chloride		14 U	15 U	38 UJ	36 UJ	8500 UJ
Styrene		14 U	15 U	38 UJ	36 UJ	8500 UJ
Tetrachloroethene		14 U	15 U	38 UJ	36 UJ	8500 UJ
Toluene		14 U	15 U	38 UJ	36 UJ	8500 UJ
trans-1,2-Dichloroethene		14 U	15 U	38 UJ	36 UJ	8500 UJ
trans-1,3-Dichloropropene		14 U	15 U	38 UJ	36 UJ	8500 UJ
Trichloroethene		14 U	15 U	38 UJ	36 UJ	8500 UJ
Trichlorofluoromethane		14 U	15 U	38 UJ	36 UJ	8500 UJ
Vinyl Chloride		14 U	15 U	38 UJ	36 UJ	8500 UJ
Xylenes (Total)		14 U	15 U	38 UJ	36 UJ	8500 UJ

Table D-6-4
Complete Analytical Data Summary for Sediment Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-SE01 Date: 10/9/2003 Depth: 0 - 2 in	GPS-SE02 10/9/2003 0 - 2 in	GPS-SE03 10/9/2003 0 - 2 in	GPS-SE04 10/9/2003 0 - 2 in	GPS-SE05 10/9/2003 0 - 2 in
TCL Semivolatile Organic Compounds (µg/Kg)					
1,1'-Biphenyl	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
2,2'-Oxybis(1- Chloropropane)	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
2,4,5-Trichlorophenol	1300 U	1300 U	2800 UJ	2600 UJ	3800 UJ
2,4,6-Trichlorophenol	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
2,4-Dichlorophenol	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
2,4-Dimethylphenol	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
2,4-Dinitrophenol	1300 UJ	1300 UJ	2800 UJ	2600 UJ	3800 UJ
2,4-Dinitrotoluene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
2,6-Dinitrotoluene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
2-Chloronaphthalene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
2-Chlorophenol	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
2-Methylnaphthalene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
2-Methylphenol	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
2-Nitroaniline	1300 U	1300 U	2800 UJ	2600 UJ	3800 UJ
2-Nitrophenol	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
3,3'-Dichlorobenzidine	500 UJ	510 UJ	1100 UJ	1000 UJ	1500 UJ
3-Nitroaniline	1300 U	1300 U	2800 UJ	2600 UJ	3800 UJ
4,6-Dinitro-2-Methylphenol	1300 U	1300 U	2800 UJ	2600 UJ	3800 UJ
4-Bromophenyl-Phenylether	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
4-Chloro-3-Methylphenol	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
4-Chloroaniline	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
4-Chlorophenyl-Phenyl Ether	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
4-Methylphenol	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
4-Nitroaniline	1300 U	1300 U	2800 UJ	2600 UJ	3800 UJ
4-Nitrophenol	1300 UJ	1300 UJ	2800 UJ	2600 UJ	3800 UJ
Acenaphthene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Acenaphthylene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Acetophenone	500 U	510 U	1100 UJ	**230 J**	1500 UJ
Anthracene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Atrazine	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Benzaldehyde	500 U	510 U	1100 UJ	1000 UJ	**330 J**
Benzo(a)anthracene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Benzo(a)pyrene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Benzo(b)fluoranthene	500 U	510 U	1100 UJ	1000 UJ	**310 J**
Benzo(g,h,i)perylene	500 UJ	510 UJ	1100 UJ	1000 UJ	1500 UJ
Benzo(k)fluoranthene	500 U	510 U	1100 UJ	1000 UJ	**340 J**
Bis(2-Chloroethoxy)Methane	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Bis-(2-Chloroethyl)Ether	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Bis(2-Ethylhexyl)Phthalate	500 U	510 U	1100 UJ	1000 UJ	**980 J**
Butylbenzylphthalate	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Caprolactam	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Carbazole	500 UJ	510 UJ	1100 UJ	1000 UJ	1500 UJ
Chrysene	500 U	510 U	1100 UJ	1000 UJ	**420 J**
Dibenzo(a,h)-anthracene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Dibenzofuran	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Diethylphthalate	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Dimethylphthalate	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Di-n-Butylphthalate	500 U	510 U	1100 UJ	1000 UJ	1500 UJ

Table D-6-4
Complete Analytical Data Summary for Sediment Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-SE01 Date: 10/9/2003 Depth: 0 - 2 in	GPS-SE02 10/9/2003 0 - 2 in	GPS-SE03 10/9/2003 0 - 2 in	GPS-SE04 10/9/2003 0 - 2 in	GPS-SE05 10/9/2003 0 - 2 in
Di-n-Octylphthalate	500 U	510 U	1100 UJ	1000 UJ	**1500 J**
Fluoranthene	500 U	510 U	1100 UJ	1000 UJ	**1100 J**
Fluorene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Hexachlorobenzene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Hexachlorobutadiene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Hexachlorocyclo-Pentadiene	500 UJ	510 UJ	1100 UJ	1000 UJ	1500 UJ
Hexachloroethane	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Indeno(1,2,3-cd)-pyrene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Isophorone	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Naphthalene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Nitrobenzene	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
n-Nitroso Diphenylamine	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
n-Nitroso-Di-n Propylamine	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Pentachlorophenol	1300 U	1300 U	2800 UJ	2600 UJ	3800 UJ
Phenanthrene	500 U	510 U	1100 UJ	1000 UJ	**380 J**
Phenol	500 U	510 U	1100 UJ	1000 UJ	1500 UJ
Pyrene	500 U	510 U	1100 UJ	1000 UJ	**760 J**
TCL Pesticide and PCBs (µg/Kg)					
4,4'-DDD	5 U	5.1 U	11 UJ	10 UJ	15 UJ
4,4'-DDE	5 U	5.1 U	11 UJ	10 UJ	15 UJ
4,4'-DDT	5 U	5.1 U	11 UJ	10 UJ	15 UJ
Aldrin	2.6 U	2.6 U	5.7 UJ	5.3 UJ	7.7 UJ
Alpha-BHC	2.6 U	2.6 U	5.7 UJ	5.3 UJ	7.7 UJ
Alpha-Chlordane	2.6 U	2.6 U	5.7 UJ	5.3 UJ	7.7 UJ
Aroclor-1016	50 U	51 U	110 UJ	100 UJ	150 UJ
Aroclor-1221	100 U	100 U	220 UJ	210 UJ	300 UJ
Aroclor-1232	50 U	51 U	110 UJ	100 UJ	150 UJ
Aroclor-1242	50 U	51 U	110 UJ	100 UJ	150 UJ
Aroclor-1248	50 U	51 U	110 UJ	**310 J**	**1600 J**
Aroclor-1254	50 U	51 U	110 UJ	100 UJ	150 UJ
Aroclor-1260	50 U	51 U	110 UJ	100 UJ	**180 J**
Beta-BHC	2.6 U	2.6 U	5.7 UJ	5.3 UJ	**19 R**
Delta-BBHC	2.6 U	2.6 U	5.7 UJ	5.3 UJ	7.7 UJ
Dieldrin	5 U	5.1 U	11 UJ	10 UJ	15 UJ
Endosulfan I	2.6 U	2.6 U	5.7 UJ	5.3 UJ	7.7 UJ
Endosulfan II	5 U	5.1 U	11 UJ	10 UJ	15 UJ
Endosulfan Sulfate	5 U	5.1 U	11 UJ	10 UJ	15 UJ
Endrin	5 U	5.1 U	11 UJ	10 UJ	15 UJ
Endrin Aldehyde	5 U	5.1 U	11 UJ	10 UJ	15 UJ
Endrin Ketone	5 U	5.1 U	11 UJ	10 UJ	15 UJ
Gamma-BHC (Lindane)	2.6 U	2.6 U	5.7 UJ	5.3 UJ	7.7 UJ
Gamma-Chlordane	2.6 U	2.6 U	5.7 UJ	5.3 UJ	7.7 UJ
Heptachlor	2.6 U	2.6 U	5.7 UJ	5.3 UJ	7.7 UJ
Heptachlor Epoxide	2.6 U	2.6 U	5.7 UJ	5.3 UJ	7.7 UJ
Methoxychlor	26 U	26 U	57 UJ	53 UJ	77 UJ
Toxaphene	260 U	260 U	570 UJ	530 UJ	770 UJ

Table D-6-4
Complete Analytical Data Summary for Sediment Samples from the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID:	GPS-SE01	GPS-SE02	GPS-SE03	GPS-SE04	GPS-SE05
	Date:	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TAL Metals and Mercury (mg/Kg)						
Aluminum		7680	7890	6670	2760	3170
Antimony		2.1 U	2.1 U	2.9 U	2.8 U	2.9 U
Arsenic		3.7	4.2 J	2.9 BJ	1.7 U	1.8 U
Barium		64.3	78.4	80.2	69 B	51.9 B
Beryllium		0.49 B	0.46 B	0.49 B	0.21 B	0.25 B
Cadmium		0.14 U	0.15 U	0.2 U	0.69 B	4.9
Calcium		42500	23200	3030	24100	3200
Chromium		11.1	10.2	8.6	18.7	65.4
Cobalt		8.6 B	7 B	5.4 B	2.4 B	4.2 B
Copper		20.3	18.1	18.1	9.5 B	25.4
Iron		18200	17500	9090	8970	16300
Lead		9.6	8	18.8	24	183
Magnesium		15400	10200	2370	1260 B	1140 B
Manganese		461	311	137	144	169
Nickel		18.9	16.6	12.6 B	5.9 B	11.9 B
Potassium		1040 B	752 B	549 B	344 B	286 B
Selenium		0.55 U	0.56 U	0.85 B	0.74 U	1.7 B
Silver		0.43 U	0.44 U	0.6 U	0.58 U	0.6 U
Sodium		158 U	162 U	219 U	212 U	219 U
Thallium		1.2 U	1.2 U	1.7 U	1.6 U	1.7 U
Vanadium		16.3	17	25.5	17.9 B	21.1
Zinc		49.2	48.6	111	48.1	138
Mercury		0.07 U	0.07 U	0.1 U	0.1 U	0.42
Total Cyanide (mg/Kg)						
Cyanide Tot.		0.18 U	0.23 U	0.43 U	0.71 U	5.7
Total Organic Carbon (mg/Kg)						
Organic Carbon, Tot.		17000	10000	92000	120000	110000
Percent Solids (%)						
Percent Solids, 105DegC		67	52	28	17	20

Table D-6-4
Complete Analytical Data Summary for Sediment Samples from the Georgia Pacific/NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
GPS = Georgia Pacific Site/NYS Canal Corporation Site.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NYS = New York State.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SE = Sediment sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Table D-6-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: GPS-GP01-GW Date: 10/13/2003	GPS-GP02-GW 10/14/2003	GPS-GP03-GW 10/14/2003	GPS-GP04-GW 10/14/2003	GPS-GP05-GW 10/13/2003	GPS-GP06-GW 10/14/2003	GPS-GP07-GW 10/14/2003	GPS-GP08-GW 10/13/2003
TCL Volatile Organic Compounds (µg/L)								
1,1,1-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10 U	10 U	10 U	10 U	**0.9 J**	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 UJ	10 U	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U
1,2-Dibromo-3-Chloropropane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 UJ	10 U	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U
4-Methyl-2-Pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 UJ
Benzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
Carbon Disulfide	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
cis-1,2-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyclohexane	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table D-6-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells
at the Georgia Pacific/NYS Canal Corporation Site

Analyte / Sample ID: / Date:	GPS-GP01-GW 10/13/2003	GPS-GP02-GW 10/14/2003	GPS-GP03-GW 10/14/2003	GPS-GP04-GW 10/14/2003	GPS-GP05-GW 10/13/2003	GPS-GP06-GW 10/14/2003	GPS-GP07-GW 10/14/2003	GPS-GP08-GW 10/13/2003
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl Acetate	10 UJ	10 U	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U
Methyl tert-Butyl Ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylcyclohexane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
Xylenes (Total)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
TCL Semivolatile Organic Compounds (µg/L)								
1,1'-Biphenyl	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,2'-Oxybis(1- Chloropropane)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U
3-Nitroaniline	25 U	25 UJ	25 UJ	25 UJ	25 U	25 UJ	25 UJ	25 U
4,6-Dinitro-2-Methylphenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U

Table D-6-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells
at the Georgia Pacific/NYS Canal Corporation Site

Analyte	Sample ID: / Date:	GPS-GP01-GW 10/13/2003	GPS-GP02-GW 10/14/2003	GPS-GP03-GW 10/14/2003	GPS-GP04-GW 10/14/2003	GPS-GP05-GW 10/13/2003	GPS-GP06-GW 10/14/2003	GPS-GP07-GW 10/14/2003	GPS-GP08-GW 10/13/2003
4-Bromophenyl-Phenylether		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-Phenyl Ether		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline		25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
4-Nitrophenol		25 UJ	25 U	25 U	25 U	25 UJ	25 U	25 U	25 UJ
Acenaphthene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetophenone		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Atrazine		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzaldehyde		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(a)anthracene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene		10 U	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U
Bis(2-Chloroethoxy)Methane		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis-(2-Chloroethyl)Ether		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl)Phthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Caprolactam		10 U	10 U	10 U	10 U	**280**	10 U	10 U	**1400**
Carbazole		10 U	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U
Chrysene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzo(a,h)-anthracene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethylphthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-Butylphthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-Octylphthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table D-6-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells
at the Georgia Pacific/NYS Canal Corporation Site

Analyte / Sample ID: / Date:	GPS-GP01-GW 10/13/2003	GPS-GP02-GW 10/14/2003	GPS-GP03-GW 10/14/2003	GPS-GP04-GW 10/14/2003	GPS-GP05-GW 10/13/2003	GPS-GP06-GW 10/14/2003	GPS-GP07-GW 10/14/2003	GPS-GP08-GW 10/13/2003
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclo-Pentadiene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)-pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitroso Diphenylamine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitroso-Di-n Propylamine	10 U	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
TCL Pesticides and PCBs (µg/L)								
4,4'-DDD	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-BHC	0.05 U	0.05 U	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-Chlordane	0.05 U	0.05 U	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor-1016	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2.2 U	2 U	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1260	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U
Beta-BHC	0.05 U	0.05 U	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BBHC	0.05 U	0.05 U	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

Table D-6-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Georgia Pacific/NYS Canal Corporation Site

Analyte / Sample ID: / Date:	GPS-GP01-GW 10/13/2003	GPS-GP02-GW 10/14/2003	GPS-GP03-GW 10/14/2003	GPS-GP04-GW 10/14/2003	GPS-GP05-GW 10/13/2003	GPS-GP06-GW 10/14/2003	GPS-GP07-GW 10/14/2003	GPS-GP08-GW 10/13/2003
Endrin Aldehyde	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Ketone	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Gamma-BHC (Lindane)	0.05 U	0.05 U	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide	0.05 U	0.05 U	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	0.5 U	0.5 U	0.56 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	5 U	5 U	5.6 U	5 U	5 U	5 U	5 U	5 U
TAL Metals and Mercury (µg/L)								
Aluminum	**91.9 B**	**82.2 B**	**56.8 B**	**57.5 B**	**50.4 B**	**68.8 B**	**57.9 B**	**67.3 B**
Antimony	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Arsenic	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Barium	**176 B**	**39.4 B**	**57.6 B**	**35.5 B**	**110 B**	**26.6 B**	**87.3 B**	**39.5 B**
Beryllium	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Cadmium	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Calcium	**66900**	**104000**	**131000**	**210000**	**119000**	**48800**	**102000**	**85600**
Chromium	**4.3 B**	**1.4 B**	**29.6**	1 U	1 U	1 U	**3.1 B**	1 U
Cobalt	**13.2 B**	1.3 U	**2.7 B**	**18.7 B**	**5.7 B**	**4.7 B**	**4.5 B**	**4.6 B**
Copper	1 U	1 U	**5.9 B**	1 U	1 U	**1.1 B**	1 U	1 U
Iron	**101000**	**395**	**5040**	**9790**	**3040**	27.9 U	**2140**	**94.3 B**
Lead	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
Magnesium	**19000**	**11000**	**35800**	**44300**	**25100**	**4040 B**	**22200**	**16000**
Manganese	**2140 J**	**122 J**	**426 J**	**7610 J**	**1600**	**196 J**	**394 J**	**603 J**
Nickel	**9 B**	**4.6 B**	**16.1 B**	**7.3 B**	**4.6 B**	2.3 U	2.3 U	**3 B**
Potassium	**2590 B**	**2590 B**	**2690 B**	**3620 B**	**11100 J**	**3170 B**	**3840 B**	**1390 B**
Selenium	3.8 U	**5.8**	3.8 U	3.8 U	**5.1 J**	3.8 U	3.8 U	3.8 U
Silver	1.4 UJ	1.4 UJ	1.4 UJ	1.4 UJ	1.4 U	1.4 UJ	1.4 UJ	1.4 UJ
Sodium	**9660**	**5240**	**46100**	**9830**	**35000 J**	**10400**	**69300**	**5660**
Thallium	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
Vanadium	**3.8 B**	**1.8 B**	0.9 U	0.9 U	0.9 U	**1.2 B**	0.9 U	0.9 U
Zinc	**38.1 J**	**39.3 J**	**27.1 J**	**24.8 J**	**28.1**	**27.4 J**	**20.2 J**	**26.6 J**
Mercury	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U
Total Cyanide (µg/L)								
Cyanide Tot.	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table D-6-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Georgia Pacific/NYS Canal Corporation Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
GPS = Georgia Pacific Site/NYS Canal Corporation Site.
GW = Groundwater sample.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/L = Milligrams per liter
NYS = New York State.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.
- = Sample was not analyzed for this parameter.

Source: Ecology and Environment, Inc., 2004

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID:	NCC-SS01	NCC-SS02	NCC-SS03	NCC-SS04	NCC-SS05	NCC-SS06	NCC-SS07	NCC-SS08
	Date:	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)									
1,1,1-Trichloroethane		--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane		--	--	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-Trifluoroethane		--	--	--	--	--	--	--	--
1,1,2-Trichloroethane		--	--	--	--	--	--	--	--
1,1-Dichloroethane		--	--	--	--	--	--	--	--
1,1-Dichloroethene		--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene		--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane		--	--	--	--	--	--	--	--
1,2-Dibromoethane		--	--	--	--	--	--	--	--
1,2-Dichlorobenzene		--	--	--	--	--	--	--	--
1,2-Dichloroethane		--	--	--	--	--	--	--	--
1,2-Dichloropropane		--	--	--	--	--	--	--	--
1,3-Dichlorobenzene		--	--	--	--	--	--	--	--
1,4-Dichlorobenzene		--	--	--	--	--	--	--	--
2-Butanone		--	--	--	--	--	--	--	--
2-Hexanone		--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone		--	--	--	--	--	--	--	--
Acetone		--	--	--	--	--	--	--	--
Benzene		--	--	--	--	--	--	--	--
Bromodichloromethane		--	--	--	--	--	--	--	--
Bromoform		--	--	--	--	--	--	--	--
Bromomethane		--	--	--	--	--	--	--	--
Carbon Disulfide		--	--	--	--	--	--	--	--
Carbon Tetrachloride		--	--	--	--	--	--	--	--
Chlorobenzene		--	--	--	--	--	--	--	--
Chloroethane		--	--	--	--	--	--	--	--
Chloroform		--	--	--	--	--	--	--	--
Chloromethane		--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene		--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene		--	--	--	--	--	--	--	--
Cyclohexane		--	--	--	--	--	--	--	--

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID:	NCC-SS01	NCC-SS02	NCC-SS03	NCC-SS04	NCC-SS05	NCC-SS06	NCC-SS07	NCC-SS08
	Date:	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Dibromochloromethane		--	--	--	--	--	--	--	--
Dichlorodifluoromethane		--	--	--	--	--	--	--	--
Ethylbenzene		--	--	--	--	--	--	--	--
Isopropylbenzene		--	--	--	--	--	--	--	--
Methyl Acetate		--	--	--	--	--	--	--	--
Methyl tert-Butyl Ether		--	--	--	--	--	--	--	--
Methylcyclohexane		--	--	--	--	--	--	--	--
Methylene Chloride		--	--	--	--	--	--	--	--
Styrene		--	--	--	--	--	--	--	--
Tetrachloroethene		--	--	--	--	--	--	--	--
Toluene		--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene		--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene		--	--	--	--	--	--	--	--
Trichloroethene		--	--	--	--	--	--	--	--
Trichlorofluoromethane		--	--	--	--	--	--	--	--
Vinyl Chloride		--	--	--	--	--	--	--	--
Xylenes (Total)		--	--	--	--	--	--	--	--
TCL Semivolatile Organic Compounds (µg/Kg)									
1,1'-Biphenyl		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
2,2'-Oxybis(1- Chloropropane)		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
2,4,5-Trichlorophenol		1200 U	1200 U	1300 U	1100 U	1100 U	1900 UJ	1200 U	1000 U
2,4,6-Trichlorophenol		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
2,4-Dichlorophenol		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
2,4-Dimethylphenol		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
2,4-Dinitrophenol		1200 UJ	1200 UJ	1300 UJ	1100 UJ	1100 UJ	1900 UJ	1200 UJ	1000 UJ
2,4-Dinitrotoluene		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
2,6-Dinitrotoluene		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
2-Chloronaphthalene		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
2-Chlorophenol		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
2-Methylnaphthalene		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
2-Methylphenol		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
2-Nitroaniline		1200 UJ	1200 UJ	1300 UJ	1100 UJ	1100 UJ	1900 UJ	1200 U	1000 U

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID:	NCC-SS01	NCC-SS02	NCC-SS03	NCC-SS04	NCC-SS05	NCC-SS06	NCC-SS07	NCC-SS08
	Date:	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
2-Nitrophenol		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
3,3'-Dichlorobenzidine		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
3-Nitroaniline		1200 U	1200 U	1300 U	1100 U	1100 U	1900 UJ	1200 U	1000 U
4,6-Dinitro-2-Methylphenol		1200 U	1200 U	1300 U	1100 U	1100 U	1900 UJ	1200 U	1000 U
4-Bromophenyl-Phenylether		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
4-Chloro-3-Methylphenol		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
4-Chloroaniline		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
4-Chlorophenyl-Phenyl Ether		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
4-Methylphenol		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
4-Nitroaniline		1200 U	1200 U	1300 U	1100 U	1100 U	1900 UJ	1200 U	1000 U
4-Nitrophenol		1200 UJ	1200 UJ	1300 UJ	1100 UJ	1100 UJ	1900 UJ	1200 U	1000 U
Acenaphthene		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Acenaphthylene		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Acetophenone		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Anthracene		490 U	470 U	520 U	450 U	450 U	**300 J**	480 U	400 U
Atrazine		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Benzaldehyde		490 UJ	470 UJ	520 UJ	450 UJ	450 UJ	770 UJ	480 U	400 U
Benzo(a)anthracene		490 U	470 U	520 U	450 U	450 U	**1300 J**	480 U	400 U
Benzo(a)pyrene		490 U	470 U	520 U	450 U	450 U	**1200 J**	480 U	400 U
Benzo(b)fluoranthene		490 U	470 U	520 U	450 U	450 U	**1000 J**	480 U	400 U
Benzo(g,h,i)perylene		490 U	470 U	520 U	450 U	450 U	**480 J**	480 U	400 U
Benzo(k)fluoranthene		490 U	470 U	520 U	450 U	450 U	**1300 J**	480 U	400 U
Bis(2-Chloroethoxy)Methane		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Bis-(2-Chloroethyl)Ether		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Bis(2-Ethylhexyl)Phthalate		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Butylbenzylphthalate		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Caprolactam		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Carbazole		490 U	470 U	520 U	450 U	450 U	**230 J**	480 U	400 U
Chrysene		490 U	470 U	520 U	450 U	450 U	**1400 J**	480 U	400 U
Dibenzo(a,h)-anthracene		490 U	470 U	520 U	450 U	450 U	**220 J**	480 U	400 U
Dibenzofuran		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Diethylphthalate		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID:	NCC-SS01	NCC-SS02	NCC-SS03	NCC-SS04	NCC-SS05	NCC-SS06	NCC-SS07	NCC-SS08
	Date:	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Dimethylphthalate		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Di-n-Butylphthalate		490 U	470 U	520 U	450 U	450 U	**210 J**	480 U	400 U
Di-n-Octylphthalate		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Fluoranthene		490 U	470 U	520 U	450 U	450 U	**2300 J**	480 U	400 U
Fluorene		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Hexachlorobenzene		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Hexachlorobutadiene		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Hexachlorocyclo-Pentadiene		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Hexachloroethane		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Indeno(1,2,3-cd)-pyrene		490 U	470 U	520 U	450 U	450 U	**790 J**	480 U	400 U
Isophorone		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Naphthalene		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Nitrobenzene		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
n-Nitroso Diphenylamine		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
n-Nitroso-Di-n Propylamine		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Pentachlorophenol		1200 UJ	1200 UJ	1300 UJ	1100 UJ	1100 UJ	1900 UJ	1200 U	1000 U
Phenanthrene		490 U	470 U	520 U	450 U	450 U	**1200 J**	480 U	400 U
Phenol		490 U	470 U	520 U	450 U	450 U	770 UJ	480 U	400 U
Pyrene		490 UJ	470 UJ	520 UJ	450 UJ	450 UJ	**2000 J**	480 U	400 U
TCL Pesticides and PCBs (µg/Kg)									
4,4'-DDD		4.9 U	4.7 U	5.2 U	4.5 U	4.5 U	7.7 UJ	4.8 U	4 U
4,4'-DDE		**64**	4.7 U	5.2 U	4.5 U	4.5 U	7.7 UJ	4.8 U	4 U
4,4'-DDT		**36 J**	4.7 U	5.2 U	4.5 U	4.5 U	7.7 UJ	4.8 U	4 U
Aldrin		2.5 U	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ	2.5 U	2.1 U
Alpha-BHC		2.5 U	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ	2.5 U	2.1 U
Alpha-Chlordane		**2.6 R**	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ	2.5 U	2.1 U
Aroclor-1016		49 U	47 U	52 U	45 U	45 U	77 UJ	48 U	40 U
Aroclor-1221		100 U	96 U	100 U	92 U	92 U	160 UJ	97 U	82 U
Aroclor-1232		49 U	47 U	52 U	45 U	45 U	77 UJ	48 U	40 U
Aroclor-1242		49 U	47 U	52 U	45 U	45 U	77 UJ	48 U	40 U
Aroclor-1248		49 U	47 U	52 U	45 U	45 U	77 UJ	48 U	40 U
Aroclor-1254		**560**	47 U	52 U	45 U	45 U	77 UJ	48 U	40 U

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: NCC-SS01 Date: 10/2/2003 Depth: 0 - 2 in	NCC-SS02 10/2/2003 0 - 2 in	NCC-SS03 10/2/2003 0 - 2 in	NCC-SS04 10/2/2003 0 - 2 in	NCC-SS05 10/2/2003 0 - 2 in	NCC-SS06 10/2/2003 0 - 2 in	NCC-SS07 10/2/2003 0 - 2 in	NCC-SS08 10/2/2003 0 - 2 in
Aroclor-1260	**58 J**	47 U	52 U	45 U	45 U	77 UJ	48 U	40 U
Beta-BHC	2.5 U	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ	**4**	**1.8 J**
Delta-BBHC	2.5 U	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ	2.5 U	2.1 U
Dieldrin	**15**	4.7 U	5.2 U	4.5 U	4.5 U	7.7 UJ	4.8 U	4 U
Endosulfan I	**2.7 R**	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ	2.5 U	2.1 U
Endosulfan II	4.9 U	4.7 U	5.2 U	4.5 U	4.5 U	7.7 UJ	4.8 U	4 U
Endosulfan Sulfate	4.9 U	4.7 U	5.2 U	4.5 U	4.5 U	7.7 UJ	4.8 U	4 U
Endrin	4.9 U	4.7 U	5.2 U	4.5 U	4.5 U	**6.3 J**	4.8 U	4 U
Endrin Aldehyde	**8.4**	4.7 U	5.2 U	4.5 U	4.5 U	7.7 UJ	4.8 U	4 U
Endrin Ketone	4.9 U	4.7 U	5.2 U	4.5 U	4.5 U	7.7 UJ	4.8 U	4 U
Gamma-BHC (Lindane)	2.5 U	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ	2.5 U	2.1 U
Gamma-Chlordane	2.5 U	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ	2.5 U	2.1 U
Heptachlor	2.5 U	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ	2.5 U	2.1 U
Heptachlor Epoxide	2.5 U	2.4 U	2.7 U	2.3 U	2.3 U	4 UJ	2.5 U	2.1 U
Methoxychlor	25 U	24 U	27 U	23 U	23 U	40 UJ	25 U	21 U
Toxaphene	250 U	240 U	270 U	230 U	230 U	400 UJ	250 U	210 U
Herbicides (µg/Kg)								
2,4,5-T	--	--	--	--	--	--	--	--
2,4,5-TP (SILVEX)	--	--	--	--	--	--	--	--
2,4-D	--	--	--	--	--	--	--	--
2,4-DB	--	--	--	--	--	--	--	--
Dalapon	--	--	--	--	--	--	--	--
Dicamba	--	--	--	--	--	--	--	--
Dichlorprop	--	--	--	--	--	--	--	--
Dinoseb	--	--	--	--	--	--	--	--
MCPA	--	--	--	--	--	--	--	--
MCPP	--	--	--	--	--	--	--	--

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID:	NCC-SS01	NCC-SS02	NCC-SS03	NCC-SS04	NCC-SS05	NCC-SS06	NCC-SS07	NCC-SS08
	Date:	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003	10/2/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TAL Metals and Mercury (mg/Kg)									
Aluminum		7900	7590	10500	8770	7160	4730	7530	11100
Antimony		2 U	2.2 U	2.2 U	1.9 U	2 U	2.9 U	2.1 U	1.8 U
Arsenic		3.9	5.6	4.8	4.2	4	2.7 B	4.8	6.5
Barium		76	59.4 B	92.2	81.4	73.9	47 B	80	110
Beryllium		0.38 B	0.37 B	0.44 B	0.49 B	0.4 B	0.31 B	0.43 B	0.59 B
Cadmium		2 J	0.15 U	0.15 U	0.13 U	0.14 U	4.9 J	0.14 U	0.13 U
Calcium		4920	13700	17600	3260	3280	7190	4550	3270
Chromium		50.3	11.4	14.4	11.4	15	14.2	13.1	13.9
Cobalt		7.7 B	9.7 B	12.7 B	8.6 B	7.2 B	5.1 B	7.2 B	9.9 B
Copper		25.6 J	29.8 J	26.3 J	15.9 J	18.6 J	55.6 J	18.5 J	23.1 J
Iron		16700	20500	25300	17800	14600	24100	15500	24800
Lead		110	33.8	31.8	33.6	47.2	222	28.7	26.8
Magnesium		3290	6650	12200	3380	2820	2360	3020	4800
Manganese		429	633	819	499	402	94.2	389	831
Nickel		15.1	21.3	25	13.8	12.7	75.8	12.1	21.9
Potassium		995 B	2150	2910	698 B	405 B	366 B	489 B	693 B
Selenium		0.8 B	0.57 U	0.57 U	0.5 U	0.52 U	1.9 B	0.62 B	0.49 U
Silver		0.42 U	0.45 U	0.45 U	0.4 U	0.41 U	0.59 U	0.43 U	0.38 U
Sodium		540 B	1440 B	1720	145 U	149 U	217 U	157 U	140 U
Thallium		1.2 U	1.3 U	1.3 U	1.1 U	1.1 U	1.7 U	1.2 U	1.1 U
Vanadium		17.8	16.1	16.3	17.2	14.6	13.4 B	15	19.2
Zinc		139	87.9	112	67	67.8	319	225	66.8
Mercury		0.39	0.07 U	0.14	0.14	0.38	0.14 B	0.09 B	0.06 U
Total Cyanide (mg/Kg)									
Cyanide Tot.		0.21	0.18 U	0.17 U	0.28	0.17 U	0.28 U	0.18 U	0.15 U
Total Petroleum Hydrocarbons (mg/Kg)									
n-Hexane Extractable Material		--	--	--	--	--	--	--	--
Percent Moisture (wt%)									
Percent Moisture		--	--	--	--	--	--	--	--
Percent Solids (%)									
Percent Solids, 105DegC		60	66	70	73	73	43	68	80

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: NCC-SS09 Date: 10/1/2003 Depth: 0 - 2 in	NCC-SS10 10/1/2003 0 - 2 in	NCC-SS11 10/1/2003 0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)			
1,1,1-Trichloroethane	--	--	21 U
1,1,2,2-Tetrachloroethane	--	--	21 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	21 U
1,1,2-Trichloroethane	--	--	21 U
1,1-Dichloroethane	--	--	21 U
1,1-Dichloroethene	--	--	21 U
1,2,4-Trichlorobenzene	--	--	21 UJ
1,2-Dibromo-3-Chloropropane	--	--	21 UJ
1,2-Dibromoethane	--	--	21 UJ
1,2-Dichlorobenzene	--	--	21 UJ
1,2-Dichloroethane	--	--	21 U
1,2-Dichloropropane	--	--	21 U
1,3-Dichlorobenzene	--	--	21 UJ
1,4-Dichlorobenzene	--	--	21 UJ
2-Butanone	--	--	21 U
2-Hexanone	--	--	21 UJ
4-Methyl-2-Pentanone	--	--	21 UJ
Acetone	--	--	21 U
Benzene	--	--	21 U
Bromodichloromethane	--	--	21 U
Bromoform	--	--	21 U
Bromomethane	--	--	21 U
Carbon Disulfide	--	--	21 U
Carbon Tetrachloride	--	--	21 U
Chlorobenzene	--	--	21 UJ
Chloroethane	--	--	21 U
Chloroform	--	--	21 U
Chloromethane	--	--	21 U
cis-1,2-Dichloroethene	--	--	21 U
cis-1,3-Dichloropropene	--	--	21 U
Cyclohexane	--	--	21 U

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: NCC-SS09 Date: 10/1/2003 Depth: 0 - 2 in	NCC-SS10 10/1/2003 0 - 2 in	NCC-SS11 10/1/2003 0 - 2 in
Dibromochloromethane	--	--	21 U
Dichlorodifluoromethane	--	--	21 U
Ethylbenzene	--	--	21 UJ
Isopropylbenzene	--	--	21 UJ
Methyl Acetate	--	--	21 U
Methyl tert-Butyl Ether	--	--	21 U
Methylcyclohexane	--	--	21 U
Methylene Chloride	--	--	21 U
Styrene	--	--	21 UJ
Tetrachloroethene	--	--	21 UJ
Toluene	--	--	21 UJ
trans-1,2-Dichloroethene	--	--	21 U
trans-1,3-Dichloropropene	--	--	21 U
Trichloroethene	--	--	21 U
Trichlorofluoromethane	--	--	21 U
Vinyl Chloride	--	--	21 U
Xylenes (Total)	--	--	21 UJ
TCL Semivolatile Organic Compounds (µg/Kg)			
1,1'-Biphenyl	350 U	390 U	520 U
2,2'-Oxybis(1- Chloropropane)	350 U	390 U	520 U
2,4,5-Trichlorophenol	890 U	980 U	1300 U
2,4,6-Trichlorophenol	350 U	390 U	520 U
2,4-Dichlorophenol	350 U	390 U	520 U
2,4-Dimethylphenol	350 U	390 U	520 U
2,4-Dinitrophenol	890 UJ	980 UJ	1300 UJ
2,4-Dinitrotoluene	350 U	390 U	520 U
2,6-Dinitrotoluene	350 U	390 U	520 U
2-Chloronaphthalene	350 U	390 U	520 U
2-Chlorophenol	350 U	390 U	520 U
2-Methylnaphthalene	350 U	390 U	520 U
2-Methylphenol	350 U	390 U	520 U
2-Nitroaniline	890 UJ	980 UJ	1300 U

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID:	NCC-SS09	NCC-SS10	NCC-SS11
	Date:	10/1/2003	10/1/2003	10/1/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in
2-Nitrophenol		350 U	390 U	520 U
3,3'-Dichlorobenzidine		350 U	390 U	520 U
3-Nitroaniline		890 U	980 U	1300 U
4,6-Dinitro-2-Methylphenol		890 U	980 U	1300 UJ
4-Bromophenyl-Phenylether		350 U	390 U	520 U
4-Chloro-3-Methylphenol		350 U	390 U	520 U
4-Chloroaniline		350 U	390 U	520 U
4-Chlorophenyl-Phenyl Ether		350 U	390 U	520 U
4-Methylphenol		350 U	390 U	520 U
4-Nitroaniline		890 U	980 U	1300 U
4-Nitrophenol		890 UJ	980 UJ	1300 UJ
Acenaphthene		350 U	390 U	520 U
Acenaphthylene		350 U	390 U	520 U
Acetophenone		350 U	390 U	520 U
Anthracene		350 U	390 U	520 U
Atrazine		350 U	390 U	520 U
Benzaldehyde		350 UJ	390 UJ	520 UJ
Benzo(a)anthracene		350 U	390 U	520 U
Benzo(a)pyrene		350 U	390 U	520 U
Benzo(b)fluoranthene		350 U	390 U	520 U
Benzo(g,h,i)perylene		350 U	390 U	520 U
Benzo(k)fluoranthene		350 U	390 U	520 U
Bis(2-Chloroethoxy)Methane		350 U	390 U	520 U
Bis-(2-Chloroethyl)Ether		350 U	390 U	520 U
Bis(2-Ethylhexyl)Phthalate		350 U	390 U	520 U
Butylbenzylphthalate		350 U	390 U	520 U
Caprolactam		350 U	390 U	520 U
Carbazole		350 U	390 U	520 U
Chrysene		350 U	390 U	520 U
Dibenzo(a,h)-anthracene		350 U	390 U	520 U
Dibenzofuran		350 U	390 U	520 U
Diethylphthalate		350 U	390 U	520 U

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: NCC-SS09 Date: 10/1/2003 Depth: 0 - 2 in	NCC-SS10 10/1/2003 0 - 2 in	NCC-SS11 10/1/2003 0 - 2 in
Dimethylphthalate	350 U	390 U	520 U
Di-n-Butylphthalate	350 U	390 U	520 U
Di-n-Octylphthalate	350 U	390 U	520 U
Fluoranthene	350 U	390 U	520 U
Fluorene	350 U	390 U	520 U
Hexachlorobenzene	350 U	390 U	520 U
Hexachlorobutadiene	350 U	390 U	520 U
Hexachlorocyclo-Pentadiene	350 U	390 U	520 U
Hexachloroethane	350 U	390 U	520 U
Indeno(1,2,3-cd)-pyrene	350 U	390 U	520 U
Isophorone	350 U	390 U	520 U
Naphthalene	350 U	390 U	520 U
Nitrobenzene	350 U	390 U	520 U
n-Nitroso Diphenylamine	350 U	390 U	520 U
n-Nitroso-Di-n Propylamine	350 U	390 U	520 U
Pentachlorophenol	890 UJ	980 UJ	1300 UJ
Phenanthrene	350 U	390 U	520 U
Phenol	350 U	390 U	520 U
Pyrene	350 UJ	390 UJ	520 UJ
TCL Pesticides and PCBs (µg/Kg)			
4,4'-DDD	3.5 U	3.9 U	5.2 U
4,4'-DDE	3.5 U	**1.5 J**	**4.2 J**
4,4'-DDT	3.5 U	3.9 U	5.2 U
Aldrin	1.8 U	2 U	2.7 U
Alpha-BHC	1.8 U	2 U	2.7 UJ
Alpha-Chlordane	1.8 U	2 U	2.7 U
Aroclor-1016	35 U	39 U	52 U
Aroclor-1221	72 U	79 U	100 U
Aroclor-1232	35 U	39 U	52 U
Aroclor-1242	35 U	39 U	52 U
Aroclor-1248	35 U	39 U	52 U
Aroclor-1254	35 U	39 U	52 U

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID:	NCC-SS09	NCC-SS10	NCC-SS11
	Date:	10/1/2003	10/1/2003	10/1/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in
Aroclor-1260		35 U	39 U	52 U
Beta-BHC		1.8 U	2 U	2.7 U
Delta-BBHC		1.8 U	2 U	2.7 U
Dieldrin		3.5 U	3.9 U	5.2 U
Endosulfan I		1.8 U	2 U	**0.62 J**
Endosulfan II		3.5 U	3.9 U	5.2 U
Endosulfan Sulfate		3.5 U	3.9 U	5.2 U
Endrin		3.5 U	3.9 U	5.2 U
Endrin Aldehyde		3.5 U	3.9 U	5.2 U
Endrin Ketone		3.5 U	3.9 U	5.2 U
Gamma-BHC (Lindane)		1.8 U	2 U	2.7 UJ
Gamma-Chlordane		1.8 U	2 U	2.7 U
Heptachlor		1.8 U	2 U	2.7 U
Heptachlor Epoxide		1.8 U	2 U	2.7 U
Methoxychlor		18 U	20 U	27 U
Toxaphene		180 U	200 U	270 U
Herbicides (µg/Kg)				
2,4,5-T		--	--	28.4 U
2,4,5-TP (SILVEX)		--	--	28.4 U
2,4-D		--	--	28.4 U
2,4-DB		--	--	28.4 U
Dalapon		--	--	85.1 U
Dicamba		--	--	28.4 U
Dichlorprop		--	--	28.4 U
Dinoseb		--	--	28.4 U
MCPA		--	--	8510 U
MCPP		--	--	8510 U

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID:	NCC-SS09	NCC-SS10	NCC-SS11
	Date:	10/1/2003	10/1/2003	10/1/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in
TAL Metals and Mercury (mg/Kg)				
Aluminum		**5590**	**15600**	**8850**
Antimony		1.6 U	2 U	2.4 U
Arsenic		**5.9**	**8.3**	**10**
Barium		**41 B**	**123**	**131**
Beryllium		**0.33 B**	**1 B**	**0.64 B**
Cadmium		0.11 U	0.14 U	0.16 U
Calcium		**42800**	**1220 B**	**3950**
Chromium		**8.2**	**16.4**	**12.9**
Cobalt		**8.7 B**	**23.9**	**7 B**
Copper		**21.3**	**22.3**	**31**
Iron		**17600**	**38700**	**24400**
Lead		**18.2**	**44**	**54.6**
Magnesium		**14100**	**3760**	**2410**
Manganese		**439**	**1020**	**1010**
Nickel		**17.8**	**19**	**14.1**
Potassium		**558 B**	**823 B**	**552 B**
Selenium		0.41 UJ	0.51 UJ	**0.78 BJ**
Silver		0.32 UJ	0.41 UJ	0.49 UJ
Sodium		118 U	148 U	180 U
Thallium		0.91 U	1.1 U	1.4 U
Vanadium		**9.9 B**	**29.5**	**25.4**
Zinc		**52.6**	**69.1**	**81.8**
Mercury		0.05 U	0.07 U	**0.14 B**
Total Cyanide (mg/Kg)				
Cyanide Tot.		0.13 U	**0.21**	**0.49**
Total Petroleum Hydrocarbons (mg/Kg)				
n-Hexane Extractable Material		- -	- -	337 U
Percent Moisture (wt%)				
Percent Moisture		- -	- -	**42.6**
Percent Solids (%)				
Percent Solids, 105DegC		**93**	**73**	**62**

Table D-7-1
Complete Analytical Data Summary for Surface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NCC = NYS Canal Corporation / Allco / Leyerle site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
wt. % = Percent weight.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Source: Ecology and Environment, Inc., 2004

Table D-7-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: / Date: / Depth:	NCC-GP01-SB 10/9/2003 22 - 24 ft	NCC-GP02-SB 10/7/2003 0 - 2 ft	NCC-GP03-SB 10/9/2003 14 - 16 ft	NCC-GP04-SB 10/3/2003 21 - 24 in	NCC-GP05-SB 10/7/2003 2 - 4 ft
TCL Volatile Organic Compounds (µg/Kg)						
1,1,1-Trichloroethane		10 U	10 U	10 U	10 U	11 U
1,1,2,2-Tetrachloroethane		10 U	10 U	10 U	10 U	11 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		**2 J**	10 U	**0.7 J**	10 U	11 U
1,1,2-Trichloroethane		10 U	10 U	10 U	10 U	11 U
1,1-Dichloroethane		10 U	10 U	10 U	10 U	11 U
1,1-Dichloroethene		10 U	10 U	10 UJ	10 U	11 U
1,2,4-Trichlorobenzene		10 U	10 U	10 U	10 U	11 U
1,2-Dibromo-3-Chloropropane		10 U	10 U	10 U	**10 R**	**11 R**
1,2-Dibromoethane		10 U	10 U	10 U	10 U	11 U
1,2-Dichlorobenzene		10 U	10 U	10 U	10 U	11 U
1,2-Dichloroethane		10 U	10 U	10 U	10 U	11 U
1,2-Dichloropropane		10 U	10 U	10 U	10 U	11 U
1,3-Dichlorobenzene		10 U	10 U	10 U	10 U	11 U
1,4-Dichlorobenzene		10 U	10 U	10 U	10 U	11 U
2-Butanone		10 U	10 U	**11**	10 U	11 U
2-Hexanone		10 U	10 U	10 U	10 UJ	11 U
4-Methyl-2-Pentanone		10 U	10 U	10 U	10 U	11 UJ
Acetone		11 UJ	10 UJ	**66**	10 U	11 UJ
Benzene		10 U	10 U	10 U	10 U	11 U
Bromodichloromethane		10 U	10 U	10 U	10 U	11 U
Bromoform		10 U	10 U	10 U	10 U	11 U
Bromomethane		10 U	10 U	10 UJ	10 U	11 UJ
Carbon Disulfide		10 UJ	10 U	**1 J**	10 U	11 U
Carbon Tetrachloride		10 U	10 U	10 U	10 U	11 U
Chlorobenzene		10 U	10 U	10 U	10 U	11 U
Chloroethane		10 U	10 U	10 U	10 U	11 UJ
Chloroform		10 U	10 U	10 U	10 U	11 U
Chloromethane		10 U	10 U	10 U	10 U	11 UJ
cis-1,2-Dichloroethene		10 U	10 U	10 U	10 U	11 U
cis-1,3-Dichloropropene		10 U	10 U	10 U	10 U	11 U
Cyclohexane		10 U	10 U	10 U	10 U	11 U
Dibromochloromethane		10 U	10 U	10 U	10 U	11 U
Dichlorodifluoromethane		10 U	10 U	10 U	10 U	11 U
Ethylbenzene		10 U	10 U	10 U	10 U	11 U
Isopropylbenzene		10 U	10 U	10 U	10 U	11 U
Methyl Acetate		10 U	10 U	10 U	10 U	11 UJ
Methyl tert-Butyl Ether		10 U	10 U	10 U	10 U	11 U
Methylcyclohexane		10 U	10 U	10 U	10 U	11 U
Methylene Chloride		10 UJ	10 U	10 U	10 U	11 U
Styrene		10 U	10 U	10 U	10 U	11 U
Tetrachloroethene		10 U	10 U	10 U	10 U	11 U
Toluene		10 UJ	10 U	10 U	10 U	11 U
trans-1,2-Dichloroethene		10 U	10 U	10 U	10 U	11 U
trans-1,3-Dichloropropene		10 U	10 U	10 U	10 U	11 U
Trichloroethene		10 U	10 U	10 U	10 U	11 U
Trichlorofluoromethane		10 U	10 U	10 U	10 U	11 U
Vinyl Chloride		10 U	10 U	10 U	10 U	11 UJ
Xylenes (Total)		10 U	10 U	10 U	10 U	11 U

Table D-7-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: / Date: / Depth:	NCC-GP01-SB 10/9/2003 22 - 24 ft	NCC-GP02-SB 10/7/2003 0 - 2 ft	NCC-GP03-SB 10/9/2003 14 - 16 ft	NCC-GP04-SB 10/3/2003 21 - 24 in	NCC-GP05-SB 10/7/2003 2 - 4 ft
TCL Semivolatile Organic Compounds (µg/Kg)						
1,1'-Biphenyl		350 U	380 U	410 U	390 U	340 U
2,2'-Oxybis(1- Chloropropane)		350 U	380 U	410 U	390 U	340 U
2,4,5-Trichlorophenol		890 U	950 U	1000 U	990 U	860 U
2,4,6-Trichlorophenol		350 U	380 U	410 U	390 U	340 U
2,4-Dichlorophenol		350 U	380 U	410 U	390 U	340 U
2,4-Dimethylphenol		350 U	380 U	410 U	390 U	340 U
2,4-Dinitrophenol		890 UJ	950 UJ	1000 U	990 U	860 UJ
2,4-Dinitrotoluene		350 U	380 U	410 U	390 U	340 U
2,6-Dinitrotoluene		350 U	380 U	410 U	390 U	340 U
2-Chloronaphthalene		350 U	380 U	410 U	390 U	340 U
2-Chlorophenol		350 U	380 U	410 U	390 U	340 U
2-Methylnaphthalene		350 U	380 U	410 U	390 U	340 U
2-Methylphenol		350 U	380 U	410 U	390 U	340 U
2-Nitroaniline		890 U	950 U	1000 U	990 U	860 U
2-Nitrophenol		350 U	380 U	410 U	390 U	340 U
3,3'-Dichlorobenzidine		350 UJ	380 UJ	410 UJ	390 UJ	340 UJ
3-Nitroaniline		890 U	950 UJ	1000 UJ	990 U	860 UJ
4,6-Dinitro-2-Methylphenol		890 U	950 UJ	1000 U	990 U	860 UJ
4-Bromophenyl-Phenylether		350 U	380 U	410 U	390 U	340 U
4-Chloro-3-Methylphenol		350 U	380 U	410 U	390 U	340 U
4-Chloroaniline		350 U	380 U	410 U	390 U	340 U
4-Chlorophenyl-Phenyl Ether		350 U	380 U	410 U	390 U	340 U
4-Methylphenol		350 U	380 U	410 U	390 U	340 U
4-Nitroaniline		890 U	950 U	1000 U	990 U	860 U
4-Nitrophenol		890 UJ	950 UJ	1000 U	990 UJ	860 UJ
Acenaphthene		350 U	380 U	410 U	390 U	340 U
Acenaphthylene		350 U	380 U	410 U	390 U	340 U
Acetophenone		350 U	380 U	410 U	390 U	340 U
Anthracene		350 U	380 U	410 U	390 U	340 U
Atrazine		350 U	380 U	410 U	390 U	340 U
Benzaldehyde		350 U	380 U	410 U	390 U	340 U
Benzo(a)anthracene		350 U	380 U	410 U	390 U	340 U
Benzo(a)pyrene		350 U	380 U	410 U	390 U	340 U
Benzo(b)fluoranthene		350 U	380 U	410 U	390 U	340 U
Benzo(g,h,i)perylene		350 UJ	380 UJ	410 U	390 U	340 UJ
Benzo(k)fluoranthene		350 U	380 U	410 U	390 U	340 U
Bis(2-Chloroethoxy)Methane		350 U	380 U	410 U	390 U	340 U
Bis-(2-Chloroethyl)Ether		350 U	380 U	410 U	390 U	340 U
Bis(2-Ethylhexyl)Phthalate		350 U	380 U	**100 J**	**420**	**73 J**
Butylbenzylphthalate		350 U	380 U	410 U	390 U	340 U
Caprolactam		350 U	380 U	410 U	390 U	340 U
Carbazole		350 UJ	380 UJ	410 UJ	390 UJ	340 UJ
Chrysene		350 U	380 U	410 U	390 U	340 U
Dibenzo(a,h)-anthracene		350 U	380 U	410 U	390 U	340 U
Dibenzofuran		350 U	380 U	410 U	390 U	340 U
Diethylphthalate		350 U	380 U	410 U	390 U	340 U
Dimethylphthalate		350 U	380 U	410 U	390 U	340 U
Di-n-Butylphthalate		350 U	380 U	410 U	390 U	340 U

Table D-7-2
Complete Analytical Data Summary for Subsurface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: NCC-GP01-SB Date: 10/9/2003 Depth: 22 - 24 ft	NCC-GP02-SB 10/7/2003 0 - 2 ft	NCC-GP03-SB 10/9/2003 14 - 16 ft	NCC-GP04-SB 10/3/2003 21 - 24 in	NCC-GP05-SB 10/7/2003 2 - 4 ft
Di-n-Octylphthalate	350 U	380 U	410 U	390 U	340 U
Fluoranthene	350 U	380 U	410 U	390 U	340 U
Fluorene	350 U	380 U	410 U	390 U	340 U
Hexachlorobenzene	350 U	380 U	410 U	390 U	340 U
Hexachlorobutadiene	350 U	380 U	410 U	390 U	340 U
Hexachlorocyclo-Pentadiene	350 UJ	380 UJ	410 U	390 UJ	340 UJ
Hexachloroethane	350 U	380 U	410 U	390 U	340 U
Indeno(1,2,3-cd)-pyrene	350 U	380 UJ	410 U	390 U	340 UJ
Isophorone	350 U	380 U	410 U	390 U	340 U
Naphthalene	350 U	380 U	410 U	390 U	340 U
Nitrobenzene	350 U	380 U	410 U	390 U	340 U
n-Nitroso Diphenylamine	350 U	380 U	410 U	390 U	340 U
n-Nitroso-Di-n Propylamine	350 U	380 U	410 U	390 U	340 U
Pentachlorophenol	890 U	950 U	1000 U	990 U	860 U
Phenanthrene	350 U	380 U	410 U	390 U	340 U
Phenol	350 U	380 U	410 U	390 U	340 U
Pyrene	350 U	380 U	410 U	390 U	340 U
TCL Pesticides and PCBs (µg/Kg)					
4,4'-DDD	3.5 U	3.8 U	4.1 U	3.9 U	3.4 U
4,4'-DDE	3.5 U	3.8 U	4.1 U	3.9 U	3.4 U
4,4'-DDT	3.5 U	3.8 U	4.1 U	3.9 U	3.4 U
Aldrin	1.8 U	2 U	2.1 U	2 U	1.8 U
Alpha-BHC	1.8 U	2 U	2.1 U	2 U	1.8 U
Alpha-Chlordane	1.8 U	2 U	2.1 U	2 U	1.8 U
Aroclor-1016	35 U	38 U	41 U	39 U	34 U
Aroclor-1221	72 U	77 U	84 U	80 U	70 U
Aroclor-1232	35 U	38 U	41 U	39 U	34 U
Aroclor-1242	35 U	38 U	41 U	39 U	34 U
Aroclor-1248	35 U	38 U	41 U	39 U	34 U
Aroclor-1254	35 U	38 U	41 U	39 U	34 U
Aroclor-1260	35 U	38 U	41 U	39 U	34 U
Beta-BHC	1.8 U	2 U	2.1 U	**0.78 J**	1.8 U
Delta-BBHC	1.8 U	2 U	2.1 U	2 U	1.8 U
Dieldrin	3.5 U	3.8 U	4.1 U	3.9 U	3.4 U
Endosulfan I	1.8 U	2 U	2.1 U	2 U	1.8 U
Endosulfan II	3.5 U	3.8 U	4.1 U	3.9 U	3.4 U
Endosulfan Sulfate	3.5 U	3.8 U	4.1 U	3.9 U	3.4 U
Endrin	3.5 U	3.8 U	4.1 U	3.9 U	3.4 U
Endrin Aldehyde	3.5 U	3.8 U	4.1 U	3.9 U	3.4 U
Endrin Ketone	3.5 U	3.8 U	4.1 U	3.9 U	3.4 U
Gamma-BHC (Lindane)	1.8 U	2 U	2.1 U	2 U	1.8 U
Gamma-Chlordane	1.8 U	2 U	2.1 U	2 U	1.8 U
Heptachlor	1.8 U	2 U	2.1 U	2 U	1.8 U
Heptachlor Epoxide	1.8 U	2 U	2.1 U	2 U	1.8 U
Methoxychlor	18 U	20 U	21 U	20 U	18 U
Toxaphene	180 U	200 U	210 U	200 U	180 U

Table D-7-2
Complete Analytical Data Summary for Subsurface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: / Date: / Depth:	NCC-GP01-SB 10/9/2003 22 - 24 ft	NCC-GP02-SB 10/7/2003 0 - 2 ft	NCC-GP03-SB 10/9/2003 14 - 16 ft	NCC-GP04-SB 10/3/2003 21 - 24 in	NCC-GP05-SB 10/7/2003 2 - 4 ft
TAL Metals and Mercury (mg/Kg)						
Aluminum		7210	19600	7170	19400	19200
Antimony		1.6 U	1.6 U	2.3 U	1.7 U	1.5 U
Arsenic		2.9	12.7 J	1.5 B	9.9	31.5 J
Barium		45	116	62.1	260	114
Beryllium		0.49 B	0.91 B	0.37 B	1.1 B	0.72 B
Cadmium		0.11 U	0.11 U	0.18 U	0.12 U	0.1 U
Calcium		3120	1500	3030	2590	2890
Chromium		10.9	26.6	10.1	22.5	28.4
Cobalt		11.4	18.8	6.5 B	17	28.7
Copper		22	39.9	12.2	37.9 J	57.8
Iron		20000	39600	13000	38100	44500
Lead		9.8	26	13.3	16.7	25.5
Magnesium		4930	10100	3350	8490	11800
Manganese		396	1140	85.6	454	1330
Nickel		19.9	39.9	11.8	43.6	49.4
Potassium		881 B	1190	529 B	1460	1420
Selenium		0.42 U	0.43 UJ	0.96 U	0.44 U	0.4 UJ
Silver		0.33 U	0.34 U	0.35 U	0.35 U	0.32 U
Sodium		122 U	123 U	119 U	126 U	115 U
Thallium		0.94 U	1.6 B	1.7 U	0.97 U	2.1 B
Vanadium		14	31.6	15.3	30.2	34.4
Zinc		65.6	93.4	55.4	97.5	112
Mercury		0.05 U	0.05 U	0.06 U	0.06 U	0.05 U
Total Cyanide (mg/Kg)						
Cyanide Tot.		0.13 U	0.14 U	0.15 U	0.14 U	0.13 U
Percent Solids (%)						
Percent Solids, 105DegC		91	88	81	86	95

Table D-7-2
Complete Analytical Data Summary for Subsurface Soil Samples from the NYS Canal Corporation/Allco/Leyerle Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
ft = Feet.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NCC = NYS Canal Corporation / Allco / Leyerle site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
-SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
wt. % = Percent weight.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Table D-7-3
Complete Analytical Data Summary for Surface Water Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: / Date:	NCC-SW01 10/2/2003	NCC-SW02 10/1/2003	NCC-SW03 10/2/2003	NCC-SW04 10/2/2003	NCC-SW04/D 10/2/2003	NCC-SW05 10/1/2003	NCC-SW06 10/2/2003
TCL Volatile Organic Compounds (µg/L)								
1,1,1-Trichloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane		**10 R**	**10 R**	**10 R**	**10 R**	**10 R**	**10 R**	**10 R**
1,2-Dibromoethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane		10 U	10 U	10 U	10 U	10 UJ	10 U	10 U
1,2-Dichloropropane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone		10 U	10 U	10 U	10 U	10 UJ	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 UJ	10 U	10 U
Carbon Disulfide		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyclohexane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table D-7-3
Complete Analytical Data Summary for Surface Water Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: NCC-SW01 Date: 10/2/2003	NCC-SW02 10/1/2003	NCC-SW03 10/2/2003	NCC-SW04 10/2/2003	NCC-SW04/D 10/2/2003	NCC-SW05 10/1/2003	NCC-SW06 10/2/2003
Dichlorodifluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl Acetate	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U
Methyl tert-Butyl Ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylcyclohexane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes (Total)	10 U	10 U	10 U	10 U	10 U	10 U	10 U
TCL Semivolatile Organic Compounds (µg/L)							
1,1'-Biphenyl	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,2'-Oxybis(1- Chloropropane)	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table D-7-3
Complete Analytical Data Summary for Surface Water Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: / Date:	NCC-SW01 10/2/2003	NCC-SW02 10/1/2003	NCC-SW03 10/2/2003	NCC-SW04 10/2/2003	NCC-SW04/D 10/2/2003	NCC-SW05 10/1/2003	NCC-SW06 10/2/2003
3-Nitroaniline		25 U	25 U	25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-Methylphenol		25 UJ	25 U	25 U	25 U	25 U	25 U	25 U
4-Bromophenyl-Phenylether		10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol		10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline		10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-Phenyl Ether		10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol		10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline		25 U	25 U	25 U	25 U	25 U	25 U	25 U
4-Nitrophenol		25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
Acenaphthene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetophenone		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Atrazine		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzaldehyde		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(a)anthracene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Chloroethoxy)Methane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis-(2-Chloroethyl)Ether		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl)Phthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Caprolactam		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzo(a,h)-anthracene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethylphthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-Butylphthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-Octylphthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table D-7-3
Complete Analytical Data Summary for Surface Water Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: / Date:	NCC-SW01 10/2/2003	NCC-SW02 10/1/2003	NCC-SW03 10/2/2003	NCC-SW04 10/2/2003	NCC-SW04/D 10/2/2003	NCC-SW05 10/1/2003	NCC-SW06 10/2/2003
Fluoranthene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclo-Pentadiene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)-pyrene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrobenzene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitroso Diphenylamine		10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitroso-Di-n Propylamine		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol		25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
Phenanthrene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenol		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
TCL Pesticides and PCBs (µg/L)								
4,4'-DDD		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Aldrin		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-BHC		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-Chlordane		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor-1016		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1221		2 U	2 U	2 U	2 U	2 U	2 U	2 U
Aroclor-1232		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1242		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1248		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1254		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1260		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Beta-BHC		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BBHC		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

Table D-7-3
Complete Analytical Data Summary for Surface Water Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: / Date:	NCC-SW01 10/2/2003	NCC-SW02 10/1/2003	NCC-SW03 10/2/2003	NCC-SW04 10/2/2003	NCC-SW04/D 10/2/2003	NCC-SW05 10/1/2003	NCC-SW06 10/2/2003
Endosulfan I		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Aldehyde		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Ketone		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Gamma-BHC (Lindane)		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-Chlordane		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene		5 U	5 U	5 U	5 U	5 U	5 U	5 U
TAL Metals and Mercury (µg/L)								
Aluminum		**107 B**	19 U	19 U	19 U	19 U	**231**	**40.3 B**
Antimony		7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U
Arsenic		4.4 UJ	4.4 UJ	4.4 UJ	4.4 UJ	4.4 UJ	4.4 UJ	4.4 UJ
Barium		**57 B**	**52.2 B**	**28.9 B**	**28.9 B**	**30 B**	**52.9 B**	**36.5 B**
Beryllium		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Cadmium		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Calcium		**34800**	**42200**	**33500**	**37300**	**37500**	**51400**	**53000**
Chromium		1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	**1.2 B**
Cobalt		1.4 U	**1.7 B**	**2.4 B**	1.4 U	1.4 U	1.4 U	1.4 U
Copper		**9.6 B**	**3 B**	**1.2 B**	**1.2 B**	**2.4 B**	1.2 U	1.2 U
Iron		**4500**	**333**	**1240**	**51.7 B**	**63.8 B**	**683**	**133**
Lead		**2.8 B**	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Magnesium		**9000**	**12100**	**9870**	**11300**	**11400**	**14000**	**16000**
Manganese		**108**	**20.5**	**422**	**151**	**156**	**110**	**34.4**
Nickel		**3.6 B**	**3.3 B**	**2 B**	1.8 U	**3 B**	**2.2 B**	**3.5 B**
Potassium		**2080 B**	**2040 B**	**1240 B**	**1310 B**	**1270 B**	**1860 B**	**2140 B**
Selenium		1.9 U	1.9 U	1.9 U	**3.1 BJ**	1.9 U	1.9 U	1.9 U
Silver		1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Sodium		**2380 B**	**3270 B**	**4120 B**	**4870 B**	**4230 B**	**4990 B**	**27600 J**
Thallium		4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U

Table D-7-3
Complete Analytical Data Summary for Surface Water Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: NCC-SW01 Date: 10/2/2003	NCC-SW02 10/1/2003	NCC-SW03 10/2/2003	NCC-SW04 10/2/2003	NCC-SW04/D 10/2/2003	NCC-SW05 10/1/2003	NCC-SW06 10/2/2003
Vanadium	**2.9 B**	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Zinc	**44.5 J**	**24.4 J**	**21.7 J**	**19.3 B**	**21 J**	**23.9 J**	**21.9 J**
Mercury	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Total Cyanide (µg/L)							
Cyanide Tot.	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Anions (mg/L)							
Bromide	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Chloride	**1.4**	**3.81**	**1.48**	**5.31**	**5.32**	**5.86**	**50.9**
Fluoride	**0.164**	**0.102**	**0.125**	**0.122**	**0.13**	**0.179**	**0.14**
Nitrate-N	**0.0982 J**	**0.104**	**0.131**	0.100 U	0.100 U	0.100 U	**0.251**
Nitrite-N	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Phosphate	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Sulfate	**15.5**	**52.9**	**5.84**	**3.38**	**3.4**	**24.7**	**19.6**
Hardness (mg/L)							
Hardness (As CaCO3)	**310**	**310**	**305**	**250**	**235**	**360**	**330**

Table D-7-3
Complete Analytical Data Summary for Surface Water Samples from the NYS Canal Corporation/Allco/Leyerle Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

/D = Duplicate sample.

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

mg/L = Milligrams per liter

NCC = NYS Canal Corporation / Allco / Leyerle site.

PCB = Polychlorinated biphenyl.

R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.

SW = Surface water sample.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/L = Micrograms per liter.

- = Sample was not analyzed for this parameter.

Source: Ecology and Environment, Inc., 2004

Table D-7-4
Complete Analytical Data Summary for Sediment Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID:	NCC-SE01	NCC-SE02	NCC-SE03	NCC-SE04	NCC-SE05	NCC-SE06	NCC-SE06/D
	Date:	10/2/2003	10/1/2003	10/2/2003	10/2/2003	10/1/2003	10/2/2003	10/2/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)								
1,1,1-Trichloroethane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,1,2,2-Tetrachloroethane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,1,2-Trichloro-1,2,2-Trifluoroethane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,1,2-Trichloroethane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,1-Dichloroethane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,1-Dichloroethene		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,2,4-Trichlorobenzene		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,2-Dibromo-3-Chloropropane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,2-Dibromoethane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,2-Dichlorobenzene		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,2-Dichloroethane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,2-Dichloropropane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,3-Dichlorobenzene		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
1,4-Dichlorobenzene		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
2-Butanone		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
2-Hexanone		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
4-Methyl-2-Pentanone		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Acetone		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Benzene		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Bromodichloromethane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Bromoform		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Bromomethane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Carbon Disulfide		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Carbon Tetrachloride		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Chlorobenzene		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Chloroethane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Chloroform		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Chloromethane		85 UJ	59 UJ	37 UJ	25 UJ	**0.7 J**	11 U	--
cis-1,2-Dichloroethene		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
cis-1,3-Dichloropropene		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Cyclohexane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Dibromochloromethane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Dichlorodifluoromethane		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--
Ethylbenzene		85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	--

Table D-7-4
Complete Analytical Data Summary for Sediment Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: NCC-SE01 Date: 10/2/2003 Depth: 0 - 2 in	NCC-SE02 10/1/2003 0 - 2 in	NCC-SE03 10/2/2003 0 - 2 in	NCC-SE04 10/2/2003 0 - 2 in	NCC-SE05 10/1/2003 0 - 2 in	NCC-SE06 10/2/2003 0 - 2 in	NCC-SE06/D 10/2/2003 0 - 2 in
Isopropylbenzene	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
Methyl Acetate	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
Methyl tert-Butyl Ether	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
Methylcyclohexane	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
Methylene Chloride	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
Styrene	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
Tetrachloroethene	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
Toluene	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
trans-1,2-Dichloroethene	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
trans-1,3-Dichloropropene	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
Trichloroethene	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
Trichlorofluoromethane	85 UJ	59 UJ	37 UJ	25 UJ	18 U	**0.4 J**	- -
Vinyl Chloride	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
Xylenes (Total)	85 UJ	59 UJ	37 UJ	25 UJ	18 U	11 U	- -
TCL Semivolatile Organic Compounds (µg/Kg)							
1,1'-Biphenyl	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
2,2'-Oxybis(1- Chloropropane)	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
2,4,5-Trichlorophenol	5500 UJ	4000 UJ	2800 UJ	1900 UJ	1500 U	1100 U	- -
2,4,6-Trichlorophenol	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
2,4-Dichlorophenol	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
2,4-Dimethylphenol	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
2,4-Dinitrophenol	5500 UJ	4000 UJ	2800 UJ	1900 UJ	1500 UJ	1100 UJ	- -
2,4-Dinitrotoluene	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
2,6-Dinitrotoluene	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
2-Chloronaphthalene	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
2-Chlorophenol	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
2-Methylnaphthalene	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
2-Methylphenol	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
2-Nitroaniline	5500 UJ	4000 UJ	2800 UJ	1900 UJ	1500 U	1100 UJ	- -
2-Nitrophenol	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
3,3'-Dichlorobenzidine	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
3-Nitroaniline	5500 UJ	4000 UJ	2800 UJ	1900 UJ	1500 U	1100 U	- -
4,6-Dinitro-2-Methylphenol	5500 UJ	4000 UJ	2800 UJ	1900 UJ	1500 UJ	1100 U	- -
4-Bromophenyl-Phenylether	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
4-Chloro-3-Methylphenol	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -

Table D-7-4
Complete Analytical Data Summary for Sediment Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID:	NCC-SE01	NCC-SE02	NCC-SE03	NCC-SE04	NCC-SE05	NCC-SE06	NCC-SE06/D
	Date:	10/2/2003	10/1/2003	10/2/2003	10/2/2003	10/1/2003	10/2/2003	10/2/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
4-Chloroaniline		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
4-Chlorophenyl-Phenyl Ether		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
4-Methylphenol		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
4-Nitroaniline		5500 UJ	4000 UJ	2800 UJ	1900 UJ	1500 U	1100 U	- -
4-Nitrophenol		5500 UJ	4000 UJ	2800 UJ	1900 UJ	1500 UJ	1100 UJ	- -
Acenaphthene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Acenaphthylene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Acetophenone		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Anthracene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Atrazine		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Benzaldehyde		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 UJ	420 UJ	- -
Benzo(a)anthracene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Benzo(a)pyrene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Benzo(b)fluoranthene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Benzo(g,h,i)perylene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Benzo(k)fluoranthene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Bis(2-Chloroethoxy)Methane		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Bis-(2-Chloroethyl)Ether		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Bis(2-Ethylhexyl)Phthalate		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Butylbenzylphthalate		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Caprolactam		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Carbazole		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Chrysene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Dibenzo(a,h)-anthracene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Dibenzofuran		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Diethylphthalate		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Dimethylphthalate		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Di-n-Butylphthalate		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Di-n-Octylphthalate		**860 J**	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Fluoranthene		2200 UJ	1600 UJ	**240 J**	770 UJ	580 U	420 U	- -
Fluorene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Hexachlorobenzene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Hexachlorobutadiene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Hexachlorocyclo-Pentadiene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Hexachloroethane		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Indeno(1,2,3-cd)-pyrene		2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -

Table D-7-4
Complete Analytical Data Summary for Sediment Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: NCC-SE01 Date: 10/2/2003 Depth: 0 - 2 in	NCC-SE02 10/1/2003 0 - 2 in	NCC-SE03 10/2/2003 0 - 2 in	NCC-SE04 10/2/2003 0 - 2 in	NCC-SE05 10/1/2003 0 - 2 in	NCC-SE06 10/2/2003 0 - 2 in	NCC-SE06/D 10/2/2003 0 - 2 in
Isophorone	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Naphthalene	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Nitrobenzene	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
n-Nitroso Diphenylamine	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
n-Nitroso-Di-n Propylamine	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Pentachlorophenol	5500 UJ	4000 UJ	2800 UJ	1900 UJ	1500 UJ	1100 UJ	- -
Phenanthrene	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Phenol	2200 UJ	1600 UJ	1100 UJ	770 UJ	580 U	420 U	- -
Pyrene	2200 UJ	1600 UJ	**250 J**	770 UJ	580 UJ	420 UJ	- -
TCL Pesticide and PCBs (µg/Kg)							
4,4'-DDD	22 UJ	16 UJ	11 UJ	7.7 UJ	5.8 U	4.2 U	- -
4,4'-DDE	**15 J**	16 UJ	**3.6 J**	7.7 UJ	5.8 U	4.2 UJ	- -
4,4'-DDT	22 UJ	**26 J**	11 UJ	7.7 UJ	5.8 U	4.2 U	- -
Aldrin	11 UJ	8.1 UJ	5.7 UJ	4 UJ	3 U	2.2 U	- -
Alpha-BHC	11 UJ	8.1 UJ	5.7 UJ	4 UJ	3 UJ	2.2 U	- -
Alpha-Chlordane	11 UJ	8.1 UJ	5.7 UJ	4 UJ	3 U	2.2 U	- -
Aroclor-1016	220 UJ	160 UJ	110 UJ	77 UJ	58 U	42 U	- -
Aroclor-1221	450 UJ	320 UJ	220 UJ	160 UJ	120 U	85 U	- -
Aroclor-1232	220 UJ	160 UJ	110 UJ	77 UJ	58 U	42 U	- -
Aroclor-1242	220 UJ	160 UJ	110 UJ	77 UJ	58 U	42 U	- -
Aroclor-1248	220 UJ	160 UJ	110 UJ	77 UJ	58 U	42 U	- -
Aroclor-1254	220 UJ	160 UJ	110 UJ	77 UJ	58 U	42 U	- -
Aroclor-1260	220 UJ	160 UJ	110 UJ	77 UJ	58 U	42 U	- -
Beta-BHC	11 UJ	8.1 UJ	5.7 UJ	4 UJ	3 U	2.2 U	- -
Delta-BBHC	11 UJ	8.1 UJ	5.7 UJ	4 UJ	3 U	2.2 U	- -
Dieldrin	22 UJ	16 UJ	11 UJ	7.7 UJ	5.8 U	4.2 U	- -
Endosulfan I	11 UJ	8.1 UJ	5.7 UJ	4 UJ	3 U	2.2 U	- -
Endosulfan II	22 UJ	16 UJ	11 UJ	7.7 UJ	5.8 U	4.2 UJ	- -
Endosulfan Sulfate	22 UJ	16 UJ	11 UJ	7.7 UJ	5.8 U	4.2 U	- -
Endrin	22 UJ	**3.9 J**	11 UJ	7.7 UJ	5.8 U	4.2 U	- -
Endrin Aldehyde	22 UJ	**35 J**	11 UJ	7.7 UJ	5.8 U	4.2 UJ	- -
Endrin Ketone	22 UJ	16 UJ	11 UJ	7.7 UJ	5.8 U	4.2 UJ	- -
Gamma-BHC (Lindane)	11 UJ	8.1 UJ	5.7 UJ	4 UJ	3 UJ	2.2 U	- -
Gamma-Chlordane	11 UJ	8.1 UJ	5.7 UJ	4 UJ	3 U	2.2 UJ	- -
Heptachlor	11 UJ	8.1 UJ	5.7 UJ	4 UJ	3 U	2.2 U	- -
Heptachlor Epoxide	11 UJ	8.1 UJ	5.7 UJ	4 UJ	3 U	2.2 U	- -

Table D-7-4
Complete Analytical Data Summary for Sediment Samples
from the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: / Date: / Depth:	NCC-SE01 10/2/2003 0 - 2 in	NCC-SE02 10/1/2003 0 - 2 in	NCC-SE03 10/2/2003 0 - 2 in	NCC-SE04 10/2/2003 0 - 2 in	NCC-SE05 10/1/2003 0 - 2 in	NCC-SE06 10/2/2003 0 - 2 in	NCC-SE06/D 10/2/2003 0 - 2 in
Methoxychlor		110 UJ	81 UJ	57 UJ	40 UJ	30 U	22 U	- -
Toxaphene		1100 UJ	810 UJ	570 UJ	400 UJ	300 U	220 U	- -
TAL Metals and Mercury (mg/Kg)								
Aluminum		**1510**	**2270 J**	**5670**	**10700**	**10200**	**7570**	- -
Antimony		2.6 U	2.9 UJ	2.8 U	2.6 U	2.2 U	1.9 U	- -
Arsenic		1.6 U	1.8 UJ	**2.7 B**	**6.8**	**5.7**	**5.4**	- -
Barium		**52.6 B**	**123 J**	**112**	**257**	**117**	**80.5**	- -
Beryllium		**0.18 B**	**0.22 BJ**	**0.43 B**	**0.68 B**	**0.57 B**	**0.4 B**	- -
Cadmium		**0.44 B**	0.2 UJ	**0.2 B**	0.18 U	0.15 U	0.13 U	- -
Calcium		**7150**	**9400 J**	**5190**	**6100**	**6890**	**3240**	- -
Chromium		**2.7 B**	**5.5 J**	**8**	**12.1**	**13**	**10.4**	- -
Cobalt		**0.72 B**	0.57 UJ	**6.6 B**	**10.3 B**	**13.1 B**	**9 B**	- -
Copper		**16.2 J**	**16.9 J**	**23.6 J**	**20 J**	**28.6**	**19 J**	- -
Iron		**2110**	**1920 J**	**11400**	**25200**	**23800**	**21900**	- -
Lead		**52.8**	**32.9 J**	**26.5**	**31.2**	**14.8**	**15.3**	- -
Magnesium		**736 B**	**1150 BJ**	**2300**	**3600**	**5970**	**4490**	- -
Manganese		**24**	**27.7 J**	**429**	**3990**	**387**	**835**	- -
Nickel		**4.6 B**	**4.3 BJ**	**14.2 B**	**22.4**	**23.1**	**18.3**	- -
Potassium		**76.3 B**	**145 BJ**	**388 B**	**1300 B**	**727 B**	**787 B**	- -
Selenium		**1.5 B**	0.77 UJ	**1.1 B**	0.68 U	0.58 UJ	0.51 U	- -
Silver		0.54 U	0.61 UJ	0.58 U	0.54 U	0.46 UJ	0.4 U	- -
Sodium		198 U	221 UJ	211 U	**624 B**	167 U	**352 B**	- -
Thallium		1.5 U	1.7 UJ	1.6 U	1.5 U	1.3 U	1.1 U	- -
Vanadium		**10.1 B**	**6.3 BJ**	**14.1 B**	**19.8**	**16.2**	**12.6 B**	- -
Zinc		**49.6**	**46.1 J**	**89.1**	**108**	**68.9**	**63.6**	- -
Mercury		0.08 U	**0.1 BJ**	0.1 U	0.09 U	0.07 U	0.06 U	- -
Total Cyanide (mg/Kg)								
Cyanide Tot.		0.85 U	0.58 U	**0.43**	**0.79**	0.21 U	0.17 UL	- -
Total Organic Carbon (mg/Kg)								
Organic Carbon, Tot.		**250000**	**240000**	**170000**	**61000**	**8400**	**8100**	**8600**
Percent Solids (%)								
Percent Solids, 105DegC		**14**	**21**	**32**	**41**	**58**	**72**	- -

Table D-7-4
Complete Analytical Data Summary for Sediment Samples from the NYS Canal Corporation/Allco/Leyerle Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
NCC = NYS Canal Corporation / Allco / Leyerle site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SE = Sediment sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Source: Ecology and Environment, Inc., 2004

Table D-7-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: NCC-GP01-GW Date: 10/15/2003	NCC-GP03-GW 10/15/2003
TCL Volatile Organic Compounds (µg/L)		
1,1,1-Trichloroethane	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U
1,1-Dichloroethane	10 U	10 U
1,1-Dichloroethene	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U
1,2-Dibromo-3-Chloropropane	10 U	10 U
1,2-Dibromoethane	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U
1,2-Dichloroethane	10 U	10 U
1,2-Dichloropropane	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U
2-Butanone	10 U	10 UJ
2-Hexanone	10 U	10 UJ
4-Methyl-2-Pentanone	10 U	10 UJ
Acetone	10 UJ	10 U
Benzene	10 U	10 U
Bromodichloromethane	10 U	10 U
Bromoform	10 U	10 U
Bromomethane	10 U	10 U
Carbon Disulfide	10 U	10 U
Carbon Tetrachloride	10 U	10 U
Chlorobenzene	10 U	10 U
Chloroethane	10 U	10 U
Chloroform	10 U	10 U
Chloromethane	10 U	10 U
cis-1,2-Dichloroethene	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U
Cyclohexane	10 U	10 U
Dibromochloromethane	10 U	10 U
Dichlorodifluoromethane	10 U	10 U
Ethylbenzene	10 U	10 U
Isopropylbenzene	10 U	10 U
Methyl Acetate	10 UJ	10 U
Methyl tert-Butyl Ether	10 U	10 U
Methylcyclohexane	10 U	10 U
Methylene Chloride	10 U	10 U
Styrene	10 U	10 U
Tetrachloroethene	10 U	10 UJ
Toluene	10 U	10 U
trans-1,2-Dichloroethene	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U
Trichloroethene	10 U	10 U
Trichlorofluoromethane	10 U	10 U
Vinyl Chloride	10 U	10 U

Table D-7-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the NYS Canal Corporation/Allco/Leyerle Site

Analyte / Sample ID: / Date:	NCC-GP01-GW 10/15/2003	NCC-GP03-GW 10/15/2003
Xylenes (Total)	10 U	10 U
TCL Semivolatile Organic Compounds (µg/L)		
1,1'-Biphenyl	10 U	10 U
2,2'-Oxybis(1- Chloropropane)	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U
2,4,6-Trichlorophenol	10 U	10 U
2,4-Dichlorophenol	10 U	10 U
2,4-Dimethylphenol	10 U	10 U
2,4-Dinitrophenol	25 UJ	25 UJ
2,4-Dinitrotoluene	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U
2-Chloronaphthalene	10 U	10 U
2-Chlorophenol	10 U	10 U
2-Methylnaphthalene	10 U	10 U
2-Methylphenol	10 U	10 U
2-Nitroaniline	25 U	25 U
2-Nitrophenol	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U
3-Nitroaniline	25 U	25 U
4,6-Dinitro-2-Methylphenol	25 U	25 U
4-Bromophenyl-Phenylether	10 U	10 U
4-Chloro-3-Methylphenol	10 U	10 U
4-Chloroaniline	10 U	10 U
4-Chlorophenyl-Phenyl Ether	10 U	10 U
4-Methylphenol	10 U	10 U
4-Nitroaniline	25 UJ	25 UJ
4-Nitrophenol	25 UJ	25 UJ
Acenaphthene	10 U	10 U
Acenaphthylene	10 U	10 U
Acetophenone	10 U	10 U
Anthracene	10 U	10 U
Atrazine	10 U	10 U
Benzaldehyde	10 UJ	10 UJ
Benzo(a)anthracene	10 U	10 U
Benzo(a)pyrene	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U
Bis(2-Chloroethoxy)Methane	10 U	10 U
Bis-(2-Chloroethyl)Ether	10 U	10 U
Bis(2-Ethylhexyl)Phthalate	10 U	10 U
Butylbenzylphthalate	10 U	10 U
Caprolactam	10 U	10 U
Carbazole	10 U	10 U
Chrysene	10 U	10 U
Dibenzo(a,h)-anthracene	10 U	10 U
Dibenzofuran	10 U	10 U
Diethylphthalate	10 U	10 U

Table D-7-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the NYS Canal Corporation/Allco/Leyerle Site

Analyte	Sample ID: NCC-GP01-GW Date: 10/15/2003	NCC-GP03-GW 10/15/2003
Dimethylphthalate	10 U	10 U
Di-n-Butylphthalate	10 U	10 U
Di-n-Octylphthalate	10 U	10 U
Fluoranthene	10 U	10 U
Fluorene	10 U	10 U
Hexachlorobenzene	10 U	10 U
Hexachlorobutadiene	10 U	10 U
Hexachlorocyclo-Pentadiene	10 U	10 U
Hexachloroethane	10 U	10 U
Indeno(1,2,3-cd)-pyrene	10 U	10 U
Isophorone	10 U	10 U
Naphthalene	10 U	10 U
Nitrobenzene	10 U	10 U
n-Nitroso Diphenylamine	10 U	10 U
n-Nitroso-Di-n Propylamine	10 U	10 U
Pentachlorophenol	25 U	25 U
Phenanthrene	10 U	10 U
Phenol	10 U	10 U
Pyrene	10 U	10 U
TCL Pesticides and PCBs (µg/L)		
4,4'-DDD	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U
Alpha-BHC	0.05 U	0.05 U
Alpha-Chlordane	0.05 U	0.05 U
Aroclor-1016	1 U	1 U
Aroclor-1221	2 U	2 U
Aroclor-1232	1 U	1 U
Aroclor-1242	1 U	1 U
Aroclor-1248	1 U	1 U
Aroclor-1254	1 U	1 U
Aroclor-1260	1 U	1 U
Beta-BHC	0.05 U	0.05 U
Delta-BBHC	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U
Endosulfan Sulfate	0.1 U	0.1 U
Endrin	0.1 U	0.1 U
Endrin Aldehyde	0.1 U	0.1 U
Endrin Ketone	0.1 U	0.1 U
Gamma-BHC (Lindane)	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U
Heptachlor Epoxide	0.05 U	0.05 U
Methoxychlor	0.5 U	0.5 U
Toxaphene	5 U	5 U

Table D-7-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the NYS Canal Corporation/Allco/Leyerle Site

Analyte / Sample ID: / Date:	NCC-GP01-GW 10/15/2003	NCC-GP03-GW 10/15/2003
TAL Metals and Mercury (µg/L)		
Aluminum	27.7 U	27.7 U
Antimony	9.2 U	**11.2 B**
Arsenic	5.8 U	5.8 U
Barium	**23.8 B**	**27.8 B**
Beryllium	**0.15 B**	**0.19 B**
Cadmium	0.7 U	0.7 U
Calcium	**144000**	**294000**
Chromium	1 U	**1.6 B**
Cobalt	**2.9 B**	**4.2 B**
Copper	**1.2 B**	1 U
Iron	27.9 U	27.9 U
Lead	2.2 U	2.2 U
Magnesium	**46800**	**167000**
Manganese	**80.2**	**583**
Nickel	2.3 U	**2.5 B**
Potassium	**2620 B**	**12200 J**
Selenium	3.8 U	3.8 U
Silver	1.4 U	1.4 U
Sodium	**15500 J**	**25700 J**
Thallium	6.8 U	6.8 U
Vanadium	0.9 U	0.9 U
Zinc	**31.6**	**26**
Mercury	0.1 UJ	0.1 UJ
Total Cyanide (µg/L)		
Cyanide Tot.	5 U	5 U

Table D-7-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the NYS Canal Corporation/Allco/Leyerle Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
GW = Groundwater sample.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/L = Milligrams per liter
NCC = NYS Canal Corporation / Allco / Leyerle site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.
- = Sample was not analyzed for this parameter.

Source: Ecology and Environment, Inc., 2004

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID:	BBA-SS01	BBA-SS02	BBA-SS03	BBA-SS04	BBA-SS05	BBA-SS05/D	BBA-SS08	BBA-SS09
	Date:	10/3/2003	10/3/2003	10/3/2003	10/6/2003	10/3/2003	10/3/2003	10/7/2003	10/6/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)									
1,1,1-Trichloroethane		--	10 U	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane		--	10 U	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-Trifluoroethane		--	10 U	--	--	--	--	--	--
1,1,2-Trichloroethane		--	10 U	--	--	--	--	--	--
1,1-Dichloroethane		--	10 U	--	--	--	--	--	--
1,1-Dichloroethene		--	10 U	--	--	--	--	--	--
1,2,4-Trichlorobenzene		--	10 U	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane		--	**10 R**	--	--	--	--	--	--
1,2-Dibromoethane		--	10 U	--	--	--	--	--	--
1,2-Dichlorobenzene		--	10 U	--	--	--	--	--	--
1,2-Dichloroethane		--	10 U	--	--	--	--	--	--
1,2-Dichloropropane		--	10 U	--	--	--	--	--	--
1,3-Dichlorobenzene		--	10 U	--	--	--	--	--	--
1,4-Dichlorobenzene		--	10 U	--	--	--	--	--	--
2-Butanone		--	10 U	--	--	--	--	--	--
2-Hexanone		--	10 UJ	--	--	--	--	--	--
4-Methyl-2-Pentanone		--	10 U	--	--	--	--	--	--
Acetone		--	18 U	--	--	--	--	--	--
Benzene		--	10 U	--	--	--	--	--	--
Bromodichloromethane		--	10 U	--	--	--	--	--	--
Bromoform		--	10 U	--	--	--	--	--	--
Bromomethane		--	10 U	--	--	--	--	--	--
Carbon Disulfide		--	10 U	--	--	--	--	--	--
Carbon Tetrachloride		--	10 U	--	--	--	--	--	--
Chlorobenzene		--	10 U	--	--	--	--	--	--
Chloroethane		--	10 U	--	--	--	--	--	--
Chloroform		--	10 U	--	--	--	--	--	--
Chloromethane		--	10 U	--	--	--	--	--	--
cis-1,2-Dichloroethene		--	10 U	--	--	--	--	--	--
cis-1,3-Dichloropropene		--	10 U	--	--	--	--	--	--
Cyclohexane		--	10 U	--	--	--	--	--	--

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID:	BBA-SS01	BBA-SS02	BBA-SS03	BBA-SS04	BBA-SS05	BBA-SS05/D	BBA-SS08	BBA-SS09
	Date:	10/3/2003	10/3/2003	10/3/2003	10/6/2003	10/3/2003	10/3/2003	10/7/2003	10/6/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Dibromochloromethane		--	10 U	--	--	--	--	--	--
Dichlorodifluoromethane		--	10 U	--	--	--	--	--	--
Ethylbenzene		--	**110**	--	--	--	--	--	--
Isopropylbenzene		--	**69**	--	--	--	--	--	--
Methyl Acetate		--	**4 J**	--	--	--	--	--	--
Methyl tert-Butyl Ether		--	10 U	--	--	--	--	--	--
Methylcyclohexane		--	**14**	--	--	--	--	--	--
Methylene Chloride		--	10 U	--	--	--	--	--	--
Styrene		--	10 U	--	--	--	--	--	--
Tetrachloroethene		--	10 U	--	--	--	--	--	--
Toluene		--	**25**	--	--	--	--	--	--
trans-1,2-Dichloroethene		--	10 U	--	--	--	--	--	--
trans-1,3-Dichloropropene		--	10 U	--	--	--	--	--	--
Trichloroethene		--	10 U	--	--	--	--	--	--
Trichlorofluoromethane		--	10 U	--	--	--	--	--	--
Vinyl Chloride		--	10 U	--	--	--	--	--	--
Xylenes (Total)		--	**910 J**	--	--	--	--	--	--
TCL Semivolatile Organic Compounds (µg/Kg)									
1,1'-Biphenyl		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
2,2'-Oxybis(1- Chloropropane)		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
2,4,5-Trichlorophenol		1200 U	860 U	950 U	1600 U	990 U	990 U	890 U	1200 U
2,4,6-Trichlorophenol		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
2,4-Dichlorophenol		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
2,4-Dimethylphenol		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
2,4-Dinitrophenol		1200 UJ	860 U	950 UJ	1600 UJ	990 UJ	990 UJ	890 UJ	1200 UJ
2,4-Dinitrotoluene		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
2,6-Dinitrotoluene		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
2-Chloronaphthalene		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
2-Chlorophenol		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
2-Methylnaphthalene		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
2-Methylphenol		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
2-Nitroaniline		1200 U	860 U	950 U	1600 U	990 U	990 U	890 U	1200 U

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID:	BBA-SS01	BBA-SS02	BBA-SS03	BBA-SS04	BBA-SS05	BBA-SS05/D	BBA-SS08	BBA-SS09
	Date:	10/3/2003	10/3/2003	10/3/2003	10/6/2003	10/3/2003	10/3/2003	10/7/2003	10/6/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
2-Nitrophenol		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
3,3'-Dichlorobenzidine		480 U	340 UJ	380 U	650 U	390 U	390 U	350 U	460 U
3-Nitroaniline		1200 U	860 U	950 U	1600 U	990 U	990 U	890 U	1200 U
4,6-Dinitro-2-Methylphenol		1200 U	860 U	950 U	1600 U	990 U	990 U	890 U	1200 U
4-Bromophenyl-Phenylether		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
4-Chloro-3-Methylphenol		480 U	340 U	380 U	650 U	390 U	**94 J**	350 U	460 U
4-Chloroaniline		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
4-Chlorophenyl-Phenyl Ether		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
4-Methylphenol		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
4-Nitroaniline		1200 U	860 U	950 U	1600 U	990 U	990 U	890 U	1200 U
4-Nitrophenol		1200 U	860 UJ	950 U	1600 U	990 U	990 U	890 U	1200 U
Acenaphthene		480 U	**230 J**	380 U	650 U	390 U	390 U	350 U	460 U
Acenaphthylene		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Acetophenone		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Anthracene		480 U	**320 J**	380 U	650 U	390 U	**91 J**	350 U	460 U
Atrazine		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Benzaldehyde		**130 J**	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Benzo(a)anthracene		480 U	340 U	380 U	650 U	390 U	**110 J**	350 U	**110 J**
Benzo(a)pyrene		480 U	340 U	380 U	650 U	**110 J**	**86 J**	350 U	460 U
Benzo(b)fluoranthene		480 U	340 U	380 U	650 U	**190 J**	**270 J**	350 U	**200 J**
Benzo(g,h,i)perylene		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Benzo(k)fluoranthene		480 U	340 U	380 U	650 U	**130 J**	**190 J**	350 U	**110 J**
Bis(2-Chloroethoxy)Methane		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Bis-(2-Chloroethyl)Ether		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Bis(2-Ethylhexyl)Phthalate		480 U	**350**	**460**	650 U	390 U	390 U	350 U	460 U
Butylbenzylphthalate		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Caprolactam		480 U	340 U	380 U	650 U	390 U	**160 J**	350 U	460 U
Carbazole		480 U	340 UJ	380 U	650 U	390 U	390 U	350 U	460 U
Chrysene		**100 J**	**110 J**	380 U	650 U	**170 J**	**330 J**	350 U	**190 J**
Dibenzo(a,h)-anthracene		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Dibenzofuran		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Diethylphthalate		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID:	BBA-SS01	BBA-SS02	BBA-SS03	BBA-SS04	BBA-SS05	BBA-SS05/D	BBA-SS08	BBA-SS09
	Date:	10/3/2003	10/3/2003	10/3/2003	10/6/2003	10/3/2003	10/3/2003	10/7/2003	10/6/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Dimethylphthalate		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Di-n-Butylphthalate		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Di-n-Octylphthalate		480 U	**120 J**	380 U	650 U	390 U	390 U	350 U	460 U
Fluoranthene		**120 J**	340 U	380 U	650 U	**130 J**	**200 J**	350 U	**240 J**
Fluorene		480 U	**570**	380 U	650 U	390 U	390 U	350 U	460 U
Hexachlorobenzene		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Hexachlorobutadiene		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Hexachlorocyclo-Pentadiene		480 U	340 UJ	380 U	650 U	390 U	390 U	350 U	460 U
Hexachloroethane		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Indeno(1,2,3-cd)-pyrene		480 U	340 U	380 U	650 U	390 U	**120 J**	350 U	460 U
Isophorone		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Naphthalene		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Nitrobenzene		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
n-Nitroso Diphenylamine		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
n-Nitroso-Di-n Propylamine		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Pentachlorophenol		1200 U	860 U	950 U	1600 U	990 U	990 U	890 U	1200 U
Phenanthrene		480 U	**1300**	380 U	650 U	**83 J**	**180 J**	350 U	460 U
Phenol		480 U	340 U	380 U	650 U	390 U	390 U	350 U	460 U
Pyrene		**110 J**	**540**	380 U	650 U	**130 J**	**210 J**	350 U	**220 J**
TCL Pesticides and PCBs (µg/Kg)									
4,4'-DDD		4.8 U	3.4 U	**2 J**	**3.8 J**	**4.6 J**	3.9 U	3.5 U	4.6 U
4,4'-DDE		4.8 U	3.4 U	3.8 U	**20**	3.9 U	3.9 U	**2 J**	**6.6 J**
4,4'-DDT		**2 J**	**3.2 J**	3.8 U	**11**	**6.7**	**8.2 JN**	3.5 U	**6.9 J**
Aldrin		2.5 U	1.8 U	2 U	3.3 U	2 U	2 U	1.8 U	2.4 U
Alpha-BHC		2.5 U	1.8 U	2 U	3.3 U	2 U	2 U	1.8 U	2.4 U
Alpha-Chlordane		2.5 U	1.8 U	2 U	**6.2**	2 U	2 U	1.8 U	2.4 U
Aroclor-1016		48 U	34 U	38 U	65 U	39 U	39 U	35 U	46 U
Aroclor-1221		97 U	70 U	77 U	130 U	80 U	80 U	72 U	93 U

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID: BBA-SS01 Date: 10/3/2003 Depth: 0 - 2 in	BBA-SS02 10/3/2003 0 - 2 in	BBA-SS03 10/3/2003 0 - 2 in	BBA-SS04 10/6/2003 0 - 2 in	BBA-SS05 10/3/2003 0 - 2 in	BBA-SS05/D 10/3/2003 0 - 2 in	BBA-SS08 10/7/2003 0 - 2 in	BBA-SS09 10/6/2003 0 - 2 in
Aroclor-1232	48 U	34 U	38 U	65 U	39 U	39 U	35 U	46 U
Aroclor-1242	48 U	34 U	38 U	65 U	39 U	39 U	35 U	46 U
Aroclor-1248	48 U	34 U	38 U	65 U	39 U	39 U	35 U	46 U
Aroclor-1254	48 U	34 U	38 U	65 U	39 U	39 U	35 U	46 U
Aroclor-1260	48 U	34 U	38 U	65 U	39 U	39 U	35 U	46 U
Beta-BHC	**3.6 JN**	1.8 U	2 U	3.3 U	2 U	2 U	1.8 U	**5.5 R**
Delta-BBHC	2.5 U	1.8 U	2 U	3.3 U	2 U	2 U	1.8 U	2.4 U
Dieldrin	4.8 U	3.4 U	3.8 U	3.5 UJ	3.9 U	**5 J**	3.5 U	4.6 U
Endosulfan I	2.5 U	1.8 U	2 U	3.3 U	2 U	2 U	1.8 U	2.4 U
Endosulfan II	4.8 U	3.4 U	3.8 U	6.5 U	3.9 U	3.9 U	3.5 U	4.6 U
Endosulfan Sulfate	4.8 U	**2.3 J**	3.8 U	6.5 U	3.9 U	3.9 U	3.5 U	4.6 U
Endrin	4.8 U	3.4 U	3.8 U	6.5 U	3.9 U	3.9 U	3.5 U	4.6 U
Endrin Aldehyde	4.8 U	3.4 U	3.8 U	6.5 U	3.9 U	3.9 U	3.5 U	4.6 U
Endrin Ketone	4.8 U	3.4 U	**9.6**	6.5 U	**6.5 JN**	**6.3 J**	3.5 U	4.6 U
Gamma-BHC (Lindane)	2.5 U	1.8 U	2 U	3.3 U	2 U	2 U	1.8 U	2.4 U
Gamma-Chlordane	2.5 U	1.8 U	2 U	3.3 U	2 U	2 U	1.8 U	2.4 U
Heptachlor	2.5 U	1.8 U	2 U	3.3 U	2 U	2 U	1.8 U	2.4 U
Heptachlor Epoxide	2.5 U	1.8 U	2 U	3.3 U	2 U	2 U	1.8 U	2.4 U
Methoxychlor	25 U	18 U	20 U	33 U	20 U	20 U	18 U	24 U
Toxaphene	250 U	180 U	200 U	330 U	200 U	200 U	180 U	240 U
Herbicides (µg/Kg)								
2,4,5-T	--	--	--	--	--	--	--	--
2,4,5-TP (SILVEX)	--	--	--	--	--	--	--	--
2,4-D	--	--	--	--	--	--	--	--
2,4-DB	--	--	--	--	--	--	--	--
Dalapon	--	--	--	--	--	--	--	--
Dicamba	--	--	--	--	--	--	--	--
Dichlorprop	--	--	--	--	--	--	--	--
Dinoseb	--	--	--	--	--	--	--	--
MCPA	--	--	--	--	--	--	--	--
MCPP	--	--	--	--	--	--	--	--

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID: BBA-SS01 Date: 10/3/2003 Depth: 0 - 2 in	BBA-SS02 10/3/2003 0 - 2 in	BBA-SS03 10/3/2003 0 - 2 in	BBA-SS04 10/6/2003 0 - 2 in	BBA-SS05 10/3/2003 0 - 2 in	BBA-SS05/D 10/3/2003 0 - 2 in	BBA-SS08 10/7/2003 0 - 2 in	BBA-SS09 10/6/2003 0 - 2 in
TAL Metals and Mercury (mg/Kg)								
Aluminum	6540	4970	5270	16300	727	785	4700	3640
Antimony	2 U	1.5 U	1.6 U	2.5 U	1.7 U	1.7 U	1.5 U	2 U
Arsenic	5.1	5	4.2	19.8	6.2 J	9.4 J	4.8 J	15.8
Barium	194	33.3 B	34.8 B	202	17.9 B	38.7 B	36.9 B	50.4 B
Beryllium	0.37 B	0.25 B	0.27 B	1.2 B	0.1 B	0.1 B	0.34 B	0.27 B
Cadmium	0.81 B	0.1 U	0.88 B	5	0.12 U	0.12 U	0.11 U	0.14 U
Calcium	6520	9220	2800	8360	1110 B	1040 B	1400	3560
Chromium	10	11.8	8.5	18.1	1.2 B	1.4 B	8.8	4.7
Cobalt	6.3 B	5.3 B	5.9 B	18.1	1.4 B	1.4 B	5.5 B	3.1 B
Copper	99.4 J	11.4 J	23.9 J	42.5	11	9.2	13.4	17.1
Iron	15300	12700	12000	33400	6060	7320	11300	13900
Lead	113	6.9	31.5	63.1	10.8	10.4	35.3	17.6
Magnesium	2930	4170	2940	6620	361 B	373 B	2430	1480
Manganese	512	275	493	1570 J	57.6 J	65.8 J	267 J	111 J
Nickel	23	11	10.8	30.3	2.3 B	2.9 B	10.6	7.8 B
Potassium	777 B	869 B	404 B	1640 B	196 B	187 B	287 B	511 B
Selenium	0.53 U	0.39 U	0.43 U	2.3 J	1.2 J	2.3 J	0.4 UJ	1.1 BJ
Silver	0.42 U	0.31 U	0.34 U	0.53 U	0.35 U	0.35 U	0.32 U	0.41 U
Sodium	153 U	113 U	123 U	326 B	195 B	127 U	120 B	194 B
Thallium	1.2 U	0.87 U	0.94 U	1.5 U	0.98 U	0.98 U	0.89 UR	1.2 U
Vanadium	14	7.3 B	8.8 B	65.1	4.7 B	4.8 B	13	17.6
Zinc	226	34	129	505	13.4	14.6	73.5	43.4
Mercury	0.07 U	0.05 U	0.06 U	0.14 BJ	0.14 J	0.34	0.11 J	0.08 BJ
Total Cyanide (mg/Kg)								
Cyanide Tot.	0.37	0.13 U	0.14 U	0.23 U	0.21	0.17 L	0.5	0.28
Total Petroleum Hydrocarbons (mg/Kg)								
n-Hexane Extractable Material	--	2590	--	--	--	--	--	--
Percent Moisture (wt%)								
Percent Moisture	--	3.63	--	--	--	--	--	--
Percent Solids (%)								
Percent Solids	66	95	88	52	85	85	96	70

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID:	BBA-SS10	BBA-SS11	BBA-SS12
	Date:	10/6/2003	10/6/2003	10/6/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)				
1,1,1-Trichloroethane		- -	23 UJ	12 UJ
1,1,2,2-Tetrachloroethane		- -	**23 R**	12 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane		- -	23 UJ	12 U
1,1,2-Trichloroethane		- -	23 UJ	12 UJ
1,1-Dichloroethane		- -	23 UJ	12 U
1,1-Dichloroethene		- -	23 UJ	12 U
1,2,4-Trichlorobenzene		- -	**23 R**	12 UJ
1,2-Dibromo-3-Chloropropane		- -	**23 R**	12 UJ
1,2-Dibromoethane		- -	**23 R**	12 UJ
1,2-Dichlorobenzene		- -	**23 R**	12 UJ
1,2-Dichloroethane		- -	23 UJ	12 U
1,2-Dichloropropane		- -	23 UJ	12 UJ
1,3-Dichlorobenzene		- -	**23 R**	12 UJ
1,4-Dichlorobenzene		- -	**23 R**	12 UJ
2-Butanone		- -	23 UJ	12 U
2-Hexanone		- -	**23 R**	12 UJ
4-Methyl-2-Pentanone		- -	**23 R**	12 UJ
Acetone		- -	**120 J**	12 U
Benzene		- -	23 UJ	12 UJ
Bromodichloromethane		- -	23 UJ	12 UJ
Bromoform		- -	23 UJ	12 UJ
Bromomethane		- -	23 UJ	12 U
Carbon Disulfide		- -	**1 J**	12 U
Carbon Tetrachloride		- -	23 UJ	12 UJ
Chlorobenzene		- -	**23 R**	12 UJ
Chloroethane		- -	23 UJ	12 U
Chloroform		- -	23 UJ	12 U
Chloromethane		- -	23 UJ	12 U
cis-1,2-Dichloroethene		- -	23 UJ	12 U
cis-1,3-Dichloropropene		- -	23 UJ	12 UJ
Cyclohexane		- -	23 UJ	12 UJ

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID:	BBA-SS10	BBA-SS11	BBA-SS12
	Date:	10/6/2003	10/6/2003	10/6/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in
Dibromochloromethane		- -	23 UJ	12 UJ
Dichlorodifluoromethane		- -	23 UJ	12 U
Ethylbenzene		- -	**23 R**	12 UJ
Isopropylbenzene		- -	**23 R**	12 UJ
Methyl Acetate		- -	**10 J**	12 U
Methyl tert-Butyl Ether		- -	23 UJ	12 U
Methylcyclohexane		- -	23 UJ	12 UJ
Methylene Chloride		- -	23 UJ	12 U
Styrene		- -	**23 R**	12 UJ
Tetrachloroethene		- -	**23 R**	12 UJ
Toluene		- -	**5 J**	12 UJ
trans-1,2-Dichloroethene		- -	23 UJ	12 U
trans-1,3-Dichloropropene		- -	23 UJ	12 UJ
Trichloroethene		- -	23 UJ	12 UJ
Trichlorofluoromethane		- -	23 UJ	12 U
Vinyl Chloride		- -	23 UJ	12 U
Xylenes (Total)		- -	**23 R**	12 UJ
TCL Semivolatile Organic Compounds (µg/Kg)				
1,1'-Biphenyl		420 U	560 U	960 U
2,2'-Oxybis(1- Chloropropane)		420 U	560 U	960 U
2,4,5-Trichlorophenol		1100 U	1400 U	2400 U
2,4,6-Trichlorophenol		420 U	560 U	960 U
2,4-Dichlorophenol		420 U	560 U	960 U
2,4-Dimethylphenol		420 U	560 U	960 U
2,4-Dinitrophenol		1100 UJ	1400 U	2400 UJ
2,4-Dinitrotoluene		420 U	560 U	960 U
2,6-Dinitrotoluene		420 U	560 U	960 U
2-Chloronaphthalene		420 U	560 U	960 U
2-Chlorophenol		420 U	560 U	960 U
2-Methylnaphthalene		420 U	560 U	960 U
2-Methylphenol		420 U	560 U	960 U
2-Nitroaniline		1100 U	1400 U	2400 U

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID: BBA-SS10 Date: 10/6/2003 Depth: 0 - 2 In	BBA-SS11 10/6/2003 0 - 2 In	BBA-SS12 10/6/2003 0 - 2 In
2-Nitrophenol	420 U	560 U	960 U
3,3'-Dichlorobenzidine	420 U	560 UJ	960 UJ
3-Nitroaniline	1100 U	1400 U	2400 UJ
4,6-Dinitro-2-Methylphenol	1100 U	1400 U	2400 UJ
4-Bromophenyl-Phenylether	420 U	560 U	960 U
4-Chloro-3-Methylphenol	420 U	560 U	960 U
4-Chloroaniline	420 U	560 U	960 U
4-Chlorophenyl-Phenyl Ether	420 U	560 U	960 U
4-Methylphenol	420 U	560 U	960 U
4-Nitroaniline	1100 U	1400 U	2400 U
4-Nitrophenol	1100 U	1400 UJ	2400 UJ
Acenaphthene	420 U	560 U	960 U
Acenaphthylene	420 U	560 U	**1400**
Acetophenone	420 U	560 U	960 U
Anthracene	420 U	560 U	**2200**
Atrazine	420 U	560 U	960 U
Benzaldehyde	**210 J**	560 U	960 U
Benzo(a)anthracene	420 U	560 U	**5200**
Benzo(a)pyrene	420 U	560 U	**3400**
Benzo(b)fluoranthene	420 U	560 U	**4900**
Benzo(g,h,i)perylene	420 U	560 U	**800 J**
Benzo(k)fluoranthene	420 U	**120 J**	**2900**
Bis(2-Chloroethoxy)Methane	420 U	560 U	960 U
Bis-(2-Chloroethyl)Ether	420 U	560 U	960 U
Bis(2-Ethylhexyl)Phthalate	420 U	560 U	960 U
Butylbenzylphthalate	420 U	560 U	960 U
Caprolactam	420 U	560 U	960 U
Carbazole	420 U	560 UJ	**260 J**
Chrysene	420 U	**140 J**	**5100**
Dibenzo(a,h)-anthracene	420 U	560 U	**1100**
Dibenzofuran	420 U	560 U	960 U
Diethylphthalate	420 U	560 U	960 U

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID:	BBA-SS10	BBA-SS11	BBA-SS12
	Date:	10/6/2003	10/6/2003	10/6/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in
Dimethylphthalate		420 U	560 U	960 U
Di-n-Butylphthalate		420 U	560 U	960 U
Di-n-Octylphthalate		**130 J**	560 U	960 U
Fluoranthene		420 U	**170 J**	**11000**
Fluorene		420 U	560 U	960 U
Hexachlorobenzene		420 U	560 U	960 U
Hexachlorobutadiene		420 U	560 U	960 U
Hexachlorocyclo-Pentadiene		420 U	560 UJ	960 UJ
Hexachloroethane		420 U	560 U	960 U
Indeno(1,2,3-cd)-pyrene		420 U	560 U	**2300 J**
Isophorone		420 U	560 U	960 U
Naphthalene		420 U	560 U	960 U
Nitrobenzene		420 U	560 U	960 U
n-Nitroso Diphenylamine		420 U	560 U	960 U
n-Nitroso-Di-n Propylamine		420 U	560 U	960 U
Pentachlorophenol		1100 U	1400 U	2400 U
Phenanthrene		420 U	**130 J**	**710 J**
Phenol		420 U	560 U	960 U
Pyrene		420 U	**150 J**	**10000**
TCL Pesticides and PCBs (µg/Kg)				
4,4'-DDD		4.2 U	5.6 U	4.8 U
4,4'-DDE		**4.3 J**	5.6 U	**7.4 JN**
4,4'-DDT		4.2 U	5.6 U	4.8 U
Aldrin		2.2 U	2.9 U	2.5 U
Alpha-BHC		2.2 U	2.9 U	2.5 U
Alpha-Chlordane		2.2 U	2.9 U	2.5 U
Aroclor-1016		42 U	56 U	48 U
Aroclor-1221		85 U	110 U	97 U

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID:	BBA-SS10	BBA-SS11	BBA-SS12
	Date:	10/6/2003	10/6/2003	10/6/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in
Aroclor-1232		42 U	56 U	48 U
Aroclor-1242		42 U	56 U	48 U
Aroclor-1248		42 U	56 U	48 U
Aroclor-1254		42 U	56 U	48 U
Aroclor-1260		42 U	56 U	48 U
Beta-BHC		2.2 U	2.9 U	**3.3 R**
Delta-BBHC		2.2 U	2.9 U	2.5 U
Dieldrin		4.2 U	5.6 U	4.8 U
Endosulfan I		2.2 U	2.9 U	2.5 U
Endosulfan II		4.2 U	5.6 U	4.8 U
Endosulfan Sulfate		4.2 U	5.6 U	4.8 U
Endrin		4.2 U	5.6 U	4.8 U
Endrin Aldehyde		4.2 U	5.6 U	4.8 U
Endrin Ketone		4.2 U	5.6 U	**41 J**
Gamma-BHC (Lindane)		2.2 U	2.9 U	2.5 U
Gamma-Chlordane		2.2 U	2.9 U	2.5 U
Heptachlor		2.2 U	2.9 U	2.5 U
Heptachlor Epoxide		2.2 U	2.9 U	2.5 U
Methoxychlor		22 U	29 U	25 U
Toxaphene		220 U	290 U	250 U
Herbicides (µg/Kg)				
2,4,5-T		- -	27.2 U	23.1 U
2,4,5-TP (SILVEX)		- -	27.2 U	23.1 U
2,4-D		- -	27.2 U	23.1 U
2,4-DB		- -	27.2 U	23.1 U
Dalapon		- -	81.4 U	69.3 U
Dicamba		- -	27.2 U	23.1 U
Dichlorprop		- -	27.2 U	23.1 U
Dinoseb		- -	27.2 U	23.1 U
MCPA		- -	8140 U	6930 U
MCPP		- -	8140 U	6930 U

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID: BBA-SS10 Date: 10/6/2003 Depth: 0 - 2 in	BBA-SS11 10/6/2003 0 - 2 in	BBA-SS12 10/6/2003 0 - 2 in
TAL Metals and Mercury (mg/Kg)			
Aluminum	**4670**	**5770**	**4870**
Antimony	1.8 U	2.4 U	2 U
Arsenic	**2.3 BJ**	**4 J**	**9.2 J**
Barium	**66.2**	**63.3 B**	**57.5**
Beryllium	**0.34 B**	**0.43 B**	**0.37 B**
Cadmium	0.13 U	0.17 U	0.14 U
Calcium	**1530**	**7860**	**4960**
Chromium	**4.8**	**7.8**	**6.9**
Cobalt	**3.9 B**	**7 B**	**6 B**
Copper	**9.5**	**21.5**	**27.1**
Iron	**9330**	**13800**	**14500**
Lead	**22.5**	**38.9**	**50**
Magnesium	**1480**	**4340**	**2510**
Manganese	**655 J**	**306 J**	**300 J**
Nickel	**7.9 B**	**14**	**11.8**
Potassium	**298 B**	**529 B**	**518 B**
Selenium	0.48 UJ	**0.97 BJ**	**0.59 BJ**
Silver	0.38 U	0.51 U	0.42 U
Sodium	139 U	185 U	**201 B**
Thallium	1.1 U	1.4 U	1.2 U
Vanadium	**10.6 B**	**15.5 B**	**20**
Zinc	**30.8**	**54.7**	**87.7**
Mercury	0.06 U	**0.08 BJ**	**0.1 BJ**
Total Cyanide (mg/Kg)			
Cyanide Tot.	**0.16**	**0.3**	**0.29**
Total Petroleum Hydrocarbons (mg/Kg)			
n-Hexane Extractable Material	- -	335 U	**593**
Percent Moisture (wt%)			
Percent Moisture	- -	**40.5**	**31.9**
Percent Solids (%)			
Percent Solids	**78**	**59**	**68**

Table D-8-1
Complete Analytical Data Summary for Surface Soil Samples from the Bruno/Brickyard Associates/Alonzo Site

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

(2) Eastern United States background values.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BBA = Bruno/Brickyard Associates/Alonzo Site.
/D = Duplicate sample.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
wt. % = Percent weight.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Source: Ecology and Environment, Inc., 2004

Table D-8-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID:	BBA-GP01-SB	BBA-GP01-SB/D	BBA-GP02-SB	BBA-GP03-SB	BBA-GP04-SB
	Date:	10/10/2003	10/10/2003	10/10/2003	10/9/2003	10/10/2003
	Depth:	8 - 11 ft	8 - 11 ft	7 - 11 ft	5.5 - 6.5 ft	8 - 10 ft
TCL Volatile Organic Compounds (µg/Kg)						
1,1,1-Trichloroethane		10 U	10 U	**10 R**	17 U	10 U
1,1,2,2-Tetrachloroethane		10 U	10 U	**10 R**	17 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		**0.4 J**	10 UJ	**10 R**	**3 J**	10 UJ
1,1,2-Trichloroethane		10 U	10 U	**10 R**	17 U	10 U
1,1-Dichloroethane		10 U	10 U	**10 R**	17 U	10 U
1,1-Dichloroethene		10 UJ	10 UJ	**10 R**	17 U	10 UJ
1,2,4-Trichlorobenzene		10 U	10 U	**10 R**	17 U	10 U
1,2-Dibromo-3-Chloropropane		10 U	10 U	**10 R**	17 U	10 U
1,2-Dibromoethane		10 U	10 U	**10 R**	17 U	10 U
1,2-Dichlorobenzene		10 U	10 U	**10 R**	17 U	10 U
1,2-Dichloroethane		10 U	10 U	**10 R**	17 U	10 U
1,2-Dichloropropane		10 U	10 U	**10 R**	17 U	10 U
1,3-Dichlorobenzene		10 U	10 U	**10 R**	17 U	10 U
1,4-Dichlorobenzene		10 U	10 U	**10 R**	17 U	10 U
2-Butanone		10 U	10 U	**10 R**	17 U	10 U
2-Hexanone		10 U	10 U	**10 R**	17 U	10 U
4-Methyl-2-Pentanone		10 U	10 U	**10 R**	17 U	10 U
Acetone		10 U	10 U	**10 R**	34 U	10 UJ
Benzene		10 U	10 U	**10 R**	17 U	10 U
Bromodichloromethane		10 U	10 U	**10 R**	17 U	10 U
Bromoform		10 U	10 U	**10 R**	17 U	10 U
Bromomethane		10 U	10 UJ	**10 R**	17 U	10 UJ
Carbon Disulfide		10 UJ	10 UJ	**10 R**	**1 J**	10 UJ
Carbon Tetrachloride		10 U	10 U	**10 R**	17 U	10 U
Chlorobenzene		10 U	10 U	**10 R**	17 U	10 U
Chloroethane		10 U	10 U	**10 R**	17 U	10 U
Chloroform		10 U	10 U	**10 R**	17 U	10 U
Chloromethane		10 U	10 U	**10 R**	17 U	10 U
cis-1,2-Dichloroethene		10 U	10 U	**10 R**	17 U	10 U
cis-1,3-Dichloropropene		10 U	10 U	**10 R**	17 U	10 U
Cyclohexane		10 U	10 U	**10 R**	17 U	10 U

Table D-8-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID: / Date: / Depth:	BBA-GP01-SB 10/10/2003 8 - 11 ft	BBA-GP01-SB/D 10/10/2003 8 - 11 ft	BBA-GP02-SB 10/10/2003 7 - 11 ft	BBA-GP03-SB 10/9/2003 5.5 - 6.5 ft	BBA-GP04-SB 10/10/2003 8 - 10 ft
Dibromochloromethane		10 U	10 U	**10 R**	17 U	10 U
Dichlorodifluoromethane		10 U	10 U	**10 R**	17 U	10 U
Ethylbenzene		10 U	10 U	**10 R**	17 U	10 U
Isopropylbenzene		10 U	10 U	**10 R**	17 U	10 U
Methyl Acetate		10 U	10 U	**10 R**	17 U	10 U
Methyl tert-Butyl Ether		10 U	10 U	**10 R**	17 U	10 U
Methylcyclohexane		10 U	10 U	**10 R**	17 U	10 U
Methylene Chloride		10 U	10 U	**10 R**	17 U	14 U
Styrene		10 U	10 U	**10 R**	17 U	10 U
Tetrachloroethene		10 U	10 U	**10 R**	17 U	10 U
Toluene		10 U	10 U	**10 R**	17 U	10 U
trans-1,2-Dichloroethene		10 U	10 U	**10 R**	17 U	10 U
trans-1,3-Dichloropropene		10 U	10 U	**10 R**	17 U	10 U
Trichloroethene		10 U	10 U	**10 R**	17 U	10 U
Trichlorofluoromethane		10 U	**0.8 J**	**10 R**	17 U	10 U
Vinyl Chloride		10 U	10 U	**10 R**	17 U	10 U
Xylenes (Total)		10 U	10 U	**10 R**	17 U	10 U
TCL Semivolatile Organic Compounds (µg/Kg)						
1,1'-Biphenyl		410 U	410 U	410 U	420 U	420 U
2,2'-Oxybis(1- Chloropropane)		410 U	410 U	410 U	420 U	420 U
2,4,5-Trichlorophenol		1000 U	1000 U	1000 U	1100 U	1100 U
2,4,6-Trichlorophenol		410 U	410 U	410 U	420 U	420 U
2,4-Dichlorophenol		410 U	410 U	410 U	420 U	420 U
2,4-Dimethylphenol		410 U	410 U	410 U	420 U	420 U
2,4-Dinitrophenol		1000 U	1000 U	1000 U	1100 U	1100 U
2,4-Dinitrotoluene		410 U	410 U	410 U	420 U	420 U
2,6-Dinitrotoluene		410 U	410 U	410 U	420 U	420 U
2-Chloronaphthalene		410 U	410 U	410 U	420 U	420 U
2-Chlorophenol		410 U	410 U	410 U	420 U	420 U
2-Methylnaphthalene		410 U	410 U	410 U	420 U	420 U
2-Methylphenol		410 U	410 U	410 U	420 U	420 U
2-Nitroaniline		1000 U	1000 U	1000 U	1100 U	1100 U

Table D-8-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID:	BBA-GP01-SB	BBA-GP01-SB/D	BBA-GP02-SB	BBA-GP03-SB	BBA-GP04-SB
	Date:	10/10/2003	10/10/2003	10/10/2003	10/9/2003	10/10/2003
	Depth:	8 - 11 ft	8 - 11 ft	7 - 11 ft	5.5 - 6.5 ft	8 - 10 ft
2-Nitrophenol		410 U	410 U	410 U	420 U	420 U
3,3'-Dichlorobenzidine		410 UJ	410 UJ	410 UJ	420 UJ	420 UJ
3-Nitroaniline		1000 UJ	1000 UJ	1000 UJ	1100 UJ	1100 UJ
4,6-Dinitro-2-Methylphenol		1000 U	1000 U	1000 U	1100 U	1100 U
4-Bromophenyl-Phenylether		410 U	410 U	410 U	420 U	420 U
4-Chloro-3-Methylphenol		410 U	410 U	410 U	420 U	420 U
4-Chloroaniline		410 U	410 U	410 U	420 U	420 U
4-Chlorophenyl-Phenyl Ether		410 U	410 U	410 U	420 U	420 U
4-Methylphenol		410 U	410 U	410 U	420 U	420 U
4-Nitroaniline		1000 U	1000 U	1000 U	1100 U	1100 U
4-Nitrophenol		1000 U	1000 U	1000 U	1100 U	1100 U
Acenaphthene		410 U	410 U	410 U	420 U	420 U
Acenaphthylene		410 U	410 U	410 U	420 U	420 U
Acetophenone		410 U	410 U	410 U	420 U	420 U
Anthracene		410 U	410 U	410 U	420 U	420 U
Atrazine		410 U	410 U	410 U	420 U	420 U
Benzaldehyde		410 U	410 U	410 U	420 U	420 U
Benzo(a)anthracene		410 U	410 U	410 U	420 U	420 U
Benzo(a)pyrene		410 U	410 U	410 U	420 U	420 U
Benzo(b)fluoranthene		410 U	410 U	410 U	420 U	420 U
Benzo(g,h,i)perylene		410 U	410 U	410 U	420 U	420 U
Benzo(k)fluoranthene		410 U	410 U	410 U	420 U	420 U
Bis(2-Chloroethoxy)Methane		410 U	410 U	410 U	420 U	420 U
Bis-(2-Chloroethyl)Ether		410 U	410 U	410 U	420 U	420 U
Bis(2-Ethylhexyl)Phthalate		410 U	410 U	410 U	420 U	420 U
Butylbenzylphthalate		410 U	410 U	410 U	420 U	420 U
Caprolactam		410 U	410 U	410 U	420 U	420 U
Carbazole		410 UJ	410 UJ	410 UJ	420 UJ	420 UJ
Chrysene		410 U	410 U	410 U	420 U	420 U
Dibenzo(a,h)-anthracene		410 U	410 U	410 U	420 U	420 U
Dibenzofuran		410 U	410 U	410 U	420 U	420 U
Diethylphthalate		410 U	410 U	410 U	420 U	420 U

Table D-8-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID:	BBA-GP01-SB	BBA-GP01-SB/D	BBA-GP02-SB	BBA-GP03-SB	BBA-GP04-SB
	Date:	10/10/2003	10/10/2003	10/10/2003	10/9/2003	10/10/2003
	Depth:	8 - 11 ft	8 - 11 ft	7 - 11 ft	5.5 - 6.5 ft	8 - 10 ft
Dimethylphthalate		410 U	410 U	410 U	420 U	420 U
Di-n-Butylphthalate		410 U	410 U	410 U	420 U	420 U
Di-n-Octylphthalate		410 U	410 U	410 U	420 U	420 U
Fluoranthene		410 U	410 U	410 U	**170 J**	420 U
Fluorene		410 U	410 U	410 U	420 U	420 U
Hexachlorobenzene		410 U	410 U	410 U	420 U	420 U
Hexachlorobutadiene		410 U	410 U	410 U	420 U	420 U
Hexachlorocyclo-Pentadiene		410 U	410 U	410 U	420 U	420 U
Hexachloroethane		410 U	410 U	410 U	420 U	420 U
Indeno(1,2,3-cd)-pyrene		410 U	410 U	410 U	420 U	420 U
Isophorone		410 U	410 U	410 U	420 U	420 U
Naphthalene		410 U	410 U	410 U	420 U	420 U
Nitrobenzene		410 U	410 U	410 U	420 U	420 U
n-Nitroso Diphenylamine		410 U	410 U	410 U	420 U	420 U
n-Nitroso-Di-n Propylamine		410 U	410 U	410 U	420 U	420 U
Pentachlorophenol		1000 U	1000 U	1000 U	1100 U	1100 U
Phenanthrene		410 U	410 U	410 U	**110 J**	420 U
Phenol		410 U	410 U	410 U	420 U	420 U
Pyrene		410 U	410 U	410 U	**120 J**	420 U
TCL Pesticides and PCBs (µg/Kg)						
4,4'-DDD		4.1 U	4.1 U	4.1 U	4.2 U	4.2 U
4,4'-DDE		4.1 U	**0.8 J**	4.1 U	4.2 U	4.2 U
4,4'-DDT		4.1 U	4.1 U	4.1 U	4.2 U	4.2 U
Aldrin		2.1 U	2.1 U	2.1 U	2.2 U	2.2 U
Alpha-BHC		2.1 U	2.1 U	2.1 U	**1.1 J**	2.2 U
Alpha-Chlordane		2.1 U	2.1 U	2.1 U	2.2 U	2.2 U
Aroclor-1016		41 U	41 U	41 U	42 U	42 U
Aroclor-1221		84 U	84 U	83 U	86 U	85 U
Aroclor-1232		41 U	41 U	41 U	42 U	42 U
Aroclor-1242		41 U	41 U	41 U	42 U	42 U
Aroclor-1248		41 U	41 U	41 U	42 U	42 U
Aroclor-1254		41 U	41 U	41 U	42 U	42 U

Table D-8-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID:	BBA-GP01-SB	BBA-GP01-SB/D	BBA-GP02-SB	BBA-GP03-SB	BBA-GP04-SB
	Date:	10/10/2003	10/10/2003	10/10/2003	10/9/2003	10/10/2003
	Depth:	8 - 11 ft	8 - 11 ft	7 - 11 ft	5.5 - 6.5 ft	8 - 10 ft
Aroclor-1260		41 U	41 U	41 U	42 U	42 U
Beta-BHC		2.1 U	2.1 U	2.1 U	2.2 U	2.2 U
Delta-BBHC		2.1 U	2.1 U	2.1 U	2.2 U	2.2 U
Dieldrin		4.1 U	4.1 U	4.1 U	4.2 U	4.2 U
Endosulfan I		2.1 U	2.1 U	2.1 U	2.2 U	2.2 U
Endosulfan II		4.1 U	4.1 U	4.1 U	4.2 U	4.2 U
Endosulfan Sulfate		4.1 U	4.1 U	4.1 U	4.2 U	4.2 U
Endrin		4.1 U	4.1 U	4.1 U	4.2 U	4.2 U
Endrin Aldehyde		4.1 U	4.1 U	4.1 U	4.2 U	4.2 U
Endrin Ketone		4.1 U	4.1 U	4.1 U	4.2 U	4.2 U
Gamma-BHC (Lindane)		2.1 U	2.1 U	2.1 U	2.2 U	2.2 U
Gamma-Chlordane		2.1 U	2.1 U	2.1 U	2.2 U	2.2 U
Heptachlor		2.1 U	2.1 U	2.1 U	2.2 U	2.2 U
Heptachlor Epoxide		2.1 U	2.1 U	2.1 U	2.2 U	2.2 U
Methoxychlor		21 U	21 U	21 U	22 U	22 U
Toxaphene		210 U	210 U	210 U	220 U	220 U
TAL Metals and Mercury (mg/Kg)						
Aluminum		**4570**	**3850**	**6050**	**3950**	**6320**
Antimony		2.4 U	2.4 U	2.1 U	2.4 U	2.3 U
Arsenic		**3.3**	**3**	**6**	**2.2 B**	**4.3**
Barium		**27.6 B**	**21.3 B**	**53.9**	**24 B**	**49.8 B**
Beryllium		**0.23 B**	**0.22 B**	**0.28 B**	**0.19 B**	**0.3 B**
Cadmium		0.18 U	0.18 U	0.16 U	0.18 U	0.18 U
Calcium		**1970**	**1590**	**2010**	**1460**	**1950**
Chromium		**7.2**	**6.6**	**7.3**	**9.2**	**7.9**
Cobalt		**8.5 B**	**6.5 B**	**8.3 B**	**5 B**	**8.2 B**
Copper		**13.5**	**13.3**	**18.7**	**11.6**	**37.3**
Iron		**12000**	**10400**	**14800**	**10000**	**16400**
Lead		**6.1**	**7.1**	**9.9**	**14.5**	**11.9**
Magnesium		**2260**	**1840**	**2970**	**2240**	**2910**
Manganese		**340**	**213**	**533**	**96.9**	**551**
Nickel		**13.7**	**10.9**	**16.2**	**9.6 B**	**15.4**

Table D-8-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID: / Date: / Depth:	BBA-GP01-SB 10/10/2003 8 - 11 ft	BBA-GP01-SB/D 10/10/2003 8 - 11 ft	BBA-GP02-SB 10/10/2003 7 - 11 ft	BBA-GP03-SB 10/9/2003 5.5 - 6.5 ft	BBA-GP04-SB 10/10/2003 8 - 10 ft
Potassium		**552 B**	**479 B**	**723 B**	**397 B**	**605 B**
Selenium		1 U	1 U	0.86 U	0.99 U	0.95 U
Silver		0.37 U	0.37 U	0.32 U	0.36 U	0.35 U
Sodium		123 U	124 U	107 U	122 U	118 U
Thallium		1.8 U	1.8 U	1.5 U	1.8 U	1.7 U
Vanadium		**12.1 B**	**12.8 B**	**12**	**6.1 B**	**10 B**
Zinc		**35.6**	**33.5**	**39.5**	**79.7**	**42.7**
Mercury		0.06 U	0.07 U	0.06 U	**0.33**	0.06 U
Total Cyanide (mg/Kg)						
Cyanide Tot.		0.16 U	0.16 U	0.15 U	0.17 U	0.16 U
Percent Solids (%)						
Percent Solids, 105DegC		**75**	**77**	**81**	**71**	**77**

Table D-8-2
Complete Analytical Data Summary for Subsurface Soil Samples from the Bruno/Brickyard Associates/Alonzo Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BBA = Bruno/Brickyard Associates/Alonzo Site.
/D = Duplicate sample.
ft = Feet.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
-SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
wt. % = Percent weight.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.
µg/Kg = Micrograms per kilogram.

Source: Ecology and Environment, Inc., 2004

Table D-8-3
Complete Analytical Data Summary for Surface Water Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte / Sample ID: / Date:	BBA-SW01 10/6/2003	BBA-SW02 10/6/2003	BBA-SW03 10/6/2003
TCL Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane	**10 R**	**10 R**	**10 R**
1,2-Dibromoethane	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U
2-Butanone	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U
4-Methyl-2-Pentanone	10 U	10 U	10 U
Acetone	**5 J**	**6 J**	**4 J**
Benzene	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U
Carbon Disulfide	10 U	10 U	10 U
Carbon Tetrachloride	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 U
cis-1,2-Dichloroethene	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U
Cyclohexane	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U
Dichlorodifluoromethane	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U
Isopropylbenzene	10 U	10 U	10 U
Methyl Acetate	10 U	10 U	10 U
Methyl tert-Butyl Ether	10 U	10 U	10 U
Methylcyclohexane	10 U	10 U	10 U
Methylene Chloride	10 U	10 U	10 U
Styrene	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U
Toluene	**6 J**	10 U	10 U
trans-1,2-Dichloroethene	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U
Trichlorofluoromethane	10 U	10 U	10 U
Vinyl Chloride	10 U	10 U	10 U
Xylenes (Total)	10 U	10 U	10 U

Table D-8-3
Complete Analytical Data Summary for Surface Water Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID: BBA-SW01 Date: 10/6/2003	BBA-SW02 10/6/2003	BBA-SW03 10/6/2003
TCL Semivolatile Organic Compounds (µg/L)			
1,1'-Biphenyl	10 U	10 U	10 U
2,2'-Oxybis(1- Chloropropane)	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U
2,4,6-Trichlorophenol	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U
2,4-Dinitrophenol	25 UJ	25 UJ	25 UJ
2,4-Dinitrotoluene	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U
2-Nitrophenol	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 UJ	10 UJ	10 UJ
3-Nitroaniline	25 U	25 U	25 U
4,6-Dinitro-2-Methylphenol	25 UJ	25 UJ	25 UJ
4-Bromophenyl-Phenylether	10 U	10 U	10 U
4-Chloro-3-Methylphenol	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U
4-Chlorophenyl-Phenyl Ether	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U
4-Nitroaniline	25 U	25 U	25 U
4-Nitrophenol	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U
Acetophenone	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U
Atrazine	10 U	10 U	10 U
Benzaldehyde	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U
Bis(2-Chloroethoxy)Methane	10 U	10 U	10 U
Bis-(2-Chloroethyl)Ether	10 U	10 U	10 U
Bis(2-Ethylhexyl)Phthalate	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U
Caprolactam	10 U	10 U	10 U
Carbazole	10 UJ	10 UJ	10 UJ
Chrysene	10 U	10 U	10 U
Dibenzo(a,h)-anthracene	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U
Di-n-Butylphthalate	10 U	10 U	10 U

Table D-8-3
Complete Analytical Data Summary for Surface Water Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte / Sample ID: / Date:	BBA-SW01 10/6/2003	BBA-SW02 10/6/2003	BBA-SW03 10/6/2003
Di-n-Octylphthalate	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U
Hexachlorocyclo-Pentadiene	10 UJ	10 UJ	10 UJ
Hexachloroethane	10 U	10 U	10 U
Indeno(1,2,3-cd)-pyrene	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U
n-Nitroso Diphenylamine	10 U	10 U	10 U
n-Nitroso-Di-n Propylamine	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U
Phenol	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U
TCL Pesticides and PCBs (µg/L)			
4,4'-DDD	0.1 U	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U	0.05 U
Alpha-BHC	0.05 U	0.05 U	0.05 U
Alpha-Chlordane	0.05 U	0.05 U	0.05 U
Aroclor-1016	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U
Aroclor-1260	1 U	1 U	1 U
Beta-BHC	0.05 U	0.05 U	0.05 U
Delta-BBHC	0.05 U	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate	0.1 U	0.1 U	0.1 U
Endrin	0.1 U	0.1 U	0.1 U
Endrin Aldehyde	0.1 U	0.1 U	0.1 U
Endrin Ketone	0.1 U	0.1 U	0.1 U
Gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide	0.05 U	0.05 U	0.05 U
Methoxychlor	0.5 U	0.5 U	0.5 U
Toxaphene	5 U	5 U	5 U
TAL Metals and Mercury (µg/L)			
Aluminum	19 U	**164 B**	**76.6 B**
Antimony	7.2 U	7.2 U	9.2 U

Table D-8-3
Complete Analytical Data Summary for Surface Water Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte / Sample ID: / Date:	BBA-SW01 10/6/2003	BBA-SW02 10/6/2003	BBA-SW03 10/6/2003
Arsenic	4.4 UJ	4.4 UJ	5.8 U
Barium	**16.3 B**	**36 B**	**25.7 B**
Beryllium	0.1 U	0.1 U	0.1 U
Cadmium	0.5 U	0.5 U	0.7 U
Calcium	**60300**	**59900**	**52600**
Chromium	**1.1 B**	1.1 U	1 U
Cobalt	1.4 U	1.4 U	1.3 U
Copper	**2.9 B**	**1.2 B**	**1.1 B**
Iron	**335**	**507**	**52.9 B**
Lead	2.6 U	2.6 U	2.2 U
Magnesium	**19700**	**26200**	**19200**
Manganese	**50.2**	**243**	**56.2 J**
Nickel	**2.9 B**	1.8 U	2.3 U
Potassium	**1990 B**	**1610 B**	**669 B**
Selenium	1.9 U	1.9 U	3.8 U
Silver	1.5 U	1.5 U	1.4 UJ
Sodium	**4150 B**	**3980 B**	**1850 B**
Thallium	4.2 U	4.2 U	6.8 U
Vanadium	1.6 U	**1.6 B**	0.9 U
Zinc	**23 J**	**21.1 J**	**26.2 J**
Mercury	0.1 U	0.1 U	0.1 U
Total Cyanide (µg/L)			
Cyanide Tot.	5 U	5 U	5 U
Anions (mg/L)			
Bromide	0.100 U	0.100 U	0.100 U
Chloride	**6.6**	**4.42**	**1.34**
Fluoride	**0.156**	**0.191**	**0.125**
Nitrate-N	**0.199**	0.100 U	0.100 U
Nitrite-N	0.100 U	0.100 U	0.100 U
Phosphate	0.100 U	0.100 U	0.100 U
Sulfate	**8.79**	**21**	**12.8**
Hardness (mg/L)			
Hardness (As CaCO3)	**345**	**380**	**335**

Table D-8-3
Complete Analytical Data Summary for Surface Water Samples from the Bruno/Brickyard Associates/Alonzo Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
BBA = Bruno/Brickyard Associates/Alonzo Site.
/D = Duplicate sample.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/L = Milligrams per liter
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SW = Surface water sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.
- = Sample was not analyzed for this parameter.

Table D-8-4
Complete Analytical Data Summary for Sediment Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID: BBA-SE01 Date: 10/6/2003 Depth: 0 - 2 in	BBA-SE01/D 10/6/2003 0 - 2 in	BBA-SE02 10/6/2003 0 - 2 in	BBA-SE03 10/6/2003 0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)				
1,1,1-Trichloroethane	10 U	10 U	28 UJ	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	28 UJ	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10 U	10 U	28 UJ	10 U
1,1,2-Trichloroethane	10 U	10 U	28 UJ	10 U
1,1-Dichloroethane	10 U	10 U	28 UJ	10 U
1,1-Dichloroethene	10 U	10 U	28 UJ	10 U
1,2,4-Trichlorobenzene	10 U	10 U	28 UJ	10 U
1,2-Dibromo-3-Chloropropane	**10 R**	10 U	28 UJ	**10 R**
1,2-Dibromoethane	10 U	10 U	28 UJ	10 U
1,2-Dichlorobenzene	10 U	10 U	28 UJ	10 U
1,2-Dichloroethane	10 U	10 U	28 UJ	10 U
1,2-Dichloropropane	10 U	10 U	28 UJ	10 U
1,3-Dichlorobenzene	10 U	10 U	28 UJ	10 U
1,4-Dichlorobenzene	10 U	10 U	28 UJ	10 U
2-Butanone	10 U	10 U	28 UJ	10 U
2-Hexanone	10 UJ	10 U	28 UJ	10 UJ
4-Methyl-2-Pentanone	10 U	10 U	28 UJ	10 U
Acetone	10 U	10 U	28 UJ	36 U
Benzene	10 U	10 U	28 UJ	10 U
Bromodichloromethane	10 U	10 U	28 UJ	10 U
Bromoform	10 U	10 U	28 UJ	10 U
Bromomethane	10 U	10 U	28 UJ	10 U
Carbon Disulfide	10 U	10 U	28 UJ	**0.7 J**
Carbon Tetrachloride	10 U	10 U	28 UJ	10 U
Chlorobenzene	10 U	10 U	28 UJ	10 U
Chloroethane	10 U	10 U	28 UJ	10 U
Chloroform	10 U	10 U	28 UJ	10 U
Chloromethane	10 U	10 U	28 UJ	**1 J**
cis-1,2-Dichloroethene	10 U	10 U	28 UJ	10 U
cis-1,3-Dichloropropene	10 U	10 U	28 UJ	10 U
Cyclohexane	**0.3 J**	10 U	28 UJ	10 U
Dibromochloromethane	10 U	10 U	28 UJ	10 U
Dichlorodifluoromethane	10 U	10 U	28 UJ	10 U
Ethylbenzene	10 U	10 U	28 UJ	10 U
Isopropylbenzene	10 U	10 U	28 UJ	10 U
Methyl Acetate	10 U	10 U	28 UJ	**4 J**
Methyl tert-Butyl Ether	10 U	10 U	28 UJ	10 U
Methylcyclohexane	10 U	10 U	28 UJ	10 U
Methylene Chloride	10 U	10 U	28 UJ	10 U
Styrene	10 U	10 U	28 UJ	10 U
Tetrachloroethene	10 U	10 U	28 UJ	10 U
Toluene	**0.5 J**	10 U	28 UJ	**0.9 J**
trans-1,2-Dichloroethene	10 U	10 U	28 UJ	10 U
trans-1,3-Dichloropropene	10 U	10 U	28 UJ	10 U
Trichloroethene	10 U	10 U	28 UJ	10 U
Trichlorofluoromethane	10 U	10 U	28 UJ	10 U
Vinyl Chloride	10 U	10 U	28 UJ	10 U
Xylenes (Total)	10 U	10 U	28 UJ	10 U

Table D-8-4
Complete Analytical Data Summary for Sediment Samples
from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID: BBA-SE01 Date: 10/6/2003 Depth: 0 - 2 in	BBA-SE01/D 10/6/2003 0 - 2 in	BBA-SE02 10/6/2003 0 - 2 in	BBA-SE03 10/6/2003 0 - 2 in
TCL Semivolatile Organic Compounds (µg/Kg)				
1,1'-Biphenyl	420 U	410 U	630 U	410 U
2,2'-Oxybis(1- Chloropropane)	420 U	410 U	630 U	410 U
2,4,5-Trichlorophenol	1100 U	1000 U	1600 U	1000 U
2,4,6-Trichlorophenol	420 U	410 U	630 U	410 U
2,4-Dichlorophenol	420 U	410 U	630 U	410 U
2,4-Dimethylphenol	420 U	410 U	630 U	410 U
2,4-Dinitrophenol	1100 U	1000 UJ	1600 U	1000 U
2,4-Dinitrotoluene	420 U	410 U	630 U	410 U
2,6-Dinitrotoluene	420 U	410 U	630 U	410 U
2-Chloronaphthalene	420 U	410 U	630 U	410 U
2-Chlorophenol	420 U	410 U	630 U	410 U
2-Methylnaphthalene	420 U	410 U	630 U	410 U
2-Methylphenol	420 U	410 U	630 U	410 U
2-Nitroaniline	1100 U	1000 U	1600 U	1000 U
2-Nitrophenol	420 U	410 U	630 U	410 U
3,3'-Dichlorobenzidine	420 UJ	410 UJ	630 UJ	410 UJ
3-Nitroaniline	1100 U	1000 UJ	1600 U	1000 U
4,6-Dinitro-2-Methylphenol	1100 U	1000 UJ	1600 U	1000 U
4-Bromophenyl-Phenylether	420 U	410 U	630 U	410 U
4-Chloro-3-Methylphenol	420 U	410 U	630 U	410 U
4-Chloroaniline	420 U	410 U	630 U	410 U
4-Chlorophenyl-Phenyl Ether	420 U	410 U	630 U	410 U
4-Methylphenol	420 U	410 U	630 U	410 U
4-Nitroaniline	1100 U	1000 U	1600 U	1000 U
4-Nitrophenol	1100 UJ	1000 UJ	1600 UJ	1000 UJ
Acenaphthene	420 U	410 U	630 U	410 U
Acenaphthylene	420 U	410 U	630 U	410 U
Acetophenone	420 U	410 U	630 U	410 U
Anthracene	420 U	410 U	630 U	410 U
Atrazine	420 U	410 U	630 U	410 U
Benzaldehyde	420 U	410 U	630 U	410 U
Benzo(a)anthracene	420 U	410 U	630 U	410 U
Benzo(a)pyrene	420 U	410 U	630 U	410 U
Benzo(b)fluoranthene	420 U	410 U	630 U	410 U
Benzo(g,h,i)perylene	420 U	**150 J**	630 U	410 U
Benzo(k)fluoranthene	420 U	410 U	630 U	410 U
Bis(2-Chloroethoxy)Methane	420 U	410 U	630 U	410 U
Bis-(2-Chloroethyl)Ether	420 U	410 U	630 U	410 U
Bis(2-Ethylhexyl)Phthalate	420 U	410 U	630 U	**220 J**
Butylbenzylphthalate	420 U	410 U	630 U	410 U
Caprolactam	420 U	410 U	630 U	410 U
Carbazole	420 UJ	410 UJ	630 UJ	410 UJ
Chrysene	420 U	410 U	630 U	410 U
Dibenzo(a,h)-anthracene	420 U	410 U	630 U	410 U
Dibenzofuran	420 U	410 U	630 U	410 U
Diethylphthalate	420 U	410 U	630 U	410 U
Dimethylphthalate	420 U	410 U	630 U	410 U
Di-n-Butylphthalate	420 U	410 U	630 U	410 U

Table D-8-4
Complete Analytical Data Summary for Sediment Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID: BBA-SE01 Date: 10/6/2003 Depth: 0 - 2 in	BBA-SE01/D 10/6/2003 0 - 2 in	BBA-SE02 10/6/2003 0 - 2 in	BBA-SE03 10/6/2003 0 - 2 in
Di-n-Octylphthalate	420 U	410 U	630 U	410 U
Fluoranthene	420 U	410 U	630 U	410 U
Fluorene	420 U	410 U	630 U	410 U
Hexachlorobenzene	420 U	410 U	630 U	410 U
Hexachlorobutadiene	420 U	410 U	630 U	410 U
Hexachlorocyclo-Pentadiene	420 UJ	410 UJ	630 UJ	410 UJ
Hexachloroethane	420 U	410 U	630 U	410 U
Indeno(1,2,3-cd)-pyrene	420 U	410 UJ	630 U	410 U
Isophorone	420 U	410 U	630 U	410 U
Naphthalene	420 U	410 U	630 U	410 U
Nitrobenzene	420 U	410 U	630 U	410 U
n-Nitroso Diphenylamine	420 U	410 U	630 U	410 U
n-Nitroso-Di-n Propylamine	420 U	410 U	630 U	410 U
Pentachlorophenol	1100 U	1000 U	1600 U	1000 U
Phenanthrene	420 U	410 U	630 U	410 U
Phenol	420 U	410 U	630 U	410 U
Pyrene	420 U	410 U	630 U	410 U
TCL Pesticide and PCBs (µg/Kg)				
4,4'-DDD	4.2 U	4.1 U	6.3 U	4.1 U
4,4'-DDE	4.2 U	4.1 U	6.3 U	4.1 U
4,4'-DDT	4.2 U	4.1 U	6.3 U	4.1 U
Aldrin	2.2 U	2.1 U	3.3 U	2.1 U
Alpha-BHC	2.2 U	2.1 U	3.3 U	2.1 U
Alpha-Chlordane	2.2 U	2.1 U	3.3 U	2.1 U
Aroclor-1016	42 U	41 U	63 U	41 U
Aroclor-1221	85 U	83 U	130 U	83 U
Aroclor-1232	42 U	41 U	63 U	41 U
Aroclor-1242	42 U	41 U	63 U	41 U
Aroclor-1248	42 U	41 U	63 U	41 U
Aroclor-1254	42 U	41 U	63 U	41 U
Aroclor-1260	42 U	41 U	63 U	41 U
Beta-BHC	2.2 U	2.1 U	3.3 U	2.1 U
Delta-BBHC	2.2 U	2.1 U	3.3 U	2.1 U
Dieldrin	4.2 U	4.1 U	6.3 U	4.1 U
Endosulfan I	2.2 U	2.1 U	3.3 U	2.1 U
Endosulfan II	4.2 U	4.1 U	6.3 U	4.1 U
Endosulfan Sulfate	4.2 U	4.1 U	6.3 U	4.1 U
Endrin	4.2 U	4.1 U	6.3 U	4.1 U
Endrin Aldehyde	4.2 U	4.1 U	6.3 U	4.1 U
Endrin Ketone	4.2 U	4.1 U	6.3 U	4.1 U
Gamma-BHC (Lindane)	2.2 U	2.1 U	3.3 U	2.1 U
Gamma-Chlordane	2.2 U	2.1 U	3.3 U	2.1 U
Heptachlor	2.2 U	2.1 U	3.3 U	2.1 U
Heptachlor Epoxide	2.2 U	2.1 U	3.3 U	2.1 U
Methoxychlor	22 U	21 U	33 U	21 U
Toxaphene	220 U	210 U	330 U	210 U

Table D-8-4
Complete Analytical Data Summary for Sediment Samples from the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID: BBA-SE01 Date: 10/6/2003 Depth: 0 - 2 in	BBA-SE01/D 10/6/2003 0 - 2 in	BBA-SE02 10/6/2003 0 - 2 in	BBA-SE03 10/6/2003 0 - 2 in
TAL Metals and Mercury (mg/Kg)				
Aluminum	5730	4510	6180	6100
Antimony	1.9 U	1.8 U	2.8 U	2.1 U
Arsenic	7.6 J	5.4 J	1.7 UJ	1.3 UJ
Barium	44.3 B	39.9 B	56 B	34.4 B
Beryllium	0.34 B	0.39 B	0.33 B	0.27 B
Cadmium	0.13 U	0.12 U	0.2 U	0.15 U
Calcium	2320	1960	42100	9670
Chromium	6.5	5.6	7.7	6.5
Cobalt	7.6 B	7.3 B	8.1 B	7.4 B
Copper	10.8	9.6	19.4	17.5
Iron	21100	16600	15700	13500
Lead	9	11.1	11.1	9.6
Magnesium	2920	2090	13200	6380
Manganese	530 J	527 J	458 J	349 J
Nickel	12.2	10.2	14.5 B	13.2
Potassium	439 B	388 B	856 B	564 B
Selenium	0.5 UJ	0.47 UJ	0.75 UJ	0.56 UJ
Silver	0.39 U	0.37 U	0.59 U	0.44 U
Sodium	143 U	136 U	223 B	160 U
Thallium	1.1 U	1 UR	1.7 U	1.2 U
Vanadium	10.1 B	8.9 B	11.6 B	8 B
Zinc	40.1	33.7	54.8	39.8
Mercury	0.06 U	0.06 U	0.09 U	0.07 U
Total Cyanide (mg/Kg)				
Cyanide Tot.	0.15 U	0.15 U	0.23 U	0.23 U
Total Organic Carbon (mg/Kg)				
Organic Carbon, Tot.	6200	4800	19000	26000
Percent Solids (%)				
Percent Solids, 105DegC	81	78	53	52

Table D-8-4
Complete Analytical Data Summary for Sediment Samples from the Bruno/Brickyard Associates/Alonzo Site

(1) New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments, 1999. The benthic aquatic life chronic toxicity protection level was used.

(2) As per the 1999 NYSDEC Guidance, the screening criteria for organic contaminants in sediments are calculated based on sample Total Organic Carbon concentration. However, two levels of risk are established for metals contamination in sediments (Lowest Effect Level and Severe Effect Level).

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

BBA = Bruno/Brickyard Associates/Alonzo Site.

/D = Duplicate sample.

in = Inches.

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

mg/Kg = Milligrams per kilogram.

PCB = Polychlorinated biphenyl.

R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.

SE = Sediment sample.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/Kg = Micrograms per kilogram.

- = Sample was not analyzed for this parameter.

% = Percent.

Table D-8-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Bruno/Brickyard Associates/Alonzo Site

Analyte	Sample ID: / Date:	BBA-GP01-GW 10/15/2003	BBA-GP02-GW 10/16/2003	BBA-GP03-GW 10/15/2003	BBA-GP03-GW/D 10/15/2003	BBA-GP04-GW 10/15/2003
TCL Volatile Organic Compounds (µg/L)						
1,1,1-Trichloroethane		10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane		10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane		10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane		10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene		10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene		10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane		10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane		10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane		10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane		10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene		10 U	10 U	10 U	10 U	10 U
2-Butanone		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2-Hexanone		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
4-Methyl-2-Pentanone		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Acetone		10 U	10 U	10 U	10 U	10 U
Benzene		10 U	10 U	10 U	10 U	10 U
Bromodichloromethane		10 U	10 U	10 U	10 U	10 U
Bromoform		10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U
Carbon Disulfide		10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride		10 U	10 U	10 U	10 U	10 U
Chlorobenzene		10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U
Chloroform		10 U	10 U	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene		10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U
Cyclohexane		10 U	10 U	10 U	10 U	10 U
Dibromochloromethane		10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane		10 U	10 U	10 U	10 U	10 U
Ethylbenzene		10 U	10 U	10 U	10 U	10 U
Isopropylbenzene		10 U	10 U	10 U	10 U	10 U
Methyl Acetate		10 U	10 U	10 U	10 U	10 U
Methyl tert-Butyl Ether		10 U	10 U	10 U	10 U	10 U
Methylcyclohexane		10 U	10 U	10 U	10 U	10 U
Methylene Chloride		10 U	10 U	10 U	10 U	10 U
Styrene		10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Toluene		10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene		10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene		10 U	10 U	10 U	10 U	10 U
Trichloroethene		10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane		10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U
Xylenes (Total)		10 U	10 U	10 U	10 U	10 U

Table D-8-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Bruno/Brickyard Associates/Alonzo Site

Analyte / Sample ID: / Date:	BBA-GP01-GW 10/15/2003	BBA-GP02-GW 10/16/2003	BBA-GP03-GW 10/15/2003	BBA-GP03-GW/D 10/15/2003	BBA-GP04-GW 10/15/2003
TCL Semivolatile Organic Compounds (µg/L)					
1,1'-Biphenyl	10 U	10 U	10 U	10 U	10 U
2,2'-Oxybis(1- Chloropropane)	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U	25 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 UJ	25 UJ	25 UJ	25 UJ
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 UJ	10 UJ	10 UJ	10 UJ
3-Nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-Methylphenol	25 U	25 U	25 U	25 U	25 U
4-Bromophenyl-Phenylether	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-Phenyl Ether	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
4-Nitrophenol	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
Acenaphthene	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
Acetophenone	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Atrazine	10 U	10 U	10 U	10 U	10 U
Benzaldehyde	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(a)anthracene	**3 J**	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	**2 J**	10 U	10 U	10 U	10 U
Bis(2-Chloroethoxy)Methane	10 U	10 U	10 U	10 U	10 U
Bis-(2-Chloroethyl)Ether	10 U	10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl)Phthalate	10 U	**190**	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U
Caprolactam	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Chrysene	**3 J**	10 U	10 U	10 U	10 U
Dibenzo(a,h)-anthracene	10 U	10 UJ	10 UJ	10 UJ	10 UJ
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Di-n-Butylphthalate	10 U	10 U	10 U	10 U	10 U

Table D-8-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Bruno/Brickyard Associates/Alonzo Site

Analyte / Sample ID: / Date:	BBA-GP01-GW 10/15/2003	BBA-GP02-GW 10/16/2003	BBA-GP03-GW 10/15/2003	BBA-GP03-GW/D 10/15/2003	BBA-GP04-GW 10/15/2003
Di-n-Octylphthalate	10 U	10 U	10 U	10 U	10 U
Fluoranthene	**7 J**	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclo-Pentadiene	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)-pyrene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
n-Nitroso Diphenylamine	10 U	10 U	10 U	10 U	10 U
n-Nitroso-Di-n Propylamine	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U
Phenanthrene	**3 J**	10 U	10 U	10 U	10 U
Phenol	10 U	10 UJ	10 UJ	10 UJ	10 UJ
Pyrene	**5 J**	10 U	10 U	10 U	10 U
TCL Pesticides and PCBs (µg/L)					
4,4'-DDD	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor-1016	1 U	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U	1 U
Aroclor-1260	1 U	1 U	1 U	1 U	1 U
Beta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BBHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Aldehyde	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Ketone	**0.071 J**	0.1 U	0.1 U	0.1 U	0.1 U
Gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide	**0.016 J**	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	5 U	5 U	5 U	5 U	5 U

Table D-8-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Bruno/Brickyard Associates/Alonzo Site

Analyte / Sample ID: / Date:	BBA-GP01-GW 10/15/2003	BBA-GP02-GW 10/16/2003	BBA-GP03-GW 10/15/2003	BBA-GP03-GW/D 10/15/2003	BBA-GP04-GW 10/15/2003
TAL Metals and Mercury (µg/L)					
Aluminum	27.7 U	27.7 U	27.7 U	27.7 U	27.7 U
Antimony	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Arsenic	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Barium	**50.5 B**	**64.7 B**	**55.5 B**	**56.1 B**	**42.5 B**
Beryllium	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Cadmium	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Calcium	**97100**	**99700**	**70300**	**70100**	**42000**
Chromium	1 U	**2.2 B**	**7.5 B**	1 U	1 U
Cobalt	1.3 U	**4.8 B**	**1.9 B**	1.3 U	1.3 U
Copper	**1.1 B**	1 U	**1.5 B**	**1.8 B**	**1.5 B**
Iron	27.9 U	27.9 U	**4230**	**4030**	27.9 U
Lead	2.2 U	**2.2 B**	2.2 U	2.2 U	**2.2 B**
Magnesium	**28100**	**34800**	**21700**	**21600**	**16100**
Manganese	**685**	**785**	**1150**	**1140**	**266**
Nickel	2.3 U	**4.9 B**	**8.4 B**	2.3 U	2.3 U
Potassium	**2060 B**	**1570 B**	**1620 B**	**1630 B**	**1190 B**
Selenium	**4.2 BJ**	3.8 U	3.8 U	3.8 U	**5.1**
Silver	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Sodium	**3010 B**	**9160 J**	**9640 J**	**9640 J**	**14100 J**
Thallium	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
Vanadium	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
Zinc	**20 B**	**23.8**	**26.6**	**28.7**	**23.5**
Mercury	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Total Cyanide (µg/L)					
Cyanide Tot.	5 U	5 U	5 U	5 U	5 U

Table D-8-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Bruno/Brickyard Associates/Alonzo Site

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance Series #1.1.1: Class GA Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

(2) EPA National Primary and Secondary Drinking Water Standards, 2002.

(3) Screening value is for sum of Iron and Manganese is 500 µg/L.

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

BBA = Bruno/Brickyard Associates/Alonzo Site.

/D = Duplicate sample.

GW = Groundwater sample.

J = The reported value is an estimated quantity.

JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.

mg/L = Milligrams per liter

PCB = Polychlorinated biphenyl.

R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.

TAL = Target Analyte List.

TCL = Target Compound List.

U = The analyte was analyzed for but not detected at the value reported.

UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.

µg/L = Micrograms per liter.

- = Sample was not analyzed for this parameter.

Table D-8-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the Bruno/Brickyard Associates/Alonzo Site

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Table D-9-1
Complete Analytical Data Summary for Surface Soil Samples
from the State of New York/First Rensselaer/Marine Management Site

Analyte	Sample ID: / Date: / Depth:	MM-SS01 10/8/2003 0 - 2 in	MM-SS01/D 10/8/2003 0 - 2 in	MM-SS02 10/8/2003 0 - 2 in	MM-SS05 10/8/2003 0 - 2 in	MM-SS07 10/8/2003 0 - 2 in	MM-SS08 10/8/2003 0 - 2 in	MM-SS09 10/8/2003 0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)								
1,1,1-Trichloroethane		- -	- -	- -	- -	- -	13 U	- -
1,1,2,2-Tetrachloroethane		- -	- -	- -	- -	- -	13 U	- -
1,1,2-Trichloro-1,2,2-Trifluoroethane		- -	- -	- -	- -	- -	**6 J**	- -
1,1,2-Trichloroethane		- -	- -	- -	- -	- -	13 U	- -
1,1-Dichloroethane		- -	- -	- -	- -	- -	13 U	- -
1,1-Dichloroethene		- -	- -	- -	- -	- -	**2 J**	- -
1,2,4-Trichlorobenzene		- -	- -	- -	- -	- -	**3 J**	- -
1,2-Dibromo-3-Chloropropane		- -	- -	- -	- -	- -	13 U	- -
1,2-Dibromoethane		- -	- -	- -	- -	- -	13 U	- -
1,2-Dichlorobenzene		- -	- -	- -	- -	- -	13 U	- -
1,2-Dichloroethane		- -	- -	- -	- -	- -	13 U	- -
1,2-Dichloropropane		- -	- -	- -	- -	- -	13 U	- -
1,3-Dichlorobenzene		- -	- -	- -	- -	- -	13 U	- -
1,4-Dichlorobenzene		- -	- -	- -	- -	- -	13 U	- -
2-Butanone		- -	- -	- -	- -	- -	13 U	- -
2-Hexanone		- -	- -	- -	- -	- -	13 U	- -
4-Methyl-2-Pentanone		- -	- -	- -	- -	- -	13 U	- -
Acetone		- -	- -	- -	- -	- -	13 U	- -
Benzene		- -	- -	- -	- -	- -	13 U	- -
Bromodichloromethane		- -	- -	- -	- -	- -	13 U	- -
Bromoform		- -	- -	- -	- -	- -	13 U	- -
Bromomethane		- -	- -	- -	- -	- -	13 U	- -
Carbon Disulfide		- -	- -	- -	- -	- -	**3 J**	- -
Carbon Tetrachloride		- -	- -	- -	- -	- -	**1 J**	- -
Chlorobenzene		- -	- -	- -	- -	- -	13 U	- -
Chloroethane		- -	- -	- -	- -	- -	13 U	- -
Chloroform		- -	- -	- -	- -	- -	13 U	- -
Chloromethane		- -	- -	- -	- -	- -	13 U	- -
cis-1,2-Dichloroethene		- -	- -	- -	- -	- -	13 U	- -
cis-1,3-Dichloropropene		- -	- -	- -	- -	- -	13 U	- -
Cyclohexane		- -	- -	- -	- -	- -	**2 J**	- -

Table D-9-1
Complete Analytical Data Summary for Surface Soil Samples
from the State of New York/First Rensselaer/Marine Management Site

Analyte	Sample ID:	MM-SS01	MM-SS01/D	MM-SS02	MM-SS05	MM-SS07	MM-SS08	MM-SS09
	Date:	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Dibromochloromethane		--	--	--	--	--	13 U	--
Dichlorodifluoromethane		--	--	--	--	--	**6 J**	--
Ethylbenzene		--	--	--	--	--	**2 J**	--
Isopropylbenzene		--	--	--	--	--	**1 J**	--
Methyl Acetate		--	--	--	--	--	13 U	--
Methyl tert-Butyl Ether		--	--	--	--	--	13 U	--
Methylcyclohexane		--	--	--	--	--	**3 J**	--
Methylene Chloride		--	--	--	--	--	13 U	--
Styrene		--	--	--	--	--	**1 J**	--
Tetrachloroethene		--	--	--	--	--	**4 J**	--
Toluene		--	--	--	--	--	13 U	--
trans-1,2-Dichloroethene		--	--	--	--	--	**1 J**	--
trans-1,3-Dichloropropene		--	--	--	--	--	13 U	--
Trichloroethene		--	--	--	--	--	**2 J**	--
Trichlorofluoromethane		--	--	--	--	--	**3 J**	--
Vinyl Chloride		--	--	--	--	--	**1 J**	--
Xylenes (Total)		--	--	--	--	--	**5 J**	--
TCL Semivolatile Organic Compounds (µg/Kg)								
1,1'-Biphenyl		410 U	410 U	610 U	450 U	410 U	470 U	620 U
2,2'-Oxybis(1- Chloropropane)		410 U	410 U	610 U	450 U	410 U	470 U	620 U
2,4,5-Trichlorophenol		1000 U	1000 U	1500 U	1100 U	1000 U	1200 U	1600 U
2,4,6-Trichlorophenol		410 U	410 U	610 U	450 U	410 U	470 U	620 U
2,4-Dichlorophenol		410 U	410 U	610 U	450 U	410 U	470 U	620 U
2,4-Dimethylphenol		410 U	410 U	610 U	450 U	410 U	470 U	620 U
2,4-Dinitrophenol		1000 UJ	1000 UJ	1500 UJ	1100 UJ	1000 UJ	1200 UJ	1600 UJ
2,4-Dinitrotoluene		410 U	410 U	610 U	450 U	410 U	470 U	620 U
2,6-Dinitrotoluene		410 U	410 U	610 U	450 U	410 U	470 U	620 U
2-Chloronaphthalene		410 U	410 U	610 U	450 U	410 U	470 U	620 U
2-Chlorophenol		410 U	410 U	610 U	450 U	410 U	470 U	620 U
2-Methylnaphthalene		410 U	410 U	610 U	**120 J**	410 U	**180 J**	620 U
2-Methylphenol		410 U	410 U	610 U	450 U	410 U	470 U	620 U
2-Nitroaniline		1000 U	1000 U	1500 U	1100 U	1000 U	1200 U	1600 U

Table D-9-1
Complete Analytical Data Summary for Surface Soil Samples
from the State of New York/First Rensselaer/Marine Management Site

Analyte	Sample ID: MM-SS01 Date: 10/8/2003 Depth: 0 - 2 in	MM-SS01/D 10/8/2003 0 - 2 in	MM-SS02 10/8/2003 0 - 2 in	MM-SS05 10/8/2003 0 - 2 in	MM-SS07 10/8/2003 0 - 2 in	MM-SS08 10/8/2003 0 - 2 in	MM-SS09 10/8/2003 0 - 2 in
2-Nitrophenol	410 U	410 U	610 U	450 U	410 U	470 U	620 U
3,3'-Dichlorobenzidine	410 U	410 U	610 U	450 U	410 UJ	470 U	620 UJ
3-Nitroaniline	1000 U	1000 U	1500 U	1100 U	1000 U	1200 U	1600 U
4,6-Dinitro-2-Methylphenol	1000 U	1000 U	1500 U	1100 U	1000 U	1200 U	1600 U
4-Bromophenyl-Phenylether	410 U	410 U	610 U	450 U	410 U	470 U	620 U
4-Chloro-3-Methylphenol	410 U	**120 J**	610 U	450 U	410 U	470 U	620 U
4-Chloroaniline	410 U	410 U	610 U	450 U	410 U	470 U	620 U
4-Chlorophenyl-Phenyl Ether	410 U	410 U	610 U	450 U	410 U	470 U	620 U
4-Methylphenol	410 U	410 U	610 U	450 U	410 U	470 U	620 U
4-Nitroaniline	1000 U	1000 U	1500 U	1100 U	1000 U	1200 U	1600 U
4-Nitrophenol	1000 UJ	**440 J**	1500 UJ	1100 UJ	1000 UJ	1200 UJ	1600 UJ
Acenaphthene	410 U	410 U	610 U	450 U	410 U	470 U	620 U
Acenaphthylene	**85 J**	**130 J**	610 U	450 U	410 U	**740**	620 U
Acetophenone	410 U	410 U	610 U	**1000**	410 U	470 U	620 U
Anthracene	**210 J**	**310 J**	610 U	**150 J**	**180 J**	**700**	620 U
Atrazine	410 U	410 U	610 U	450 U	410 U	470 U	620 U
Benzaldehyde	410 U	410 U	610 U	450 U	410 U	470 U	620 U
Benzo(a)anthracene	**740**	**1100**	**260 J**	**510**	**570**	**1800**	620 U
Benzo(a)pyrene	**840**	**1100**	**270 J**	**460**	**490**	**1800**	620 U
Benzo(b)fluoranthene	**910**	**2300**	**370 J**	**720**	**660**	**2600**	620 U
Benzo(g,h,i)perylene	**420**	**700**	**200 J**	**210 J**	**230 J**	**890**	620 UJ
Benzo(k)fluoranthene	**890**	410 U	**280 J**	**470**	**440**	**1500**	620 U
Bis(2-Chloroethoxy)Methane	410 U	410 U	610 U	450 U	410 U	470 U	620 U
Bis-(2-Chloroethyl)Ether	410 U	410 U	610 U	450 U	410 U	470 U	620 U
Bis(2-Ethylhexyl)Phthalate	**87 J**	**210 J**	**290 J**	**740**	**150 J**	**98 J**	620 U
Butylbenzylphthalate	410 U	410 U	610 U	450 U	410 U	470 U	620 U
Caprolactam	410 U	410 U	610 U	450 U	410 U	470 U	620 U
Carbazole	**130 J**	**160 J**	610 UJ	450 UJ	**140 J**	**150 J**	620 UJ
Chrysene	**880**	**1300**	**350 J**	**720**	**690**	**2100**	620 U
Dibenzo(a,h)-anthracene	**300 J**	**480**	610 U	**150 J**	**150 J**	**640**	620 U
Dibenzofuran	410 U	410 U	610 U	450 U	410 U	**100 J**	620 U
Diethylphthalate	410 U	410 U	610 U	450 U	410 U	470 U	620 U

Table D-9-1
Complete Analytical Data Summary for Surface Soil Samples
from the State of New York/First Rensselaer/Marine Management Site

Analyte	Sample ID: / Date: / Depth:	MM-SS01 10/8/2003 0 - 2 in	MM-SS01/D 10/8/2003 0 - 2 in	MM-SS02 10/8/2003 0 - 2 in	MM-SS05 10/8/2003 0 - 2 in	MM-SS07 10/8/2003 0 - 2 in	MM-SS08 10/8/2003 0 - 2 in	MM-SS09 10/8/2003 0 - 2 in
Dimethylphthalate		410 U	410 U	610 U	450 U	410 U	470 U	620 U
Di-n-Butylphthalate		410 U	410 U	610 U	450 U	410 U	470 U	620 U
Di-n-Octylphthalate		410 U	410 U	610 U	450 U	410 U	470 U	620 U
Fluoranthene		**1300**	**1900**	**560 J**	**1100**	**1400**	**3500**	620 U
Fluorene		410 U	**84 J**	610 U	450 U	410 U	**100 J**	620 U
Hexachlorobenzene		410 U	410 U	610 U	450 U	410 U	470 U	620 U
Hexachlorobutadiene		410 U	410 U	610 U	450 U	410 U	470 U	620 U
Hexachlorocyclo-Pentadiene		410 UJ	410 UJ	610 UJ	450 UJ	410 UJ	470 UJ	620 UJ
Hexachloroethane		410 U	410 U	610 U	450 U	410 U	470 U	620 U
Indeno(1,2,3-cd)-pyrene		**700**	**1100**	**230 J**	**330 J**	**350 J**	**1600**	620 U
Isophorone		410 U	410 U	610 U	450 U	410 U	470 U	620 U
Naphthalene		410 U	410 U	610 U	**95 J**	410 U	**140 J**	620 U
Nitrobenzene		410 U	410 U	610 U	450 U	410 U	470 U	620 U
n-Nitroso Diphenylamine		410 U	410 U	610 U	450 U	410 U	470 U	620 U
n-Nitroso-Di-n Propylamine		410 U	410 U	610 U	450 U	410 U	470 U	620 U
Pentachlorophenol		1000 U	1000 U	1500 U	1100 U	1000 U	1200 U	1600 U
Phenanthrene		**830**	**1300**	**240 J**	**710**	**840**	**1500**	620 U
Phenol		410 U	410 U	610 U	450 U	410 U	470 U	620 U
Pyrene		**1300**	**2000**	**500 J**	**980**	**1100**	**2800**	620 U
TCL Pesticides and PCBs (µg/Kg)								
4,4'-DDD		4.1 U	4.1 U	6.1 U	**15 J**	4.1 U	4.7 U	6.2 U
4,4'-DDE		**5.5**	**7.4**	**12**	**28**	4.1 U	4.7 U	6.2 U
4,4'-DDT		**24**	**32**	**29**	**360**	4.1 U	4.7 U	6.2 U
Aldrin		2.1 U	2.1 U	3.1 U	2.3 U	2.1 U	2.4 U	3.2 U
Alpha-BHC		2.1 U	2.1 U	3.1 U	2.3 U	2.1 U	2.4 U	3.2 U
Alpha-Chlordane		2.1 U	2.1 U	3.1 U	2.3 U	2.1 U	2.4 U	3.2 U
Aroclor-1016		41 U	41 U	61 U	45 U	41 U	47 U	62 U
Aroclor-1221		83 U	84 U	120 U	92 U	84 U	96 U	130 U
Aroclor-1232		41 U	41 U	61 U	45 U	41 U	47 U	62 U
Aroclor-1242		41 U	41 U	61 U	45 U	41 U	47 U	62 U
Aroclor-1248		41 U	41 U	61 U	45 U	41 U	47 U	62 U
Aroclor-1254		41 U	41 U	61 U	45 U	41 U	47 U	62 U

Table D-9-1
Complete Analytical Data Summary for Surface Soil Samples
from the State of New York/First Rensselaer/Marine Management Site

Analyte / Sample ID:	MM-SS01	MM-SS01/D	MM-SS02	MM-SS05	MM-SS07	MM-SS08	MM-SS09
Date:	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003
Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Aroclor-1260	41 U	41 U	61 U	45 U	41 U	47 U	62 U
Beta-BHC	2.1 U	2.1 U	3.1 U	2.3 U	2.1 U	2.4 U	3.2 U
Delta-BBHC	2.1 U	2.1 U	3.1 U	2.3 U	2.1 U	2.4 U	3.2 U
Dieldrin	4.1 U	4.1 U	6.1 U	**7.2**	4.1 U	4.7 U	6.2 U
Endosulfan I	2.1 U	2.1 U	3.1 U	2.3 U	2.1 U	2.4 U	3.2 U
Endosulfan II	4.1 U	4.1 U	6.1 U	4.5 U	4.1 U	4.7 U	6.2 U
Endosulfan Sulfate	4.1 U	4.1 U	6.1 U	4.5 U	4.1 U	4.7 U	6.2 U
Endrin	4.1 U	4.1 U	6.1 U	4.5 U	4.1 U	4.7 U	6.2 U
Endrin Aldehyde	**3.9 J**	**4.5 JN**	6.1 U	4.5 U	4.1 U	4.7 U	6.2 U
Endrin Ketone	4.1 U	4.1 U	6.1 U	4.5 U	4.1 U	4.7 U	6.2 U
Gamma-BHC (Lindane)	2.1 U	2.1 U	3.1 U	2.3 U	2.1 U	2.4 U	3.2 U
Gamma-Chlordane	2.1 U	2.1 U	3.1 U	**1.2 J**	2.1 U	2.4 U	3.2 U
Heptachlor	2.1 U	2.1 U	3.1 U	2.3 U	2.1 U	2.4 U	3.2 U
Heptachlor Epoxide	2.1 U	2.1 U	3.1 U	2.3 U	2.1 U	2.4 U	3.2 U
Methoxychlor	21 U	21 U	31 U	**44 J**	21 U	**44 R**	32 U
Toxaphene	210 U	210 U	310 U	230 U	210 U	240 U	320 U
Herbicides (µg/Kg)							
2,4,5-T	--	--	--	--	--	43.0 U	--
2,4,5-TP (SILVEX)	--	--	--	--	--	43.0 U	--
2,4-D	--	--	--	--	--	43.0 U	--
2,4-DB	--	--	--	--	--	43.0 U	--
Dalapon	--	--	--	--	--	129 U	--
Dicamba	--	--	--	--	--	43.0 U	--
Dichlorprop	--	--	--	--	--	43.0 U	--
Dinoseb	--	--	--	--	--	43.0 U	--
MCPA	--	--	--	--	--	12900 U	--
MCPP	--	--	--	--	--	12900 U	--
TAL Metals and Mercury (mg/Kg)							
Aluminum	**5960**	**6380**	**6530**	**6230**	**14800**	**5530**	**8500**
Antimony	**2.1 B**	**4.4 B**	**4.2 B**	**3.4 B**	1.8 U	2.1 U	**3.4 B**
Arsenic	**6.3**	**9.4**	**15.2**	**12.1**	**10.5**	**41.8**	**8.3**
Barium	**231**	**269**	**886**	**7100**	**141**	**78.1**	**3520**

Table D-9-1
Complete Analytical Data Summary for Surface Soil Samples
from the State of New York/First Rensselaer/Marine Management Site

Analyte	Sample ID:	MM-SS01	MM-SS01/D	MM-SS02	MM-SS05	MM-SS07	MM-SS08	MM-SS09
	Date:	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Beryllium		0.38 B	0.43 B	0.43 B	0.28 B	0.83 B	0.4 B	0.34 B
Cadmium		1.1 B	1.2 B	2.7	5.2	0.13 U	0.15 U	25.7
Calcium		12900	12400	20400	20700	24800	17700	113000
Chromium		28	23.6	41.3	25	20	15.2	29.5
Cobalt		6.5 B	7.5 B	9.4 B	13.8 B	16.5	8.2 B	8.5 B
Copper		54.1	59.7	153	50.3	58	77.2	1120
Iron		17200	19100	33200	15200	32900	20800	15000
Lead		499	773	1180	8610	48.9	185	940
Magnesium		4520	4590	4330	5160	9400	6040	11300
Manganese		353	404	480	180	702	396	469
Nickel		40.3	45.1	31.4	27.8	33.1	21	29.7
Potassium		954 B	1070 B	1100 B	751 B	2770	949 B	1860
Selenium		1.3	1.7	2.6	2.4	0.71 B	1.4 B	0.68 U
Silver		0.97 B	1.2 B	1 B	0.45 U	0.38 U	0.44 U	0.53 U
Sodium		135 U	150 U	194 U	167 B	137 U	161 U	346 B
Thallium		1 U	1.2 U	1.5 U	1.2 U	1.1 U	1.2 U	1.5 U
Vanadium		20.9	24.3	32.5	19.6	31.4	20.5	107
Zinc		481	531	1350	7700	109	183	4020
Mercury		0.52	0.56	0.72	0.37	0.06 U	0.3	0.21 J
Total Cyanide (mg/Kg)								
Cyanide Tot.		0.35	0.2 U	0.21 U	0.18 U	0.15 U	0.27	0.35
Total Petroleum Hydrocarbons (mg/Kg)								
n-Hexane Extractable Material		- -	- -	- -	- -	- -	523 U	- -
Percent Moisture (wt%)								
Percent Moisture		- -	- -	- -	- -	- -	26.7	- -
Percent Solids (%)								
Percent Solids, 105DegC		80	61	58	66	82	69	53

Table D-9-1
Complete Analytical Data Summary for Surface Soil Samples from the State of New York/First Rensselaer/Marine Management Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
MM = State of New York/First Rensselaer/Marine Management Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
wt. % = Percent weight.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Source: Ecology and Environment, Inc., 2004

Table D-9-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the State of New York/First Rensselaer/Marine Management Site

Analyte	Sample ID: MM-GP01-SB Date: 10/6/2003 Depth: 8 - 12 ft	MM-GP02-SB 10/3/2003 6 - 8 ft	MM-GP04-SB 10/6/2003 8 - 10 ft
TCL Volatile Organic Compounds (µg/Kg)			
1,1,1-Trichloroethane	17 U	10 U	14 UJ
1,1,2,2-Tetrachloroethane	17 U	10 U	**14 R**
1,1,2-Trichloro-1,2,2-Trifluoroethane	17 U	10 U	14 UJ
1,1,2-Trichloroethane	17 U	10 U	14 UJ
1,1-Dichloroethane	17 U	10 U	14 UJ
1,1-Dichloroethene	17 U	10 U	14 UJ
1,2,4-Trichlorobenzene	17 U	10 U	**14 R**
1,2-Dibromo-3-Chloropropane	**17 R**	**10 R**	**14 R**
1,2-Dibromoethane	17 U	10 U	**14 R**
1,2-Dichlorobenzene	17 U	10 U	**14 R**
1,2-Dichloroethane	17 U	10 U	14 UJ
1,2-Dichloropropane	17 U	10 U	14 UJ
1,3-Dichlorobenzene	17 U	10 U	**14 R**
1,4-Dichlorobenzene	17 U	10 U	**14 R**
2-Butanone	17 U	10 U	14 UJ
2-Hexanone	17 UJ	10 UJ	**14 R**
4-Methyl-2-Pentanone	17 U	10 U	**14 R**
Acetone	17 U	10 U	25 UJ
Benzene	17 U	10 U	14 UJ
Bromodichloromethane	17 U	10 U	14 UJ
Bromoform	17 U	10 U	14 UJ
Bromomethane	17 U	10 U	14 UJ
Carbon Disulfide	17 U	10 U	**1 J**
Carbon Tetrachloride	17 U	10 U	14 UJ
Chlorobenzene	17 U	10 U	**14 R**
Chloroethane	17 U	10 U	14 UJ
Chloroform	17 U	10 U	14 UJ
Chloromethane	17 U	10 U	14 UJ
cis-1,2-Dichloroethene	17 U	10 U	14 UJ
cis-1,3-Dichloropropene	17 U	10 U	14 UJ
Cyclohexane	17 U	10 U	**3 J**
Dibromochloromethane	17 U	10 U	14 UJ
Dichlorodifluoromethane	17 U	10 U	14 UJ
Ethylbenzene	17 U	10 U	**14 R**
Isopropylbenzene	17 U	10 U	**14 R**
Methyl Acetate	17 U	10 U	14 UJ
Methyl tert-Butyl Ether	17 U	10 U	14 UJ
Methylcyclohexane	17 U	10 U	**3 J**
Methylene Chloride	17 U	10 U	14 UJ
Styrene	17 U	10 U	**14 R**
Tetrachloroethene	17 U	10 U	**14 R**
Toluene	**1 J**	10 U	**6 J**
trans-1,2-Dichloroethene	17 U	10 U	14 UJ

Table D-9-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the State of New York/First Rensselaer/Marine Management Site

Analyte	Sample ID: MM-GP01-SB Date: 10/6/2003 Depth: 8 - 12 ft	MM-GP02-SB 10/3/2003 6 - 8 ft	MM-GP04-SB 10/6/2003 8 - 10 ft
trans-1,3-Dichloropropene	17 U	10 U	14 UJ
Trichloroethene	17 U	10 U	14 UJ
Trichlorofluoromethane	17 U	10 U	14 UJ
Vinyl Chloride	17 U	10 U	14 UJ
Xylenes (Total)	17 U	10 U	**4 J**
TCL Semivolatile Organic Compounds (µg/Kg)			
1,1'-Biphenyl	380 U	390 U	420 U
2,2'-Oxybis(1- Chloropropane)	380 U	390 U	420 U
2,4,5-Trichlorophenol	970 U	990 U	1100 U
2,4,6-Trichlorophenol	380 U	390 U	420 U
2,4-Dichlorophenol	380 U	390 U	420 U
2,4-Dimethylphenol	380 U	390 U	420 U
2,4-Dinitrophenol	970 U	990 U	1100 U
2,4-Dinitrotoluene	380 U	390 U	420 U
2,6-Dinitrotoluene	380 U	390 U	420 U
2-Chloronaphthalene	380 U	390 U	420 U
2-Chlorophenol	380 U	390 U	420 U
2-Methylnaphthalene	380 U	390 U	420 U
2-Methylphenol	380 U	390 U	420 U
2-Nitroaniline	970 U	990 U	1100 U
2-Nitrophenol	380 U	390 U	420 U
3,3'-Dichlorobenzidine	380 UJ	390 UJ	420 UJ
3-Nitroaniline	970 U	990 U	1100 U
4,6-Dinitro-2-Methylphenol	970 U	990 U	1100 U
4-Bromophenyl-Phenylether	380 U	390 U	420 U
4-Chloro-3-Methylphenol	380 U	390 U	420 U
4-Chloroaniline	380 U	390 U	420 U
4-Chlorophenyl-Phenyl Ether	380 U	390 U	420 U
4-Methylphenol	380 U	390 U	420 U
4-Nitroaniline	970 U	990 U	1100 U
4-Nitrophenol	970 UJ	990 UJ	1100 UJ
Acenaphthene	380 U	390 U	420 U
Acenaphthylene	380 U	390 U	420 U
Acetophenone	380 U	390 U	420 U
Anthracene	380 U	**130 J**	**140 J**
Atrazine	380 U	390 U	420 U
Benzaldehyde	380 U	390 U	420 U
Benzo(a)anthracene	**190 J**	**300 J**	**480**
Benzo(a)pyrene	**280 J**	**350 J**	**490**
Benzo(b)fluoranthene	**250 J**	**180 J**	**370 J**
Benzo(g,h,i)perylene	**93 J**	**110 J**	**160 J**
Benzo(k)fluoranthene	**300 J**	**310 J**	**490**
Bis(2-Chloroethoxy)Methane	380 U	390 U	420 U
Bis-(2-Chloroethyl)Ether	380 U	390 U	420 U

Table D-9-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the State of New York/First Rensselaer/Marine Management Site

Analyte	Sample ID: MM-GP01-SB Date: 10/6/2003 Depth: 8 - 12 ft	MM-GP02-SB 10/3/2003 6 - 8 ft	MM-GP04-SB 10/6/2003 8 - 10 ft
Bis(2-Ethylhexyl)Phthalate	380 U	390 U	420 U
Butylbenzylphthalate	380 U	390 U	420 U
Caprolactam	380 U	390 U	420 U
Carbazole	380 UJ	390 UJ	420 UJ
Chrysene	**210 J**	**280 J**	**480**
Dibenzo(a,h)-anthracene	**88 J**	390 U	**120 J**
Dibenzofuran	380 U	390 U	420 U
Diethylphthalate	380 U	390 U	420 U
Dimethylphthalate	380 U	390 U	420 U
Di-n-Butylphthalate	380 U	390 U	420 U
Di-n-Octylphthalate	380 U	390 U	420 U
Fluoranthene	**250 J**	**750**	**800**
Fluorene	380 U	390 U	420 U
Hexachlorobenzene	380 U	390 U	420 U
Hexachlorobutadiene	380 U	390 U	420 U
Hexachlorocyclo-Pentadiene	380 UJ	390 UJ	420 UJ
Hexachloroethane	380 U	390 U	420 U
Indeno(1,2,3-cd)-pyrene	**230 J**	**210 J**	**330 J**
Isophorone	380 U	390 U	420 U
Naphthalene	380 U	390 U	420 U
Nitrobenzene	380 U	390 U	420 U
n-Nitroso Diphenylamine	380 U	390 U	420 U
n-Nitroso-Di-n Propylamine	380 U	390 U	420 U
Pentachlorophenol	970 U	990 U	1100 U
Phenanthrene	380 U	**620**	**360 J**
Phenol	380 U	390 U	420 U
Pyrene	**250 J**	**900**	**790**
TCL Pesticides and PCBs (µg/Kg)			
4,4'-DDD	3.8 U	3.9 U	4.2 U
4,4'-DDE	**4.6 J**	3.9 U	4.2 U
4,4'-DDT	**13 J**	3.9 U	4.2 U
Aldrin	2 U	2 U	2.2 U
Alpha-BHC	2 U	2 U	2.2 U
Alpha-Chlordane	2 U	2 U	2.2 U
Aroclor-1016	38 U	39 U	42 U
Aroclor-1221	78 U	80 U	86 U
Aroclor-1232	38 U	39 U	42 U
Aroclor-1242	38 U	39 U	42 U
Aroclor-1248	38 U	39 U	42 U
Aroclor-1254	38 U	39 U	42 U
Aroclor-1260	38 U	39 U	42 U
Beta-BHC	2 U	2 U	2.2 U
Delta-BBHC	2 U	2 U	2.2 U
Dieldrin	3.8 U	3.9 U	4.2 U

Table D-9-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the State of New York/First Rensselaer/Marine Management Site

Analyte	Sample ID: MM-GP01-SB Date: 10/6/2003 Depth: 8 - 12 ft	MM-GP02-SB 10/3/2003 6 - 8 ft	MM-GP04-SB 10/6/2003 8 - 10 ft
Endosulfan I	2 U	2 U	2.2 U
Endosulfan II	3.8 U	3.9 U	4.2 U
Endosulfan Sulfate	3.8 U	3.9 U	4.2 U
Endrin	3.8 U	3.9 U	4.2 U
Endrin Aldehyde	3.8 U	3.9 U	4.2 U
Endrin Ketone	3.8 U	3.9 U	4.2 U
Gamma-BHC (Lindane)	2 U	2 U	2.2 U
Gamma-Chlordane	2 U	2 U	2.2 U
Heptachlor	2 U	2 U	2.2 U
Heptachlor Epoxide	2 U	2 U	2.2 U
Methoxychlor	20 U	20 U	22 U
Toxaphene	200 U	200 U	220 U
TAL Metals and Mercury (mg/Kg)			
Aluminum	**6460**	**4170**	**5620**
Antimony	**4.8 B**	1.7 U	1.7 U
Arsenic	**18.1**	1 U	**4.3 J**
Barium	**978**	**21.2 B**	**37.9 B**
Beryllium	**0.5 B**	**0.21 B**	**0.31 B**
Cadmium	**3.8**	0.12 U	0.11 U
Calcium	**13600**	**1220**	**8330**
Chromium	**82.7**	**5.8**	**12**
Cobalt	**10.6 B**	**4.2 B**	**5.8 B**
Copper	**151**	**9.3 J**	**29.4**
Iron	**44200**	**10900**	**22600**
Lead	**1380**	**11.5**	**39.5**
Magnesium	**3050**	**2240**	**6120**
Manganese	**758 J**	**150**	**189 J**
Nickel	**33.4**	**9.5**	**13.6**
Potassium	**978 B**	**377 B**	**658 B**
Selenium	0.44 UJ	0.44 U	0.44 UJ
Silver	**0.62 B**	0.35 U	0.34 U
Sodium	**445 B**	128 U	126 U
Thallium	0.98 U	0.98 U	0.97 U
Vanadium	**23.8**	**6.4 B**	**11 B**
Zinc	**1880**	**37.1**	**166**
Mercury	**0.79**	0.06 U	**0.06 BJ**
Total Cyanide (mg/Kg)			
Cyanide Tot.	**1**	0.14 U	**0.22**
Percent Solids (%)			
Percent Solids, 105DegC	**78**	**85**	**78**

Table D-9-2
Complete Analytical Data Summary for Subsurface Soil Samples from the State of New York/First Rensselaer/Marine Management Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
ft = Feet.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
MM = State of New York/First Rensselaer/Marine Management Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Table D-9-2
Complete Analytical Data Summary for Subsurface Soil Samples
from the State of New York/First Rensselaer/Marine Management Site

Table D-9-3
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the State of New York/First Rensselaer/Marine Management Site

Analyte	Sample ID: MM-GP01-GW Date: 10/10/2003	MM-GP02-GW 10/10/2003	MM-GP04-GW 10/15/2003
TCL Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane	10 U	10 U	10 U
1,2-Dibromoethane	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U
2-Butanone	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U
4-Methyl-2-Pentanone	10 U	10 U	10 U
Acetone	10 U	10 U	10 U
Benzene	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U
Bromomethane	10 UJ	10 U	10 U
Carbon Disulfide	10 U	10 U	10 U
Carbon Tetrachloride	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U
Chloroethane	10 UJ	10 U	10 U
Chloroform	10 U	10 U	10 U
Chloromethane	10 UJ	10 U	10 U
cis-1,2-Dichloroethene	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U
Cyclohexane	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U
Dichlorodifluoromethane	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U
Isopropylbenzene	10 U	10 U	10 U
Methyl Acetate	10 U	10 U	10 U
Methyl tert-Butyl Ether	10 U	10 U	10 U
Methylcyclohexane	10 U	10 U	10 U
Methylene Chloride	10 U	10 U	10 U
Styrene	10 U	10 U	10 U
Tetrachloroethene	**2 J**	10 U	10 U
Toluene	10 U	10 U	10 U
trans-1,2-Dichloroethene	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U
Trichloroethene	**4 J**	10 U	10 U
Trichlorofluoromethane	10 U	10 U	10 U
Vinyl Chloride	10 UJ	10 U	10 U
Xylenes (Total)	10 U	10 U	10 U

Table D-9-3
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the State of New York/First Rensselaer/Marine Management Site

Analyte	Sample ID: / Date:	MM-GP01-GW 10/10/2003	MM-GP02-GW 10/10/2003	MM-GP04-GW 10/15/2003
TCL Semivolatile Organic Compounds (µg/L)				
1,1'-Biphenyl		10 U	10 U	10 U
2,2'-Oxybis(1- Chloropropane)		10 U	10 U	10 U
2,4,5-Trichlorophenol		26 U	25 U	25 U
2,4,6-Trichlorophenol		10 U	10 U	10 U
2,4-Dichlorophenol		10 U	10 U	10 U
2,4-Dimethylphenol		10 U	10 U	10 U
2,4-Dinitrophenol		26 UJ	25 UJ	25 UJ
2,4-Dinitrotoluene		10 U	10 U	10 U
2,6-Dinitrotoluene		10 U	10 U	10 U
2-Chloronaphthalene		10 U	10 U	10 U
2-Chlorophenol		10 U	10 U	10 U
2-Methylnaphthalene		10 U	10 U	10 U
2-Methylphenol		10 U	10 U	10 U
2-Nitroaniline		26 U	25 U	25 U
2-Nitrophenol		10 U	10 U	10 U
3,3'-Dichlorobenzidine		10 U	10 U	10 U
3-Nitroaniline		26 U	25 U	25 U
4,6-Dinitro-2-Methylphenol		26 U	25 U	25 U
4-Bromophenyl-Phenylether		10 U	10 U	10 U
4-Chloro-3-Methylphenol		10 U	10 U	10 U
4-Chloroaniline		10 U	10 U	10 U
4-Chlorophenyl-Phenyl Ether		10 U	10 U	10 U
4-Methylphenol		10 U	10 U	10 U
4-Nitroaniline		26 UJ	25 UJ	25 UJ
4-Nitrophenol		26 UJ	25 UJ	25 UJ
Acenaphthene		10 U	10 U	10 U
Acenaphthylene		10 U	10 U	10 U
Acetophenone		10 U	10 U	10 U
Anthracene		10 U	10 U	10 U
Atrazine		10 U	10 U	10 U
Benzaldehyde		10 UJ	10 UJ	10 UJ
Benzo(a)anthracene		10 U	10 U	10 U
Benzo(a)pyrene		10 U	10 U	10 U
Benzo(b)fluoranthene		10 U	10 U	10 U
Benzo(g,h,i)perylene		10 U	10 U	10 U
Benzo(k)fluoranthene		10 U	10 U	10 U
Bis(2-Chloroethoxy)Methane		10 U	10 U	10 U
Bis-(2-Chloroethyl)Ether		10 U	10 U	10 U
Bis(2-Ethylhexyl)Phthalate		10 U	10 U	10 U
Butylbenzylphthalate		10 U	10 U	10 U
Caprolactam		**390**	10 U	**6 J**
Carbazole		10 U	10 U	10 U
Chrysene		10 U	10 U	10 U
Dibenzo(a,h)-anthracene		10 U	10 U	10 U
Dibenzofuran		10 U	10 U	10 U
Diethylphthalate		10 U	10 U	10 U
Dimethylphthalate		10 U	10 U	10 U
Di-n-Butylphthalate		10 U	10 U	10 U

Table D-9-3
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the State of New York/First Rensselaer/Marine Management Site

Analyte / Sample ID: / Date:	MM-GP01-GW 10/10/2003	MM-GP02-GW 10/10/2003	MM-GP04-GW 10/15/2003
Di-n-Octylphthalate	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U
Hexachlorocyclo-Pentadiene	10 UJ	10 UJ	10 UJ
Hexachloroethane	10 U	10 U	10 U
Indeno(1,2,3-cd)-pyrene	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U
n-Nitroso Diphenylamine	10 U	10 U	10 U
n-Nitroso-Di-n Propylamine	10 U	10 U	10 U
Pentachlorophenol	26 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U
Phenol	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U
TCL Pesticides and PCBs (µg/L)			
4,4'-DDD	0.1 U	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U	0.05 U
Alpha-BHC	0.05 U	0.05 U	0.05 U
Alpha-Chlordane	0.05 U	0.05 U	0.05 U
Aroclor-1016	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U
Aroclor-1260	1 U	1 U	1 U
Beta-BHC	0.05 U	0.05 U	0.05 U
Delta-BBHC	0.05 U	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate	0.1 U	0.1 U	0.1 U
Endrin	0.1 U	0.1 U	0.1 U
Endrin Aldehyde	0.1 U	0.1 U	0.1 U
Endrin Ketone	0.1 U	0.1 U	0.1 U
Gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide	0.05 U	0.05 U	0.05 U
Methoxychlor	0.5 U	0.5 U	0.5 U
Toxaphene	5 U	5 U	5 U
TAL Metals and Mercury (µg/L)			
Aluminum	**56.8 B**	**762**	**54.7 B**
Antimony	9.2 U	9.2 U	9.2 U

Table D-9-3
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the State of New York/First Rensselaer/Marine Management Site

Analyte	Sample ID: MM-GP01-GW Date: 10/10/2003	MM-GP02-GW 10/10/2003	MM-GP04-GW 10/15/2003
Arsenic	5.8 U	5.8 U	5.8 U
Barium	**28.7 B**	**64.4 B**	**72.9 B**
Beryllium	0.1 U	**0.23 B**	0.1 U
Cadmium	0.7 U	0.7 U	0.7 U
Calcium	**64400**	**29200**	**82600**
Chromium	1 U	1 U	1 U
Cobalt	**4.7 B**	**6.5 B**	**4.9 B**
Copper	1 U	**3.3 B**	**2 B**
Iron	27.9 U	**5710**	**431**
Lead	2.2 U	**7.5**	2.2 U
Magnesium	**11300**	**5290**	**24400**
Manganese	**66.4 J**	**316 J**	**4120 J**
Nickel	2.3 U	2.3 U	2.3 U
Potassium	**3600 B**	**1090 B**	**1190 B**
Selenium	3.8 U	3.8 U	3.8 U
Silver	1.4 UJ	1.4 UJ	1.4 UJ
Sodium	**14400**	**12400**	**5160**
Thallium	6.8 U	6.8 U	6.8 U
Vanadium	**0.98 B**	**3.8 B**	0.9 U
Zinc	**28.4 J**	**41.2 J**	**30.2 J**
Mercury	0.1 U	0.1 U	0.1 U
Total Cyanide (µg/L)			
Cyanide Tot.	5 U	5 U	5 U

Table D-9-3
Complete Analytical Data Summary for Groundwater Samples from the State of New York/First Rensselaer/Marine Management Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
GW = Groundwater sample.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/L = Milligrams per liter
MM = State of New York/First Rensselaer/Marine Management Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.
- = Sample was not analyzed for this parameter.

Table D-10-1
Complete Analytical Data Summary for Surface Soil Samples
from the OG Real Estate Site

Analyte	Sample ID:	OG-SS01	OG-SS02	OG-SS03	OG-SS04	OG-SS05	OG-SS06	OG-SS07	OG-SS08
	Date:	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)									
1,1,1-Trichloroethane		--	--	--	--	--	14 U	10 UJ	15 U
1,1,2,2-Tetrachloroethane		--	--	--	--	--	14 U	**10 R**	15 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane		--	--	--	--	--	14 U	10 UJ	15 U
1,1,2-Trichloroethane		--	--	--	--	--	14 U	10 UJ	15 U
1,1-Dichloroethane		--	--	--	--	--	14 U	10 U	15 U
1,1-Dichloroethene		--	--	--	--	--	14 U	10 U	15 U
1,2,4-Trichlorobenzene		--	--	--	--	--	14 U	**10 R**	15 UJ
1,2-Dibromo-3-Chloropropane		--	--	--	--	--	14 U	**10 R**	15 UJ
1,2-Dibromoethane		--	--	--	--	--	14 U	**10 R**	15 UJ
1,2-Dichlorobenzene		--	--	--	--	--	14 U	**10 R**	15 UJ
1,2-Dichloroethane		--	--	--	--	--	14 U	10 U	15 U
1,2-Dichloropropane		--	--	--	--	--	14 U	10 UJ	15 U
1,3-Dichlorobenzene		--	--	--	--	--	14 U	**10 R**	15 UJ
1,4-Dichlorobenzene		--	--	--	--	--	14 U	**10 R**	15 UJ
2-Butanone		--	--	--	--	--	14 U	10 U	15 U
2-Hexanone		--	--	--	--	--	14 U	**10 R**	15 UJ
4-Methyl-2-Pentanone		--	--	--	--	--	14 U	**10 R**	15 UJ
Acetone		--	--	--	--	--	14 U	10 UJ	15 U
Benzene		--	--	--	--	--	14 U	10 UJ	15 U
Bromodichloromethane		--	--	--	--	--	14 U	10 UJ	15 U
Bromoform		--	--	--	--	--	14 U	10 UJ	15 U
Bromomethane		--	--	--	--	--	14 U	10 U	15 U
Carbon Disulfide		--	--	--	--	--	14 U	10 U	15 U
Carbon Tetrachloride		--	--	--	--	--	14 U	10 UJ	15 U
Chlorobenzene		--	--	--	--	--	14 U	**10 R**	15 UJ
Chloroethane		--	--	--	--	--	14 U	10 U	15 U
Chloroform		--	--	--	--	--	14 U	10 U	15 U
Chloromethane		--	--	--	--	--	14 U	10 U	15 U
cis-1,2-Dichloroethene		--	--	--	--	--	14 U	10 U	15 U
cis-1,3-Dichloropropene		--	--	--	--	--	14 U	10 UJ	15 U
Cyclohexane		--	--	--	--	--	14 U	10 UJ	15 U

Table D-10-1
Complete Analytical Data Summary for Surface Soil Samples
from the OG Real Estate Site

Analyte	Sample ID:	OG-SS01	OG-SS02	OG-SS03	OG-SS04	OG-SS05	OG-SS06	OG-SS07	OG-SS08
	Date:	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Dibromochloromethane		--	--	--	--	--	14 UJ	10 UJ	15 UJ
Dichlorodifluoromethane		--	--	--	--	--	14 U	10 U	15 U
Ethylbenzene		--	--	--	--	--	14 U	**10 R**	15 UJ
Isopropylbenzene		--	--	--	--	--	14 U	**10 R**	15 UJ
Methyl Acetate		--	--	--	--	--	14 U	10 U	**4 J**
Methyl tert-Butyl Ether		--	--	--	--	--	14 U	10 U	15 U
Methylcyclohexane		--	--	--	--	--	14 U	10 UJ	15 U
Methylene Chloride		--	--	--	--	--	14 U	10 UJ	15 U
Styrene		--	--	--	--	--	14 U	**10 R**	15 UJ
Tetrachloroethene		--	--	--	--	--	14 U	**10 R**	15 UJ
Toluene		--	--	--	--	--	14 U	**3 J**	15 UJ
trans-1,2-Dichloroethene		--	--	--	--	--	14 U	10 U	15 U
trans-1,3-Dichloropropene		--	--	--	--	--	14 U	10 UJ	15 U
Trichloroethene		--	--	--	--	--	14 U	10 UJ	15 U
Trichlorofluoromethane		--	--	--	--	--	14 UJ	10 U	15 UJ
Vinyl Chloride		--	--	--	--	--	14 U	10 U	15 U
Xylenes (Total)		--	--	--	--	--	14 U	**10 R**	15 UJ
TCL Semivolatile Organic Compounds (µg/Kg)									
1,1'-Biphenyl		440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
2,2'-Oxybis(1- Chloropropane)		440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
2,4,5-Trichlorophenol		1100 U	1300 U	1200 U	1500 UJ	1200 U	1100 U	1300 U	12000 U
2,4,6-Trichlorophenol		440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
2,4-Dichlorophenol		440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
2,4-Dimethylphenol		440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
2,4-Dinitrophenol		1100 UJ	1300 UJ	1200 UJ	1500 UJ	1200 U	1100 UJ	1300 UJ	12000 UJ
2,4-Dinitrotoluene		440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
2,6-Dinitrotoluene		440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
2-Chloronaphthalene		440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
2-Chlorophenol		440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
2-Methylnaphthalene		440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	**1800 J**
2-Methylphenol		440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
2-Nitroaniline		1100 U	1300 U	1200 U	1500 UJ	1200 U	1100 U	1300 U	12000 U

Table D-10-1
Complete Analytical Data Summary for Surface Soil Samples
from the OG Real Estate Site

Analyte	Sample ID: OG-SS01 Date: 10/7/2003 Depth: 0 - 2 in	OG-SS02 10/7/2003 0 - 2 in	OG-SS03 10/7/2003 0 - 2 in	OG-SS04 10/7/2003 0 - 2 in	OG-SS05 10/7/2003 0 - 2 in	OG-SS06 10/7/2003 0 - 2 in	OG-SS07 10/7/2003 0 - 2 in	OG-SS08 10/7/2003 0 - 2 in
2-Nitrophenol	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
3,3'-Dichlorobenzidine	440 U	520 U	490 U	580 UJ	470 UJ	430 UJ	520 UJ	4600 U
3-Nitroaniline	1100 U	1300 U	1200 U	1500 UJ	1200 U	1100 UJ	1300 UJ	12000 U
4,6-Dinitro-2-Methylphenol	1100 U	1300 U	1200 U	1500 UJ	1200 U	1100 UJ	1300 UJ	12000 U
4-Bromophenyl-Phenylether	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
4-Chloro-3-Methylphenol	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
4-Chloroaniline	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
4-Chlorophenyl-Phenyl Ether	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
4-Methylphenol	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
4-Nitroaniline	1100 U	1300 U	1200 U	1500 UJ	1200 U	1100 U	1300 U	12000 U
4-Nitrophenol	1100 U	1300 U	1200 U	1500 UJ	1200 UJ	1100 UJ	1300 UJ	12000 UJ
Acenaphthene	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	**1300 J**
Acenaphthylene	440 U	520 U	490 U	580 UJ	470 U	430 U	**300 J**	**12000**
Acetophenone	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Anthracene	440 U	520 U	490 U	580 UJ	470 U	430 U	**300 J**	**12000**
Atrazine	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Benzaldehyde	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Benzo(a)anthracene	**140 J**	520 U	490 U	580 UJ	**110 J**	430 U	**730**	**51000**
Benzo(a)pyrene	**170 J**	520 U	490 U	580 UJ	**130 J**	430 U	**650**	**36000**
Benzo(b)fluoranthene	**230 J**	520 U	490 U	580 UJ	**96 J**	430 U	**740**	**59000**
Benzo(g,h,i)perylene	**110 J**	520 U	490 U	580 UJ	470 U	430 UJ	520 UJ	**14000**
Benzo(k)fluoranthene	**160 J**	520 U	490 U	580 UJ	**140 J**	430 U	**830**	**16000**
Bis(2-Chloroethoxy)Methane	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Bis-(2-Chloroethyl)Ether	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Bis(2-Ethylhexyl)Phthalate	440 U	520 U	490 U	580 UJ	**200 J**	430 U	**350 J**	4600 U
Butylbenzylphthalate	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Caprolactam	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Carbazole	440 U	520 U	490 U	580 UJ	470 UJ	430 UJ	520 UJ	**3500 J**
Chrysene	**210 J**	520 U	490 U	580 UJ	**140 J**	430 U	**860**	**56000**
Dibenzo(a,h)-anthracene	440 U	520 U	490 U	580 UJ	470 U	430 U	**180 J**	**12000**
Dibenzofuran	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	**1800 J**
Diethylphthalate	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U

Table D-10-1
Complete Analytical Data Summary for Surface Soil Samples
from the OG Real Estate Site

Analyte	Sample ID: OG-SS01 Date: 10/7/2003 Depth: 0 - 2 in	OG-SS02 10/7/2003 0 - 2 in	OG-SS03 10/7/2003 0 - 2 in	OG-SS04 10/7/2003 0 - 2 in	OG-SS05 10/7/2003 0 - 2 in	OG-SS06 10/7/2003 0 - 2 in	OG-SS07 10/7/2003 0 - 2 in	OG-SS08 10/7/2003 0 - 2 in
Dimethylphthalate	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Di-n-Butylphthalate	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Di-n-Octylphthalate	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Fluoranthene	**260 J**	520 U	490 U	580 UJ	**180 J**	430 U	**1100**	**99000**
Fluorene	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	**1700 J**
Hexachlorobenzene	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Hexachlorobutadiene	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Hexachlorocyclo-Pentadiene	440 U	520 U	490 U	580 UJ	470 UJ	430 UJ	520 UJ	4600 U
Hexachloroethane	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Indeno(1,2,3-cd)-pyrene	**170 J**	520 U	490 U	580 UJ	470 U	430 UJ	**450 J**	**28000**
Isophorone	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Naphthalene	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	**1700 J**
Nitrobenzene	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
n-Nitroso Diphenylamine	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
n-Nitroso-Di-n Propylamine	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Pentachlorophenol	1100 U	1300 U	1200 U	1500 UJ	1200 U	1100 U	1300 U	12000 U
Phenanthrene	**130 J**	520 U	490 U	580 UJ	470 U	430 U	**250 J**	**24000**
Phenol	440 U	520 U	490 U	580 UJ	470 U	430 U	520 U	4600 U
Pyrene	**270 J**	520 U	490 U	580 UJ	**190 J**	430 U	**1200**	**82000**
TCL Pesticides and PCBs (µg/Kg)								
4,4'-DDD	4.4 U	5.2 U	4.9 U	5.8 UJ	4.7 U	4.3 U	5.2 U	**23 J**
4,4'-DDE	**9.1 J**	5.2 U	4.9 U	5.8 UJ	**7.8**	4.3 U	**3.7 J**	**6.7 R**
4,4'-DDT	**7.2**	5.2 U	4.9 U	**4.2 J**	**9.9**	4.3 U	**2.7 J**	**40 J**
Aldrin	2.3 U	2.7 U	2.5 U	**1.7 J**	2.4 U	2.2 U	2.7 U	2.4 U
Alpha-BHC	2.3 U	2.7 U	2.5 U	3 UJ	2.4 U	2.2 U	2.7 U	2.4 U
Alpha-Chlordane	2.3 U	2.7 U	2.5 U	3 UJ	2.4 U	2.2 U	2.7 U	2.4 U
Aroclor-1016	44 U	52 U	49 U	58 UJ	47 U	43 U	52 U	46 U
Aroclor-1221	89 U	100 U	100 U	120 UJ	96 U	88 U	110 U	94 U
Aroclor-1232	44 U	52 U	49 U	58 UJ	47 U	43 U	52 U	46 U
Aroclor-1242	44 U	52 U	49 U	58 UJ	47 U	43 U	52 U	46 U
Aroclor-1248	44 U	52 U	49 U	58 UJ	47 U	43 U	52 U	46 U
Aroclor-1254	44 U	52 U	49 U	58 UJ	47 U	43 U	52 U	46 U

Table D-10-1
Complete Analytical Data Summary for Surface Soil Samples
from the OG Real Estate Site

Analyte	Sample ID:	OG-SS01	OG-SS02	OG-SS03	OG-SS04	OG-SS05	OG-SS06	OG-SS07	OG-SS08
	Date:	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Aroclor-1260		44 U	52 U	49 U	58 UJ	47 U	43 U	52 U	46 U
Beta-BHC		2.3 U	**7.1 JN**	**4.1 JN**	3 UJ	**4.4 JN**	**2.4**	**5.3 J**	2.4 U
Delta-BBHC		2.3 U	2.7 U	2.5 U	3 UJ	2.4 U	2.2 U	2.7 U	2.4 U
Dieldrin		4.4 U	5.2 U	4.9 U	**3.5 J**	4.7 U	4.3 U	5.2 U	4.6 U
Endosulfan I		2.3 U	2.7 U	2.5 U	3 UJ	2.4 U	2.2 U	2.7 U	**2.4 R**
Endosulfan II		4.4 U	5.2 U	4.9 U	5.8 UJ	4.7 U	4.3 U	5.2 U	4.6 U
Endosulfan Sulfate		4.4 U	5.2 U	4.9 U	5.8 UJ	4.7 U	4.3 U	5.2 U	4.6 U
Endrin		4.4 U	5.2 U	4.9 U	**3.7 J**	4.7 U	4.3 U	5.2 U	4.6 U
Endrin Aldehyde		4.4 U	5.2 U	4.9 U	5.8 UJ	4.7 U	4.3 U	5.2 U	4.6 U
Endrin Ketone		4.4 U	5.2 U	4.9 U	5.8 UJ	4.7 U	4.3 U	5.2 U	4.6 U
Gamma-BHC (Lindane)		2.3 U	2.7 U	2.5 U	3 UJ	2.4 U	2.2 U	2.7 U	2.4 U
Gamma-Chlordane		2.3 U	2.7 U	2.5 U	3 UJ	2.4 U	2.2 U	2.7 U	2.4 U
Heptachlor		2.3 U	2.7 U	2.5 U	**1.7 J**	2.4 U	2.2 U	2.7 U	2.4 U
Heptachlor Epoxide		2.3 U	2.7 U	2.5 U	3 UJ	2.4 U	2.2 U	2.7 U	2.4 U
Methoxychlor		23 U	27 U	25 U	30 UJ	24 U	22 U	27 U	24 U
Toxaphene		230 U	270 U	250 U	300 UJ	240 U	220 U	270 U	240 U
Herbicides (µg/Kg)									
2,4,5-T		--	--	--	--	--	--	22.7 U	22.8 U
2,4,5-TP (SILVEX)		--	--	--	--	--	--	22.7 U	22.8 U
2,4-D		--	--	--	--	--	--	22.7 U	**41.7**
2,4-DB		--	--	--	--	--	--	**43.6**	**118**
Dalapon		--	--	--	--	--	--	67.9 U	68.4 U
Dicamba		--	--	--	--	--	--	22.7 U	22.8 U
Dichlorprop		--	--	--	--	--	--	22.7 U	**21.4 J**
Dinoseb		--	--	--	--	--	--	22.7 U	22.8 U
MCPA		--	--	--	--	--	--	6790 U	6840 U
MCPP		--	--	--	--	--	--	6790 U	6840 U
TAL Metals and Mercury (mg/Kg)									
Aluminum		**8630**	**12400**	**14100**	**14000**	**7170**	**10400**	**11800**	**5880**
Antimony		1.9 U	2.2 U	2.2 U	2.5 U	2.1 U	1.9 U	**3.1 B**	**36.3**
Arsenic		**9.5 J**	**54**	**44.3 J**	**31.9 J**	**6.4 J**	**41.6 J**	**17.3 J**	**11.8 J**
Barium		**256**	**428**	**496**	**430**	**64.6**	**378**	**259**	**97.5**

Table D-10-1
Complete Analytical Data Summary for Surface Soil Samples
from the OG Real Estate Site

Analyte	Sample ID:	OG-SS01	OG-SS02	OG-SS03	OG-SS04	OG-SS05	OG-SS06	OG-SS07	OG-SS08
	Date:	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003	10/7/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
Beryllium		0.62 B	1.5 B	2	1.9	0.39 B	1.2 B	0.82 B	0.47 B
Cadmium		0.26 B	0.16 U	0.15 U	0.18 U	0.15 U	0.13 U	0.16 U	0.13 U
Calcium		57700	5790	7280	6970	6220	5200	6000	3850
Chromium		10.6	21.9	21.7	22	19.5	44.7	17.2	20.9
Cobalt		12.1 B	5.7 B	7.5 B	7.3 B	9.6 B	31.4	12.1 B	7 B
Copper		35.9	21.6	20.8	32.6	30.7	39	38.9	6560
Iron		20300	11300	23400	19200	29400	35000	25500	20100
Lead		244	39.2	26.5	29.6	79.5	19.3	60.1	753
Magnesium		6070	1190 B	1360 B	1950	3530	5880	5790	2350
Manganese		4380 J	105 J	143	247	524	324	2200	244
Nickel		25	47	54	56.5	69.3	2240	28.2	94.8
Potassium		588 B	710 B	923 B	993 B	882 B	750 B	1010 B	638 B
Selenium		1.3 J	3.2 J	1.5 J	0.69 BJ	0.56 UJ	0.83 BJ	0.61 UJ	0.7 BJ
Silver		1.3 BJ	0.47 U	0.45 U	0.53 U	0.44 U	0.4 U	0.48 U	0.4 U
Sodium		142 U	246 B	344 B	428 B	160 U	206 B	205 B	147 U
Thallium		1.1 UR	1.3 UR	1.5 B	1.5 U	1.2 U	1.1 U	1.3 U	1.1 U
Vanadium		52.4	147	158	136	296	9900	45	190
Zinc		293	29.4	27	62.4	98.7	46.7	274	91
Mercury		0.2 J	0.23 J	0.07 U	0.09 U	0.1 BJ	0.08 BJ	0.07 U	0.07 U
Total Cyanide (mg/Kg)									
Cyanide Tot.		0.63	0.42	0.27	0.64	0.57	0.21	1.3	0.17 U
Total Petroleum Hydrocarbons (mg/Kg)									
n-Hexane Extractable Material		- -	- -	- -	- -	- -	- -	261 U	888
Percent Moisture (wt%)									
Percent Moisture		- -	- -	- -	- -	- -	- -	27.1	29.5
Percent Solids (%)									
Percent Solids, 105DegC		76	65	60	55	71	78	63	71

Table D-10-1
Complete Analytical Data Summary for Surface Soil Samples from the OG Real Estate Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
OG = OG Real Estate Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SS = Surface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
wt. % = Percent weight.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Source: Ecology and Environment, Inc., 2004

Table D-10-2
Complete Analytical Data Summary for Subsurface Soil Samples from the OG Real Estate Site

Analyte	Sample ID: OG-GP01-SB Date: 10/7/2003 Depth: 2.5 - 4 ft	OG-GP02-SB 10/7/2003 13.8 - 15.8 ft	OG-GP03-SB 10/7/2003 14 - 16 ft
TCL Volatile Organic Compounds (µg/Kg)			
1,1,1-Trichloroethane	21 UJ	10 U	10 U
1,1,2,2-Tetrachloroethane	21 UJ	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	21 UJ	10 U	10 U
1,1,2-Trichloroethane	21 UJ	10 U	10 U
1,1-Dichloroethane	21 UJ	10 U	10 U
1,1-Dichloroethene	21 UJ	10 U	10 U
1,2,4-Trichlorobenzene	21 UJ	10 U	10 U
1,2-Dibromo-3-Chloropropane	21 UJ	10 U	10 U
1,2-Dibromoethane	21 UJ	10 U	10 U
1,2-Dichlorobenzene	21 UJ	10 U	10 U
1,2-Dichloroethane	21 UJ	10 U	10 U
1,2-Dichloropropane	21 UJ	10 U	10 U
1,3-Dichlorobenzene	21 UJ	10 U	10 U
1,4-Dichlorobenzene	21 UJ	10 U	10 U
2-Butanone	21 UJ	10 U	**21**
2-Hexanone	21 UJ	10 U	10 U
4-Methyl-2-Pentanone	21 UJ	10 U	10 U
Acetone	21 UJ	10 UJ	**110 J**
Benzene	21 UJ	10 U	10 U
Bromodichloromethane	21 UJ	10 U	10 U
Bromoform	21 UJ	10 U	10 U
Bromomethane	21 UJ	10 U	10 U
Carbon Disulfide	21 UJ	10 U	**0.5 J**
Carbon Tetrachloride	21 UJ	10 U	10 U
Chlorobenzene	21 UJ	10 U	10 U
Chloroethane	21 UJ	10 U	10 U
Chloroform	21 UJ	10 U	10 U
Chloromethane	21 UJ	10 U	10 U
cis-1,2-Dichloroethene	21 UJ	10 U	10 U
cis-1,3-Dichloropropene	21 UJ	10 U	10 U
Cyclohexane	21 UJ	10 U	**0.6 J**
Dibromochloromethane	21 UJ	10 U	10 U
Dichlorodifluoromethane	21 UJ	10 U	10 U
Ethylbenzene	21 UJ	10 U	10 U
Isopropylbenzene	21 UJ	10 U	10 U
Methyl Acetate	21 UJ	10 U	10 U
Methyl tert-Butyl Ether	21 UJ	10 U	10 U
Methylcyclohexane	21 UJ	10 U	10 U
Methylene Chloride	21 UJ	10 U	10 U
Styrene	21 UJ	10 U	10 U
Tetrachloroethene	21 UJ	10 U	10 U
Toluene	21 UJ	10 U	10 U
trans-1,2-Dichloroethene	21 UJ	10 U	10 U
trans-1,3-Dichloropropene	21 UJ	10 U	10 U
Trichloroethene	21 UJ	10 U	10 U
Trichlorofluoromethane	21 UJ	10 U	10 U
Vinyl Chloride	21 UJ	10 U	10 U
Xylenes (Total)	21 UJ	10 U	10 U

Table D-10-2
Complete Analytical Data Summary for Subsurface Soil Samples from the OG Real Estate Site

Analyte	Sample ID: OG-GP01-SB Date: 10/7/2003 Depth: 2.5 - 4 ft	OG-GP02-SB 10/7/2003 13.8 - 15.8 ft	OG-GP03-SB 10/7/2003 14 - 16 ft
TCL Semivolatile Organic Compounds (µg/Kg)			
1,1'-Biphenyl	610 U	400 U	420 U
2,2'-Oxybis(1- Chloropropane)	610 U	400 U	420 U
2,4,5-Trichlorophenol	1500 U	1000 U	1100 U
2,4,6-Trichlorophenol	610 U	400 U	420 U
2,4-Dichlorophenol	610 U	400 U	420 U
2,4-Dimethylphenol	610 U	400 U	420 U
2,4-Dinitrophenol	1500 UJ	1000 UJ	1100 UJ
2,4-Dinitrotoluene	610 U	400 U	420 U
2,6-Dinitrotoluene	610 U	400 U	420 U
2-Chloronaphthalene	610 U	400 U	420 U
2-Chlorophenol	610 U	400 U	420 U
2-Methylnaphthalene	610 U	400 U	420 U
2-Methylphenol	610 U	400 U	420 U
2-Nitroaniline	1500 U	1000 U	1100 U
2-Nitrophenol	610 U	400 U	420 U
3,3'-Dichlorobenzidine	610 UJ	400 U	420 U
3-Nitroaniline	1500 U	1000 U	1100 U
4,6-Dinitro-2-Methylphenol	1500 U	1000 U	1100 U
4-Bromophenyl-Phenylether	610 U	400 U	420 U
4-Chloro-3-Methylphenol	610 U	400 U	420 U
4-Chloroaniline	610 U	400 U	420 U
4-Chlorophenyl-Phenyl Ether	610 U	400 U	420 U
4-Methylphenol	610 U	400 U	420 U
4-Nitroaniline	1500 U	1000 U	1100 U
4-Nitrophenol	1500 UJ	1000 UJ	1100 UJ
Acenaphthene	610 U	400 U	420 U
Acenaphthylene	610 U	400 U	420 U
Acetophenone	610 U	400 U	420 U
Anthracene	610 U	400 U	**280 J**
Atrazine	610 U	400 U	420 U
Benzaldehyde	610 U	400 U	420 U
Benzo(a)anthracene	610 U	400 U	**1400**
Benzo(a)pyrene	610 U	400 U	**1200**
Benzo(b)fluoranthene	610 U	400 U	**1100**
Benzo(g,h,i)perylene	610 UJ	400 U	**380 J**
Benzo(k)fluoranthene	610 U	400 U	**970**
Bis(2-Chloroethoxy)Methane	610 U	400 U	420 U
Bis-(2-Chloroethyl)Ether	610 U	400 U	420 U
Bis(2-Ethylhexyl)Phthalate	**160 J**	400 U	420 U
Butylbenzylphthalate	610 U	400 U	420 U
Caprolactam	610 U	400 U	420 U
Carbazole	610 UJ	400 UJ	420 UJ
Chrysene	610 U	400 U	**1400**
Dibenzo(a,h)-anthracene	610 U	400 U	**240 J**
Dibenzofuran	610 U	400 U	420 U
Diethylphthalate	610 U	400 U	420 U
Dimethylphthalate	610 U	400 U	420 U
Di-n-Butylphthalate	610 U	400 U	420 U

Table D-10-2
Complete Analytical Data Summary for Subsurface Soil Samples from the OG Real Estate Site

Analyte	Sample ID: OG-GP01-SB Date: 10/7/2003 Depth: 2.5 - 4 ft	OG-GP02-SB 10/7/2003 13.8 - 15.8 ft	OG-GP03-SB 10/7/2003 14 - 16 ft
Di-n-Octylphthalate	610 U	400 U	420 U
Fluoranthene	610 U	400 U	**2200**
Fluorene	610 U	400 U	420 U
Hexachlorobenzene	610 U	400 U	420 U
Hexachlorobutadiene	610 U	400 U	420 U
Hexachlorocyclo-Pentadiene	610 UJ	400 U	420 U
Hexachloroethane	610 U	400 U	420 U
Indeno(1,2,3-cd)-pyrene	610 U	400 U	**700**
Isophorone	610 U	400 U	420 U
Naphthalene	610 U	400 U	420 U
Nitrobenzene	610 U	400 U	420 U
n-Nitroso Diphenylamine	610 U	400 U	420 U
n-Nitroso-Di-n Propylamine	610 U	400 U	420 U
Pentachlorophenol	1500 U	1000 U	1100 U
Phenanthrene	610 U	400 U	**480**
Phenol	610 U	400 U	420 U
Pyrene	610 U	400 U	**2100**
TCL Pesticides and PCBs (µg/Kg)			
4,4'-DDD	6.1 U	4 U	4.2 U
4,4'-DDE	6.1 U	4 U	4.2 U
4,4'-DDT	6.1 U	4 U	4.2 U
Aldrin	3.1 U	2 U	2.2 U
Alpha-BHC	3.1 U	2 U	2.2 U
Alpha-Chlordane	3.1 U	2 U	2.2 U
Aroclor-1016	61 U	40 U	42 U
Aroclor-1221	120 U	81 U	85 U
Aroclor-1232	61 U	40 U	42 U
Aroclor-1242	61 U	40 U	42 U
Aroclor-1248	61 U	40 U	42 U
Aroclor-1254	61 U	40 U	42 U
Aroclor-1260	61 U	40 U	42 U
Beta-BHC	3.1 U	2 U	2.2 U
Delta-BBHC	3.1 U	2 U	2.2 U
Dieldrin	6.1 U	4 U	4.2 U
Endosulfan I	3.1 U	2 U	2.2 U
Endosulfan II	6.1 U	4 U	4.2 U
Endosulfan Sulfate	6.1 U	4 U	4.2 U
Endrin	6.1 U	4 U	4.2 U
Endrin Aldehyde	6.1 U	4 U	4.2 U
Endrin Ketone	6.1 U	4 U	4.2 U
Gamma-BHC (Lindane)	3.1 U	2 U	2.2 U
Gamma-Chlordane	3.1 U	2 U	2.2 U
Heptachlor	3.1 U	2 U	2.2 U
Heptachlor Epoxide	3.1 U	2 U	2.2 U
Methoxychlor	31 U	20 U	22 U
Toxaphene	310 U	200 U	220 U

Table D-10-2
Complete Analytical Data Summary for Subsurface Soil Samples from the OG Real Estate Site

Analyte	Sample ID: OG-GP01-SB Date: 10/7/2003 Depth: 2.5 - 4 ft	OG-GP02-SB 10/7/2003 13.8 - 15.8 ft	OG-GP03-SB 10/7/2003 14 - 16 ft
TAL Metals and Mercury (mg/Kg)			
Aluminum	**10400**	**5710**	**8890**
Antimony	2.6 U	1.8 U	1.8 U
Arsenic	**55.4 J**	**1.5 BJ**	**4.4 J**
Barium	**388**	**25.9 B**	**76.4**
Beryllium	**1.8 B**	**0.26 B**	**0.51 B**
Cadmium	0.18 U	0.13 U	0.13 U
Calcium	**7890**	**2610**	**6320**
Chromium	**18.8**	**8.1**	**12.3**
Cobalt	**7.4 B**	**5.4 B**	**10.5 B**
Copper	**31.7**	**10.2**	**20.9**
Iron	**18900**	**11400**	**21600**
Lead	**10.1**	**5.1**	**12.7**
Magnesium	**1480 B**	**3080**	**5630**
Manganese	**61.4**	**109**	**606**
Nickel	**16.5**	**13.6**	**21.9**
Potassium	**729 B**	**636 B**	**674 B**
Selenium	**1.3 BJ**	0.48 UJ	0.48 UJ
Silver	0.54 U	0.38 U	0.38 U
Sodium	**415 B**	139 U	137 U
Thallium	1.5 U	1.1 U	1.1 U
Vanadium	**45.9**	**10.1 B**	**18.5**
Zinc	**29.9**	**45.4**	**66.9**
Mercury	**0.18 BJ**	0.06 U	0.06 U
Total Cyanide (mg/Kg)			
Cyanide Tot.	**0.33**	0.16 U	0.15 U
Percent Solids (%)			
Percent Solids, 105DegC	**55**	**78**	**79**

Table D-10-2
Complete Analytical Data Summary for Subsurface Soil Samples from the OG Real Estate Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
ft = Feet.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
OG = OG Real Estate Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SB = Subsurface soil sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/Kg = Micrograms per kilogram.
- = Sample was not analyzed for this parameter.
% = Percent.

Table D-10-2
Complete Analytical Data Summary for Subsurface Soil Samples from the OG Real Estate Site

Table D-10-3
Complete Analytical Data Summary for Surface Water Samples from the OG Real Estate Site

Analyte	Sample ID: / Date:	OG-SW02 10/7/2003	OG-SW03 10/7/2003
TCL Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane		10 U	10 U
1,1,2,2-Tetrachloroethane		10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		10 U	10 U
1,1,2-Trichloroethane		10 U	10 U
1,1-Dichloroethane		10 U	10 U
1,1-Dichloroethene		10 U	10 U
1,2,4-Trichlorobenzene		10 U	10 U
1,2-Dibromo-3-Chloropropane		**10 R**	**10 R**
1,2-Dibromoethane		10 U	10 U
1,2-Dichlorobenzene		10 U	10 U
1,2-Dichloroethane		10 U	10 U
1,2-Dichloropropane		10 U	10 U
1,3-Dichlorobenzene		10 U	10 U
1,4-Dichlorobenzene		10 U	10 U
2-Butanone		10 U	10 U
2-Hexanone		10 U	10 U
4-Methyl-2-Pentanone		10 U	10 U
Acetone		**4 J**	**3 J**
Benzene		10 U	10 U
Bromodichloromethane		10 U	10 U
Bromoform		10 U	10 U
Bromomethane		10 U	10 U
Carbon Disulfide		10 U	10 U
Carbon Tetrachloride		10 U	10 U
Chlorobenzene		10 U	10 U
Chloroethane		10 U	10 U
Chloroform		10 U	10 U
Chloromethane		10 U	10 U
cis-1,2-Dichloroethene		10 U	10 U
cis-1,3-Dichloropropene		10 U	10 U
Cyclohexane		10 U	10 U
Dibromochloromethane		10 U	10 U
Dichlorodifluoromethane		10 U	10 U
Ethylbenzene		10 U	10 U
Isopropylbenzene		10 U	10 U
Methyl Acetate		10 U	10 U
Methyl tert-Butyl Ether		10 U	10 U
Methylcyclohexane		10 U	10 U
Methylene Chloride		10 U	10 U
Styrene		10 U	10 U
Tetrachloroethene		10 U	10 U
Toluene		**2 J**	**3 J**
trans-1,2-Dichloroethene		10 U	10 U
trans-1,3-Dichloropropene		10 U	10 U
Trichloroethene		10 U	10 U
Trichlorofluoromethane		10 U	10 U
Vinyl Chloride		10 U	10 U
Xylenes (Total)		10 U	10 U

Table D-10-3
Complete Analytical Data Summary for Surface Water Samples from the OG Real Estate Site

Analyte / Sample ID: / Date:	OG-SW02 10/7/2003	OG-SW03 10/7/2003
TCL Semivolatile Organic Compounds (µg/L)		
1,1'-Biphenyl	10 U	10 U
2,2'-Oxybis(1- Chloropropane)	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U
2,4,6-Trichlorophenol	10 U	10 U
2,4-Dichlorophenol	10 U	10 U
2,4-Dimethylphenol	10 U	10 U
2,4-Dinitrophenol	25 UJ	25 UJ
2,4-Dinitrotoluene	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U
2-Chloronaphthalene	10 U	10 U
2-Chlorophenol	10 U	10 U
2-Methylnaphthalene	10 U	10 U
2-Methylphenol	10 U	10 U
2-Nitroaniline	25 U	25 U
2-Nitrophenol	10 U	10 U
3,3'-Dichlorobenzidine	10 UJ	10 UJ
3-Nitroaniline	25 U	25 U
4,6-Dinitro-2-Methylphenol	25 UJ	25 UJ
4-Bromophenyl-Phenylether	10 U	10 U
4-Chloro-3-Methylphenol	10 U	10 U
4-Chloroaniline	10 U	10 U
4-Chlorophenyl-Phenyl Ether	10 U	10 U
4-Methylphenol	10 U	10 U
4-Nitroaniline	25 U	25 U
4-Nitrophenol	25 U	25 U
Acenaphthene	10 U	10 U
Acenaphthylene	10 U	10 U
Acetophenone	10 U	10 U
Anthracene	10 U	10 U
Atrazine	10 U	10 U
Benzaldehyde	10 U	10 U
Benzo(a)anthracene	10 U	10 U
Benzo(a)pyrene	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U
Bis(2-Chloroethoxy)Methane	10 U	10 U
Bis-(2-Chloroethyl)Ether	10 U	10 U
Bis(2-Ethylhexyl)Phthalate	10 U	2 J
Butylbenzylphthalate	10 U	10 U
Caprolactam	10 U	10 U
Carbazole	10 UJ	10 UJ
Chrysene	10 U	10 U
Dibenzo(a,h)-anthracene	10 U	10 U
Dibenzofuran	10 U	10 U
Diethylphthalate	10 U	10 U
Dimethylphthalate	10 U	10 U
Di-n-Butylphthalate	10 U	10 U
Di-n-Octylphthalate	10 U	10 U
Fluoranthene	10 U	10 U

Table D-10-3
Complete Analytical Data Summary for Surface Water Samples from the OG Real Estate Site

Analyte / Sample ID: / Date:	OG-SW02 10/7/2003	OG-SW03 10/7/2003
Fluorene	10 U	10 U
Hexachlorobenzene	10 U	10 U
Hexachlorobutadiene	10 U	10 U
Hexachlorocyclo-Pentadiene	10 UJ	10 UJ
Hexachloroethane	10 U	10 U
Indeno(1,2,3-cd)-pyrene	10 U	10 U
Isophorone	10 U	10 U
Naphthalene	10 U	10 U
Nitrobenzene	10 U	10 U
n-Nitroso Diphenylamine	10 U	10 U
n-Nitroso-Di-n Propylamine	10 U	10 U
Pentachlorophenol	25 U	25 U
Phenanthrene	10 U	10 U
Phenol	10 U	10 U
Pyrene	10 U	10 U
TCL Pesticides and PCBs (µg/L)		
4,4'-DDD	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U
Alpha-BHC	0.05 U	0.05 U
Alpha-Chlordane	0.05 U	0.05 U
Aroclor-1016	1 U	1 U
Aroclor-1221	2 U	2 U
Aroclor-1232	1 U	1 U
Aroclor-1242	1 U	1 U
Aroclor-1248	1 U	1 U
Aroclor-1254	1 U	1 U
Aroclor-1260	1 U	1 U
Beta-BHC	0.05 U	0.05 U
Delta-BBHC	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U
Endosulfan Sulfate	0.1 U	0.1 U
Endrin	0.1 U	0.1 U
Endrin Aldehyde	0.1 U	0.1 U
Endrin Ketone	0.1 U	0.1 U
Gamma-BHC (Lindane)	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U
Heptachlor Epoxide	0.05 U	0.05 U
Methoxychlor	0.5 U	0.5 U
Toxaphene	5 U	5 U

Table D-10-3
Complete Analytical Data Summary for Surface Water Samples from the OG Real Estate Site

Analyte	Sample ID: OG-SW02 Date: 10/7/2003	OG-SW03 10/7/2003
TAL Metals and Mercury (µg/L)		
Aluminum	**388**	**134 B**
Antimony	7.2 U	7.2 U
Arsenic	4.4 UJ	4.4 UJ
Barium	**50.2 B**	**19.9 B**
Beryllium	0.1 U	0.1 U
Cadmium	0.5 U	0.5 U
Calcium	**99200**	**26700**
Chromium	**1.3 B**	1.1 U
Cobalt	1.4 U	1.4 U
Copper	**2.7 B**	**2.2 B**
Iron	**1680**	**363**
Lead	**3.2**	2.6 U
Magnesium	**19300**	**4980 B**
Manganese	**424**	**40.6**
Nickel	**3.6 B**	**3.7 B**
Potassium	**4270 B**	**1330 B**
Selenium	1.9 U	1.9 U
Silver	1.5 U	1.5 U
Sodium	**189000 J**	**15000 J**
Thallium	4.2 U	4.2 U
Vanadium	1.6 U	**1.6 B**
Zinc	**26.9 J**	**25.4 J**
Mercury	0.1 U	0.1 U
Total Cyanide (µg/L)		
Cyanide Tot.	5 U	5 U
Anions (mg/L)		
Bromide	0.100 U	0.100 U
Chloride	**308**	**22.3**
Fluoride	**0.125**	**0.066 J**
Nitrate-N	**0.368**	**0.324**
Nitrite-N	1.00 U	0.100 U
Phosphate	0.100 U	0.100 U
Sulfate	**30**	**12.1**
Hardness (mg/L)		
Hardness (As CaCO3)	**465**	**165**

Table D-10-3
Complete Analytical Data Summary for Surface Water Samples from the OG Real Estate Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/L = Milligrams per liter
OG = OG Real Estate Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SW = Surface water sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.
- = Sample was not analyzed for this parameter.

Table D-10-4
Complete Analytical Data Summary for Sediment Samples
from the OG Real Estate Site

Analyte	Sample ID:	OG-SE01	OG-SE02	OG-SE03	OG-SE04
	Date:	10/7/2003	10/7/2003	10/7/2003	10/7/2003
	Depth:	0 - 2 in	0 - 2 in	0 - 2 in	0 - 2 in
TCL Volatile Organic Compounds (µg/Kg)					
1,1,1-Trichloroethane		24 U	19 U	11 U	10 U
1,1,2,2-Tetrachloroethane		24 UJ	19 U	11 UJ	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		24 U	19 U	11 U	10 U
1,1,2-Trichloroethane		24 U	19 U	11 U	10 U
1,1-Dichloroethane		24 U	19 U	11 U	10 U
1,1-Dichloroethene		24 U	19 U	11 U	10 U
1,2,4-Trichlorobenzene		24 UJ	19 U	11 UJ	10 U
1,2-Dibromo-3-Chloropropane		24 UJ	19 U	11 UJ	10 U
1,2-Dibromoethane		24 UJ	19 U	11 UJ	10 U
1,2-Dichlorobenzene		24 UJ	19 U	11 UJ	10 U
1,2-Dichloroethane		24 U	19 U	11 U	10 U
1,2-Dichloropropane		24 U	19 U	11 U	10 U
1,3-Dichlorobenzene		24 UJ	19 U	11 UJ	10 U
1,4-Dichlorobenzene		24 UJ	19 U	11 UJ	10 U
2-Butanone		24 U	19 U	11 U	10 U
2-Hexanone		24 UJ	19 U	11 UJ	10 U
4-Methyl-2-Pentanone		24 UJ	19 U	11 UJ	10 U
Acetone		**36 J**	19 UJ	**4 J**	10 UJ
Benzene		24 U	19 U	11 U	10 U
Bromodichloromethane		24 U	19 U	11 U	10 U
Bromoform		24 U	19 U	11 U	10 U
Bromomethane		24 U	19 U	11 U	10 U
Carbon Disulfide		24 U	19 U	11 U	10 U
Carbon Tetrachloride		24 U	19 U	11 U	10 U
Chlorobenzene		24 UJ	19 U	11 UJ	10 U
Chloroethane		24 U	19 U	11 U	10 U
Chloroform		24 U	19 U	11 U	10 U
Chloromethane		24 U	19 U	11 U	10 U
cis-1,2-Dichloroethene		24 U	19 U	11 U	10 U
cis-1,3-Dichloropropene		24 U	19 U	11 U	10 U
Cyclohexane		24 U	19 U	11 U	10 U
Dibromochloromethane		24 U	19 U	11 U	10 U
Dichlorodifluoromethane		24 U	19 U	11 U	10 U
Ethylbenzene		24 UJ	19 U	11 UJ	10 U
Isopropylbenzene		24 UJ	19 U	11 UJ	10 U
Methyl Acetate		**7 J**	**6 J**	11 U	10 U
Methyl tert-Butyl Ether		24 U	19 U	11 U	10 U
Methylcyclohexane		24 U	19 U	11 U	10 U
Methylene Chloride		24 U	19 U	11 U	10 U
Styrene		24 UJ	19 U	11 UJ	10 U
Tetrachloroethene		24 UJ	19 U	11 UJ	10 U
Toluene		24 UJ	**2 J**	11 UJ	**0.7 J**
trans-1,2-Dichloroethene		24 U	19 U	11 U	10 U
trans-1,3-Dichloropropene		24 U	19 U	11 U	10 U
Trichloroethene		24 U	19 U	11 U	10 U
Trichlorofluoromethane		24 U	19 U	11 U	10 U
Vinyl Chloride		24 U	19 U	11 U	10 U
Xylenes (Total)		24 UJ	19 U	11 UJ	10 U

Table D-10-4
Complete Analytical Data Summary for Sediment Samples from the OG Real Estate Site

Analyte	Sample ID: / Date: / Depth:	OG-SE01 10/7/2003 0 - 2 in	OG-SE02 10/7/2003 0 - 2 in	OG-SE03 10/7/2003 0 - 2 in	OG-SE04 10/7/2003 0 - 2 in
TCL Semivolatile Organic Compounds (µg/Kg)					
1,1'-Biphenyl		580 U	560 U	500 U	390 U
2,2'-Oxybis(1- Chloropropane)		580 U	560 U	500 U	390 U
2,4,5-Trichlorophenol		1500 U	1400 U	1300 U	990 U
2,4,6-Trichlorophenol		580 U	560 U	500 U	390 U
2,4-Dichlorophenol		580 U	560 U	500 U	390 U
2,4-Dimethylphenol		580 U	560 U	500 U	390 U
2,4-Dinitrophenol		1500 UJ	1400 UJ	1300 UJ	990 UJ
2,4-Dinitrotoluene		580 U	560 U	500 U	390 U
2,6-Dinitrotoluene		580 U	560 U	500 U	390 U
2-Chloronaphthalene		580 U	560 U	500 U	390 U
2-Chlorophenol		580 U	560 U	500 U	390 U
2-Methylnaphthalene		580 U	560 U	500 U	390 U
2-Methylphenol		580 U	560 U	500 U	390 U
2-Nitroaniline		1500 U	1400 U	1300 U	990 U
2-Nitrophenol		580 U	560 U	500 U	390 U
3,3'-Dichlorobenzidine		580 UJ	560 UJ	500 UJ	390 UJ
3-Nitroaniline		1500 UJ	1400 UJ	1300 UJ	990 UJ
4,6-Dinitro-2-Methylphenol		1500 UJ	1400 UJ	1300 UJ	990 UJ
4-Bromophenyl-Phenylether		580 U	560 U	500 U	390 U
4-Chloro-3-Methylphenol		580 U	560 U	500 U	390 U
4-Chloroaniline		580 U	560 U	500 U	390 U
4-Chlorophenyl-Phenyl Ether		580 U	560 U	500 U	390 U
4-Methylphenol		580 U	560 U	500 U	390 U
4-Nitroaniline		1500 U	1400 U	1300 U	990 U
4-Nitrophenol		1500 UJ	1400 UJ	1300 UJ	990 UJ
Acenaphthene		580 U	560 U	500 U	390 U
Acenaphthylene		580 U	560 U	500 U	390 U
Acetophenone		580 U	560 U	500 U	390 U
Anthracene		580 U	560 U	500 U	390 U
Atrazine		580 U	560 U	500 U	390 U
Benzaldehyde		580 U	560 U	500 U	390 U
Benzo(a)anthracene		580 U	**270 J**	**120 J**	**180 J**
Benzo(a)pyrene		580 U	**370 J**	**150 J**	**160 J**
Benzo(b)fluoranthene		580 U	**500 J**	**150 J**	**190 J**
Benzo(g,h,i)perylene		580 UJ	560 UJ	500 UJ	390 UJ
Benzo(k)fluoranthene		580 U	**380 J**	**190 J**	**200 J**
Bis(2-Chloroethoxy)Methane		580 U	560 U	500 U	390 U
Bis-(2-Chloroethyl)Ether		580 U	560 U	500 U	390 U
Bis(2-Ethylhexyl)Phthalate		**2500**	**200 J**	**120 J**	390 U
Butylbenzylphthalate		580 U	560 U	500 U	390 U
Caprolactam		580 U	560 U	500 U	390 U
Carbazole		580 UJ	560 UJ	500 UJ	390 UJ
Chrysene		580 U	**470 J**	**180 J**	**220 J**
Dibenzo(a,h)-anthracene		580 U	560 U	500 U	390 U
Dibenzofuran		580 U	560 U	500 U	390 U
Diethylphthalate		580 U	560 U	500 U	390 U
Dimethylphthalate		580 U	560 U	500 U	390 U
Di-n-Butylphthalate		580 U	560 U	500 U	390 U

Table D-10-4
Complete Analytical Data Summary for Sediment Samples from the OG Real Estate Site

Analyte	Sample ID: OG-SE01 Date: 10/7/2003 Depth: 0 - 2 in	OG-SE02 10/7/2003 0 - 2 in	OG-SE03 10/7/2003 0 - 2 in	OG-SE04 10/7/2003 0 - 2 in
Di-n-Octylphthalate	580 U	560 U	500 U	**87 J**
Fluoranthene	580 U	**770**	**300 J**	**400**
Fluorene	580 U	560 U	500 U	390 U
Hexachlorobenzene	580 U	560 U	500 U	390 U
Hexachlorobutadiene	580 U	560 U	500 U	390 U
Hexachlorocyclo-Pentadiene	580 UJ	560 UJ	500 UJ	390 UJ
Hexachloroethane	580 U	560 U	500 U	390 U
Indeno(1,2,3-cd)-pyrene	580 UJ	**280 J**	**100 J**	**120 J**
Isophorone	580 U	560 U	500 U	390 U
Naphthalene	580 U	560 U	500 U	390 U
Nitrobenzene	580 U	560 U	500 U	390 U
n-Nitroso Diphenylamine	580 U	560 U	500 U	390 U
n-Nitroso-Di-n Propylamine	580 U	560 U	500 U	390 U
Pentachlorophenol	1500 U	1400 U	1300 U	990 U
Phenanthrene	580 U	**290 J**	**120 J**	**180 J**
Phenol	580 U	560 U	500 U	390 U
Pyrene	580 U	**610**	**260 J**	**370 J**
TCL Pesticide and PCBs (µg/Kg)				
4,4'-DDD	5.8 U	**7.3 JN**	**2.8 J**	3.9 U
4,4'-DDE	5.8 U	**11 J**	**5**	**1.9 J**
4,4'-DDT	5.8 U	5.6 U	5 U	**0.95 J**
Aldrin	3 U	2.9 U	2.6 U	2 U
Alpha-BHC	3 U	2.9 U	2.6 U	2 U
Alpha-Chlordane	3 U	2.9 U	2.6 U	2 U
Aroclor-1016	58 U	56 U	50 U	39 U
Aroclor-1221	120 U	110 U	100 U	80 U
Aroclor-1232	58 U	56 U	50 U	39 U
Aroclor-1242	58 U	56 U	50 U	39 U
Aroclor-1248	58 U	56 U	50 U	39 U
Aroclor-1254	58 U	56 U	50 U	39 U
Aroclor-1260	58 U	56 U	50 U	39 U
Beta-BHC	3 U	2.9 U	**2.1 J**	2 U
Delta-BBHC	3 U	2.9 U	2.6 U	2 U
Dieldrin	5.8 U	5.6 U	5 U	3.9 U
Endosulfan I	3 U	2.9 U	2.6 U	2 U
Endosulfan II	5.8 U	5.6 U	5 U	3.9 U
Endosulfan Sulfate	5.8 U	5.6 U	5 U	3.9 U
Endrin	5.8 U	5.6 U	5 U	3.9 U
Endrin Aldehyde	5.8 U	5.6 U	5 U	3.9 U
Endrin Ketone	5.8 U	5.6 U	5 U	3.9 U
Gamma-BHC (Lindane)	3 U	2.9 U	2.6 U	2 U
Gamma-Chlordane	3 U	2.9 U	2.6 U	2 U
Heptachlor	3 U	2.9 U	2.6 U	2 U
Heptachlor Epoxide	3 U	2.9 U	2.6 U	2 U
Methoxychlor	30 U	29 U	26 U	20 U
Toxaphene	300 U	290 U	260 U	200 U

Table D-10-4
Complete Analytical Data Summary for Sediment Samples from the OG Real Estate Site

Analyte	Sample ID: / Date: / Depth:	OG-SE01 10/7/2003 0 - 2 in	OG-SE02 10/7/2003 0 - 2 in	OG-SE03 10/7/2003 0 - 2 in	OG-SE04 10/7/2003 0 - 2 in
TAL Metals and Mercury (mg/Kg)					
Aluminum		**9600**	**7360**	**5100**	**7630**
Antimony		2.6 U	2.8 U	2.2 U	1.7 U
Arsenic		**25.8**	**7.8 J**	**7.9 J**	**12.8**
Barium		**263**	**74.7 B**	**51.6 B**	**99.5**
Beryllium		**1.1 B**	**0.48 B**	**0.32 B**	**0.42 B**
Cadmium		0.18 U	0.19 U	0.15 U	0.12 U
Calcium		**9350**	**10100**	**5990**	**9980**
Chromium		**23.9**	**9.7**	**6.1**	**12.6**
Cobalt		**11.5 B**	**8.9 B**	**6.3 B**	**8.3 B**
Copper		**33.4**	**22.9**	**11.9**	**29.2**
Iron		**12100**	**17900**	**13900**	**22300**
Lead		**27.1**	**22**	**12.6**	**96.9**
Magnesium		**2210**	**3840**	**2480**	**3920**
Manganese		**221 J**	**1040 J**	**519 J**	**445 J**
Nickel		**408**	**18**	**12.3**	**179**
Potassium		**1040 B**	**720 B**	**574 B**	**891 B**
Selenium		**3.1 J**	**1.7 BJ**	0.57 UJ	**0.59 BJ**
Silver		0.53 U	**1.1 BJ**	**1.2 BJ**	0.35 U
Sodium		**341 B**	**277 B**	164 U	129 U
Thallium		1.5 UR	1.6 UR	1.3 UR	0.99 UR
Vanadium		**698**	**18.2 B**	**13.9 B**	**934**
Zinc		**58.1**	**86.3**	**46.5**	**99.1**
Mercury		**0.1 BJ**	**0.1 BJ**	0.07 U	**0.43**
Total Cyanide (mg/Kg)					
Cyanide Tot.		**0.38**	0.23 U	0.21 U	**0.25**
Total Organic Carbon (mg/Kg)					
Organic Carbon, Tot.		**220000**	**21000**	**7400**	**48000**
Percent Solids (%)					
Percent Solids, 105DegC		**59**	**52**	**56**	**83**

Table D-10-4
Complete Analytical Data Summary for Sediment Samples from the OG Real Estate Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
in = Inches.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/Kg = Milligrams per kilogram.
OG = OG Real Estate Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
SE = Sediment sample.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
- = Sample was not analyzed for this parameter.
% = Percent.

Table D-10-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the OG Real Estate Site

Analyte	Sample ID: OG-GP01-GW Date: 10/15/2003	OG-GP02-GW 10/15/2003	OG-GP03-GW 10/15/2003
TCL Volatile Organic Compounds (µg/L)			
1,1,1-Trichloroethane	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane	10 U	10 U	10 U
1,2-Dibromoethane	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U
2-Butanone	10 U	10 UJ	10 UJ
2-Hexanone	10 U	10 UJ	10 UJ
4-Methyl-2-Pentanone	10 U	10 UJ	10 UJ
Acetone	10 UJ	10 U	10 U
Benzene	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U
Carbon Disulfide	10 U	10 U	10 U
Carbon Tetrachloride	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 U
cis-1,2-Dichloroethene	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U
Cyclohexane	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U
Dichlorodifluoromethane	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U
Isopropylbenzene	10 U	10 U	10 U
Methyl Acetate	10 UJ	10 U	10 U
Methyl tert-Butyl Ether	10 U	10 U	10 U
Methylcyclohexane	10 U	10 U	10 U
Methylene Chloride	10 U	10 U	10 U
Styrene	10 U	10 U	10 U
Tetrachloroethene	10 U	10 UJ	10 UJ
Toluene	10 U	10 U	10 U
trans-1,2-Dichloroethene	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U
Trichlorofluoromethane	10 U	10 U	10 U
Vinyl Chloride	10 U	10 U	10 U
Xylenes (Total)	10 U	10 U	10 U

Table D-10-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the OG Real Estate Site

Analyte	Sample ID: / Date:	OG-GP01-GW 10/15/2003	OG-GP02-GW 10/15/2003	OG-GP03-GW 10/15/2003
TCL Semivolatile Organic Compounds (µg/L)				
1,1'-Biphenyl		10 U	10 U	10 U
2,2'-Oxybis(1- Chloropropane)		10 U	10 U	10 U
2,4,5-Trichlorophenol		25 U	25 U	25 U
2,4,6-Trichlorophenol		10 U	10 U	10 U
2,4-Dichlorophenol		10 U	10 U	10 U
2,4-Dimethylphenol		10 U	10 U	10 U
2,4-Dinitrophenol		25 UJ	25 UJ	25 UJ
2,4-Dinitrotoluene		10 U	10 U	10 U
2,6-Dinitrotoluene		10 U	10 U	10 U
2-Chloronaphthalene		10 U	10 U	10 U
2-Chlorophenol		10 U	10 U	10 U
2-Methylnaphthalene		10 U	10 U	10 U
2-Methylphenol		10 U	10 U	10 U
2-Nitroaniline		25 U	25 U	25 U
2-Nitrophenol		10 U	10 U	10 U
3,3'-Dichlorobenzidine		10 U	10 U	10 U
3-Nitroaniline		25 U	25 U	25 U
4,6-Dinitro-2-Methylphenol		25 U	25 U	25 U
4-Bromophenyl-Phenylether		10 U	10 U	10 U
4-Chloro-3-Methylphenol		10 U	10 U	10 U
4-Chloroaniline		10 U	10 U	10 U
4-Chlorophenyl-Phenyl Ether		10 U	10 U	10 U
4-Methylphenol		10 U	10 U	10 U
4-Nitroaniline		25 UJ	25 UJ	25 UJ
4-Nitrophenol		25 UJ	25 UJ	25 UJ
Acenaphthene		10 U	10 U	10 U
Acenaphthylene		10 U	10 U	10 U
Acetophenone		10 U	10 U	10 U
Anthracene		10 U	10 U	10 U
Atrazine		10 U	10 U	10 U
Benzaldehyde		10 UJ	10 UJ	10 UJ
Benzo(a)anthracene		10 U	10 U	10 U
Benzo(a)pyrene		10 U	10 U	10 U
Benzo(b)fluoranthene		10 U	10 U	10 U
Benzo(g,h,i)perylene		10 U	10 U	10 U
Benzo(k)fluoranthene		10 U	10 U	10 U
Bis(2-Chloroethoxy)Methane		10 U	10 U	10 U
Bis-(2-Chloroethyl)Ether		10 U	10 U	10 U
Bis(2-Ethylhexyl)Phthalate		10 U	10 U	10 U
Butylbenzylphthalate		10 U	10 U	10 U
Caprolactam		10 U	10 U	10 U
Carbazole		10 U	10 U	10 U
Chrysene		10 U	10 U	10 U
Dibenzo(a,h)-anthracene		10 U	10 U	10 U
Dibenzofuran		10 U	10 U	10 U
Diethylphthalate		10 U	10 U	10 U
Dimethylphthalate		10 U	10 U	10 U
Di-n-Butylphthalate		10 U	10 U	10 U

Table D-10-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the OG Real Estate Site

Analyte / Sample ID: / Date:	OG-GP01-GW 10/15/2003	OG-GP02-GW 10/15/2003	OG-GP03-GW 10/15/2003
Di-n-Octylphthalate	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U
Hexachlorocyclo-Pentadiene	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U
Indeno(1,2,3-cd)-pyrene	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U
n-Nitroso Diphenylamine	10 U	10 U	10 U
n-Nitroso-Di-n Propylamine	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U
Phenol	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U
TCL Pesticides and PCBs (µg/L)			
4,4'-DDD	0.1 U	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U	0.05 U
Alpha-BHC	0.05 U	0.05 U	0.05 U
Alpha-Chlordane	0.05 U	0.05 U	0.05 U
Aroclor-1016	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U
Aroclor-1260	1 U	1 U	1 U
Beta-BHC	0.05 U	0.05 U	0.05 U
Delta-BBHC	0.05 U	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate	0.1 U	0.1 U	0.1 U
Endrin	0.1 U	0.1 U	0.1 U
Endrin Aldehyde	0.1 U	0.1 U	0.1 U
Endrin Ketone	0.1 U	0.1 U	0.1 U
Gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide	0.05 U	0.05 U	0.05 U
Methoxychlor	0.5 U	0.5 U	0.5 U
Toxaphene	5 U	5 U	5 U

Table D-10-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the OG Real Estate Site

Analyte	Sample ID: OG-GP01-GW Date: 10/15/2003	OG-GP02-GW 10/15/2003	OG-GP03-GW 10/15/2003
TAL Metals and Mercury (µg/L)			
Aluminum	27.7 U	27.7 U	27.7 U
Antimony	9.2 U	9.2 U	9.2 U
Arsenic	**227**	5.8 U	5.8 U
Barium	**420**	**179 B**	**259**
Beryllium	0.1 U	0.1 U	**0.12 B**
Cadmium	0.7 U	0.7 U	0.7 U
Calcium	**157000**	**225000**	**474000**
Chromium	1 U	1 U	1 U
Cobalt	1.3 U	1.3 U	**2.4 B**
Copper	1 U	1 U	1 U
Iron	**11100**	**6150**	**41200**
Lead	2.2 U	2.2 U	2.2 U
Magnesium	**15300**	**48900**	**88300**
Manganese	**379**	**6130**	**18700**
Nickel	2.3 U	2.3 U	2.3 U
Potassium	**4190 B**	**4630 B**	**3090 B**
Selenium	3.8 U	**4.1 BJ**	**5.8 J**
Silver	1.4 U	1.4 U	1.4 U
Sodium	**124000 J**	**24900 J**	**22300 J**
Thallium	6.8 U	6.8 U	6.8 U
Vanadium	**2.2 B**	0.9 U	0.9 U
Zinc	**21.9**	**15.5 B**	**12.4 B**
Mercury	0.1 UJ	0.1 UJ	0.1 UJ
Total Cyanide (µg/L)			
Cyanide Tot.	5 U	5 U	5 U

Table D-10-5
Complete Analytical Data Summary for Groundwater Samples from Temporary Wells at the OG Real Estate Site

Key:

B = The reported value was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
/D = Duplicate sample.
GW = Groundwater sample.
J = The reported value is an estimated quantity.
JN = The presence of the analyte has been "tentatively identified". The associated numeric value represents the estimated concentration.
mg/L = Milligrams per liter
OG = OG Real Estate Site.
PCB = Polychlorinated biphenyl.
R = The data is unusable. The sample results are rejected due to serious deficiencies in meeting the QC criteria.
TAL = Target Analyte List.
TCL = Target Compound List.
U = The analyte was analyzed for but not detected at the value reported.
UJ = The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate.
µg/L = Micrograms per liter.
- = Sample was not analyzed for this parameter.

Appendix E

Supporting Information and Methodology Used for the Floodplain Assessment

E. Supporting Information and Methodology Used for the Floodplain Assessment

The following text provides background on the types of information and methodology used and the assumptions made during the initial floodplain assessment of the final candidate sites (FCSs).

Methodology

Methods followed were in accordance with Section 3.7 of the *Hudson River PCBs Facility Siting Work Plans* (Ecology and Environment, Inc. August 2003). Flood Hazard Boundary Maps and Flood Insurance Studies from the Federal Emergency Management Agency (FEMA), the U.S. Geological Survey (USGS) Hudson River gauge station data, the National Oceanic and Atmospheric Administration (NOAA) Advanced Hydrologic Prediction Service data, and historic water level elevation data provided by the New York State Canal Corporation (NYSCC) were used for this analysis.

The latest Hudson River Flood Hazard Boundary Maps for the area identified as the facility siting study area were acquired from FEMA. Some of the mapping was available in geographic information system (GIS) format. The remainder was provided in hard copy (i.e., paper maps) that were subsequently scanned and incorporated into the facility siting GIS database. Depending on the location, FEMA last updated these maps between 1979 and 1995. The 100-year and 500-year floodplain areas were mapped within the boundaries of the sites. As noted in the FEMA flood insurance studies, small areas within the flood boundaries may lie above the flood elevations and, therefore, may not be subject to flooding. General statistics for mapped floodplains were calculated from these resources using GIS.

Peak stream flow data and gauge station information were obtained from the USGS water web site (http://waterdata.usgs.gov/nwis) in November 2003. Four gauge stations have stream flow data applicable to this area of the Hudson River, including Fort Edward (1977 to the present), Stillwater (1977 to the present), Waterford (1982 to the present), and Green Island (1946 to the present). Flood magnitudes were calculated using statistical methods from the available peak stream flow data at each of the four gauge stations. The values of 10-year, 20-year, 25-year, 50-year, 75-year, and 100-year storms were calculated based on the mean and standard deviation of the annual maximum flow.

$$Q_{100} = Q_{avg} + Ks$$

Where:

Q_{100} = Discharge of 100-year flood;
Q_{avg} = Mean of annual peak discharge over period of x years; and
K = Extreme value frequency factor (obtained from a table based on sample size and recurrence interval).
S = Standard deviation of annual peak discharge over period of x years.

The NOAA Advanced Hydrologic Prediction Service data for gauge station crest history and impacts were obtained from the NOAA website (http://ahps.erh.noaa.gov/cgi-bin).

Historic peak water level elevation data was provided by the NYSCC for Locks 2, 3, 5, 6, and 7, with data used from Locks 2, 3, 5, and 7. The annual peak water levels were summarized in a table and compared to the 100-year flood stage elevation and the ground surface elevations within the sites (where applicable).

Assumptions

- The 100-year and 500-year floodplains have not changed significantly since the last FEMA update of the Flood Hazard Boundary Maps. There have been no changes to the Hudson River flow regime and shoreline in the vicinity of the FCSs since the publication of the FEMA maps. The list below shows the last date of publication of FEMA maps for each of the FCS:

  Energy Park/Longe/NYSCC - 1982, 1984
  Old Moreau Dredge Spoils Area/NYSCC - 1995
  Georgia Pacific/NYSCC – 1992
  Bruno/Brickyard Associates/Alonzo –1984
  NYSCC/Allco/Leyerle – 1995
  State of New York/First Rensselaer/Marine Management – 1980
  OG Real Estate - 1982

- The topography of the FCSs has not changed significantly since the last FEMA update of the Flood Hazard Boundary Maps.

- The potential for Hudson River flooding is lessened to some extent by Great Sacandaga Lake and Indian Lake, although this protection is not accounted for in flood profiles and calculations.

Probability of 100-year Flood

The anticipated operational life for a sediment processing/transfer facility for the remedial dredging is 10 years. The probability of a 100-year storm occurring in that time, at any of the FCSs, is 9.6%. The probability of a 500-year storm occurring in that time at any site is 2.0%. These calculations are based on the formula:

$$P = 1 - (1 - 1/F)^{n}$$

Where:

P = Probability of a x-year flood will occur in n years;
F = Frequency of event (100 or 500 year storm); and
n = Interval (years).

The probability of a 100-year or 500-year flood actually occurring on the Hudson River is likely less because of the ability to manage the river levels through various reservoirs, locks, and dams. Each of the FCSs is located in highly managed areas of the Hudson River.

Local Flooding

A cursory examination of the potential for local flooding at each site was performed where possible. The 10-year flood stage heights from the FEMA Flood Insurance Studies were included for the FCSs. The difference between spot elevations surveyed along the FCSs river boundaries and the contour information provided as a component of 2002 site aerial photographs were compared to the average of the annual peak elevations from the nearest lock (where applicable). General discussion of local flooding in the Flood Insurance Studies is also included for each of the final candidate sites, where available.

Appendix F

Ecological Community Types

F. Ecological Community Types

The following descriptions of the community types observed on the Final Candidate Sites (FCS) are adapted from the *Draft Ecological Communities of New York State* (Edinger et al. 2002). The classification is grouped according to system, subsystem, and then community type.

1. RIVERINE SYSTEM

1.1 Natural Streams Subsystem

Community Type

- **Marsh headwater stream** – the aquatic community of a small, marshy perennial brook with a very low gradient, slow flow rate, and cool to warm water that flows through a marsh, fen, or swamp where a stream originates. These streams usually have clearly distinguished meanders and are in unconfined landscapes.

- **Backwater slough** – the aquatic community of quiet stagnant waters in sloughs that form in embayments and old meanders that are cut off from an unconfined river or marsh headwater stream only at the upstream end by deposition of a levee.

- **Intermittent stream** – the community of a small, intermittent or ephemeral streambed in the uppermost segments of stream systems where water flows only during the spring or after a heavy rain and often remains longer, ponded in isolated pools.

1.2 Riverine Cultural Subsystem

Community Type

- **Canal** – the aquatic community of an artificial waterway or modified stream channel constructed for inland navigation or irrigation.

- **Ditch/artificial intermittent stream** – the aquatic community of an artificial waterway constructed for drainage or irrigation of adjacent lands.

2. PALUSTRINE SYSTEM

Community Type

- **Wetland** – descriptions are based on the Cowardin Wetland Classification System from: *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979).

3. TERRESTRIAL SYSTEM

3.1 Open Uplands Subsystem

Community Types

■ **Successional old field** – a meadow dominated by forbs and grasses that occurs on sites that have been cleared and plowed (for farming or development) and then abandoned. According to Edinger et al. (2002), *Draft Ecological Communities of New York State*, characteristic herbs include goldenrods, bluegrasses, asters, other grasses, and Queen Anne's lace, and may contain less than 50 % shrubs, including, dogwoods, viburnums, raspberries, sumac, and eastern red cedar.

■ **Successional shrubland** – a shrubland that occurs on sites that have been cleared (for farming, logging, development, etc.) or otherwise disturbed. This community has at least 50 % shrub cover. Characteristic shrubs include gray dogwood, eastern red cedar, raspberries, hawthorn, serviceberries, choke cherry, wild plum, sumac, nanny-berry, arrowwood, and multi-flora rose.

3.2 Forested Uplands Subsystem

Community Types

■ **Appalachian oak-hickory forest** – a hardwood forest that occurs on well-drained sites, usually on ridgetops, upper slopes, or south- and west-facing slops. The soils are usually loams and sandy loams. This is a broadly defined forest community with several regional and edaphic variants. Dominant trees include red oaks and white oaks. Codominant trees include hickories, white ash, red maple, and Eastern hop hornbeam. There is typically a lower canopy shrub layer dominated by dogwoods, witch hazel, choke cherry, maple-leaf Viburnum, and Rubus sp.

■ **Appalachian oak-pine forest –** mixed forest that occurs on sandy soils, sandy ravines in pine barrens, or on slopes with rocky soils that are well-drained. The canopy is dominated by a mixture of oaks and pines. Characteristic trees include red oak, white oak, and white pine. Co-dominants include red maple, hemlock, beech, and black cherry at low densities. The shrub layer is predominately ericaceous, and the shrub layer is relatively sparse and the species diversity is low.

■ **Beech-maple mesic forest** – a hardwood forest with sugar maple and beech co-dominant. This is a broadly defined community type with several regional and edaphic variants. These forests occur on moist, well-drained, usually acid soils. Common associates are yellow birch, white ash, eastern hop hornbeam, and red maple, with relatively few shrubs. The most abundant shrubs and small trees are typically sugar maple and beech. Characteristic shrubs are hobblebush, American hornbeam, striped maple, witch hazel, and alternate-leaved dogwood.

■ **Rich mesic forest** – a hardwood or mixed forest that resembles the mixed mesophytic forests of the Allegheny Plateau south of New York but that is less diverse. It occurs on rich, fine-textured, well-drained soils that are favorable for the

dominance of a wide variety of tree species. A canopy with a relatively large number of co-dominant trees characterizes this forest. Dominant species include red oak, sugar maple, white ash, black cherry, American beech, and red maple. Less common species include white oak, white pine, bitternut hickory, Eastern hop hornbeam, and striped maple. It has a well-developed shrublayer with a variety of species that include musclewood, arrow-wood, witch hazel, elderberry, and dogwoods.

■ **Maple-basswood rich mesic forest** – a species-rich hardwood forest that typically occurs on well-drained soils with a circumneutral pH. The dominant trees are sugar maple, basswood, and white ash. Associate tree species include ironwood, yellow birch, red oak, American beech, bitternut hickory, shagbark hickory, tulip tree, butternut, and American hornbeam. Dominant shrubs include alternate-leaved dogwood, mountain maple, and witch hazel. Spring ephemerals are usually abundant in the ground layer.

■ **Pine-northern hardwood forest** – a mixed forest that occurs on gravelly outwash plains, delta sands, eskers, and dry lake sands in the Adirondacks. The dominant trees are white pine and red pine mixed with a several other species including paper birch and quacking aspen.

■ **Successional northern hardwoods** – a hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed. Characteristic trees and shrubs include any of the following: quacking aspen, bigtooth aspen, balsam poplar, paper birch, gray birch, pin cherry, black cherry, red maple, white pine, and lesser amounts of ashes and elms. Northern indicators include aspens, birches, and pin cherry. This is a broadly defined community dominated by light-requiring species that are well adapted to establishment following disturbance.

■ **Successional southern hardwoods –** a hardwood or mixed forest that occurs on sites that have been cleared (for faming, logging, etc.) or otherwise disturbed. The dominant trees are usually any of the following: gray birch, hawthorns, sassafras, box elder, American elm, slippery elm, red maple, silver maple, and eastern red cedar. Certain introduced species are also commonly found in these forests, including black locust, tree-of-heaven, and buckthorn. Any of these may be dominant or co-dominant in a successional southern hardwood forest. This is a broadly defined community dominated by light-requiring species that are well adapted to establishment following disturbance.

3.3 Terrestrial Cultural Subsystem

Community Types

■ **Cropland/row crops** – an agricultural field planted in row crops such as corn, potatoes, and soybeans.

■ **Pine/spruce/fir plantation** – a stand of softwoods planted for the cultivation and harvest of timber products or to provide wildlife habitat, soil erosion control, windbreaks, or landscaping. These plantations may be monocultures with more than 90 % of the canopy cover consisting of one species, or they may be mixed stands with

two or more dominant species that are pine, spruce, or fir. Groundcover is usually sparse, apparently because of the dense accumulation of leaf litter.

■ **Mowed lawn** – residential, recreational, or commercial land or unpaved airport runways in which groundcover is dominated by clipped grasses and there is less than 30 % cover of trees. The groundcover is maintained by mowing.

■ **Mowed roadside/pathway** – a narrow strip of mowed vegetation along the side of the road, or a mowed pathway through taller vegetation (e.g. meadows, old fields, woodlands, forests), or along utility right-of-way corridors (e.g. power lines, telephone lines, gas pipelines). The vegetation in these mowed strips and paths may be dominated by grasses, sedges, and rushes or it may be dominated by forbs, vines, and low shrubs that can tolerate infrequent mowing.

■ **Unpaved road/path** – a sparsely vegetated road or pathway of gravel, bare soil, or bedrock outcrop. These roads or pathways are maintained by regular trampling or scraping of the land surface. The substrate consists of the soil or parent material at the site, which may be modified by the addition of local organic material or sand and gravel.

■ **Paved road/path** – a road or pathway that is paved with asphalt, concrete, brick, stone, etc. There may be sparse vegetation rooted in cracks in the paved surface.

■ **Gravel mine** – an excavation in a gravel deposit from which gravel has been removed. Often these are dug into glacial deposits such as eskers or kames. Vegetation may be sparse if the mine is active; there may be substantial vegetative cover if the mine has been inactive for several years.

■ **Brushy cleared land** – land that has been clearcut or cleared by brush-hog. There may be a lot of woody debris such as branches and slashings from trees that were logged. Vegetation is patchy, with scattered herbs, shrubs, and tree saplings. The amount of vegetative cover probably depends on soil fertility and the length of the time since the land was cleared.

■ **Dredge spoils** – an upland site where dredge spoils have been recently deposited. On sandy dredge spoils along the Hudson River, characteristic species of early successional deposits include winged pigweed, lovegrass, purple sandgrass, and tall crabgrass. Cottonwood is common on late successional deposits.

■ **Landfill/dump** – a site that has been cleared or excavated where garbage is disposed. The bulk of the material in the landfill or dump is organic and biodegradable; although some inorganic material is usually present.

■ **Junkyard –** a site that has been cleared for disposal or storage of primarily inorganic refuse, including discarded automobiles, large appliances, mechanical parts, etc.

■ **Rural structure exterior** – the exterior surfaces of metal, wood, or concrete structures (such as commercial buildings, barns, houses, bridges) or any structural

surface composed of inorganic materials (glass, plastic, etc.) in a rural or sparsely populated suburban area. These sites may be sparsely vegetated lichens, mosses, and terrestrial algae; occasionally vascular plants may grow in cracks.

■ **Construction/road maintenance spoils** – a site where soil from construction work and/or road maintenance materials has been recently deposited. Little if any vegetation is present.

■ **Railroad –** a permanent road having a line of steel rails fixed to wood ties and laid on a gravel roadbed that provides a track for cars or equipment drawn by locomotives or propelled by self-contained motors. There may be sparse vegetation rooted in the gravel substrate. The railroad right-of-way may be maintained by mowing or herbicide spraying.

3.4 Subterranean Cultural Subsystem

Community Types

■ **Mine/artificial cave community** - the biota of an abandoned mine or artificial underground excavation. Abandoned mines that are deep enough to maintain stable winter temperatures are important bat hibernacula. Mines, like natural caves, may be terrestrial or aquatic.