

2021 Hazardous Waste Scanning Project

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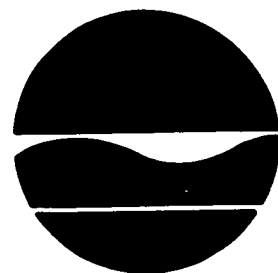
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PRELIMINARY SITE ASSESSMENT
REPORT

Cayuga Island Site, Niagara Falls
Niagara County, New York
(Site Registry No. 9-32-008)



Dvirka and Bartilucci

Consulting Engineers

JULY 1992

PRELIMINARY SITE ASSESSMENT

**CAYUGA ISLAND SITE
CITY OF NIAGARA FALLS
NIAGARA COUNTY, NEW YORK**

(SITE REGISTRY NO. 9-32-008)

PREPARED FOR

**NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION**

BY

**DVIRKA AND BARTILUCCI
CONSULTING ENGINEERS
SYOSSET, NEW YORK**

JULY 1992



**RECEIVED
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ENVIRONMENTAL CONSERVATION
REGION 9**

**CAYUGA ISLAND SITE
PRELIMINARY SITE ASSESSMENT**

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Summary



S.0 EXECUTIVE SUMMARY

As part of New York State's program to investigate and remediate hazardous waste sites, the New York State Department of Environmental Conservation (NYSDEC) has entered into a contract with the firm of Dvirka and Bartilucci Consulting Engineers of Syosset, New York to undertake a preliminary site assessment (PSA) for the Cayuga Island site, located in Niagara Falls, New York. The PSA for this site is being performed with funds allocated under the New York State Superfund program. The purpose of this PSA is to perform an investigation of the fill deposited in portions of the island.

The primary focus of the PSA was the western and southern portions of Cayuga Island. It has been reported that prior to 1930, the western end of Cayuga Island was extended approximately 250 yards into the Niagara River by depositing clean fill and industrial material (sand, abrasives and broken concrete). From 1958 to 1962 the western end was widened by placement of clean fill and industrial wastes. The companies who may have been the source of these materials are reported to be Carborundum, Union Carbide, Hooker, Olin and Pittsburgh Metallurgical.

Numerous small areas along the southern shore of the island also received fill material to extend residential yards and fill in low lying areas. The source(s) of this fill is unknown.

The purpose of this PSA is to evaluate the quality of the fill in the western and southern portions of Cayuga Island and determine the presence or absence of hazardous waste at this site. This was accomplished by constructing 18 soil borings on the island and collection of subsurface soil samples for chemical analysis. The following is a summary of the findings and conclusions of the PSA.

Various types of materials were observed in the borings including concrete fragments, trace metal fragments, tar paper, brick fragments, asphalt, trash, slag, ash and cinders, while one sample in the western portion indicated the presence of a small white granular material in the fill. The material found in the borings varied from one sample to the next indicating a nonhomogeneous characteristic of the fill.

The results of the analysis of soil samples from Cayuga Island indicate the presence of trace concentrations of volatile organic compounds in all the samples collected. The highest level of total volatile organics was detected in the western portion at 0.4 mg/kg.

Semivolatile organic compounds, primarily polycyclic aromatic hydrocarbons (PAHs), were detected in most of the samples collected, often at elevated concentrations. The highest level of total PAHs was detected in a sample collected on the north side of Rivershore Drive at 30 mg/kg.

Polychlorinated biphenyls (PCBs), detected in seven samples, were generally found in low concentrations except for one sample in the western portion of the island which had an elevated level of 140 mg/kg. According to 6NYCRR Part 371, soils containing greater than 50 mg/kg of PCBs are considered hazardous. Pesticides, although detected in a majority of the samples, were detected in low levels.

Metals were found in low concentrations, except for a few samples. The highest levels of metals, lead and mercury, were found in the western portion of the island at 774 mg/kg and 133 mg/kg, respectively. None of the samples analyzed exceeded the limits for EP Toxicity and, therefore, none of the fill was defined as a hazardous waste based upon elevated levels of metals.

The three samples on the north side of Rivershore Drive, originally selected as background, do not appear to be representative of the native soil. Two of the borings indicated the presence of cinders which would explain the elevated levels of PAHs found in the samples from these borings. In addition, one of the samples had an elevated concentration of lead at 766 mg/kg.

In general, low levels of contaminants were found in the southern portion of Cayuga Island, while elevated concentrations were detected in the fill material in the western area.

Based on the above findings, the following are recommendations to further characterize the fill material in the western portion of Cayuga Island.

- o Three additional borings should be constructed surrounding boring S-5 in the area of the elevated PCB concentration to determine the extent of PCB contaminated fill.
- o Three borings should be constructed surrounding S-7, S-8 and S-9 to further define the horizontal and vertical extent of contamination in these areas.
- o Subsurface soil samples should be collected from each of the borings.
- o Surface soil samples should be collected at four locations in conjunction with the twelve proposed additional borings and two additional locations where subsurface contamination was found to be the greatest in order to provide surface soil quality information in fill areas.

- o A review of historical photographs and site plans should be undertaken to better define areas of fill. Based on the results of the review, three additional borings should be constructed and surface and subsurface soil sampled to determine background/native soil chemical and geologic characteristics.

No additional work is proposed for the southern portion of the island due to the limited number of samples exhibiting elevated concentrations of contaminants of concern in this area.

Section 1



1.0 INTRODUCTION

1.1 Project Objective

As part of New York State's program to investigate and remediate hazardous waste sites, the New York State Department of Environmental Conservation (NYSDEC) has entered into a contract with the firm of Dvirka and Bartilucci Consulting Engineers of Syosset, New York to undertake a preliminary site assessment (PSA) for the Cayuga Island site, located in Niagara Falls, New York. The PSA for this site is being performed with funds allocated under the New York State Superfund program. The purpose of this PSA is to perform an investigation of the fill deposited in portions of the island.

The primary focus of the PSA was the western and southern portions of Cayuga Island. It has been reported that prior to 1930, the western end of Cayuga Island was extended approximately 250 yards into the Niagara River by depositing clean fill and industrial material (sand, abrasives and broken concrete). From 1958 to 1962, the western end was widened by placement of clean fill and industrial wastes. The companies who may have been the source of these materials are reported to be Carborundum, Union Carbide, Hooker, Olin and Pittsburg Metallurgical.

Numerous small areas along the southern shore of the island also received fill material to extend residential yards and fill in low lying areas. The source(s) of this fill is unknown.

The purpose of this PSA is to evaluate the quality of the fill in the western and southern portions of Cayuga Island and determine the presence or absence of hazardous waste at this site.

This document, entitled "Preliminary Site Assessment Report for the Cayuga Island Site," provides information on the subsurface soils in the southern and western portions of Cayuga Island. The PSA field investigation involved the analysis of existing information in combination with a field investigation and sampling program. The field investigation program consisted of the construction of soil borings, sampling and analysis of the subsurface soils and surveying of the boring locations.

1.2 Site Background

1.2.1 Site Location, Ownership and Access

The Cayuga Island site is located in the Niagara River, within the limits of the City of Niagara Falls, New York (see Figure 1-1). The Niagara River and the Little Niagara River flow past the island toward the west. The area of investigation was the western tip of the island (approximately 10 acres) and the southern shore of the island.

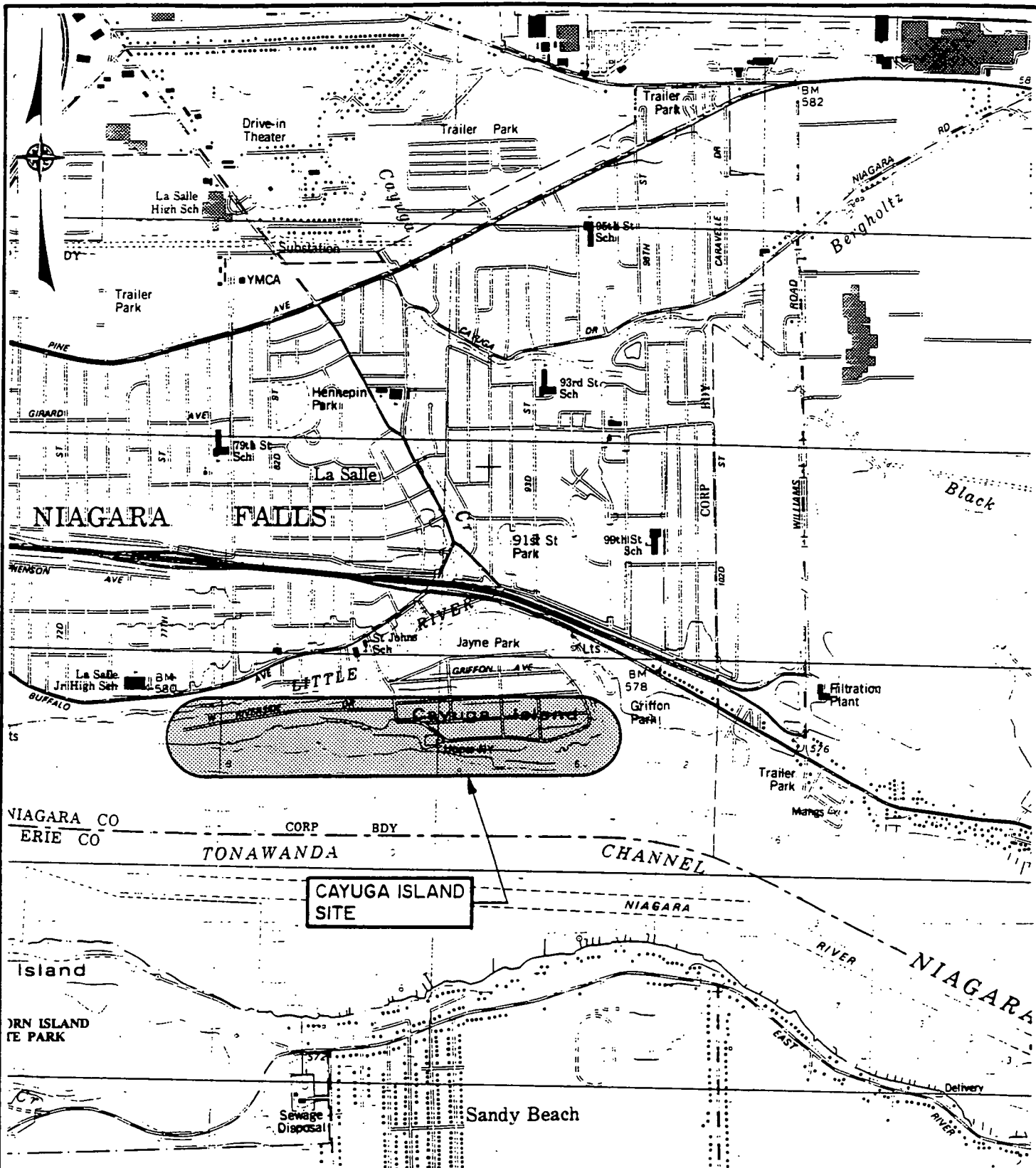
The entire island is residential, including 21 homes built directly on the fill in the western tip of the island. The homes in the western portion are located on West Rivershore Drive and in the southern portion on Rivershore Drive. The terrain is flat and trees and shrubs are interspersed between the houses. The island is approximately 6 to 8 feet above the level of the Niagara River.

1.2.2 Site History and Previous Investigation

Prior to 1930, the western end of Cayuga Island was extended approximately 250 yards into the Niagara River by depositing clean fill and industrial material (sand, abrasives and broken concrete). It is not known if any hazardous wastes were disposed of at this time. Numerous small areas along the south shore of the island received fill material to extend residential yards and fill in low lying areas. The source(s) of the fill material are unknown. Comparison of 1927 and 1980 Niagara Falls maps indicate that the southern shore has been extended up to 100 feet.

From 1958 to 1962, the western end of the island was widened by placement of clean fill and industrial wastes. The industrial material included sand, abrasives, broken concrete and similar materials. The companies who may have been the source of these materials are Carborundum, Union Carbide, Hooker, Olin and Pittsburgh Metallurgical. No drummed waste or hazardous materials are known to have been disposed of on-site.

A Preliminary Investigation Phase I Summary Report conducted by Ecological Analysts, Inc. in September 1984, issued a Hazard Ranking Score (HRS) of 0.0. This ranking was issued due to the lack of evidence supporting hazardous waste disposal on-site, the absence of groundwater use on-site and the fact that the water supply intake, 1.5 miles downstream in the Niagara River, shows no available information regarding surface water contamination.



Source: U.S.G.S. TONAWANDA WEST, N.Y. QUADRANGLE

CAYUGA ISLAND SITE
 NIAGARA FALLS, NEW YORK

SITE LOCATION MAP

FIGURE 1 - 1

According to a NYSDEC Region 9 summary report prepared for this site, the need for additional soil sampling to confirm the presence or absence of hazardous materials was recommended.

Section 2



2.0 STUDY AREA INVESTIGATION

2.1 Field Activities/Site Characterization

The field program for this Preliminary Site Assessment (PSA) consisted of construction of 18 soil borings and sampling of subsurface soils on Cayuga Island, Niagara Falls, New York. The investigation focused on the southern and western portions of the island.

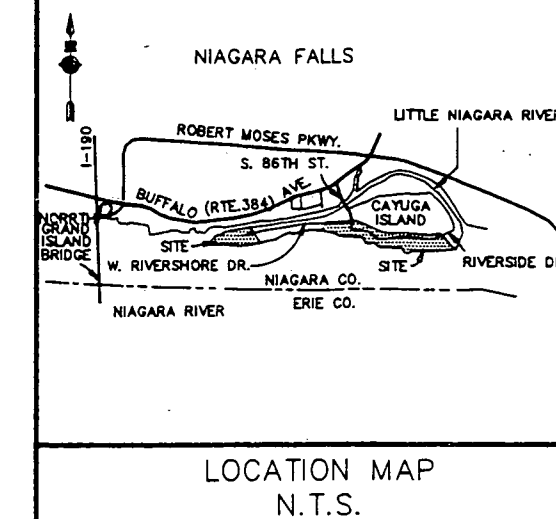
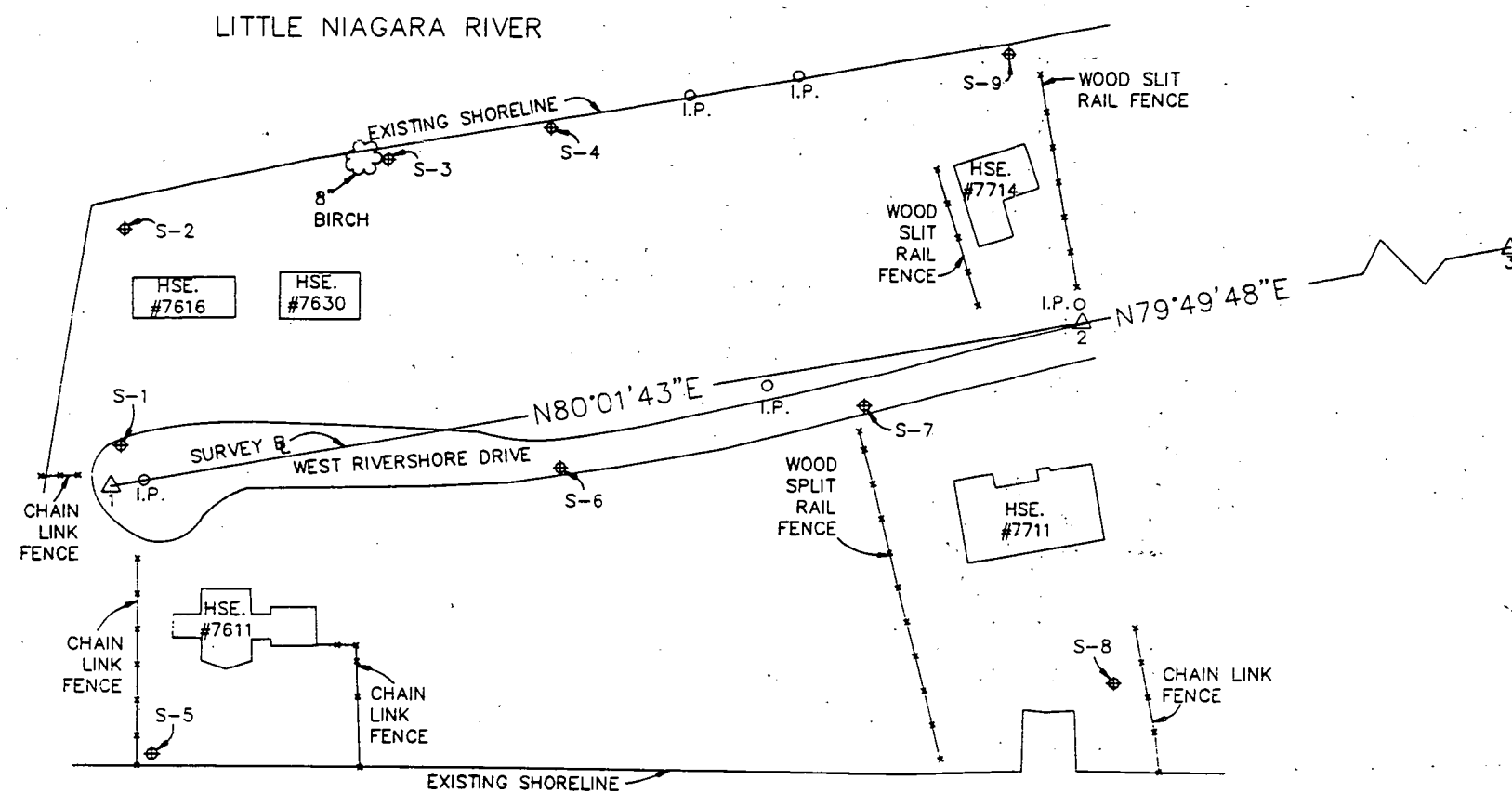
2.1.1 Borehole Construction

A total of 18 borings were constructed on Cayuga Island. Nine borings were constructed on the western tip of the island, six borings were constructed on the southern portion of the island, and three borings were constructed on the north side of Rivershore Drive to be used as background samples (see Figures 2-1 and 2-2). Table 2-1 indicates boring locations and depths with street addresses. Borings depths ranged from 4 to 8 feet and were terminated upon reaching saturated soil. Twelve borings were constructed utilizing a portable tripod and 2-inch or 3-inch split spoon samplers. Three-inch split spoons were utilized to collect samples for chemical analysis, and the 2-inch split spoons were utilized for geological logging. Six borings, located on the right-of-way of Rivershore Drive and West Rivershore Drive, were constructed utilizing hollow stem augers, and samples were collected using a 2-inch or 3-inch split spoon. Split spoon samples were obtained continuously from all borings. One sample was collected from each boring for full TCL +30 analysis and EP Toxicity (TOX) extraction. The depth at which the analytical sample was collected was based upon the amount of recovery retrieved in the split spoon and the depth to water. Sample depths are presented with the results in Section 3.0.

All borings were logged on-site and documented by a geologist in a bound field book and boring log (see Appendix A-1). The Modified Burmeister Classification System was used to describe soil samples recovered from the borings. Additional field documentation is provided in Appendix A.

2.1.2 Air Monitoring

As part of this PSA, an air monitoring program was implemented to establish ambient air conditions during borehole construction based on total organic vapor emissions. The air monitoring program utilized a portable photoionization organic vapor detector (HNU) to measure total volatile organic vapors.



COORDINATE TABLE		
Station	Northing	Easting
S-1	4325.5	5041.6
S-2	4447.4	5043.3
S-3	4487.1	5188.2
S-4	4505.4	5280.0
S-5	4151.4	5059.2
S-6	4313.8	5286.0
S-7	4349.8	5453.3
S-8	4193.7	5593.6
S-9	4549.1	5532.9
BASELINE 1	4302.45	5036.31
BASELINE 2	4397.17	5575.09

LEGEND



BORING LOCATION MAP
WESTERN PORTION



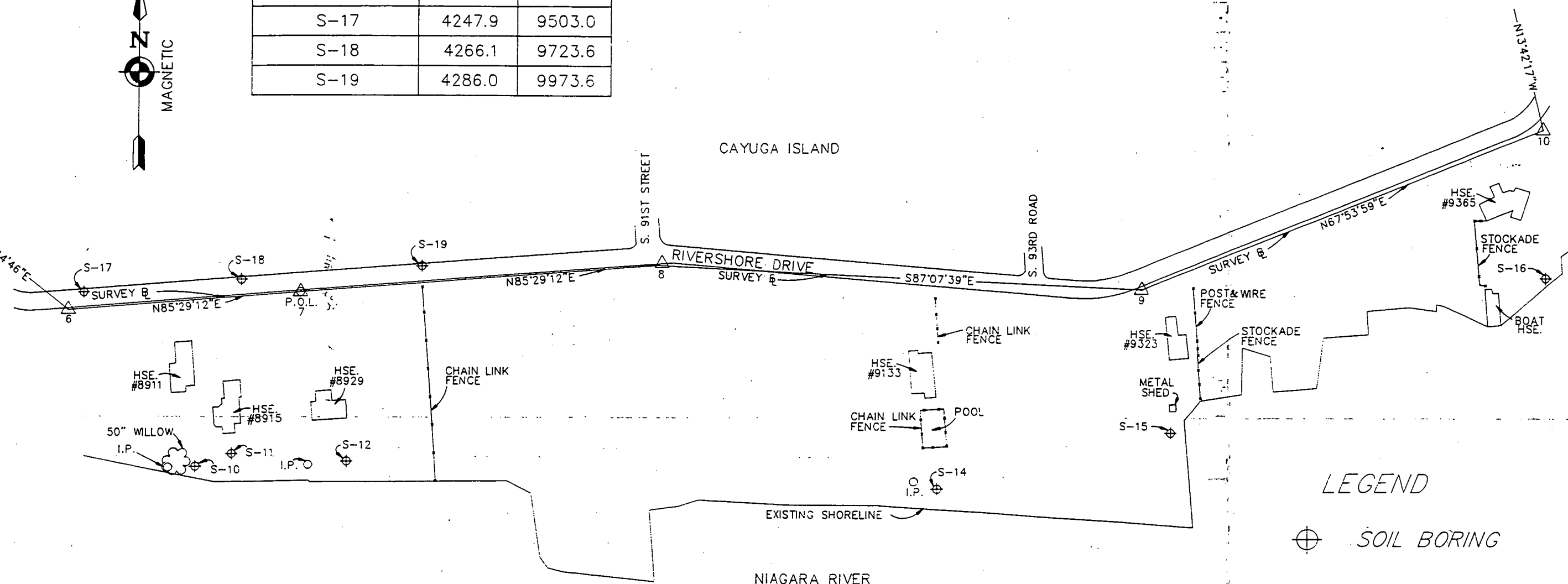
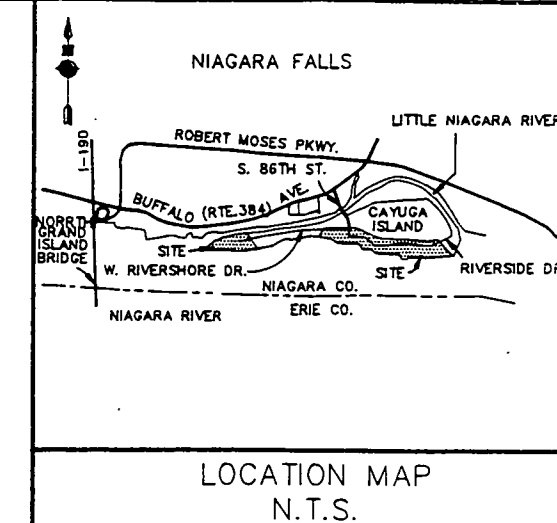
FIGURE 2-1

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DATE MAY 1992	SCALE 1" = 100'	SHEET 1	

NOTE : COORDINATES SHOWN HEREON WERE REFERENCED TO MAGNETIC NORTH AND AN ASSUMED COORDINATE SYSTEM.

COORDINATE-LIST		
STATION	NORTHING	EASTING
S-10	4000.3	9661.1
S-11	4018.4	9710.5
S-12	4008.0	9868.5
S-14	3971.3	10695.9
S-15	4050.8	11022.9
S-16	4271.5	11546.2
S-17	4247.9	9503.0
S-18	4266.1	9723.6
S-19	4286.0	9973.6

COORDINATE-LIST		
STATION	NORTHING	EASTING
BASELINE-6	4223.12	9480.95
BASELINE-7	4248.59	9803.72
BASELINE-8	4288.20	10305.53
BASELINE-9	4254.32	10980.82
BASELINE-10	4482.27	11542.18



LEGEND

⊕ SOIL BORING

BORING LOCATION MAP SOUTHERN PORTION



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DATE: MAY 1992
SCALE: 1" = 150'
SHEET: 2

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Rochester, New York 14618
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FIGURE 2-2

NOTE: COORDINATES SHOWN HEREON WERE REFERENCED TO MAGNETIC NORTH AND AN ASSUMED COORDINATE SYSTEM.

Table 2-1

**BORING LOCATIONS
CAYUGA ISLAND, NIAGARA FALLS**

<u>Boring Number</u>	<u>Depth</u>	<u>Street Address</u>
S-1	2-4 feet	7616 West Rivershore Drive
S-2	0-2 feet	7616 West Rivershore Drive
S-3	0-2 feet	7630 West Rivershore Drive
S-4	2-4 feet	7660 West Rivershore Drive
S-5	2-4 feet	7611 West Rivershore Drive
S-6	4-6 feet	Right of Way in Front of 7661 West Rivershore Drive
S-7	2-4 feet	Right of Way in Front of 7707 West Rivershore Drive
S-8	2-4 feet	7711 West Rivershore Drive
S-9	2-4 feet	7714 West Rivershore Drive
S-10	0-6 feet	8911 Rivershore Drive
S-11	2-4 feet	8915 Rivershore Drive
S-12	2-4 feet	8929 Rivershore Drive
S-14	2-4 feet	9133 Rivershore Drive
S-15	0-2 feet	9323 Rivershore Drive
S-16	0-4 feet	9365 Rivershore Drive
S-17	2-4 feet	North side of Rivershore Drive north of 8685 Rivershore Drive
S-18	2-4 feet	North side of Rivershore Drive between 8914 and 8922 Rivershore Drive
S-19	2-4 feet	North side of Rivershore Drive between 8940 and 8946 Rivershore Drive

The primary purpose of the air monitoring program was for the protection of the workers' health and safety and to collect information regarding the presence of organic vapors at the point of sample collection. The detailed monitoring procedures are provided in the work plan for this site.

2.1.3 Surveying and Mapping

Two location maps were prepared by Om P. Popli, P.E., for use in the preparation of this report. Northern and eastern coordinates were obtained for each boring. All locations are provided on Figures 2-1 and 2-2.

2.2 Health and Safety Program

Prior to the PSA, and as part of the project work plan, a Health and Safety Plan was prepared in order to establish occupational health and safety requirements, responsibilities and procedures to protect workers during the field investigation at the Cayuga Island site. The requirements for worker health and safety were based on the following:

- o The Standard Operating Safety Guides. US Environmental Protection Agency (EPA), Office of Emergency and Remedial Response;
- o The Occupational Health and Safety Administration (OSHA) Regulations, 29 CFR Parts 1910.120 and 1926;
- o Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, NIOSH, OSHA, USCG and EPA;
- o Health and Safety Procedures for Hazardous Waste Sites. Dvirka and Bartilucci Consulting Engineers; and
- o Superfund Amendments and Reauthorization Act (SARA), Title I, Section 126.

All activities associated with the PSA were performed in accordance with this Health and Safety Plan. A detailed description of the Health and Safety Plan is contained in the work plan.

2.3 Quality Assurance/Quality Control and Sampling Program

As part of the preliminary site assessment and project work plan, a Quality Assurance and Quality Control (QA/QC) Plan was prepared which developed and described the detailed sample

collection and analytical procedures to be used to ensure valid data collected as part of this project. This QA/QC Plan included detailed descriptions of the following:

- o Objective and Scope
- o Data Usage
- o Monitoring Network Design and Rationale
- o Monitoring Parameters
- o Schedule of Tasks and Outputs
- o Project Organization and Responsibility
- o Data Quality Requirements and Objectives
- o Sampling Procedures
- o Decontamination Procedures
- o Laboratory Sample Custody Procedures
- o Field Management Documentation
- o Calibration Procedures and Preventive Maintenance
- o Documentation, Data Reduction and Reporting
- o Data Validation
- o Performance and System Audits
- o Corrective Action
- o Trip Blanks
- o Field Blanks
- o Matrix Spikes/Matrix Spike Duplicates
- o Method Blanks
- o Field Management Forms
- o NYSDEC Sample Identification, Preparation and Analysis Summary Forms
- o Data Validation Reporting Forms

All work undertaken during the Preliminary Site Assessment was performed in accordance with the procedures outlined in the QA/QC Plan contained in the work plan for this site.

2.4 Data Validation

Energy and Environmental Engineering, Inc., which is a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) approved laboratory meeting requirements for performing sample analysis according to 1989 Analytical Services Protocols (ASP), was utilized to perform all the chemical analyses for the samples obtained during the preliminary site assessment. Summary documentation regarding data validation was completed by the laboratory using NYSDEC forms and submitted with the data package as required in the work plan.

Data validation, undertaken by Dvirka and Bartilucci Consulting Engineers and subconsultant, C.C. Johnson and Malhotra, Inc., was performed to determine and document analytical data quality in accordance with NYSDEC ASP requirements. The analytical and validation processes were conducted in conformance with the 1989 ASP and are based on the United States Environmental Protection Agency's (USEPA) Contract Laboratory Protocol "Statement of Work" documents and the associated "CLP Functional Guidelines for Data Validation" documents. The Data Usability Summary is included in Section 3.0.

Throughout the preliminary site assessment, all aspects of the data validation process were followed in accordance with the procedures outlined in the QA/QC Plan included in the project work plan.

Section 3



3.0 NATURE AND EXTENT OF CONTAMINATION

3.1 Results of Site Characterization

3.1.1 Subsurface Soils

As described in Section 2.0, 18 boreholes were constructed at the Cayuga Island site. Nine boreholes were constructed in the western portion of Cayuga Island and six boreholes were constructed on the southern end of the island. One sample was collected from each of the 15 boreholes constructed and analyzed for full TCL +30 parameters and EPTOX extraction. Three boreholes were constructed north of Rivershore Drive to be utilized as background samples (S-17, S-18 and S-19). The results of the TCL +30 and EPTOX analysis (S-17 only), and the geologic classification conducted on these three "background" samples, indicate that the material found in these boreholes may not be representative of native soil and their use as background samples for comparison purposes is not recommended. Levels of contaminants found in S-19 are significantly less than what was found in S-17 and S-18; however, the geologic description indicates the presence of a fine black sand-ash, which also may be a fill material. The levels of contaminants found in the samples obtained in the western and southern portions of the site are not compared to the planned background samples because they do appear to be indicative of native soil in the area. The results of the analysis of all the samples collected are described below. Results of the data validation of these results are presented in Section 3.2.

3.1.1.1 - Western Portion

Continuous split spoon sampling was conducted at each borehole constructed on the island. Detailed geologic descriptions of the boreholes are provided in Appendix A-1. Fill material was encountered in all of the borings constructed in the western portion of the site. The presence of the fill was confirmed through observation of concrete fragments, trace metal fragments, tar paper, brick fragments and asphalt in the samples. Boring S-8 contained a white granular spherical material (less than 1 mm in diameter) which was analyzed as part of the soil sample from this borehole. This was the only boring in which this material was encountered. The fill in this area was not uniform as shown by the various types of material found in each borehole.

EPTOX analysis was performed on samples based upon total contaminant concentrations as established by NYSDEC and as presented in Table 3-1. If the results from the TCL +30 analysis indicated levels higher than those listed in the table, EPTOX analysis was performed. Three

Table 3-1

**CAYUGA ISLAND PRELIMINARY SITE ASSESSMENT
NYSDEC CRITERIA FOR EPTOX ANALYSIS**

Inorganics

EP TOX Analyte	Soil (TWA) Total Concentration (ppm) (15% available)*
Arsenic	650
Barium	13,000
Cadmium	130
Chromium	650
Lead	650
Mercury	26.0
Selenium	130
Silver	650

Organics

EP TOX Analyte	Soil (TWA) Total Concentration (ppm) (koc derived)
Endrin	2.2(3)
Lindane	12.3(1)
Methoxychlor	2760(2)
Toxaphene	14.8(1)
2,4-D	202(1)
2,4,5-TP (Silvex)	22.9(2)

* EP TOX analysis shall also be performed on the borehole soil samples if any of the TCL concentrations exceed the values shown in this column.

- (1) Values derived using Eq1 and Koc values in attachment 4 "USEPA - Superfund Public Health Evaluation Manual" EPA/540/1-86/060; October 1986, Exhibit A-1.
- (2) Value derived from Eq2 and Eq1 using solubility data in "Handbook of Environmental Data on Organic Chemicals," by Karl Verschueren, Van Nostrand Reinhold, NY 1983.
- (3) Value derived from Eq2 and Eq1 using solubility data in USEPA "MAIN" Data Base - Water Engineering Research Lab, Cincinnati, Ohio.

samples from the western portion (samples S-7, S-8 and S-9) were all analyzed for EPTOX metals. S-7 and S-8 exceeded the NYSDEC criteria for mercury at 133 mg/kg and 37.4 mg/kg, respectively. S-9 exceeded the NYSDEC criteria for lead at 774 mg/kg. Levels of lead in other samples collected in from this area ranged from 18 mg/kg to 166 mg/kg, significantly less than what was detected in S-9. Levels of mercury in the remaining samples in this area were less than 6 mg/kg, also significantly lower than what was found in S-7 and S-8. None of the samples analyzed for EPTOX metals exceeded the maximum allowable concentration as per 40 CFR 261.24 to be characterized as a hazardous waste.

Semivolatile organics were also detected in the boreholes in the western portion of the island. The majority of semivolatile compounds detected were polycyclic aromatic hydrocarbons (PAHs). The semivolatile organic compounds that are polycyclic aromatic hydrocarbons are listed in Table 3-2. The highest levels of total PAHs were detected in S-2 and S-8 at 15.4 mg/kg and 16.8 mg/kg, respectively.

Trace levels of pesticides and PCBs, less than 1 mg/kg, were also detected in samples collected from the western portion, except for one sample (S-5) which was found at an elevated concentration of 140 mg/kg (Aroclor-1254) in the initial analysis. The sample was diluted 1:1,000 with a result of 190 mg/kg and then extracted medium level which yielded a result of 34 mg/kg. Since similar results were obtained from the initial and diluted run, the value from the initial analysis (140 mg/kg) will be used for assessment purposes. The highest levels of pesticides detected in this area were found in S-1 at 4.4 mg/kg (total). Pesticides were detected in all samples except for S-2.

Less than 1 mg/kg of total volatile organic compounds was detected in all of the boreholes in this portion of the island. The results of the analysis for the boreholes constructed in the western portion for both organic and inorganic contaminants and EPTOX metals are presented in Table 3-3. Only the targeted compounds are presented in this table. Tentatively identified compounds are presented in Appendix A-2.

3.1.1.2 - Southern Portion

Borings constructed in the southern portion of the island also indicate the presence of fill material including slag, ash, brick fragments, trace asphalt, trash and concrete fragments. Similar to the western portion, the fill in this area was not uniform, and the material encountered varied from one borehole to the next.

Table 3-2

POLYCYCLIC AROMATIC HYDROCARBONS

Naphthalene
Acenaphthylene
Acenaphthene
Fluorene
Phenanthrene
Anthracene
Fluoranthene
Pyrene
Benzo(a)anthracene
Chrysene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(a)pyrene
Indeno(1,2,3-cd)pyrene
Dibenz(a,h)anthracene
Benzo(g,h,i)perylene

TABLE 3-3
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - WESTERN PORTION
VOLATILE ORGANICS

	CIBHS1	CIBHS2	CIBHS3	CIBHS4
	3/16/92	3/17/92	3/17/92	3/17/92
DILUTION FACTOR	1	1	1	1
PERCENT MOISTURE	20	13	17	21
SAMPLE DEPTH	2-4 FEET	0-2 FEET	0-2 FEET	2-4 FEET
VOLATILE COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Chloromethane	U	U	U	U
Bromomethane	U	U	U	U
Vinyl Chloride	U	U	U	U
Chloroethane	U	U	U	U
Methylene Chloride	8 B	67 B	8 B	45 B
Acetone	20 B	28 B	30 B	230 B
Carbon Disulfide	U	U	U	U
1,1-Dichloroethene	U	U	U	U
1,1-Dichloroethane	U	U	U	U
1,2-Dichloroethene (total)	U	U	U	U
Chloroform	U	1 J	U	U
1,2-Dichloroethane	U	U	U	U
2-Butanone	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U
Carbon Tetrachloride	U	U	U	U
Vinyl Acetate	U	U	U	U
Bromodichloromethane	U	U	U	U
1,2-Dichloropropane	U	U	U	U
cis-1,3-Dichloropropene	U	U	U	U
Trichloroethene	U	U	U	U
Dibromochloromethane	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U
Benzene	U	U	U	U
trans-1,3-Dichloropropene	U	U	U	U
Bromoform	U	U	U	U
4-Methyl-2-pentanone	U	U	U	U
2-Hexanone	U	U	U	U
Tetrachloroethene	6 J	4 J	5 J	4 J
1,1,2,2-Tetrachloroethane	U	U	U	U
Toluene	U	1 J	U	U
Chlorobenzene	2 J	U	U	U
Ethylbenzene	U	U	U	U
Styrene	U	U	U	U
Xylene (total)	U	U	U	U
TOTAL VOCs	36 J	101 J	43 J	279 J

QUALIFIERS

U: compound analyzed for but not detected

J: Estimated value. Compound detected below the detection limit

B: analyte found in the method blank

TABLE 3-3 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - WESTERN PORTION
VOLATILE ORGANICS

	CIBHS5	CIBHS6	CIBHS7	CIBHS8	CIBHS9
	3/17/92	3/16/92	3/16/92	3/18/92	3/18/92
DILUTION FACTOR	1	1.7	1.7	1	1
PERCENT MOISTURE	17	17	14	27	20
SAMPLE DEPTH	2-4 FEET	4-6 FEET	2-4 FEET	2-4 FEET	2-4 FEET
VOLATILE COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Chloromethane	U	U	U	U	U
Bromomethane	U	U	U	U	U
Vinyl Chloride	U	U	U	3 J	U
Chloroethane	U	U	U	U	U
Methylene Chloride	6 B	34 B	38 B	7 BJ	6 BJ
Acetone	25 B	120 B	210 B	56 B	35 B
Carbon Disulfide	U	U	U	U	U
1,1-Dichloroethene	U	U	U	10	U
1,1-Dichloroethane	U	U	2 J	58	U
1,2-Dichloroethene (total)	U	U	21	4 J	U
Chloroform	U	U	U	U	U
1,2-Dichloroethane	U	U	U	7	U
2-Butanone	U	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U	U
Carbon Tetrachloride	U	U	U	U	U
Vinyl Acetate	U	U	U	U	U
Bromodichloromethane	U	U	U	U	U
1,2-Dichloropropane	U	U	U	U	U
cis-1,3-Dichloropropene	U	U	U	U	U
Trichloroethene	U	U	120	U	U
Dibromochloromethane	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	8	U
Benzene	U	U	U	U	U
trans-1,3-Dichloropropene	U	U	U	U	U
Bromoform	U	U	U	U	U
4-Methyl-2-pentanone	U	U	U	U	U
2-Hexanone	U	U	U	U	U
Tetrachloroethene	10	3 J	18	34	8
1,1,2,2-Tetrachloroethane	U	U	U	U	U
Toluene	U	U	4 J	U	U
Chlorobenzene	U	U	U	U	U
Ethylbenzene	U	U	U	U	U
Styrene	U	U	U	U	U
Xylene (total)	U	U	U	U	U
TOTAL VOCs	41 J	157 J	413 J	187 J	49 J

QUALIFIERS

U: compound analyzed for but not detected

J: Estimated value. Compound detected below the detection limit

B: analyte found in the method blank

TABLE 3-3 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - WESTERN PORTION
SEMIVOLATILE ORGANICS

	CIBHS1	CIBHS2	CIBHS3	CIBHS4	CIBHS4RE	CIBHS5
	3/16/92	3/17/92	3/17/92	3/17/92	3/17/92	3/17/92
DILUTION FACTOR	1	1	1	1	1	1
PERCENT MOISTURE	20	13	17	21	21	17
SAMPLE DEPTH	2-4 FEET	0-2 FEET	0-2 FEET	2-4 FEET	2-4 FEET	2-4 FEET
SEMIVOLATILE COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	100 J	U	U	U	U	U
bis(2-Chloroethyl)ether	U	U	U	U	U	U
2-Chlorophenol	U	U	U	U	U	U
1,3-Dichlorobenzene	U	U	U	U	U	U
1,4-Dichlorobenzene	U	U	U	U	U	U
Benzyl Alcohol	U	U	U	U	U	U
1,2-Dichlorobenzene	U	U	U	U	U	320 J
2-Methylphenol	U	U	U	U	U	U
bis(2-chloroisopropyl)ether	U	U	U	U	U	U
4-Methylphenol	U	U	U	U	U	U
N-Nitroso-Di-n-Propylamine	U	U	U	U	U	U
Hexachloroethane	U	U	U	U	U	U
Nitrobenzene	U	U	U	U	U	U
Isophorone	U	U	U	U	U	U
2-Nitrophenol	U	U	U	U	U	U
2,4-Dimethylphenol	U	U	U	U	U	U
Benzoic Acid	U	U	U	U	U	U
bis(2-chloroethoxy)Methane	U	U	U	U	U	U
2,4-Dichlorophenol	U	U	U	U	U	U
1,2,4-Trichlorobenzene	U	U	U	U	U	3900 J
Naphthalene	U	45 J	U	44 J	43 J	87 J
4-Chloroaniline	U	U	U	U	U	U
Hexachlorobutadiene	U	U	U	U	U	U
4-Chloro-3-Methylphenol	U	U	U	U	U	U
2-Methylnaphthalene	U	U	U	100 J	88 J	86 J
Hexachlorocyclopentadiene	U	U	U	U	U	U
2,4,6-Trichlorophenol	U	U	U	U	U	U
2,4,5-Trichlorophenol	U	U	U	U	U	700 J
2-Chloronaphthalene	U	U	U	U	U	U
2-Nitroaniline	U	U	U	U	U	U
Dimethyl Phthalate	U	U	U	U	U	U
Acenaphthylene	U	120 J	U	U	U	U
2,6-Dinitrotoluene	U	U	U	U	U	U
3-Nitroaniline	U	U	U	U	U	U
Acenaphthene	U	41 J	U	U	U	110 J
2,4-Dinitrophenol	U	U	U	U	U	U
4-Nitrophenol	U	U	U	U	U	U
Dibenzofuran	U	U	U	U	U	82 J
2,4-Dinitrotoluene	U	U	U	U	U	U
Diethylphthalate	U	U	U	U	U	U
4-Chlorophenyl-phenylether	U	U	U	U	U	U
Fluorene	U	65 J	U	U	U	100 J
4-Nitroaniline	U	U	U	U	U	U
4,6-Dinitro-2-Methylphenol	U	U	U	U	U	U
N-Nitrosodiphenylamine	U	U	U	U	U	U
4-Bromophenyl-phenylether	U	U	U	U	U	U
Hexachlorobenzene	U	43 J	1500	U	U	570
Pentachlorophenol	U	U	U	U	U	U
Phenanthrene	140 J	630	190 J	170 J	170 J	U
Anthracene	U	210 J	55 J	U	U	820
Di-n-Butylphthalate	610	U	U	U	U	U
Fluoranthene	130 J	1600	400	190 J	170 J	890
Pyrene	130 J	1500	400	280 J	390 J	1300
Butylbenzylphthalate	U	U	U	U	U	U
3,3'-Dichlorobenzidine	U	U	U	U	U	U
Benzo(a)Anthracene	73 J	1200	310 J	170 J	170 J	510
Chrysene	77 J	1300	290 J	190 J	180 J	530
bis(2-Ethylhexyl)Phthalate	2900	64 J	180 J	660	910	130 J
Di-n-Octyl Phthalate	1900	U	U	U	U	U
Benzo(b)Fluoranthene	74 J	1900	360 J	190 J	180 J	700
Benzo(k)Fluoranthene	68 J	1000	260 J	94 J	140 J	320 J
Benzo(a)Pyrene	57 J	1400	280 J	150 J	170 J	460
Indeno(1,2,3-cd)Pyrene	U	2000	290 J	280 J	330 J	840
Dibenz(a,h)Anthracene	U	580	U	U	U	U
Benzo(g,h,i)Perylene	U	1800	260 J	360 J	360 J	760
TOTAL PAHS	749 J	15391 J	3095 J	2118 J	2303 J	7427 J

QUALIFIERS

U: compound analyzed for but not detected

J: Estimated values. Compound detected below the detection limit

RE: Reanalysis

TABLE 3-3 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - WESTERN PORTION
SEMIVOLATILE ORGANICS

	CIBHS5RE	CIBHS6	CIBHS6RE	CIBHS7	CIBHS7RE	CIBHS8	CIBHS9
	3/17/92	3/16/92	3/16/92	3/16/92	3/16/92	3/18/92	3/18/92
DILUTION FACTOR	1	1	1	1	1	50	1
PERCENT MOISTURE	17	17	17	14	14	27	20
SAMPLE DEPTH	2-4 FEET	4-4 FEET	4-6 FEET	2-4 FEET	2-4 FEET	2-4 FEET	2-4 FEET
SEMIVOLATILE COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U	U	U	U
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U
2-Chlorophenol	U	U	U	U	U	U	U
1,3-Dichlorobenzene	U	U	U	U	U	U	U
1,4-Dichlorobenzene	U	U	U	86 J	99 J	U	U
Benzyl Alcohol	U	U	U	U	U	U	U
1,2-Dichlorobenzene	370 J	U	U	52 J	56 J	U	U
2-Methylphenol	U	U	U	U	U	U	U
bis(2-chloroisopropyl)ether	U	U	U	U	U	U	U
4-Methylphenol	U	U	U	U	U	U	U
N-Nitroso-Di-n-Propylamine	U	U	U	U	U	U	U
Hexachloroethane	U	U	U	U	U	U	U
Nitrobenzene	U	U	U	U	U	U	U
Isophorone	U	U	U	U	U	U	U
2-Nitrophenol	U	U	U	U	U	U	U
2,4-Dimethylphenol	U	U	U	U	U	U	U
Benzoic Acid	U	U	U	U	U	U	U
bis(2-chloroethoxy)Methane	U	U	U	U	U	U	U
2,4-Dichlorophenol	U	U	U	U	U	U	U
1,2,4-Trichlorobenzene	3800	U	U	190 J	190 J	5400 J	U
Naphthalene	83 J	110 J	120 J	63 J	59 J	U	U
4-Chloroaniline	U	U	U	U	U	U	U
Hexachlorobutadiene	U	U	U	43 J	U	U	U
4-Chloro-3-Methylphenol	U	U	U	U	U	U	U
2-Methylnaphthalene	82 J	390 J	390 J	80 J	73 J	U	U
Hexachlorocyclopentadiene	U	U	U	U	U	U	U
2,4,6-Trichlorophenol	U	U	U	U	U	U	U
2,4,5-Trichlorophenol	750 J	U	U	U	U	U	U
2-Chloronaphthalene	U	U	U	U	U	U	U
2-Nitroaniline	U	U	U	U	U	U	U
Dimethyl Phthalate	U	U	U	U	U	U	U
Acenaphthylene	U	U	U	U	U	U	U
2,6-Dinitrotoluene	U	U	U	U	U	U	U
3-Nitroaniline	U	U	U	U	U	U	U
Acenaphthene	130 J	U	U	U	U	U	U
2,4-Dinitrophenol	U	U	U	U	U	U	U
4-Nitrophenol	U	U	U	U	U	U	U
Dibenzofuran	92 J	U	U	U	U	U	U
2,4-Dinitrotoluene	U	U	U	U	U	U	U
Diethylphthalate	U	U	U	U	U	U	U
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U
Fluorene	110 J	U	U	U	U	U	U
4-Nitroaniline	U	U	U	U	U	U	U
4,6-Dinitro-2-Methylphenol	U	U	U	U	U	U	U
N-Nitrosodiphenylamine	U	50 J	U	U	U	6500 J	U
4-Bromophenyl-phenylether	U	U	U	U	U	U	U
Hexachlorobenzene	570	U	U	39 J	42 J	U	U
Pentachlorophenol	U	U	U	U	U	U	U
Phenanthrene	U	130 J	110 J	280 J	270 J	U	U
Anthracene	250 J	U	U	60 J	56 J	U	U
Di-n-Butylphthalate	U	U	U	U	U	U	U
Fluoranthene	740	44 J	U	320 J	290 J	5800 J	57 J
Pyrene	1800	120 J	140 J	820	800	5400 J	64 J
Butylbenzylphthalate	U	U	U	U	U	U	U
3,3'-Dichlorobenzidine	U	U	U	U	U	U	U
Benzo(a)Anthracene	540	U	U	260 J	260 J	U	U
Chrysene	490	60 J	58 J	370 J	270 J	5600 J	43 J
bis(2-Ethylhexyl)Phthalate	170 J	U	47 J	320 J	380 J	210000	U
Di-n-Octyl Phthalate	U	U	U	U	U	U	U
Benzo(b)Fluoranthene	470	U	U	280 J	250 J	U	U
Benzo(k)Fluoranthene	190 J	U	U	130 J	130 J	U	U
Benzo(a)Pyrene	480	58 J	U	260 J	220 J	U	U
Indeno(1,2,3-cd)Pyrene	840	U	U	480	440	U	U
Dibenz(a,h)Anthracene	U	U	U	U	U	U	U
Benzo(g,h,i)Perylene	860	U	U	U	460	U	U
TOTAL PAHs	6983 J	522 J	428 J	2023 J	3505 J	16800 J	164 J

QUALIFIERS

U: compound analyzed for but not detected

J: Estimated values. Compound detected below the detection limit

RE: Reanalysis

TABLE 3-3 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - WESTERN PORTION
PESTICIDE/PCBs

	CIBHS1	CIBHS1DL	CIBHS2	CIBHS3	CIBHS4	CIBHS5	CIBHS5DL
	3/16/92	3/16/92	3/17/92	3/17/92	3/17/92	3/17/92	3/17/92
DILUTION FACTOR	10	100	2	2	2	100	1000
PERCENT MOISTURE	20	20	13	17	21	17	17
SAMPLE DEPTH	2-4 FEET	2-4 FEET	0-2 FEET	0-2 FEET	2-4 FEET	2-4 FEET	2-4 FEET
PESTICIDE/PCB COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Alpha-BHC	420	360 J	U	U	7.1 J	U	U
Beta-BHC	4000	4900	U	U	U	U	U
Delta-BHC	U	U	U	U	U	U	U
Gamma-BHC(Lindane)	50 J	85 J	U	U	2.3 J	U	U
Heptachlor	U	U	U	U	U	U	U
Aldrin	U	U	U	U	U	1600	2100 J
Heptachlor Epoxide	U	U	U	U	U	U	U
Endosulfan I	U	U	U	U	U	2000	2900 J
Dieldrin	U	U	U	U	U	U	U
4,4'-DDE	U	U	U	19 J	14 J	U	U
Endrin	U	U	U	U	U	U	U
Endosulfan II	U	U	U	U	U	U	U
4,4-DDD	U	U	U	U	U	U	U
Endosulfan Sulfate	U	U	U	U	U	U	U
4,4'-DDT	U	U	U	U	28 J	U	U
Methoxychlor	U	U	U	U	U	U	U
Endrin Ketone	U	U	U	U	U	U	U
Alpha-Chlordane	U	U	U	U	U	U	U
Gamma-Chlordane	U	U	U	U	U	U	U
Toxaphene	U	U	U	U	U	U	U
Aroclor-1016	U	U	U	U	U	U	U
Aroclor-1221	U	U	U	U	U	U	U
Aroclor-1232	U	U	U	U	U	U	U
Aroclor-1242	U	U	U	U	U	U	U
Aroclor-1248	U	U	U	U	U	U	U
Aroclor-1254	640 J	U	480	U	U	140000	190000 J
Aroclor-1260	U	U	U	U	U	U	U

QUALIFIERS

U: compound analyzed for but not detected

J: compound detected below the detection limit

DL: sample reanalyzed at a secondary dilution

TABLE 3-3 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - WESTERN PORTION
PESTICIDE/PCBs

	CIBHS5M*	CIBHS6	CIBHS7	CIBHS7DL	CIBHS8	CIBHS8DL	CIBHS9
	3/17/92	3/16/92	3/16/92	3/16/92	3/18/92	3/18/92	3/18/92
DILUTION FACTOR	10	2	2	20	10	100	1
PERCENT MOISTURE	17	17	15	15	27	27	20
SAMPLE DEPTH	2-4 FEET	4-6 FEET	2-4 FEET	2-4 FEET	2-4 FEET	2-4 FEET	2-4 FEET
PESTICIDE/PCB COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Alpha-BHC	U	U	120	140 J	1100	1100 J	1.8 J
Beta-BHC	U	U	U	U	430	670 J	U
Delta-BHC	U	U	U	U	U	U	U
Gamma-BHC(Lindane)	U	U	20	56 J	100 J	370 J	2 J
Heptachlor	U	U	U	U	U	U	3.4 J
Aldrin	960 J	U	U	U	U	U	U
Heptachlor Epoxide	U	U	U	U	U	U	13
Endosulfan I	1000 J	U	U	U	U	U	U
Dieldrin	U	U	U	U	U	U	U
4,4'-DDE	U	U	U	U	U	U	U
Endrin	U	U	U	U	U	U	U
Endosulfan II	U	U	U	U	U	U	U
4,4'-DDD	U	2.1 J	U	U	U	U	U
Endosulfan Sulfate	U	U	U	U	U	U	U
4,4'-DDT	U	U	U	U	U	U	U
Methoxychlor	U	U	U	U	U	U	U
Endrin Ketone	U	U	U	U	U	U	U
Alpha-Chlordane	U	16 J	U	U	U	U	21 J
Gamma-Chlordane	U	26 J	U	U	U	U	22 J
Toxaphene	U	U	U	U	U	U	U
Aroclor-1016	U	U	U	U	U	U	U
Aroclor-1221	U	U	U	U	U	U	U
Aroclor-1232	U	U	U	U	U	U	U
Aroclor-1242	U	U	U	U	U	U	U
Aroclor-1248	U	U	U	U	U	U	U
Aroclor-1254	34000	U	470	U	430 J	U	U
Aroclor-1260	U	U	U	U	U	U	U

QUALIFIERS

U: compound analyzed for but not detected

J: compound detected below the detection limit

DL: sample reanalyzed at a secondary dilution

*: sample re-extracted at medium level

TABLE 3-3 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - WESTERN PORTION
METALS

	CIBHS1	CIBHS2	CIBHS3	CIBHS4	CIBHS5	CIBHS6	CIBHS7	CIBHS8	CIBHS9
	3/16/92	3/17/92	3/17/92	3/17/92	3/17/92	3/16/92	3/16/92	3/18/92	3/18/92
SAMPLE DEPTH	2-4 FEET	0-2 FEET	0-2 FEET	2-4 FEET	2-4 FEET	4-6 FEET	2-4 FEET	2-4 FEET	2-4 FEET
METAL COMPOUNDS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	19900	13100	12100	14000	13000	12900	10900	9160.00	19500
Antimony	13.4	U	U	U	12.9	U	U	U	33.3
Arsenic	4.9	4.1	5.1	5.8	4	3.9	5.4	41.8	6.4
Barium	127	53.8	75.6	142	285	90.8	83	107	323
Beryllium	0.78 B	1.1	0.48 B	0.53 B	0.64 B	0.68 B	0.45 B	0.39 B	0.67 B
Cadmium	U	U	U	U	U	U	U	U	1.5
Calcium	60200	20800	68000	19000	26000	89500	137000	29300	47200
Chromium	29.9	14.2	24.7	83.4	54.5	19.7	19.7	39.9	54.3
Cobalt	13.2	5.5 B	5.2 B	7 B	9 B	4.5 B	5	8.7 B	12.3
Copper	33.5	15.5	19.6	41	29.8	14.3	20.7	49.9	349
Iron	33000	19100	16600	20600	20000	13500	17000	36600	37900
Lead	31.9	18.2	37.4	127	38.9	30.8	166	61.6	774
Magnesium	14400	3410	22500	10300	9160	10100	55200	9370	10800
Manganese	595	434	320	340	1590	257	427	757	560
Mercury	0.83	U	0.5	5.4	0.44	0.13	133	37.4	2.1
Nickel	33	13.6	14	15.9	23.8	11.2	14.9	40.3	35.3
Potassium	4320	1230	2290	1480	1790	2120	2210	1570	3480
Selenium	U	0.46 B	0.47 B	U	U	U	0.72 B	U	U
Silver	U	U	U	U	U	U	U	U	2.1 B
Sodium	569 B	135 B	175 B	222 B	136 B	468 B	554 B	183 B	968 B
Thallium	U	U	U	U	U	U	U	U	U
Vanadium	34	21.4	23.6	25.9	26.6	22.5	24.1	21.9	33.1
Zinc	127	58.4	107	407	84.5	70	172	262	619
Cyanide	U	U	U	U	U	U	U	U	U

QUALIFIERS

U: compound analyzed for but not detected

B: value is less than contract required limits but greater than the instrument detection limit.

TABLE 3-3 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - WESTERN PORTION
EPTOX METALS

	CIBHS7	CIBHS8	CIBHS9	USEPA
	3/16/92	3/18/92	3/18/92	MAXIMUM
SAMPLE DEPTH	2-4 FEET	2-4 FEET	2-4 FEET	CONCENTRATION
METAL COMPOUNDS	(ug/l)	(ug/l)	(ug/l)	(ug/l)
Arsenic	U	U	U	5000
Barium	1210 E	854 E	2150 E	100000
Cadmium	7.1	U	16.4	1000
Chromium	U	U	U	5000
Lead	U	88.5	906	5000
Mercury	0.67	2.1	0.29	200
Selenium	U	U	U	1000
Silver	U	U	U	5000

QUALIFIERS

U: compound analyzed for but not detected

E: value is estimated due to presence of interference

Also similar to the results presented for the western portion, trace levels (less than 1 mg/kg) of volatile organic compounds were detected in the borings in the southern portion. Elevated levels of total PAHs were detected in S-11 at 24 mg/kg. Only trace concentrations (less than 1 mg/kg) of PCBs and pesticides were found in this area. The highest level of lead was detected in S-14 at 623 mg/kg. None of the samples in this area required EPTOX analysis. The results of the samples obtained in the southern area are provided in Table 3-4.

3.1.1.3 - North Rivershore Drive

Three borings were constructed on the northern side of Rivershore Drive. These samples were originally selected as "background" samples to use for comparison purposes between the fill encountered in the western and southern areas and native soil found on Cayuga Island. Samples collected from these borings indicated the presence of a fine black sand-ash and cinders. Results from the analysis of the samples collected indicated the presence of total PAHs at 9.3 and 30.6 mg/kg, in S-17 and S-18, respectively. PAHs were not detected in S-19. S-17 exceeded the NYSDEC criteria for lead at 766 mg/kg and EPTOX analysis was conducted on this sample. Only trace concentrations of VOCs were found in the samples from this area, and PCBs were not detected. Only one sample, S-19, indicated the presence of pesticides at 0.0023 mg/kg. The results of the organic, inorganic and EPTOX analyses for these samples are shown on Table 3-5. Due to the nature of the geological and analytical results, it was determined not to utilize these boreholes as background samples.

3.1.2 - Air Monitoring

Throughout construction of the borings at the Cayuga Island site, a photoionization organic vapor detector (HNU) was utilized to measure total volatile organic vapors. Only two samples, S-10 at 6 to 8 feet and S-11 at 4 to 6 feet, indicated readings above background (0.0 ppm) at 0.5 ppm. These readings were detected directly over the split spoon. Both samples were described as "wet" and this may have affected the reading obtained.

3.2 Data Validation

The 18 subsurface soil samples were analyzed for TCL +30 parameters in accordance with the 1989 New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP). Each of these samples were also validated by C.C. Johnson and Malhotra P.C. The results of the data validation review are presented below.

TABLE 3-4
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - SOUTHERN PORTION
VOLATILE ORGANICS

	CIBHS10	CIBHS11	CIBHS11RE	CIBHS12	CIBHS14	CIBHS15	CIBHS16
	3/19/92	3/19/92	3/19/92	3/19/92	3/17/92	3/18/92	3/18/92
DILUTION FACTOR	1	1	1	1	1	1	1
PERCENT MOISTURE	21	18	18	14	29	16	10
SAMPLE DEPTH	0-6 FEET	2-4 FEET	2-4 FEET	2-4 FEET	2-4 FEET	0-2 FEET	0-4 FEET
VOLATILE COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Chloromethane	U	U	U	2 J	U	U	U
Bromomethane	U	U	U	U	U	U	U
Vinyl Chloride	U	U	U	U	U	U	U
Chloroethane	U	U	U	U	U	U	U
Methylene Chloride	6 J	10	9	7	8 B	8 B	6 BJ
Acetone	17	23	U	16	54 B	38 B	34 B
Carbon Disulfide	U	U	U	U	U	U	U
1,1-Dichloroethene	U	U	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U	U	U
1,2-Dichloroethene (total)	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U
1,2-Dichloroethane	U	U	U	U	U	U	U
2-Butanone	U	U	U	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U	U	2 J	2 J
Carbon Tetrachloride	U	U	U	U	U	U	U
Vinyl Acetate	U	U	U	U	U	U	U
Bromodichloromethane	U	U	U	U	U	U	U
1,2-Dichloropropane	U	U	U	U	U	U	U
cis-1,3-Dichloropropene	U	U	U	U	U	U	U
Trichloroethene	U	U	U	U	8	U	U
Dibromochloromethane	U	U	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U	U	U
Benzene	1 J	2 J	U	2 J	U	U	U
trans-1,3-Dichloropropene	U	U	U	U	U	U	U
Bromoform	U	U	U	U	U	U	U
4-Methyl-2-pentanone	U	U	U	U	U	U	U
2-Hexanone	U	U	U	U	U	U	U
Tetrachloroethene	22	25	5 J	46	40	2 J	3 J
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U
Toluene	1 J	4 J	3 J	1 J	2 J	2 J	3 J
Chlorobenzene	U	U	U	U	U	U	U
Ethylbenzene	U	U	U	U	U	U	U
Styrene	U	U	U	U	U	U	U
Xylene (total)	U	U	U	U	U	U	U
TOTAL VOCs	47 J	64 J	17 J	74 J	112 J	52 J	48 J

QUALIFIERS

U: compound analyzed for but not detected

J: Estimated value. Compound detected below the detection limit

B: analyte found in the method blank

TABLE 3-4 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - SOUTHERN PORTION
SEMIVOLATILE ORGANICS

	CIBHS10	CIBHS11	CIBHS11RE	CIBHS12	CIBHS12RE
	3/19/92	3/19/92	3/19/92	3/19/92	3/19/92
DILUTION FACTOR	1	1	1	1	1
PERCENT MOISTURE	21	18	18	14	14
SAMPLE DEPTH	0-6 FEET	2-4 FEET	2-4 FEET	2-4 FEET	2-4 FEET
SEMIVOLATILE COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U	U
bis(2-Chloroethyl)ether	U	U	U	U	U
2-Chlorophenol	U	U	U	U	U
1,3-Dichlorobenzene	U	U	U	U	U
1,4-Dichlorobenzene	U	U	U	U	U
Benzyl Alcohol	U	U	U	U	U
1,2-Dichlorobenzene	U	U	U	U	U
2-Methylphenol	U	U	U	U	U
bis(2-chloroisopropyl)ether	U	U	U	U	U
4-Methylphenol	U	U	U	U	U
N-Nitroso-Di-n-Propylamine	U	U	U	U	U
Hexachloroethane	U	U	U	U	U
Nitrobenzene	U	U	U	U	U
Isophorone	U	U	U	U	U
2-Nitrophenol	U	U	U	U	U
2,4-Dimethylphenol	U	U	U	U	U
Benzoic Acid	U	U	U	U	U
bis(2-chloroethoxy)Methane	U	U	U	U	U
2,4-Dichlorophenol	U	U	U	U	U
1,2,4-Trichlorobenzene	U	U	U	40 J	40 J
Naphthalene	72 J	160 J	160 J	41 J	U
4-Chloroaniline	U	U	U	U	U
Hexachlorobutadiene	U	U	U	U	U
4-Chloro-3-Methylphenol	U	U	U	U	U
2-Methylnaphthalene	100 J	180 J	170 J	92 J	U
Hexachlorocyclopentadiene	U	U	U	U	U
2,4,6-Trichlorophenol	U	U	U	U	U
2,4,5-Trichlorophenol	U	U	U	U	U
2-Chloronaphthalene	U	U	U	U	U
2-Nitroaniline	U	U	U	U	U
Dimethyl Phthalate	U	U	U	U	U
Acenaphthylene	U	71 J	69 J	U	U
2,6-Dinitrotoluene	U	U	U	U	U
3-Nitroaniline	U	U	U	U	U
Acenaphthene	100 J	360 J	360 J	U	U
2,4-Dinitrophenol	U	U	U	U	U
4-Nitrophenol	U	U	U	U	U
Dibenzofuran	120 J	300 J	280 J	U	U
2,4-Dinitrotoluene	U	U	U	U	U
Diethylphthalate	U	U	U	U	U
4-Chlorophenyl-phenylether	U	U	U	U	U
Fluorene	92 J	480	490	U	U
4-Nitroaniline	U	U	U	U	U
4,6-Dinitro-2-Methylphenol	U	U	U	U	U
N-Nitrosodiphenylamine	U	U	U	U	U
4-Bromophenyl-phenylether	U	U	U	U	U
Hexachlorobenzene	U	U	U	150 J	140 J
Pentachlorophenol	U	U	U	U	U
Phenanthrene	1600	3700	3300	200 J	190 J
Anthracene	360 J	960	960	41 J	40 J
Di-n-Butylphthalate	U	U	U	U	U
Fluoranthene	1600	3400	3100	210 J	190 J
Pyrene	1200	4400	5100	440	480
Butylbenzylphthalate	U	U	U	U	U
3,3'-Dichlorobenzidine	U	U	U	U	U
Benzo(a)Anthracene	600	1500	1600	200 J	190 J
Chrysene	520	1400	1300	220 J	190 J
bis(2-Ethylhexyl)Phthalate	U	550	630	U	U
Di-n-Octyl Phthalate	U	U	U	U	U
Benzo(b)Fluoranthene	500	1500	1600	190 J	180 J
Benzo(k)Fluoranthene	410 J	1100	670	170 J	130 J
Benzo(a)Pyrene	510	1500	1400	220 J	220 J
Indeno(1,2,3-cd)Pyrene	530	1800	2000	280 J	480
Dibenz(a,h)Anthracene	U	300 J	480	U	U
Benzo(g,h,i)Perylene	480	2000	1800	640	540
TOTAL PAHs	8574 J	24631 J	24389 J	2852 J	2830 J

QUALIFIERS

U: compound analyzed for but not detected

J: Estimated values. Compound detected below the detection limit

RE: Reanalysis

TABLE 3-4 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - SOUTHERN PORTION
SEMIVOLATILE ORGANICS

	CIBHS14	CIBHS14RE	CIBHS15	CIBHS16
	3/17/92	3/17/92	3/18/92	3/18/92
DILUTION FACTOR	1	1	1	1
PERCENT MOISTURE	29	29	16	10
SAMPLE DEPTH	2-4 FEET	2-4 FEET	0-2 FEET	0-4 FEET
SEMIVOLATILE COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Phenol	U	U	U	U
bis(2-Chloroethyl)ether	U	U	U	U
2-Chlorophenol	U	U	U	U
1,3-Dichlorobenzene	U	U	U	U
1,4-Dichlorobenzene	U	U	U	U
Benzyl Alcohol	U	U	U	U
1,2-Dichlorobenzene	U	U	U	U
2-Methylphenol	U	U	U	U
bis(2-chloroisopropyl)ether	U	U	U	U
4-Methylphenol	U	U	U	U
N-Nitroso-Di-n-Propylamine	U	U	U	U
Hexachloroethane	U	U	U	U
Nitrobenzene	U	U	U	U
Isophorone	U	U	U	U
2-Nitrophenol	U	U	U	U
2,4-Dimethylphenol	U	U	U	U
Benzoic Acid	U	U	U	U
bis(2-chloroethoxy)Methane	U	U	U	U
2,4-Dichlorophenol	U	U	U	U
1,2,4-Trichlorobenzene	U	U	U	U
Naphthalene	U	U	U	U
4-Chloroaniline	U	U	U	U
Hexachlorobutadiene	U	U	U	U
4-Chloro-3-Methylphenol	U	U	U	U
2-Methylnaphthalene	U	U	U	38 J
Hexachlorocyclopentadiene	U	U	U	U
2,4,6-Trichlorophenol	U	U	U	U
2,4,5-Trichlorophenol	U	U	U	U
2-Chloronaphthalene	U	U	U	U
2-Nitroaniline	U	U	U	U
Dimethyl Phthalate	U	U	U	U
Acenaphthylene	U	U	U	U
2,6-Dinitrotoluene	U	U	U	U
3-Nitroaniline	U	U	U	U
Acenaphthene	U	U	U	U
2,4-Dinitrophenol	U	U	U	U
4-Nitrophenol	U	U	U	U
Dibenzofuran	U	U	U	U
2,4-Dinitrotoluene	U	U	U	U
Diethylphthalate	U	U	U	U
4-Chlorophenyl-phenylether	U	U	U	U
Fluorene	U	U	U	U
4-Nitroaniline	U	U	U	U
4,6-Dinitro-2-Methylphenol	U	U	U	U
N-Nitrosodiphenylamine	U	U	U	U
4-Bromophenyl-phenylether	U	U	U	U
Hexachlorobenzene	U	U	U	100 J
Pentachlorophenol	U	U	U	U
Phenanthrene	63 J	62 J	U	380
Anthracene	U	U	U	38 J
Di-n-Butylphthalate	U	U	U	48 J
Fluoranthene	53 J	48 J	U	480
Pyrene	120 J	130 J	U	470
Butylbenzylphthalate	U	U	U	U
3,3'-Dichlorobenzidine	U	U	U	U
Benzo(a)Anthracene	U	49 J	U	210 J
Chrysene	U	U	U	230 J
bis(2-Ethylhexyl)Phthalate	U	U	U	U
Di-n-Octyl Phthalate	U	U	U	U
Benzo(b)Fluoranthene	54 J	U	U	260 J
Benzo(k)Fluoranthene	U	U	U	160 J
Benzo(a)Pyrene	U	U	U	130 J
Indeno(1,2,3-cd)Pyrene	U	U	U	230 J
Dibenz(a,h)Anthracene	U	U	U	U
Benzo(g,h,i)Perylene	U	U	U	240 J
TOTAL PAHs	290 J	289 J	0 J	2828 J

QUALIFIERS

U: compound analyzed for but not detected

J: Estimated values. Compound detected below the detection limit

RE: Reanalysis

TABLE 3-4 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - SOUTHERN PORTION
PESTICIDE/PCBs

	CIBHS10	CIBHS11	CIBHS12	CIBHS12DL	CIBHS14	CIBHS15	CIBHS16
	3/19/92	3/19/92	3/19/92	3/19/92	3/17/92	3/18/92	3/18/92
DILUTION FACTOR	2	5	10	100	1	1	5
PERCENT MOISTURE	21	17	14	14	29	16	10
SAMPLE DEPTH	0-6 FEET	2-4 FEET	2-4 FEET	2-4 FEET	2-4 FEET	0-2 FEET	0-4 FEET
PESTICIDE/PCB COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Alpha-BHC	U	6.3 J	150	270 J	U	U	U
Beta-BHC	U	U	U	U	U	U	U
Delta-BHC	U	U	580	U	U	U	U
Gamma-BHC(Lindane)	U	U	U	550 J	U	U	U
Heptachlor	U	U	U	U	U	U	U
Aldrin	U	U	U	U	U	6.7 J	U
Heptachlor Epoxide	U	U	U	U	U	U	69
Endosulfan I	U	U	U	U	U	U	U
Dieldrin	U	U	U	U	U	U	U
4,4'-DDE	12 J	U	31 J	U	U	4.5 J	67 J
Endrin	U	U	U	U	U	U	U
Endosulfan II	U	U	U	U	U	U	U
4,4-DDD	U	U	39 J	U	U	U	U
Endosulfan Sulfate	U	U	U	U	U	U	U
4,4'-DDT	U	U	U	U	U	3.8 J	U
Methoxychlor	U	U	U	U	U	U	U
Endrin Ketone	U	U	U	U	U	U	U
Alpha-Chlordane	U	U	U	U	U	U	140 J
Gamma-Chlordane	U	U	U	U	U	U	U
Toxaphene	U	U	U	U	U	U	U
Aroclor-1016	U	U	U	U	U	U	U
Aroclor-1221	U	U	U	U	U	U	U
Aroclor-1232	U	U	U	U	U	U	U
Aroclor-1242	U	U	U	U	U	U	U
Aroclor-1248	U	U	U	U	U	U	U
Aroclor-1254	310 J	U	U	U	U	68 J	U
Aroclor-1260	U	U	U	U	U	U	U

QUALIFIERS

U: compound analyzed for but not detected

J: compound detected below the detection limit

DL: sample reanalyzed at a secondary dilution

TABLE 3-4 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - SOUTHERN PORTION
METALS

	CIBHS10	CIBHS11	CIBHS12	CIBHS14	CIBHS15	CIBHS16
	3/19/92	3/19/92	3/19/92	3/17/92	3/18/92	3/18/92
SAMPLE DEPTH	0-6 FEET	2-4 FEET	2-4 FEET	2-4 FEET	0-2 FEET	0-4 FEET
METAL COMPOUNDS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	9840	14800	13400	5990	19800	23700
Antimony	U	U	11.1 B	U	U	U
Arsenic	7	8.6	10.1	22.9	4.7	8.9
Barium	40.1 B	131	100	146	102	159
Beryllium	0.37 B	0.65 B	0.63 B	0.45 B	0.65 B	0.098 B
Cadmium	U	U	U	U	U	1.2
Calcium	2640	37600	18200	4980	24400	10800
Chromium	13.3	24.7	31.3	34.6	28.8	36.2
Cobalt	7.7 B	9.5 B	9 B	7.3 B	12.4	17.2
Copper	15.2	30.4	304	83.5	23.9	34.6
Iron	17900	25100	34000	62400	29000	36800
Lead	23.4	45.3	182	623	26	41
Magnesium	3560	11100	8460	503 B	12600	7440
Manganese	146	454	306	182	533	1250
Mercury	0.12	0.45	0.51	0.15	0.33	7.3
Nickel	15.7	20	26.8	21.1	22.7	24.8
Potassium	1360	2440	2310	721 B	2740	3020
Selenium	U	0.52 B	0.65 B	1.4	U	0.61
Silver	U	U	U	U	U	U
Sodium	86.9 B	186 B	129 B	220 B	96.6 B	112 B
Thallium	U	U	U	U	0.47 B	0.73 B
Vanadium	21	28.3	29.3	25.4	35.8	42.2
Zinc	58.9	75	157	147	119	103
Cyanide	U	U	U	U	U	U

QUALIFIERS

U: compound analyzed for but not detected

B: value is less than contract required limits but greater than the instrument detection limit.

TABLE 3-5
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - RIVERSHORE DRIVE
VOLATILE ORGANICS

	CIBHS17	CIBHS18	CIBHS19	FIELD BLANK	TRIP BLANK
	3/19/92	3/19/92	3/19/92	3/18/92	3/18/92
DILUTION FACTOR	1	1	1	100	100
PERCENT MOISTURE	18	14	2	1	1
SAMPLE DEPTH	2-4 FEET	2-4 FEET	2-4 FEET	N/A	N/A
VOLATILE COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/l)	(ug/l)
Chloromethane	U	U	U	U	U
Bromomethane	U	U	U	U	U
Vinyl Chloride	U	U	U	U	U
Chloroethane	U	U	U	U	U
Methylene Chloride	6 J	6 J	U	6	U
Acetone	49	34	16	48 B	51 B
Carbon Disulfide	U	U	U	U	U
1,1-Dichloroethene	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U
1,2-Dichloroethene (total)	U	U	U	U	U
Chloroform	U	U	U	2 J	U
1,2-Dichloroethane	U	U	U	U	U
2-Butanone	U	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U	U
Carbon Tetrachloride	U	U	U	U	U
Vinyl Acetate	U	U	U	U	U
Bromodichloromethane	U	U	U	U	U
1,2-Dichloropropane	U	U	U	U	U
cis-1,3-Dichloropropene	U	U	U	U	U
Trichloroethene	U	U	U	U	U
Dibromochloromethane	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U
Benzene	U	U	1 J	U	U
trans-1,3-Dichloropropene	U	U	U	U	U
Bromoform	U	U	U	U	U
4-Methyl-2-pentanone	U	U	U	U	U
2-Hexanone	U	U	U	U	U
Tetrachloroethene	8	8	17	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U
Toluene	3 J	3 J	2 J	U	U
Chlorobenzene	U	U	U	U	U
Ethylbenzene	U	U	U	U	U
Styrene	U	U	U	U	U
Xylene (total)	U	U	U	U	U
TOTAL VOCs	66 J	51 J	36 J	56 J	51 J

QUALIFIERS

U: compound analyzed for but not detected

J: Estimated value. Compound detected below the detection limit

B: analyte found in the method blank

TABLE 3-5 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - RIVERSHORE DRIVE
SEMIVOLATILE ORGANICS

	CIBHS17	CIBHS17RE	CIBHS18	CIBHS18RE	CIBHS19	CIBHS19RE	FIELD BLANK
	3/19/92	3/19/92	3/19/92	3/19/92	3/19/92	3/19/92	3/18/92
DILUTION FACTOR	1	1	1	1	1	1	1
PERCENT MOISTURE	18	18	14	14	2	2	100
SAMPLE DEPTH	2-4 FEET	2-4 FEET	2-4 FEET	2-4 FEET	2-4 FEET	2-4 FEET	N/A
SEMIVOLATILE COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/l)
Phenol	210 J	210 J	U	U	U	U	U
bis(2-Chloroethyl)ether	U	U	U	U	U	U	U
2-Chlorophenol	U	U	U	U	U	U	U
1,3-Dichlorobenzene	U	U	U	U	U	U	U
1,4-Dichlorobenzene	U	U	U	U	U	U	U
Benzyl Alcohol	U	U	U	U	U	U	U
1,2-Dichlorobenzene	U	U	U	U	U	U	U
2-Methylphenol	82 J	86 J	U	U	U	U	U
bis(2-chloroisopropyl)ether	U	U	U	U	U	U	U
4-Methylphenol	240 J	210 J	U	U	U	U	U
N-Nitroso-Di-n-Propylamine	U	U	U	U	U	U	U
Hexachloroethane	U	U	U	U	U	U	U
Nitrobenzene	U	U	U	U	U	U	U
Isophorone	U	U	U	U	U	U	U
2-Nitrophenol	U	U	U	U	U	U	U
2,4-Dimethylphenol	U	170 J	U	U	U	U	U
Benzoic Acid	U	U	U	U	U	U	U
bis(2-chloroethoxy)Methane	U	U	U	U	U	U	U
2,4-Dichlorophenol	U	U	U	U	U	U	U
1,2,4-Trichlorobenzene	U	U	U	U	U	U	U
Naphthalene	150 J	160 J	120 J	130 J	U	U	U
4-Chloroaniline	U	U	U	U	U	U	U
Hexachlorobutadiene	U	U	U	U	U	U	U
4-Chloro-3-Methylphenol	U	U	U	U	U	U	U
2-Methylnaphthalene	U	U	89 J	100 J	U	U	U
Hexachlorocyclopentadiene	U	U	U	U	U	U	U
2,4,6-Trichlorophenol	U	U	U	U	U	U	U
2,4,5-Trichlorophenol	U	U	U	U	U	U	U
2-Chloronaphthalene	U	U	U	U	U	U	U
2-Nitroaniline	U	U	U	U	U	U	U
Dimethyl Phthalate	U	U	U	U	U	U	U
Acenaphthylene	U	U	280 J	300 J	U	U	U
2,6-Dinitrotoluene	U	U	U	U	U	U	U
3-Nitroaniline	U	U	U	U	U	U	U
Acenaphthene	U	U	220 J	200 J	U	U	U
2,4-Dinitrophenol	U	U	U	U	U	U	U
4-Nitrophenol	U	U	U	U	U	U	U
Dibenzofuran	U	U	140 J	130 J	U	U	U
2,4-Dinitrotoluene	U	U	U	U	U	U	U
Diethylphthalate	62 J	72 J	U	U	U	U	U
4-Chlorophenyl-phenylether	U	U	U	U	U	U	U
Fluorene	U	U	280 J	270 J	U	U	U
4-Nitroaniline	U	U	U	U	U	U	U
4,6-Dinitro-2-Methylphenol	U	U	U	U	U	U	U
N-Nitrosodiphenylamine	U	U	U	U	U	U	U
4-Bromophenyl-phenylether	U	U	U	U	U	U	U
Hexachlorobenzene	U	U	U	U	U	U	U
Pentachlorophenol	U	U	U	U	U	U	U
Phenanthrene	45 J	48 J	2500	2400	U	U	U
Anthracene	U	U	600	640	U	U	U
Di-n-Butylphthalate	96 J	110 J	U	U	U	U	U
Fluoranthene	U	U	3000	3100	U	U	U
Pyrene	120 J	120 J	5000	5400	U	U	U
Butylbenzylphthalate	U	U	U	U	U	U	U
3,3'-Dichlorobenzidine	U	U	U	U	U	U	U
Benzo(a)Anthracene	82 J	79 J	2100	2100	U	U	U
Chrysene	180 J	180 J	2000	2100	U	U	U
bis(2-Ethylhexyl)Phthalate	U	U	U	U	U	U	U
Di-n-Octyl Phthalate	U	U	U	U	U	U	U
Benzo(b)Fluoranthene	670	660	2400	1900	U	U	U
Benzo(k)Fluoranthene	550	320 J	1600	1600	U	U	U
Benzo(a)Pyrene	470	500	2100	1800	U	U	U
Indeno(1,2,3-cd)Pyrene	2000	2100	3900	3400	U	U	U
Dibenz(a,h)Anthracene	1100	1100	880	1500	U	U	U
Benzo(g,h,i)Perylene	4000	3800	3700	3300	U	U	U
TOTAL PAHS	9367 J	9067 J	30680 J	30140 J	0 J	0 J	0 J

QUALIFIERS

U: compound analyzed for but not detected

J: Estimated values. Compound detected below the detection limit

RE: Reanalysis

TABLE 3-5 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - RIVERSHORE D
PESTICIDE/PCBs

	CIBHS17	CIBHS18	CIBHS19	FB
	3/19/92	3/19/92	3/19/92	3/18/92
DILUTION FACTOR	1	10	1	1
PERCENT MOISTURE	18	14	2	NA
SAMPLE DEPTH	2-4 FEET	2-4 FEET	2-4 FEET	N/A
PESTICIDE/PCB COMPOUNDS	(ug/kg)	(ug/kg)	(ug/kg)	(ug/l)
Alpha-BHC	U	U	U	0.018 J
Beta-BHC	U	U	U	0.054
Delta-BHC	U	U	U	U
Gamma-BHC(Lindane)	U	U	U	0.011 J
Heptachlor	U	U	U	U
Aldrin	U	U	U	U
Heptachlor Epoxide	U	U	U	U
Endosulfan I	U	U	U	U
Dieldrin	U	U	U	U
4,4'-DDE	U	U	U	U
Endrin	U	U	U	U
Endosulfan II	U	U	U	U
4,4'-DDD	U	U	U	U
Endosulfan Sulfate	U	U	U	U
4,4'-DDT	U	U	U	U
Methoxychlor	U	U	U	U
Endrin Ketone	U	U	U	U
Alpha-Chlordane	U	U	2.3 J	U
Gamma-Chlordane	U	U	U	U
Toxaphene	U	U	U	U
Aroclor-1016	U	U	U	U
Aroclor-1221	U	U	U	U
Aroclor-1232	U	U	U	U
Aroclor-1242	U	U	U	U
Aroclor-1248	U	U	U	U
Aroclor-1254	U	U	U	U
Aroclor-1260	U	U	U	U

QUALIFIERS

U: compound analyzed for but not detected

J: compound detected below the detection lim

TABLE 3-5 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - RIVERSHORE DRIVE
METALS

	CIBHS17	CIBHS18	CIBHS19	FB
	3/19/92	3/19/92	3/19/92	3/18/92
SAMPLE DEPTH	2-4 FEET	2-4 FEET	2-4 FEET	N/A
METAL COMPOUNDS	(mg/kg)	(mg/kg)	(mg/kg)	(mg/l)
Aluminum	3690	7540	4700	U
Antimony	126	U	U	U
Arsenic	13	4.8	1.4 B	U
Barium	79.7	68.8	66.5	U
Beryllium	0.46 B	0.39 B	U	U
Cadmium	U	U	1.9	U
Calcium	4340	54100	173000	145 B
Chromium	14.5	13	8	U
Cobalt	3.1 B	3.4 B	2	U
Copper	39	18.2	8.3	U
Iron	8910	11800	6430	U
Lead	766	41.5	53.5	U
Magnesium	.864 B	26900	92500	U
Manganese	305	253	430	U
Mercury	0.17	0.4	0.2	U
Nickel	5.9 B	10.7	6.4 B	U
Potassium	262 B	1050	1030	U
Selenium	0.67 B	U	U	U
Silver	U	U	U	U
Sodium	472 B	563 B	255 B	U
Thallium	U	0.43	0.47 B	U
Vanadium	7.9 B	14	9.6	U
Zinc	262	203	611	U
Cyanide	U	U	U	U

QUALIFIERS

U: compound analyzed for but not detected

B: value is less than contract required limits but greater than the instrument detection limit.

TABLE 3-5 CONTINUED
CAYUGA ISLAND
BOREHOLE SOIL SAMPLING - WESTERN PORTION
EPTOX METALS

	CIBHS17	USEPA
	3/19/92	MAXIMUM
SAMPLE DEPTH	2-4 FEET	CONCENTRATION
METAL COMPOUNDS	(ug/l)	(ug/l)
Arsenic	U	5000
Barium	1140 E	100000
Cadmium	7 U	1000
Chromium	U	5000
Lead	U	5000
Mercury	0.28	200
Selenium	U	1000
Silver	U	5000

QUALIFIERS

U: compound analyzed for but not detected

E: value is estimated due to presence of interference

The results of the initial analysis, reanalysis and/or diluted analysis were reviewed to determine which sample analyses were most contractually compliant in order to determine which data set should be used for the preliminary site assessment. The results of the data validation review is presented in Table 3-6.

Ten samples for the semivolatile fraction required reanalysis due to internal standard area counts falling below QC criteria. Since the reanalyses had similar results, the problem was attributed to matrix interference. The BNA results from all the initial runs for BHS4, BHS5, BHS6, BHS7, BHS11, BHS12, BHS14, BHS17, BHS18 and BHS19 are used for environmental assessment. Sample CIBHS11 required reanalyses of the volatile fraction due to internal standard area counts. The reanalyses, CIBHS11RE, had all area counts within QC limits but was run one day out of holding time. Due to the reanalysis exceeding the holding time, the volatile data from the initial run is used for environmental assessment.

Sample CIBHS8 was analyzed at an initial 1:50 dilution in order for concentrations of target compounds to be within the calibration range for the semivolatile fraction. The surrogates were diluted out and no surrogate recoveries were reported by the laboratory.

For the pesticide/PCB fraction, surrogate recoveries exceeded the QC limits for samples CIBHS1, CIBHS2, CIBHS8, CIBHS12 and CIBHS16. This was caused by coelution of the surrogates with nontarget compounds. Several recoveries were also reported as zero due to the dilution of the samples to allow quantification of target compounds for CIBHS5, CIBHS5DL, CIBHS1DL, CIBHS8DL and CIBHS12DL.

Sample CIBHS5 was extracted and analyzed as a low and medium level sample for the pesticide/PCB analysis. Sample CIBHS5 was extracted for medium level pesticide/PCB analysis 16 days out of holding time. The low level sample was initially analyzed at a 1:100 dilution, then reanalyzed at a 1:1,000 dilution. The apparent difference between the reported results from the low level and medium level analysis may have been due to the nonhomogeneous nature of the sample since the results from the two low level analyses were similar.

Due to exceeding the holding times for the medium level extraction and the similarity in the PCB results from the two low level analyses, the results from the initial analysis CIBHS5 are used for environmental assessment.

For each of the above, the validation qualified all affected analytes as usable but estimated and these problems did not warrant the rejection of any of the data.

Table 3-6
DATA VALIDATION SUMMARY

<u>Sample Identification</u>	<u>Matrix</u>	<u>VOA</u>	<u>BNA</u>	<u>Pesticide/PCB</u>	<u>TCL Metals</u>	<u>Cyanide</u>
CIBHS1	Soil	OK, see note 1	OK, see note 5	OK, see note 6,8	OK, see note A,B,C,F,G	OK
CIBHS2	Soil	OK, see note 1	OK, see note 5	OK, see note 6	OK, see note A,B,C,F,G	OK
CIBHS3	Soil	OK, see note 1	OK, see note 5	OK	OK, see note A,B,C,F,G	OK
CIBHS4	Soil	OK, see note 1	OK, see note 5,3	OK	OK, see note A,B,C,F,G	OK
CIBHS5	Soil	OK, see note 1	OK, see note 5,3	OK, see note 6,8,9,11	OK, see note A,B,C,F,G	OK
CIBHS6	Soil	OK	OK, see note 5,3	OK	OK, see note A,B,C,E,F,G	OK
CIBHS7	Soil	OK	OK, see note 5,3	OK, see note 6,8,9	OK, see note A,B,C,E,F,G	OK
CIBHS8	Soil	OK, see note 1	OK, see note 6,7	OK, see note 6,9	OK, see note A,B,C,E,F,G	OK
CIBHS9	Soil	OK, see note 1	OK, see note 5	OK	OK, see note A,B,C,F,G	OK
CIBHS10	Soil	OK	OK, see note 5	OK	OK, see note A,B,C,E,F,G	OK
CIBHS11	Soil	OK, see note 1,4	OK, see note 5,3	OK	OK, see note A,B,C,E,F,G	OK
CIBHS12	Soil	OK	OK, see note 5,3	OK, see note 6,9	OK, see note A,B,C,E,F,G	OK
CIBHS14	Soil	OK, see note 1	OK, see note 5,3	OK	OK, see note A,B,C,E,F,G	OK
CIBHS15	Soil	OK, see note 1	OK, see note 5	OK	OK, see note A,B,C,F,G	OK
CIBHS16	Soil	OK, see note 1	OK, see note 5	OK, see note 6	OK, see note A,B,C,F,G	OK
CIBHS17	Soil	OK	OK, see note 5,3	OK	OK, see note A,B,C,E,F,G	OK
CIBHS18	Soil	OK	OK, see note 5,3	OK, see note 10	OK, see note A,B,C,E,F,G	OK
CIBHS19	Soil	OK	OK, see note 5,3	OK	OK, see note A,B,C,E,F,G	OK
Field Blank	Water	OK, see note 1,2	OK	OK	OK, see note A,D,E,G	OK
Trip Blank	Water	OK, see note 1,2	NA	NA	NA	NA

Table 3-6 (continued)

**DATA VALIDATION SUMMARY
DEFINITION OF DATA QUALIFIERS**

- 1: Consider as undetected acetone and/or methylene chloride. The compound(s) were also present in the method blank.
- 2: Estimate the value of vinyl acetate. This compound exceeds the %D due to instrument calibration problems.
- 3: Internal standard area count(s) fall below QC limits in both the original and reanalysis of the sample. Estimate the values of all compounds quantified under the affected internal standard(s). Use the results from the initial analysis of the sample.
- 4: Two internal standard area counts were outside QC limits in the initial analysis. The sample was reanalyzed and all area counts were within QC limits. Since the sample was reanalyzed one day out of holding time, the data from the initial analysis should be used.
- 5: Consider as undetected 4-hydroxy-4-methyl-2-pentanone. This tentatively identified compound is an adol condensate and was also present in the method blank.
- 6: Estimate values of all compounds due to interference problems.
- 7: Estimate all values. Surrogates diluted out of sample.
- 8: Estimate value of compounds due to instrument calibration problems.
- 9: Utilize the values from both the original and the diluted run of the sample.
- 10: Estimate all values for this sample due to surrogate or matrix spike recovery problems.
- 11: Estimate values of all compounds in the medium level sample.
- A: Estimate the quantitation limits.
- B: Value(s) are estimated.
- C: Interference problems.
- D: Constituent was also present in method blank.
- E: Negative blank value problem. Positive values may be biased low and undetected values may be false negatives.
- F: Matrix spike recoveries fall outside limits.
- G: For specific constituents affected, please see Table 1 of the TAL Metals Cyanide Validation Report.

Section 4



4.0 CONCLUSIONS AND RECOMMENDATIONS

Based upon the information obtained during this preliminary site assessment, in general, low levels of contaminants were found in the southern portion of Cayuga Island, and elevated concentrations were detected in the western area. The elevated concentrations of contaminants detected in the samples collected, however, do not appear to be a health concern based on normal use of the property by the residents of island. All contaminants detected were found in the subsurface where direct contact through ingestion, inhalation or dermal exposure is not likely. However, exposure to excavated fill may pose a potential health risk, in particular, in the western portion of the island. Information on the quality of the surface soil in these areas is not available; therefore, an assessment cannot be made as to the potential health risks associated with contact with the surface soil in the fill areas.

Additionally, it is estimated that there is a low potential for contaminant migration to the Niagara River and low possibility of adverse environmental impacts due to the low mobility of the contaminants detected in the fill, such as PAHs, PCBs and metals. These contaminants are not very soluble and tend to adsorb onto soil particles. In order to determine the impact that the fill may have on the Niagara River, additional investigation to determine groundwater flow and quality in the area of the fill would be necessary. This additional study is not recommended based upon available data.

Results from the installation of the borings on North Rivershore Drive indicate that the area of fill is more extensive than originally estimated. The presence of ash and cinders in borings constructed in this area confirm that fill has been placed in areas other than the western and southern portions of the island.

In order to further define the extent of fill on the island, a review of historical photographs is recommended. Once reviewed, appropriate locations for installation of representative background borings can be determined. The installation of three additional boreholes to characterize the native soil on Cayuga Island will help in defining the extent of fill areas.

Further characterization of the fill material will be required to determine the extent of contamination on the western portion of the island. Three additional borings in the area of S-5 where the elevated PCB concentration was detected will help define the extent of PCB contamination. Additionally, three additional borings surrounding S-7, S-8 and S-9 are also recommended to further define the extent and chemical characteristics of the fill in these areas.

Additional information on the quality of the surface soil is necessary to determine if the fill poses a health risk to residents on Cayuga Island. Four surface soil samples collected in conjunction with the additional borings and two surface soil samples at two locations in the western portion where subsurface contamination was found are also recommended. It is not proposed to conduct any additional investigations in the southern portion of the island at this time since elevated levels were not detected in this area.

Appendix A



APPENDIX A-1

BORING LOGS

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Cayuga Island
DEC # 9-32-008

Well/Boring No.: S-1
Sheet 1 of 1
By: GG Date: 3/16/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling
Driller: Ken Huebert Geologist: Gerry Gould
Drill Rig: Mobil Truck Mount Drilling Method: 1 1/4" ID Hollow Stem
Sample Spoon I.D.: 2" / 3" inside Drive Hammer Wt.: 140 lbs
Date Started: 3/16/92 13:40 Date Completed: 3/16/92 14:05

Borehole Completion Depth: 8.0'
Borehole Diameter: 6"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0	no sample					black top
-1	SS-1	0.5' / 2.0'	1.0'	10 36 19	0.0 ppm	moist brown + black silt, fine to coarse gravel - angular 2" piece of gray slag - not kept (FILL) 3" spoon
-2	SS-2	2.0' / 4.0'	1.5'	10 12 28 15	0.0 ppm	moist brown, red-brown silt, little clay trace metal, tr angular gravel (FILL) 3" spoon
-3	SS-3	4.0' / 6.0'	0.1'	1 2 1 1	0.0 ppm	moist brown, red-brown silt trace f-c gravel (FILL) 2" spoon
-4	SS-4	6.0' / 8.0'	1.5'	4 3 6 13	0.0 ppm	moist brown silt, some clay, little fine sand (FILL) 2" spoon
-5						boring terminated at 8.0'
-6						
-7						
-8						
-9						
-10						

Remarks: S-1 is in "turn-around" at dead end of West Riverside Drive NW corner of turnaround

Water Level Measurement: S-1' Date 3/16/92
boring depth 8.0' _____ Date _____
_____ Date _____
_____ Date _____

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: S-2
Sheet 1 of 1
By: GG Date: 3/17/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling
Driller: Ken Huebert Geologist: Larry Gould
Drill Rig: Trigud Drilling Method: trigud hammer
Sample Spoon I.D.: 2 2/3" Drive Hammer Wt.: 140 lbs
Date Started: 3/17/92 14:25 Date Completed: 3/17/92 15:05

Borehole Completion Depth: 60
Borehole Diameter: 2"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0		0.0	1.0	805	0.0	Topsoil
-1	SJ-1	2.0		13		moist brown mottled silt, little clay
-2				25		piece of tan paper, roots
-3	SJ-2	4.0	0.25'	20	0.0	(FILL) 3" spoon
-4				27		moist brown mottled silt, little clay
-5	SJ-3	6.0		57		Van sample CE-84-82
-6				27		
-7	SJ-4	8.0	1.0'	22	0.0	Wet gray-black clay with silt
-8				4		2" spoon
-9				8		
-10				4		spoon
				80		

Remarks:

Water Level Measurement

Date

Date

Date

Date

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: CANPA Island

Well/Boring No.: S-3
Sheet 1 of 1
By: GG Date: 3/11/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling

Driller: Ken Huebert

Geologist: Garry Gaud

Drill Rig: tripod

Drilling Method: tripod

Sample Spoon I.D.: 3" / 2"

Drive Hammer Wt.: 140 lb

Date Started: 3/17/92 10:40

Date Completed: 3/17 12:05

Borehole Completion Depth: 4.0'

Borehole Diameter: 3"

Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0	SS-1	1.5	0.5	7	0.0	1st brown silt - TOPSOIL (Relate or 2 for sample) sub angular cobbles (sample) move hole 1st south water new sample
-1		2.0	1.0	17	0.0	
-2		2.6	0.0	7	0.0	1st sample NO RECOVERY 3" spoon
-3	SS-2	4.0	1.0	17	0.0	2nd sample brown moist silt, little clay, roots, brown (sample) 3" spoon
-4		4.0		8		
-5	SS-3	6.0		6		
-6		6.0				
-7	SS-4	8.0				
-8						
-9						
-10						

Remarks:

Water Level Measurement

Date

Date

Date

Date

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: 8-21
Sheet 1 of 1
By: GG Date: 3/17/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling
Driller: Ken Hubbard Geologist: Gerry Gauld
Drill Rig: tripod Drilling Method: tripod
Sample Spoon I.D.: 3" Drive Hammer Wt.: _____
Date Started: 3/17/92 10:05 Date Completed: 3/17/92 11:12

Borehole Completion Depth: 6.0'
Borehole Diameter: 3"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0		0.0	0.5'	6		brown topsoil silt with roots 3" spoon
-1	SS-1	0.0		46	0	
-2				45 refuse		
-3	SS-2	2.0	1.0	6 24 13 10	0	moist brown silt, fr gravel Sample CI-BH-54 taken 10:55 3" spoon
-4		4.0				
-5	SS-3		0.0	24 11 10 8	0	
-6		6.0				no recovery wet 2" spoon boring terminated at 6.0'
-7	SS-4	8.0				
-8						
-9						
-10						

Remarks:

Water Level Measurement 4.0' Date 3/17/92
boring depth 6.0' _____ Date _____
_____ Date _____
_____ Date _____

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Calypso Island

Well/Boring No.: S-5
Sheet 1 of 1
By: GG Date: 3/17/97
Chk'd: Date:

Drilling Contractor: Buffalo Drilling

Driller: Ken Hubert

Geologist: Geny Gould

Drill Rig: Tripod

Drilling Method: Tripod Hammer

Sample Spoon I.D.: 2 1/8"

Drive Hammer Wt.: 140 lb.

Date Started: 2/17/97 1540

Date Completed:

Borehole Completion Depth: 6.0

Borehole Diameter:

Ground Surface El.:

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0	SS-1	0.5	1.5'	3	0.0	moist topsoil
-1				8		moist brown silt, trace clay, wood fragments, red brick fragments
-2		2.0		12		(FILL)
-3	SS-2	2.0	1.0'	35	0.0	moist brown silt, some brick fragments, concrete frags
-4		4.0		15		(FILL)
-5	SS-3	4.0	0.5'	12	0.0	wet, coarse angular, subangular, gravel, black tar (asphalt)
-6		6.0		24		2" spoon
-7	SS-4	6.0		50		boring terminated at 6.0'
-8		8.0		30		
-9				10		
-10						

Remarks:

Water Level Measurement

5.5

Date

boring depth 6.0'

Date

Date

Date

Date

BORING LOG



**DVIRKA
AND
BARTILUCCI**

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: S-6
Sheet 1 of 1
By: GG Date: 3/16/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling

Driller: Ken Huebard

Geologist: Garry Gould

Drill Rig: Mohill Tractor Mount

Drilling Method: 3 3/4" ID HSA

Sample Spoon I.D.: 2 1/8" asmt

Drive Hammer Wt.: 140 lbs

Date Started: 3/16/92 14:30

Date Completed: 3/16/92 15:05

Borehole Completion Depth: 8.0'

Borehole Diameter: 6"

Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0	no sample					black top
-1	SS-1	0.5' / 2.0'	1.0'	6 / 10 / 17	0.0	moist gray, brown silt, sand some coarse angular gravel (FILL) 2" spoon
-2	SS-2	2.0' / 4.0'	1.0'	11 / 19 / 14 / 11	0.0	moist brown silt, some concrete fragments, large angular 3" cobble (FILL) 3" spoon
-3	SS-3	4.0' / 6.0'	1.5'	6 / 8 / 8 / 8	0.0	moist brown silt, trace clay, some fine to coarse angular gravel Sample CI-84-S6 Collected at 14'50" 3" spoon
-4	SS-4	6.0' / 8.0'	1.0'	4 / 4 / 6 / 3	0.0	wet brown fine sand little silt, root pieces in spoon 2" spoon
-5						Boring Terminated 8.0'
-6						
-7						
-8						
-9						
-10						

Remarks:

Water Level Measurement

6.0'

Date

3/16/92

boring depth = 8.0'

_____ Date

_____ Date

_____ Date

_____ Date

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Ca'nga Island

Well/Boring No.: S-7
Sheet 1 of 1
By: GC Date: 3/16/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling

Driller: Ken Huebert

Geologist: Cherry Gould

Drill Rig: Mobil Truck Mount

Drilling Method: 3 3/4" E.D. HSA

Sample Spoon I.D.: 2" / 3" x 5 1/2"

Drive Hammer Wt.: 140 lb

Date Started: 3/16/92 15:11

Date Completed: 15:35 3/16/92

Borehole Completion Depth: 8.0'

Borehole Diameter: 6"

Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0						black top
-1	SS-1	0.5' / 2.0	0.5'	35 17 10	0.0	dry fine to coarse sand, with silt brick fragments (FILL) 2" spoon
-2		2.0' / 4.0	1.0'	3 8 11 14	0.0	moist brown silt, some fine coarse gravel, trace clay (FILL) 3" spoon
-3	SS-2	4.0' / 6.0	1.0'	3 4 1 2	0.0	wet brown silt, little clay tr fine gravel (FILL) 2" spoon
-4		6.0' / 8.0	1.5'	5 3 2 2	0.0	wet dark gray fine sand, trace silt, trace root fragments (fine sand) 2" spoon
-5	SS-3					
-6						
-7	SS-4					
-8						
-9						Boring Terminated 8.0'
-10						

Remarks:

Water Level Measurement 5.0' Date 3/16/92
boring depth 8.0' _____ Date _____
_____ Date _____
_____ Date _____

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Calypsa Island

Well/Boring No.: S-8
Sheet 1 of 1
By: GG Date: 3/18/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling

Driller: Larry + Mike

Geologist: Gerry Gould

Drill Rig: Tr: 008

Drilling Method: Tripod Hammer

Sample Spoon I.D.: 2" / 3"

Drive Hammer Wt.: 140 lb

Date Started: 3/18/92 10:30

Date Completed: 3/18/92 11:30

Borehole Completion Depth: 6.0

Borehole Diameter: 3"

Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0						
-1	SS-1	0.7	1.5	14	0.0	moist brown silt, tr wood, tr f-c gravel
-2		2.0		15		moist gray to black ash (FILL) 3" spoon
-3	SS-2	2.0	1.5	32	0.0	moist brown silt, little metal some rust to white granular spherical substance, spheres < 1mm diameter (FILL) Sample C-1-BW-58 collected 11/15
-4		4.0		65		
-5	SS-3	4.0	2.0	12	0.0	Wet brown silt and clay tr glass (FILL) 2" spoon
-6		6.0		14		
-7				16		
-8				21		
-9						
-10						
						boring terminated 6.0'

Remarks:

11:45 full rinse blank bottles
"Field Blank"
8.9' to River water from sea wall
8.8' to River bottom

Water Level Measurement

boring depth 6.0'

4.5 Date 3/18/92
____ Date _____
____ Date _____
____ Date _____

BORING LOG



DVRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: S-9
Sheet 1 of 1
By: CC Date: 3/18/92
Chk'd: Date:

Drilling Contractor: Buffalo Drilling
Driller: Ken Hiestert Geologist: Gerry Gould
Drill Rig: Tripod Drilling Method: Tripod Hammer
Sample Spoon I.D.: 2 1/3" Drive Hammer Wt.: 140
Date Started: 3/18/92 9:30 Date Completed: 2/18/92 10:00

Borehole Completion Depth: 6.0
Borehole Diameter: 3"
Ground Surface El.:

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0		0.07	1.0'	5		grass - topsoil
-1	SS-1	2.0		8	0.0	topsoil, moist brown silt, rusted metal little f-c loose gravel fill
-2		2.07	1.0'	12		moist brown silt, roots
-3	SS-2	4.0		14	0.0	3" spoon sample CJ-BH-57 collected at 9:15
-4		4.0		12		2" spoon
-5	SS-3	6.0	0.5	10	0.0	wet dark gray - black clay to med gravel
-6		6.0		12		2" spoon
-7	SS-4	8.0		14		Boring terminated 6.0'
-8						
-9						
-10						

Remarks: depth to stream from seawall
3.9'

Water Level Measurement 7.8' Date 3/18/92
boring depth = 6.0'
Date
Date
Date

BORING LOG



**DVIRKA
AND
BARTILUCCI**

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: S-10
Sheet 1 of 1
By: GG Date: 3/19/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling
Driller: _____ Geologist: Gerry Gould
Drill Rig: Trifod Drilling Method: Trifod sampling
Sample Spoon I.D.: 2"/3" Drive Hammer Wt.: 140 lb
Date Started: 3/19/92 8:45 Date Completed: 3/19/92 8:13

Borehole Completion Depth: _____
Borehole Diameter: 3"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0		0.5	0.5'	11		Topsoil
-1	SS-1	2.0	0.5'	110 70	0.0	moist brown silt little roots, slag, ash - 4" angular cobble pushed by spoon Sample CI-BH-S10 ABX/Pest at 9.05
-2		2.0				3" spoon.
-3	SS-2	4.0	0.5'	27 51 68 80	0.0	moist brown silt rarely cobbles, ash Sample CI-BH-S10 VOA & EPTOX at 9.05
-4		4.0				3" spoon
-5	SS-3	6.0	0.5'	21 14 11 7	0.0	moist gray-black silt, little sand mottling orange-white ash Sample CI-BH-S10 metals at 9.05
-6		6.0				2" spoon
-7	SS-4	8.0	0.5'	33 36 29 18	0.5	wet gray black fine sand little silt 2" spoon
-8						Boring terminated 8.0'
-9						
-10						

Remarks: 3.9' to River surface from sea wall
River bottom at 6.2' below sea wall

Water Level Measurement 8.0 Date 3/19/92
Boring depth 8.0'

Date _____

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: S-11
Sheet 1 of 1
By: GG Date: 3/19/92
Chk'd: Date:

Drilling Contractor: Buffalo Drilling
Driller: Geologist: Larry Gould
Drill Rig: Tripod Drilling Method: Tripod Hammer
Sample Spoon I.D.: 2" / 3" Drive Hammer Wt.: 140 lb
Date Started: 3/19/92 9:20 Date Completed: 3/19/92 9:40

Borehole Completion Depth: 6.0'
Borehole Diameter: 3"
Ground Surface El.:

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0		0.5'		10		moist brown topsoil w/ grass
-1	SS-1	2.5	25	42	0.0	moist brown silt little red brick, little gravel tr asphalt, ash (FILL) 3" spoon
-2		2.0		20		
-3	SS-2	2.0	20	24	0.0	moist brown silt w/ c gravel (FILL) CE- 8H - S11 sample collected 9:30
-4		4.0'		18		
-5	SS-3	0.8	9	11	0.5	Wet black-gray silt with s-c gravel and fine sand 3" spoon
-6		6.0'		6		2" spoon Boring terminated 6.0'
-7						
-8						
-9						
-10						

Remarks: Q100 Carl Hoffman left site
I had to ask Larry to stop smoking when spoon was removed for SS-1

Water Level Measurement 5.8' Date 3/18/92
boring depth 60' Date
Date
Date

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: S-12
Sheet 1 of 1
By: GG Date: 3/19/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling

Driller: Larry M. Chapp

Geologist: _____

Drill Rig: Tr. pod

Drilling Method: Tr. pod hammer

Sample Spoon I.D.: 2" / 3"

Drive Hammer Wt.: 140

Date Started: 3/19/92 9:47

Date Completed: 3/15/92 10:20

Borehole Completion Depth: 8.0'

Borehole Diameter: 3"

Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0						moist topsoil & grass
-1	SS-1	0.5 2.0	1.5	14 18 42	0.0	moist brown silt little brick fragments little concrete little fine gravel ash CI-BH-S-12 <u>ED TOX, Meis 10/10</u> (S. 11) 3" spoon
-2		2.0		87		
-3	SS-2	2.0 4.0	15	53 24 21	0.0	moist brown silt 6" piece of black slag mounded into spoon CI-BH-S-12 <u>LOA - ABW 10/10</u> 3" spoon
-4		4.0		6		
-5	SS-3	4.0 6.0	0.5	7 5 4	0.0	wet brown silt and clay to gravel 2" spoon
-6		6.0		6		
-7	SS-4	6.0 8.0	1.0	8 10 11	0.0	wet gray to black fine sand little silt 2" spoon
-8						
-9						
-10						

boring terminated at 8.0'

Remarks:

Water Level Measurement

name Date 3/17/92

boring 8.0' deep

Date _____
Date _____
Date _____
Date _____

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: S-14
Sheet 1 of 1
By: C.E. Date: 3/17/92
Chk'd: Date:

Drilling Contractor: Buffalo Drilling
Driller: Ken Huebert Geologist: Garry Gould
Drill Rig: tripod Drilling Method: tripod hammer
Sample Spoon I.D.: 2" / 3" Drive Hammer Wt.: 140 lbs
Date Started: 3/17/92 13:30 Date Completed: 3/17/92 13:55

Borehole Completion Depth: 6.0'
Borehole Diameter: 3"
Ground Surface El.:

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0	SI-1	0.5'	0.5'	26	0.0	moist (topsoil)
-1		2.0		10		moist white/yellowish-brown sand & gravel size with concrete chips
-2				30		(FILL) 3" span
				24		
-3	SI-2	2.0	1.0'	12	0.0	moist white yellow-brown, brown sand & gravel size with concrete chips
-4		4.0		13		w/ some silt (FILL) 2" span
				14		
				18		
-5	SI-3	4.0	0.75'	1	0.0	fill
				3		
				4		
				7		light brown fine sand 2" span
-6	SI-4	6.0				
-7		8.0				boring terminated 6.0
-8						
-9						
-10						

Remarks:

Water Level Measurement 4.5 Date 3/17/92
boring depth 6.0' Date
Date
Date

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: S-15
Sheet 1 of 1
By: GG Date: 3/18/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling
Driller: Chippaw, Larry, Mike Geologist: Henry Gould
Drill Rig: Tr. 1000 Drilling Method: Tri-Pod Hammer
Sample Spoon I.D.: 2" / 3" Drive Hammer Wt.: 170 lb
Date Started: 3/18/92 14:50 Date Completed: 3/18/92 15:16

Borehole Completion Depth: 60'
Borehole Diameter: 3"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0		0.5		14	0.0	moist brown silt
-1	SS-1	2.0	1.0	23		bricks, coarse gravel, ash
-2				100/4"		C1-34-S15 sample collected 15:00
-3	SS-2	4.0	0.5	33	0.0	moist brown silt
-4				28		tr concrete, gravel
-5	SS-3	6.0	2.0	4	0.0	wet ~~gray~~ f. sand, f. gravel
-6				3		gray-black
-7	SS-4			2		shell fragments, ash
-8						2" spoon
-9						boring terminated
-10						6.0'

Remarks:

Water Level Measurement

7.0' Date 3/18/92

Boring depth 6.0'

Date

Date

Date

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: S-16
Sheet 1 of 1
By: GG Date: 3/18/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling
Driller: Chas. Larry Mike Geologist: Gerry Gould
Drill Rig: tripod Drilling Method: tripod hammer
Sample Spoon I.D.: 2" / 3" Drive Hammer Wt.: 140 lb
Date Started: 3/15/92 13:30 Date Completed: 3/15/92 14:10

Borehole Completion Depth: 6.0'
Borehole Diameter: 3"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0	55-1	0.0		10		Moist brown top soil
-1		1.0		10	0.0	Moist brown silt + gravel
-2		2.0		12		Sample: CI-BH-576 collected 13:44
-3	55-2	2.0	1.0	50		(FILL) may have been exposed to air exhaust
-4		4.0		90	0.0	Moist brown topsoil & gravel + brick, + concrete, + glass
-5	55-3	4.0	0.5	44	0.0	(FILL) NS/MSD 13:55 3" spoon
-6		6.0		22		Moist brown - gray & gravel + concrete, brick, glass
-7	55-4			17		Let @ 5.5' - 2" spoon
-8						Boring terminated 6.0'
-9						
-10						

Remarks: extra spoon from 0.5 - 2.0 to get NS/MSD samples
RPTox + Meth. 16:00

Water Level Measurement 5.5' Date 3/18/92
Boring Depth 6.0'
Date _____
Date _____
Date _____

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: S-17
Sheet 1 of 1
By: GG Date: 3/17/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling
Driller: Larry, Mike, Chip Geologist: Gerrit Gauld
Drill Rig: Mobil Truck Mounted Drilling Method: 3 1/4 HSA
Sample Spoon I.D.: 2" / 3" Drive Hammer Wt.: 140 lb
Date Started: 3/19/92 13:37 Date Completed: 3/19/92 19:10

Borehole Completion Depth: 6.0
Borehole Diameter: 6"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0		1.0 -				
-1	SS-1	1.0 - 2.0	1.0'	9 14	0.0	moist brown silt & med sand gray med sand - (clinders) 3" spoon
-2						
-3	SS-2	2.0 - 4.0	1.5'	7 5 5 8	0.0	moist brown-gray med sand little gravel collected sample C1-BH-517 at 13:55 wet brown gray med sand little gravel 3" spoon
-4						
-5	SS-3	4.0 - 6.0	0.0	4 3 4 6	n/a	n/a 2" spoon
-6						
-7						
-8						
-9						
-10						

boring terminated
at 6.0'

Remarks:

Water Level Measurement

boring depth 6.0

5.5' Date 3/19/92
____ Date _____
____ Date _____
____ Date _____

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: S-18
Sheet 1 of 1
By: GG Date: 3/19/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling
Driller: Larry Mike Chipm Geologist: Gerry Gould
Drill Rig: Mobil truck rig Drilling Method: 3/4" HSA
Sample Spoon I.D.: 2 1/2" Drive Hammer Wt.: 140 lb
Date Started: 3/19/92 13:05 Date Completed: 3/19/92 13:35

Borehole Completion Depth: 60'
Borehole Diameter: 3"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0						blacktop & concrete
-1	SS-1	1.0' / 2.0'	0.5'	5 / 13	0.0	moist brown fine sand, and f-gravel + silt (clean road fill) 3" spoon
-2		2.0' / 4.0'	1.0'	11 / 14 / 21	0.0*	moist brown silt w/ orange mottling & clay mottled brown sand black f. sand (clinders) moist light brown sand 3" spoon
-3	SS-2	4.0' / 6.0'	1.0'	7 / 4 / 3	0.0	wet light brown - tan fine sand 2" spoon
-4	SS-3					
-5						
-6						
-7						
-8						
-9						
-10						

Remarks: * PID up to 2.5 ppm - gas leak
on rig - shut down rig
PID at 0.0 ppm
- drillers switched fuel tanks on rig
& stopped leak

Water Level Measurement 5.2 Date 3/19/92
boring depth 60'

BORING LOG



DVIRKA
AND
BARTILUCCI

Project No.: 1148
Project Name: Cayuga Island

Well/Boring No.: 5-19
Sheet 1 of 1
By: GG Date: 3/17/92
Chk'd: _____ Date: _____

Drilling Contractor: Buffalo Drilling
Driller: Larry Mike Chipper Geologist: Gerry Gadd
Drill Rig: Mobil Truck mount Drilling Method: 3/4" HSA
Sample Spoon I.D.: 2 1/3" Drive Hammer Wt.: 140 lb
Date Started: 3/19/92 12:30 Date Completed: 3/19/92 13:00

Borehole Completion Depth: 6.0
Borehole Diameter: 3"
Ground Surface El.: _____

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	RECOVERY/ RQD	BLOWS/6"	HEADSPACE (PPM)	SAMPLE DESCRIPTION
0						blacktop concrete
-1	SS-1	1.0 2.0	1.0	12 14	0.0	moist brown f-c sand; f-c gravel some grit
-2		2.0		9		3" spoon moist brown f-c sand, black fine sand (ash?)
-3	SS-2	4.0	1.0	16 15 11	0.0	Sample CI-BH-519 at 12.55
-4		4.0		4		5" spoon wet brown-gray f. sand + gravel
-5	SS-3	6.0	0.5	3 3 4	0.0	2" spoon
-6						boring terminated 6.0
-7						
-8						
-9						
-10						

Remarks:

Water Level Measurement 5.5' Date 3/19/92
boring depth 6.0'

Date _____

APPENDIX A-2

**ANALYTICAL RESULTS -
TENTATIVELY IDENTIFIED COMPOUNDS**

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS1

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0106

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 20. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 7.7

Dilution Factor: 1.00

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.21	2800 3000.	BJ A
2. 98-54-4	Phenol, 4-(1,1-dimethylethyl	10.15	1400 1000.	J
3. -	UNKNOWN CARBOXYLIC ACID	13.55	5600 40000.	J
4. -	UNKNOWN CARBOXYLIC ACID	14.02	2600 3000.	J
5. -	UNKNOWN HYDROCARBON	15.13	500 500.	J
6. -	UNKNOWN HYDROCARBON	15.41	580 600.	J
7. 92-69-3	[1,1'-Biphenyl]-4-ol	15.55	350 300.	J
8. -	UNKNOWN CYCLOHEXANE	16.02	3600 4000.	J
9. -	UNKNOWN CYCLOHEXANE	16.85	460 500.	J
10. -	UNKNOWN	17.05	240 300.	J
11. -	UNKNOWN	17.18	1300 1000.	J
12. -	UNKNOWN HYDROCARBON	17.39	450 500.	J
13. -	UNKNOWN HYDROCARBON	17.85	500 500.	J
14. -	UNKNOWN ALKANE	18.64	250 300.	J
15. -	UNKNOWN ALKANE	23.18	570 600.	J
16. -	UNKNOWN	23.52	570 600.	J
17. -	UNKNOWN CARBOXYLIC ACID	23.89	390 400.	J
18. -	UNKNOWN	24.43	360 400.	J
19. -	UNKNOWN ALCOHOL	24.74	1700 1000.	J
20. -	UNKNOWN CARBOXYLIC ACID	26.48	2300 1000.	J
21.				
22.			4/21/92	
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS2

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-2

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0107

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 13. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 7.4

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 11

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.21	2500 1000.	BJ A
2. - -	UNKNOWN ALKANE	15.42	150 200.	J
3. - -	UNKNOWN ALKANE	17.62	400 300.	J
4. 10544-50-0	Sulfur, mol. (S8)	19.03	810 500.	J
5. - -	UNKNOWN	20.19	160 200.	J
6. - -	UNKNOWN PAH	20.74	260 300.	J
7. - -	UNKNOWN PAH	22.35	190 200.	J
8. - -	UNKNOWN PAH	23.13	270 300.	J
9. - -	UNKNOWN ALKANE	24.75	420 300.	J
10. - -	UNKNOWN	25.75	360 200.	J
11. - -	UNKNOWN PAH	25.97	740 600.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS3

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-3

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0108

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 17. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 7.5

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 14

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.22	3200 3000.	BJ A
2. 95-16-9	Benzothiazole	9.09	190 200.	J
3. - -	UNKNOWN CARBOXYLIC ACID	13.43	840 800.	J
4. - -	UNKNOWN ALKANE	14.22	170 200.	J
5. - -	UNKNOWN ALKANE	17.61	250 200.	J
6. 149-30-4	2(3H)-Benzothiazolethione	18.23	230 200.	J
7. - -	UNKNOWN ALKANE	18.64	200 200.	J
8. - -	UNKNOWN ALKANE	19.64	240 200.	J
9. - -	UNKNOWN ALKANE	21.47	200 200.	J
10. - -	UNKNOWN ALKANE	22.34	210 200.	J
11. - -	UNKNOWN ALKANE	23.17	330 300.	J
12. - -	UNKNOWN ALKANE	24.75	520 300.	J
13. - -	UNKNOWN	25.78	440 200.	J
14. - -	UNKNOWN ALKANE	27.90	390 200.	J
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16.			4/21/92	
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS4

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-4

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0109

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 21. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 7.9

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 14

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.21	5300 4000.	BJ A
2. - -	UNKNOWN ALKANE	11.65	170 200.	J
3. - -	UNKNOWN	13.42	420 500.	J
4. - -	UNKNOWN ALKANE	14.23	190 200.	J
5. - -	UNKNOWN ALKANE	15.42	250 300.	J
6. - -	UNKNOWN ALKANE	17.63	300 300.	J
7. - -	UNKNOWN CARBOXYLIC ACID	18.14	160 200.	J
8. - -	UNKNOWN ALKANE	18.66	240 300.	J
9. - -	UNKNOWN CARBOXYLIC ACID	20.21	310 300.	J
10. - -	UNKNOWN ALKANE	20.32	180 200.	J
11. - -	UNKNOWN ALKANE	20.92	230 300.	J
12. - -	UNKNOWN ALKANE	21.48	270 300.	J
13. - -	UNKNOWN ALKANE	22.36	240 300.	J
14. - -	UNKNOWN ALKANE	24.76	680 700.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS4 RE

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-4RE

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0114

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 21. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 7.9

Dilution Factor: 1.00

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.22	3500 4000.	BJ A
2. -	UNKNOWN	13.43	450 500.	J
3. -	UNKNOWN ALKANE	14.24	200 200.	J
4. -	UNKNOWN ALKANE	15.43	370 400.	J
5. -	UNKNOWN ALKANE	15.50	260 300.	J
6. -	UNKNOWN ALKANE	16.55	320 300.	J
7. -	UNKNOWN ALKANE	16.66	210 200.	J
8. -	UNKNOWN ALKANE	17.64	470 500.	J
9. -	UNKNOWN CARBOXYLIC ACID	18.15	260 300.	J
10. -	UNKNOWN CARBOXYLIC ACID	18.27	430 400.	J
11. -	UNKNOWN ALKANE	18.67	340 300.	J
12. -	UNKNOWN PAH	19.05	210 200.	J
13. -	UNKNOWN ALKANE	19.65	1100 1000.	J
14. -	UNKNOWN CARBOXYLIC ACID	20.243	640 600.	J
15. -	UNKNOWN ALKANE	20.93	550 500.	J
16. -	UNKNOWN ALKANE	21.49	540 500.	J
17. -	UNKNOWN	21.82	940 900.	J
18. -	UNKNOWN	22.36	710 700.	J
19. -	UNKNOWN HYDROCARBON	23.13	550 500.	J
20. -	UNKNOWN ALKANE	24.76	860 400.	J
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22.			4/21/92	
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS5

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-5

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0110

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 17. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 7.8

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.22	3600 1000.	BJ A
2. 87-61-6	Benzene, 1,2,3-trichloro-	8.94	1700 2000.	J
3. 634-66-2	Benzene, 1,2,3,4-tetrachloro	10.67	2000 2000.	J
4. - -	UNKNOWN ALKANE	11.66	390 400.	J
5. - -	UNKNOWN ALKANE	14.22	200 200.	J
6. - -	UNKNOWN	17.62	310 300.	J
7. - -	UNKNOWN TETRACHLORO-BIPHENYL	18.11	790 800.	J
8. - -	UNKNOWN TETRACHLORO-BIPHENYL	18.53	320 300.	J
9. 10544-50-0	Sulfur, mol. (S8)	19.04	260 200.	J
10. - -	UNKNOWN PENTACHLORO-BIPHENYL	20.00	700 700.	J
11. - -	UNKNOWN	20.22	400 400.	J
12. - -	UNKNOWN PENTACHLORO-BIPHENYL	20.31	470 500.	J
13. - -	UNKNOWN	20.64	370 400.	J
14. - -	UNKNOWN PENTACHLORO-BIPHENYL	21.13	2200 2000.	J
15. - -	UNKNOWN HEXACHLORO-BIPHENYL	21.57	760 1000.	J
16. - -	UNKNOWN PENTACHLORO-BIPHENYL	21.62	870 900.	J
17. - -	UNKNOWN HEXACHLORO-BIPHENYL	21.79	350 400.	J
18. - -	UNKNOWN HEXACHLORO-BIPHENYL	22.08	1400 1000.	J
19. - -	UNKNOWN POLYCHLORINATED BIPH	22.39	340 400.	J
20. 2385-85-5	Mirex	23.87	690. 700.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS5 RE

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-5RE

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0115

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 17. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 7.8

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.22	3800 4000.	BJ A
2. 87-61-6	Benzene, 1,2,3-trichloro-	8.95	1600 2000.	J
3. 95-94-3	Benzene, 1,2,4,5-tetrachloro	10.69	1900 2000.	J
4. - -	UNKNOWN ALKANE	11.67	410 400.	J
5. - -	UNKNOWN ALKANE	14.23	190 200.	J
6. - -	UNKNOWN	15.19	180 200.	J
7. - -	UNKNOWN ALKANE	15.42	190 200.	J
8. - -	UNKNOWN ALKANE	17.63	210 300.	J
9. - -	UNKNOWN TETRACHLORO-BIPHENYL	18.14	600 800.	J
10. - -	UNKNOWN TETRACHLORO-BIPHENYL	18.56	240 300.	J
11. - -	UNKNOWN ALKANE	18.67	160 200.	J
12. 10544-50-0	Sulfur, mol. (S8)	19.06	150 200.	J
13. - -	UNKNOWN ALKANE	19.65	630 600.	J
14. - -	UNKNOWN	20.23	650 600.	J
15. - -	UNKNOWN PENTACHLORO-BIPHENYL	20.34	840 800.	J
16. - -	UNKNOWN	20.65	990 1000.	J
17. - -	UNKNOWN PENTACHLORO-BIPHENYL	21.14	3500 3000.	J
18. - -	UNKNOWN HEXACHLORO-BIPHENYL	21.57	1200 1000.	J
19. - -	UNKNOWN HEXACHLORO-BIPHENYL	22.10	2000 2000.	J
20. 2385-85-5	Mirex	23.88	710 700.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS6

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-6

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0111

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 17. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 9.4

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.22	5600 6000.	BJ A
2. - -	UNKNOWN ALKANE	7.23	1400 1000.	J
3. 17301-23-4	Undecane, 2,6-dimethyl-	9.00	770 800.	J
4. - -	UNKNOWN ALKANE	9.89	1200 1000.	J
5. - -	UNKNOWN ALKANE	10.28	3000 3000.	J
6. - -	UNKNOWN CYCLOHEXANE	10.88	670 500.	J
7. - -	UNKNOWN ALKANE	11.35	740 900.	J
8. - -	UNKNOWN ALKANE	11.69	3600 4000.	J
9. - -	UNKNOWN NAPHTHALENE ISOMER	11.93	620 600.	J
10. - -	UNKNOWN ALKANE	12.31	680 700.	J
11. - -	UNKNOWN ALKANE	12.51	1700 2000.	J
12. - -	UNKNOWN ALKANE	13.00	3300 3000.	J
13. - -	UNKNOWN	13.81	680 700.	J
14. - -	UNKNOWN ALKANE	14.25	2100 2000.	J
15. - -	UNKNOWN ALKANE	14.83	3100 900.	J
16. - -	UNKNOWN ALKANE	15.43	5600 2000.	J
17. - -	UNKNOWN ALKANE	15.50	5500 2000.	J
18. - -	UNKNOWN ALKANE	16.55	2800 800.	J
19. - -	UNKNOWN ALKANE	17.62	2800 800.	J
20. 10544-50-0	Sulfur, mol. (S8)	19.09	8600 3000.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS6

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-6

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0111

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 17. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 9.4

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.22	5600 6000.	BJ A
2. - -	UNKNOWN ALKANE	7.23	1400 1000.	J
3. 17301-23-4	Undecane, 2,6-dimethyl-	9.00	770 800.	J
4. - -	UNKNOWN ALKANE	9.89	1200 1000.	J
5. - -	UNKNOWN ALKANE	10.28	3000 3000.	J
6. - -	UNKNOWN CYCLOHEXANE	10.88	670 500.	J
7. - -	UNKNOWN ALKANE	11.35	740 900.	J
8. - -	UNKNOWN ALKANE	11.69	3600 4000.	J
9. - -	UNKNOWN NAPHTHALENE ISOMER	11.93	620 600.	J
10. - -	UNKNOWN ALKANE	12.31	680 700.	J
11. - -	UNKNOWN ALKANE	12.51	1700 2000.	J
12. - -	UNKNOWN ALKANE	13.00	3300 3000.	J
13. - -	UNKNOWN	13.81	680 700.	J
14. - -	UNKNOWN ALKANE	14.25	2100 2000.	J
15. - -	UNKNOWN ALKANE	14.83	3100 900.	J
16. - -	UNKNOWN ALKANE	15.43	5600 2000.	J
17. - -	UNKNOWN ALKANE	15.50	5500 2000.	J
18. - -	UNKNOWN ALKANE	16.55	2800 800.	J
19. - -	UNKNOWN ALKANE	17.62	2800 800.	J
20. 10544-50-0	Sulfur, mol. (S8)	19.09	8600 3000.	J
21.				
22.			4/24/92	
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS6 RE

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-6RE

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0116

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 17. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 9.4

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.23	5600 5000.	BJ A
2. - -	UNKNOWN ALKANE	7.25	1500 1000.	J
3. - -0	TRANS-ANTI-1-METHYL-DECAHYDR	7.64	600 600.	J
4. - -	UNKNOWN ALKANE	8.81	2100 2000.	J
5. 17301-23-4	Undecane, 2,6-dimethyl-	9.01	860 800.	J
6. - -	UNKNOWN ALKANE	9.90	1300 1000.	J
7. - -	UNKNOWN ALKANE	10.30	3200 3000.	J
8. - -	UNKNOWN CYCLOHEXANE	10.89	2200 700.	J
9. - -	UNKNOWN ALKANE	11.04	1500 500.	J
10. - -	UNKNOWN ALKANE	11.69	5100 4000.	J
11. - -	UNKNOWN NAPHTHALENE ISOMER	11.94	2500 1000.	J
12. - -	UNKNOWN ALKANE	12.32	1600 600.	J
13. - -	UNKNOWN ALKANE	12.52	3000 2000.	J
14. - -	UNKNOWN	13.83	1500 500.	J
15. - -	UNKNOWN ALKANE	14.26	3600 2000.	J
16. - -	UNKNOWN ALKANE	15.44	1900 2000.	J
17. - -	UNKNOWN ALKANE	15.51	1700 2000.	J
18. - -	UNKNOWN ALKANE	16.56	860 800.	J
19. - -	UNKNOWN ALKANE	17.63	940 900.	J
20. 10544-50-0	Sulfur, mol. (S8)	19.10	1700 2000.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS7

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-7

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0112

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 14. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 9.0

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 141-79-7	3-Penten-2-one, 4-methyl-	2.67	640 700.	J
2. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.37	34000 40000.	BJ A
3. - -	UNKNOWN ALKANE	11.66	250 300.	J
4. - -	UNKNOWN ALKANE	12.51	270 300.	J
5. - -	UNKNOWN ALKANE	12.98	340 400.	J
6. 105-76-0	2-Butenedioic acid (Z)-, dib	13.43	300 300.	J
7. - -	UNKNOWN ALKANE	14.25	340 300.	J
8. - -	UNKNOWN ALKANE	15.42	500 500.	J
9. - -	UNKNOWN ALKANE	15.50	250 300.	J
10. - -	UNKNOWN CYCLOHEXANE	16.06	250 200.	J
11. - -	UNKNOWN ALKANE	16.56	220 200.	J
12. - -	UNKNOWN ALKANE	16.67	270 200.	J
13. - -	UNKNOWN ALKANE	17.63	420 400.	J
14. - -	UNKNOWN ALKANE	18.67	350 300.	J
15. 10544-50-0	Sulfur, mol. (S8)	19.05	270 300.	J
16. - -	UNKNOWN ALKANE	19.65	1300 1000.	J
17. - -	UNKNOWN	20.16	890 900.	J
18. - -	UNKNOWN ALKANE	21.48	950 900.	J
19. - -	UNKNOWN ALKANE	22.35	820 800.	J
20. - -	UNKNOWN ALKANE	23.19	680 700.	J
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22.			4/21/92	
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS7 RE

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-7RE

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0117

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 14. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 9.0

Dilution Factor: 1.00

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 762-63-0	2-Pentene, 4,4-dimethyl-, (Z)	2.67	710 700.	J
2. 95-94-3	Benzene, 1,2,4,5-tetrachloro	11.35	250 200.	J
3. -	UNKNOWN ALKANE	11.66	320 300.	J
4. -	UNKNOWN ALKANE	12.51	310 300.	J
5. -	UNKNOWN ALKANE	13.00	400 400.	J
6. 105-76-0	2-Butenedioic acid (Z)-, dib	13.43	320 300.	J
7. -	UNKNOWN ALKANE	14.24	400 400.	J
8. -	UNKNOWN ALKANE	15.42	650 700.	J
9. -	UNKNOWN ALKANE	15.49	290 300.	J
10. -	UNKNOWN CYCLOHEXANE	16.11	320 300.	J
11. -	UNKNOWN ALKANE	16.56	350 300.	J
12. -	UNKNOWN ALKANE	17.63	480 500.	J
13. -	UNKNOWN ALKANE	18.66	410 400.	J
14. 10544-50-0	Sulfur, mol. (S8)	19.06	250 200.	J
15. -	UNKNOWN ALKANE	19.64	390 1000.	J
16. -	UNKNOWN ALKANE	20.17	1000 1000.	J
17. -	UNKNOWN ALKANE	21.50	920 900.	J
18. -	UNKNOWN ALKANE	22.37	880 900.	J
19. -	UNKNOWN ALKANE	23.20	840 900.	J
20. -	UNKNOWN ALKANE	24.00	660 700.	J
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22.			4/21/92	
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1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS8

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920593-1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0232

Level: (low/med) LOW

Date Received: 3/19/92

% Moisture: not dec. 27. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/13/92

GPC Cleanup: (Y/N) N pH: 7.1

Dilution Factor: 50.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 8

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 106-68-3	3-Octanone	4.33	18,000 200000.	J
2. 141-05-9	2-Butenedioic acid (Z)-, dib	7.90	38,000 400000.	J
3. 105-76-0	2-Butenedioic acid (Z)-, dib	12.97	31,000 400000.	J
4. 10544-50-0	Sulfur, mol. (S8)	18.46	13,000 100000.	J
5. - -	UNKNOWN ALKANE	20.07	52,000 500000.	J
6. - -	UNKNOWN	24.07	21,000 2000000.	J
7. - -	UNKNOWN	24.38	400,000 3000000.	J
8. - -	UNKNOWN	24.71	2000000.	J
9.			270,000	
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS9

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920593-2

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0147

Level: (low/med) LOW

Date Received: 3/19/92

% Moisture: not dec. 20. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/27/92

GPC Cleanup: (Y/N) N pH: 7.3

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 2

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.17	1200 ±1000.	BJ A
2. - -	UNKNOWN	25.70	200 ±100.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS10

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920604-1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0176

Level: (low/med) LOW

Date Received: 3/20/92

% Moisture: not dec. 21. dec. 0.

Date Extracted: 3/23/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/ 1/92

GPC Cleanup: (Y/N) N pH: 7.3

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 15

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.07	700 ✓	BJ A
2. 486-25-9	9H-Fluoren-9-one	15.62	190 200.	J
3. - -	UNKNOWN PAH	17.40	250 300.	J
4. - -	UNKNOWN PAH	17.59	170 200.	J
5. 57-10-3	Hexadecanoic acid	18.02	200. ✓	J
6. - -	UNKNOWN PAH	18.15	170 200.	J
7. - -	UNKNOWN PAH	18.80	170 200.	J
8. - -	UNKNOWN PAH	19.65	210 200.	J
9. - -	UNKNOWN PAH	19.96	200 ✓	J
10. - -	UNKNOWN PAH	21.75	180 200.	J
11. 203-12-3	Benzo[ghi]fluoranthene	22.10	180 200.	J
12. - -	UNKNOWN HYDROCARBON	22.86	400 ✓	J
13. - -	UNKNOWN HYDROCARBON	24.47	1700 700.	J
14. - -	UNKNOWN	25.49	760 300.	J
15. - -	UNKNOWN ALKANE	27.54	810 300.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS11

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920604-2

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0178

Level: (low/med) LOW

Date Received: 3/20/92

% Moisture: not dec. 18. dec. 0.

Date Extracted: 3/23/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/ 1/92

GPC Cleanup: (Y/N) N pH: 7.3

Dilution Factor: 1.00

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.05	930 300.	BJ A
2. - -	UNKNOWN	14.02	190 200.	J
3. - -	UNKNOWN ALKANE	15.19	180 200.	J
4. 132-65-0	Dibenzothiophene	15.79	200 200.	J
5. - -	UNKNOWN	16.34	170 200.	J
6. 86-74-8	9H-Carbazole	16.74	240 200.	J
7. 4505-48-0	1H-Indene, 2-phenyl-	17.43	540 500.	J
8. 203-64-5	4H-Cyclopenta[def]phenanthre	17.61	350 400.	J
9. 612-94-2	Naphthalene, 2-phenyl-	18.15	240 200.	J
10. - -	UNKNOWN ALKANE	19.41	220 200.	J
11. - -	UNKNOWN	19.66	520 500.	J
12. - -	UNKNOWN PAH	20.52	520 500.	J
13. - -	UNKNOWN PAH	20.68	280 300.	J
14. - -	UNKNOWN PAH	22.12	470 500.	J
15. 198-55-0	Perylene	25.72	710 300.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS11 RE

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920604-2RE

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0179

Level: (low/med) LOW

Date Received: 3/20/92

% Moisture: not dec. 18. dec. 0.

Date Extracted: 3/23/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/ 1/92

GPC Cleanup: (Y/N) N pH: 7.3

Dilution Factor: 1.00

Number TICs found: 17

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. - -	UNKNOWN 2-PENTANONE, 4-HYDRO	3.07	950 900.	J
2. 643-58-3	1,1'-Biphenyl, 2-methyl-	14.04	190 200.	J
3. - -	UNKNOWN ALKANE	15.22	180 200.	J
4. - -	UNKNOWN ALKANE	15.29	160 200.	J
5. 132-65-0	Dibenzothiophene	15.82	230 200.	J
6. - -	UNKNOWN ALKANE	16.34	180 200.	J
7. 86-74-8	9H-Carbazole	16.76	270 300.	J
8. 832-64-4	Phenanthrene, 4-methyl-	17.40	200 200.	J
9. - -	UNKNOWN PAH	17.63	370 400.	J
10. 612-94-2	Naphthalene, 2-phenyl-	18.20	260 200.	J
11. - -	UNKNOWN	19.43	350 400.	J
12. - -	UNKNOWN PAH	19.69	900 900.	J
13. - -	UNKNOWN PAH	20.02	570 600.	J
14. - -	UNKNOWN PAH	20.56	480 500.	J
15. - -	UNKNOWN PAH	20.73	310 300.	J
16. - -	UNKNOWN ALKANE	21.27	640 700.	J
17. - -	UNKNOWN	22.15	650 700.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS12

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920604-3

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0180

Level: (low/med) LOW

Date Received: 3/20/92

% Moisture: not dec. 14. dec. 0.

Date Extracted: 3/23/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/ 1/92

GPC Cleanup: (Y/N) N pH: 7.8

Dilution Factor: 1.00

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.07	790 800.	BJ A
2. - -	UNKNOWN ALKANE	15.20	290 300.	J
3. - -	UNKNOWN CYCLOHEXANE	15.87	520 500.	J
4. - -	UNKNOWN CYCLOHEXANE	16.48	400.	J
5. - -	UNKNOWN ALKANE	17.41	240 200.	J
6. - -	UNKNOWN ALKANE	19.41	910 900.	J
7. - -	UNKNOWN ALKANE	20.35	820 800.	J
8. - -	UNKNOWN ALKANE	21.25	900.	J
9.			RTG 4-21-92	
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS12 RE

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920604-3RE

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0181

Level: (low/med) LOW

Date Received: 3/20/92

% Moisture: not dec. 14. dec. 0.

Date Extracted: 3/23/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/ 1/92

GPC Cleanup: (Y/N) N pH: 7.8

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 10

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.07	790 800.	BJ A
2. - -	UNKNOWN ALKANE	15.20	290 300.	J
3. - -	UNKNOWN CYCLOHEXANE	15.87	510 500.	J
4. - -	UNKNOWN CYCLOHEXANE	16.49	420 400.	J
5. - -	UNKNOWN ALKANE	17.41	260 300.	J
6. - -	UNKNOWN ALKANE	18.43	160 200.	J
7. - -	UNKNOWN ALKANE	19.41	1100 1000.	J
8. - -	UNKNOWN ALKANE	20.36	860 900.	J
9. - -	UNKNOWN ALKANE	21.25	740 700.	J
10. - -	UNKNOWN ALKANE	22.12	800.✓	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS14

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-8

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0113

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 29. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 7.5

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 7

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.22	1700 10.	BJ A
2. 10544-50-0	Sulfur, mol. (S8)	19.07	2200 2500.	J
3. - -	UNKNOWN ALKANE	19.63	200 200.	J
4. - -	UNKNOWN	19.98	300 300.	J
5. - -	UNKNOWN CARBOXYLIC ACID	20.21	280 300.	J
6. - -	UNKNOWN ALKANE	22.34	250 200.	J
7. - -	UNKNOWN ALKANE	23.17	240 200.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS14 RE

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920591-8RE

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0118

Level: (low/med) LOW

Date Received: 3/18/92

% Moisture: not dec. 29. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/25/92

GPC Cleanup: (Y/N) N pH: 7.5

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 5

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.23	~~2700~~ 3000.	BJ A
2. 10544-50-0	Sulfur, mol. (S8)	19.10	~~1400~~ 1000.	J
3. - -	UNKNOWN	20.00	~~600~~ 600.	J
4. - -	UNKNOWN CARBOXYLIC ACID	20.22	~~400~~ 400.	J
5. - -	UNKNOWN ALKANE	23.18	~~390~~ 400.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS15

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920593-3

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0144

Level: (low/med) LOW

Date Received: 3/19/92

% Moisture: not dec. 16. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/27/92

GPC Cleanup: (Y/N) N pH: 7.7

Dilution Factor: 1.00

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.16	1100 ~~1000.~~	BJ A
2. - -	UNKNOWN ALKANE	23.10	250 ~~200.~~	J
3. - -	UNKNOWN ALKANE	24.69	600 ~~400.~~	J
4. 56554-91-7	12-Octadecenal	25.71	300 ~~200.~~	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS16

Lab Name: E3I

Contract: 68-01-7447

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920593-4

Sample wt/vol: 5.000 (g/mL) G

Lab File ID: F1715

Level: (low/med) LOW

Date Received: 3/19/92

% Moisture: not dec. 10.

Date Analyzed: 3/26/92

Column: (pack/cap) PACK

Dilution Factor: 1.00

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 42969-85-7	Benzofuran, 5,7-dichloro-2-m	3.00	90.	J
2. 372-18-9	ISOMER BENZENE, DIFLUORO	15.91	20.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS16

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920593-4

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0143

Level: (low/med) LOW

Date Received: 3/19/92

% Moisture: not dec. 10. dec. 0.

Date Extracted: 3/20/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 3/27/92

GPC Cleanup: (Y/N) N pH: 7.6

Dilution Factor: 1.00

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.17	1500 1000.	BJ A
2. - -	UNKNOWN ALKANE	19.09	260 100.	J
3. - -	UNKNOWN ALKANE	19.58	400 400.	J
4. - -	UNKNOWN	20.13	230 200.	J
5. 483-65-8	Phenanthrene, 1-methyl-7-(1-	20.75	870 900.	J
6. - -	UNKNOWN ALKANE	21.42	160 100.	J
7. - -	UNKNOWN	21.66	200.	J
8. 1235-74-1	1-Phenanthrenecarboxylic aci	21.86	380 400.	J
9. - -	UNKNOWN	22.29	390 400.	J
10. - -	UNKNOWN ALKANE	23.11	280 300.	J
11.			Amo 4-2-92	
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS17

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920604-4

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0182

Level: (low/med) LOW

Date Received: 3/20/92

% Moisture: not dec. 18. dec. 0.

Date Extracted: 3/23/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/ 1/92

GPC Cleanup: (Y/N) N pH: 8.2

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 13

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. - -	UNKNOWN	2.21	220 200.	J
2. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.07	1000 1000.	BJ A
3. - -	UNKNOWN	7.78	320 300.	J
4. - -	UNKNOWN	8.85	570 600.	J
5. 2467-02-9	Phenol, 2,2'-methylenebis-	18.45	1900 2000.	J
6. 10544-50-0	Sulfur, mol. (S8)	18.80	450 400.	J
7. 620-92-8	Phenol, 4,4'-methylenebis-	19.10	1500 2000.	J
8. - -	UNKNOWN ALKANE	19.41	450 400.	J
9. - -	UNKNOWN ALKANE	20.35	360 400.	J
10. - -	UNKNOWN	21.16	490 500.	J
11. - -	UNKNOWN ALKANE	22.12	440 400.	J
12. 205-82-3	Benzo[j]fluoranthene	25.73	1100 200.	J
13. - -	UNKNOWN	27.85	990 200.	J
14. - -				
15. - -				
16. - -				
17. - -				
18. - -				
19. - -				
20. - -				
21. - -				
22. - -				
23. - -				
24. - -				
25. - -				
26. - -				
27. - -				
28. - -				
29. - -				
30. - -				

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS17 RE

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920604-4RE

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0183

Level: (low/med) LOW

Date Received: 3/20/92

% Moisture: not dec. 18. dec. 0.

Date Extracted: 3/23/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/ 1/92

GPC Cleanup: (Y/N) N pH: 8.2

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 14

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.07	960 1000.	BJ A
2. - -	UNKNOWN	8.85	300 300.	J
3. - -	UNKNOWN	11.69	170 200.	J
4. 2467-02-9	Phenol, 2,2'-methylenebis-	18.45	1900 2000.	J
5. 10544-50-0	Sulfur, mol. (S8)	18.80	440 400.	J
6. 620-92-8	Phenol, 4,4'-methylenebis-	19.12	2700 3000.	J
7. - -	UNKNOWN ALKANE	19.41	390 400.	J
8. - -	UNKNOWN ALKANE	20.35	340 300.	J
9. - -	UNKNOWN	21.16	440 400.	J
10. - -	UNKNOWN ALKANE	21.23	300 300.	J
11. - -	UNKNOWN	21.58	300 300.	J
12. - -	UNKNOWN ALKANE	22.10	410 400.	J
13. 192-97-2	Benzo[e]pyrene	25.74	950 200.	J
14. - -	UNKNOWN	27.83	760 100.	J
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS18

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920604-5

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0184

Level: (low/med) LOW

Date Received: 3/20/92

% Moisture: not dec. 14. dec. 0.

Date Extracted: 3/23/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/ 1/92

GPC Cleanup: (Y/N) N pH: 7.8

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.07	780 800.	BJ A
2. - -	UNKNOWN ALKANE	15.20	210 200.	J
3. 486-25-9	9H-Fluoren-9-one	15.65	240 200.	J
4. 132-65-0	Dibenzothiophene	15.81	170 200.	J
5. 86-74-8	9H-Carbazole	16.75	290 300.	J
6. 832-64-4	Phenanthrene, 4-methyl-	17.38	400.	J
7. 832-64-4	Phenanthrene, 4-methyl-	17.43	270 300.	J
8. 203-64-5	4H-Cyclopenta[def]phenanthre	17.61	440 400.	J
9. 613-12-7	Anthracene, 2-methyl-	17.68	180 200.	J
10. - -	UNKNOWN PAH	18.17	360 300.	J
11. 2467-02-9	Phenol, 2,2'-methylenebis-	18.44	260 300.	J
12. 3674-66-6	Phenanthrene, 2,5-dimethyl-	18.80	270 300.	J
13. - -	UNKNOWN PAH	19.67	310 300.	J
14. - -	UNKNOWN	19.98	310 300.	J
15. 243-17-4	11H-Benzo[b]fluorene	20.54	710 700.	J
16. - -	UNKNOWN PAH	20.68	290 300.	J
17. 3353-12-6	Pyrene, 4-methyl-	20.75	210 200.	J
18. - -	UNKNOWN	21.62	250 300.	J
19. - -	UNKNOWN PAH	22.13	380 400.	J
20. - -	UNKNOWN ALKANE	22.94	300.	J
21.			PSG 4-2142	
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS18 RE

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920604-5RE

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0185

Level: (low/med) LOW

Date Received: 3/20/92

% Moisture: not dec. 14. dec. 0.

Date Extracted: 3/23/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/ 1/92

GPC Cleanup: (Y/N) N pH: 7.8

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.07	750 700.	BJ A
2. - -	UNKNOWN ALKANE	15.20	210 200.	J
3. 486-25-9	9H-Fluoren-9-one	15.65	240 200.	J
4. 132-65-0	Dibenzothiophene	15.81	210 200.	J
5. 86-74-8	9H-Carbazole	16.75	310 300.	J
6. 832-69-9	Phenanthrene, 1-methyl-	17.38	430 400.	J
7. 832-71-3	Phenanthrene, 3-methyl-	17.43	280 300.	J
8. 203-64-5	4H-Cyclopenta[def]phenanthre	17.61	440 400.	J
9. 613-12-7	Anthracene, 2-methyl-	17.68	210 200.	J
10. - -	UNKNOWN PAH	18.17	370 400.	J
11. 2467-02-9	Phenol, 2,2'-methylenebis-	18.44	250 200.	J
12. 3674-65-5	Phenanthrene, 2,3-dimethyl-	18.82	240 200.	J
13. 206-44-0	Fluoranthene isomer	19.33	230 200.	J
14. - -	UNKNOWN PAH	19.67	380 400.	J
15. - -	UNKNOWN	19.99	380 400.	J
16. 2381-21-7	Pyrene, 1-methyl-	20.54	740 700.	J
17. - -	UNKNOWN PAH	20.68	292 300.	J
18. - -	UNKNOWN	21.62	310 300.	J
19. - -	UNKNOWN PAH	22.13	420 400.	J
20. - -	UNKNOWN PAH	23.70	360 300.	J
21. - -	-	-	PSG 4-21-92	-
22. - -	-	-	-	-
23. - -	-	-	-	-
24. - -	-	-	-	-
25. - -	-	-	-	-
26. - -	-	-	-	-
27. - -	-	-	-	-
28. - -	-	-	-	-
29. - -	-	-	-	-
30. - -	-	-	-	-

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS19

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920604-6

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0186

Level: (low/med) LOW

Date Received: 3/20/92

% Moisture: not dec. 2. dec. 0.

Date Extracted: 3/23/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/ 1/92

GPC Cleanup: (Y/N) N pH: 9.2

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 18

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.07	950 1000.	BJ A
2. - -	UNKNOWN ALKANE	12.27	240 200.	J
3. 629-62-9	Pentadecane	12.77	240 200.	J
4. 544-76-3	Hexadecane	14.02	300 300.	J
5. - -	UNKNOWN ALKANE	14.61	200 200.	J
6. - -	UNKNOWN ALKANE	15.21	460 500.	J
7. - -	UNKNOWN ALKANE	15.28	190 200.	J
8. - -	UNKNOWN ALKANE	16.33	400 400.	J
9. - -	UNKNOWN ALKANE	16.43	190 200.	J
10. - -	UNKNOWN ALKANE	17.41	470 500.	J
11. - -	UNKNOWN ALKANE	18.42	410 400.	J
12. - -	UNKNOWN ALKANE	19.42	1500 2000.	J
13. - -	UNKNOWN ALKANE	20.34	1500 1000.	J
14. - -	UNKNOWN ALKANE	21.25	1300 1000.	J
15. - -	UNKNOWN ALKANE	22.11	1300 1000.	J
16. - -	UNKNOWN ALKANE	22.95	930 900.	J
17. - -	UNKNOWN ALKANE	23.74	690 700.	J
18. - -	UNKNOWN ALKANE	24.52	1000 200.	J
19.				
20.			4/24/92	
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CIBHS19 RE

Lab Name: E3I

Contract:

Lab Code: E3I

Case No.: 1148-2S SAS No.:

SDG No.: CIBHS1

Matrix: (soil/water) SOIL

Lab Sample ID: 920604-6RE

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: K0187

Level: (low/med) LOW

Date Received: 3/20/92

% Moisture: not dec. 2. dec. 0.

Date Extracted: 3/23/92

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/ 1/92

GPC Cleanup: (Y/N) N pH: 9.2

Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 17

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.07	480 1000.	BJ A
2. - -	UNKNOWN ALKANE	12.27	230 200.	J
3. 629-62-9	Pentadecane	12.77	250 200.	J
4. 544-76-3	Hexadecane	14.02	290 300.	J
5. 629-78-7	Heptadecane	15.21	440 400.	J
6. - -	UNKNOWN ALKANE	15.28	220 200.	J
7. - -	UNKNOWN ALKANE	16.33	420 400.	J
8. - -	UNKNOWN ALKANE	16.43	170 200.	J
9. - -	UNKNOWN ALKANE	17.41	440 400.	J
10. - -	UNKNOWN ALKANE	18.42	400 400.	J
11. - -	UNKNOWN ALKANE	19.40	1300 1000.	J
12. - -	UNKNOWN ALKANE	20.34	1200 1000.	J
13. - -	UNKNOWN ALKANE	21.24	1100 1000.	J
14. - -	UNKNOWN ALKANE	22.11	1000 1000.	J
15. - -	UNKNOWN ALKANE	22.94	800 800.	J
16. - -	UNKNOWN ALKANE	23.74	580 600.	J
17. - -	UNKNOWN ALKANE	24.52	980 200.	J
18. _____	_____	_____	_____	_____
19. _____	_____	_____	4/22/92	_____
20. _____	_____	_____	_____	_____
21. _____	_____	_____	_____	_____
22. _____	_____	_____	_____	_____
23. _____	_____	_____	_____	_____
24. _____	_____	_____	_____	_____
25. _____	_____	_____	_____	_____
26. _____	_____	_____	_____	_____
27. _____	_____	_____	_____	_____
28. _____	_____	_____	_____	_____
29. _____	_____	_____	_____	_____
30. _____	_____	_____	_____	_____

APPENDIX A-3

DAILY FIELD ACTIVITY REPORTS

Report Number: 1 Project Number: 1148 2A Date: 3/16/72

Field Log Book Page Number: 1

Project: Cayuga Island

Address: West Rivershore Drive, Niagara Falls, NY

Weather: (AM) partly cloudy Rainfall: (AM) 0 Inches
(PM) partly cloudy (PM) 0 Inches

Temperature: (AM) 20 °F Wind Speed: (AM) 5-10 MPH Wind Direction: (AM) West
(PM) 29 °F (PM) 5-10 MPH (PM) West

Site Condition: snow on ground 1-10"

Personnel On Site:

Name _____

Affiliation

Gerry Gaild
Abel Barkat
Ken Huebert
Chip
Carl Hoffman

DEC Region 9
Buffalo Drilling
Buffalo Drilling
DEC Albany

Subcontractor

Work Commencement: (AM) 11:20

(PM) ~~12:30~~ 1:30

Subcontractor

Work Completion (AM) ~~11:05~~ 12:30

(PM) 16:05

June 26



DVIRKA
AND
BARTILUCCI

DATE: March 16, 1992

DAILY FIELD ACTIVITY REPORT

General work performed today by D&B: Oversite of drill rig contamination
and sampling of S-1, S-6, S-7 at Cayuga Island
West Rivershore Rd.
- sample collection of soil - one sample from each boring

List specific inspection(s) performed and results (include problems and corrective actions):

n/a

List type and location of tests performed and results (include equipment used and monitoring results):

see boring logs for S-1, S-6, S-7

Verbal comments received from subcontractor (include construction and testing problems, and recommendations/resulting action):

n/a

Prepared by:

gould gould

Reviewed by:

Maria DiGuardi



DVIRKA
AND
BARTILUCCI

DATE: Monday March 16, 1992

DAILY FIELD ACTIVITY REPORT

Work performed today by subcontractor(s) (includes equipment and labor breakdown):

Soil samples taken at West Rivershare drive by
Buffalo Drilling Co.

	<u>spoons</u>	<u>feet</u>
Samples taken from S-1	4	8
S-6	4	8
S-7	4	8
Total	12	24

Drill Rig Decontamination at Love Canal Facility

	<u>Total hrs</u>
3 men (Buffalo Drilling) 1 hrs	3 hrs

gentle



DVIRKA
AND
BARTILUCCI

DAILY FIELD ACTIVITY REPORT

Report Number: 2 Project Number: 1148 Date: 3/17/92 Tuesday

Field Log Book Page Number: p. 6 - 10

Project: ~~Cayuga~~ Cayuga Island

Address: West River Shore Drive

Weather: (AM) sleet & snow Rainfall: (AM) trace Inches
(PM) partly cloudy - clearing (PM) 0 Inches

Temperature: (AM) 32 °F Wind Speed: (AM) 15-25 MPH Wind Direction: (AM) W
(PM) 38 °F (PM) 10-25 MPH (PM) W

Site Condition: melting snow, top 1-2" soft over frozen ground

Personnel On Site:

Name

Affiliation

<u>Gerry Gould</u>	<u>DOB</u>
<u>Carl Hoffman</u>	<u>DEL - Albany</u>
<u>Ken Huebert</u>	<u>Buffalo Drilling</u>
<u>Chipper</u>	<u>" "</u>
<u>Larry</u>	<u>" "</u>
<u>Maria Dioguardi</u>	<u>DOB</u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>

Subcontractor

Work Commencement: (AM) 9:50 (PM) ~~16:00~~ 12:10

Subcontractor

Work Completion (AM) 13:15 (PM) 16:00



DVIRKA
AND
BARTILUCCI

DATE: Tuesday 3/17/92

DAILY FIELD ACTIVITY REPORT

General work performed today by D&B: _____

oversite & sampling for soil borings S-2, S-3, S-4, S-5

S-14

List specific inspection(s) performed and results (include problems and corrective actions):

see boring logs

List type and location of tests performed and results (include equipment used and monitoring results):

see boring logs

Verbal comments received from subcontractor (include construction and testing problems, and recommendations/resulting action):

none

Prepared by: _____

Gerald Gold

Reviewed by: _____

Maria Dioguardi



DVIRKA
AND
BARTILUCCI

DATE: Tuesday 3/17/92

DAILY FIELD ACTIVITY REPORT

Work performed today by subcontractor(s) (includes equipment and labor breakdown):

Split Spoon samples using Tripod rig

Boring

Split Spoons

Feet

~~S-1~~

S-2

3

6

S-3

4

4

S-4

3

6

S-5

3

6

S-14

3

6

fill all holes and replace soil

3 drillers 9:50 to 10:00 with 45 minute lunch



DVIRKA
AND
BARTILUCCI

DAILY FIELD ACTIVITY REPORT

Report Number: 3 Project Number: 1148 Date: 3/18/92 Wednesday

Field Log Book Page Number: 11-15

Project: Cayuga Island

Address: W. Rivershore Dr and Rivershore Drive

Weather: (AM) Sunny Rainfall: (AM) 0 Inches
(PM) _____ (PM) _____ Inches

Temperature: (AM) 24 °F Wind Speed: (AM) 0-5 MPH Wind Direction: (AM) W
(PM) _____ °F (PM) _____ MPH (PM) _____

Site Condition: _____

Personnel On Site:

Name

Affiliation

<u>Gerry Gould</u>	<u>D+B</u>
<u>Carl Hoffman</u>	<u>DEC - Albany</u>
<u>Larry</u>	<u>Buffalo Drilling</u>
<u>Maria DiGuardi</u>	<u>D+B</u>
<u>Mike</u>	<u>Buffalo Drilling</u>
<u>Chipper</u>	<u>Buffalo Drilling</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Subcontractor

Work Commencement: (AM) 9:00 (PM) 13:00

Subcontractor

Work Completion (AM) 12:00 (PM) 16:00



DATE: Wed 3/18/92

DAILY FIELD ACTIVITY REPORT

General work performed today by D&B: _____

oversite of split spoon samples, collection of soil samples
for chemical analyses, meet homeowners to schedule sampling

Completed borings S-8, S-9, S-15, S-16

Samples collected from S-8, S-9, S-15, S-16 Matrix Spike and MS duplicate
taken from S-16, Rinse (field) blank from decontaminated 3" spoon

List specific inspection(s) performed and results (include problems and corrective actions):

see boring logs and chain of custody sheets

List type and location of tests performed and results (include equipment used and monitoring results):

see above

Verbal comments received from subcontractor (include construction and testing problems, and recommendations/resulting action):

Two drillers quit this morning (Ken Huebert - foreman, and Chipper)
A replacement was sent (Mike). After lunch Chipper returned to work
Drillers to follow up on locating utilities on Rivershore Drive

Prepared by: _____

Gerald Gehl

Reviewed by: _____

Maria DiGiardi



DVIRKA
AND
BARTILUCCI

DATE: Wed 3/18/92

DAILY FIELD ACTIVITY REPORT

Work performed today by subcontractor(s) (includes equipment and labor breakdown):

Split Spoon sampling with Tripod rig

	<u>Spoons</u>	<u>Feet</u>	<u>Notes</u>
S-8	3	6.0'	
S-9	3	6.0'	
S-15	3	6.0'	
S-16	4	6.0'	extra spoon to obtain sufficient sample

After lunch drillers brought an aluminum tripod to replace
steel tripod. Lighter weight and longer legs make moving tripod
and taking samples easier.



DVIRKA
AND
BARTILUCCI

DAILY FIELD ACTIVITY REPORT

Report Number: 4 Project Number: 1148 Date: 3/19/92

Field Log Book Page Number: 16-21

Project: Cayuga Island

Address: Rivershore Dr Niagara Falls NY

Weather: (AM) overcast, wind from NE 5-15 mph Rainfall: (AM) 0 Inches
(PM) Sunny (PM) 0 Inches

Temperature: (AM) 25 °F Wind Speed: (AM) 5-15 MPH Wind Direction: (AM) NE
(PM) 40 °F (PM) 0-5 MPH (PM) S

Site Condition: snow patches, ground frozen on surface

Personnel On Site:	Name	Affiliation
	<u>Garry Gould</u>	<u>DB</u>
	<u>Carl Hoffman</u>	<u>DEC Albany</u>
	<u>Chipper</u>	<u>Buffalo Drilling</u>
	<u>Mike</u>	<u>" "</u>
	<u>Larry</u>	<u>" "</u>

Subcontractor Work Commencement: (AM) 8:15 (PM) 12:30

Subcontractor Work Completion (AM) 11:30 (PM) 15:00



DVIRKA
AND
BARTILUCCI

DATE: Thursday 3/19/92

DAILY FIELD ACTIVITY REPORT

General work performed today by D&B: Oversite & sampling on S-10, S-11, S-12
S-17, S-18, S-19

List specific inspection(s) performed and results (include problems and corrective actions):

see boring logs for drilling information

List type and location of tests performed and results (include equipment used and monitoring results):

Borings S-10, S-11, S-12 done with tripod rig

Borings S-17, 18, 19 done with truck rig

decon of drill rig at Love Canal Facility with steam cleaner

Verbal comments received from subcontractor (include construction and testing problems, and recommendations/resulting action):

- road borings located in morning by Buffalo Drilling

Prepared by:

Gail Goll

Reviewed by:

Maria Bioguardi

DATE: Thursday 3/19/92

DAILY FIELD ACTIVITY REPORT

Work performed today by subcontractor(s) (includes equipment and labor breakdown):

Tripod Borings at S-10, S-11, S-12

Location	Feet Augered	Spools	Depth in Feet
S-10	0	4	8'
S-11	0	3	6'
S-12	0	4	8'
S-17	2	3	6'
S-18	2	3	6'
S-19	2	3	6'

Steam Clean Drill Rig 3 men x $\frac{1}{2}$ hour each = $\frac{1}{2}$ hrs

DAILY FIELD ACTIVITY REPORT

Report Number: 5 Project Number: 1148 Date: 3/26/92

Field Log Book Page Number: 22-23

Project: Cayuga Island

Address: Rivershore drive, Cayuga Island

Weather: (AM) Sunny 26°F Rainfall: (AM) 0 Inches
(PM): _____ (PM) _____ Inches

Temperature: (AM) 26 °F Wind Speed: (AM) 6 MPH Wind Direction: (AM)
(PM) °F (PM) MPH (PM)

Site Condition: _____

Personnel On Site:

Name

Affiliation

Gerry Goid

Subcontractor

Work Commencement: (AM) n/a (PM) n/a

Subcontractor

Work Completion (AM) 4/4 (PM) 4/4



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DATE: 3/20/92

DAILY FIELD ACTIVITY REPORT

General work performed today by D&B: photographs of boring locations
S-1 through S-19.

List specific inspection(s) performed and results (include problems and corrective actions):

n/a

List type and location of tests performed and results (include equipment used and monitoring results):

n/a

Verbal comments received from subcontractor (include construction and testing problems, and recommendations/resulting action):

n/a

Prepared by:

John G. Gile

Reviewed by:

Maria Dioguardi



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BARTILUCCI

DATE: 3/20/92

DAILY FIELD ACTIVITY REPORT

Work performed today by subcontractor(s) (includes equipment and labor breakdown):

Sub-contractors (Buffalo drilling) spent
15 minutes topping of holes ~~with~~ in road
(5-2, 5-6)

APPENDIX A-4

SAMPLE INFORMATION RECORDS



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW G. Gould

SAMPLE LOCATION/WELLNO. S-1 2.0' - 4.0'

FIELD SAMPLE I.D. NUMBER CI-BH-S-1 DATE 3/16/92

TIME 14:00 WEATHER Windy, partly cloudy TEMPERATURE 30°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____

SURFACE WATER/STREAM _____ AIR _____

SOIL ☒ _____ OTHER (Describe, i.e., seepage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____

DEPTH OF WELL N/A MEASUREMENT METHOD N/A

VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____

TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____

OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

TCL+30 EPTOX

REMARKS: _____

GAL/FT	WELL CASING VOLUMES			
	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW G. Gould, U. Dioguardi

SAMPLE LOCATION/WELLNO. CI-BH-S-2

FIELD SAMPLE I.D. NUMBER BH-2 DATE 3/17/92

TIME 14:50 WEATHER cold / overcast TEMPERATURE 30°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____

SURFACE WATER/STREAM _____ AIR _____

SOIL ✓ OTHER (Describe, i.e., septage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____

DEPTH OF WELL _____ MEASUREMENT METHOD _____

VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____

TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____

OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

TCL+30 EPTOX

REMARKS: _____

GAL/FT	WELL CASING VOLUMES			
	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46

SIR



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW G. Gaudi, M. Dioguardi

SAMPLE LOCATION/WELLNO. CI-BH-5-3

FIELD SAMPLE I.D. NUMBER BH-3 DATE 3/17/92

TIME 11:50 WEATHER Cold / Overcast TEMPERATURE 30°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____

SURFACE WATER/STREAM _____ AIR _____

SOIL ☒ _____ OTHER (Describe, i.e., septage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____

DEPTH OF WELL _____ MEASUREMENT METHOD _____

VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____

TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____

OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

TCL+30 EPTOX

REMARKS: _____

WELL CASING VOLUMES				
GAL/FT	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW G. Gould, M. Dioguardi

SAMPLE LOCATION/WELLNO. CI-B#-S-4

FIELD SAMPLE I.D. NUMBER B#-4 DATE 3/17/92

TIME 10:50 WEATHER Cold / overcast TEMPERATURE 30°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____

SURFACE WATER/STREAM _____ AIR _____

SOIL ☒ _____ OTHER (Describe, i.e., septage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____

DEPTH OF WELL _____ MEASUREMENT METHOD _____

VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____

TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____

OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

_____ TCL+30 EPTOX _____
_____ _____ _____

REMARKS: Sample collected from 2-4 ft. Not very
much recovery.

GAL/FT	WELL CASING VOLUMES			
	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW M. Dioguardi, G. Gould

SAMPLE LOCATION/WELLNO. CI-BH-S-5

FIELD SAMPLE I.D. NUMBER BH-5

DATE 3/17/92

TIME 15:25 WEATHER COLD / ~~overcast~~ partly cloudy TEMPERATURE 30°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____

SURFACE WATER/STREAM _____ AIR _____

SOIL ✓ OTHER (Describe, i.e., septage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____

DEPTH OF WELL _____ MEASUREMENT METHOD _____

VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____

TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____

OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

TCL+30 EPTOX

REMARKS:

WELL CASING VOLUMES

GAL/FT	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW G. Gould

SAMPLE LOCATION/WELLNO. CI-BH-S-6

FIELD SAMPLE I.D. NUMBER BH-6 DATE 3/16/92

TIME 14:50 WEATHER Cold / partly Cloudy TEMPERATURE 30°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____

SURFACE WATER/STREAM _____ AIR _____

SOIL ☒ _____ OTHER (Describe, i.e., seepage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____

DEPTH OF WELL _____ MEASUREMENT METHOD _____

VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____

TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____

OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED: TCL+30 EPTOX

REMARKS: _____

GAL/FT	WELL CASING VOLUMES			
	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW G. Gould

SAMPLE LOCATION/WELLNO. CI-BH-S-7

FIELD SAMPLE I.D. NUMBER BH-7 DATE 3/16/92

TIME 15:25 WEATHER COLD / Partly Cloudy TEMPERATURE 30°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____

SURFACE WATER/STREAM _____ AIR _____

SOIL ✓ OTHER (Describe, i.e., septage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____

DEPTH OF WELL _____ MEASUREMENT METHOD _____

VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____

TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____

OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

TCL + 30 EPTOX

REMARKS:

GAL/FT	WELL CASING VOLUMES			
	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW Gerry Gault
SAMPLE LOCATION/WELLNO. 5-8, 2.0-4.0'
FIELD SAMPLE I.D. NUMBER CI-BH-58 DATE 3/18/92
TIME 11:15 WEATHER Sunny 32°F TEMPERATURE 32°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____
SURFACE WATER/STREAM _____ AIR _____
SOIL ☒ OTHER (Describe, i.e., septage,
leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____
DEPTH OF WELL N/A MEASUREMENT METHOD N/A
VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____
TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____
OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

TCL +30 EPTAN

REMARKS:

WELL CASING VOLUMES

GAL/FT	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46

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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW M. Dioguardi, G. Gould

SAMPLE LOCATION/WELLNO. CI-BH-S-9

FIELD SAMPLE I.D. NUMBER BH-9 DATE 3/18/92

TIME 9:50 WEATHER Sunny TEMPERATURE 30°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____

SURFACE WATER/STREAM _____ AIR _____

SOIL ✓ OTHER (Describe, i.e., septage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____

DEPTH OF WELL _____ MEASUREMENT METHOD _____

VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____

TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____

OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

TEL+30 EPTOX

REMARKS: _____

GAL/FT	WELL CASING VOLUMES			
	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW G. Gould

SAMPLE LOCATION/WELL NO. 5-10

FIELD SAMPLE I.D. NUMBER CI-BH-5-10 DATE 3/19/92

TIME 9:05 WEATHER partly cloudy TEMPERATURE 30°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____

SURFACE WATER/STREAM _____ AIR _____

SOIL ☒ OTHER (Describe, i.e., septage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____

DEPTH OF WELL _____ MEASUREMENT METHOD _____

VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____

TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____

OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

EPTOX TCL + 30

REMARKS: small recovery in all spoons - samples taken from different

depths ABN/Pesticides - 0.5 to 2.0'

VOA and EPTOX - 2.0' to 4.0'

Metals - 4.0 to 6.0'

WELL CASING VOLUMES

GAL/FT	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW G. Gould

SAMPLE LOCATION/WELL NO. S-11

FIELD SAMPLE I.D. NUMBER CI-BH-S-11 DATE 3/19/92

TIME 9:30 WEATHER clearing - partly sunny TEMPERATURE 35°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____

SURFACE WATER/STREAM _____ AIR _____

SOIL ☒ _____ OTHER (Describe, i.e., seepage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____

DEPTH OF WELL _____ MEASUREMENT METHOD _____

VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____

TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____

OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

EP Tox TCL + 30

REMARKS: Sample collected 2.0-4.0 feet below ground surface

GAL/FT		WELL CASING VOLUMES			
		2" = 0.16	3" = 0.37	4" = 0.65	
1-1/4" = 0.077	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46	



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW G. Gould

SAMPLE LOCATION/WELLNO. S-12

FIELD SAMPLE I.D. NUMBER CI-BH-S-12 DATE 3/19/92

TIME 10:10 WEATHER Sunny TEMPERATURE 35° F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____

SURFACE WATER/STREAM _____ AIR _____

SOIL ☒ _____ OTHER (Describe, i.e., septage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____

DEPTH OF WELL _____ MEASUREMENT METHOD _____

VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____

TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____

OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

EP Tox TCL+30

REMARKS: low recovery in spoons → 0.5 to 2.0 EP-Tox, metals
2.0 to 4.0 VOA, ABN/pest

GAL/FT	WELL CASING VOLUMES			
	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW M. Dioguardi, G. Gould
SAMPLE LOCATION/WELL NO. CI-BH-S-14
FIELD SAMPLE I.D. NUMBER BH-14 DATE 3/17/92
TIME 13:50 WEATHER COLD / OVERCAST TEMPERATURE 30°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____
SURFACE WATER/STREAM _____ AIR _____
SOIL ✓ OTHER (Describe, i.e., septage,
leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____
DEPTH OF WELL _____ MEASUREMENT METHOD _____
VOLUME REMOVED _____ REMOVAL METHOD _____

FIELD TEST RESULTS:

COLOR _____ pH _____ ODOR _____
TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____
OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

TCL+30 EPTOX

REMARKS:

		WELL CASING VOLUMES			
GAL/FT	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65	
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46	



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW Gerry Gould
SAMPLE LOCATION/WELL NO. S-15, 0.5' - 1.5'
FIELD SAMPLE I.D. NUMBER CI-BH-S-15 DATE 3/18/92
TIME 15:00 WEATHER Sunny TEMPERATURE 35°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____
SURFACE WATER/STREAM _____ AIR _____
SOIL ☒ OTHER (Describe, i.e., seepage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____
DEPTH OF WELL _____ MEASUREMENT METHOD _____
VOLUME REMOVED n/a REMOVAL METHOD _____
FIELD TEST RESULTS:
COLOR _____ pH _____ ODOR _____
TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____
OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

EP-Tox TCL+30

REMARKS:

GAL/FT	WELL CASING VOLUMES			
	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46

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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW Garry Gould
SAMPLE LOCATION/WELL NO. S-16, 0.5-2.0'
FIELD SAMPLE I.D. NUMBER CI-BH-516 DATE 3/18/92
TIME 13:45 WEATHER Sunny TEMPERATURE 40°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____
SURFACE WATER/STREAM _____ AIR _____
SOIL ☒ OTHER (Describe, i.e., septage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____
DEPTH OF WELL _____ MEASUREMENT METHOD _____
VOLUME REMOVED _____ REMOVAL METHOD ala _____
FIELD TEST RESULTS:
COLOR _____ pH _____ ODOR _____
TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____
OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

EL-Tox TLL+30

REMARKS: Split spoon was exposed to oily exhaust from tripod motor between opening of spoon and sample storage in bottles (spoon work area moved upwind of motor for MS & MSD)

WELL CASING VOLUMES

GAL/FT	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW Garry Gould
SAMPLE LOCATION/WELL NO. S-16, 2.0' - 4.0' and 0.5 to 2.0'
FIELD SAMPLE I.D. NUMBER CI-BH-MSD DATE 3/18/92
TIME 13:55 WEATHER Sunny TEMPERATURE 40°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____
SURFACE WATER/STREAM _____ AIR _____
SOIL ✓ OTHER (Describe, i.e., seepage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

~~DEPTH TO WATER _____ MEASUREMENT METHOD _____
DEPTH OF WELL _____ MEASUREMENT METHOD _____
VOLUME REMOVED _____ REMOVAL METHOD _____
FIELD TEST RESULTS:
COLOR _____ pH _____ ODOR _____
TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____
OTHER (OVA, Methane meter, etc.) _____~~

CONSTITUENTS SAMPLED:

EP Tox TCL-30

REMARKS:

matrix spike duplicate
VOA and ABU sampled from 2.0 to 4.0 } samples collected so that
metals and EP-Tox sampled from 0.5 to 2.0' } MS of like analyses
(came from same sample interval)

WELL CASING VOLUMES

GAL/FT	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW Gerry Gould
SAMPLE LOCATION/WELL NO. S-16, 2.0'-4.0' and 0.5 to 2.0'
FIELD SAMPLE I.D. NUMBER GI-BH-MS DATE 3/18/92
TIME 13:55 WEATHER Sunny TEMPERATURE 40°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____
SURFACE WATER/STREAM _____ AIR _____
SOIL ☒ _____ OTHER (Describe, i.e., septage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____
DEPTH OF WELL _____ MEASUREMENT METHOD _____
VOLUME REMOVED _____ REMOVAL METHOD _____
FIELD TEST RESULTS: n/a
COLOR _____ pH _____ ODOR _____
TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____
OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

_____ EP Tox _____ TCL+30 _____
_____ _____ _____ _____

REMARKS: VOA and ABN sampled from 2.0 to 4.0 } samples collected so that
metals and EP-Tox sampled from 0.5 to 2.0' } MS duplicate of like
analyses came from same sample interval

WELL CASING VOLUMES

GAL/FT	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46

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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW G. Gould
SAMPLE LOCATION/WELLNO. CI-BH-5-17
FIELD SAMPLE I.D. NUMBER CI-BH-5-17 DATE 3/19/92
TIME 13:55 WEATHER SUNNY TEMPERATURE 40°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____
SURFACE WATER/STREAM _____ AIR _____
SOIL _____ OTHER (Describe, i.e., septage,
leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____
DEPTH OF WELL _____ MEASUREMENT METHOD _____
VOLUME REMOVED _____ REMOVAL METHOD _____
FIELD TEST RESULTS:
COLOR _____ pH _____ ODOR _____
TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____
OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

_____ EP-Tox _____ TCL + 30 _____
_____ _____ _____

REMARKS: Sample collected 2.0 to 4.0' feet below ground surface

GAL/FT	WELL CASING VOLUMES			
	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW G. Gault
SAMPLE LOCATION/WELLNO. S-18
FIELD SAMPLE I.D. NUMBER CI-BH-S-18 DATE 3/19/92
TIME 13:30 WEATHER sunny TEMPERATURE 46°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____
SURFACE WATER/STREAM _____ AIR _____
SOIL _____ OTHER (Describe, i.e., septage,
leachate) _____

WELL INFORMATION (fill out for groundwater samples):

DEPTH TO WATER _____ MEASUREMENT METHOD _____
DEPTH OF WELL _____ MEASUREMENT METHOD _____
VOLUME REMOVED _____ REMOVAL METHOD _____
FIELD TEST RESULTS:
COLOR _____ pH _____ ODOR _____
TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____
OTHER (OVA, Methane meter, etc.) _____

CONSTITUENTS SAMPLED:

EP-TOX TCL+30

REMARKS: samples taken from 2.0 to 4.0 below ground surface

WELL CASING VOLUMES				
GAL/FT	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46



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SAMPLE INFORMATION RECORD

SITE Cayuga Island SAMPLE CREW C. Gould
SAMPLE LOCATION/WELL NO. 5-19
FIELD SAMPLE I.D. NUMBER C1-BH-5-19 DATE 3/19/92
TIME 12:55 WEATHER Sunny TEMPERATURE 40°F

SAMPLE TYPE:

GROUNDWATER _____ SEDIMENT _____
SURFACE WATER/STREAM _____ AIR _____
SOIL ✓ OTHER (Describe, i.e., seepage, leachate) _____

WELL INFORMATION (fill out for groundwater samples):

~~DEPTH TO WATER _____ MEASUREMENT METHOD _____
DEPTH OF WELL _____ MEASUREMENT METHOD _____
VOLUME REMOVED _____ REMOVAL METHOD _____
FIELD TEST RESULTS:
COLOR _____ pH _____ ODOR _____
TEMPERATURE (°F) _____ SPECIFIC CONDUCTANCE (umhos/cm) _____
OTHER (OVA, Methane meter, etc.) _____~~

CONSTITUENTS SAMPLED:

EP Tox TCL+30

REMARKS: sample collected from 2.0 to 4.0 below ground surface

		WELL CASING VOLUMES			
GAL/FT	1-1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65	
	1-1/2" = 0.10	2-1/2" = 0.24	3-1/2" = 0.50	6" = 1.46	

APPENDIX A-5

CHAIN OF CUSTODY FORMS

CHAIN OF CUSTODY RECORD

Page ____ of ____

Client Name: Dvirka and Bartilucci Project #: 1148-28 Project Name: Cayuga Island P.O. #
Client Address: 6800 Jericho Tpke, Syosset NY Telephone # 516-364-9892
Report To: Maria Dioguardi Date Results Required: 1 week after Invoice To: Maria Dioguardi
VTSE

Sample Identification	Date / Time Sampled	Sample type	Analyses										Total # of cont.	Comments
			VOA	AGNI	PEST	METALS	CU	EF	TOX *					
CI-BH-S-1	3/16/92 14:00	Soil	X										2	6-A, B 40ml glass
CI-BH-S-1				X									1	6-C 16oz Amber glass
CI-BH-S-1						X							1	6-D 16 oz plastic
CI-BH-S-1								X					1	6-E 16 oz Amber glass

Relinquished by (Signature) <u>Willi Krow</u>	Date / Time 3-6-92/16:00	Received by (Signature) <u>UPS</u>
Relinquished by (Signature) <u>UPS</u>	Date / Time	Received by (Signature) <u>Maria Dioguardi</u>
Relinquished by (Signature) <u>Maria Dioguardi</u>	Date / Time 3-11-92/13:00	Received by (Signature) <u>Paul Paul</u>
<u>Paul Paul</u>	3/17/92 16:00	

Remarks:

* Eptox extraction only
hold for analysis.
1989 NYSDEC ASP

CHAIN OF CUSTODY RECORD

Page ____ of ____

Client Name: Dvirka and Bartilucci Project #: 114B-2S Project Name: Cayuga Island P.O. #
Client Address: 6800 Jericho Tpke, Syosset NY Telephone # 516-364-9892
Report To: Maria Dioguardi Date Results Required: 4 Weeks after Invoice To: Maria Dioguardi
VTSR

Sample Identification	Date / Time Sampled	Sample Type	Analyses										Total # of cont.	Comments
			VOA	ABN	PEST/PCB	METAL	CU	EL	TOX					
CI-BH-S-2	3/17/92 14:50	Soil	X										2	F-A, B 40ml glass
CI-BH-S-2				X									1	F-C 16 oz Amber glass
CI-BH-S-2						X							1	F-D 16 oz plastic
CI-BH-S-2								X					1	F-E 16 oz Amber glass

Relinquished by (Signature) <i>Willie Brown</i>	Date / Time 3-6-92 / 1600	Received by (Signature) <i>UPS</i>
Relinquished by (Signature) <i>UPS</i>	Date / Time	Received by (Signature) <i>Maria Dioguardi</i>
Relinquished by (Signature) <i>Maria Dioguardi</i>	Date / Time 3-11-92 / 13:00	Received by (Signature) <i>James G...</i>
<i>James G...</i>	3/11/92 / 17:35	

Remarks:

* Eptox extraction only; hold for analysis.

1989 NYSDEC ASP

CHAIN OF CUSTODY RECORD

Page ____ of ____

Client Name: Dvirka and Bartilucci Project #: 114B-2S Project Name: Cayuga Island P.O. #
 Client Address: 6800 Jericho Tpke, Syosset NY Telephone # 516-364-9892
 Report To: Maria Dioguardi Date Results Required: 4 weeks after Invoice To: Maria Dioguardi
VTSL

Sample Identification	Date / Time Sampled	Sample Type	Analyses										Total # of cont.	Comments
			VOA	ABN1	PEST/PCB	METAL	CU	EL *	TOX					
CI-BH-S-3	3/17/92 11:50	Soil	X										2	B-A, B 40ml glass
CI-BH-S-3				X									1	B-C 16 oz Amber glass
CI-BH-S-3						X							1	B-D 16 oz plastic
CI-BH-S-3								X					1	B-E 16 oz Amber glass

Relinquished by (Signature) <i>Willi Krow</i>	Date / Time 3-6-92/1600	Received by (Signature) <i>UPS</i>	Remarks: * Eptox extraction only; ~~not~~ hold for analysis. 1989 NYSDEC ASP
Relinquished by (Signature) <i>UPS</i>	Date / Time	Received by (Signature) <i>Maria Dioguardi</i>	
Relinquished by (Signature) <i>Maria Dioguardi</i>	Date / Time 3-11-92/13:00	Received by (Signature) <i>Gerald Gull</i>	

3/17/92 17:35

CHAIN OF CUSTODY RECORD

Page ___ of ___

Client Name: Dvirka and Bartilucci Project #: 1148-25 Project Name: Cayuga Island P.O. #
Client Address: 6800 Jericho Tpke Syosset NY Telephone # 516-344-9892
Report To: Maria Dioguardi Date Results Required: 4 weeks after Invoice To: VTSE

Sample Identification	Date / Time Sampled	Sample Type	Analyses										Total # of cont.	Comments
			VOA	ABN1	PEST/PCB	METALS	CU*	EP*	TOX					
CI-BH-S-4	3/17/92 10:50	Soil	X										2	? - A, B 40ml glass
CI-BH-S-4				X									1	? - C 16.02 Amber glass
CI-BH-S-4						X							1	? - D 16.02 plastic
CI-BH-S-4								X					1	? - E 16.02 Amber glass

Relinquished by (Signature)

Willi Krow

Relinquished by (Signature)

UPS

Relinquished by (Signature)

Maria Dioguardi

Gene Guel

Date / Time

3-6-92/16:00

Date / Time

Date / Time

3-11-92/13:00

3/17/92 17:35

Received by (Signature)

UPS

Received by (Signature)

Maria Dioguardi

Received by (Signature)

Gene Guel

Remarks:

*Small samples for EPTOX and metals due to low recovery
*Eptox extraction only; hold for analysis

1989 NYSDEC ASP

CHAIN OF CUSTODY RECORD

Page ____ of ____

Client Name: Dvirka and Bartilucci Project #: 1148-ZS Project Name: Cayuga Island P.O. #
Client Address: 6800 Jericho Tpke, Syosset NY Telephone # 516-364-9892
Report To: Maria Dioguardi Date Results Required: 4 weeks after Invoice To: Maria Dioguardi
VT5R

Sample Identification	Date / Time Sampled	Sample Type	Analyses										Total # of cont.	Comments
			VOA	ABW	PEST/PCB	METAL	CU	E	TOX					
CI-BH-S-5	3/17/92 15:25	Soil	X										2	10-A, B 40ml glass
CI-BH-S-5				X									1	10-C 16 oz Amber glass
CI-BH-S-5					X								1	10-D 16 oz plastic
CI-BH-S-5								X					1	10-E 16 oz Amber glass

Relinquished by (Signature) <u>Willi Krow</u>	Date / Time 3-6-92 / 1600	Received by (Signature) <u>UPS</u>
Relinquished by (Signature) <u>UPS</u>	Date / Time	Received by (Signature) <u>Maria Dioguardi</u>
Relinquished by (Signature) <u>Maria Dioguardi</u>	Date / Time 3/11/92 13:00	Received by (Signature) <u>Gene Gale</u>
<u>Gene Gale</u>	3/17/92 17:35	

Remarks:
* Eptox extraction only; hold for analysis.

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CHAIN OF CUSTODY RECORD

Page ____ of ____

Client Name: Dvirka and Bartilucci Project #: 1148-2S Project Name: Cayuga Island P.O. #
Client Address: 6800 Jericho Tpke, Syosset NY Telephone # 516-364-9892
Report To: Maria Dioguardi Date Results Required: 4 weeks after Invoice To: Maria Dioguardi
VTSR

Sample Identification	Date / Time Sampled	Sample type	Analyses										Total # of cont.	Comments
			VOA	ASNI	PEST/PCB	METAL	CU-	EL *	TOX					
CI-BH-S-6	3/16/92 14:00	Soil	X										2	11-A, B 40ml glass
CI-BH-S-6				X									1	11-C 16 oz Amber glass
CI-BH-S-6					X								1	11-D 16 oz plastic
CI-BH-S-6								X					1	11-E 16 oz Amber glass

Relinquished by (Signature) <u>Willi Krow</u>	Date / Time 3-6-92/16:00	Received by (Signature) <u>UPS</u>
Relinquished by (Signature) <u>UPS</u>	Date / Time	Received by (Signature) <u>Maria Dioguardi</u>
Relinquished by (Signature) <u>Maria Dioguardi</u>	Date / Time 3/11/92 13:00	Received by (Signature) <u>Jenell Gail</u>
<u>Jenell Gail</u>	3/17/92 17:35	

Remarks:

* Eptox extraction only, hold for analysis.

1989 NYSDEC ASP

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client Name: Dvirka and Bartiucci Project #: 1148-2S Project Name: Cayuga Island P.O. #
Client Address: 6800 Jericho Tpke, Syosset, NY Telephone # 516-364-9892
Report To: Maria Dioguardi Date Results Required: 4 weeks after Invoice To: Maria Dioguardi
VTSR

Sample Identification	Date / Time Sampled	Sample Type	Analyses										Total # of cont.	Comments
			VOA	AGNI	PEST/PCB	METAL	CU	EL	TOX					
CI-BH-S-7	7/11/92 15:25	Soil	X										2	12-A, B 40ml glass
CI-BH-S-7	↓	↓		X									1	12-C 16oz Amber glass
CI-BH-S-7	↓	↓				X							1	12-D 16 oz plastic
CI-BH-S-7	↓	↓						X					1	12-E 16 oz Amber glass

Relinquished by (Signature) <u>Willi Krow</u>	Date / Time <u>3-6-92/16:00</u>	Received by (Signature) <u>UPS</u>
Relinquished by (Signature) <u>UPS</u>	Date / Time	Received by (Signature) <u>Maria Dioguardi</u>
Relinquished by (Signature) <u>Maria Dioguardi</u>	Date / Time <u>3/11/92/13:00</u>	Received by (Signature) <u>Gene Gell</u>
<u>Gene Gell</u>	<u>3/11/92 17:35</u>	

Remarks:

* Eptox extraction only, hold for analysis

1989 NYSDEC ASP

CHAIN OF CUSTODY RECORD

Page ____ of ____

Client Name: Dvirka and Bartilucci Project #: 1148-2S Project Name: Cayuga Island P.O. #
 Client Address: 6800 Jericho Tpke, Syosset, NY Telephone # 516-364-9892
 Report To: Maria Dioguardi Date Results Required: 4 weeks after Invoice To: Maria Dioguardi
VTSE

Sample Identification	Date / Time Sampled	Sample type	Analyses										Total # of cont.	Comments
			VOA	ABW1	PEST/PCB	METAL/	CU-	ET *	TOX					
CI-BH-S-8	3/11/92 11:15	Soil	X										2	13-A, B 40ml glass
CI-BH-S-8	↓	↓		X									1	13-C 16oz Amber glass
CI-BH-S-8					X								1	13-D 16 oz plastic
CI-BH-S-8								X					1	13-E 16 oz Amber glass

Relinquished by (Signature) <u>Willi Krow</u>	Date / Time 3-6-92/1600	Received by (Signature) <u>UPS</u>
Relinquished by (Signature) <u>UPS</u>	Date / Time	Received by (Signature) <u>Maria Dioguardi</u>
Relinquished by (Signature) <u>Maria Dioguardi</u>	Date / Time 3/11/92 13:00	Received by (Signature) <u>Genl Gull</u>
<u>Genl Gull</u>	3/18/92 00	

Remarks:

* Eptox extraction only, hold for analysis

1989 NYSDEC ASP

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VT3 R

Analyses

1989 NYSD EC ASP

CHAIN OF CUSTODY RECORD

Page ____ of ____

Client Name: Dvirka and Bartilucci Project #: 1148-2S Project Name: Cayuga Island P.O. #
Client Address: 6800 Jericho Tpke, Syosset NY Telephone # 516-364-9892
Report To: Maria Dioguardi Date Results Required: 4 weeks after VTSR Invoice To: Maria Dioguardi

Sample Identification	Date / Time Sampled	Sample Type	Analyses										Total # of cont.	Comments
			VOA	ABN	PEST	METAL	CU	EL	TOX					
CI-BH-S-10	3/17/91	Soil	X										2	15-A, B 40ml glass
CI-BH-S-10	9/95			X									1	15-C 16.02 Amber glass
CI-BH-S-10					X								1	15-D 16.02 plastic
CI-BH-S-10								X					1	15-E 16.02 Amber glass

Relinquished by (Signature) <u>Willi Krowch</u>	Date / Time 3-6-92 / 16:00	Received by (Signature) <u>UPS</u>
Relinquished by (Signature) <u>UPS</u>	Date / Time	Received by (Signature) <u>Maria Dioguardi</u>
Relinquished by (Signature) <u>Maria Dioguardi</u>	Date / Time 3/11/92 13:00	Received by (Signature) <u>Gail Logel</u>
	3/19/92 17:00	

Remarks:

* Eptox extraction only, hold for analysis

1989 NYSDEC ASP

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client Name: Dvirka and Bartilucci Project #: 1148-25 Project Name: Cayuga Island P.O. #
Client Address: 6800 Jericho Tpke Syosset NY Telephone # 516-364-9892
Report To: Maria Dioguardi Date Results Required: 4 weeks after Invoice To: Maria Dioguardi
VTSE

Sample Identification	Date / Time Sampled	Sample Type	Analyses										Total # of cont.	Comments
			VOA	ABN	PEST/PCB	METAL	CU	EF	TOX					
CI-BH-S-12	8/11/92 10:10	Soil	X										2	17-A, B 40ml glass
CI-BH-S-12				X									1	17-C 16oz Amber glass
CI-BH-S-12						X							1	17-D 16 oz plastic
CI-BH-S-12								X					1	17-E 16 oz Amber glass

Relinquished by (Signature) <u>Willi Krow</u>	Date / Time <u>7-6-92 / 16:00</u>	Received by (Signature) <u>UPS</u>
Relinquished by (Signature) <u>UPS</u>	Date / Time	Received by (Signature) <u>Maria Dioguardi</u>
Relinquished by (Signature) <u>Maria Dioguardi</u>	Date / Time <u>3/11/92 18:00</u>	Received by (Signature) <u>Genl & GRL</u>
<u>Genl & GRL</u>	<u>3/15/92 17:00</u>	

Remarks:

* Eptox extraction only, hold for analysis

1989 NVSDEC ASP

CHAIN OF CUSTODY RECORD

Page ____ of ____

Client Name: Dvirka and Bartilucci Project #: 1148-25 Project Name: Cayuga Island P.O. #
Client Address: 6800 Jericho Tpke, Syosset NY Telephone # 516-364-9892
Report To: Maria Dioguardi Date Results Required: 4 weeks after Invoice To: Maria Dioguardi
VTSR

Sample Identification	Date / Time Sampled	Sample Type	Analyses										Total # of cont.	Comments
			VOA	AGNI	PEST/PCB	METAL	CU	EF	TOX					
CI-BH-S-14	3/17/92 13:00	Soil	X										2	10-A, B 40ml glass
CI-BH-S-14				X									1	10-C 16oz Amber glass
CI-BH-S-14						X							1	10-D 16 oz plastic
CI-BH-S-14								X					1	10-E 16 oz Amber glass

Relinquished by (Signature) <u>Willi Krow</u>	Date / Time <u>3-6-92 / 16:00</u>	Received by (Signature) <u>UPS</u>
Relinquished by (Signature) <u>UPS</u>	Date / Time	Received by (Signature) <u>Maria Dioguardi</u>
Relinquished by (Signature) <u>Maria Dioguardi</u>	Date / Time <u>3/11/92 13:00</u>	Received by (Signature) <u>Geni Groll</u>
<u>Geni Groll</u>	Date / Time <u>3/17/92 17:35</u>	

Remarks:

4 EPTOX extraction only; Hold for analysis

Page of

[illegible]

Remarks:

* Eptox extraction only.
Hold for analysis.
1989 NYSDEC ASP

Page of

Client Name: Dvirka and Bartilucci Project #: 1148-2S Project Name: Cayuga Island P.O. # _____
Client Address: 6800 Jericho Tpke, Syosset NY Telephone # 516-364-9892
Report To: Maria Dioguardi Date Results Required: 4 weeks after Invoice To: Maria Dioguardi
UTSR

[illegible]

Remarks:

UPS

Received by (Signature) _____

Maria Dioguardi

Received by (Signature) _____

Received by (Signature)
Paul G. ...

*EPTox extraction only.
Hold for analysis

1989 NYSDOC ASP

Page of

[illegible]

3/18/92 17:00

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client Name: Dvirka and Bartilucci Project #: 114B-2S Project Name: Cayuga Island P.O. # Colv17
 Client Address: 6800 Jericho Tpke, Syosset NY Telephone # 516-369-9892
 Report to: Maria Dioguardi Date Results Required: 4 weeks after VTSR Invoice to: Maria Dioguardi

Sample Identification	Date / Time Sampled	Sample Type	Analyses										Total # of cont.	Comments
			VOA	ASNI	PEST/PAH	metals	CU-	EP	TOX					
CI-BH-S-17	3/17/92 13:55	Soil	X										2	22-A, B 40ml glass
CI-BH-S-17				X									1	22-C 16oz Amber glass
CI-BH-S-17						X							1	22-D 16 oz plastic
CI-BH-S-17								X					1	22-E 16 oz Amber glass

Relinquished by (Signature)

Willi Krow

Relinquished by (Signature)

UPS

Relinquished by (Signature)

Maria Dioguardi
Gerold Foll

Date / Time

3-6-92/16:00

Date / Time

Date / Time

3/11/92 13:00
3/14/92 17:00

Received by (Signature)

UPS

Received by (Signature)

Maria Dioguardi

Received by (Signature)

Gerold Foll

Remarks:

* Eptox extraction only.
Hold for analysis

1989 NYSDEC ASP

Page of

[illegible]

Received by (Signature)
General Galt

* Eptox extraction only.
Hold for analysis.
1989 NYS DEC Asp.

Page of

1989 NYS DEC ASP.

CHAIN OF CUSTODY RECORD

Page 2 of 8

Client Name: Dvirka and Bartilucci Project #: 1148-2S Project Name: Cayuga Island P.O. #
 Client Address: 6800 Jericho Tpke, Syosset NY Telephone # 516-364-9892
 Report To: Maria Dioguardi Date Results Required: 4 weeks after Invoice To: Maria Dioguardi
VTSR

Sample Identification	Date / Time Sampled	Sample Type	Analyses										Total # of cont.	Comments
			VJA	ABN	PEST/PCB	Metals	CN							
FIELD BLANK	3/18/92 11:45	Water	X										2	31 - A, B
FIELD BLANK				X									2	31 - C, D
FIELD BLANK					X								2	31 - E, F
FIELD BLANK						X							1	31 - G
FIELD BLANK							X						1	31 - H
TRIP Blank	N/A	Water	X										2	0126601C

Relinquished by (Signature) <i>Willie J. Brown</i>	Date / Time 3-6-92/1600	Received by (Signature) <i>CPS</i>	Remarks: 1989 NYS DEC ASD
Relinquished by (Signature) <i>CPS</i>	Date / Time	Received by (Signature) <i>Maria Dioguardi</i>	
Relinquished by (Signature) <i>Maria Dioguardi</i> <i>Paul Paul</i>	Date / Time 3/11/92 13:00 3/16/92 17:00	Received by (Signature) <i>Paul Paul</i>	

APPENDIX A-6

ADDITIONAL INFORMATION



PROJECT NAME: Cayuga Island DATE: 3/16/92
PROJECT NUMBER: 1148 INSTRUMENT: HNU P1-101
RECORDED BY: Gerry Gaid CALIBRATION DATE: 3/16/92
WEATHER CONDITIONS: gusty wind from west, partly cloudy

[illegible]

RECORDING PROCEDURES/REMARKS: _____

AMF

DAILY EQUIPMENT CALIBRATION LOG

Project Name: Cayuga Island Date: 3/16/92
Project Number: 1148 Calibrated By: G. Gould

[illegible]



PROJECT NAME: Cayuga Island DATE: 3/17/92
PROJECT NUMBER: 1148 INSTRUMENT: HNO
RECORDED BY: Gerry Gould CALIBRATION DATE: 3/17/92

WEATHER CONDITIONS: _____

[illegible]

RECORDING PROCEDURES/REMARKS: _____

AMF



PROJECT NAME: Layuga Island DATE: 3/18/92
PROJECT NUMBER: 1148 INSTRUMENT: HN-PI 101
RECORDED BY: Gerry Gould CALIBRATION DATE: 3/18/92
WEATHER CONDITIONS: Sunny 24° F no wind

[illegible]**RECORDING PROCEDURES/REMARKS:**



Project Name: Cayuga Island Date: 3/18/92
Project Number: 1148 Calibrated By: G. Gould

DECL



PROJECT NAME: Cayuga Island DATE: 3/19/92
PROJECT NUMBER: 1145 INSTRUMENT: HNu
RECORDED BY: G. Gould CALIBRATION DATE: 3/19/92
WEATHER CONDITIONS: sunny, light wind, 40°F

[illegible]

RECORDING PROCEDURES/REMARKS: _____



Project Name: Cayuga Island
Project Number: 1148

Date: 3/19/92

Calibrated By: G Gould

DECL

DAILY EQUIPMENT CALIBRATION LOG

Project Name: Cayuga Island Date: 3/20/02
Project Number: 11430 Calibrated By: gg

Project Number: 11450 Calibrated By: JJ

[illegible]