APPENDIX L.4

NATURAL RESOURCES—
BENTHIC INVERTEBRATE
GRAB, VIBRATORY SAMPLING AND SEDIMENT ANALYSIS AT THIRD AVENUE BRIDGE AND PIER 6
NEW YORK CITY

Note regarding APPENDIX L.4:

While the proposed barge site and staging facility for 129th Street at the Harlem River is no longer an option, the data collected and analyzed for the SDEIS remain in this appendix. Further studies will be conducted concerning the recently proposed barge site that would be located at the foot of Manhattan between the existing Staten Island Ferry Terminal and the United States Coast Guard facilities.

TECHNICAL MEMORANDUM
BENTHIC INVERTEBRATE GRAB, VIBRATORY CORE SAMPLING and SEDIMENT ANALYSIS at THIRD AVENUE BRIDGE AND PIER 6 NEW YORK CITY

In Support of:

NATURAL RESOURCES ASSESSMENT
FOR THE SECOND AVENUE SUBWAY

Submitted to:

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SEPTEMBER 2002

Project: 02736

TECHNICAL MEMORANDUM
BENTHIC INVERTEBRATE GRAB,
VIBRATORY CORE SAMPLING AND SEDIMENT ANALYSIS
AT THIRD AVENUE BRIDGE AND PIER 6
NEW YORK CITY

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BENTHIC INVERTEBRATE GRAB,
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NEW YORK CITY

EXECUTIVE SUMMARY

EEA, Inc. performed sediment sampling and analysis in support of the Second Avenue Subway Project SDEIS. Benthic grab and vibratory core sediment samples were collected on the Harlem River along the bulkhead between the 3rd Avenue Bridge and the Willis Avenue Bridge and between Piers 6 and 9 on the East River. Six individual core and benthic grabs were collected at each location (see Figures 1A and 1B). The grab samples were sieved through a 0.5 mm sieve and all retained organisms were identified and enumerated.

The individual vibratory core samples were analyzed for the following chemical and physical parameters:

- TAL Metals
- Pesticides and PCBs
- Total Cyanide
- Volatile Organics
- Semi-Volatile Organics (Base/Neutrals only)
- Total Organic Carbon
- Grain Size Sieve Analysis
- % Moisture

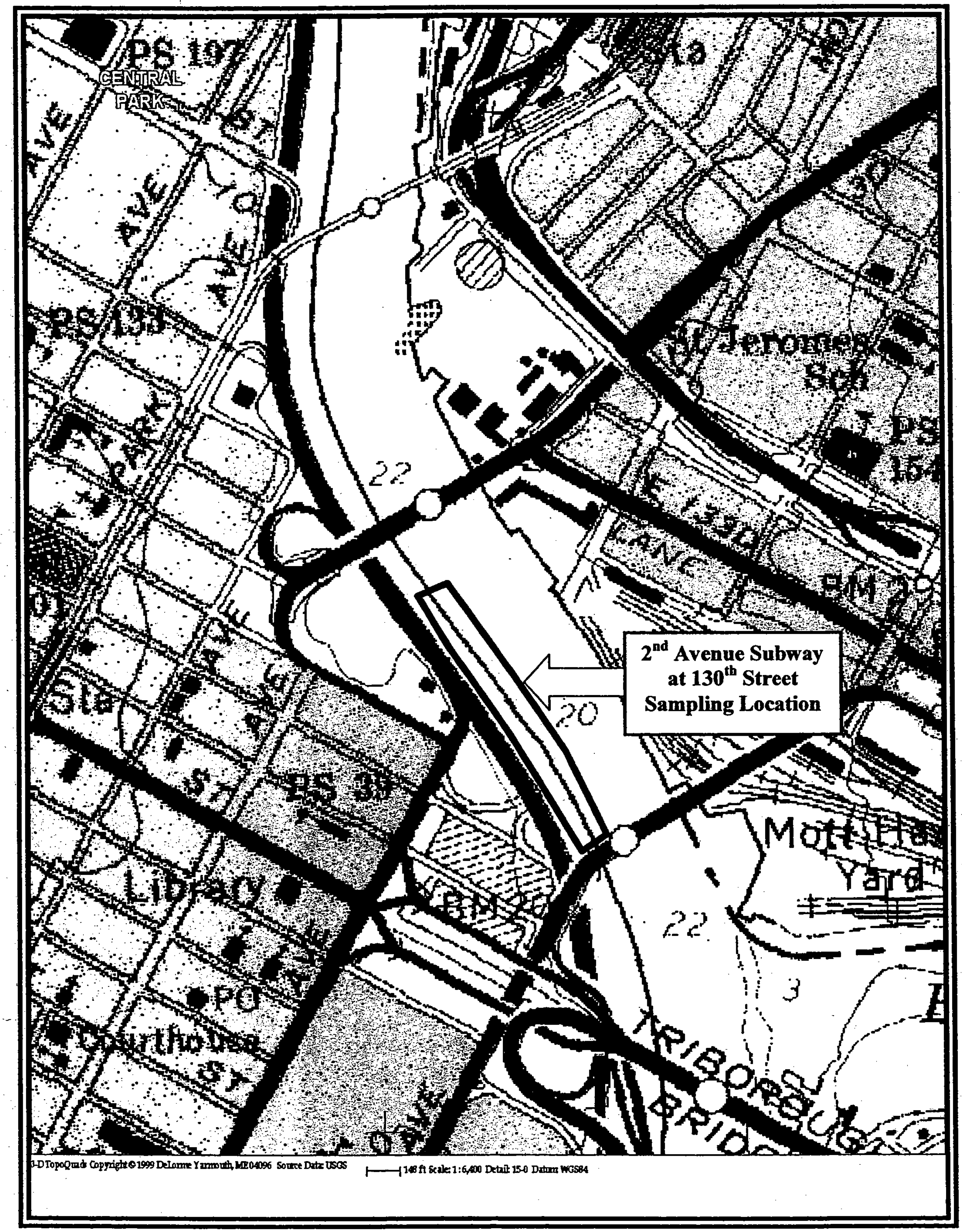
The complete analytical results with chain-of-custody logs and sediment core logs are included in the Appendices of this report.

1.0 <u>INTRODUCTION</u>

This report presents the findings of the marine sediment sampling program conducted for the New York City Transit Authority. This study was conducted to develop additional data for the Natural Resource Assessment for the Second Avenue Subway project. Samples were collected along the bulkhead between 3rd Avenue Bridge and the Willis Avenue Bridge and on the East River between Piers 6 and 9.

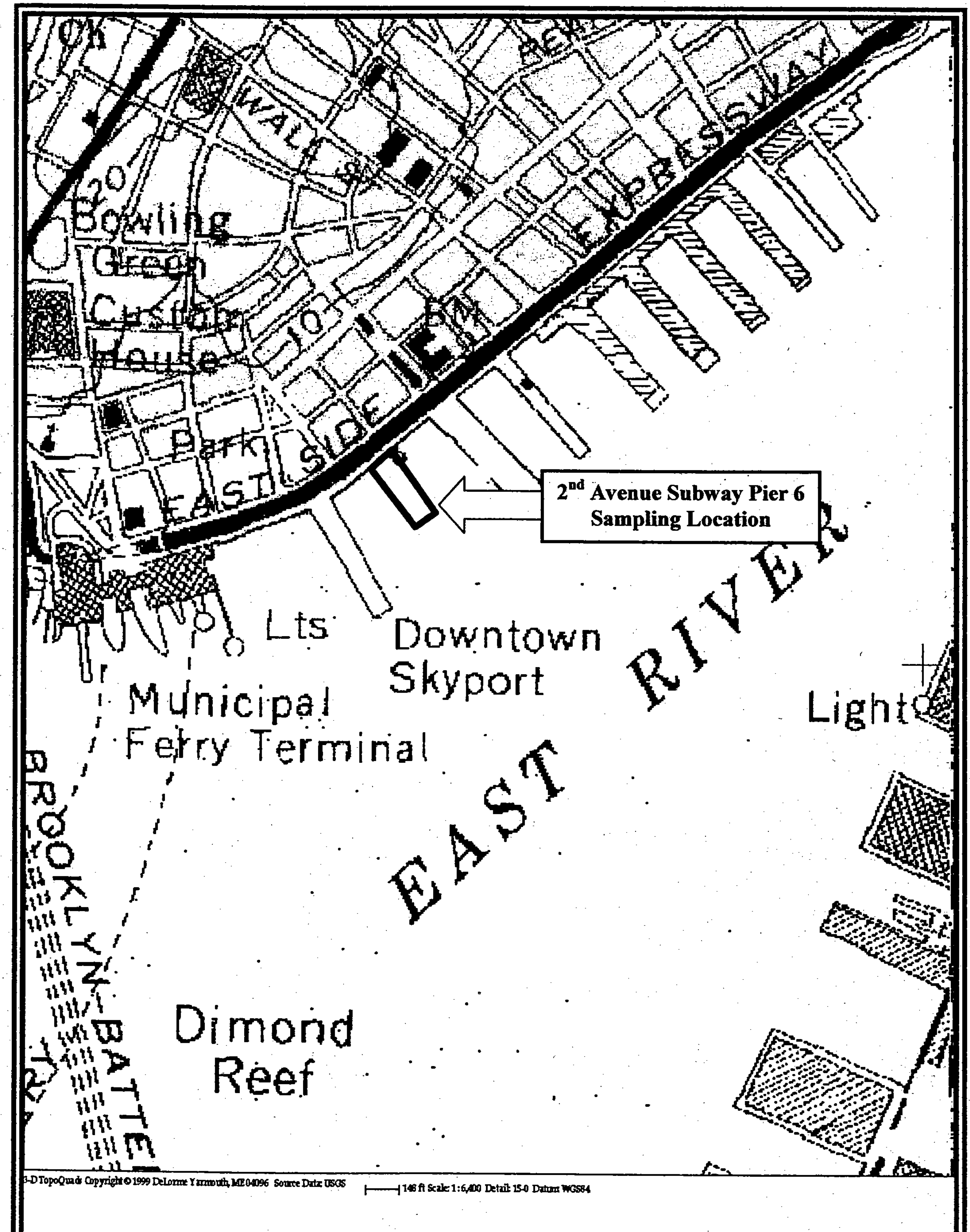
1.1 <u>Purpose and Scope</u>

The purpose of this investigation was to determine the physical, chemical and biological characteristics of the marine sediments located within the proposed dredge limits of this project. The



Second Avenue Subway Sampling Location

USGS Topographic Map (Central Park Quad) *Figure 1A*



Second Avenue Subway Sampling Location (Pier 6)
USGS Topographic Map (Jersey City Quad) *Figure 1B*

analytical data generated from this project will be used for inclusion in the Natural Resource Assessment of the 2nd Avenue Subway SDEIS. The scope of work included the collection of six vibratory core samples for chemical and physical analysis and six benthic grab samples for organism quantification and enumeration at each of the two locations. The analytical data may be used in the dredge permit application.

1.2 Site Location

The marine sediment sampling occurred at two distinct sites in Manhattan. The first site was located along the southwestern side of the Harlem River along the bulkhead adjacent to 130th Street and the 3rd Avenue Bridge, Manhattan. The approximate sampling locations were located at latitude 40°48.290, longitude 73°55.870 (see Figure 2).

The second series of sediment samples was collected at the former Pier 6 facility adjacent to the FDR Parkway in lower Manhattan. The approximate sampling locations were located at latitude 40°42.152, longitude 74°00.458 (see Figure 3).

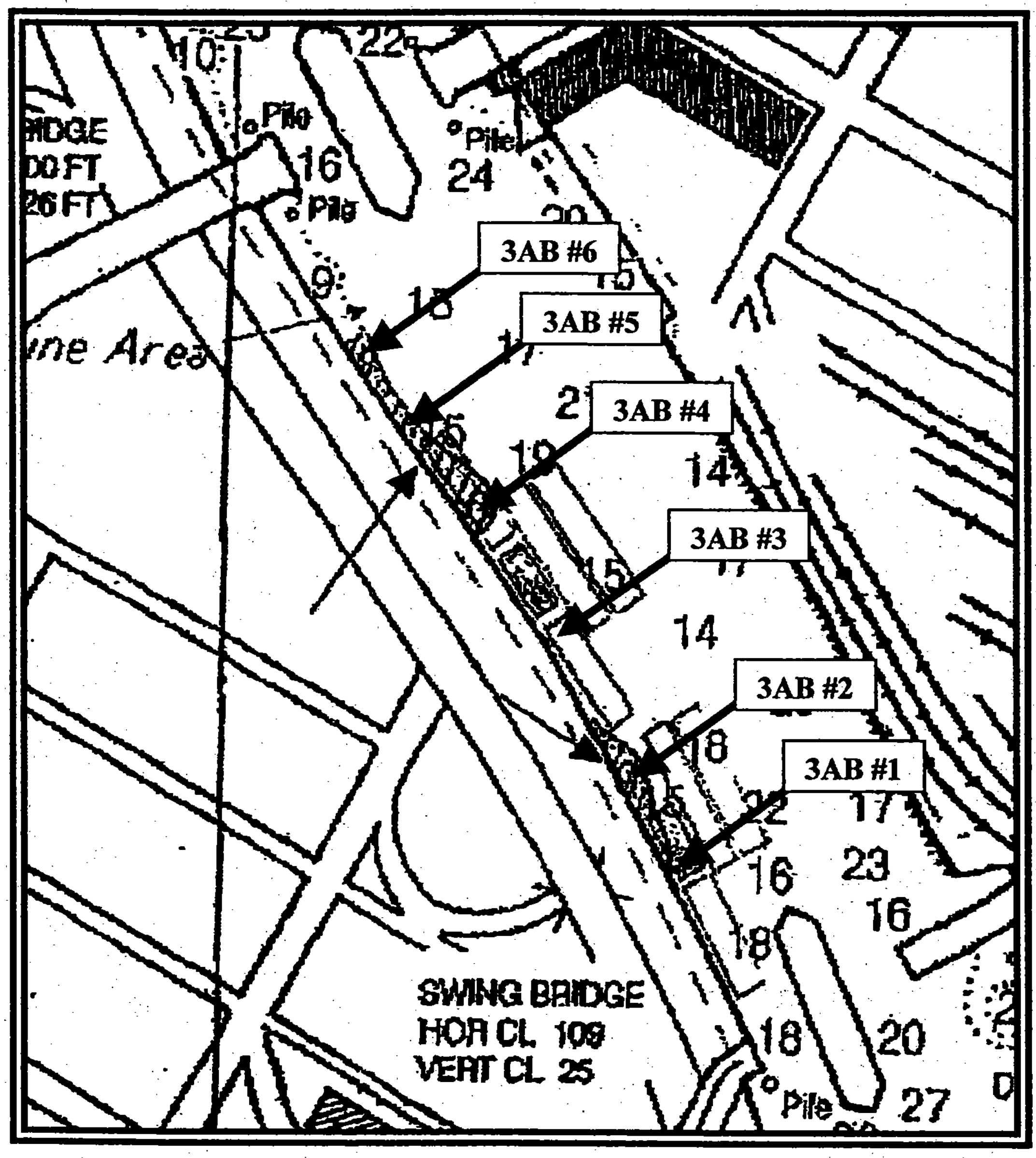
The site sampling locations are shown on Figures 2 and 3 with the GPS locations for each core sample shown on the individual core logs.

2.0 METHODS OF INVESTIGATION

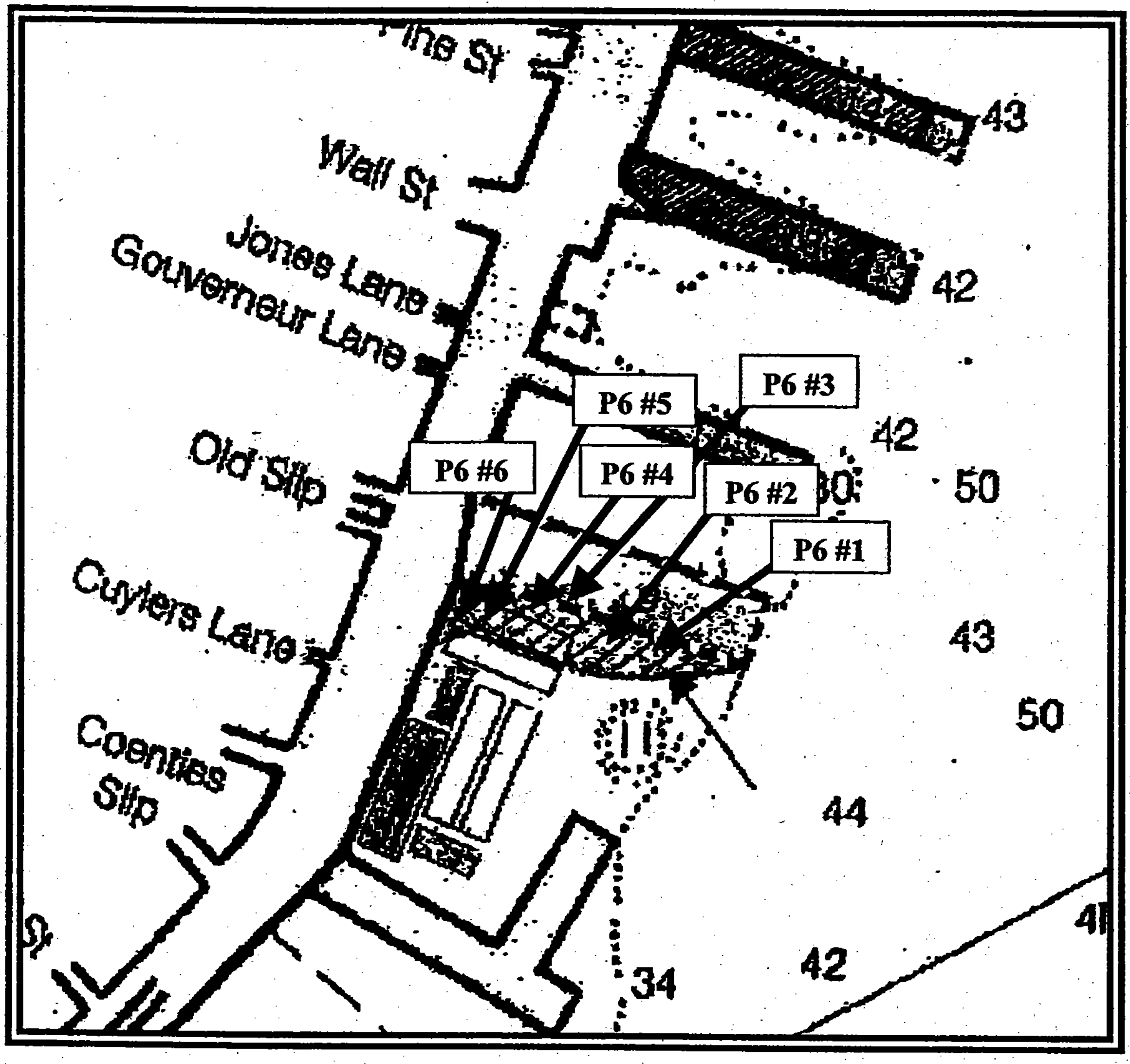
EEA, Inc. used a Rossfelder P-1 electric vibratory corer with an 8-foot long, 3-inch diameter stainless steel core barrel lined with replaceable 6-mil virgin high density polyethylene tube liner to collect the sediment samples. A stainless steel core cutter head with stainless retainer fingers was used to keep the core in the tube during extraction. The depth of penetration for each core sample was calculated from the actual water depth at the time of sampling and subtracting the tide height so as to maintain the proposed dredge depth to -14 feet MLW. All cores were collected to the proposed dredge limit, unless refusal was encountered due to obstructions. If so, the core location was shifted slightly to collect a sample, and was noted on the core logs. The sample locations are indicated on the enclosed plan. The differential GPS positions were recorded on the individual core logs.

The vibratory corer was operated off the stern of the R/V *Kingfisher*, a 36-foot Stanley specifically rigged for vibratory coring. The sample collection was completed by slowly lowering the corer off the stern of the vessel, then vibrating it into the sediment to the predetermined depth and as marked on the power supply line. The corer was winched back on board, then the HDPE liner was extruded from the core barrel and cut open for logging, sample processing and collection.

At each location, a new HDPE 6-mil liner was installed in the core barrel, then a pre-cleaned core cutter/catcher was installed in place and prepared for the next sampling location. After recovery and prior to collecting discrete sediment samples for analysis, the entire core was cut open and logged on the individual core sampling sheets included in Appendix A.



Third Avenue Bridge Sampling Locations *Figure 2*



Pier 6 Sampling Locations *Figure 3*

All sampling and collection of cores was completed on July 12, 2002 and submitted under chain-of-custody to EcoTest Laboratories, Inc. North Babylon, New York. EcoTest, Inc. is a New York certified laboratory (No. 10320). The samples were collected in laboratory supplied glass jars with Teflon lids and stored on ice in coolers and maintained under chain-of-custody until submission to the laboratory.

The core samples were collected and analyzed according to the proposed sampling plan. The collection and analysis scheme is as follows:

- Twelve (12) individual core samples were collected at predetermined locations within the proposed dredge limits to a depth of -14.0 feet MLW. The individual core samples were labeled 3AB#1 through 3AB#6 for the 3rd Avenue Bridge site and P6#1 through P6#6 for the Pier 6 site.

- Each core was then homogenized unless there was distinct strata in grain size and composition of at least two feet in depth. (No distinct strata greater than one-half inch was observed during this sampling program.)

- The sampling plan approval called for six individual core sample locations at each site.

The twelve individual core samples were analyzed for the following parameters:

- 23 Target Analyte List Metals
- Pesticides and PCBs
- Total Cyanide
- Volatile Organics
- Semi-Volatile Organics (base/Neutrals only)
- Total Organic Carbon
- Grain Size Analysis
- % moisture

Twelve benthic grab samples were collected concurrently with the collection of the vibratory core samples. The samples were collected with a $0.05m^2$ petite Ponar Grab. Each sample was then sieved through a 0.5 mm stainless steel sieve and the retained sample was preserved with Formalin and submitted for taxonomic invertebrate enumeration and quantification.

3.0 RESULTS

The complete analytical results for all sediment samples are included as a separate Appendix of this report. For the sake of clarity, the analytical results are also presented here in tabular form. All results are presented in the tables. Analytical results above a TAGM Guideline and indicated in bold print. The complete analytical results for each sample including Method Detection Limits are included in Appendix B, laboratory results.

Table 1 presents:

- The total concentration of Target Compound List (TCL) volatile organic compounds detected from analysis of the individual cores. Blank spaces in the table indicate analytes were not detected or were below the Method Detection Limits of the analytical instrumentation used.

Table 2 presents:

- The total concentration of TCL semi-volatile organic compounds detected from analysis of the cores. Blank spaces in the table indicate analytes were not detected or were below the Method Detection Limits of the analytical instrumentation used.

Table 3 presents:

- The total concentration of TCL Pesticides and PCBs detected from the analysis of the cores. Blank spaces in the table indicate analytes were not detected or were below the Method Detection Limits of the analytical instrumentation used.

Table 4 presents:

- The total concentration of Target Analyte List (TAL) metals plus Mercury and Cyanide detected from the analysis of the individual cores. Blank spaces in the table indicate analytes were not detected or were below the Method Detection Limits of the analytical instrumentation used.

Table 5 presents:

- The moisture content of the individual core samples (3AB#1 through 3AB#6 and P6#1 through P6#6).

- The average of two analyses for total organic carbon for each sample (in ppm). The individual analyses are on the laboratory data sheet.

- The percent gravel, sand, silt and clay. The actual sieve size analysis is included in the Laboratory Data Sheets included in Appendix B.

Table 6 presents:

- The taxonomic identification and quantification of the benthic organisms detected in each grab sample.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The analytical results in Tables 1 through 5 were compared to the applicable standards as detailed in the New York State Regulatory Cleanup Guidelines (TAGM Guidelines) Revised January 24, 1994. The cleanup criteria standards are shown with each table. The exceedances are noted below.

- Table 1: Volatile Organic Compounds. Very few volatile organic compounds were detected above the minimum detection limit. No exceedances for volatile organic compounds were noted.

- Table 2: Some exceedances for semi-volatile compounds were noted.

- Table 3: Pesticides and PCBs. No exceedances for total pesticides or PCBs were noted. No pesticides were detected above the MDL. Only one of seven PCB mixtures was detected (Arochlor 1248).

- Table 4: TCL Metals. Exceedances in arsenic, chromium, mercury and zinc were noted in the samples.

Exceedances of some semi-volatile compounds were observed in some of the samples. The poly aromatic hydrocarbons (PAHs) are typical of heating oils, engine oils, and diesel oil and most likely are a result of non point source and surface runoff and incidental marine spills. The levels observed are typical for New York waters and should not impact the proposed dredging operations.

Elevated metals concentrations are typical for New York waterways and should not impact the proposed dredging operation.

The grain size analysis from both sites indicate that the material is primarily a marine silt and would not be suitable for reuse or construction fill. An upland disposal for the dredge spoils is the most probably scenario. Review of the benthic invertebrate data reveal that both pollution indicative and pollution sensitive organisms were enumerated, i.e., slight contamination of the sediment was evident, although not concentrated enough to displace the pollution sensitive species.

TABLE 1

RESULTS VOLATILE ORGANIC CHEMICAL COMPOUNDS
USEPA METHOD 8260 (SOIL)

	Sample Collection Location						
Analytical Parameters (µg/kg)	3AB#1	3AB#2	3AB#3	3AB#4	3AB#5	3AB#6	NYSDEC[1] Soil Cleanup Objectives (TAGM)
Dicholorodifloromethane	<13	<7.7	<5.9	<10	<12	<12	NA
Chloromethane	<13	<7.7	<5.9	<10	<12	<12	NA
Vinyl Chloride	<13	<7.7	<5.9	<10	<12	<12	200
Bromomethane	<13	<7.7	<5.9	<10	<12	<12	NA
Chloroethane	<13	<7.7	<5.9	<10	<12	<12	1,900
Trichlorofluoromethane	<13	<7.7	<5.9	<10	<12	<12	NA
1,1 Dichloroethene	<13	<7.7	<5.9	<10	<12	<12	NA
Methylene Chloride	<13	<7.7	<5.9	<10	<12	<12	NA
t-1,2-Dichloroethene	<13	<7.7	<5.9	<10	<12	<12	300
1,1 Dichloroethane	<13	<7.7	<5.9	<10	<12	<12	200
2,2-Dichloropropane	<13	<7.7	<5.9	<10	<12	<12	300
c-1,2-Dichloroethene	<13	<7.7	<5.9	<10	<12	<12	NA
Bromochloromethane	<13	<7.7	<5.9	<10	<12	<12	NA
Chloroform	<13	<7.7	<5.9	<10	<12	<12	300
111 Trichoroethane	<13	<7.7	<5.9	<10	<12	<12	800
Carbon Tetrachloride	<13	<7.7	<5.9	<10	<12	<12	600
1,1-Dichloropropene	<13	<7.7	<5.9	<10	<12	<12	NA
Benzene	<13	<7.7	<5.9	<10	<12	<12	60
1,2 Dichloroethane	<13	<7.7	<5.9	<10	<12	<12	100
Trichloroethlene	<13	<7.7	<5.9	<10	<12	<12	700
1,2 Dichloropropane	<13	<7.7	<5.9	<10	<12	<12	NA
Dibromomethane	<13	<7.7	<5.9	<10	<12	<12	NA
Bromodichloromethane	<13	<7.7	<5.9	<10	<12	<12	NA
c-1,3Dichloromethane	<13	<7.7	<5.9	<10	<12	<12	NA
Toluene	<13	<7.7	<5.9	<10	<12	<12	1,500
t-1,3 Dichloropropene	<13	<7.7	<5.9	<10	<12	<12	NA
112 Trichloroethane	<13	<7.7	<5.9	<10	<12	<12	NA
Tetrachloroethene	<13	<7.7	<5.9	<10	<12	<12	1,400
1,3-Dichloropropane	<13	<7.7	<5.9	<10	<12	<12	300
Chlorodibromomethane	<13	<7.7	<5.9	<10	<12	<12	NA
1,2 Dibromoethane	<13	<7.7	<5.9	<10	<12	<12	NA
Chlorobenzene	<13	<7.7	<5.9	<10	<12	<12	1,700
Ethyl Benzene	<13	<7.7	<5.9	<10	<12	<12	5,500
1112 Tetrachloroethane	<13	<7.7	<5.9	<10	<12	<12	NA
m+p Xylene	<26	<15	<12	<21	<24	<24	1,200
o Xylene	<13	<7.7	<5.9	<10	<12	<12	1,200
Styrene	<13	<7.7	<5.9	<10	<12	<12	NA
Bromoform	<13	<7.7	<5.9	<10	<12	<12	NA
Isopropylbenzene	<13	<7.7	<5.9	<10	<12	<12	NA
Bromobenzene	<13	<7.7	<5.9	<10	<12	<12	NA
1122Tetrachloroehane	<13	<7.7	<5.9	<10	<12	<12	600

TABLE 1-Continued

RESULTS VOLATILE ORGANIC CHEMICAL COMPOUNDS
USEPA METHOD 8260 (SOIL)

	Sample Collection Location						
Analytical Parameters (µg/kg)	**3AB#1**	**3AB#2**	**3AB#3**	**3AB#4**	**3AB#5**	**3AB#6**	NYSDEC[1] Soil Cleanup Objectives (TAGM)
123-Trichloropropane	<13	<7.7	<5.9	<10	<12	<12	NA
n-Propylbenzene	<13	<7.7	<5.9	<10	<12	<12	NA
2-Chlorotoluene	<13	<7.7	<5.9	<10	<12	<12	NA
135-Trimethybenzene	<13	<7.7	<5.9	<10	<12	<12	NA
4-Chlorotoluene	<13	<7.7	<5.9	<10	<12	<12	NA
tert-Butylbenzene	<13	<7.7	<5.9	<10	<12	<12	NA
124-Trimethylbenzene	<13	<7.7	<5.9	<10	<12	<12	NA
sec-Butylbenzene	<13	<7.7	<5.9	<10	<12	<12	NA
p-Isopropyltoluene	<13	<7.7	<5.9	<10	<12	<12	NA
1,3 Dichlorobenzene	<13	<7.7	<5.9	<10	<12	<12	1,600
1,4 Dichlorobenzene	<13	<7.7	<5.9	<10	<12	<12	8,500
n-Butylbenzene	<13	<7.7	<5.9	<10	<12	<12	NA
1,2 Dichlorobenzene	<13	<7.7	<5.9	<10	<12	<12	7,900
Dibromochloropropane	<13	<7.7	<5.9	<10	<12	<12	NA
124-Trichlorobenzene	<13	<7.7	<5.9	<10	<12	<12	3,400
Hexachlorobutadiene	<13	<7.7	<5.9	<10	<12	<12	NA
Naphthalene	<13	<7.7	<5.9	<10	<12	<12	13,000
123-Trichlorobenzene	<13	<7.7	<5.9	<10	<12	<12	NA
ter.ButylMethylEther	<13	<7.7	<5.9	<10	<12	<12	NA
p-Ethyltoluene	<13	<7.7	<5.9	<10	<12	<12	NA
Freon 113	<13	<7.7	<5.9	<10	<12	<12	NA
1245 Tetramethylbenzene	<13	<7.7	<5.9	<10	<12	<12	NA
Acetone	<130	<77	<59	<100	<120	150	200
Methyl Ethyl Ketone	<130	<77	<59	<100	<120	<120	300
Methlisobutylketone	<130	<77	<59	<100	<120	<120	1,000
Chlorodifluromethane	<13	<7.7	<5.9	<10	<12	<12	NA
p Diethylbenzene	<13	<7.7	<5.9	<10	<12	<12	NA

µg/kg – presented in parts per billion, micrograms per kilogram
NA – Not available, no guideline has been established
ND – Not detected above method detection limits

1New York State Department of Environmental Conservation
Technical and Administrative Guidance Memorandum (TAGM) – Revised 1/94

Soil Cleanup Objectives were developed for soil total organic carbon (TOC) content of one percent for VOCs, SVOCs, and pesticides and five percent TOC for PCBs. The laboratory results presented herein should be adjusted for the sediment total organic carbon content.

TABLE 1

RESULTS VOLATILE ORGANIC CHEMICAL COMPOUNDS
USEPA METHOD 8260 (SOIL)

	Sample Collection Location						
Analytical Parameters (μg/kg)	**P6#1**	**P6#2**	**P6#3**	**P6#4**	**P6#5**	**P6#6**	NYSDEC[1] Soil Cleanup Objectives (TAGM)
Dicholorodifloromethane	<12	<13	<12	<12	<12	<11	NA
Chloromethane	<12	<13	<12	<12	<12	<11	NA
Vinyl Chloride	<12	<13	<12	<12	<12	<11	200
Bromomethane	<12	<13	<12	<12	<12	<11	NA
Chloroethane	<12	<13	<12	<12	<12	<11	1,900
Trichlorofluoromethane	<12	<13	<12	<12	<12	<11	NA
1,1 Dichloroethene	<12	<13	<12	<12	<12	<11	NA
Methylene Chloride	<12	<13	<12	<12	<12	<11	NA
t-1,2-Dichloroethene	<12	<13	<12	<12	<12	<11	300
1,1 Dichloroethane	<12	<13	<12	<12	<12	<11	200
2,2-Dichloropropane	<12	<13	<12	<12	<12	<11	300
c-1,2-Dichloroethene	<12	<13	<12	<12	<12	<11	NA
Bromochloromethane	<12	<13	<12	<12	<12	<11	NA
Chloroform	<12	<13	<12	<12	<12	<11	300
111 Trichoroethane	<12	<13	<12	<12	<12	<11	800
Carbon Tetrachloride	<12	<13	<12	<12	<12	<11	600
1,1-Dichloropropene	<12	<13	<12	<12	<12	<11	NA
Benzene	<12	<13	<12	<12	<12	<11	60
1,2 Dichloroethane	<12	<13	<12	<12	<12	<11	100
Trichloroethlene	<12	<13	<12	<12	<12	<11	700
1,2 Dichloropropane	<12	<13	<12	<12	<12	<11	NA
Dibromomethane	<12	<13	<12	<12	<12	<11	NA
Bromodichloromethane	<12	<13	<12	<12	<12	<11	NA
c-1,3Dichloromethane	<12	<13	<12	<12	<12	<11	NA
Toluene	<12	<13	<12	<12	<12	<11	1,500
t-1,3 Dichloropropene	<12	<13	<12	<12	<12	<11	NA
112 Trichloroethane	<12	<13	<12	<12	<12	<11	NA
Tetrachloroethene	<12	<13	<12	<12	<12	<11	1,400
1,3-Dichloropropane	<12	<13	<12	<12	<12	<11	300
Chlorodibromomethane	<12	<13	<12	<12	<12	<11	NA
1,2 Dibromoethane	<12	<13	<12	<12	<12	<11	NA
Chlorobenzene	<12	<13	<12	<12	<12	<11	1,700
Ethyl Benzene	<12	<13	<12	<12	<12	<11	5,500
1112 Tetrachloroethane	<12	<13	<12	<12	<12	<11	NA
m+p Xylene	<24	<26	<24	<24	<24	<23	1,200
o Xylene	<12	<13	<12	12	<12	<11	1,200
Styrene	<12	<13	<12	<12	<12	<11	NA
Bromoform	<12	<13	<12	<12	<12	<11	NA
Isopropylbenzene	<12	<13	<12	14	<12	<11	NA
Bromobenzene	<12	<13	<12	<12	<12	<11	NA
1122Tetrachloroehane	<12	<13	<12	<12	<12	<11	600

TABLE 1-Continued

RESULTS VOLATILE ORGANIC CHEMICAL COMPOUNDS
USEPA METHOD 8260 (SOIL)

	Sample Collection Location						
Analytical Parameters (µg/kg)	**P6#1**	**P6#2**	**P6#3**	**P6#4**	**P6#5**	**P6#6**	NYSDEC[1] Soil Cleanup Objectives (TAGM)
123-Trichloropropane	<12	<13	<12	<12	<12	<11	NA
n-Propylbenzene	<12	<13	<12	<12	<12	<11	NA
2-Chlorotoluene	<12	<13	<12	<12	<12	<11	NA
135-Trimethybenzene	<12	<13	<12	<12	<12	<11	NA
4-Chlorotoluene	<12	<13	<12	<12	<12	<11	NA
tert-Butylbenzene	<12	<13	<12	19	<12	<11	NA
124-Trimethylbenzene	<12	<13	<12	<12	<12	<11	NA
sec-Butylbenzene	<12	<13	<12	<12	<12	<11	NA
p-Isopropyltoluene	<12	<13	<12	<12	<12	<11	NA
1,3 Dichlorobenzene	<12	<13	<12	<12	<12	<11	1,600
1,4 Dichlorobenzene	<12	<13	<12	<12	<12	<11	8,500
n-Butylbenzene	<12	<13	<12	<12	<12	<11	NA
1,2 Dichlorobenzene	<12	<13	<12	<12	<12	<11	7,900
Dibromochloropropane	<12	<13	<12	<12	<12	<11	NA
124-Trichlorobenzene	<12	<13	<12	<12	<12	<11	3,400
Hexachlorobutadiene	<12	<13	<12	<12	<12	<11	NA
Naphthalene	<12	<13	<12	<12	<12	<11	13,000
123-Trichlorobenzene	<12	<13	<12	<12	<12	<11	NA
ter.ButylMethylEther	<12	<13	<12	<12	<12	<11	NA
p-Ethyltoluene	<12	<13	<12	<12	<12	<11	NA
Freon 113	<12	<13	<12	<12	<12	<11	NA
1245 Tetramethylbenzene	<12	<13	<12	<12	<12	<11	NA
Acetone	<120	150	180	190	120	130	200
Methyl Ethyl Ketone	<120	<130	<120	<120	<120	<110	300
Methlisobutylketone	<120	<130	<120	<120	<120	<110	1,000
Chlorodifluromethane	<12	<13	<12	<12	<12	<11	NA
p Diethylbenzene	<12	<13	<12	<12	<12	<11	NA

µg/kg – presented in parts per billion, micrograms per kilogram
NA – Not available, no guideline has been established
ND – Not detected above method detection limits

1New York State Department of Environmental Conservation
Technical and Administrative Guidance Memorandum (TAGM) – Revised 1/94

Soil Cleanup Objectives were developed for soil total organic carbon (TOC) content of one percent for VOCs, SVOCs, and pesticides and five percent TOC for PCBs. The laboratory results presented herein should be adjusted for the sediment total organic carbon content.

TABLE 2

RESULTS SEMI-VOLATILE ORGANIC CHEMICAL COMPOUNDS
USEPA METHOD 8270 BASE NEUTRALS EXTRACTABLES (SOIL)

	Sample Collection Location						
Analytical Parameters (µg/kg)	3AB#1	3AB#2	3AB#3	3AB#4	3AB#5	3AB#6	NYSDEC[1] Soil Recommended Cleanup Objectives (TAGM)
Bis(2-chloroethyl)ether	<77	<46	<35	<630	<73	<73	NA
1,3 Dichlorobenzene	<77	<46	<35	<630	<73	<73	NA
1,4 Dichlorobenzene	<77	<46	<35	<630	<73	<73	NA
Carbazole	<77	<46	<35	<630	<73	<73	NA
1,2 Dichlorobenzene	<77	<46	<35	<630	<73	<73	NA
Bis (2-chloroisopropyl)ether	<77	<46	<35	<630	<73	<73	NA
N-Nitrosodi-n-propylamine	<77	<46	<35	<630	<73	<73	NA
Hexachloroethane	<77	<46	<35	<630	<73	<73	NA
Nitrobenzene	<77	<46	<35	<630	<73	<73	200
Isophorone	<77	<46	<35	<630	<73	<73	4,400
Bis(2-chloroethoxy)methane	<77	<46	<35	<630	<73	<73	NA
124-Trichlorobenzene	<77	<46	<35	<630	<73	<73	NA
Naphthalene	<77	<46	<35	630	93	100	13,000
4-Chloroaniline	<77	<46	<35	<630	<73	<73	
Hexachlorobutadiene	<77	<46	<35	<630	<73	<73	220
2-Methylnaphthalene	<77	<46	<35	<630	85	110	
Hexachlorocyclopentadiene	<770	<460	<350	<6300	<730	<730	
2-Chloronaphthalene	<77	<46	<35	<630	<73	<73	NA
2-Nitroaniline	<77	<46	<35	<630	<73	<73	
Dimethyl Phthalate	<77	<46	<35	<630	<73	<73	2,000
Acenaphthylene	<77	<46	<35	<630	80	140	41,000
2,6-Dinitrotoluene	<77	<46	<35	<630	<73	<73	1,000
3-Nitroaniline	<77	<46	<35	<630	<73	<73	
Acenaphthene	<77	<46	<35	<630	**150**	**180**	50
Dibenzofuran	<77	<46	<35	<630	80	120	
2,4-Dinitrotoluene	<77	<46	<35	<630	<73	<73	NA
Diethyl Phthalate	<77	<46	<35	<630	<73	<73	7,100
4-Chlorophenyl phenyl ether	<77	<46	<35	<630	<73	<73	NA
Fluorene	<77	<46	<35	<630	100	160	50,000
4-Nitroaniline	<77	<46	<35	<630	<73	<73	
N-Nitrosodiphenylamine	<77	<46	<35	<630	<73	<73	NA
4-Bromophenyl phenyl ether	<77	<46	<35	<630	<73	<73	NA
Hexachlorobenzene	<77	<46	<35	<630	<73	<73	410
Phenanthrene	230	230	48	650	410	630	50,000
Anthracene	130	58	<35	<630	240	410	50,000
Di-n-Butyl Phthalate	<77	<46	<35	<630	<73	<73	8,100
Fluoranthene	770	350	91	1,300	1,500	2,300	50,000

TABLE 2 - Continued

RESULTS SEMI-VOLATILE ORGANIC CHEMICAL COMPOUNDS USEPA METHOD 8270 BASE NEUTRALS EXTRACTABLES (SOIL)

	Sample Collection Location						
Analytical Parameters (µg/kg)	3AB#1	3AB#2	3AB#3	3AB#4	3AB#5	3AB#6	NYSDEC Soil Recommended Cleanup Objectives (TAGM)
Pyrene	1,000	380	260	1,800	1,700	4,100	50,000
BenzylButylPhthalate	180	<46	<35	<630	120	120	50,000
3,3'-Dichlorobenzidine	<7700	<460	<350	<6300	<7300	<7300	NA
Benzo(a)anthracene	**410**	200	67	**710**	**610**	**1,100**	224
Chrysene	**460**	230	100	**1,100**	**680**	**1,400**	400
Bis(2-ethylhexyl)phthalate	1,100	1,200	270	6000	1,500	1,700	50,000
Di-n-octyl Phthalate	<770	<46	<35	<630	<730	<730	50,000
Benzo(b)fluoranthene	<770	180	100	**650**	<730	**950**	224
Benzo(k)fluoranthene	<770	180	100	**650**	<730	**950**	224
Benzo(a)pyrene	<770	**180**	**100**	**690**	<730	**1,000**	61
Indeno(1,2,3-cd)pyrene	<770	85	<35	<630	<730	<730	3,200
Dibenzo(a,h)anthracene	<770	<46	<35	<630	<730	<730	14
Benzo(ghi)perylene	<770	95	<35	<630	<730	<730	50,000

µg/kg – presented in parts per billion, micrograms per kilogram
NA – Not available, no guideline has been established
New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) – Revised 1/94

Soil Cleanup Objectives were developed for soil total organic carbon (TOC) content of one percent for VOCs, SVOCs, and pesticides and five percent TOC for PCBs. The laboratory results should be adjusted for the sediment organic carbon content.

TABLE 2

RESULTS SEMI-VOLATILE ORGANIC CHEMICAL COMPOUNDS USEPA METHOD 8270 BASE NEUTRALS EXTRACTABLES (SOIL)

Analytical Parameters (µg/kg)	Sample Collection Location						NYSDEC[1] Soil Recommended Cleanup Objectives (TAGM)
	P6#1	P6#2	P6#3	P6#4	P6#5	P6#6	
Bis(2-chloroethyl)ether	<73	<770	<710	<710	<710	<680	NA
1,3 Dichlorobenzene	<73	<770	<710	<710	<710	<680	NA
1,4 Dichlorobenzene	<73	<770	<710	<710	<710	<680	NA
Carbazole	80	<770	<710	<710	<710	<680	NA
1,2 Dichlorobenzene	<73	<770	<710	<710	<710	<680	NA
Bis (2-chloroisopropyl)ether	<73	<770	<710	<710	<710	<680	NA
N-Nitrosodi-n-propylamine	<73	<770	<710	<710	<710	<680	NA
Hexachloroethane	<73	<770	<710	<710	<710	<680	NA
Nitrobenzene	<73	<770	<710	<710	<710	<680	200
Isophorone	<73	<770	<710	<710	<710	<680	4,400
Bis(2-chloroethoxy)methane	<73	<770	<710	<710	<710	<680	NA
124-Trichlorobenzene	<73	<770	<710	<710	<710	<680	NA
Naphthalene	180	<770	<710	<710	<710	<680	13,000
4-Chloroaniline	<73	<770	<710	790	<710	<680	
Hexachlorobutadiene	<73	<770	<710	<710	<710	<680	220
2-Methylnaphthalene	140	<770	<710	<710	<710	<680	
Hexachlorocyclopentadiene	<730	<7700	<7100	<7100	<7100	<6800	
2-Chloronaphthalene	<73	<770	<710	<710	<710	<680	NA
2-Nitroaniline	<73	<770	<710	<710	<710	<680	
Dimethyl Phthalate	<73	<770	<710	<710	<710	<680	2,000
Acenaphthylene	180	<770	<710	<710	<710	<680	41,000
2,6-Dinitrotoluene	<73	<770	<710	<710	<710	<680	1,000
3-Nitroaniline	<73	<770	<710	<710	<710	<680	
Acenaphthene	**85**	<770	<710	<710	<710	<680	50
Dibenzofuran	<73	<770	<710	<710	<710	<680	
2,4-Dinitrotoluene	<73	<770	<710	<710	<710	<680	NA
Diethyl Phthalate	<73	<770	<710	<710	<710	<680	7,100
4-Chlorophenyl phenyl ether	<73	<770	<710	<710	<710	<680	NA
Fluorene	130	<770	<710	<710	<710	<680	50,000
4-Nitroaniline	<73	<770	<710	<710	<710	<680	
N-Nitrosodiphenylamine	<73	<770	<710	<710	<710	<680	NA
4-Bromophenyl phenyl ether	<73	<770	<710	<710	<710	<680	NA
Hexachlorobenzene	<73	<770	<710	<710	<710	<680	410
Phenanthrene	560	870	1,600	2,600	880	1,300	50,000
Anthracene	510	770	1,000	1,300	<710	890	50,000
Di-n-Butyl Phthalate	<73	<770	<710	<710	<710	<680	8,100
Fluoranthene	880	1,700	2,600	4,000	1,600	2,500	50,000

TABLE 2 - Continued

RESULTS SEMI-VOLATILE ORGANIC CHEMICAL COMPOUNDS USEPA METHOD 8270 BASE NEUTRALS EXTRACTABLES (SOIL)

	Sample Collection Location						
Analytical Parameters (µg/kg)	P6#1	P6#2	P6#3	P6#4	P6#5	P6#6	NYSDEC[1]Soil Recommended Cleanup Objectives (TAGM)
Pyrene	1,600	2,300	3,300	5,000	1,800	2,700	50,000
BenzylButylPhthalate	<73	<770	<710	<710	<710	<680	50,000
3,3'-Dichlorobenzidine	<7,300	<7,700	<7,100	<7,100	<7100	<6800	NA
Benzo(a)anthracene	**780**	**1,300**	**2,100**	**2,900**	**1,100**	**1,600**	224
Chrysene	**900**	**1,500**	**2,100**	**2,600**	**1,500**	**1,800**	400
Bis(2-ethylhexyl)phthalate	1,200	5,400	2,600	11,000	5,000	6,100	50,000
Di-n-octyl Phthalate	<730	<770	<710	<710	<710	<680	50,000
Benzo(b)fluoranthene	**780**	**1,000**	**1,700**	**2,000**	**880**	**1,300**	224
Benzo(k)fluoranthene	**780**	**1,000**	**1,700**	**2,000**	**880**	**1,300**	224
Benzo(a)pyrene	**1,100**	**1,400**	**2,200**	**2,600**	**1,300**	**1,600**	61
Indeno(1,2,3-cd)pyrene	<730	<770	<710	<710	<710	<680	3,200
Dibenzo(a,h)anthracene	<730	<770	<710	<710	<710	<680	14
Benzo(ghi)perylene	<730	<770	<710	<710	<710	<680	50,000

µg/kg – presented in parts per billion, micrograms per kilogram
NA – Not available, no guideline has been established
New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) – Revised 1/94

Soil Cleanup Objectives were developed for soil total organic carbon (TOC) content of one percent for VOCs, SVOCs, and pesticides and five percent TOC for PCBs. The laboratory results presented herein should be adjusted for the sediment total organic carbon content.

TABLE 3

USEPA METHOD 8081/8082 PESTICIDES AND PCBs (SOIL)

Analytical Parameter µg/kg	Sample Collection Location						NYSDEC Soil Cleanup Objectives (TAGM)
	3AB#1	3AB#2	3AB#3	3AB#4	3AB#5	3AB#6	
Lindane	<5.1	<3.1	<2.4	<4.2	<4.9	<4.9	NA
Heptachlor	<5.1	<3.1	<2.4	<4.2	<4.9	<4.9	100
Aldrin	<5.1	<3.1	<2.4	<4.2	<4.9	<4.9	41
Heptachlor Epoxide	<5.1	<3.1	<2.4	<4.2	<4.9	<4.9	20
p,p-DDE	<5.1	<3.1	<2.4	<4.2	<4.9	<4.9	2100
Dieldrin	<5.1	<3.1	<2.4	<4.2	<4.9	<4.9	44
Endrin	<5.1	<3.1	<2.4	<4.2	<4.9	<4.9	100
p,p-DDD	<5.1	<3.1	<2.4	<4.2	<4.9	<4.9	2900
p,p-DDT	<10	<6.2	<4.7	<8.3	<9.8	<9.8	2100
Chlordane	<21	<12	<9.4	<17	<20	<20	540
Toxaphene	<100	<62	<47	<83	<98	<98	NA
Endrin Aldehyde	<31	<18	<14	<25	<29	<29	NA
a BHC	<5.1	<3.1	<2.4	<4.2	<4.9	<4.9	110
b BHC	<5.1	<3.1	<2.4	<4.2	<4.9	<4.9	200
d BHC	<5.1	<3.1	<2.4	<4.2	<4.9	<4.9	300
Endosulfan 1	<10	<6.2	<4.7	<8.3	<9.8	<9.8	900
Endosulfan 2	<10	<6.2	<4.7	<8.3	<9.8	<9.8	900
Endosulfan Sulfate	<31	<18	<14	<25	<29	<29	1000
Aroclor 1016	<100	<62	<47	<83	<98	<98	1000
Aroclor 1221	<100	<62	<47	<83	<98	<98	1000
Aroclor 1232	<100	<62	<47	<83	<98	<98	1000
Aroclor 1242	<100	<62	<47	<83	<98	<98	
Aroclor 1248	180	<62	<47	790	<98	230	1000
Aroclor 1254	<100	<62	<47	<83	<98	<98	1000
Aroclor 1260	<100	<62	<47	<83	<98	<98	

µg/kg – presented in parts per billion, micrograms per kilogram
< less than method level detection limit
MDL is Method Detection Limit
[1]New York State Department of Environmental Conservation
Technical and Administrative Guidance Memorandum (TAGM) Revised 1/94
Soil Cleanup Objectives were developed for soil total organic carbon (TOC) content of one percent for VOCs, SVOCs, and pesticides and five percent TOC for PCBs. The laboratory results presented herein should be adjusted for the sediment total organic carbon content.

TABLE 3

USEPA METHOD 8081/8082 PESTICIDES AND PCBs (SOIL)

Analytical Parameter µg/kg	Sample Collection Location						NYSDEC Soil Cleanup Objectives (TAGM)
	P6#1	**P6#2**	**P6#3**	**P6#4**	**P6#5**	**P6#6**	
Lindane	<4.9	<5.1	<4.8	<4.8	<4.8	<4.5	NA
Heptachlor	<4.9	<5.1	<4.8	<4.8	<4.8	<4.5	100
Aldrin	<4.9	<5.1	<4.8	<4.8	<4.8	<4.5	41
Heptachlor Epoxide	<4.9	<5.1	<4.8	<4.8	<4.8	<4.5	20
p,p-DDE	<4.9	<5.1	<4.8	<4.8	<4.8	<4.5	2100
Dieldrin	<4.9	<5.1	<4.8	<4.8	<4.8	<4.5	44
Endrin	<4.9	<5.1	<4.8	<4.8	<4.8	<4.5	100
p,p-DDD	<4.9	<5.1	<4.8	<4.8	<4.8	<4.5	2900
p,p-DDT	<9.8	<10	<9.5	<9.5	<9.5	<9.1	2100
Chlordane	<20	<21	<19	<19	<19	<18	540
Toxaphene	<98	<100	<95	<95	<95	<91	NA
Endrin Aldehyde	<29	<31	<29	<29	<29	<27	NA
a BHC	<4.9	<5.1	<4.8	<4.8	<4.8	<4.5	110
b BHC	<4.9	<5.1	<4.8	<4.8	<4.8	<4.5	200
d BHC	<4.9	<5.1	<4.8	<4.8	<4.8	<4.5	300
Endosulfan 1	<9.8	<10	<9.5	<9.5	<9.5	<9.1	900
Endosulfan 2	<9.8	<10	<9.5	<9.5	<9.5	<9.1	900
Endosulfan Sulfate	<29	<31	<29	<29	<29	<27	1000
Aroclor 1016	<98	<100	<95	<95	<95	<91	1000
Aroclor 1221	<98	<100	<95	<95	<95	<91	1000
Aroclor 1232	<98	<100	<95	<95	<95	<91	1000
Aroclor 1242	<98	<100	<95	<95	<95	<91	
Aroclor 1248	240	510	210	240	230	500	1000
Aroclor 1254	<98	<100	<95	<95	<95	<91	1000
Aroclor 1260	<98	<100	<95	<95	<95	<91	

µg/kg – presented in parts per billion, micrograms per kilogram
< less than method level detection limit
MDL is Method Detection Limit

[1]New York State Department of Environmental Conservation
Technical and Administrative Guidance Memorandum (TAGM) Revised 1/94

Soil Cleanup Objectives were developed for soil total organic carbon (TOC) content of one percent for VOCs, SVOCs, and pesticides and five percent TOC for PCBs. The laboratory results presented herein should be adjusted for the sediment total organic carbon content.

TABLE 4

SOIL SAMPLE RESULTS
TARGET ANALYTE LIST METALS

	Sample Collection Location (mg/Kg)							
Analytical Parameters	**3AB#1**	**3AB#2**	**3AB#3**	**3AB#4**	**3AB#5**	**3AB#6**	Eastern USA Background	NYSDEC Regulatory Cleanup Guidelines (TAGM)
Aluminum	8,500	4,500	810	7,700	11,000	10,000		
Antimony	<2.6	<1.5	<1.2	<2.1	<2.4	<2.4	NA	SB
Arsenic	5.6	5.8	1.1	5.4	**8.3**	**8.0**	3-12	7.5 or SB
Barium	41	22	2.6	69	56	56		
Beryllium	0.46	0.23	<0.12	0.42	0.63	0.59	0-1.75	0.16 or SB
Cadmium	2.0	1.1	<0.59	4.4	2.7	2.7	0.1-1	10
Calcium	3,300	15,000	1,300	5.600	4,900	3,900		
Chromium	44	37	5.9	**83**	**59**	**61**	1.5-40	50
Cobalt	6.7	3.1	0.69	6.3	8.8	8.0		
Copper	67	32	4.9	150	110	110	1-50	25 or SB
Iron	15,000	6,900	2,500	15,000	19,000	19,000		
Lead	90	37	5.4	230	100	110	NA	NA
Magnesium	5,400	12,000	680	5,800	6,100	6,300		
Manganese	230	1,700	19	190	440	320		
Mercury	**0.59**	**0.17**	0.024	**1.2**	**0.93**	**0.76**	.001-.02	.1
Nickel	<2.6	6.6	1.9	<2.1	<2.4	<2.4	0.5-25	13 or SB
Potassium	2,500	940	480	2,100	3,200	3,200		
Selenium	<1.0	<0.62	<0.47	<0.83	<0.98	0.98	0.1-3.9	2 or SB
Silver	2.5	1.2	<0.59	4.6	3.9	3.7	N/A	SB

TABLE 4 - Continued

SOIL SAMPLE RESULTS
TARGET ANALYTE LIST METALS

	Sample Collection Location (mg/Kg)							
Analytical Parameters	**3AB#1**	**3AB#2**	**3AB#3**	**3AB#4**	**3AB#5**	**3AB#6**	Eastern USA Background	NYSDEC Regulatory Cleanup Guidelines (TAGM)
Sodium	8,200	2,900	880	3,800	7,100	7,800		
Thallium	<2.6	<1.5	<1.2	<2.1	<2.4	<2.4	NA	SB
Vanadium	24	14	4	33	32	29		
Zinc	**140**	**62**	**13**	**230**	**160**	**180**	9-50	20
Cyanide	<5.1	<3.1	<2.4	<4.2	<4.9	<4.9		

mg/kg – presented in parts per million or ppm
SB – cleanup guidelines are either site background or established level (whichever is lower)
NA- none established

Eastern USA Background concentrations as reported in a 1984 survey of reference material by E. Carol McGovern, NYSDEC.
** Lead- Background levels vary widely. Average Background levels in metropolitan areas near highways typically range from 200-500ppm. The USEPA's Interim Lead Hazard Guidance (7-14-94) establishes a residential screening level of 400ppm.
New York State Department of Environmental Conservation
Technical and Administrative Guidance Memorandum (TAGM)
Recommended Soil Cleanup January 24, 1994 (Revised).

TABLE 4

SOIL SAMPLE RESULTS
TARGET ANALYTE LIST METALS (SOIL)

	Sample Collection Location (mg/Kg)							
Analytical Parameters	**P6#1**	**P6#2**	**P6#3**	**P6#4**	**P6#5**	**P6#6**	Eastern USA Background	NYSDEC Regulatory Cleanup Guidelines (TAGM)
Aluminum	10,000	11,000	10,000	8,300	13,000	11,000		
Antimony	<2.4	<2.6	<2.4	<2.4	<2.4	<2.3	NA	SB
Arsenic	**8.3**	**11**	**11**	**8.6**	**15**	**11**	3-12	7.5 or SB
Barium	63	77	79	90	86	100		
Beryllium	0.59	0.59	0.57	0.5	0.71	0.61	0-1.75	0.16 or SB
Cadmium	3.7	4.9	5.5	4.3	5.5	7.3	0.1-1	10
Calcium	4,400	5,600	5,000	5,500	6,400	4,500		
Chromium	**98**	**130**	**140**	**110**	**150**	**170**	1.5-40	50
Cobalt	8.0	7.9	7.4	6.9	9.8	8.4		
Copper	130	190	190	150	200	220	1-50	25 or SB
Iron	19,000	200	19,000	16,000	29,000	23,000		
Lead	120	180	170	220	200	250	NA	NA
Magnesium	5,600	5,900	5,500	5,200	6,900	5,900		
Manganese	340	410	360	260	620	320		
Mercury	**1.2**	**1.7**	**2.9**	**2.9**	**1.8**	**2.0**	.001-.02	.1
Nickel	<2.4	<2.6	<2.4	3.3	<2.4	<2.3	0.5-25	13 or SB
Potassium	2,900	3,300	2,900	2,600	3,800	3,000		

TABLE 4 - Continued

SOIL SAMPLE RESULTS
TARGET ANALYTE LIST METALS

	Sample Collection Location (mg/Kg)							
Analytical Parameters	**P6#1**	**P6#2**	**P6#3**	**P6#4**	**P6#5**	**P6#6**	Eastern USA Background	NYSDEC Regulatory Cleanup Guidelines (TAGM)
Selenium	0.98	<1.0	<0.95	<0.95	<0.95	<0.91	0.1-3.9	2 or SB
Silver	6.3	7.9	7.4	5.5	8.8	13	N/A	SB
Sodium	7,300	8,200	7,100	6,200	8,100	6,800		
Thallium	<2.4	<2.6	<2.4	<2.4	<2.4	<2.3	NA	SB
Vanadium	34	36	36	31	45	41		
Zinc	**200**	**250**	**260**	**240**	**290**	**340**	9-50	20
Cyanide	<4.9	<5.1	<4.8	<4.8	<4.8	<4.8		

mg/kg – presented in parts per million or ppm
SB – cleanup guidelines are either site background or established level (whichever is lower)
NA- none established

Eastern USA Background concentrations as reported in a 1984 survey of reference material by E. Carol McGovern, NYSDEC.
** Lead- Background levels vary widely. Average Background levels in metropolitan areas near highways typically range from 200-500ppm. The USEPA's Interim Lead Hazard Guidance (7-14-94) establishes a residential screening level of 400ppm.
New York State Department of Environmental Conservation
Technical and Administrative Guidance Memorandum (TAGM)
Recommended Soil Cleanup January 24, 1994 (Revised).

TABLE 5

MOISTURE CONTENT AND TOC

Core No.	% Moisture	TOC Ave. ppm	% Gravel	% Sand	% Silt/Clay
3AB#1	61	24,000	0.4	20	80
3AB#2	35	7,500	24	64	12
3AB#3	15	940	9.9	89	1.6
3AB#4	52	38,000	0	11	89
3AB#5	59	27,000	0	9.5	91
3AB#6	59	46,000	0	18	82
P6#1	59	37,000	0	11	89
P6#2	61	64,000	0	5.6	94
P6#3	61	40,000	0	13	87
P6#4	58	45,000	0	15	85
P6#5	58	50,000	0	14	86
P6#6	56	84,000	0	15	85

TABLE 6

3RD AVENUE BENTHIC ANALYSIS

Species	3rd Ave #1	3rd Ave #2	3rd Ave #3	3rd Ave #4	3rd Ave 5	3rd Ave #6
Acteocina canaliculata	2		1			
Ampelisca sp			2			3
Aricidea catherinae	1	2		1		
Asabellides oculata				2		
Capitellidae	103	239	235	262	392	90
Corophiidae			3			
Corophium					1	
Crangon septemspinosa	1				2	
Cumacea						1
Edotea sp					1	
Ensis directus						1
Eteone sp					1	
Glycera americana	3		2	1		
Haploscoloplos robustus	6	17	14	11	15	8
Mulinia lateralis			2			
Nematode			4		4	3
Nemertea					1	
Neomysis americana	4					
Pectinaria gouldii			2			
Polydora sp		1	8	2	7	16
Sabellaria vulgaris			1			
Spionidae			15		12	12
Streblospio benedicti	116	174	346	501	338	158
Syllidae	4	2		4		
Tellina agilis	1		8	1	3	1
Tharyx acutus	2		12	1	4	10
Unidentified bivalve			1			
Unidentified isopod				1		
Unidentified polychaeta	2			2		

TABLE 6

PIER 6 BENTHIC ANALYSIS

Species	P6 #1	P6 #2	P6 #3	P6 #4	P6 5	P6 #6
Acteocina canaliculata	3					27
Ampelisca sp				11		
Aricidea catherinae						1
Asabellides oculata		1			1	
Callinectes sapidus			1			
Capitellidae	57	10	2	3	94	35
Crangon septemspinosa		2				1
Edotea sp					1	
Eteone sp					1	
Gammarus sp		1				
Glycera americana	1				1	
Haploscoloplos robustus	3			1	2	3
Modiolus modiolus		1				
Mulinia lateralis						5
Nassarius obsoletus					1	
Nematode					2	
Pagurus sp					1	
Pectinaria gouldii		1		2		
Phyllodocidae				2		
Polydora sp	9	6		351	19	6
Polygordius sp						2
Spionidae	6				1	
Streblospio benedicti	41	21		7	160	78
Tellina agilis	1		1		5	7
Tharyx acutus					1	
Unidentified amphipod				2		
Unidentified bivalve					1	
Unidentified isopod		1				
Unidentified polychaeta		1		1		