TECHNICAL REPORT

SAMPLING AND TESTING OF MATERIAL PROPOSED FOR DREDGING AND OCEAN DISPOSAL FOR THAMES RIVER DREDGING PROJECT

APRIL 1992

PREPARED BY: MAGUIRE GROUP INC.

TABLE OF CONTENTS

MAGUIRE GROUP INC. FIELD REPORT

TRIP REPORT

REPORT TO: Bob Wardwell

REPORT BY: Thomas Klin

DATE: January 7, 1992

SUBJECT: Thames River Dredging Sediment Sampling

MGI JOB #: 13066

COPIES TO: CLW, SLL, file

Sediment sampling of the proposed dredging area on the Thames River was conducted from Thursday, December 19, 1991 to Saturday, December 21, 1991 aboard the 60 foot barge, "BRUTUS". This vessel, under private ownership by the Connecticut River Dock and Dredge Company, was rigged with navigational and sampling equipment by OSI on Wednesday the 18th. The sediment sampling participants were:

Edwin Libby	Captain
Daniel Rutan	First Mate
George Reynolds	OSI - Technical Supervisor
David Kowaleski	OSI - Field Technician
George Scherber	OSI - Field Technician
Roy Okurowski	OSI - Surveyor (landside)
Jeffrey Gardner	OSI - Marine Geologist
Clint Webb	MGI - Field Manager
Thomas Klin	MGI - Assistant Field Manager

The equipment used for navigation was a Hydro I - laser based electronic positioning system, an OSI Maretrack trackline control system and necessary support equipment. Sediment sampling equipment was an OSI Model 1500 pneumatic vibratory corer equipped with both 15 and 20 foot barrels, a rate of penetration meter and a standard 2 cubic yard clamshell bucket. "BRUTUS" was equipped with a 25 ton crane (used to maneuver the vibracore) and a large compressor (used to operate the pneumatic vibrator).

A reference core and 15 gallons of bioassay material were obtained at sites P-1, P-2, M-1, M-2, EB-1 and EB-2. A reference core and thirty gallons of sediment were obtained at site B-1. Water temperature (C), salinity (0/00), and specific conductivity (UMHOS) were also obtained and documented for each of the sampling locations (except location P-1).

Equipment malfunction due to extreme temperatures resulted in a late start on Thursday, December 19. Clint and George Reynolds obtained all of the water and sediment samples required for the elutriate analysis by Laboratory Resources. In addition, four 10 foot cores were obtained and transferred to three 5 gallon buckets to be used for the chemical, bulk sediment and the bioassay analysis of P-1.

On Friday (12-20-91) cores were taken at locations P-2, M-1 and M-2. Positioning was begun for sampling at location B-1, but a delay due to survey location complications resulted in the sample not being taken until the following day.

On Saturday (12-21-91) samples were obtained at locations B-1, EB-1 and EB-2. B-1 and EB-2 were areas of shallow sampling, therefore after reference cores were taken with the vibracore, the clamshell bucket was used to provide material for the bioassay containers. The clamshell bucket was brought on deck and the sediment material was sub-sampled into the sample buckets under Clint's supervision.

Sample times, water temperature, salinity and conductivity of the sample locations are noted on the attached field sheets.

When field work was completed on Saturday (1500), the material was trucked to OSI's facility in Old Saybrook by OSI. The reference cores were then cut in half lengthwise and OSI's marine geologist Jeff Gardner prepared descriptions of each core. The material in all of the cores is fairly uniform to approximately -5 feet. The major differences occurred between black, grey and brown mud, with varying percentages of silt and clay. Grey clay with strong cohesion was encountered between -4 and -6 feet in most cores. The only difference occurred at location EB-2, where grey clay was encountered at less than -1 foot.

The sediment from reference cores P-1, P-2, M-1 and M-2 was then stratified at three feet. This section was mixed in a sampling tub and packed in sample jars labeled with an "A". The remainder of the core (lower portion) was then homogenized in clean sampling tubs and representative samples were packed in sample jars labeled "B". Whole cores from stations B-1, EB-1, and EB-2 were composited in sampling tubs and representative samples were packed into jars for chemical and sediment analysis. These samples were packaged in ice chests for delivery to Laboratory Resources on Monday morning by MGI. Foul weather delayed several attempts by OSI personnel from obtaining sediment material at the reference site (the dumping grounds) on Friday and Saturday. Finally, 30 gallons of sample material was obtained and packed in buckets on Sunday morning (12-22-91). The thirty 5-gallon buckets of bioassay material were stored in a refrigerated truck which OSI delivered to ASI's lab in Flemmington, New Jersey on Monday morning. Copies of Chain of Custody sheets for the bioassay, sediment and water samples are attached.

Important aspects of the sampling architecture are documented photographically on prints, slides and video tape.

PROJECT: THAMES SOLIDS SAMPLE STATION: P1

DATE: 12-19-91 TIME: 1200 WEATHER: CLEAR & VERY COLD (20°F)

SAMPLERS: OSI & MGI

SAMPLING METHOD/EQUIPMENT: Vibracore for sediment cores, Clam shell for grab sediment & on deck pumps for water sample for elutriate testing

MATERIAL DESCRIPTION:

- Late start due to equipment malfunctions because of low temps (15°F @ 7am plus 25 mph winds from the NW west-wind chill to -10°F)
- Core samples taken at 1410 pm. 4 ten foot cores were used to fill buckets for elutriate sampling (actual 7' to 8')
1 ten foot core (actual 10' of sediment) collected for reference to be sub-sampled later by OSI & MGI.
- Elutriate water samples taken from on 1455 pm and 1515 pm by GGK/CLW. Filled 15 500ml bottles and one set of assort. size bottles for reference
- Elutriate sediment samples at three stations by clam shell bucket (penetration to 3'+). Each bucket was sub-sampled to obtain representative sample. GGK/CLW collected these samples between 1533 - 1600 pm.
- No water temp./salinity or Eh/pH readings were taken.

PROJECT: Thames River SDEIS SAMPLE STATION: P-2 (Pier 32)

DATE: 12-20-91 TIME: 0800 WEATHER: Clear, 22°F

SAMPLERS: OSI & MGI

SAMPLING METHOD/EQUIPMENT VIBRACORE - sediment Sampler

MATERIAL DESCRIPTION:

0740 - Arrival and anchoring at sampling location
0800 - Water Temp, Salinity and Conductivity Measured
0830 - 14 foot reference core obtained
0900 - 1000 - 15 gallons of bio assay material obtained, packed and labeled for shipment
1005 - departure from sampling location, onto M-1

— 0800 at 5 feet below surface

Water Temp 7°C

Salinity 25‰

Conductivity 280 μMHOS x100

Sunrise - 0716

Sunset - 1621

Hi Tides - 0746 and 1821

PROJECT: Thames River - SDEIS SAMPLE STATION: M-1 (Mamacoke)

DAT'. 12-20-91 TIME: 1015 WEATHER: Clear, 22°F

SAMPLERS: OSI + MGI

SAMPLING METHOD/EQUIPMENT VIBRACORE - sediment sampler

MATERIAL DESCRIPTION:

1015 - arrival, positioning and anchoring at sampling location

1020 - TEMP, SAL., CONDUC. Readings

1030 - 5'6" Reference Core obtained

1045-1140 - 15 gallons of bio assay material obtained, packed and labeled for shipment

1200 - Departure from sampling location, onto M-2

-1020 at 5 feet below surface

Water Temp 5°C

Salinity 18‰

Conductivity 190 μMHOS x 100

Sunrise 0716

Sunset 1621

Hi Tide 0746 and 1821

PROJECT: Thames River SDEIS SAMPLE STATION: M-2 (Mamacoke)

DAT'.. 12-20-91 TIME: 1215 WEATHER: clear, 25°F

SAMPLERS: OSI & NUSI

SAMPLING METHOD/EQUIPMENT VIBRACORE - sediment Sampler

MATERIAL DESCRIPTION:

1215 - arrival, positioning and anchoring at sampling location

1225 - Temp, SAL, CONDUC. Readings

1225 - 7.0' Reference Core Obtained

1245-1400 - 15 gallons of bioassay material obtained (5 cores were required to do this). Material was packed and labeled for shipment.

1420 - Departure from sampling location, on to B-1

-1225 at 5 feet below surface

Water Temp 5°C

Salinity 15 ppt

Conductivity 170 UMHOS x100

Sunrise 0716

Sunset 1621

Hi Tides 0746 and 1821.

PROJECT: Thames River SDEIS SAMPLE STATION: B-1 (Goldstar Bridge)

DAT'. 12-20-91 TIME: 1445 WEATHER: Clear, 27°F, Windy

SAMPLERS: OSI + MGI

SAMPLING METHOD/EQUIPMENT VIBRACORE - Core sampler

Clamshell Bucket - grab sampler

MATERIAL DESCRIPTION:

1445 - arrival in general location of Gold Star Bridge

1500 - land side surveyor reports equipment malfunction and positioning error.

1545 - Problem not resolved, computer error in positioning, mission aborted - 1600

Sunrise 0716

Sunset 1621

Hi Tides 0746 and 1831

PROJECT: Thames River SDEIS SAMPLE STATION: B-1 (Goldstar Bridge)

DATE: 12-21-91 TIME: 0815 WEATHER: Sleet/ice - 29°F

SAMPLERS: OSI & MGI

SAMPLING METHOD/EQUIPMENT Vibracore - sediment sampler
Clamshell Bucket - grab sampler

MATERIAL DESCRIPTION:

0815 - Arrival, positioning and anchoring at sampling location
0835 - 4.0 foot Reference core obtained
0840 - TEMP, SAL, conduc measured
0840 - 0915 - 30 gallons of bioassay material obtained via clamshell bucket. After several attempts grab sample was used that achieved a 3.5 to 4.0 foot penetration.
0920 - Departure from sampling location, onto EB-2

-0840 at 5.0 Feet below surface

TEMP - 5°C
Salinity - 17 °/oo
Conductivity - 190 MMHOS x100

Sunrise 0716
Sunset 1622
Hi Tides 0839 and 2114

PROJECT: Thames River SDEIS SAMPLE STATION: EB2 (Electric Boat)

DATE: 12-21-91 TIME: 0945 WEATHER: sleet/rain, 32°F, windy

SAMPLERS: OSI + MGI

SAMPLING METHOD/EQUIPMENT VIBRACORE - Sediment Core sampler
Clam shell Bucket - Grab sampler

MATERIAL DESCRIPTION:

0945 - Arrival, positioning and anchoring at sampling location

1006 - 4.0 foot reference core obtained

1015 - TEMP, SAL, CONDUC. measured

1010-1030 - 15 gallons of Bioassay material was obtained by clamshell bucket. This sample penetrated to -4.0'. Material was packed and labeled for shipment.

1040 - Departure from sampling location, onto EB-1.

-1015 at 5feet below surface

Water Temp 6°C

Salinity 19‰

Conductivity 220 UMHOS x100

Sunrise 0716

Sunset 1622

Hi Tides 0839 and 2114

PROJECT: Thames River SDEIS SAMPLE STATION: EB1 (Electric Boat)

DAT'. 12-21-91 TIME: 1050 WEATHER: Sleet/rain, 32°F, windy

SAMPLERS: OSI + MGI

SAMPLING METHOD/EQUIPMENT Vibracore - Sediment Sampler

MATERIAL DESCRIPTION:

1050 - Arrival, positioning and anchoring at sampling location

1111 - 5 foot reference core obtained

1135 - TEMP, SAL, CONDUC. Measured

1140 - 1345 - 15 gallons of bioassay material obtained, packed and labeled for transport

1350 - Departure from sampling location

- 1135 at 5 feet below surface

Water Temp 6°C

Salinity 18‰

Conductivity 180 μMHOS x100

Sunrise 0716

Sunset 1622

Hi Tides 0839 and 2114

CHAIN OF CUSTODY RECORD

Proj. No.: 13066

Project Name: THAMES RIVER DREDGE SUPP. DEIS

SAMPLERS (Signature): David Kurdziel

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BIOASSAY	REMARKS
P-1	12/9/91	1410	✓		PIER 33	3	✓	3-5 gal. buckets = 15 gal
P-2	12/10/91	0830	✓		PIER 32	3	✓	" " " "
M-1	12/11/91	1020	✓		MAMACOKE	3	✓	" " " "
M-2	12/11/91	1235	✓		"	3	✓	" " " "
EB-1	12/12/91	1111	✓		ELECTRIC BOAT	3	✓	" " " "
EB-2	12/12/91	1006	✓		" "	3	✓	" " " "
B-1	12/12/91	0835	✓		GOLD STAR BRIDGE (EB)	6	✓	6 " " "
REF			✓		NEW LONDON DISPOSAL	6	✓	" " " "

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
David Kurdziel	12-22-91 1600	Kevin O Mulvey			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Kevin O Mulvey	12-23-91 9:00am				
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks	

P-2/1

Laboratory Resources INC.

CHAIN OF CUSTODY

E112461

CUSTOMER INFORMATION

CUSTOMER: MAGUIRE GROUP INC
ADDRESS: 1 COURT ST, NB, CT
TELEPHONE: (02) 229-9191
PROJECT: THAMES RIVER DREDGE DATA
PROJECT MANAGER: R. HARDWELL
PROJECT LOCATION: [illegible] STATE: CT
PO NUMBER:

REPORT INFORMATION

SEND REPORT TO: SAME
DATE REPORT REQUIRED:
RUSH RESULTS: FAX

PROJECT INFORMATION

TURNAROUND (INDICATE CALENDAR DAYS, CONFIRM WITH LAB): 2 5 7 14 (21) OTHER:
DELIVERABLES (PLEASE CIRCLE): TIER I TIER II/ECRA
CLP RESULTS ONLY 21E TASA OTHER:
IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:
NAME: CLINT WEBB
TELEPHONE: 229-9191

ANALYTICAL REQUESTS

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE: COMPOSITE (C)	SAMPLE TYPE: GRAB (G)	SAMPLE MATRIX: SOLID (S)	SAMPLE MATRIX: LIQUID (L)	SAMPLE MATRIX: COMBINED (C)	SAMPLE MATRIX: OTHER (O)	PRESERVATIVE*	WATER	PAHs	TPH	ANALYSIS *
	[redacted] 1000 ML - Elutriate	12/19/91	5:00 3:15 pm		X		X							[redacted] P-1 - BULK WATER
	[redacted] 500 ML - Sediment	12/19/91	4:00 pm		X	X								SEDIMENT → P-1 CHEMISTRY A+B+C
	500 ML - P-1	"	3 PM		X		X							
	1000 ML - P-1	"	"		X		X					1		
	1000 ML - P-1	"	"		X		X							
	1000 ML - P-1	"	"		X		X							
	500 ML - P-1	"	"		X		X							

PLEASE INDICATE NUMBER OF BOTTLES

* All samples noted above are to be analyzed for the elutriate tests as per CONTRACT

CUSTODY

		DATE	TIME
SAMPLER:	Clint Webb	12-19-91	
RECEIVED:	Clint Webb		800
RELINQUISHED:	Stephen Lewis	12/20/91	
RECEIVED:	[signature]		9:45
RELINQUISHED:	[signature]	12/20/91	
RECEIVED:	[signature]		

COMMENTS, REQUESTS OR REMARKS (Toxic?, Flammable?, Explosive?, High Levels?)

*PRESERVATIVE: NaOH H_2SO_4 HNO_3 HCL ASCORBIC ACID

* 20. 9 1L AMBER 12/20/91

pH elutriate waters < 2 + TPH < 2 ml/l

Laboratory Sou... Inc

CHAIN OF CUSTODY

2/16/95

CUSTOMER INFORMATION	REPORT INFORMATION	PROJECT INFORMATION
CUSTOMER: MAGUIRE GROUP INC	SEND REPORT TO: AMIE	TURNAROUND (INDICATE CALENDAR DAYS, CONFIRM WITH LAB): 2 5 7 14 (21) OTHER:
ADDRESS: 1 COURT ST. A.R. CT.		DELIVERABLES (PLEASE CIRCLE): TIER I TIER II/ECRA
TELEPHONE: (203) 221-9191		CLP RESULTS ONLY 21E TASA OTHER:
PROJECT: THAMES RIVER DREDGE STUDY		IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:
PROJECT MANAGER: CLINT WEBB		NAME: CLINT WEBB
PROJECT LOCATION: GROTON/NEW LONDON STATE: CT	DATE REPORT REQUIRED:	TELEPHONE: (203) 221-9191
PO NUMBER:	RUSH RESULTS: FAX	

ANALYTICAL REQUESTS

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE: COMPOSITE (C)	SAMPLE TYPE: GRAB (G)	SAMPLE MATRIX: SOLID (S)	SAMPLE MATRIX: LIQUID (L)	SAMPLE MATRIX: COMBINED (C)	SAMPLE MATRIX: OTHER (O)	PRESERVATIVE*	% MOISTURE	PAH's	ANALYSIS
	P1-A	12-20-91	1110	✓		✓					✓	✓	
	P1-B	12-20-91	1110	✓		✓					✓	✓	
	P2-A	12-20-91	0830	✓		✓					✓	✓	
	P2-B	12-20-91	0830	✓		✓					✓	✓	
	M1-A	12-20-91	0830	✓		✓					✓	✓	
	M1-B	12-20-91	1031	✓		✓					✓	✓	
	M2-A	12-20-91	1035	✓		✓					✓	✓	
	M2-B	12-20-91	1035	✓		✓					✓	✓	
	EB-1	12/21/91	11:11	✓		✓					✓	✓	
	EB 2	12/21/91	10:06	✓		✓					✓	✓	
	B-1	12/21/91	08:35	✓		✓					✓	✓	

PLEASE INDICATE NUMBER OF BOTTLES

CUSTODY		
SAMPLER: Clint Webb	DATE: 12-21-91	
RECEIVED:	TIME: 12:15	
RELINQUISHED: Jeffrey D. Farden	DATE: 12-21-91	
RECEIVED:	TIME: 1805	
RELINQUISHED:	DATE: 12/22/91	
RECEIVED: Laura K. McMahon	TIME: 1121	

COMMENTS, REQUESTS OR REMARKS (Toxic?, Flammable?, Explosive?, High Levels?)

*PRESERVATIVE: $NaOH$ H_2SO_4 HNO_3 HCL ASCORBIC ACID

OSI SEDIMENT SAMPLING REPORT

FINAL REPORT

SEDIMENT SAMPLING

THAMES RIVER

NEW LONDON, CONNECTICUT

Prepared For: The Maguire Group
One Court St.
New Britain, CT 06051

Prepared By: Ocean Surveys, Inc.
91 Sheffield St.
Old Saybrook, CT 06475

31 January 1992

TABLE OF CONTENTS

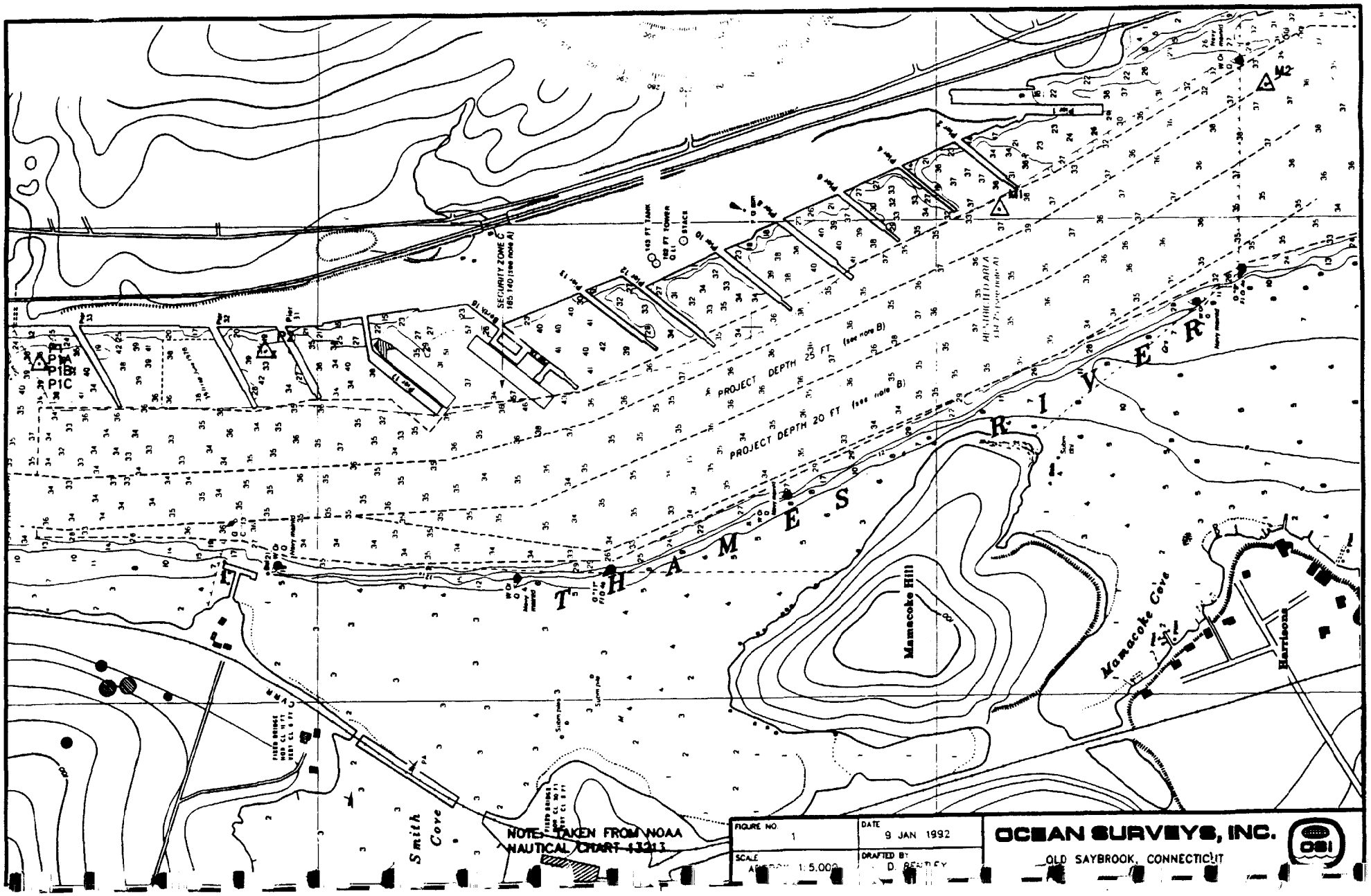
FINAL REPORT
SEDIMENT SAMPLING
THAMES RIVER
NEW LONDON, CONNECTICUT

1.0 INTRODUCTION

During the period December 18-22, 1991 OSI conducted a sediment and water sampling project on the Thames River in the vicinity of New London, Connecticut. The sampling program was performed for the Maguire Group Inc. in support of their Supplemental DEIS for dredging of the Thames River from the Naval Submarine Base south to the mouth of the river, a proposed US Navy project.

Three 500 ml sediment grab samples were acquired north of US Navy Pier 33 (see Figure 1) and twenty water samples were taken at sample station P1 for elutriate analysis. A 30 gallon grab sample was collected at the New London Dredge Disposal Reference Site for use in the bioassay analysis (See Figure #3). The elutriate samples were collected on December 19, 1991, and the reference site sample was acquired on December 22, 1991.

Vibratory core samples of the proposed dredge material were acquired between December 19 - 21, 1991 at seven (7) locations in the Thames River (See Figures #1 & #2) A total of 15 gallons of cored sediment were acquired at 6 of the 7 locations and 30 gallons of sediment was collected at sample station B1 immediately north of the Goldstar bridge. One core was acquired at each of the 7 river locations for geologic description of the proposed dredge sediments and subsequent subsampling of this material for chemical analysis. The remaining cores at each station were composited on board the coring vessel and stored in 5 gallon plastic containers.


P1A
P1B
P1C
Pier 31
SECURITY ZONE
185' (40') (see note A)
PROJECT DEPTH 25 FT (see note B)
PROJECT DEPTH 20 FT (see note B)
T H A M E S
R I V E R
Mamacoke Hill
Mamacoke Cove
Harrisons
Smith Cove
NOTES TAKEN FROM NOAA NAUTICAL CHART 13213
FIGURE NO. 1
DATE 9 JAN 1992
SCALE APPROX. 1:5,000
DRAFTED BY D. BENTLEY
OCEAN SURVEYS, INC.
OLD SAYBROOK, CONNECTICUT

NEW LONDON

AND VICINI

Mercator Projection
Scale 1:10,000 at Lat 41°2
North American Datum of 1
(World Geodetic System of 1

SOUNDINGS IN FE
AT MEAN LOWER LOW W

TIDAL INFORMATION

Place Name (Lat/Long)	Heights referred to datum o: Mean Higher High Water	Mean High Water
	feet	feet
New London, State Pier (41°22'N/72°06'W)	3.1	2.6
Smith Cove Entrance (41°24'N/72°06'W)	3.0	2.7

(4R9)

For Symbols and Abbreviations see (

HEIGHTS

Heights in feet above Mean High

AUTHORITIES

Hydrography and topography by the National and Geodetic Survey with additional data from t Geological Survey, U.S. Coast Guard, and Depa

POLLUTION REPORTS

Report all spills of oil and hazardo stances to the National Response Ce 800-424-8802 (toll free), or to the near Coast Guard facility if telephone comm tion is impossible (33 CFR 153)

PLANE COORDINATE GRID
(based on NAD 1927)
Connecticut State Grids indicated by ticks at 5,000 foot intervals

SUPPLEMENTAL INFORMATIO
Consult U.S. Coast Pilot 2 for supplemental information

NOTE: TAKEN FROM NOAA NAUTICAL CHART 13213

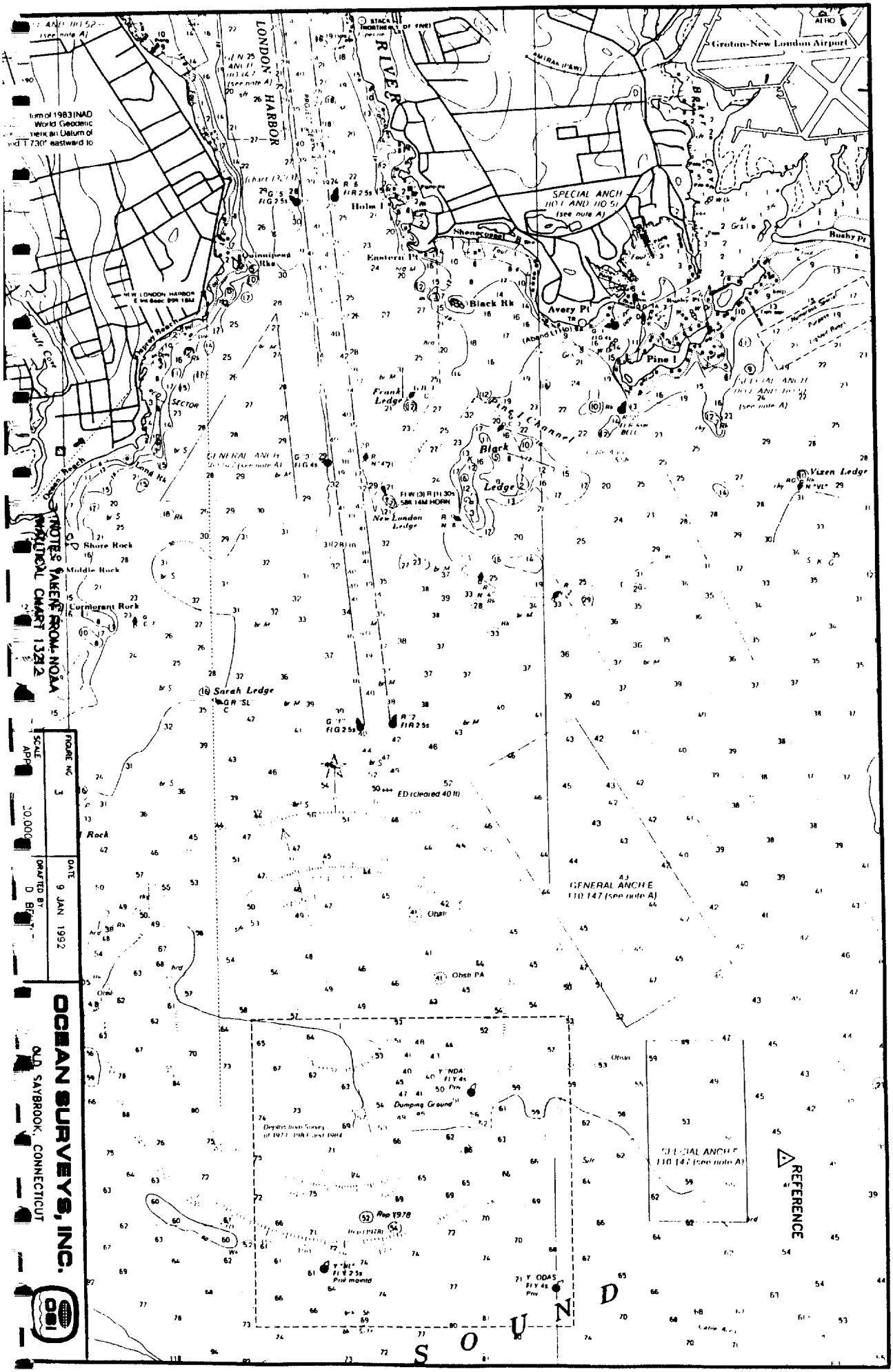
LOGARITHMIC

To find SPEED, place one point of dividers on distance run (in any unit) right point on 60 and left point will then indicate speed in units per hour. Ex

Bailey Pt.
Jacobs Rk
USCG Academy
SPECIAL ANCHORAGE (110.52 & 110.1 (see note A))
Winthrop Pt.
SECURITY ZONE A 165.140 (see note A)
BASCULE BRIDGE HOR CL 101 FT VERT CL 30 FT
FIXED BRIDGES HOR CL 500 FT VERT CL 135 FT FOR MIDDLE WIDTH OF 300 FT
AMTRAK (CSW)
GROTON
Nautica
Yar
Winthrop Cove
Smith Cove
Long Dock
19 FT JULY 1977
FIXED BRIDGE HOR CL 14 FT VERT CL 6 FT
HOTEL (CHIMNEY)
W. LONDON
MICRO TR
MONUMENT
Ft. Griswold
20 FT FOR A WIDTH OF 400 FT JAN 1977
Shaw Cove
10 FT FOR WIDTH OF 400 FT FEB 1977
SECURITY ZONE B 165.140 (see note A)
SECURITY ZONE D 165.140 (see note A)
Ft. Trumbull
Monrad

SCALE	FIGURE NO	DATE
APPROX 1:10,000	2	9 JAN 1992
	DRAFTED BY D BENTLEY	

OCEAN SURVEYS, INC.
OLD SAYBROOK, CONNECTICUT


Groton-New London Airport
LONDON HARBOR
THAMES RIVER
SPECIAL ANCH
(see note A)
Shennecossett
Eastern Pt
Holm I
Quinnipiaug Rks
Black Rk
Avery Pt
Pine I
Frank Ledge
Black Ledge
New London Ledge
Vixen Ledge
Shore Rock
Middle Rock
Dormitant Rock
Sarah Ledge
Rock
GENERAL ANCH E
110 147 (see note A)
Dumping Ground
Rec 1978
Prim mound
REFERENCE
SOUND
NOTES TAKEN FROM NOAA
NAUTICAL CHART 13212
FIGURE NO 3
SCALE APPX 1:30,000
DATE 9 JAN 1992
DRAFTED BY D BRETT
OCEAN SURVEYS, INC.
OLD SAYBROOK, CONNECTICUT

2.0 EQUIPMENT AND PROCEDURES

2.1 Horizontal Control

Horizontal control for this project was accomplished by utilizing a combination of points previously established by the U.S. Coast and Geodetic Survey and OSI. These control points are located on both the east and west shores of the Thames River and north shore of Long Island Sound. Table 1 documents the points used for each sample location and the corresponding Connecticut State Plane Coordinates.

TABLE I

HORIZONTAL CONTROL POINTS
NAD 1927 DATUM
CONNECTICUT STATE PLANE COORDINATE SYSTEM

CONTROL POINT	NORTHING (feet)	EASTING (feet)	SAMPLE STATION
TYDOL	207525.58	778643.58	P1, P1 Grab A, P1 Grab B, P1 Grab C, P2, M1, M2
RONALD	195704.57	782480.33	B1
STATE PIER	191562.20	781304.37	EB1, EB2
PLANT	176597.45	787721.68	DISPOSAL SITE
SEA SIDE OFFSET	179109.58	769109.58	DISPOSAL SITE
WESTERN	173438.18	802860.28	DISPOSAL SITE

2.2 Vertical Control

Water depths at each of the seven Thames River Core locations were determined from soundings plotted on the hydrographic survey sheets prepared by Gahagan and Bryant Associates, Inc and provided to OSI by Maguire Group Inc. As none of the samples were acquired directly over a published sounding point water depths were interpolated from the sounding sheets at the as sampled locations. These depths are referenced to Mean Low Water

2.3 Navigation

Positioning of the sampling vessel within the Thames River was accomplished utilizing a "Hydro I" Range-Azimuth navigation system. Vessel navigation for the New London Disposal Site was carried out by employing a Racal "Micro- Fix" Microwave Positioning system. Both positioning systems were interfaced to OSI's "Maretrack II" Navigation and Data Logging System.

2.3.1 Hydro I

The "Hydro I" navigation system consists of a manned shore station and onboard instrumentation. (Specification sheets for the HYDRO I and all other equipment used on this project are included in Appendix B.) The shore station includes a theodolite, a laser distance measuring instrument, and a computerized data transmitter/receiver radio link. The shipboard equipment includes a multiprism optical reflector and a computerized data transmitter/receiver radio link.

Operationally, the shore based instrumentation is positioned over a known geodetic point and a reference angle is set for a backsite to a second coordinated point. The coordinates of the occupied station and the reference azimuth are entered in the "HYDRO I" shore based unit. The "HYDRO I" operator then sights the shipboard prism and continuously tracks the vessel as it maneuvers onto location. The ship's position is computed by the shorebased equipment and transmitted to the shipboard receiver once every 0.7 seconds via the digital radio link. These data are then output to the OSI Maretrack II system via the Hydro I RS232 interface.

2.3.2 Micro-Fix

Vessel control for the New London Disposal Site was accomplished by employing a Racal "Micro-Fix" microwave

navigation system. "Micro-fix" is a high resolution, line-of-sight, dynamic positioning system which combines established microwave ranging techniques with advanced microprocessor technology. The combination of these technologies enables the system to provide ranging information at a once per second update rate.

The system consists of two or more shorebased remote stations and a master station installed aboard the coring vessel. A remote station is comprised of a Transponder unit (T/R) established over a known horizontal control point on shore and a Master station includes a Control Measurement Unit (CMU) interfaced to a T/R.

T/R units incorporate a fully automatic calibration capability to compensate for errors resulting from "turn-around delays" associated with microwave ranging systems. This feature eliminates the need for predeployment calibration and insures that the transponders can be interchanged as required, while maintaining a range accuracy of ±1 meter under a wide range of environmental conditions.

CMU units are micro-processor based devices capable of measuring the range from the vessel to as many as 8 remote stations at a once per second update rate. The CMU corrects the "Raw" range measurements for any slant range component and deskews the range data to adjust for timing errors. Final range measurements are then output to the OSI Maretrack II System via the CMU's RS232 interface.

2.3.3 MARETRACK II Trackline Control and Data Logging System

The OSI MARETRACK II system is based on a ruggedized AT-level IBM-PC computer and OSI developed software that allows instantaneous flexibility to delineate and run any desired trackline spacing and line orientation and simultaneously log

vessel position and one or more other measured parameters. Data logging parameters are also equally flexible and data logging rates of up to 10 measurements/second can be efficiently employed. The MARETRACK II system has the additional capability to display pre-plot survey tracklines, target locations, survey area boundaries, and significant navigation features as well as provide real-time on-board plotting. Vessel guidance information in the form of "left/right cross track error" and "distance to go" is continuously displayed to the helmsman on the ship board computer screen.

In support of this project along with proposed sample locations, Navigation Chart information were entered in the MARETRACK II computer. Navigation Chart data included prominent shore line features, limits of the federal channel, channel buoys, and the locations of the horizontal control stations utilized during the course of this investigation. The as sampled coordinates of all grab samples and vibratory cores, along with the date and time each sample was acquired as well as the navigators comments were logged by the Maretrack II System.

2.4 Sediment Sampling Operations

2.4.1 Grab Samples

A total of 5 sites (P1 Grab A, B, and C/B1/EB2) were sampled utilizing the coring vessel's clam shell bucket. At all locations the clam shell bucket was capable of penetrating and acquiring a sample of the upper four feet of the river bed. Operationally, prior to deployment the bucket was rinsed thoroughly with site water. A sediment sample was then acquired and the bucket recovered and placed on deck. The field team subsampled the entire strata of material within the 4 foot long, 3 foot wide, clam shell bucket to insure that all samples

were representative of the dredge material. Subsequently, the sample material from Stations B1 and EB2 was stored in 5 gallon plastic containers. Sample material from the P1 grab samples were stored in two 500 ml glass jars for each station. The grab sample at the reference site was obtained using a Hydro Products Shipek Model 860 sediment sampler. The Model 860 is a surface sediment sampler designed to penetrate 4" into unconsolidated material and acquire a .2 cu ft sample. Multiple rabs were taken at the reference site to collect the required 30 gallons of sediment. Reference site material was stored in 5 gallon plastic containers. Coordinates of all grab sample locations are included in Table II .

TABLE II

GRAB SAMPLE STATIONS
NAD 1927 DATUM
CONNECTICUT STATE PLANE COORDINATE SYSTEM

STATION	NORTHING	EASTING
P1 Grab A	208,483	779,821
P1 Grab B	208,480	779,834
P1 Grab C	208,490	779,840
B-1	189,849	782,395
EB-2	188,860	782,518
DISPOSAL SITE	159,878	792,068

2.4.2 Vibratory Core Samples

An OSI Model 1500 Pneumatic Vibratory Core was employed to obtain sediment cores to a depth of 2 feet below the proposed dredge depth. Core locations, water depths and the recovered core lengths for each station are included in Table III.

TABLE III

VIBRATORY CORE SAMPLE STATIONS
NAD 1927 DATUM
CONNECTICUT STATE PLANE COORDINATE SYSTEM

STATION	NORTHING	EASTING	WATER DEPTH FT(MLW)	CORE LENGTH (FT)
P1	208,486	779,828	35.1	11.6
P2	207,364	779,883	31.0	15.1
M1	203,776	780,561	37.5	5.5
M2	202,480	781,161	36.1	7.2
B1	194,325	781,794	39.1	4.0
EB1	189,849	782,395	38.0	5.0
EB2	188,860	782,518	39.2	4.0

The Model 1500 was configured to acquire 3½" diameter cores in incremental lengths to a maximum length of 20 feet. This configuration allowed the penetration depth of the corer to be appropriately adjusted at each station.

Operationally, the required penetration depth at each site was calculated from water depth values interpolated from the Gahagen and Bryant hydrographic survey charts and the proposed dredge depth plus the allowable two foot overdredge limit. Prior to deploying the vibratory core the operator adjusted the mechanical penetration stop to the appropriate sampling depth. To obtain the required sample volume multiple cores were taken at each station. Cores from each station were composited onboard the coring vessel and stored in 5 gallon plastic buckets. The 5 gallon containers were sealed, labeled, and placed in the onboard sample storage area. Additionally, one core was taken at each station and set aside to be described geologically and subsampled for chemical analysis. The air temperature throughout the survey period was cool enough to maintain the cores aboard the vessel at approximately the 4°C required. At the end of each day all

samples were transferred to and stored in a refrigerator truck. The temperature of the refrigerator truck was maintained at 4°C.

2.4.3 Water Samples

Multiple water samples with a total volume of 18,040 Milliliters were collected by Maguire Group personnel at sample station P1 for use in the elutriate tests.

Operationally, all water samples were pumped from 3 feet below the river surface utilizing a stainless steel, submersible sampling pump. To insure that the sampling pump was rinsed thoroughly, the unit was deployed at sample station P1, energize and allowed to pump site water for approximately 10 minutes prior to obtaining the required samples. Samples taken include a 3,040 milliliter water sample to be analyzed to establish an elutriate background reference. This sample was stored in the following glass containers 2 each 1000 milliliter, 2 each 500 milliliter, and 1 each 40 milliliter. Additionally, a 15,000 milliliter elutriate bulk water sample was acquired at P1. This sample was stored in 15 each 1000 milliliter glass containers. These samples were delivered by Maguire Group to Lab Resources on December 20, 1991.

3.0 DATA PRESENTATION AND SAMPLE DISPENSATION

After the completion of field work, 150 gallons of reference material and composited core samples (thirty 5 gallon buckets) were delivered to Aqua Survey Inc. in New Jersey for analysis on December 23, 1991. The 7 cores set aside for chemical analysis were split at OSI offices in Old Saybrook and described geologically. The core descriptions are documented on the Vibratory Core Log Sheets included in Appendix A.

After the cores were described, Maguire personnel took custody of and subsampled the individual cores for the required chemical/bulk sediment analysis samples. These samples were delivered by Maguire Group to Lab Resources on December 23, 1991.

APPENDIX A

VIBRATORY CORE LOGS

CORE: EB1
DATE: 12/21/91

OCEAN SURVEYS
VIBRATORY CORE LOG

Project: Thames River Dredging Project

Client: Maguire Group Inc.

Driller: David Kowaleski

Core Location: NAD 1927 Datum
Connecticut State Plane Coordinate System
Easting: 782,395
Northing: 189,849

Start Vibrator: 1111 Hrs
Stop Vibrator: 1112 Hrs

Water Depth:	38.0 ft MLW
Top of Core Elevation:	- 38.0 ft MLW
Penetration:	5.0 ft
Bottom of Core Elevation:	- 43.0 ft MLW

Sample Recovery: 100%

Core Length: 5.0 ft

Core Description:

0 - 4.0 ft Black anoxic mud; high water content, approximately 75% clay, 20% silt, 5% sand and shell fragments Relatively sharp contact between units

4.0 - 5.0 ft Gray mud similar to other cores, very little sand, shell fragments common throughout.

CORE: EB2
DATE: 12/21/91

OCEAN SURVEYS
VIBRATORY CORE LOG

Project: Thames River Dredging Project

Client: Maguire Group Inc.

Driller: David Kowaleski

Core Location: NAD 1927 Datum
Connecticut State Plane Coordinate System
Easting: 782,518
Northing: 188,860

Start Vibrator: 1006 Hrs
Stop Vibrator: 1007 Hrs

Water Depth:	39.2 ft MLW
Top of Core Elevation:	- 39.2 ft MLW
Penetration:	4.0 ft
Bottom of Core Elevation:	- 43.2 ft MLW

Sample Recovery: 100%

Core Length: 4.0 ft

Core Description:

0 - 0.8 ft Black anoxic mud, high water content, very little sand
Sharp contact between units

0.8 - 4.0 ft Gray mud, very cohesive with abundant shell fragments, approximately 90% clay, 5% silt, 2% sand, and 3% shells.

CORE: B1
DATE: 12/21/91

OCEAN SURVEYS
VIBRATORY CORE LOG

Project: Thames River Dredging Project

Client: Maguire Group Inc.

Driller: David Kowaleski

Core Location: NAD 1927 Datum
Connecticut State Plane Coordinate System
Easting: 781,794
Northing: 194,325

Start Vibrator: 0835 Hrs
Stop Vibrator: 0837 Hrs

Water Depth:	39.1 ft MLW
Top of Core Elevation:	- 39.1 ft MLW
Penetration:	4.0 ft
Bottom of Core Elevation:	- 43.1 ft MLW

Sample Recovery: 100%

Core Length: 4 feet

Core Description:

0 - 4 ft Uniform sediment throughout entire core. Sediment is gray mud, comprised of dominantly clay material (approximately 75-80%) with some silt (approximately 15- 20%) and very little sand; small percentage of shell fragments scattered throughout core.

Relatively cohesive and probably same unit as in bottom of core M2.

CORE: M1
DATE: 12/20/91

OCEAN SURVEYS
VIBRATORY CORE LOG

Project: Thames River Dredging Project

Client: Maguire Group Inc.

Driller: David Kowaleski

Core Location: NAD 1927 Datum
Connecticut State Plane Coordinate System
Easting: 780,561
Northing: 203,776

Start Vibrator: 1030 Hrs
Stop Vibrator: 1032 Hrs

Water Depth:	37.5 ft MLW
Top of Core Elevation:	- 37.5 ft MLW
Penetration:	5.5 ft
Bottom of Core Elevation:	- 43.0 ft MLW

Sample Recovery: 100%

Core Length: 5.7 ft

Core Description:

0 - 5.7 ft Very dark gray to black anoxic mud; uniform throughout core, more cohesive near base due to decreased water content

Small clam shells whole and fragments scattered throughout core

Sediment slightly darker near base of the core

Approximate percentage of lithologies present 80 % clay, 15% silt, 4% sand, 1% shell fragments

CORE: M2
DATE: 12/20/91

OCEAN SURVEYS
VIBRATORY CORE LOG

Project: Thames River Dredging Project

Client: Maguire Group Inc.

Driller: David Kowaleski

Core Location: NAD 1927 Datum
Connecticut State Plane Coordinate System
Easting: 781,161
Northing: 202,480

Start Vibrator: 1235 Hrs
Stop Vibrator: 1237 Hrs

Water Depth:	36.1 ft MLW
Top of Core Elevation:	- 36.1 ft MLW
Penetration:	7.2 ft
Bottom of Core Elevation:	- 43.3 ft MLW

Sample Recovery: 100%

Core Length: 7.2 ft

Core Description:

0 - 2.2 ft	Black mud with shell fragments and no apparent sand, same anoxic mud layer present in other cores.
2.2 - 4.5 ft	Lighter black colored mud, bit more cohesive but same lithology as above unit.
	Relatively sharp contact between units
4.5 - 7.2 ft	Gray clay, much more cohesive, clam shells whole and in fragments, no sand, different unit than above.

CORE: P1
DATE: 12/19/91

OCEAN SURVEYS
VIBRATORY CORE LOG

Project: Thames River Dredging Project

Clien : Maguire Group Inc.

Driller: David Kowaleski

Core Location: NAD 1927 Datum
Connecticut State Plane Coordinate System
Easting: 779,828
Northing: 208,486

Start Vibrator: 1410 Hrs
Stop Vibrator: 1414 Hrs

Water Depth:		35.1 ft MLW
Top of Core Elevation:		- 35.1 ft MLW
Penetration:		11.6 ft
Bottom of Core Elevation:	=	- 46.7 ft MLW

Sample Recovery: 100%

Core Length: 11.6 ft

Core Description:

0 - 4.7 ft	Black anoxic mud typical of all cores, Material is composed of approximately 80% clay, 15% silt, 4% sand and 1% other.
	Sharp contact between units.
4.7 - 11.6 ft	Gray mud also similar to other cores however, much higher shell content both whole and fragments.
	Includes clam, mussel, gastropod shells.
	Dominantly clay and very cohesive.

Comments: A 3,040 Milliliter water sample was acquired at this station and will be analyzed to establish an elutriate background reference. The sample is stored in the following glass containers.

2 each 1000 Ml
2 each 500 Ml
1 each 40 Ml

A 15,000 milliliter elutriate bulk water sample was also acquired at P1. The sample was stored in 15 each 1000 Milliliter glass containers.

In the vicinity of P1 sediment grab samples for elutriate testing were acquired at stations A, B and C. These samples are stored in 6 each (2 per station) 500 Ml glass containers. Station coordinates are as follows:

Station	Easting	Northing
P1 Grab A	779,821	208,483
P1 Grab B	779,834	208,480
P1 Grab C	779,840	208,490

CORE: P2
DATE: 12/20/91

OCEAN SURVEYS
VIBRATORY CORE LOG

Project: Thames River Dredging Project

Client: Maguire Group Inc.

Driller: David Kowaleski

Core Location: NAD 1927 Datum
Connecticut State Plane Coordinate System
Easting: 779,883
Northing: 207,364

Start Vibrator: 0830 Hrs
Stop Vibrator: 0832 Hrs

Water Depth:	31.0 ft MLW
Top of Core Elevation:	- 31.0 ft MLW
Penetration:	15.1 ft
Bottom of Core Elevation:	- 46.1 ft MLW

Sample Recovery: 100%

Core Length: 15.1 ft

Core Description:

4 distinct units evident in core: black mud, gray mud, brown-gray mud, and brown mud.

1. Black mud - Anoxic clay with very little silt and sand, some shell fragments, similar to other cores.

2. Gray mud - Dominantly clay with no sand, very cohesive, abundant shell fragments, similar to all other cores.

3. Brown-Gray mud - Unit is composed of approximately 85% clay and approximately 15 % silt, very few shell fragments, some evidence of peat development.

4. Brown mud - Clay with some silt and sand, definite peat layer in early stage of development, organics and debris common, no shells.

0 - 1.3 ft - Black mud
1.3 - 1.4 ft - Coarse sand layer, possibly result of storm event
1.4 - 8.1 ft - Black mud
8.1 - 8.4 ft - Gray mud
8.4 - 8.6 ft - Black mud
8.6 - 8.9 ft - Gray mud
8.9 - 9.2 ft - Black mud

9.2 - 9.8 ft - Gray mud
9.8 - 10.8 ft - Brown - gray mud
10.8 - 12.0 ft - Gray mud
12.0 - 12.5 ft - Brown - gray mud
12.5 - 14.0 ft - Gray mud
14.0 - 14.2 ft - Brown mud
14.2 - 15.1 ft - Gray mud

Relatively sharp contacts at all unit boundaries, except around brown - gray mud which shows a gradual transition into gray mud on either side.

GRAB SAMPLE: REFERENCE
(NEW LONDON DREDGE DISPOSAL
REFERENCE SITE)
DATE:12/19/91

OCEAN SURVEYS
GRAB SAMPLE LOG

Project: Thames River Dredging Project

Client: Maguire Group Inc.

Grab Sample Location: NAD 27 Datum

Latitude: 41 16.2' North
Longitude: 72 03.08' West

Connecticut State Plane Coordinate System

Easting: 792,068
Northing: 159,878

A total of 30 gallons of sediment was acquired at this location and stored in 6 each 5 gallon plastic pails.

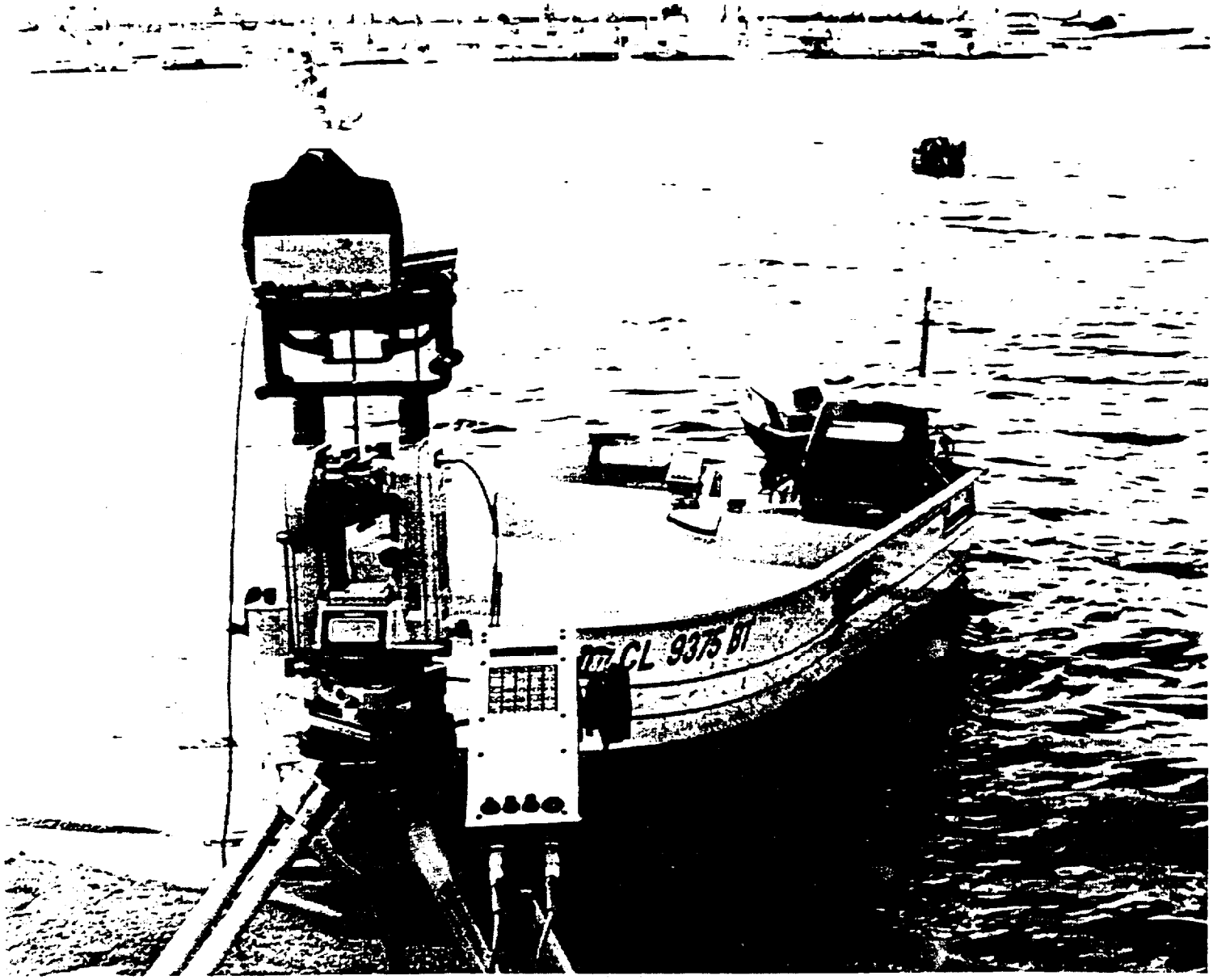
Material is a mixed silt and fine sands, medium brown in color, with no obvious odor and some cohesiveness.

APPENDIX B

EQUIPMENT SPECIFICATIONS

Hydro I

FULLY AUTOMATED RANGE AZIMUTH SURVEYING SYSTEM



THE HYDRO I IS A HIGHLY RELIABLE AND FULLY AUTOMATED HYDROGRAPHIC POSITIONING SYSTEM THAT CAN BE INTERFACED WITH YOUR EXISTING SOUNDING EQUIPMENT AND COMPUTER. TO PROVIDE YOU WITH A COMPLETE HYDROGRAPHIC SURVEYING PACKAGE INCLUDING COMPUTERIZED MAPPING.

International Measurement and Control Company
300 E. Mineral Suite #5
Littleton, Colorado 80122
(303) 797-7722

SYSTEM OVERVIEW

The Hydro I is a very compact range azimuth surveying system which makes it ideal for small boat situations. The system will automatically collect an (x,y) coordinate and a depth reading at a pre-set distance interval. The diagram below shows an example of the system programmed on a parallel line grid with a 50 ft. offset between lines. It has also been programmed to store an (x,y) coordinate and a depth reading at 10 ft. intervals. After entering the Start and End Points of the first grid line the system will automatically enter new line coordinates when surveying a parallel line grid. When surveying non-parallel lines, line coordinates can be stored and recalled as needed.

NAVIGATE AND SOUND DISPLAY EXAMPLES

The system provides navigation information both for navigating to the Start Point of a grid in the "Navigate Mode" and for keeping on line as soundings are being stored in the "Sound Mode".

NAVIGATE MODE
(Navigating to a New Line)

180°	45°	75'
Azimuth to Start Point	Azimuth of Desired Line	Distance to Start Point

In the Navigate Example in the diagram below, the boat operator would be provided with the information in the display above. From where the boat is located it needs to proceed 75 ft. straight south at a heading of 180° to arrive at the start of the next line which runs at a heading of 45°.

SOUND MODE
(Collecting depths & positions at preset increments)

D ■■■> D

This display would be provided in the Sound Mode Example below. Each block has been assigned a value of 5 ft., therefore the display is indicating the boat is off course to the left 15 ft. The arrow indicates the direction to return to course. The D indicates the data collector is on.

In both navigate and sound mode three additional displays are accessible.

X ± 999999.99 F

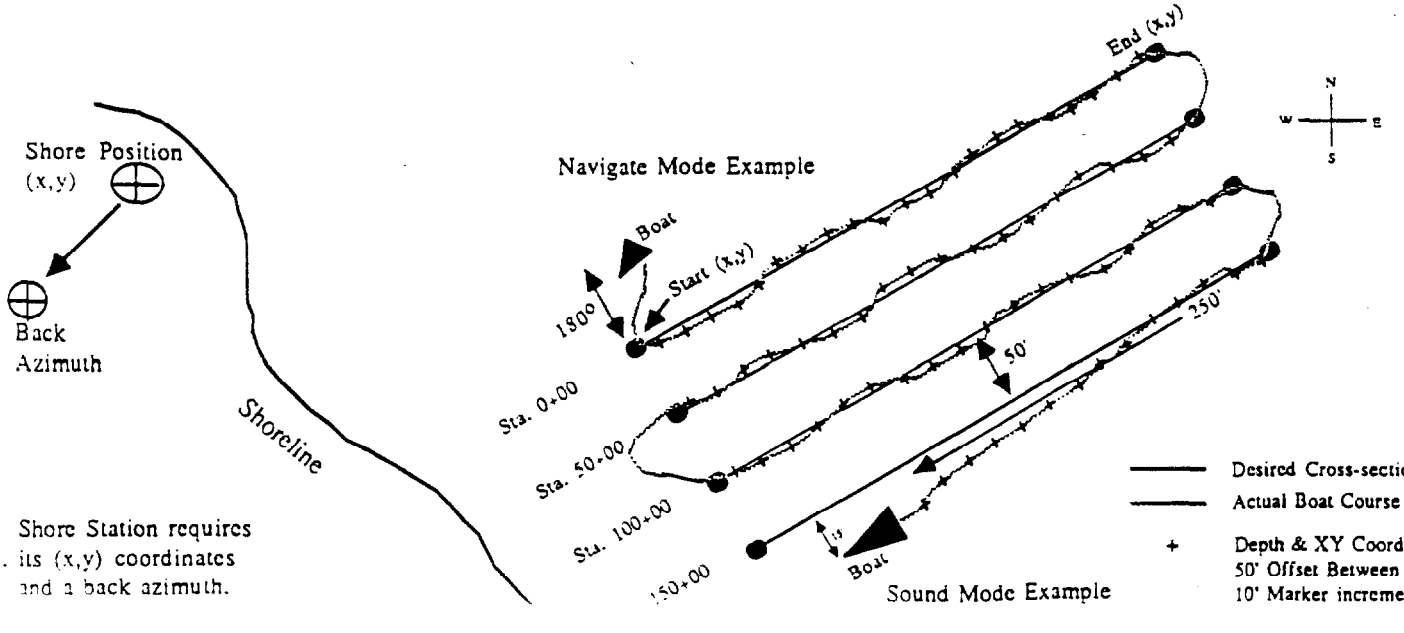
x coordinate of boat position

Y ± 999999.99 F

y coordinate of boat position

- 15 F	+250 N
Distance off line	Distance on line

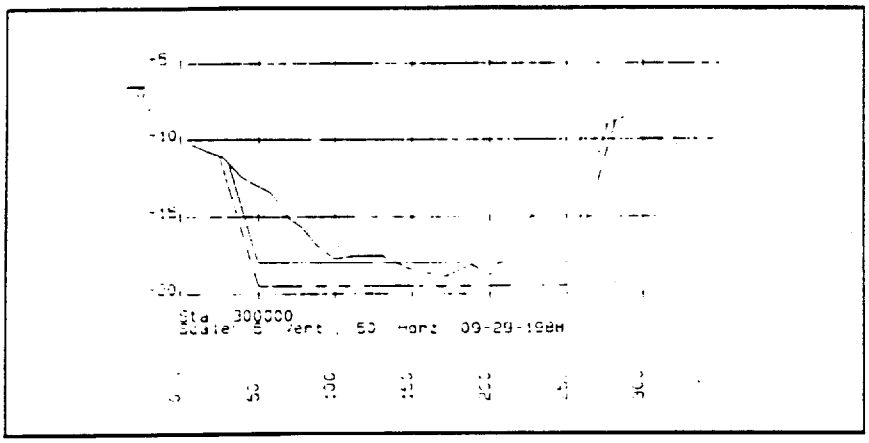
Refer to Sound Mode Example.
In this situation the boat is off line to the left 15 ft. and 250 ft. along the line from the start point.



FIELD TO FINISH SOFTWARE

The IMC Post Processing software package is IBM compatible, very easy to use, and enables operator to:

A. Download data from Data Collector
B. Edit Data (on screen graphics)
C. Enter Tide Corrections
D. Plot Plan View (color select for depth highlighting)
E. Plot Cross Section View
F. Draw in Desired Dredge Template and Over-Dredge Template
G. Compute Dredge Volumes and Over-Dredge Volumes (fill also)
H. Print out of x, y coord., Dist. on line, Dist. off-line, Depths.



CROSS-SECTION VIEW WITH DREDGE TEMPLATE

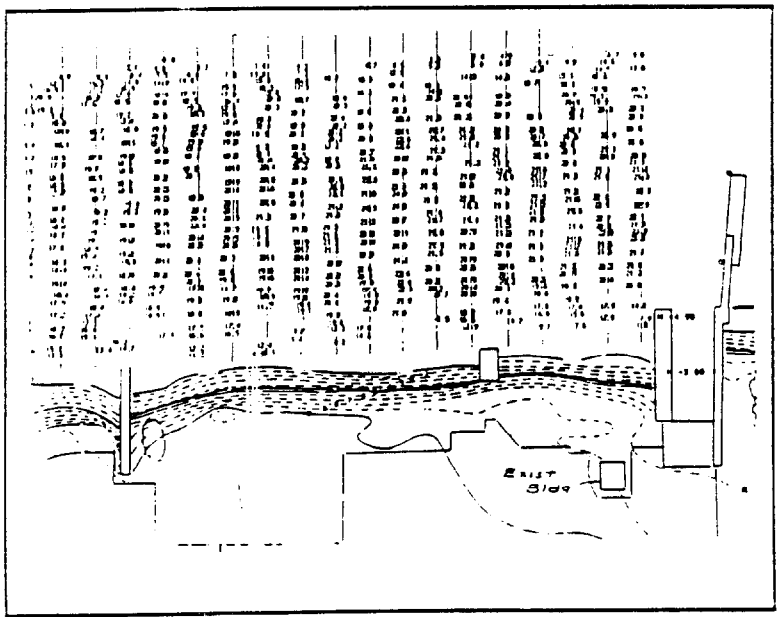
Base Line Information:

Beg. Sta.	North	East
0	513167.000	1364177.000
End sta.	North	East
1800	514927.000	1364554.000
Sta. off set	Section Az.	Total Sections
200	282.0141	10

STATION	NORTH	EAST
0	513167.000	1364177.000
Total Points	Tide correct.	Time of section
18	13.13333	

Pt.	North	East	Off base	Off Line	Sounding
**1	513167	1364180	-3	-1	-19.4
**2	513166	1364159	18	5	-19.4
**3	513170	1364138	39	5	-19.4

PRINTED DATA



PLOT PLAN VIEW
(centered or digitized to existing map)

File name: ALIGNE Design Quantities Calculated 08-29-1988 Page 1

Sta 6400 Template Information

Square feet	-62	Bottom width 200
Avg. end area	-57	Base to CL -150
Cubic yards	-211	Elev. of finish cut -21
Total cubic yards	-17281	Side slope ratio 2 :1 Right 2 :1 Left

Sta 6500 Template Information

Square feet	-151	Bottom width 200
Avg. end area	-106	Base to CL -150
Cubic yards	-394	Elev. of finish cut -21
Total cubic yards	-17675	Side slope ratio 2 :1 Right 2 :1 Left

Sta 6600 Template Information

Square feet	-79	Bottom width 200
Avg. end area	-115	Base to CL -150
Cubic yards	-426	Elev. of finish cut -21
Total cubic yards	-18101	Side slope ratio 2 :1 Right 2 :1 Left

Sta 6700 Template Information

Square feet	-70	Bottom width 200
Avg. end area	-74	Base to CL -150
Cubic yards	-275	Elev. of finish cut -21
Total cubic yards	-18376	Side slope ratio 2 :1 Right 2 :1 Left

Sta 6800 Template Information

Square feet	-58	Bottom width 200
Avg. end area	-64	Base to CL -150
Cubic yards	-237	Elev. of finish cut -21
Total cubic yards	-18613	Side slope ratio 2 :1 Right 2 :1 Left

Sta 6900 Template Information

DREDGE VOLUME PRINT-OUT

STANDARD SYSTEM EQUIPMENT:

1. Hydro I Laser
2. Lietz DT5 Theodolite
3. Quick Track Endless Tangent
4. Shore/Ship Voice and Data Links
5. Navigator Box
6. 12,000 Point Data Collector (x,y,z=1 Point)
7. Rechargeable Batteries w/chargers
8. RS232 Computer Interface

OPTIONAL EQUIPMENT:

1. IMC Post Processing Software Package
2. Fathometer
3. Fathometer Digitizer
4. Computer
5. Plotter
6. Prisms with omni Directional Cylinder
7. Tri-Pod
8. External Gel Cell Batteries
9. Internal Time Clock
10. High Gain Antennas
11. 30 A.H. Gel Cells

STANDARD SYSTEM FEATURES:

1. Navigation Directional Indicators which include:
   A. Navigation to Start Point of Line
   B. Course Navigation - Left/Right Steering Indicator
2. Interface to Sounder
3. Distance Measurement 5 times per second
4. Vertical & Horizontal angle measurement 2 times per second
5. Conversion to x,y, or station range positioning
6. Position update time .7 seconds
7. Depths recorded at distance intervals
8. Automatic computation of next line coordinates
9. Parallel and non-parallel line modes
10. Real time data output

SYSTEM SPECIFICATIONS

1. HYDRO I LASER: CLASS I EYE SAFE (CFR 21)
   A. Range: 5000m (to a triple prism)
   B. Update Rate: 5 times/sec.
   C. Accuracy: ±2 ft.
   D. Beam Width: 7 milliradians Hor. x 2 milliradians Ver.
   E. Power Source: 12 V DC

2. LIETZ DT5: ELECTRONIC THEODOLITE
   A. Accuracy: ± 5 Arc Sec.
   B. Resolution: 10 Arc Sec.
   C. Power Source: Rechargeable 6 Volt Ni Cad

3. HYDROLINKS (Data Transmitters)
   A. Radio: 4 Watt Half-Duplex Voice/Data Communications
   B. Radio Range: 3 miles
   C. Power Source: 12 VDC

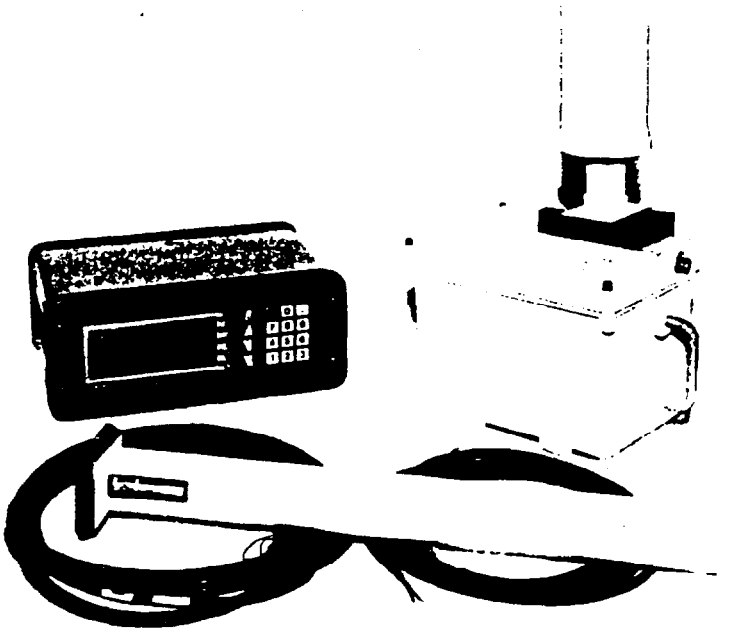
4. DATA COLLECTOR
   A. 12,000 Point Storage (1 Point = x,y, depth)
   B. Real Time Serial Output

Data transferred is standard ACSII format via RS232 Serial Link.

International Measurement & Control Company is continuously upgrading and improving it's products. Specifications may change without notice.

MICRO-FIX

General Description



- Low power solid state transmitter allows immediate ranging.
- Continuous automatic self-adjustment eliminates pre-deployment calibration and maintains accuracy over the operating temperature range.
- Master and Remote T/R units interchangeable.
- Circular polarisation ensures virtually null-free operation and rejection of reflections using a single antenna.
- Data transfer in both directions allows automatic monitoring of deployed remote stations and transfer of other information.
- Standard facilities include full spheroid conversion, track guidance, and real-time clock.
- Automatic self-test and monitoring during system operation.
- All operating parameters stored during power-off for immediate recall when system is powered up.
- Software options for plotter drive, serial range/guidance data and helmsmans track guidance output.

Micro-Fix is a short range position fixing system combining the proven microwave interrogation technique with state-of-the-art technology to achieve a repeatable accuracy of, typically, ±1 metre. The system utilises a low power solid state transmitter operating in the 5 GHz band providing a working range of 80 km with line of sight.

A basic Micro-Fix system consists of two principal units; a Microwave Transponder (T/R) and a Control Measurement Unit (CMU). Details of these units are given in TIL 11-3 and 11-5 respectively.

T/R units are sited at known shore locations around the survey area and are referred to as Remote stations. Remote T/R units are usually mounted on a surveyor's tripod and powered by a +24V d.c. supply.

A Master station is located on the user's vehicle within the survey area and consists of a CMU connected to a T/R. The Master station interrogates all Remote stations in turn and, by measuring the time interval between the transmitted interrogating pulse and received reply, the range of each Remote can be determined.

The Master station can interrogate up to 8 Remote stations from a possible total of 31 with each Remote T/R unit pre-set to recognise its own unique station code. By the inclusion of a chain code, up to 4 separate chains can be deployed in the same survey area without inter-station interference. Multi-user capability allows a maximum of 16 users for each deployed chain depending on number of Remotes and interrogation demands. The Master station can be powered by the normal range of A.C. supplies (110V/230V, 50-400 Hz) or from a +24V D.C. source. Both units are designed for minimum power consumption. Operator communication is via the keyboard and display of the CMU for all data presentation and control purposes. All operating parameters are stored during power-off thus obviating the need to re-enter on power-up.

The CMU design reflects the use of microprocessors to increase the facilities available as standard for the user. These include full self-test, track guidance, plotter drive, X-Y conversion (full spheroid and multi-range solution) and slant range correction. The CMU has the ability to provide serial and/or parallel data outputs for use by peripheral equipments.

The operator can monitor the CMU and Master T/R voltage rails for fault diagnosis. The Remote T/Rs are continuously monitored via a data link thus allowing their voltages to be remotely checked and to initiate an alarm on the CMU if any out of limit voltages are detected.

The T/R unit incorporates automatic adjustment to compensate for errors due to the turn around delays associated with microwave ranging systems. This eliminates the need for pre-deployment calibration and, since it is a continuous self-adjustment, the accuracy is maintained over the whole operating temperature range. T/R units operate on the same single frequency of 5.48 GHz (other frequencies are available to special order) and can be inter-changed. This 'common unit' concept presents logistical advantages to the user.

T/R units can be fitted with either an omni-directional or sector antenna. Normally a Master designated T/R is fitted with an omni antenna and Remote T/Rs with a sector. Both types of antenna are available in different beamwidths and clip onto the T/R without use of waveguide retaining rings or screws. Circular polarisation is employed to reduce the null effect phenomenon and to ensure the rejection of any reflections. Interference suppression is inherent in the operation of the T/R unit.

Units are constructed to meet the expected environmental operating conditions. The T/R unit is fully waterproof and capable of withstanding high impact forces and vibration. The CMU is housed in a strong weatherproof case which may be free-standing or mounted in a 19 inch racking system.

A Remote Front Panel Unit is available when installations require the CMU display to be duplicated at another location. Alternatively, this information can be presented on a monitor by fitting the CMU with a video board. Track guidance data can also be remotely presented using a L/R display.

STATION EQUIPMENT SCHEDULE

Remote Station

1 T/R unit mounted on surveyor's tripod; for permanent installation use Ship Mounting Bracket 90105 fixed to suitable building.

1 Sector Antenna

1 Cable d.c. Power (Length 5m or 10m)

Power requirements +16V to +30V d.c. (typically +24V battery)

Power Consumption 12 watts operating
3 watts stand-by

Master Station

1 T/R unit masthead mounted using Ship Mounting Bracket 90105.

1 Omni-directional Antenna.

1 CMU fitted with either A.C. power supply 90515/1/3/6 or D.C. power supply 90515/1/3/5 as required.

1 Cable Power/Signal (Length to be specified)

Power requirements: 110V/230V, 50-400Hz or +16V to 36V d.c.

Power Consumption 40 watts @ +24V.

Prepared by the Product Support Department.
Racal Positioning Systems Limited.
Renwick House, Brixham Road, Paignton, Devon, TQ4 7BN
Telephone Paignton (0803) 521717 Telex 42641

OCEAN SURVEYS, INC.

MARETRACK-MAREPLOT II

The OSI Maretrack/Mareplot system is the result of more than a decade of integrated software/hardware evolution and development. Initially starting as a programmable calculator-based system, capability has been progressively increased with greatly expanded task abilities, processing speed, expanded display of real-time data, simultaneous multi-terminal output, redundant real-time data logging and most recently a full stand-alone remote site data processing ability.

The present version of the OSI Maretrack/Mareplot II survey vessel navigation, trackline control, data logging and post-processing system operates on high speed AT and 80386-based portable micro-computers. The OSI Maretrack® system accepts position data input from an extensive range of instrumentation including:

- Racal "Micro-Fix" Falcon
- Motorola "IV"
- Del Norte "540"
- Cubic "Autotape"
- Navitrack "Rho-Thata"
- Krup Atlas "Polarfix"
- IMC "Hydro I"
- Northstar 800 Loran-C
- Trimble 4000 GPS
- Magnavox 1101& 4200 GPS

and offers the following real-time outputs:

Numerical Outputs

- Line number and azimuth/heading
- Distance to go start/end of line
- Depth, Fix No., Vessel Speed, Time
- Range data (R1, R2, R3, R4,...R8)
- Vessel position (x,y)
- Data Acquisition Status (on/off)

Graphical Outputs

- Labelled tracklines with fixes and vessel location
- Vessel icon shown on
- selectable scale left/right "off-line" bar display
- Grid North Arrow

Post processing capability include full data analysis and editing through generation of both profile and "boat" or "smooth" sheet presentations at any desired scale, complete drawing labelling including graphic scales and title blocks, project location and survey site inset and generation of ASCII or DFX format (AutoCad) 5¼" or 3½" IBM diskettes.

HYDROGRAPHIC DATA COLLECTION/PROCESSING SYSTEM

HARDWARE

- 80286 Portable Computer Featuring:
  - 30 Mb Shock mounted hard disk
  - 1.2 Mb Floppy disk
  - 720Kb 3.5" Fixed disk
  - 10MHz Turbo Mode
  - RGB graphics monitor with external option
  - Special 4 Port Serial I/O card for system peripherals
  - Operates with MS-DOS 3.2 (IBM Compatible!)

HY87 — HYDROGRAPHIC DATA COLLECTION

- Range/Range or Range/Azimuth
- Supports up to 16 ranges
- Interfaces to support:
  - Digital Echosounders
  - Plotters
  - Event Markers
  - Remote left/right indicators
  - Printer
  - Remote Graphics Display
- Supports the following grids:
  - Transverse Mercator
  - Universal Transverse Mercator
  - Lambert Conformal Conic
  - Engineering
- On-Line Screen Graphics displaying:
  - Boat Track
  - Survey Lines
  - Digitized Shoreline Data
  - Adjustable Left/Right indicator
  - Positioning Information
- On-Line Plotting of Boat Track and/or Corrected Soundings
- Keyboard interrupts to change program parameters while on-line
- Keyboard entry mode for processing manually collected data
- System Configuration selected from software
- Records data on hard disk and 3.5" fixed disk

TIDE — PREDICTED HARMONIC TIDE

- Calculates and stores predicted tide corrections
- Accessed by HY87 for on-line depth reduction
- Provides a printed summary of corrections
- Screen graphics provide a tide graph

DEPDIG — DEPTH DIGITIZATION

- Provides for digitization of echograms and tide charts
- DEPDIG data is merged with positions from HY87 for processing

SHORE — SHORELINE FEATURE DIGITIZATION

- For digitizing shoreline and hydrographic features
- Information is displayed on graphics screen of HY87
- Information can be plotted on boat and smooth sheets
- Separate symbols for:

Shorelines and buildings	Wrecks
Geodetic Marks	Tanks
Exposed Rocks	Spires
Tide Gauges	Bouys
Grid and Magnetic North	Antennae
Text	Boats

DCORR — DEPTH AND POSITION CORRECTION

- Provides graphic displays of depth and positions for on-screen editing
- Provides for entry of final tide, draft, and zero corrections
- Builds final data file for input into HYPLOT

HYPLOT — HYDROGRAPHIC PLOTTING

- Plots and labels grids
- Plots boat's track from either HY87 or DCORR files
- Plots soundings in the following styles:
  - Decimal point on the mark (Corps of Engineers format)
  - Centered sounding with small lowered fraction (IHB format)
- Soundings can be oriented either:
  - Perpendicular to track
  - At a fixed angle to sheet
- Additional plot features:
  - Range/Range nets
  - Range/Azimuth nets
  - Plots Shoreline and Hydrographic Features
  - Plots Lines and Points
- Standard Title Blocks Include:
  - Plotting Record
  - Work Record
  - Smooth Sheet Record
  - Tidal Information Block

GEOD — Geodetic Support

- GP to UTM Conversions
- UTM to GP Conversions
- Forward GP
- Grid Traverse

OCEAN SURVEYS, INC.

OSI

OLD SAYBROOK, CONNECTICUT

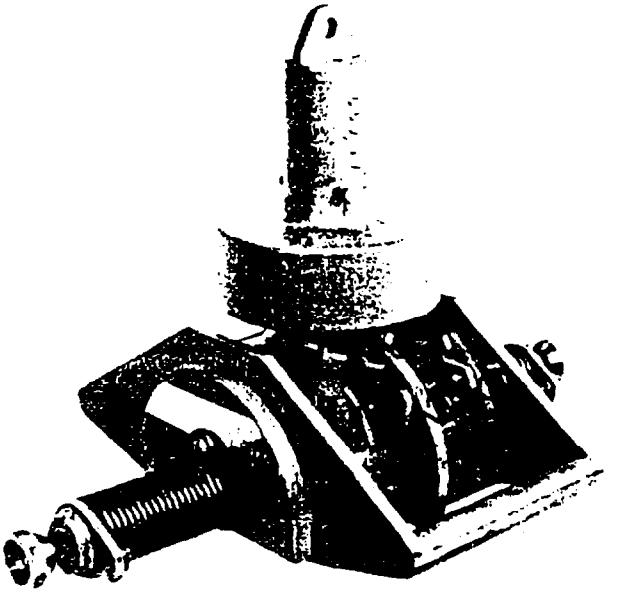
TEL: (203)388-4631 TLX 966429

MEMBER

The Hydrographic Society

Hydro Products
A TETRA TECH COMPANY

SHIPEK SEDIMENT SAMPLER
MODEL 860



FEATURES

- UNDISTURBED SAMPLES
- UNLIMITED DEPTHS
- AUTOMATIC ACTUATION
- FOOLPROOF OPERATION

DESIGN

The advanced concept in bottom samplers is based upon the patented design of the late Carl J. Shipek, noted oceanographer. Specifically designed for sampling unconsolidated sediment, from soft ooze to hard-packed course sand, the device is capable of obtaining virtually undisturbed, unwashed samples to the surface from any depth.

The Shipek sampler is designed to take a sample 1/25 square meter in surface area and approximately 4 inches deep at the center. It is therefore particularly well adapted for pickup of benthos organisms living at or immediately below the water bottom interface.

PERFORMANCE

Basically the unit is composed of 2 concentric half cylinders. The inner semi-cylinder, or sample bucket, is rotated at high torque by 2 helically wound external springs. Upon contact with the bottom it is automatically triggered by the inertia of a self-contained weight upon a sear mechanism. At the end of its 180° travel the sample bucket is stopped and held at the closed position by residual spring torque.

After closure the sample is given optimum protection from washout during the return trip by the cylindrical configuration of the unit. Unlike many types of samplers, closure of the unit is made at the side, rather than at the bottom. Therefore, if complete closure is prevented by a rock or some other consolidated substance, it is improbable that the entire sample will be lost.

Based on in situ experience, special attention has been given to ease of removal of the sample from the unit. Once on deck, the sample bucket may be disengaged from the rest of the device by releasing two retaining latches at each end of the upper semi-cylinder. The sample is then readily accessible for immediate study or transport to off-site laboratory facilities. Any number of interchangeable sample buckets may be purchased for use with a single actuating mechanism. The Shipek Sediment Sampler is covered by U.S. Patent No. 3,165,935, dated January 19, 1965.

OCEAN SURVEYS, INC.
OLD SAYBROOK, CONNECTICUT

June 1973

SPECIFICATIONS

SIZE:	18.6 in. x 17.4 in. x 25.1 in. (47.2 x 44.2 x 65.8 cm)
WEIGHT:	134 lbs. (to.8 kg(net; 200 lbs. (90.8 kg) shipping weight
MATERIALS:	Sampler: Cast Iron Springs: Tempered stainless steel
FINISH:	International Orange epoxy paint applied over inert primer coat
SAMPLE SIZE:	Surface area: 8 in. x 8 in. (1/25 square meter) Depth: 4 in. (10.2 cm) at center

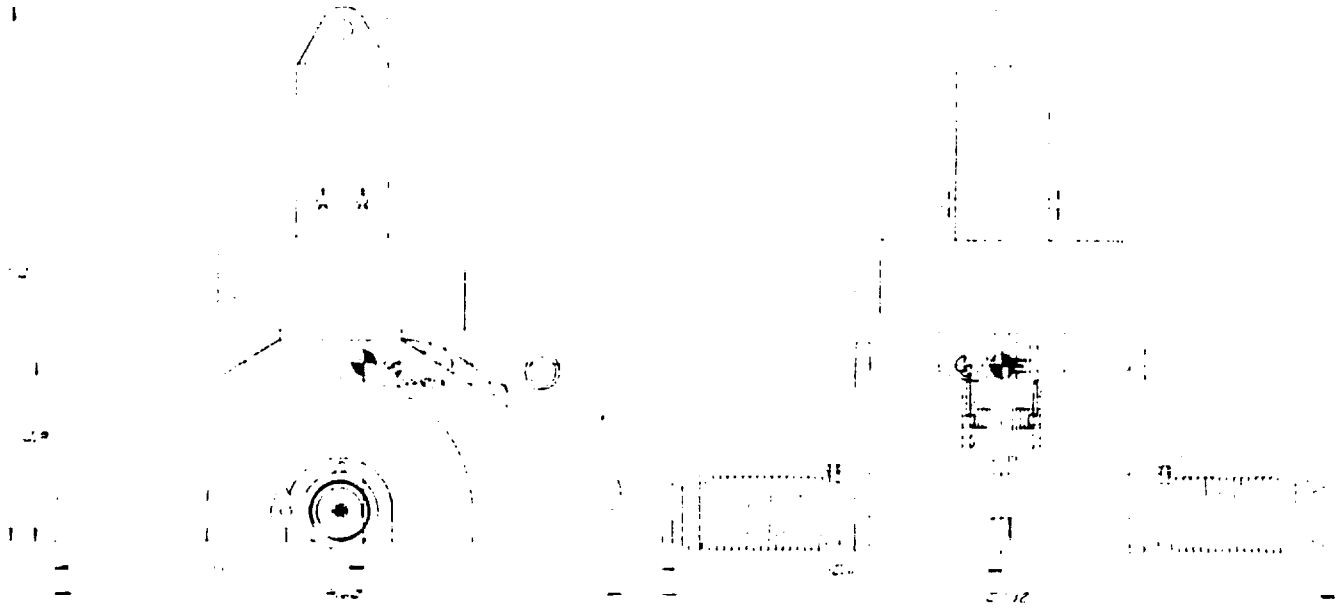
ORDERING INFORMATION

The Model 860 Shipek Sediment Sampler is shipped from the factory in a re-useable packing crate, complete with one sample bucket and one hand cocking wrench. Complete operating instructions and handling recommendations are also provided. For ease in carrying, handles are affixed to the unit.

The complete crate measures 21.5 in. x 21 in. x 29.75 in. (54.6 x 43.3 x 75.6 cm), and will hold the sampler cocking wrench and extra sample buckets. Net weight of the Model 860 is 134 lbs., with a shipping weight of 200 lbs.

GUARANTEE

The Shipek Sediment Sampler is unconditionally guaranteed against all defects in material, workmanship, or operation for a period of one year from the date of sale. This guarantee is voided only if the sampler is obviously misused or modified by the customer.



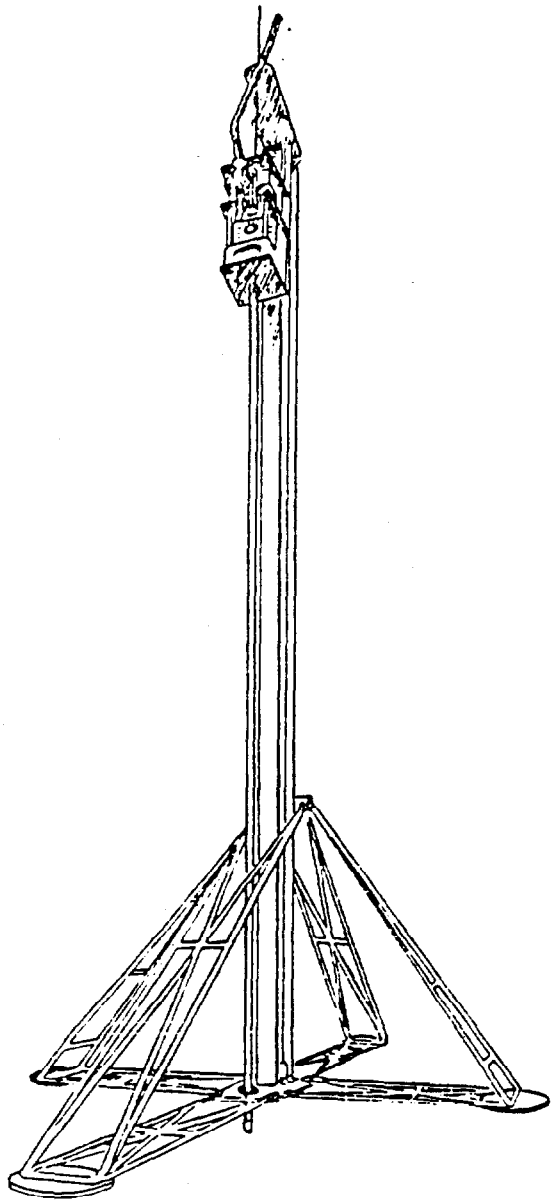
DIMENSIONAL DRAWING OF THE SHIPEK SEDIMENT SAMPLER MODEL 860

Hydro Products
A TETRA TECH COMPANY

POST OFFICE BOX 2528 · SAN DIEGO, CALIFORNIA · TE :ONE (714) 453-2345 · TWX 910-322-1133

OCEAN SURVEYS, INC.

OLD SAYBROOK, CONNECTICUT
TEL (203)388-4631 TLX 966429



PNEUMATIC VIBRATORY CORER

MODEL 1500

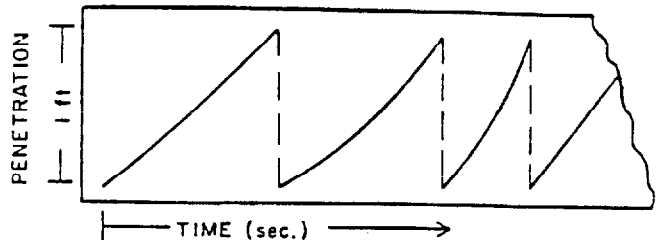
In addition to offering a full range of gravity coring services, Ocean Surveys, Inc. provides sampling of fine to coarse granular sediments in water depths to 300 feet employing the OSI Model 1500 pneumatic vibracorer.

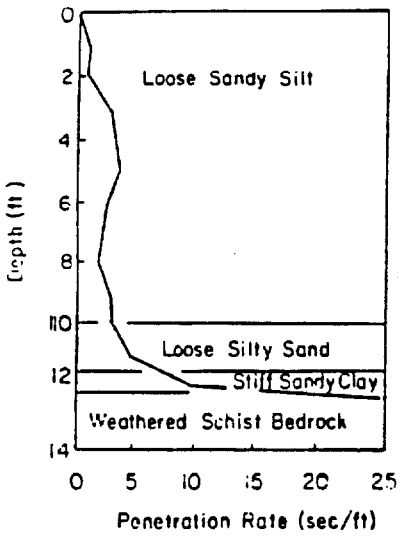
In operation, the OSI corer employs an oscillating air-driven mass which generate axial forces causing the core head to oscillate vertically. These forces, together with the longitudinal impact created by the core head striking an anvil at the bottom of each stroke, are transmitted to the core barrel. As both the frequency and intensity of the core head forces are controllable, sampling operations may be "tuned" to achieve maximum subbottom core penetration, minimum sediment disturbance, and efficient sampling of sediments exhibiting a wide range of geotechnical properties.

In sheltered water and for sampling low strength sediments, maximum efficiency can be achieved employing the Model 1500 as a free-standing corer. Offshore or in compact sediments, use of a bottom-standing frame is recommended. Core barrels are available in up to 40 foot lengths with removable plastic core liners up to 3-5/8" ID which facilitate core handling, shipping and storage. The additional capability of jetting to predetermined depths before coring commences permits recovery of sequential core sections from subbottom depths in excess of those attainable by conventional vibratory coring approaches.

The coring rig can be handled with a crane or an A-frame and a winch mounted on a ship or barge. Twenty to 40 foot cores are generally taken in 15 to 45 minutes, which includes the time to lower the unit to the bottom, penetrate the sediment and return it to the vessel. The corer at left is returning from the sea floor with a 20 foot core.

Penetration of the core barrel into sediment as a function of time is recorded as shown above on a strip chart recorder on the support vessel.





Penetration rate is used to evaluate soil consistency in a similar fashion to a "blow count" obtained from conventional split spoon sampling and a penetration profile may be prepared (left).

OSI MODEL 1500 VIBRACORER SPECIFICATIONS

SPECIFICATIONS

Power System:

Engine: 4-cycl., air-cooled, diesel air compressor

Flow Capacity: 150 cfm @ 120 psi

Connecting Lines: Supply (Low Pressure): 1 in.
Return (Low Pressure): 1 inc.

Core Barrel:

Lengths Available: 20 ft. std. (40 ft. available)
Outside Diameters: 3 to 4 in.
Inside Diameters: 2-3/4 in. to 3-5/8 in.
Liner: Plastic, removable in 20 ft. lengths

III

SEDIMENT SAMPLING CHEMISTRY RESULTS

LABORATORY RESOURCES, INC.

EASTERN SCIENTIFIC DIVISION
RTE 205 THE REGIONAL BLDG.
P.O. BOX 700
BROOKLYN, CT 06234
TEL.-(203)774-6814 FAX-(203)774-2689

Report to: CLINT WEBB
MAGUIRE GROUP
ONE COURT STREET
NEW BRITAIN, CT 06051

Work ID: THAMES RIVER DREDGE SDEIS
Work Order #: E112495

Date Received: 12/23/91

PO Number:

Analysis Performed	Results	Detection Limits	Date of Analysis	Method of Analysis
Sample ID: P1-A		Date Collected: 12/19/91		
ARSENIC (mg/kg)	16	0.5	12/26/91	EPA 7060
CADMIUM (mg/kg)	3.6	0.5	12/24/91	EPA 6010
CHROMIUM (mg/kg)	120	2	12/24/91	EPA 6010
COPPER (mg/kg)	167	5	01/30/92	EPA 6010
MERCURY (mg/kg)	0.4	0.1	12/24/91	EPA 7471
TOTAL % MOISTURE	69		12/24/91	EPA 160.3
NICKEL (mg/kg)	63	10	01/30/92	EPA 6010
LEAD (mg/kg)	160	6	12/24/91	EPA 6010
TOC (mg/kg)	388,900	100	12/30/91	EPA 415.1
ZINC (mg/kg)	295	2	01/30/92	EPA 6010
Sample ID: P1-B		Date Collected: 12/19/91		
ARSENIC (mg/kg)	16	0.5	12/26/91	EPA 7060
CADMIUM (mg/kg)	2.4	0.5	12/24/91	EPA 6010
CHROMIUM (mg/kg)	54	2	12/24/91	EPA 6010
COPPER (mg/kg)	60	5	01/30/92	EPA 6010
MERCURY (mg/kg)	0.1	0.1	12/24/91	EPA 7471
TOTAL % MOISTURE	51		12/24/91	EPA 160.3
NICKEL (mg/kg)	50	10	01/30/92	EPA 6010
LEAD (mg/kg)	47	6	12/24/91	EPA 6010
TOC (mg/kg)	75,550	100	12/30/91	EPA 415.1
ZINC (mg/kg)	145	2	01/30/92	EPA 6010
Sample ID: P2-A		Date Collected: 12/20/91		
ARSENIC (mg/kg)	9.4	0.5	12/26/91	EPA 7060
CADMIUM (mg/kg)	3.2	0.5	12/24/91	EPA 6010
CHROMIUM (mg/kg)	86	2	12/24/91	EPA 6010
COPPER (mg/kg)	139	5	01/30/92	EPA 6010
MERCURY (mg/kg)	0.3	0.1	12/24/91	EPA 7471
TOTAL % MOISTURE	56		12/24/91	EPA 160.3
NICKEL (mg/kg)	51	10	01/30/92	EPA 6010
LEAD (mg/kg)	110	6	12/24/91	EPA 6010
TOC (mg/kg)	21,250	100	12/30/91	EPA 415.1
ZINC (mg/kg)	263	2	01/30/92	EPA 6010

All measurements are in mg/l unless otherwise specified
ND = None Detected/Below stated detection limit

Analysis Performed	Results	Detection Limits	Date of Analysis	Method of Analysis
Sample ID: P2-B		Date Collected: 12/20/91		
ARSENIC (mg/kg)	9.7	0.5	12/26/91	EPA 7060
CADMIUM (mg/kg)	3.3	0.5	12/24/91	EPA 6010
CHROMIUM (mg/kg)	94	2	12/24/91	EPA 6010
COPPER (mg/kg)	99	5	01/30/92	EPA 6010
MERCURY (mg/kg)	0.3	0.1	12/24/91	EPA 7471
TOTAL % MOISTURE	60		12/24/91	EPA 160.3
NICKEL (mg/kg)	71	10	01/30/92	EPA 6010
LEAD (mg/kg)	120	6	12/24/91	EPA 6010
TOC (mg/kg)	71,250	100	12/30/91	EPA 415.1
ZINC (mg/kg)	206	2	01/30/92	EPA 6010
Sample ID: M1-A		Date Collected: 12/20/91		
ARSENIC (mg/kg)	12	0.5	12/26/91	EPA 7060
CADMIUM (mg/kg)	2.0	0.5	12/24/91	EPA 6010
CHROMIUM (mg/kg)	150	2	12/24/91	EPA 6010
COPPER (mg/kg)	165	5	01/30/92	EPA 6010
MERCURY (mg/kg)	0.6	0.1	12/24/91	EPA 7471
TOTAL % MOISTURE	55		12/24/91	EPA 160.3
NICKEL (mg/kg)	49	10	01/30/92	EPA 6010
LEAD (mg/kg)	170	6	12/24/91	EPA 6010
TOC (mg/kg)	74,300	100	12/30/91	EPA 415.1
ZINC (mg/kg)	189	2	01/30/92	EPA 6010
Sample ID: M1-B		Date Collected: 12/20/91		
ARSENIC (mg/kg)	14	0.5	12/26/91	EPA 7060
CADMIUM (mg/kg)	3.3	0.5	12/24/91	EPA 6010
CHROMIUM (mg/kg)	230	2	12/24/91	EPA 6010
COPPER (mg/kg)	290	5	01/30/92	EPA 6010
MERCURY (mg/kg)	0.9	0.1	12/24/91	EPA 7471
TOTAL % MOISTURE	58		12/24/91	EPA 160.3
NICKEL (mg/kg)	59	10	01/30/92	EPA 6010
LEAD (mg/kg)	250	6	12/24/91	EPA 6010
TOC (mg/kg)	212,500	100	12/30/91	EPA 415.1
ZINC (mg/kg)	345	2	01/30/92	EPA 6010
Sample ID: M2-A		Date Collected: 12/20/91		
ARSENIC (mg/kg)	9.3	0.5	12/26/91	EPA 7060
CADMIUM (mg/kg)	3.0	0.5	12/24/91	EPA 6010
CHROMIUM (mg/kg)	78	2	12/24/91	EPA 6010
COPPER (mg/kg)	129	5	01/30/92	EPA 6010
MERCURY (mg/kg)	0.3	0.1	12/24/91	EPA 7471
TOTAL % MOISTURE	62		12/24/91	EPA 160.3
NICKEL (mg/kg)	102	10	01/30/92	EPA 6010
LEAD (mg/kg)	100	6	12/24/91	EPA 6010
TOC (mg/kg)	49,900	100	12/30/91	EPA 415.1
ZINC (mg/kg)	269	2	01/30/92	EPA 6010

All measurements are in mg/l unless otherwise specified
ND = None Detected/Below stated detection limit

Analysis Performed	Results	Detection Limits	Date of Analysis	Method of Analysis
Sample ID: M2-B		Date Collected: 12/20/91		
ARSENIC (mg/kg)	14	0.5	12/26/91	EPA 7060
CADMIUM (mg/kg)	2.7	0.5	12/24/91	EPA 6010
CHROMIUM (mg/kg)	54	2	12/24/91	EPA 6010
COPPER (mg/kg)	59	5	01/30/92	EPA 6010
MERCURY (mg/kg)	0.1	0.1	12/24/91	EPA 7471
TOTAL % MOISTURE	51		12/24/91	EPA 160.3
NICKEL (mg/kg)	72	10	01/30/92	EPA 6010
LEAD (mg/kg)	51	6	12/24/91	EPA 6010
TOC (mg/kg)	43,000	100	12/30/91	EPA 415.1
ZINC (mg/kg)	171	2	01/30/92	EPA 6010
Sample ID: EB-1		Date Collected: 12/21/91		
ARSENIC (mg/kg)	11	0.5	12/26/91	EPA 7060
CADMIUM (mg/kg)	2.3	0.5	12/24/91	EPA 6010
CHROMIUM (mg/kg)	55	2	12/24/91	EPA 6010
COPPER (mg/kg)	94	5	01/30/92	EPA 6010
MERCURY (mg/kg)	0.1	0.1	12/24/91	EPA 7471
TOTAL % MOISTURE	54		12/24/91	EPA 160.3
NICKEL (mg/kg)	67	10	01/30/92	EPA 6010
LEAD (mg/kg)	57	6	12/24/91	EPA 6010
TOC (mg/kg)	30,600	100	12/30/91	EPA 415.1
ZINC (mg/kg)	302	2	01/30/92	EPA 6010
Sample ID: EB-2		Date Collected: 12/21/91		
ARSENIC (mg/kg)	10	0.5	12/26/91	EPA 7060
CADMIUM (mg/kg)	2.3	0.5	12/24/91	EPA 6010
CHROMIUM (mg/kg)	42	2	12/24/91	EPA 6010
COPPER (mg/kg)	26	5	01/30/92	EPA 6010
MERCURY (mg/kg)	ND	0.1	12/24/91	EPA 7471
TOTAL % MOISTURE	51		12/24/91	EPA 160.3
NICKEL (mg/kg)	66	10	01/30/92	EPA 6010
LEAD (mg/kg)	36	6	12/24/91	EPA 6010
TOC (mg/kg)	22,100	100	12/30/91	EPA 415.1
ZINC (mg/kg)	100	2	01/30/92	EPA 6010

All measurements are in mg/l unless otherwise specified
ND = None Detected/Below stated detection limit

Analysis Performed	Results	Detection Limits	Date of Analysis	Method of Analysis
Sample ID: B-1		Date Collected: 12/21/91		
ARSENIC (mg/kg)	8.2	0.5	12/26/91	EPA 7060
CADMIUM (mg/kg)	1.3	0.5	12/24/91	EPA 6010
CHROMIUM (mg/kg)	32	2	12/24/91	EPA 6010
COPPER (mg/kg)	20	5	01/30/92	EPA 6010
MERCURY (mg/kg)	ND	0.1	12/24/91	EPA 7471
TOTAL % MOISTURE	46		12/24/91	EPA 160.3
NICKEL (mg/kg)	61	10	01/30/92	EPA 6010
LEAD (mg/kg)	26	6	12/24/91	EPA 6010
TOC (mg/kg)	23,500	100	12/30/91	EPA 415.1
ZINC (mg/kg)	88	2	01/30/92	EPA 6010

All measurements are in mg/l unless otherwise specified
ND = None Detected/Below stated detection limit

Report is an accurate analysis of sample received at this laboratory.

T.F. McCommas 2/3/92

T.F. McCommas, Director Date
Robert LaFerriere, Tech. Lab. Director
CT Laboratory PH 0465

ORGANICS
ANALYTICAL DATA REPORT

WORK ORDER #

E112495

prepared for

MAGUIRE GROUP
ONE COURT STREET
NEW BRITAIN, CT 06051

THAMES RIVER DREDGE SDEIS

Date Received: 12/23/91

Prepared by

LABORATORY RESOURCES, INC.

1/3/92

T.F. McCommas, Director / Date
Robert LaFerriere, Tech. Lab. Director

ORGANICS ANALYTICAL RESULTS
EPA METHOD 8270
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112495-01
CLIENT ID: P1-A
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: SOLID
COLLECTED: 12/19/91
DATE OF ANALYSIS: 12/29/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/KG)	DETECTION LIMIT (ug/KG)
ACENAPHTHENE	ND	100
ACENAPHTHYLENE	ND	100
ANTHRACENE	ND	100
BENZO(a)ANTHRACENE	ND	100
BENZO(a)PYRENE	600	100
BENZO(b)FLURANTHENE	500	100
BENZO(ghi)PERYLENE	330	100
BENZO(k)FLURANTHENE	600	100
CHRYSENE	800	100
DIBENZO(a,h)ANTHRACENE	ND	100
FLUORANTHENE	1,000	100
INDENO(1,2,3-cd)PYRENE	350	100
NAPHTHALENE	ND	100
PHENATHRENE	430	100
PYRENE	1,300	100

ORGANICS ANALYTICAL RESULTS
EPA METHOD 8270
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112495-02
CLIENT ID: P1-B
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: SOLID
COLLECTED: 12/19/91
DATE OF ANALYSIS: 12/31/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/KG)	DETECTION LIMIT (ug/KG)
ACENAPHTHENE	ND	100
ACENAPHTHYLENE	ND	100
ANTHRACENE	ND	100
BENZO(a)ANTHRACENE	ND	100
BENZO(a)PYRENE	ND	100
BENZO(b)FLUROANTHENE	ND	100
BENZO(ghi)PERYLENE	ND	100
BENZO(k)FLUROANTHENE	ND	100
CHRYSENE	ND	100
DIBENZO(a,h)ANTHRACENE	ND	100
FLUORANTHENE	ND	100
INDENO(1,2,3-cd)PYRENE	ND	100
NAPHTHALENE	ND	100
PHENATHRENE	ND	100
PYRENE	ND	100

ORGANICS ANALYTICAL RESULTS
EPA METHOD 8270
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112495-03
CLIENT ID: P2-A
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: SOLID
COLLECTED: 12/20/91
DATE OF ANALYSIS: 12/30/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/KG)	DETECTION LIMIT (ug/KG)
ACENAPHTHENE	280	100
ACENAPHTHYLENE	ND	100
ANTHRACENE	270	100
BENZO(a)ANTHRACENE	970	100
BENZO(a)PYRENE	680	100
BENZO(b)FLURANTHENE	880	100
BENZO(ghi)PERYLENE	300	100
BENZO(k)FLURANTHENE	660	100
CHRYSENE	1,200	100
DIBENZO(a,h)ANTHRACENE	ND	100
FLUORANTHENE	2,200	100
INDENO(1,2,3-cd)PYRENE	320	100
NAPHTHALENE	ND	100
PHENATHRENE	750	100
PYRENE	2,400	100

ORGANICS ANALYTICAL RESULTS
EPA METHOD 8270
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112495-04
CLIENT ID: P2-B
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: SOLID
COLLECTED: 12/20/91
DATE OF ANALYSIS: 12/30/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/KG)	DETECTION LIMIT (ug/KG)
ACENAPHTHENE	ND	100
ACENAPHTHYLENE	ND	100
ANTHRACENE	ND	100
BENZO(a)ANTHRACENE	420	100
BENZO(a)PYRENE	300	100
BENZO(b)FLURANTHENE	365	100
BENZO(ghi)PERYLENE	ND	100
BENZO(k)FLURANTHENE	330	100
CHRYSENE	550	100
DIBENZO(a,h)ANTHRACENE	ND	100
FLUORANTHENE	890	100
INDENO(1,2,3-cd)PYRENE	ND	100
NAPHTHALENE	ND	100
PHENATHRENE	300	100
PYRENE	890	100

ORGANICS ANALYTICAL RESULTS
EPA METHOD 8270
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112495-05
CLIENT ID: M1-A
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: SOLID
COLLECTED: 12/20/91
DATE OF ANALYSIS: 12/30/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/KG)	DETECTION LIMIT (ug/KG)
ACENAPHTHENE	ND	100
ACENAPHTHYLENE	300	100
ANTHRACENE	400	100
BENZO(a)ANTHRACENE	1,400	100
BENZO(a)PYRENE	1,300	100
BENZO(b)FLURANTHENE	1,200	100
BENZO(ghi)PERYLENE	500	100
BENZO(k)FLURANTHENE	750	100
CHRYSENE	1,500	100
DIBENZO(a,h)ANTHRACENE	ND	100
FLUORANTHENE	1,600	100
INDENO(1,2,3-cd)PYRENE	525	100
NAPHTHALENE	ND	100
PHENATHRENE	700	100
PYRENE	2,700	100

ORGANICS ANALYTICAL RESULTS
EPA METHOD 8270
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112495-06
CLIENT ID: M1-B
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: SOLID
COLLECTED: 12/20/91
DATE OF ANALYSIS: 12/31/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/KG)	DETECTION LIMIT (ug/KG)
ACENAPHTHENE	ND	100
ACENAPHTHYLENE	600	100
ANTHRACENE	850	100
BENZO(a)ANTHRACENE	2,900	100
BENZO(a)PYRENE	2,600	100
BENZO(b)FLURANTHENE	2,400	100
BENZO(ghi)PERYLENE	880	100
BENZO(k)FLURANTHENE	2,300	100
CHRYSENE	3,100	100
DIBENZO(a,h)ANTHRACENE	240	100
FLUORANTHENE	3,000	100
INDENO(1,2,3-cd)PYRENE	950	100
NAPHTHALENE	300	100
PHENATHRENE	1,900	100
PYRENE	5,200	100

ORGANICS ANALYTICAL RESULTS
EPA METHOD 8270
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112495-07
CLIENT ID: M2-A
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: SOLID
COLLECTED: 12/20/91
DATE OF ANALYSIS: 12/30/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/KG)	DETECTION LIMIT (ug/KG)
ACENAPHTHENE	ND	100
ACENAPHTHYLENE	ND	100
ANTHRACENE	ND	100
BENZO(a)ANTHRACENE	540	100
BENZO(a)PYRENE	480	100
BENZO(b)FLUROANTHENE	480	100
BENZO(ghi)PERYLENE	ND	100
BENZO(k)FLUROANTHENE	400	100
CHRYSENE	680	100
DIBENZO(a,h)ANTHRACENE	ND	100
FLUORANTHENE	790	100
INDENO(1,2,3-cd)PYRENE	300	100
NAPHTHALENE	ND	100
PHENATHRENE	340	100
PYRENE	1,050	100

ORGANICS ANALYTICAL RESULTS
EPA METHOD 8270
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112495-08
CLIENT ID: M2-B
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: SOLID
COLLECTED: 12/20/91
DATE OF ANALYSIS: 12/30/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/KG)	DETECTION LIMIT (ug/KG)
ACENAPHTHENE	ND	100
ACENAPHTHYLENE	ND	100
ANTHRACENE	ND	100
BENZO(a)ANTHRACENE	ND	100
BENZO(a)PYRENE	ND	100
BENZO(b)FLUROANTHENE	ND	100
BENZO(ghi)PERYLENE	ND	100
BENZO(k)FLUROANTHENE	ND	100
CHRYSENE	ND	100
DIBENZO(a,h)ANTHRACENE	ND	100
FLUORANTHENE	ND	100
INDENO(1,2,3-cd)PYRENE	ND	100
NAPHTHALENE	ND	100
PHENATHRENE	ND	100
PYRENE	ND	100

ORGANICS ANALYTICAL RESULTS
EPA METHOD 8270
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112495-09
CLIENT ID: EB-1
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: SOLID
COLLECTED: 12/21/91
DATE OF ANALYSIS: 12/30/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/KG)	DETECTION LIMIT (ug/KG)
ACENAPHTHENE	ND	100
ACENAPHTHYLENE	ND	100
ANTHRACENE	ND	100
BENZO(a)ANTHRACENE	ND	100
BENZO(a)PYRENE	ND	100
BENZO(b)FLUROANTHENE	ND	100
BENZO(ghi)PERYLENE	ND	100
BENZO(k)FLUROANTHENE	ND	100
CHRYSENE	ND	100
DIBENZO(a,h)ANTHRACENE	ND	100
FLUORANTHENE	260	100
INDENO(1,2,3-cd)PYRENE	ND	100
NAPHTHALENE	ND	100
PHENATHRENE	ND	100
PYRENE	300	100

ORGANICS ANALYTICAL RESULTS
EPA METHOD 8270
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112495-10
CLIENT ID: EB-2
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: SOLID
COLLECTED: 12/21/91
DATE OF ANALYSIS: 12/30/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/KG)	DETECTION LIMIT (ug/KG)
ACENAPHTHENE	ND	100
ACENAPHTHYLENE	ND	100
ANTHRACENE	ND	100
BENZO(a)ANTHRACENE	ND	100
BENZO(a)PYRENE	ND	100
BENZO(b)FLUROANTHENE	ND	100
BENZO(ghi)PERYLENE	ND	100
BENZO(k)FLUROANTHENE	ND	100
CHRYSENE	ND	100
DIBENZO(a,h)ANTHRACENE	ND	100
FLUORANTHENE	ND	100
INDENO(1,2,3-cd)PYRENE	ND	100
NAPHTHALENE	ND	100
PHENATHRENE	ND	100
PYRENE	ND	100

ORGANICS ANALYTICAL RESULTS
EPA METHOD 8270
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112495-11
CLIENT ID: B-1
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: SOLID
COLLECTED: 12/21/91
DATE OF ANALYSIS: 12/30/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/KG)	DETECTION LIMIT (ug/KG)
ACENAPHTHENE	ND	100
ACENAPHTHYLENE	ND	100
ANTHRACENE	ND	100
BENZO(a)ANTHRACENE	ND	100
BENZO(a)PYRENE	ND	100
BENZO(b)FLURANTHENE	ND	100
BENZO(ghi)PERYLENE	ND	100
BENZO(k)FLURANTHENE	ND	100
CHRYSENE	ND	100
DIBENZO(a,h)ANTHRACENE	ND	100
FLUORANTHENE	ND	100
INDENO(1,2,3-cd)PYRENE	ND	100
NAPHTHALENE	ND	100
PHENATHRENE	ND	100
PYRENE	ND	100

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THAMES RIVER DREDGE SDEIS

REPORT TO:
MAGUIRE GROUP
ONE COURT STREET
NEW BRITAIN, CT. 06051

SOURCE OF SAMPLE: P1 - A

SAMPLE #:E1-12-495-01

DATE/TIME COLLECTED: 12/19/91
RECEIVED: 12/23/91

SIEVE SIZE REPORT

% RECOVERY OF SAMPLE = 98.5%

INITIAL WEIGHT = 78.91g

U.S. STANDARD SIEVE SIZE	MASS	% FINER THAN
4	0	100
10	0	100
20	0.13	99.8
40	1.75	97.6
60	3.27	93.5
100	5.54	86.5
200	13.18	69.8
>200	53.88	0

TOTAL MASS = 77.75g

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VERIFIED BY:

FM/SIEVERPT/KH
MG4951A

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Robert Laferriere 01/03/92

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THAMES RIVER DREDGE SDEIS

REPORT TO:
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ONE COURT STREET
NEW BRITAIN, CT. 06051

SOURCE OF SAMPLE: P1 - B

SAMPLE #:E1-12-495-02

DATE/TIME COLLECTED: 12/19/91
RECEIVED: 12/23/91

SIEVE SIZE REPORT

% RECOVERY OF SAMPLE = 98.2%

INITIAL WEIGHT = 99.26g

U.S. STANDARD SIEVE SIZE	MASS	% FINER THAN
4	0	100
10	0.05	99.9
20	1.77	98.2
40	4.33	93.9
60	6.73	87.0
100	12.40	74.5
200	32.87	41.4
>200	39.28	0

TOTAL MASS = 97.43g

THIS IS A CERTIFIED SAMPLE TAKEN BY LAB. PERSONNEL. IF NOTED BELOW

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MG4952A

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REPORT TO:
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SOURCE OF SAMPLE: P2 - A

SAMPLE #:E1-12-495-03

DATE/TIME COLLECTED: 12/20/91
RECEIVED: 12/23/91

SIEVE SIZE REPORT

% RECOVERY OF SAMPLE = 98.2% INITIAL WEIGHT = 100.29%

U.S. STANDARD SIEVE SIZE	MASS	% FINER THAN
4	3.23	96.8
10	2.32	94.5
20	7.54	86.9
40	9.78	77.2
60	6.38	70.83
100	5.10	65.7
200	23.28	42.5
>200	40.89	0

TOTAL MASS = 98.52g

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FM/SIEVERPT/KH
MG4953A

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SOURCE OF SAMPLE: P2 - B

SAMPLE #:E1-12-495-04

DATE/TIME COLLECTED: 12/20/91
RECEIVED: 12/23/91

SIEVE SIZE REPORT

% RECOVERY OF SAMPLE = 98.9%

INITIAL WEIGHT = 100.5%

U.S. STANDARD SIEVE SIZE	MASS	% FINER THAN
4	0	100
10	0.13	99.9
20	1.00	98.9
40	3.32	95.6
60	2.68	92.9
100	17.70	75.2
200	18.59	56.6
>200	55.54	0

TOTAL MASS = 98.96g

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FM/SIEVERPT/KH
MG4954A

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THAMES RIVER DREDGE SDEIS

REPORT TO:
MAGUIRE GROUP
ONE COURT STREET
NEW BRITAIN, CT. 06051

SOURCE OF SAMPLE: M1 - A

SAMPLE #:E1-12-495-05

DATE/TIME COLLECTED: 12/20/91
RECEIVED: 12/23/91

SIEVE SIZE REPORT

% RECOVERY OF SAMPLE = 99.1%

INITIAL WEIGHT = 100.02%

U.S. STANDARD SIEVE SIZE	MASS	% FINER THAN
4	0	100
10	0	100
20	0.10	99.9
40	1.09	98.8
60	2.17	96.6
100	5.70	90.9
200	25.02	65.9
>200	65.05	0

TOTAL MASS = 99.13g

THIS IS A CERTIFIED SAMPLE TAKEN BY LAB. PERSONNEL. IF NOTED BELOW

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FM/SIEVERPT/KH
MG4955A

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THAMES RIVER DREDGE SDEIS

REPORT TO:
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SOURCE OF SAMPLE: M1 - B

SAMPLE #:E1-12-495-06

DATE/TIME COLLECTED: 12/20/91
RECEIVED: 12/23/91

SIEVE SIZE REPORT

% RECOVERY OF SAMPLE = 98.6%

INITIAL WEIGHT = 97.86%

U.S. STANDARD SIEVE SIZE	MASS	% FINER THAN
4	0	100
10	0	100
20	0.16	99.8
40	0.86	99.0
60	1.73	97.2
100	5.94	91.1
200	27.22	63.3
>200	60.58	0

TOTAL MASS = 96.49g

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MG4956A

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SOURCE OF SAMPLE: M2 - A

SAMPLE #:E1-12-495-07

DATE/TIME COLLECTED: 12/20/91
RECEIVED: 12/23/91

SIEVE SIZE REPORT

% RECOVERY OF SAMPLE = 97.6%

INITIAL WEIGHT = 100.07g

U.S. STANDARD SIEVE SIZE	MASS	% FINER THAN
4	0	100
10	0	100
20	0.46	99.5
40	0.43	99.1
60	1.01	98.1
100	2.62	95.5
200	69.37	26.2
>200	23.76	0

TOTAL MASS = 97.65g

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REPORT TO:
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SOURCE OF SAMPLE: M2 - B

SAMPLE #:E1-12-495-08

DATE/TIME COLLECTED: 12/20/91
RECEIVED: 12/23/91

SIEVE SIZE REPORT

% RECOVERY OF SAMPLE = 97.7%

INITIAL WEIGHT = 100.13g

U.S. STANDARD SIEVE SIZE	MASS	% FINER THAN
4	0	100
10	0	100
20	0.30	99.7
40	4.03	95.7
60	8.72	86.9
100	14.03	73.0
200	42.82	30.2
>200	27.88	0

TOTAL MASS = 97.78g

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FM/SIEVERPT/KH
MG4958A

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THAMES RIVER DREDGE SDEIS

REPORT TO:
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SOURCE OF SAMPLE: EB - 1

SAMPLE #:E1-12-495-09

DATE/TIME COLLECTED: 12/21/91
RECEIVED: 12/23/91

SIEVE SIZE REPORT

% RECOVERY OF SAMPLE = 98.9%

INITIAL WEIGHT = 100.06g

U.S. STANDARD SIEVE SIZE	MASS	% FINER THAN
4	0	100
10	0.06	99.9
20	0.98	98.9
40	0.61	98.4
60	2.54	95.8
100	2.46	93.4
200	36.58	56.8
>200	55.72	0

TOTAL MASS = 98.95g

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MG4959A

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REPORT TO:
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SOURCE OF SAMPLE: EB - 2

SAMPLE #:E1-12-495-10

DATE/TIME COLLECTED: 12/21/91
RECEIVED: 12/23/91

SIEVE SIZE REPORT

% RECOVERY OF SAMPLE = 99.0%

INITIAL WEIGHT = 100.14g

U.S. STANDARD SIEVE SIZE	MASS	% FINER THAN
4	0	100
10	0	100
20	0.32	99.7
40	6.96	92.7
60	10.52	82.2
100	37.00	45.3
200	37.32	8.0
>200	7.03	0

TOTAL MASS = 99.15g

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MG49510A

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THAMES RIVER DREDGE SDEIS

REPORT TO:
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SOURCE OF SAMPLE: B - 1

SAMPLE #:E1-12-495-11

DATE/TIME COLLECTED: 12/21/91
RECEIVED: 12/23/91

SIEVE SIZE REPORT

% RECOVERY OF SAMPLE = 98.5%

INITIAL WEIGHT = 100.33g

U.S. STANDARD SIEVE SIZE	MASS	% FINER THAN
4	0.09	99.9
10	0.48	99.4
20	2.22	97.2
40	7.27	90.0
60	6.88	83.1
100	8.95	74.2
200	16.95	57.3
>200	55.94	0

TOTAL MASS = 98.78g

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FM/SIEVERPT/KH
MG49511.

REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY

Robert Laferriere 01/03/92

T.F. McCOMMAS DIRECTOR DATE
OR
ROBERT LAFERRIERE, TECH. LAB. DIRECTOR

LABORATORY RESOURCES, INC.

EASTERN SCIENTIFIC DIVISION
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TEL.-(203)774-6814 FAX-(203)774-2689

Report to: CLINT WEBB
MAGUIRE GROUP
ONE COURT STREET
NEW BRITAIN, CT 06051

Work ID: THAMES RIVER DREDGE SDEIS
Work Order #: E112461

Date Received: 12/20/91

PO Number:

Analysis Performed	Results	Detection Limits	Date of Analysis	Method of Analysis
Sample ID: P-1 ELUTRIATE - BACKGROUND		Date Collected: 12/19/91		
TPH	ND	1	12/30/91	EPA 418.1
TOTAL SUSPENDED SOLIDS	14	1	12/27/91	EPA 160.2
TOTAL ORGANIC CARBON	2.3	1	12/22/91	EPA 415.1
ARSENIC	ND	0.005	12/26/91	EPA 206.2
CADMIUM	0.009	0.005	12/23/91	EPA 200.7
CHROMIUM	0.05	0.02	12/23/91	EPA 200.7
COPPER	0.04	0.03	01/30/92	EPA 200.7
MERCURY	ND	0.001	12/23/91	EPA 245.1
NICKEL	0.10	0.05	01/30/92	EPA 200.7
LEAD	0.19	0.06	12/23/91	EPA 200.7
ZINC	0.13	0.02	01/30/92	EPA 200.7
Sample ID: SEDIMENT P-1 GRAB A		Date Collected: 12/19/91		
ARSENIC	0.012	0.005	12/26/91	EPA 206.2
CADMIUM	0.011	0.005	12/23/91	EPA 200.7
CHROMIUM	0.06	0.02	12/23/91	EPA 200.7
COPPER	0.06	0.03	01/30/92	EPA 200.7
MERCURY	ND	0.001	12/23/91	EPA 245.1
NICKEL	0.13	0.05	01/30/92	EPA 200.7
LEAD	0.26	0.06	12/23/91	EPA 200.7
TOTAL ORGANIC CARBON	12	1	12/23/91	EPA 415.1
TPH	ND	1	12/30/91	EPA 418.1
TOTAL SUSPENDED SOLIDS	30	1	12/27/91	EPA 160.2
ZINC	0.10	0.02	01/30/92	EPA 200.7

All measurements are in mg/l unless otherwise specified
ND = None Detected/Below stated detection limit

Analysis Performed	Results	Detection Limits	Date of Analysis	Method of Analysis
Sample ID: SEDIMENT P-1 GRAB B		Date Collected: 12/19/91		
ARSENIC	0.010	0.005	12/26/91	EPA 206.2
CADMIUM	0.011	0.005	12/23/91	EPA 200.7
CHROMIUM	0.06	0.02	12/23/91	EPA 200.7
COPPER	0.06	0.03	01/30/92	EPA 200.7
MERCURY	ND	0.001	12/23/91	EPA 245.1
NICKEL	0.15	0.05	01/30/92	EPA 200.7
LEAD	0.23	0.06	12/23/91	EPA 200.7
TOTAL ORGANIC CARBON	60	1	12/23/91	EPA 415.1
TPH	ND	1	12/30/91	EPA 418.1
TOTAL SUSPENDED SOLIDS	24	1	12/27/91	EPA 160.2
ZINC	0.09	0.02	01/30/92	EPA 200.7
Sample ID: SEDIMENT P-1 GRAB C		Date Collected: 12/19/91		
ARSENIC	0.007	0.005	12/26/91	EPA 206.2
CADMIUM	0.010	0.005	12/23/91	EPA 200.7
CHROMIUM	0.06	0.02	12/23/91	EPA 200.7
COPPER	0.04	0.03	01/30/92	EPA 200.7
MERCURY	ND	0.001	12/23/91	EPA 245.1
NICKEL	0.15	0.05	01/30/92	EPA 200.7
LEAD	0.26	0.06	12/23/91	EPA 200.7
TOTAL ORGANIC CARBON	60	1	12/23/91	EPA 415.1
TPH	ND	1	12/30/91	EPA 418.1
TOTAL SUSPENDED SOLIDS	25	1	12/27/91	EPA 160.2
ZINC	0.07	0.02	01/30/92	EPA 200.7

All measurements are in mg/l unless otherwise specified
ND = None Detected/Below stated detection limit

Report is an accurate analysis of sample received at this laboratory.

T.F. McCommas 1/30/92

T.F. McCommas, Director Date
Robert LaFerriere, Tech. Lab. Director
CT Laboratory PH 0465

ORGANICS
ANALYTICAL DATA REPORT

WORK ORDER #

E112461

prepared for

MAGUIRE GROUP
ONE COURT STREET
NEW BRITAIN, CT 06051

THAMES RIVER DREDGE SDEIS

Date Received: 12/20/91

Prepared by

LABORATORY RESOURCES, INC.

T.F. McCommas, Director 1/30/92
Date
Robert LaFerriere, Tech. Lab. Director

ORGANICS ANALYTICAL RESULTS
EPA METHOD 625
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112461-01
CLIENT ID: P-1 ELUTRIATE - BACKGROUND
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: AQUEOUS
COLLECTED: 12/19/91
DATE OF ANALYSIS: 12/29/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/L)	DETECTION LIMIT (ug/L)
ACENAPHTHENE	ND	1.0
ACENAPHTHYLENE	ND	1.0
ANTHRACENE	ND	1.0
BENZO(a)ANTHRACENE	ND	1.0
BENZO(a)PYRENE	ND	1.0
BENZO(b)FLUROANTHENE	ND	1.0
BENZO(ghi)PERYLENE	ND	1.0
BENZO(k)FLURANTHENE	ND	1.0
CHRYSENE	ND	1.0
DIBENZO(a,h)ANTHRACENE	ND	1.0
FLUORANTHENE	ND	1.0
INDENO(1,2,3-cd)PYRENE	ND	1.0
NAPHTHALENE	ND	1.0
PHENATHRENE	ND	1.0
PYRENE	ND	1.0

ORGANICS ANALYTICAL RESULTS
EPA METHOD 625
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112461-02
CLIENT ID: SEDIMENT P-1 GRAB A
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: AQUEOUS
COLLECTED: 12/19/91
DATE OF ANALYSIS: 12/29/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/L)	DETECTION LIMIT (ug/L)
ACENAPHTHENE	ND	1.0
ACENAPHTHYLENE	ND	1.0
ANTHRACENE	ND	1.0
BENZO(a)ANTHRACENE	ND	1.0
BENZO(a)PYRENE	ND	1.0
BENZO(b)FLURANTHENE	ND	1.0
BENZO(ghi)PERYLENE	ND	1.0
BENZO(k)FLURANTHENE	ND	1.0
CHRYSENE	ND	1.0
DIBENZO(a,h)ANTHRACENE	ND	1.0
FLUORANTHENE	ND	1.0
INDENO(1,2,3-cd)PYRENE	ND	1.0
NAPHTHALENE	ND	1.0
PHENATHRENE	ND	1.0
PYRENE	ND	1.0

ORGANICS ANALYTICAL RESULTS
EPA METHOD 625
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112461-03
CLIENT ID: SEDIMENT P-1 GRAB B
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: AQUEOUS
COLLECTED: 12/19/91
DATE OF ANALYSIS: 12/29/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/L)	DETECTION LIMIT (ug/L)
ACENAPHTHENE	ND	1.0
ACENAPHTHYLENE	ND	1.0
ANTHRACENE	ND	1.0
BENZO(a)ANTHRACENE	ND	1.0
BENZO(a)PYRENE	ND	1.0
BENZO(b)FLUROANTHENE	ND	1.0
BENZO(ghi)PERYLENE	ND	1.0
BENZO(k)FLUROANTHENE	ND	1.0
CHRYSENE	ND	1.0
DIBENZO(a,h)ANTHRACENE	ND	1.0
FLUORANTHENE	ND	1.0
INDENO(1,2,3-cd)PYRENE	ND	1.0
NAPHTHALENE	ND	1.0
PHENATHRENE	ND	1.0
PYRENE	ND	1.0

ORGANICS ANALYTICAL RESULTS
EPA METHOD 625
POLYNUCLEAR AROMATIC HYDROCARBONS

LAB ID: E112461-04
CLIENT ID: SEDIMENT P-1 GRAB C
CLIENT PROJECT: THAMES RIVER DREDGE SDEIS

SAMPLE MATRIX: AQUEOUS
COLLECTED: 12/19/91
DATE OF ANALYSIS: 12/29/91
DILUTION FACTOR: 1

PARAMETER	RESULT (ug/L)	DETECTION LIMIT (ug/L)
ACENAPHTHENE	ND	1.0
ACENAPHTHYLENE	ND	1.0
ANTHRACENE	ND	1.0
BENZO(a)ANTHRACENE	ND	1.0
BENZO(a)PYRENE	ND	1.0
BENZO(b)FLURANTHENE	ND	1.0
BENZO(ghi)PERYLENE	ND	1.0
BENZO(k)FLURANTHENE	ND	1.0
CHRYSENE	ND	1.0
DIBENZO(a,h)ANTHRACENE	ND	1.0
FLUORANTHENE	ND	1.0
INDENO(1,2,3-cd)PYRENE	ND	1.0
NAPHTHALENE	ND	1.0
PHENATHRENE	ND	1.0
PYRENE	ND	1.0

IV

BIOASSAY AND BIOACCUMULATION TEST RESULTS

TABLE OF CONTENTS **PAGE**

Report:	The toxicity of dredged sediment samples from Thames River Dredge.
Sponsor:	Maguire Group 1 Court Street New Britain, CT 06051
Testing Facility:	Aqua Survey, Inc. 499 Point Breeze Road Flemington, NJ 08822
Study Number:	91-368
Report: Number:	1794
Date Study Started:	January 10, 1992
Date Study Finish:	March 30, 1992
Date Reported:	April 3, 1992

Personnel:

Y. Terrell
S. Douglas
J. Banko
L. Brown
C. Nally
S. Grasso
C. Lawrence
T. Pallop
B. Vogel

W. Scott Douglas
Study Director

4/15/92
Date

PROJECT SUMMARY

PROJECT SUMMARY

The samples of Thames River Dredge sediment were shipped to Aqua Survey, Inc. (ASI) on December 23, 1991. Split samples of the sediment were shipped to NYTEST for chemical analysis and physical characterization. The samples of sediment were tested for toxicity to the estuarine amphipod, *Ampelisca abdita* under flow-through conditions. The sample were tested for bioaccumulation of select chemicals in the clam, *Macoma nasuta*, and the sandworm, *Nereis virens*, in a 28-day flow-through exposure.

Fourteen percent mortality was observed in the control sediment for *A. abdita*. No significant mortality of *A. abdita* was observed in the test sediments Mamacoke (32%), Electric Boat (18%), Gold Star (14%) and Piers 32 and 33 (24%) as compared to the reference sediment.

Twenty percent mortality was observed in the *N. virens* control sediment. No significant mortality was observed in the Mamacoke (9%), Electric Boat (5%), Gold Star (6%) or Piers 32 and 33 (2%) test sediments as compared to the reference.

Thirteen point three (13.3) percent mortality was observed in the *M. nasuta* control sediment. No significant mortality was observed for Gold Star, Mamacoke or Electric Boat. The Piers 32 and 33 sample may or may not be significantly toxic. In the Gold Star sample, replicate two showed only 9 percent survival. It is possible that this is an outlier and does not reflect a toxic response. If this data point is removed, problems with normality and homoscedasticity of the data set disappear, and parametric analysis of variance can be conducted. In this case, the response of the clams in the Piers 32 and 33 sample becomes statistically significant. No other changes occur. Both results should be reported to the regulatory agency for a decision regarding the outlier.

No significant bioaccumulation of metals or PAH's was detected in any of the samples for either Nereis or Macoma in the Gold Star, Electric Boat, or Pier 32 and 33 samples. Significant accumulation of lead was detected in Macoma exposed to Mamacoke sediment.

PERCENT MORTALITY OBSERVED

		10-Day Solid Phase	28-Day Solid Phase	
		A. abdita	*N. virens*	*M. nasuta**
Control		14.0	20.0	13.3
Reference		12.0	4.0	10.4
Test	Electric Boat	18.0	5.0	9.6
	Gold Star	14.0	6.0	32.8
	Mamacoke	32.0	9.0	16.8
	Piers 32 and 33	24.0	2.0	28.8

* See test for discussion and interpretation of results.

The following report is divided into four volumes, one for each sample site. Each section is a full report containing text, statistics, and raw data for that site.

ELECTRIC BOAT

SECTION 1 - AMPHIPOD REPORT

I. OBJECTIVE

The objective of this test was to determine the toxic effects of test sediment from Electric Boat when in the environment of a benthic invertebrate. The measure of potency is significant reduction in survival of exposed organisms as compared to a reference after ten days exposure.

II. TEST MATERIAL

Source: Electric Boat

Date Received: December 23, 1991

III. MATERIALS AND METHODS

A. Method

The method employed was a modification of the method outlined by the American Society of Testing Materials, Standard Guide for Conducting 10-Day Sediment Toxicity Tests with Marine and Estuarine Amphipods, E1367-90, and the Evaluation of Dredged Material Proposed for Ocean Disposal, USEPA, USACOE, EPA-503/8-91/001, February 1991.

B. Test Organisms

Species

The test species used for this test was *Ampelisca abdita*, a representative benthic invertebrate.

Size/Age/Physical Condition

Animals used in this test were all mixed adults, field collected by an outside company specializing in animal husbandry. All animals appeared to be in good condition.

Source/Acclimation

A. abdita were obtained from Northwestern Aquatic Sciences. Animals were held at least one day prior to testing during which time they were acclimated to dilution water and test temperature.

C. Test System

Source of Dilution Water

Dilution water was obtained from Manasquan Inlet in Manasquan, New Jersey. The salinity was modified to meet organism requirements using deionized water. Water is periodically tested according to ACOE guidelines to ensure its purity.

Temperature

The test temperature was 20 +/- 2°C.

Test Vessels

The test vessels were 1-liter polyethylene beakers covered with a petri plate and gently aerated through glass-tipped aeration lines. Flow-through conditions were provided by means of a calibrated gravity feed system entering the test chamber through the petri plate to approximately two centimeters below the water surface. Daily checks of systems were made to ensure delivery at a minimum of six exchanges per day.

Photoperiod

The test was conducted in continuous light.

D. Test Design

Test Levels

Five replicates of undiluted test sediment and reference sediment were tested and compared to five replicates of control sediment.

Control

A control sediment was obtained from the collection site of the organisms. This sediment was sent to Aqua Survey, Inc. along with the organisms at the time of purchase from the organism supplier.

Reference

Reference sediment was dredged from New London Sound off the Connecticut coast and sent to ASI along with the test sediments.

Beginning the Test

The test was initiated by placing approximately 200 cm^3 of test sediment into each of five replicate test vessels and filling the vessels with dilution water. The system was allowed to settle under gentle aeration overnight. After settling, 20 animals were chosen at random and gently added to each test vessel.

The test was of 10 days duration.

All test vessels were examined for survival at 10 days.

Water Quality Measurements

Dissolved oxygen, pH, temperature and salinity were determined at the start of the test and at each 24 hour interval thereafter in every test vessel.

Feeding

Animals were not fed during the test.

E. Reference Toxicant

A 48-hour standard reference toxicant test with sodium dodecyl sulfate was performed. The toxicant was dissolved in dilution water to create a stock solution, followed by mixing with dilution water to achieve the desired concentration. No substrate was provided.

F. Physical Testing

Grain size analyses were performed in accordance with:

Standard Method for Particle-Size Analysis of Soils
ASTM Designation: D422 - 63 (Reapproved 1972)
American National Standard A37 145-1972 Approved
March 2, 1972 by American National Standard Institute.

IV. RESULTS

A. Control survival was 86 percent. Reference survival was 88 percent. Survival in the test sediment was 82 percent. Survival in the test sediment was compared to that in the reference using both parametric and nonparametric ANOVA. No significant differences were detected by either method at $\alpha \leq 0.05$.

B. Water Quality

The test solution temperature was 20.0 - 21.0°C (See Table 1.2).

The pH ranged from 7.8 - 8.1 (See Table 1.2).

The salinity ranged from 30.0 - 32.0 ppt. Dissolved oxygen was kept at or above 3.5 mg/L in all test vessels (See Table 1.2).

C. Reference Toxicant

The 48-hour LC50 for *Ampelisca abdita* was determined to be 3.16 ppm sodium dodecyl sulfate. Three attempts were made to run a Standard Reference Toxicant using copper sulfate; unfortunately a good dose response was not obtained. Finally, a 48-hour sodium dodecyl sulfate bioassay was run with the remaining animals from the shipment. The lack of a sufficient data base limits interpretation of this value (See Table 1.3.)

Table 1.1

Results of the 10-day Solid Phase Bioassay. Testing was initiated with 20 *Ampelisca abdita* per replicate.

Sample	Replicate	Final Live Count
control	1	19
	2	17
	3	18
	4	18
	5	14
	Total	86
Reference New London	1	19
	2	19
	3	19
	4	18
	5	13
	Total	88
test	1	13
	2	18
	3	16
	4	20
	5	15
	Total	82

Table 1.2

Solid Phase	Chemical/Physical Data Ranges for the 10-Day *A. abdita* Bioassay.			
Concentration	**pH**	**Salinity (ppt)**	**Temp. (C°)**	**Dissolved Oxygen (ppm)**
Control 1-5	7.8-8.1	30.0-31.5	20.0-21.0	5.7-7.5
Reference 1-5	7.8-8.0	30.0-31.5	20.0-21.0	6.3-7.5
Test 1-5	7.8-8.1	30.0-32.0	20.0-21.5	3.5-7.2

Table 1.3

Results of 48-hour Standard Reference Toxicant Bioassays with sodium dodecyl sulfate. Bioassays were initiated with 5 *A. abdita* per replicate.

Concentration (ppm)	**Replicate**	**Final Live Counts *A. abdita* 48 hour**
control	A	5
0.1	A	5
1.0	A	5
10.0	A	0
100.0	A	0

D. Physical Testing

Grain size and moisture determinations were made for the control and reference sediment. Grain size distribution is defined by the following criteria:

Sand	> or = to 0.0625 mm
Silt	< 0.0625 but > 0.0039 mm
Clay	< 0.0039 mm

See Table 2.1 for Grain Size and Percent Moisture results.

Table 2.1

Results of Grain Size and Moisture Content Analysis

Sample	% Sand	% Silt	% Clay	% Moisture
Control	22.0	34.0	44.0	59.15
Reference New London	77.0	15.0	8.0	25.65

V. SOURCE OF DOCUMENTATION

All original data documentation is being maintained at:

Aqua Survey, Inc.
499 Point Breeze Road
Flemington, NJ 08822

SECTION 2 - BIOACCUMULATION ASSAYS

I. OBJECTIVE

The objective of this test was to determine the bioaccumulation of select chemicals from test sediments from ELECTRIC BOAT when in the environment of benthic invertebrates.

II. TEST MATERIAL

Source: Electric Boat

Date Received: December 23, 1991

III. MATERIALS AND METHODS

A. Method

The method employed was a modification of the methods outlined by the Testing Manual entitled Evaluation of Dredged Material Proposed for Ocean Disposal, USEPA, USACOE, EPA-503/8-91/001, February, 1991 and the EPA Guidance Manual: Bedded Sediment Bioaccumulation Tests, USEPA, EPA/600/x-89/302, and Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters, USEPA Region I, 1989.

B. Test Organisms

Species

The test species used for this test were the clam, *Macoma nasuta*, and the sandworm, *Nereis virens*.

Size/Age/Physical Condition

Animals used in this test were all mixed adults, field collected by an outside company specializing in animal husbandry. All animals appeared to be in good condition.

C. Source/Acclimation

M. nasuta were obtained from A.K. Siewers. *N. virens* were obtained from Aquatic Research Organisms. Both species were held at least 24 hours prior to testing during which time they were acclimated to dilution water and test temperature.

Test System

Source of Dilution Water

Dilution water was obtained from Manasquan Inlet in Manasquan, New Jersey. The salinity was modified to meet organism requirements using deionized water. Water was tested according to ACOE guidelines to ensure its purity.

Temperature

The test temperature was 15 +/- 2°C.

Test Vessels

The test vessels were 10-gallon glass aquaria. Aeration was provided through a forced air system ending in sand airstones. Eleven liters of control, reference, and test material were added to each chamber for *Macoma*, six liters for *Nereis*. Flow-through conditions were provided by means of a calibrated metering pump system entering the test chamber through the top to approximately two centimeters below the water surface. Daily checks of systems were made to ensure delivery at a minimum of six exchanges per day.

Photoperiod

The test was conducted under a photoperiod of 16 hour light / eight hours dark.

D. Test Design

Test Levels

Five replicates of undiluted test sediment and reference sediment were tested and compared to three replicates of control sediment. An extra chamber of reference and test material was set up to provide the extra tissue needed for quality assurance checks of chemistry on the fifth replicate. Although this tank was treated identically to the other tanks, results are not included in the chemistry or the mortality data. Observations are included in the raw data only.

Control

A control sediment for the *M. nasuta* bioassay was obtained from Brezina and Associates. This sediment was sent to Aqua Survey, Inc with the organisms at the time of purchase fro the organism supplier. Control sediment for the *N. virens* bioassay was collected from the ACOE designated site in Milton Harbor, New York. Grain size determinations were run o both these sediments.

Reference

Reference sediment was dredged from New London Sound off the Connecticut coast and sent to ASI along with the test sediments. Bulk sediment analyses and grain size determinations were also run on this sediment following guidelines stated in Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters, USEPA Region 1989.

E. Test Procedure

Beginning the Test

The test was initiated by placing the appropriate amount of test sediment into each of five replicate (plus the extra) test vessels. The flow-through delivery system was started prior to sediment addition, to fill the test chambers with water. Twenty *N. virens*, and 25 *M. nasu* were randomly selected and gently added to each chamber.

The test was of 28 days duration.

All test vessels were examined for survival at 28 days. Surviving animals were rinsed in clean seawater and placed in a clean exposure chamber filled with dilution water for 24 h to depurate. After depuration, the clams were shucked, and the sandworms rinsed in deionized water, and all the tissues placed in clean, labeled glass sample containers. The tissues were frozen prior to chemical analysis. The tissue from the sixth replicate was mi with the tissue from the fifth replicate prior to freezing.

Water Quality Measurements

Dissolved oxygen, pH, temperature and salinity were determined daily in every test vessel

Feeding

Animals were not fed during the test.

Tissue Analysis

Tissues were thawed, extracted and analyzed for the requisite chemicals following guidelines in Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters, USEPA Region I, 1989.

F. Reference Toxicant

A standard reference toxicant test with Copper Sulfate was performed. The toxicant was dissolved in dilution water to create a stock solution, followed by mixing with dilution water to achieve the desired concentration. No substrate was provided. A 96-hour exposure was used for both species.

G. Physical Testing

Grain size analyses were performed in accordance with:

Standard Method for Particle-Size Analysis of Soils
ASTM Designation: D422 - 63 (Reapproved 1972)
American National Standard A37 145-1972 Approved
March 2, 1972 by American National Standard Institute.

IV. RESULTS

A. Survival

Survival for *N. virens* was 80 percent in the control sediment, 96 percent in the reference sediment and 95 percent in the test sediment. Survival for *M. nasuta* was 86.7 percent in the control sediment, 89.6 percent in the reference sediment and 90.4 percent in the test sediment. (See Tables 3.1 and 3.2). There was no significant difference in the responses of either species between the reference and test substrate as determined by both parametric and nonparametric ANOVA.

B. Water Quality

Salinity ranged from 28.5 - 33.0 ppt. Dissolved oxygen was kept at or above 6.8 mg/L in test vessels. The pH ranged from 7.7 - 8.2 for *N. virens*, and 7.6-8.1 for *M. nasuta*. Temperature was maintained between 10.5 and 15.0°C for the *M. nasuta* test, and between 12.0 and 16.0°C for the *N. virens* bioassay (See Tables 3.3 and 3.4.).

C. Reference Toxicant

A standard reference toxicant test was conducted on both species with Copper Sulfate. The 96 hour LC50 for *N. virens* was 1.43 ppm. The 96-hour LC50 for *M. nasuta* was 2.[illegible] ppm. Due to the lack of a large enough database, we are unable to make conclusions regarding these data. Survival and water quality data are presented in Tables 3.5 through 3.8.

D. Physical Testing

Grain size analyses were conducted on the reference and each control sediment as required. The results are presented in Table 4.1.

E. Bulk Sediment

Bulk Sediment analyses were conducted as required on the New London Sound reference material. The results are presented in Table 5.1 - 5.2.

F. Bioaccumulation

Bioaccumulation potential was assessed by comparing the concentration of accumulated material in each test sediment to the reference using ANOVA. Missing data points were not used. Data below detection limits was assumed to be the detection limit value for sake of analysis. If all parameters were below detection limits or missing, no analysis was run. Triplicate analyses were averaged for statistics. No significant bioaccumulation was detected for either species. Data are presented in Tables 6.1 - 6.4.

Table 3.1

Results of the 28-day Solid Phase Bioassay. Testing was initiated with 20 *Nereis virens* per replicate.

Sample	Replicate	Final Live Count
control	1	15
	2	16
	3	17
	Total	48
reference	1	17
	2	20
	3	20
	4	20
	5	19
	Total	96
test	1	20
	2	19
	3	18
	4	19
	5	19
	Total	95

Table 3.2

Results of the 28-day Solid Phase Bioassay. Testing was initiated with 25 *Macoma nasuta* per replicate.

Sample	Replicate	Final Live Count
control	1	21
	2	21
	3	23
	Total	65
reference	1	21
	2	22
	3	23
	4	22
	5	24
	Total	112
test	1	22
	2	22
	3	20
	4	24
	5	25
	Total	113

Table 3.3

Solid Phase	Chemical/Physical Data Ranges for the 28-Day *N. virens* Bioassay.			
Concentration	**pH**	**Salinity (ppt)**	**Temp. (C°)**	**Dissolved Oxygen (ppm)**
Control 1-3	7.7-8.2	30.0-33.0	13.0-16.0	7.4-8.7
Reference 1-5	7.7-8.1	30.0-33.0	12.0-15.5	7.5-8.9
Test 1-5	7.7-8.1	29.5-33.0	12.0-15.5	7.5-9.0

Table 3.4

Solid Phase	Chemical/Physical Data Ranges for the 28-Day *M. nasuta* Bioassay.			
Concentration	**pH**	**Salinity (ppt)**	**Temp. (C°)**	**Dissolved Oxygen (ppm)**
Control 1-3	7.6-8.1	30.0-33.0	10.5-15.0	7.4-9.0
Reference 1-5	7.6-8.0	29.0-33.0	10.5-14.5	6.8-9.0
Test 1-5	7.6-8.1	28.5-33.0	12.5-15.0	6.9-9.0

Table 3.5

Results of 96-hour Standard Reference Toxicant Bioassays with Copper Sulfate. Bioassays were initiated with 8 *Nereis virens* per replicate.

Concentration (ppm)	Replicate	Final Live Counts *N. virens* 96 hour
control	A	8
	B	7
0.31	A	8
	B	8
0.63	A	8
	B	7
1.25	A	7
	B	6
2.5	A	0
	B	0
5.0	A	0
	B	0

Table 3.6

Chemical/Physical Data Ranges for *N. virens* Standard Reference Toxicant Test.

Concentration	pH	Salinity (ppt)	Temp. (C)	Dissolved Oxygen (ppm)
0.0	7.8-8.1	29.0-31.5	10.0-16.0	7.6-10.6
0.31	7.8-8.1	29.0-32.0	10.0-16.0	7.6-10.6
0.63	7.8-8.1	29.0-33.0	10.0-16.0	7.5-10.6
1.25	7.8-8.1	29.0-33.0	10.0-16.0	7.5-10.6
2.5	8.0	29.0-31.0	10.0-16.0	7.5-10.6
5.0	7.8-8.0	29.0-31.0	10.0-16.5	7.4-10.6

Table 3.7

Results of 96-hour Standard Reference Toxicant Bioassays with Copper Sulfate. Bioassays were initiated with 8 *Macoma nasuta* per replicate.

Concentration (ppm)	Replicate	Final Live Counts *M. nasuta* 96 hour
control	A	8
	B	8
0.625	A	8
	B	7
1.25	A	5
	B	6
2.50	A	5
	B	4
5.00	A	2
	B	3
10.0	A	0
	B	0

Table 3.8

Chemical/Physical Data Ranges for *M. nasuta* Standard Reference Toxicant Test.

Concentration	pH	Salinity (ppt)	Temp. (C)	Dissolved Oxygen (ppm)
0.0	7.7-8.1	29.0-29.5	10.0-15.5	7.8-10.6
0.625	7.8-8.1	29.0-29.5	10.0-16.0	8.0-10.6
1.25	7.8-8.1	29.0-30.0	10.0-16.0	8.0-10.6
2.50	7.7-8.1	29.0-30.0	10.0-16.0	8.0-10.6
5.00	7.7-8.1	29.0-30.0	10.0-16.5	7.9-10.6
10.0	7.7-8.1	29.0-29.5	10.0-16.0	7.8-10.6

G. Physical Testing

Grain size and moisture determinations were made for the control and reference sediment. Grain size distribution is defined by the following criteria:

Sand	> or = to 0.0625 mm
Silt	< 0.0625 but > 0.0039 mm
Clay	< 0.0039 mm

See Table 4.1 for Grain Size and Percent Moisture results.

Table 4.1

Results of Grain Size and Moisture Content Analysis

Sample	% Sand	% Silt	% Clay	% Moisture
Control *N. virens*	33.0	41.0	26.0	60.45
Control *M. nasuta*	76.0	12.0	12.0	28.14
Reference New London	77.0	15.0	8.0	25.65

H. Chemical Testing

Results of the Bulk Sediment analyses on the New London Reference sediment sample.

Table 5.1

Reference Bulk Sediment Analyses mg/kg (dry wt. basis)	
Chemical	
Arsenic	<2.0
Barium	18.4
Cadmium	<1.0
Chromium	15.7
Lead	11.4
Mercury	<0.01
Selenium	<1.0
Silver	<5.0
Total Organic Carbon	12400.0
Copper	6.95
Nickel	7.96
Zinc	38.2
% Moisture	30.7

Table 5.2

Reference Bulk Sediment Analyses ug/kg (dry wt. basis)

Chemical	
Acenaphthene	510.0 u
Acenaphthylene	510.0 u
Anthracene	510.0 u
Benzo (a) anthracene	510.0 u
Benzo (a) pyrene	510.0 u
Benzo (b) fluroanthene	510.0 u
Benzo (g,h,i) perylene	510.0 u
Chrysene	510.0 u
Dibenzo (a,h) anthracene	510.0 u
Fluroanthene	510.0 u
Indeno (1,2,3-cd) pyrene	510.0 u
Naphthalene	510.0 u
Phenanthrene	75.0 J
Pyrene	110.0 J

u Indicates compound was analyzed for but not detected. The number is the detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the reported detection limit but greater than zero.

Table 6.1 Bioaccumulation Analysis of Nereis virens from ELECTRIC BOAT sediment in ppm (dry weight)

Parameter	Detection Limit	Pre-Test	Reference 1	2	3	4	5
Arsenic	0.5	*	<0.5	<0.5	<0.5	0.657	<0.5
Cadmium	0.5	*	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	1.0	*	<1.0	<1.0	<1.0	<1.0	<1.0
Copper	1.0	*	1.68	1.52	1.40	2.01	1.64
Lead	1.0	*	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	1.0	*	<1.0	<1.0	<1.0	<1.0	<1.0
Mercury	0.1	<0.143	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc	1.0	*	36.0	18.3	24.5	37.8	18.0
% Water	1.0	84.5	84.9	85.7	85.3	85.6	87.7
% TOC	0.1	38.6	21.7	31.0	83.9	64.7	63.4
% Lipid	-	2.01	9.07	11.7	9.52	6.86	11.7

		Test 1	2	3	4	5	5A	5B
Arsenic	0.5	<0.5	<0.5	<1.56	*	*	<0.5	<0.5
Cadmium	0.5	<0.5	<0.5	<0.83	*	*	<0.5	<0.5
Chromium	1.0	<1.0	<1.0	<1.0	*	*	<1.0	<1.0
Copper	1.0	1.3	1.58	<2.08	*	*	1.40	1.58
Lead	1.0	<1.0	<1.0	<4.17	*	*	<1.0	<1.0
Nickel	1.0	<1.0	<1.0	<3.33	*	*	<1.0	<1.0
Mercury	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	1.0	20.0	20.4	214.0	*	*	38.6	11.2
% Water	1.0	85.8	84.7	85.5	85.4	*	*	85.0
% TOC	0.1	47.4	51.4	66.9	41.5	82.8	35.6	33.8
% Lipid	-	6.37	5.96	4.59	4.95	*	*	*

* Insufficient sample for analysis

Table 6.2 Bioaccumulation Analysis of Macoma nasuta from ELECTRIC BOAT sediment in ppm (dry weight)

Parameter	Detection Limit	Pre-Test	Reference 1	2	3	4	5
Arsenic	0.5	<0.5	*	2.85	3.18	3.16	3.50
Cadmium	0.5	<0.5	*	<0.5	<0.5	<0.5	<0.5
Chromium	1.0	<1.0	*	<1.0	<1.0	<1.0	<1.0
Copper	1.0	2.0	*	3.36	4.34	3.55	3.11
Lead	1.0	<1.0	*	1.22	1.08	<1.0	1.52
Nickel	1.0	1.61	*	1.52	1.50	1.77	1.66
Mercury	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc	1.0	51.6	*	50.7	35.9	42.2	39.8
% Water	1.0	87.7	*	88.2	*	*	87.9
% TOC	0.1	31.0	28.7	21.7	33.2	51.2	36.5
% Lipid	-	1.28	*	11.9	*	*	13.8

		Test 1	2	3	4	5	5A	5B
Arsenic	0.5	3.14	*	*	<0.5	*	*	*
Cadmium	0.5	<0.5	*	*	<0.5	*	*	*
Chromium	1.0	<1.0	*	*	<1.0	*	*	*
Copper	1.0	2.72	*	*	<13.4	*	*	*
Lead	1.0	1.25	*	*	<1.0	*	*	*
Nickel	1.0	2.57	*	*	<1.0	*	*	*
Mercury	0.1	<0.1	<0.1	<0.1	<0.14	*	<0.13	<0.29
Zinc	1.0	42.3	*	*	9.18	*	*	*
% Water	1.0	*	*	*	85.0	*	*	*
% TOC	0.1	72.4	35.3	36.3	29.2	37.9	47.1	40.6
% Lipid	-	*	*	*	5.19	*	*	*

* Insufficient sample for analysis

Analysis of PAH Compounds in Nereis virens Tissue
from ELECTRIC BOAT sediment in ug/Kg

Table 6.3

PAH Compound	Pre-Test	Reference							Test						
		1	2	3	4	5	5A	5B	1	2	3	4	5	5A	5B
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indenol(1,2,3-cd) Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i) Perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND = Not detected

Analysis of PAH Compounds in Macoma nasuta Tissue
from ELECTRIC BOAT sediment in ug/Kg

Table 6.4

PAH Compound	Pre-Test	Reference							Test						
		1	2	3	4	5	5A	5B	1	2	3	4	5	5A	5B
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	140.0J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	56.0J	ND	25.0J	ND	ND	ND	ND
Benzo(a) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indenol(1,2,3-cd) Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i) Perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND = Not detected
J = Compound detected but below practical detection limit; concentration should be interpreted with caution; not used in statistics.

V. SOURCE OF DOCUMENTATION

All original data documentation is being maintained at:

Aqua Survey, Inc.
499 Point Breeze Road
Flemington, NJ 08822

GOLD STAR BRIDGE

SECTION 1 - AMPHIPOD REPORT

I. OBJECTIVE

The objective of this test was to determine the toxic effects of test sediment from Gold Star when in the environment of a benthic invertebrate. The measure of potency is significant reduction in survival of exposed organisms as compared to a reference after ten days exposure.

II. TEST MATERIAL

Source: Gold Star

Date Received: December 23, 1991

III. MATERIALS AND METHODS

A. Method

The method employed was a modification of the method outlined by the American Society of Testing Materials, Standard Guide for Conducting 10-Day Sediment Toxicity Tests with Marine and Estuarine Amphipods, E1367-90, and the Evaluation of Dredged Material Proposed for Ocean Disposal, USEPA, USACOE, EPA-503/8-91/001, February 1991.

B. Test Organisms

Species

The test species used for this test was *Ampelisca abdita*, a representative benthic invertebrate.

Size/Age/Physical Condition

Animals used in this test were all mixed adults, field collected by an outside company specializing in animal husbandry. All animals appeared to be in good condition.

Source/Acclimation

A. abdita were obtained from Northwestern Aquatic Sciences. Animals were held at least one day prior to testing during which time they were acclimated to dilution water and test temperature.

C. Test System

Source of Dilution Water

Dilution water was obtained from Manasquan Inlet in Manasquan, New Jersey. The salinity was modified to meet organism requirements using deionized water. Water is periodically tested according to ACOE guidelines to ensure its purity.

Temperature

The test temperature was 20 +/- 2°C.

Test Vessels

The test vessels were 1-liter polyethylene beakers covered with a petri plate and gently aerated through glass-tipped aeration lines. Flow-through conditions were provided by means of a calibrated gravity feed system entering the test chamber through the petri plate to approximately two centimeters below the water surface. Daily checks of systems were made to ensure delivery at a minimum of six exchanges per day.

Photoperiod

The test was conducted in continuous light.

D. Test Design

Test Levels

Five replicates of undiluted test sediment and reference sediment were tested and compared to five replicates of control sediment.

Control

A control sediment was obtained from the collection site of the organisms. This sediment was sent to Aqua Survey, Inc. along with the organisms at the time of purchase from the organism supplier.

Reference

Reference sediment was dredged from New London Sound off the Connecticut coast and sent to ASI along with the test sediments.

Beginning the Test

The test was initiated by placing approximately 200 cm^3 of test sediment into each of five replicate test vessels and filling the vessels with dilution water. The system was allowed to settle under gentle aeration overnight. After settling, 20 animals were chosen at random and gently added to each test vessel.

The test was of 10 days duration.

All test vessels were examined for survival at 10 days.

Water Quality Measurements

Dissolved oxygen, pH, temperature and salinity were determined at the start of the test and at each 24 hour interval thereafter in every test vessel.

Feeding

Animals were not fed during the test.

E. Reference Toxicant

A 48-hour standard reference toxicant test with sodium dodecyl sulfate was performed. The toxicant was dissolved in dilution water to create a stock solution, followed by mixing with dilution water to achieve the desired concentration. No substrate was provided.

F. Physical Testing

Grain size analyses were performed in accordance with:

Standard Method for Particle-Size Analysis of Soils
ASTM Designation: D422 - 63 (Reapproved 1972)
American National Standard A37 145-1972 Approved
March 2, 1972 by American National Standard Institute.

IV. RESULTS

A Control survival was 86 percent. Reference survival was 88 percent. Survival in the test sediment was 86 percent. Survival in the test sediment was compared to that in the reference using both parametric and nonparametric ANOVA. No significant differences were detected by either method at $\alpha \leq 0.05$.

B. Water Quality

The test solution temperature was 19.0 - 21.5°C (See Table 1.2).

The pH ranged from 7.8 - 8.1 (See Table 1.2).

The salinity ranged from 30.0 - 32.0 ppt. Dissolved oxygen was kept at or above 5.8 mg/L in all test vessel (See Table 1.2).

C. Reference Toxicant

The 48-hour LC50 for *Ampelisca abdita* was determined to be 3.16 ppm sodium dodecyl sulfate. Three attempts were made to run a Standard Reference Toxicant using copper sulfate; unfortunately a good dose response was not obtained. Finally, a 48-hour sodium dodecyl sulfate bioassay was run with the remaining animals from the shipment. The lack of a sufficient data base limits interpretation of this value (See Table 1.3.)

Table 1.1

Results of the 10-day Solid Phase Bioassay. Testing was initiated with 20 *Ampelisca abdita* per replicate.

Sample	Replicate	Final Live Count
control	1	19
	2	17
	3	18
	4	18
	5	14
	Total	86
Reference New London	1	19
	2	19
	3	19
	4	18
	5	13
	Total	88
test	1	16
	2	19
	3	16
	4	18
	5	17
	Total	86

Table 1.2

Solid Phase	Chemical/Physical Data Ranges for the 10-Day *A. abdita* Bioassay.			
Concentration	**pH**	**Salinity (ppt)**	**Temp. (C°)**	**Dissolved Oxygen (ppm)**
Control 1-5	7.8-8.1	30.0-31.5	20.0-21.0	5.7-7.5
Reference 1-5	7.8-8.0	30.0-31.5	20.0-21.0	6.3-7.5
Test 1-5	7.8-8.0	30.0-32.0	19.0-21.5	5.8-7.3

Table 1.3

Results of 48-hour Standard Reference Toxicant Bioassays with sodium dodecyl sulfate. Bioassays were initiated with 5 *A. abdita* per replicate.

Concentration (ppm)	**Replicate**	**Final Live Counts** *A. abdita* **48 hour**
control	A	5
0.1	A	5
1.0	A	5
10.0	A	0
100.0	A	0

D. Physical Testing

Grain size and moisture determinations were made for the control and reference sediment. Grain size distribution is defined by the following criteria:

Sand	> or = to 0.0625 mm
Silt	< 0.0625 but > 0.0039 mm
Clay	< 0.0039 mm

See Table 2.1 for Grain Size and Percent Moisture results.

Table 2.1

Results of Grain Size and Moisture Content Analysis

Sample	% Sand	% Silt	% Clay	% Moisture
Control	22.0	34.0	44.0	59.15
Reference New London	77.0	15.0	8.0	25.65

V. SOURCE OF DOCUMENTATION

All original data documentation is being maintained at:

Aqua Survey, Inc.
499 Point Breeze Road
Flemington, NJ 08822

SECTION 2 - BIOACCUMULATION ASSAYS

I. OBJECTIVE

The objective of this test was to determine the bioaccumulation of select chemicals from test sediment from GOLD STAR when in the environment of benthic invertebrates.

II. TEST MATERIAL

Source: Gold Star

Date Received: December 23, 1991

III. MATERIALS AND METHODS

A. Method

The method employed was a modification of the methods outlined by the Testing Manual entitled Evaluation of Dredged Material Proposed for Ocean Disposal, USEPA, USACOE, EPA-503/8-91/001, February, 1991 and the EPA Guidance Manual: Bedded Sediment Bioaccumulation Tests, USEPA, EPA/600/x-89/302, and Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters, USEPA Region I, 1989.

B. Test Organisms

Species

The test species used for this test were the clam, *Macoma nasuta*, and the sandworm, *Nereis virens*.

Size/Age/Physical Condition

Animals used in this test were all mixed adults, field collected by an outside company specializing in animal husbandry. All animals appeared to be in good condition.

C. Source/Acclimation

M. nasuta were obtained from A.K. Siewers. *N. virens* were obtained from Aquatic Research Organisms. Both species were held at least 24 hours prior to testing during which time they were acclimated to dilution water and test temperature.

Test System

Source of Dilution Water

Dilution water was obtained from Manasquan Inlet in Manasquan, New Jersey. The salinity was modified to meet organism requirements using deionized water. Water was tested according to ACOE guidelines to ensure its purity.

Temperature

The test temperature was 15 +/- 2°C.

Test Vessels

The test vessels were 10-gallon glass aquaria. Aeration was provided through a forced air system ending in sand airstones. Eleven liters of control, reference, and test material were added to each chamber for *Macoma*, six liters for *Nereis*. Flow-through conditions were provided by means of a calibrated metering pump system entering the test chamber through the top to approximately two centimeters below the water surface. Daily checks of systems were made to ensure delivery at a minimum of six exchanges per day.

Photoperiod

The test was conducted under a photoperiod of 16 hour light / eight hours dark.

D. Test Design

Test Levels

Five replicates of undiluted test sediment and reference sediment were tested and compared to three replicates of control sediment. An extra chamber of reference and test material was set up to provide the extra tissue needed for quality assurance checks of chemistry on the fifth replicate. Although this tank was treated identically to the other tanks, results are not included in the chemistry or the mortality data. Observations are included in the raw data only.

Control

A control sediment for the *M. nasuta* bioassay was obtained from Brezina and Associates. This sediment was sent to Aqua Survey, Inc with the organisms at the time of purchase from the organism supplier. Control sediment for the *N. virens* bioassay was collected from the ACOE designated site in Milton Harbor, New York.

Reference

Reference sediment was dredged from New London Sound off the Connecticut coast and sent to ASI along with the test sediments following guidelines stated in Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters, USEPA Region I, 1989.

E. Test Procedure

Beginning the Test

The test was initiated by placing the appropriate amount of test sediment into each of five replicate (plus the extra) test vessels. The flow-through delivery system was started prior to sediment addition, to fill the test chambers with water. Twenty *N. virens*, and 25 *M. nasuta*, were randomly selected and gently added to each chamber.

The test was of 28 days duration.

All test vessels were examined for survival at 28 days. Surviving animals were rinsed in clean seawater and placed in a clean exposure chamber filled with dilution water for 24 hours to depurate. After depuration, the clams were shucked, and the sandworms rinsed in deionized water, and all the tissues placed in clean, labeled glass sample containers. The tissues were frozen prior to chemical analysis. The tissue from the sixth replicate was mixed with the tissue from the fifth replicate prior to freezing.

Water Quality Measurements

Dissolved oxygen, pH, temperature and salinity were determined daily in every test vessel.

Feeding

Animals were not fed during the test.

Tissue Analysis

Tissues were thawed, extracted and analyzed for the requisite chemicals following guidelines in Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters, USEPA Region I, 1989.

F. Reference Toxicant

A standard reference toxicant test with Copper Sulfate was performed. The toxicant was dissolved in dilution water to create a stock solution, followed by mixing with dilution water to achieve the desired concentration. No substrate was provided. A 96-hour exposure was used for both species.

G. Physical Testing

Grain size analyses were performed in accordance with:

Standard Method for Particle-Size Analysis of Soils
ASTM Designation: D422 - 63 (Reapproved 1972)
American National Standard A37 145-1972 Approved
March 2, 1972 by American National Standard Institute.

IV. RESULTS

A. Survival

Survival for *N. virens* was 80 percent in the control sediment, 96 percent in the reference sediment and 94 percent in the test sediment. Survival for *M. nasuta* was 86.7 percent in the control sediment, 89.6 percent in the reference sediment and 67.2 percent in the test sediment. (See Tables 3.1 and 3.2). There was no significant difference in the responses of either species between the reference and test substrate as determined by both parametric and nonparametric ANOVA.

B. Water Quality

Salinity ranged from 28.5 - 33.0 ppt. Dissolved oxygen was kept at or above 3.9 mg/L in all test vessels. The pH ranged from 7.7 - 8.2 for *N. virens*, and 7.6-8.1 for *M. nasuta*. Temperature was maintained between 10.5 and 15.5°C for the *M. nasuta* test, and between 12.0 and 16.0°C for the *N. virens* bioassay (See Tables 3.3 and 3.4.).

C. Reference Toxicant

A standard reference toxicant test was conducted on both species with Copper Sulfate. The 96 hour LC50 for *N. virens* was 1.43 ppm. The 96-hour LC50 for *M. nasuta* was 2.48 ppm. Due to the lack of a large enough database, we are unable to make conclusions regarding these data. Survival and water quality data are presented in Tables 3.5 through 3.8.

D. Physical Testing

Grain size analyses were conducted on the reference and each control sediment as required. The results are presented in Table 4.1.

E. Bulk Sediment

Bulk Sediment analyses were conducted as required on the New London Sound reference material. The results are presented in Table 5.1-5.2.

F. Bioaccumulation

Bioaccumulation potential was assessed by comparing the concentration of accumulated material in each test sediment to the reference using ANOVA. Missing data points were not used. Data below detection limits was assumed to be the detection limit value for the sake of analysis. If all parameters were below detection limits or missing, no analysis was run. Triplicate analyses were averaged for statistics. Data are presented in Tables 6.1 - 6.4.

Table 3.1

Results of the 28-day Solid Phase Bioassay. Testing was initiated with 20 *Nereis virens* per replicate.

Sample	Replicate	Final Live Count
control	1	15
	2	16
	3	17
	Total	48
reference	1	17
	2	20
	3	20
	4	20
	5	19
	Total	96
test	1	18
	2	19
	3	19
	4	19
	5	19
	Total	94

Table 3.2

Results of the 28-day Solid Phase Bioassay. Testing was initiated with 25 *Macoma nasuta* per replicate.

Sample	Replicate	Final Live Count
control	1	21
	2	21
	3	23
	Total	65
reference	1	21
	2	22
	3	23
	4	22
	5	24
	Total	112
test	1	22
	2	2
	3	18
	4	24
	5	18
	Total	84

Table 3.3

Solid Phase	Chemical/Physical Data Ranges for the 28-Day *N. virens* Bioassay.			
Concentration	**pH**	**Salinity (ppt)**	**Temp. (C°)**	**Dissolved Oxygen (ppm)**
Control 1-3	7.7-8.2	30.0-33.0	13.0-16.0	7.4-8.7
Reference 1-5	7.7-8.1	30.0-33.0	12.0-15.5	7.5-8.9
Test 1-5	7.7-8.1	29.5-33.0	12.0-15.0	7.6-9.0

Table 3.4

Solid Phase	Chemical/Physical Data Ranges for the 28-Day *M. nasuta* Bioassay.			
Concentration	**pH**	**Salinity (ppt)**	**Temp. (C°)**	**Dissolved Oxygen (ppm)**
Control 1-3	7.6-8.1	30.0-33.0	10.5-15.0	7.4-9.0
Reference 1-5	7.6-8.0	29.0-33.0	10.5-14.5	6.8-9.0
Test 1-5	7.7-8.1	29.5-33.0	13.0-15.5	3.9-9.1

Table 3.5

Results of 96 hour Standard Reference Toxicant Bioassays with Copper Sulfate. Bioassays were initiated with 8 *Nereis virens* per replicate.

Concentration (ppm)	Replicate	Final Live Counts *N. virens* 96 hour
control	A	8
	B	7
0.31	A	8
	B	8
0.63	A	8
	B	7
1.25	A	7
	B	6
2.5	A	0
	B	0
5.0	A	0
	B	0

Table 3.6

Chemical/Physical Data Ranges for *N. virens* Standard Reference Toxicant Test.

Concentration	pH	Salinity (ppt)	Temp. (C)	Dissolved Oxygen (ppm)
0.0	7.8-8.1	29.0-31.5	10.0-16.0	7.6-10.6
0.31	7.8-8.1	29.0-32.0	10.0-16.0	7.6-10.6
0.63	7.8-8.1	29.0-33.0	10.0-16.0	7.5-10.6
1.25	7.8-8.1	29.0-33.0	10.0-16.0	7.5-10.6
2.5	8.0	29.0-31.0	10.0-16.0	7.5-10.6
5.0	7.8-8.0	29.0-31.0	10.0-16.5	7.4-10.6

Table 3.7

Results of 96 hour Standard Reference Toxicant Bioassays with Copper Sulfate. Bioassays were initiated with 8 *Macoma nasuta* per replicate.

Concentration (ppm)	Replicate	Final Live Counts *M.nasuta* 96 hour
control	A	8
	B	8
0.625	A	8
	B	7
1.25	A	5
	B	6
2.50	A	5
	B	4
5.00	A	2
	B	3
10.0	A	0
	B	0

Table 3.8

Chemical/Physical Data Ranges for *M. nasuta* Standard Reference Toxicant Test.

Concentration	pH	Salinity (ppt)	Temp. (C)	Dissolved Oxygen (ppm)
0.0	7.7-8.1	29.0-29.5	10.0-15.5	7.8-10.6
0.625	7.8-8.1	29.0-29.5	10.0-16.0	8.0-10.6
1.25	7.8-8.1	29.0-30.0	10.0-16.0	8.0-10.6
2.50	7.7-8.1	29.0-30.0	10.0-16.0	8.0-10.6
5.00	7.7-8.1	29.0-30.0	10.0-16.5	7.9-10.6
10.0	7.7-8.1	29.0-29.5	10.0-16.0	7.8-10.6

G. Physical Testing

Grain size and moisture determinations were made for the control and reference sediment. Grain size distribution is defined by the following criteria:

Sand	> or = to 0.0625 mm
Silt	< 0.0625 but > 0.0039 mm
Clay	< 0.0039 mm

See Table 4.1 for Grain Size and Percent Moisture results.

Table 4.1

Results of Grain Size and Moisture Content Analysis

Sample	% Sand	% Silt	% Clay	% Moisture
Control *N. virens*	33.0	41.0	26.0	60.45
Control *M. nasuta*	76.0	12.0	12.0	28.14
Reference New London	77.0	15.0	8.0	25.65

H. Chemical Testing

Results of the Bulk Sediment analyses on the New London Reference sediment sample.

Table 5.1

Reference Bulk Sediment Analyses mg/kg (dry wt. basis)	
Chemical	
Arsenic	<2.0
Barium	18.4
Cadmium	<1.0
Chromium	15.7
Lead	11.4
Mercury	<0.01
Selenium	<1.0
Silver	<5.0
Total Organic Carbon	12400.0
Copper	6.95
Nickel	7.96
Zinc	38.2
% Moisture	30.7

Table 5.2

Reference Bulk Sediment Analyses ug/kg (dry wt. basis)

Chemical	
Acenaphthene	510.0 u
Acenaphthylene	510.0 u
Anthracene	510.0 u
Benzo (a) anthracene	510.0 u
Benzo (a) pyrene	510.0 u
Benzo (b) fluroanthene	510.0 u
Benzo (g,h,i) perylene	510.0 u
Chrysene	510.0 u
Dibenzo (a,h) anthracene	510.0 u
Fluroanthene	510.0 u
Indeno (1,2,3-cd) pyrene	510.0 u
Naphthalene	510.0 u
Phenanthrene	75.0 J
Pyrene	110.0 J

u Indicates compound was analyzed for but not detected. The number is the detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the reported detection limit but greater than zero.

I. Bioaccumulation Analyses

Table 6.1 Bioaccumulation Analysis of Nereis virens from GOLD STAR sediment in ppm (dry weight)

Parameter	Dectection Limit	Pre-Test	Reference 1	2	3	4	5
Arsenic	0.5	*	<0.5	<0.5	<0.5	0.657	<0.5
Cadmium	0.5	*	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	1.0	*	<1.0	<1.0	<1.0	<1.0	<1.0
Copper	1.0	*	1.68	1.52	1.40	2.01	1.64
Lead	1.0	*	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	1.0	*	<1.0	<1.0	<1.0	<1.0	<1.0
Mercury	0.1	<0.143	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc	1.0	*	36.0	18.3	24.5	37.8	18.0
% Water	1.0	84.5	84.9	85.7	85.3	85.6	87.7
% TOC	0.1	38.6	21.7	31.0	83.9	64.7	63.4
% Lipid	-	2.01	9.07	11.7	9.52	6.86	11.7

		Test 1	2	3	4	5	5A	5B
Arsenic	0.5	<0.508	<1.14	<0.5	<0.5	<0.5	*	2.68
Cadmium	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*	<0.5
Chromium	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*	<1.0
Copper	1.0	1.62	1.42	1.49	1.40	1.36	*	2.4
Lead	1.0	<1.0	<1.56	<1.0	<1.0	<1.0	*	<1.0
Nickel	1.0	<1.0	<1.25	<1.0	<1.0	<1.0	*	1.58
Mercury	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	1.0	33.3	14.9	11.2	9.26	41.9	*	39.9
% Water	1.0	86.9	85.8	84.5	85.8	*	87.1	*
% TOC	0.1	25.8	39.6	77.6	54.1	71.1	73.4	55.6
% Lipid	-	5.36	10.4	8.77	9.08	*	8.45	*

* Insufficient sample for analysis

Table 6.2

Bioaccumulation Analysis of Macoma nasuta
from GOLD STAR sediment in ppm (dry weight)

Parameter	Dectection Limit	Pre-Test	Reference 1	2	3	4	5
Arsenic	0.5	<0.5	*	2.85	3.18	3.16	3.50
Cadmium	0.5	<0.5	*	<0.5	<0.5	<0.5	<0.5
Chromium	1.0	<1.0	*	<1.0	<1.0	<1.0	<1.0
Copper	1.0	2.0	*	3.36	4.34	3.55	3.11
Lead	1.0	<1.0	*	1.22	1.08	<1.0	1.52
Nickel	1.0	1.61	*	1.52	1.50	1.77	1.66
Mercury	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc	1.0	51.6	*	50.7	35.9	42.2	39.8
% Water	1.0	87.7	*	88.2	*	*	87.9
% TOC	0.1	31.0	28.7	21.7	33.2	51.2	36.5
% Lipid	-	1.28	*	11.9	*	*	13.8

		Test 1	2	3	4	5	5A	5B
Arsenic	0.5	*	*	*	*	*	*	*
Cadmium	0.5	*	*	*	*	*	*	*
Chromium	1.0	*	*	*	*	*	*	*
Copper	1.0	*	*	*	*	*	*	*
Lead	1.0	*	*	*	*	*	*	*
Nickel	1.0	*	*	*	*	*	*	*
Mercury	0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10
Zinc	1.0	*	*	*	*	*	*	*
% Water	1.0	*	*	*	86.1	*	*	*
% TOC	0.1	92.8	50.6	44.2	27.8	29.6	36.4	37.9
% Lipid	-	*	*	*	8.13	*	*	*

* Insufficient sample for analysis

Analysis of PAH Compounds in Nereis virens Tissue
from GOLD STAR sediment in ug/Kg

Table 6.3

PAH Compound	Pre-Test	Reference							Test						
		1	2	3	4	5	5A	5B	1	2	3	4	5	5A	5B
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND180.0J		ND
Benzo(a) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indenol(1,2,3-cd) Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i) Perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND = Not detected
J = Compound detected but below practical detection limit; concentration should be interpreted with caution; not used in statistics.

Analysis of PAH Compounds in Macoma nasuta Tissue
from GOLD STAR sediment in ug/Kg

Table 6.4

PAH Compound	Pre-Test	Reference							Test						
		1	2	3	4	5	5A	5B	1	2	3	4	5	5A	5B
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	140.0J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indenol(1,2,3-cd) Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i) Perylene.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND = Not detected
J = Compound detedted but below practical detection limit; concentration should be interpreted with caution; not used in statistics.

V. SOURCE OF DOCUMENTATION

All original data documentation is being maintained at:

Aqua Survey, Inc.
499 Point Breeze Road
Flemington, NJ 08822

MAMACOKE

SECTION 1 - AMPHIPOD REPORT

I. OBJECTIVE

The objective of this test was to determine the toxic effects of test sediment from Mamacoke when in the environment of a benthic invertebrate. The measure of potency is significant reduction in survival of exposed organisms as compared to a control after ten days exposure.

II. TEST MATERIAL

Source: Mamacoke

Date Received: December 23, 1991

III. MATERIALS AND METHODS

A. Method

The method employed was a modification of the method outlined by the American Society of Testing Materials, Standard Guide for Conducting 10-Day Sediment Toxicity Tests with Marine and Estuarine Amphipods, E1367-90, and the Evaluation of Dredged Material Proposed for Ocean Disposal, USEPA,USACOE, EPA-503/8-91/001, February 1991.

B. Test Organisms

Species

The test species used for this test was *Ampelisca abdita*, a representative benthic invertebrate.

Size/Age/Physical Condition

Animals used in this test were all mixed adults, field collected by an outside company specializing in animal husbandry. All animals appeared to be in good condition.

Source/Acclimation

A. abdita were obtained from Northwestern Aquatic Sciences. Animals were held at least one day prior to testing during which time they were acclimated to dilution water and test temperature.

C. Test System

Source of Dilution Water

Dilution water was obtained from Manasquan Inlet in Manasquan, New Jersey. The salinity was modified to meet organism requirements using deionized water. Water is periodically tested according to ACOE guidelines to ensure its purity.

Temperature

The test temperature was 20 +/- 2°C.

Test Vessels

The test vessels were 1-liter polyethylene beakers covered with a petri plate and gently aerated through glass-tipped aeration lines. Flow-through conditions were provided by means of a calibrated gravity feed system entering the test chamber through the petri plate to approximately two centimeters below the water surface. Daily checks of systems were made to ensure delivery at a minimum of six exchanges per day.

Photoperiod

The test was conducted in continuous light.

D. Test Design

Test Levels

Five replicates of undiluted test sediment and reference sediment were tested and compared to five replicates of control sediment.

Control

A control sediment was obtained from the collection site of the organisms. This sediment was sent to Aqua Survey, Inc. along with the organisms at the time of purchase from the organism supplier.

Reference

Reference sediment was dredged from New London Sound off the Connecticut coast and sent to ASI along with the test sediments.

Beginning the Test

The test was initiated by placing approximately 200 cm^3 of test sediment into each of five replicate test vessels and filling the vessels with dilution water. The system was allowed to settle under gentle aeration overnight. After settling, 20 animals were chosen at random and gently added to each test vessel.

The test was of 10 days duration.

All test vessels were examined for survival at 10 days.

Water Quality Measurements

Dissolved oxygen, pH, temperature and salinity were determined at the start of the test and at each 24-hour interval thereafter in every test vessel.

Feeding

Animals were not fed during the test.

E. Reference Toxicant

A 48-hour standard reference toxicant test with sodium dodecyl sulfate was performed. The toxicant was dissolved in dilution water to create a stock solution, followed by mixing with dilution water to achieve the desired concentration. No substrate was provided.

F. Physical Testing

Grain size analyses were performed in accordance with:
Standard Method for Particle-Size Analysis of Soils
ASTM Designation: D422 - 63 (Reapproved 1972)
American National Standard A37 145-1972 Approved
March 2, 1972 by American National Standard Institute.

IV. RESULTS

A. Control survival was 86 percent. Reference survival was 88 percent. Survival in the test sediment was 68 percent. Survival in the test sediment was compared to that in the reference using both parametric and nonparametric ANOVA. No significant differences were detected by either method at $\alpha \leq 0.05$.

B. Water Quality

The test solution temperature was 20.0 - 21.5°C (See Table 1.2).

The pH ranged from 7.8 - 8.1 (See Table 1.2).

The salinity ranged from 30.0 - 32.0 ppt. Dissolved oxygen was kept at or above 5.7 mg/L in all test vessel (See Table 1.2).

C. Reference Toxicant

The 48-hour LC50 for *Ampelisca abdita* was determined to be 3.16 ppm sodium dodecyl sulfate. Three attempts were made to run a Standard Reference Toxicant using copper sulfate; unfortunately a good dose response was not obtained. Finally, a 48-hour sodium dodecyl sulfate bioassay was run with the remaining animals from the shipment. The lack of a sufficient data base limits interpretation of this value (See Table 1.3.)

Table 1.1

Results of the 10-day Solid Phase Bioassay. Testing was initiated with 20 *Ampelisca abdita* per replicate.

Sample	Replicate	Final Live Count
control	1	19
	2	17
	3	18
	4	18
	5	14
	Total	86
Reference New London	1	19
	2	19
	3	19
	4	18
	5	13
	Total	88
test	1	17
	2	10
	3	15
	4	12
	5	14
	Total	68*

* Denotes statistical significance at $\alpha \leq 0.05$

Table 1.2

Solid Phase	Chemical/Physical Data Ranges for the 10-Day *A. abdita* Bioassay.			
Concentration	**pH**	**Salinity (ppt)**	**Temp. (C°)**	**Dissolved Oxygen (ppm)**
Control 1-5	7.8-8.1	30.0-31.5	20.0-21.0	5.7-7.5
Reference 1-5	7.8-8.0	30.0-31.5	20.0-21.0	6.3-7.5
Test 1-5	7.8-8.0	30.0-32.0	20.0-21.5	6.1-7.3

Table 1.3

Results of 48-hour Standard Reference Toxicant Bioassays with sodium dodecyl sulfate Bioassays were initiated with 5 *A. abdita* per replicate.

Concentration (ppm)	Replicate	Final Live Counts *A. abdita* 48 hour
control	A	5
0.1	A	5
1.0	A	5
10.0	A	0
100.0	A	0

D. Physical Testing

Grain size and moisture determinations were made for the control and reference sediment. Grain size distribution is defined by the following criteria:

Sand	> or = to 0.0625 mm
Silt	< 0.0625 but > 0.0039 mm
Clay	< 0.0039 mm

See Table 2.1 for Grain Size and Percent Moisture results.

Table 2.1

Results of Grain Size and Moisture Content Analysis

Sample	% Sand	% Silt	% Clay	% Moisture
Control	22.0	34.0	44.0	59.15
Reference New London	77.0	15.0	8.0	25.65

V. SOURCE OF DOCUMENTATION

All original data documentation is being maintained at:

Aqua Survey, Inc.
499 Point Breeze Road
Flemington, NJ 08822

SECTION 2 - BIOACCUMULATION ASSAYS

I. OBJECTIVE

The objective of this test was to determine the bioaccumulation of select chemicals from test sediment from GOLD STAR when in the environment of benthic invertebrates.

II. TEST MATERIAL

Source: Mamacoke 

Date Received: December 23, 1991

III. MATERIALS AND METHODS

A. Method

The method employed was a modification of the methods outlined by the Testing Manual entitled Evaluation of Dredged Material Proposed for Ocean Disposal, USEPA, USACOE, EPA-503/8-91/001, February, 1991 and the EPA Guidance Manual: Bedded Sediment Bioaccumulation Tests, USEPA, EPA/600/x-89/302 and Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters, USEPA Region I, 1989.

B. Test Organisms

Species

The test species used for this test were the clam, *Macoma nasuta*, and the sandworm, *Nereis virens*.

Size/Age/Physical Condition

Animals used in this test were all mixed adults, field collected by an outside company specializing in animal husbandry. All animals appeared to be in good condition.

C. Source/Acclimation

M. nasuta were obtained from A.K. Siewers. *N. virens* were obtained from Aquatic Research Organisms. Both species were held at least 24 hours prior to testing during which time they were acclimated to dilution water and test temperature.

Test System

Source of Dilution Water

Dilution water was obtained from Manasquan Inlet in Manasquan, New Jersey. The salinity was modified to meet organism requirements using deionized water. Water was tested according to ACOE guidelines to ensure its purity.

Temperature

The test temperature was 15 +/- 2°C.

Test Vessels

The test vessels were 10-gallon glass aquaria. Aeration was provided through a forced air system ending in sand airstones. Eleven liters of control, reference, and test material were added to each chamber for *Macoma*, six liters for *Nereis*. Flow-through conditions were provided by means of a calibrated metering pump system entering the test chamber through the top to approximately two centimeters below the water surface. Daily checks of systems were made to ensure delivery at a minimum of six exchanges per day.

Photoperiod

The test was conducted under a photoperiod of 16 hour light / eight hours dark.

D. Test Design

Test Levels

Five replicates of undiluted test sediment and reference sediment were tested and compared to three replicates of control sediment. An extra chamber of reference and test material was set up to provide the extra tissue needed for quality assurance checks of chemistry on the fifth replicate. Although this tank was treated identically to the other tanks, results are not included in the chemistry or the mortality data. Observations are included in the raw data only.

Control

A control sediment for the *M. nasuta* bioassay was obtained from Brezina and Associates. This sediment was sent to Aqua Survey, Inc with the organisms at the time of purchase from the organism supplier. Control sediment for the *N. virens* bioassay was collected from the ACOE designated site in Milton Harbor, New York.

Reference

Reference sediment was dredged from New London Sound off the Connecticut coast and sent to ASI along with the test sediments. Bulk sediment analyses and grain size determinations were also run on this sediment following guidelines stated in Guidance for Performing Tests on Dredged Material to be Disposed of in Open Water, USEPA Region I, 1989.

E. Test Procedure

Beginning the Test

The test was initiated by placing the appropriate amount of test sediment into each of five replicate (plus the extra) test vessels. The flow-through delivery system was started prior to sediment addition, to fill the test chambers with water. Twenty *N. virens*, and 25 *M. nasuta* were randomly selected and gently added to each chamber.

The test was of 28 days duration.

All test vessels were examined for survival at 28 days. Surviving animals were rinsed in clean seawater and placed in a clean exposure chamber filled with dilution water for 24 hours to depurate. After depuration, the clams were shucked, and the sandworms rinsed in deionized water, and all the tissues placed in clean, labeled glass sample containers. The tissues were frozen prior to chemical analysis. The tissue from the sixth replicate was mixed with the tissue from the fifth replicate prior to freezing.

Water Quality Measurements

Dissolved oxygen, pH, temperature and salinity were determined daily in every test vessel.

Feeding

Animals were not fed during the test.

Tissue Analysis

Tissues were thawed, extracted and analyzed for the requisite chemicals following guidelines in Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters, USEPA Region I, 1989.

F. Reference Toxicant

A standard reference toxicant test with Copper Sulfate was performed. The toxicant was dissolved in dilution water to create a stock solution, followed by mixing with dilution water to achieve the desired concentration. No substrate was provided. A 96-hour exposure was used for both species.

G. Physical Testing

Grain size analyses were performed in accordance with: Standard Method for Particle-Size Analysis of Soils ASTM Designation: D422 - 63 (Reapproved 1972) American National Standard A37 145-1972 Approved March 2, 1972 by American National Standard Institute.

IV. RESULTS

A. Survival

Survival for *N. virens* was 80 percent in the control sediment, 96 percent in the reference sediment and 91 percent in the test sediment. Survival for *M. nasuta* was 86.7 percent in the control sediment, 89.6 percent in the reference sediment and 83.2 percent in the test sediment. (See Tables 3.1 and 3.2). There was no significant difference in the response of either species between the reference and test substrate as determined by both parametric and nonparametric ANOVA.

B. Water Quality

Salinity ranged from 29.5 - 33.0 ppt. Dissolved oxygen was kept at or above 5.0 mg/L in all test vessels. The pH ranged from 7.6 - 8.2 for *N. virens*, and 7.5-8.1 for *M. nasuta*. Temperature was maintained between 10.5 and 15.5°C for the *M. nasuta* test, and between 11.5 and 16.0°C for the *N. virens* bioassay (See Tables 3.3 and 3.4.).

C. Reference Toxicant

A standard reference toxicant test was conducted on both species with Copper Sulfate. The 96-hour LC50 for *N. virens* was 1.43 ppm. The 96-hour LC50 for *M. nasuta* was 2.48 ppm. Due to the lack of a large enough database, we are unable to make conclusions regarding these data. Survival and water quality data are presented in Tables 3.5 through 3.8.

D. Physical Testing

Grain size analyses were conducted on the reference and each control sediment as required. The results are presented in Table 4.1.

E. Bulk Sediment

Bulk Sediment analyses were conducted as required on the New London Sound reference material. The results are presented in Table 5.1 - 5.2.

F. Bioaccumulation

Bioaccumulation potential was assessed by comparing the concentration of accumulated material in each test sediment to the reference using ANOVA. Missing data points were not used. Data below detection limits was assumed to be the detection limit value for sake of analysis. If all lparameters were below detection limits or missing, no analysis was run. Triplicate analyses were averaged for statistics. Data are presented in Tables 6.1 - 6.4. The only significant bioaccumulation detected was the accumulation of lead in clam tissue.

Table 3.1

Results of the 28-day Solid Phase Bioassay. Testing was initiated with 20 *Nereis virens* per replicate.

Sample	Replicate	Final Live Count
control	1	15
	2	16
	3	17
	Total	48
reference	1	17
	2	20
	3	20
	4	20
	5	19
	Total	96
test	1	19
	2	17
	3	19
	4	18
	5	18
	Total	91

Table 3.2

Results of the 28-day Solid Phase Bioassay. Testing was initiated with 25 *Macoma nasuta* per replicate.

Sample	Replicate	Final Live Count
control	1	21
	2	21
	3	23
	Total	65
reference	1	21
	2	22
	3	23
	4	22
	5	24
	Total	112
test	1	22
	2	22
	3	20
	4	21
	5	19
	Total	104

* denotes a statistical difference from the control at $\alpha \leq 0.05$

Table 3.3

Solid Phase	Chemical/Physical Data Ranges for the 28-Day *N. virens* Bioassay.			
Concentration	**pH**	**Salinity (ppt)**	**Temp. (C°)**	**Dissolved Oxygen (ppm)**
Control 1-3	7.7-8.2	30.0-33.0	13.0-16.0	7.4-8.7
Reference 1-5	7.7-8.1	30.0-33.0	12.0-15.5	7.5-8.9
Test 1-5	7.6-8.1	29.5-33.0	11.5-15.0	7.7-9.1

Table 3.4

Solid Phase	Chemical/Physical Data Ranges for the 28-Day *M. nasuta* Bioassay.			
Concentration	**pH**	**Salinity (ppt)**	**Temp. (C°)**	**Dissolved Oxygen (ppm)**
Control 1-3	7.6-8.1	30.0-33.0	10.5-15.0	7.4-9.0
Reference 1-5	7.6-8.0	29.0-33.0	10.5-14.5	6.8-9.0
Test 1-5	7.5-8.0	29.5-33.0	12.5-15.5	5.0-9.0

Table 3.5

Results of 96 hour Standard Reference Toxicant Bioassays with Copper Sulfate. Bioassays were initiated with 8 *Nereis virens* per replicate.

Concentration (ppm)	Replicate	Final Live Counts *N. virens* 96 hour
control	A	8
	B	7
0.31	A	8
	B	8
0.63	A	8
	B	7
1.25	A	7
	B	6
2.5	A	0
	B	0
5.0	A	0
	B	0

Table 3.6

Chemical/Physical Data Ranges for *N. virens* Standard Reference Toxicant Test.

Concentration	pH	Salinity (ppt)	Temp. (C)	Dissolved Oxygen (ppm)
0.0	7.8-8.1	29.0-31.5	10.0-16.0	7.6-10.6
0.31	7.8-8.1	29.0-32.0	10.0-16.0	7.6-10.6
0.63	7.8-8.1	29.0-33.0	10.0-16.0	7.5-10.6
1.25	7.8-8.1	29.0-33.0	10.0-16.0	7.5-10.6
2.5	8.0	29.0-31.0	10.0-16.0	7.5-10.6
5.0	7.8-8.0	29.0-31.0	10.0-16.5	7.4-10.6

Table 3.7

Results of 96 hour Standard Reference Toxicant Bioassays with Copper Sulfate. Bioassays were initiated with 8 *Macoma nasuta* per replicate.

Concentration (ppm)	Replicate	Final Live Counts *M. nasuta* 96 hour
control	A	8
	B	8
0.625	A	8
	B	7
1.25	A	5
	B	6
2.50	A	5
	B	4
5.00	A	2
	B	3
10.0	A	0
	B	0

Table 3.8

Chemical/Physical Data Ranges for *M. nasuta* Standard Reference Toxicant Test.

Concentration	pH	Salinity (ppt)	Temp. (C)	Dissolved Oxygen (ppm)
0.0	7.7-8.1	29.0-29.5	10.0-15.5	7.8-10.6
0.625	7.8-8.1	29.0-29.5	10.0-16.0	8.0-10.6
1.25	7.8-8.1	29.0-30.0	10.0-16.0	8.0-10.6
2.50	7.7-8.1	29.0-30.0	10.0-16.0	8.0-10.6
5.00	7.7-8.1	29.0-30.0	10.0-16.5	7.9-10.6
10.0	7.7-8.1	29.0-29.5	10.0-16.0	7.8-10.6

G. Physical Testing

Grain size and moisture determinations were made for the control and reference sediment. Grain size distribution is defined by the following criteria:

Sand	> or = to 0.0625 mm
Silt	< 0.0625 but > 0.0039 mm
Clay	< 0.0039 mm

See Table 4.1 for Grain Size and Percent Moisture results.

Table 4.1

Results of Grain Size and Moisture Content Analysis

Sample	% Sand	% Silt	% Clay	% Moisture
Control *N. virens*	33.0	41.0	26.0	60.45
Control *M. nasuta*	76.0	12.0	12.0	28.14
Reference New London	77.0	15.0	8.0	25.65

H. Chemical Testing

Results of the Bulk Sediment analyses on the New London Reference sediment sample.

Table 5.1

Reference Bulk Sediment Analyses mg/kg (dry wt. basis)	
Chemical	
Arsenic	<2.0
Barium	18.4
Cadmium	<1.0
Chromium	15.7
Lead	11.4
Mercury	<0.01
Selenium	<1.0
Silver	<5.0
Total Organic Carbon	12400.0
Copper	6.95
Nickel	7.96
Zinc	38.2
% Moisture	30.7

Table 5.2

Reference Bulk Sediment Analyses ug/kg (dry wt. basis)

Chemical	
Ancenaphthene	510.0 u
Acenaphthylene	510.0 u
Anthracene	510.0 u
Benzo (a) anthracene	510.0 u
Benzo (a) pyrene	510.0 u
Benzo (b) fluroanthene	510.0 u
Benzo (g,h,i) perylene	510.0 u
Chrysene	510.0 u
Dibenzo (a,h) anthracene	510.0 u
Fluroanthene	510.0 u
Indeno (1,2,3-cd) pyrene	510.0 u
Naphthalene	510.0 u
Phenanthrene	75.0 J
Pyrene	110.0 J

u Indicates compound was analyzed for but not detected. The number is the detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the reported detection limit but greater than zero.

I. Bioaccumulation Analyses

Table 6.1 Bioaccumulation Analysis of Nereis virens from MAMACOKE sediment in ppm (dry weight)

Parameter	Detection Limit	Pre-Test	Reference 1	2	3	4	5
Arsenic	0.5	*	<0.5	<0.5	<0.5	0.657	<0.5
Cadmium	0.5	*	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	1.0	*	<1.0	<1.0	<1.0	<1.0	<1.0
Copper	1.0	*	1.68	1.52	1.40	2.01	1.64
Lead	1.0	*	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	1.0	*	<1.0	<1.0	<1.0	<1.0	<1.0
Mercury	0.1	<0.143	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc	1.0	*	36.0	18.3	24.5	37.8	18.0
% Water	1.0	84.5	84.9	85.7	85.3	85.6	87.7
% TOC	0.1	38.6	21.7	31.0	83.9	64.7	63.4
% Lipid	-	2.01	9.07	11.7	9.52	6.86	11.7

		Test 1	2	3	4	5	5A	5B
Arsenic	0.5	<0.5	<0.643	<0.5	<0.5	*	<0.5	<0.5
Cadmium	0.5	<0.5	<0.5	<0.5	<0.5	*	<0.5	<0.5
Chromium	1.0	<1.0	<1.0	<1.0	<1.0	*	<1.0	<1.0
Copper	1.0	1.73	1.59	1.64	1.22	*	1.21	1.24
Lead	1.0	<1.0	<1.0	<1.0	<1.0	*	<1.0	<1.0
Nickel	1.0	1.62	<1.0	1.68	1.95	*	<1.0	<1.0
Mercury	0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc	1.0	23.4	22.5	15.4	10.2	*	33.6	18.0
% Water	1.0	86.5	86.9	86.7	86.7	*	86.5	87.2
% TOC	0.1	42.0	56.7	39.9	24.2	28.0	39.7	29.2
% Lipid	-	9.18	9.39	10.7	8.57	*	8.81	9.45

* Insufficient sample for analysis

Table 6.2

Bioaccumulation Analysis of Macoma nasuta
from MAMACOKE sediment in ppm (dry weight)

Parameter	Detection Limit	Pre-Test	Reference 1	2	3	4	5
Arsenic	0.5	<0.5	*	2.85	3.18	3.16	3.50
Cadmium	0.5	<0.5	*	<0.5	<0.5	<0.5	<0.5
Chromium	1.0	<1.0	*	<1.0	<1.0	<1.0	<1.0
Copper	1.0	2.0	*	3.36	4.34	3.55	3.11
Lead	1.0	<1.0	*	1.22	1.08	<1.0	1.52
Nickel	1.0	1.61	*	1.52	1.50	1.77	1.66
Mercury	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc	1.0	51.6	*	50.7	35.9	42.2	39.8
% Water	1.0	87.7	*	88.2	*	*	87.9
% TOC	0.1	31.0	28.7	21.7	33.2	51.2	36.5
% Lipid	-	1.28	*	11.9	*	*	13.8

		Test 1	2	3	4	5	5A	5B
Arsenic	0.5	*	*	0.727	1.41	*	*	*
Cadmium	0.5	*	*	<0.5	<0.5	*	*	*
Chromium	1.0	*	*	1.08	<1.0	*	*	*
Copper	1.0	*	*	2.84	2.05	*	*	*
Lead	1.0	*	*	2.33	2.08	*	*	*
Nickel	1.0	*	*	1.79	1.80	*	*	*
Mercury	0.10	<0.10	<0.10	<0.10	<0.10	[illegible]0	<0.10	<0.10
Zinc	1.0	*	*	32.5	38.1	[illegible]	*	*
% Water	1.0	85.1	85.3	87.1	86.0	*	*	*
% TOC	0.1	49.8	29.8	50.2	45.6	28.7	11.7	49.7
% Lipid	-	9.13	12.5	6.95	11.4	*	*	*

* Insufficient sample for analysis

Analysis of PAH Compounds in Nereis virens Tissue
from MAMACOKE sediment in ug/Kg

Table 6.3

PAH Compound	Pre-Test	Reference							Test						
		1	2	3	4	5	5A	5B	1	2	3	4	5	5A	5B
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indenol(1,2,3-cd) Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i) Perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND = Not detected

Analysis of PAH Compounds in Macoma nasuta Tissue
from MAMACOKE sediment in ug/Kg

Table 6.4

PAH Compound	Pre-Test	Reference 1	2	3	4	5	5A	5B	Test 1	2	3	4	5	5A	5B
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	140.0J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	28.0J	ND	ND	80.0J	ND
Benzo(a) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indenol(1,2,3-cd) Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i) Perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND = Not detected
J = Compound detected but below practical detection limit; concentration should be interpreted with caution; not used in statistics.

V. SOURCE OF DOCUMENTATION

All original data documentation is being maintained at:

Aqua Survey, Inc.
499 Point Breeze Road
Flemington, NJ 08822

PIERS 32 AND 33

SECTION 1 - AMPHIPOD REPORT

I. OBJECTIVE

The objective of this test was to determine the toxic effects of test sediment from Pier 32 and 33 when in the environment of a benthic invertebrate. The measure of potency is significant reduction in survival of exposed organisms as compared to a control after ten days exposure.

II. TEST MATERIAL

Source: Pier 32 and 33

Date Received: December 23, 1991

III. MATERIALS AND METHODS

A. Method

The method employed was a modification of the method outlined by the American Society of Testing Materials, Standard Guide for Conducting 10-Day Sediment Toxicity Tests with Marine and Estuarine Amphipods, E1367-90, and the Evaluation of Dredged Material Proposed for Ocean Disposal, USEPA, USCOE, EPA-503/8-91/001, February 1991.

B. Test Organisms

Species

The test species used for this test was *Ampelisca abdita*, a representative benthic invertebrate.

Size/Age/Physical Condition

Animals used in this test were all mixed adults, field collected by an outside company specializing in animal husbandry. All animals appeared to be in good condition.

Source/Acclimation

A. abdita were obtained from Northwestern Aquatic Sciences. Animals were held at least one day prior to testing during which time they were acclimated to dilution water and test temperature.

C. Test System

Source of Dilution Water

Dilution water was obtained from Manasquan Inlet in Manasquan, New Jersey. The salinity was modified to meet organism requirements using deionized water. Water is periodically tested according to ACOE guidelines to ensure its purity.

Temperature

The test temperature was 20 +/- 2°C.

Test Vessels

The test vessels were 1-liter polyethylene beakers covered with a petri plate and gently aerated through glass-tipped aeration lines. Flow-through conditions were provided by means of a calibrated gravity feed system entering the test chamber through the petri plate to approximately two centimeters below the water surface. Daily checks of systems were made to ensure delivery at a minimum of six exchanges per day.

Photoperiod

The test was conducted in continuous light.

D. Test Design

Test Levels

Five replicates of undiluted test sediment and reference sediment were tested and compared to five replicates of control sediment.

Control

A control sediment was obtained from the collection site of the organisms. This sediment was sent to Aqua Survey, Inc. along with the organisms at the time of purchase from the organism supplier.

Reference

Reference sediment was dredged from New London Sound off the Connecticut coast and sent to ASI along with the test sediments.

Beginning the Test

The test was initiated by placing approximately 200 cm^3 of test sediment into each of five replicate test vessels and filling the vessels with dilution water. The system was allowed to settle under gentle aeration overnight. After settling, 20 animals were chosen at random and gently added to each test vessel.

The test was of 10 days duration.

All test vessels were examined for survival at 10 days.

Water Quality Measurements

Dissolved oxygen, pH, temperature and salinity were determined at the start and at each 24 hour interval thereafter in every test vessel.

Feeding

Animals were not fed during the test.

E. Reference Toxicant

A 48-hour standard reference toxicant test with sodium dodecyl sulfate was performed. The toxicant was dissolved in dilution water to create a stock solution, followed by mixing with dilution water to achieve the desired concentration. No substrate was provided.

F. Physical Testing

Grain size analyses were performed in accordance with:

Standard Method for Particle-Size Analysis of Soils
ASTM Designation: D422 - 63 (Reapproved 1972)
American National Standard A37 145-1972 Approved
March 2, 1972 by American National Standard Institute.

IV. RESULTS

A. Control survival was 86 percent. Reference survival was 88 percent. Survival in the test sediment was 76 percent. Survival in the reference using both parametric and nonparametric ANOVA. No significant differences were detected by either method at $\alpha \leq 0.05$.

B. Water Quality

The test solution temperature was 20.0 - 21.0°C (See Table 1.2).

The pH ranged from 7.8 - 8.1 (See Table 1.2).

The salinity ranged from 30.0 - 32.0 ppt. Dissolved oxygen was kept at or above 4.9 mg/L in all test vessel (See Table 1.2).

C. Reference Toxicant

The 48-hour LC50 for *Ampelisca abdita* was determined to be 3.16 ppm sodium dodecyl sulfate. Three attempts were made to run a Standard Reference Toxicant using copper sulfate; unfortunately a good dose response was not obtained. Finally, a 48-hour sodium dodecyl sulfate bioassay was run with the remaining animals from the shipment. The lack of a sufficient data base limits interpretation of this value (See Table 1.3.)

Table 1.1

Results of the 10-day Solid Phase Bioassay. Testing was initiated with 20 *Ampelisca abdita* per replicate.

Sample	Replicate	Final Live Count
control	1	19
	2	17
	3	18
	4	18
	5	14
	Total	86
Reference New London	1	19
	2	19
	3	19
	4	18
	5	13
	Total	88
test	1	9
	2	18
	3	16
	4	20
	5	13
	Total	76

Table 1.2

Solid Phase	Chemical/Physical Data Ranges for the 10-Day *A. abdita* Bioassay.			
Concentration	**pH**	**Salinity (ppt)**	**Temp. (C°)**	**Dissolved Oxygen (ppm)**
Control 1-5	7.8-8.1	30.0-31.5	20.0-21.0	5.7-7.5
Reference 1-5	7.8-8.0	30.0-31.5	20.0-21.0	6.3-7.5
Test 1-5	7.8-8.0	30.0-32.0	20.0-21.0	4.9-7.3

Table 1.3

Results of 48-hour Standard Reference Toxicant Bioassays with sodium dodecyl sulfate Bioassays were initiated with 5 *A. abdita* per replicate.

Concentration (ppm)	**Replicate**	**Final Live Counts** *A. abdita* **48 hour**
control	A	5
0.1	A	5
1.0	A	5
10.0	A	0
100.0	A	0

D. Physical Testing

Grain size and moisture determinations were made for the control and reference sediment. Grain size distribution is defined by the following criteria:

Sand > or = to 0.0625 mm
Silt < 0.0625 but > 0.0039 mm
Clay < 0.0039 mm

See Table 2.1 for Grain Size and Percent Moisture results.

Table 2.1

Results of Grain Size and Moisture Content Analysis

Sample	% Sand	% Silt	% Clay	% Moisture
Control	22.0	34.0	44.0	59.15
Reference New London	77.0	15.0	8.0	25.65

V. SOURCE OF DOCUMENTATION

All original data documentation is being maintained at:

Aqua Survey, Inc.
499 Point Breeze Road
Flemington, NJ 08822

SECTION 2 - BIOACCUMULATION ASSAYS

I. OBJECTIVE

The objective of this test was to determine the bioaccumulation of select chemicals from test sediment from PIER 32 and 33 when in the environment of benthic invertebrates.

II. TEST MATERIAL

Source: Pier 32 and 33

Date Received: December 23, 1991

III. MATERIALS AND METHODS

A. Method

The method employed was a modification of the methods outlined by the Testing Manual entitled Evaluation of Dredged Material Proposed for Ocean Disposal, USEPA, USACOE, EPA-503/8-91/001, February, 1991 and the EPA Guidance Manual: Bedded Sediment Bioaccumulation Tests, USEPA, EPA/600/x-89/302, and Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters, USEPA Region I, 1989.

B. Test Organisms

Species

The test species used for this test were the clam, *Macoma nasuta*, and the sandworm, *Nereis virens*.

Size/Age/Physical Condition

Animals used in this test were all mixed adults, field collected by an outside company specializing in animal husbandry. All animals appeared to be in good condition.

C. Source/Acclimation

M. nasuta were obtained from A.K. Siewers. *N. virens* were obtained from Aquatic Research Organisms. Both species were held at least 24 hours prior to testing during which time they were acclimated to dilution water and test temperature.

Test System

Source of Dilution Water

Dilution water was obtained from Manasquan Inlet in Manasquan, New Jersey. The salinity was modified to meet organism requirements using deionized water. Water was tested according to ACOE guidelines to ensure its purity.

Temperature

The test temperature was 15 +/- 2°C.

Test Vessels

The test vessels were 10-gallon glass aquaria. Aeration was provided through a forced air system ending in sand airstones. Eleven liters of control, reference, and test material were added to each chamber for *Macoma*, six liters for *Nereis*. Flow-through conditions were provided by means of a calibrated metering pump system entering the test chamber through the top to approximately two centimeters below the water surface. Daily checks of systems were made to ensure delivery at a minimum of six exchanges per day.

Photoperiod

The test was conducted under a photoperiod of 16 hour light / eight hours dark.

D. Test Design

Test Levels

Five replicates of undiluted test sediment and reference sediment were tested and compared to three replicates of control sediment. An extra chamber of reference and test material was set up to provide the extra tissue needed for quality assurance checks of chemistry on the fifth replicate. Although this tank was treated identically to the other tanks, results are not included in the chemistry or the mortality data. Observations are included in the raw data only.

Control

A control sediment for the *M. nasuta* bioassay was obtained from Brezina and Associates. This sediment was sent to Aqua Survey, Inc with the organisms at the time of purchase from the organism supplier. Control sediment for the *N. virens* bioassay was collected from the ACOE designated site in Milton Harbor, New York.

Reference

Reference sediment was dredged from New London Sound off the Connecticut coast and sent to ASI along with the test sediments. Bulk sediment analyses and grain size determinations were also run on this sediment following guidelines stated in Guidance for Performing Tests to be Disposed of in Open Waters, USEPA Region I, 1989.

E. Test Procedure

Beginning the Test

The test was initiated by placing the appropriate amount of test sediment into each of five replicate (plus the extra) test vessels. The flow-through delivery system was started prior to sediment addition, to fill the test chambers with water. Twenty *N. virens*, and 25 *M. nasuta* were randomly selected and gently added to each chamber.

The test was of 28 days duration.

All test vessels were examined for survival at 28 days. Surviving animals were rinsed in clean seawater and placed in a clean exposure chamber filled with dilution water for 24 hours to depurate. After depuration, the clams were shucked, and the sandworms rinsed in deionized water, and all the tissues placed in clean, labeled glass sample containers. The tissues were frozen prior to chemical analysis. The tissue from the sixth replicate was mixed with the tissue from the fifth replicate prior to freezing.

Water Quality Measurements

Dissolved oxygen, pH, temperature and salinity were determined daily in every test vessel.

Feeding

Animals were not fed during the test.

Tissue Analysis

Tissues were thawed, extracted and analyzed for the requisite chemicals following guidelines in Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters, USEPA Region I, 1989.

F. Reference Toxicant

A standard reference toxicant test with Copper Sulfate was performed. The toxicant was dissolved in dilution water to create a stock solution, followed by mixing with dilution water to achieve the desired concentration. No substrate was provided. A 96-hour exposure was used for both species.

G. Physical Testing

Grain size analyses were performed in accordance with:

Standard Method for Particle-Size Analysis of Soils
ASTM Designation: D422 - 63 (Reapproved 1972)
American National Standard A37 145-1972 Approved
March 2, 1972 by American National Standard Institute.

IV. RESULTS

A. Survival

Survival for *N. virens* was 80 percent in the control sediment, 96 percent in the reference sediment and 98 percent in the test sediment. Survival for *M. nasuta* was 86.7 percent in the control sediment, 89.6 percent in the reference sediment and 71.2 percent in the test sediment. (See Tables 3.1 and 3.2). In the Gold Star sample replicate two showed only 9 percent survival. It is possible that this an outlier and does not reflect a toxic response. If this data point is removed, the problems with normality and homoscedasticity disappear, and parametric analysis of variance can be conducted. In this case, the response of the clams in PIER 32 and 33 sample becomes statistically significant. No other changes occur. Both results should be reported to the regulatory agency for a decision on the outlier.

B. Water Quality

Salinity ranged from 29.0 - 33.0 ppt. Dissolved oxygen was kept at or above 4.2 mg/L in all test vessels. The pH ranged from 7.7 - 8.2 for *N. virens*, and 7.6-8.1 for *M. nasuta*. Temperature was maintained between 10.5 and 15.5°C for the *M. nasuta* test, and between 12.0 and 16.0°C for the *N. virens* bioassay (See Tables 3.3 and 3.4.).

C. Reference Toxicant

A standard reference toxicant test was conducted on both species with Copper Sulfate. The 96 hour LC50 for *N. virens* was 1.48 ppm. The 96-hour LC50 for *M. nasuta* was 2.47 ppm. Due to the lack of a large enough database, we are unable to make conclusions regarding these data. Survival and water quality data are presented in Tables 3.5 through 3.8.

D. Physical Testing

Grain size analyses were conducted on the reference and each control sediment as required. The results are presented in Table 4.1.

E. Bulk Sediment

Bulk Sediment analyses were conducted as required on the New London Sound reference material. The results are presented in Table 5.1 - 5.2.

F. Bioaccumulation

Bioaccumulation potential was assessed by comparing the concentration of accumulated material in each test sediment to the reference using ANOVA. Missing data points were not used. Data below detection limits was assumed to be the detection limit value for sake of analysis. If all parameters were below detection limits or missing, no analysis was run. Triplicate analyses were averaged for statistics. Data are presented in Tables 6.1 - 6.4.

Table 3.1

Results of the 28-day Solid Phase Bioassay. Testing was initiated with 20 *Nereis virens* per replicate.

Sample	Replicate	Final Live Count
control	1	15
	2	16
	3	17
	Total	48
reference	1	17
	2	20
	3	20
	4	20
	5	19
	Total	96
test	1	19
	2	20
	3	20
	4	20
	5	19
	Total	98

Table 3.2

Results of the 28-day Solid Phase Bioassay. Testing was initiated with 25 *Macoma nasuta* per replicate.

Sample	Replicate	Final Live Count
control	1	21
	2	21
	3	23
	Total	65
reference	1	21
	2	22
	3	23
	4	22
	5	24
	Total	112
test	1	18
	2	22
	3	14
	4	18
	5	17
	Total	89*

* denotes a statistical difference from the control at $\alpha \leq 0.05$

Table 3.3

Solid Phase	Chemical/Physical Data Ranges for the 28-Day *N. virens* Bioassay.			
Concentration	**pH**	**Salinity (ppt)**	**Temp. (C°)**	**Dissolved Oxygen (ppm)**
Control 1-3	7.7-8.2	30.0-33.0	13.0-16.0	7.4-8.7
Reference 1-5	7.7-8.1	30.0-33.0	12.0-15.5	7.5-8.9
Test 1-5	7.8-8.1	29.5-33.0	12.0-16.0	7.6-9.0

Table 3.4

Solid Phase	Chemical/Physical Data Ranges for the 28-Day *M. nasuta* Bioassay.			
Concentration	**pH**	**Salinity (ppt)**	**Temp. (C°)**	**Dissolved Oxygen (ppm)**
Control 1-3	7.6-8.1	30.0-33.0	10.5-15.0	7.4-9.0
Reference 1-5	7.6-8.0	29.0-33.0	10.5-14.5	6.8-9.0
Test 1-5	7.7-8.1	29.0-33.0	12.0-15.5	4.2-9.0

Table 3.5

Results of 96 hour Standard Reference Toxicant Bioassays with Copper Sulfate. Bioassays were initiated with 8 *Nereis virens* per replicate.

Concentration (ppm)	Replicate	Final Live Counts *N. virens* 96 hour
control	A	8
	B	7
0.31	A	8
	B	8
0.63	A	8
	B	7
1.25	A	7
	B	6
2.5	A	0
	B	0
5.0	A	0
	B	0

Table 3.6

Chemical/Physical Data Ranges for *N. virens* Standard Reference Toxicant Test.

Concentration	pH	Salinity (ppt)	Temp. (C)	Dissolved Oxygen (ppm)
0.0	7.8-8.1	29.0-31.5	10.0-16.0	7.6-10.6
0.31	7.8-8.1	29.0-32.0	10.0-16.0	7.6-10.6
0.63	7.8-8.1	29.0-33.0	10.0-16.0	7.5-10.6
1.25	7.8-8.1	29.0-33.0	10.0-16.0	7.5-10.6
2.5	7.8-8.0	29.0-31.0	10.0-16.0	7.5-10.6
5.0	7.8-8.0	29.0-31.0	10.0-16.5	7.4-10.6

Table 3.7

Results of 96 hour Standard Reference Toxicant Bioassays with Copper Sulfate. Bioassays were initiated with 8 *Macoma nasuta* per replicate.

Concentration (ppm)	Replicate	Final Live Counts *M. nasuta* 96 hour
control	A	8
	B	8
0.625	A	8
	B	7
1.25	A	5
	B	6
2.50	A	5
	B	4
5.00	A	2
	B	3
10.0	A	0
	B	0

Table 3.8

Chemical/Physical Data Ranges for *M. nasuta* Standard Reference Toxicant Test.

Concentration	pH	Salinity (ppt)	Temp. (C)	Dissolved Oxygen (ppm)
0.0	7.7-8.1	29.0-29.5	10.0-15.5	7.8-10.6
0.625	7.8-8.1	29.0-29.5	10.0-16.0	8.0-10.6
1.25	7.8-8.1	29.0-30.0	10.0-16.0	8.0-10.6
2.50	7.7-8.1	29.0-30.0	10.0-16.0	8.0-10.6
5.00	7.7-8.1	29.0-30.0	10.0-16.5	7.9-10.6
10.0	7.7-8.1	29.0-29.5	10.0-16.0	7.8-10.6

G. Physical Testing

Grain size and moisture determinations were made for the control and reference sediment. Grain size distribution is defined by the following criteria:

Sand	> or = to 0.0625 mm
Silt	< 0.0625 but > 0.0039 mm
Clay	< 0.0039 mm

See Table 4.1 for Grain Size and Percent Moisture results.

Table 4.1

Results of Grain Size and Moisture Content Analysis

Sample	% Sand	% Silt	% Clay	% Moisture
Control *N. virens*	33.0	41.0	26.0	60.45
Control *M. nasuta*	76.0	12.0	12.0	28.14
Reference New London	77.0	15.0	8.0	25.65

H. Chemical Testing

Results of the Bulk Sediment analyses on the New London Reference sediment sample.

Table 5.1

Reference Bulk Sediment Analyses mg/kg (dry wt. basis)	
Chemical	
Arsenic	<2.0
Barium	18.4
Cadmium	<1.0
Chromium	15.7
Lead	11.4
Mercury	<0.01
Selenium	<1.0
Silver	<5.0
Total Organic Carbon	12400.0
Copper	6.95
Nickel	7.96
Zinc	38.2
% Moisture	30.7

Table 5.2

Reference Bulk Sediment Analyses ug/kg (dry wt. basis)

Chemical	
Acenaphthene	510.0 u
Acenaphthylene	510.0 u
Anthracene	510.0 u
Benzo (a) anthracene	510.0 u
Benzo (a) pyrene	510.0 u
Benzo (b) fluroanthene	510.0 u
Benzo (g,h,i) perylene	510.0 u
Chrysene	510.0 u
Dibenzo (a,h) anthracene	510.0 u
Fluroanthene	510.0 u
Indeno (1,2,3-cd) pyrene	510.0 u
Naphthalene	510.0 u
Phenanthrene	75.0 J
Pyrene	110.0 J

u Indicates compound was analyzed for but not detected. The number is the detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the reported detection limit but greater than zero.

I. Bioaccumulation Analyses

Table 6.1 Bioaccumulation Analysis of Nereis virens from PIER 32 AND 33 sediment in ppm (dry weight)

Parameter	Detection Limit	Pre-Test	Reference 1	2	3	4	5
Arsenic	0.5	*	<0.5	<0.5	<0.5	0.657	<0.5
Cadmium	0.5	*	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	1.0	*	<1.0	<1.0	<1.0	<1.0	<1.0
Copper	1.0	*	1.68	1.52	1.40	2.01	1.64
Lead	1.0	*	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	1.0	*	<1.0	<1.0	<1.0	<1.0	<1.0
Mercury	0.10	<0.143	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc	1.0	*	36.0	18.3	24.5	37.8	18.0
% Water	1.0	84.5	84.9	85.7	85.3	85.6	87.7
% TOC	0.1	38.6	21.7	31.0	83.9	64.7	63.4
% Lipid	-	2.01	9.07	11.7	9.52	6.86	11.7

		Test 1	2	3	4	5	5A	5B
Arsenic	0.5	<0.5	<0.5	1.25	<0.5	<0.5	<0.5	<0.5
Cadmium	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Copper	1.0	1.33	1.65	1.88	1.65	1.45	1.35	1.41
Lead	1.0	<1.0	<1.0	<1.67	<1.0	<1.0	<1.0	<1.0
Nickel	1.0	1.68	1.28	<1.33	<1.0	<1.0	<1.0	<1.0
Mercury	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc	1.0	12	17.6	15.8	13.4	[illegible]	8.35	21.5
% Water	1.0	84.0	*	*	*	*	*	*
% TOC	0.1	56.2	62.4	86.0	55.2	82.8	37.9	32.1
% Lipid	-	7.06	*	*	*	*	*	*

* Insufficient sample for analysis

Table 6.2 Bioaccumulation Analysis of Macoma nasuta from PIER 32 AND 33 sediment in ppm (dry weight)

Parameter	Detection Limit	Pre-Test	Reference 1	2	3	4	5
Arsenic	0.5	<0.5	*	2.85	3.18	3.16	3.50
Cadmium	0.5	<0.5	*	<0.5	<0.5	<0.5	<0.5
Chromium	1.0	<1.0	*	<1.0	<1.0	<1.0	<1.0
Copper	1.0	2.0	*	3.36	4.34	3.55	3.11
Lead	1.0	<1.0	*	1.22	1.08	<1.0	1.52
Nickel	1.0	1.61	*	1.52	1.50	1.77	1.66
Mercury	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc	1.0	51.6	*	50.7	35.9	42.2	39.8
% Water	1.0	87.7	*	88.2	*	*	87.9
% TOC	0.1	31.0	28.7	21.7	33.2	51.2	36.5
% Lipid	-	1.28	*	11.9	*	*	13.8

		Test 1	2	3	4	5	5A	5B
Arsenic	0.5	*	*	*	*	*	*	*
Cadmium	0.5	*	*	*	*	*	*	*
Chromium	1.0	*	*	*	*	*	*	*
Copper	1.0	*	*	*	*	*	*	*
Lead	1.0	*	*	*	*	*	*	*
Nickel	1.0	*	*	*	*	*	*	*
Mercury	0.1	<0.22	<0.10	<0.10	<0.20	[illegible]	<0.10	<0.133
Zinc	1.0	*	*	*	*	[illegible]	*	*
% Water	1.0	*	86.5	*	86.7	*	*	*
% TOC	0.1	24.7	33.9	44.2	53.4	28.0	61.8	30.2
% Lipid	-	*	13.2	*	11.3	*	*	*

* Insufficient sample for analysis

Analysis of PAH Compounds in Nereis virens Tissue
from PIER 32 AND 33 sediment in ug/Kg

Table 6.3

PAH Compound	Pre-Test	Reference							Test						
		1	2	3	4	5	5A	5B	1	2	3	4	5	5A	5B
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22.0J	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	280.0J	ND	ND	ND
Benzo(a) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indenol(1,2,3-cd) Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i) Perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND = Not detected
J = Compound detected but below practical detection limit; concentration should be interpreted with caution; not used in statistics.

Analysis of PAH Compounds in Macoma nasuta Tissue
from PIER 32 AND 33 sediment in ug/Kg

Table 6.4

PAH Compound	Pre-Test	Reference							Test						
		1	2	3	4	5	5A	5B	1	2	3	4	5	5A	5B
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	140.0J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	51.0J	54.0J
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	27.0J	25.0J
Benzo(a) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k) Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indenol(1,2,3-cd) Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h) Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i) Perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND = Not detected
J = Compound detected but below practical detection limit; concentration should be interpreted with caution; not used in statistics.

V. SOURCE OF DOCUMENTATION

All original data documentation is being maintained at:

Aqua Survey, Inc.
499 Point Breeze Road
Flemington, NJ 08822

APPENDIX A

NEW

AQUA SURVEY, INC
SOLID PHASE LIVE COUNTS

CLIENT: MAGUIRE TEST START: 2-12-92 ORGANISM: A. abdita

JOB NUMBER: DEPURATION START:

SAMPLE ID	R P	INITIAL	FINAL	NOTES AND OBSERVATIONS
CONTROL (AMPELISCA)	1	~~20~~	19	
	2	~~20~~	17	
	3	~~20~~	18	
	4	~~20~~	18	
	5	~~20~~	14	
REFERENCE NEW LONDON	1	~~20~~	19	
	2	~~20~~	19	
	3	~~20~~	19	
	4	~~20~~	18	
	5	~~20~~	13	
SAMPLE 1 MAMA LAKE	1	~~20~~	~~17~~ 17	+HH 1 SD 2/24
	2	~~20~~	10	III SD 2/24
	3	~~20~~	15	
	4	~~20~~	12	
	5	~~20~~	~~13~~ 14	1 SD 2/24
SAMPLE 2 ELECTRIC BOAT	1	~~20~~	13	
	2	~~20~~	18	
	3	~~20~~	16	
	4	~~20~~	20	
	5	~~20~~	~~14~~ 15	1 SD 2/24
SAMPLE 3 GOLD STAR	1	~~20~~	~~14~~ 16	11 SD 2/24
	2	~~20~~	19	
	3	~~20~~	~~15~~ 16	1 SD 2/24
	4	~~20~~	18	
	5	~~20~~	17	
SAMPLE 4 PIER 31 & 32	1	~~20~~	~~8~~ 9	1 SD 2/24
	2	~~20~~	~~19~~ 18	⊙SD mistake 2/22
	3	~~20~~	16	
	4	~~20~~	20	
	5	~~20~~	~~12~~ 13	1 SD 2/24
INIT/QAQC	S	SD ~~SG CL YT~~ 2/12	SD CN SG CL YT 2/22	

SP-LCNEW

NEW

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: MAGUIRE TEST START: 2-12-92 PARAMETER: pH

JOB NUMBER: _____ METER NUMBER: _____

SAMPLE ID	REP	00	1	2	3	4	5	6	7	8	9	10
CONTROL	1	7.9	8.0	7.9	7.9	8.0	7.9	7.8	8.1	7.9	7.9	7.9
	2	8.0	8.0	7.9	7.9	8.0	7.8	7.8	8.1	7.9	7.9	7.9
	3	8.0	8.0	7.9	7.9	8.0	7.9	7.8	8.1	7.9	7.9	7.9
	4	8.0	8.0	7.9	7.9	8.0	7.8	7.8	8.1	7.9	7.9	7.9
	5	8.0	8.0	7.9	7.9	8.0	7.8	7.8	8.1	7.9	7.9	7.9
REFERENCE NEW LONDON	1	8.0	8.0	7.9	7.9	8.0	7.9	7.8	7.9	8.0	8.0	8.0
	2	8.0	8.0	7.9	7.9	8.0	7.9	7.8	7.9	7.9	8.0	8.0
	3	8.0	8.0	7.9	7.9	8.0	7.9	7.8	7.9	7.9	7.9	8.0
	4	8.0	8.0	7.9	7.9	8.0	7.9	7.8	7.9	7.9	8.0	8.0
	5	8.0	8.0	7.9	8.0	8.0	7.9	7.8	7.9	8.0	8.0	8.0
SAMPLE 1 MAMA COKE	1	7.9	8.0	7.9	7.9	8.0	7.9	7.8	7.9	7.9	7.9	7.9
	2	7.8	8.0	7.9	7.9	8.0	7.9	7.8	7.9	8.0	8.0	7.9
	3	7.9	8.0	7.9	7.9	8.0	7.8	7.8	7.9	7.9	7.9	7.9
	4	7.9	8.0	7.9	7.9	8.0	7.9	7.8	7.9	7.9	7.9	7.9
	5	7.8	8.0	7.9	7.9	8.0	7.8	7.8	7.9	7.9	7.9	7.9
SAMPLE 2 ELECTRIC BOAT	1	7.8	8.0	7.9	7.9	8.0	7.9	7.8	8.0	7.9	8.0	7.9
	2	7.9	8.0	7.9	7.9	8.0	7.9	7.8	8.0	7.9	8.0	7.9
	3	7.9	8.0	7.9	7.9	8.0	7.9	7.8	8.0	7.9	7.9	7.9
	4	7.9	8.0	7.9	7.9	8.0	7.9	7.8	8.1	7.9	7.9	7.9
	5	7.9	8.0	7.9	7.9	8.0	7.9	7.8	8.0	7.9	7.9	7.9
SAMPLE 3 GOLD STAR	1	7.9	8.0	7.8	7.9	8.0	7.8	7.8	8.0	7.9	7.9	7.9
	2	7.9	8.0	7.8	7.9	8.0	7.8	7.8	8.0	7.9	7.9	7.9
	3	7.9	8.0	7.8	7.9	8.0	7.9	7.8	8.0	7.9	7.9	7.9
	4	7.9	8.0	7.8	7.9	8.0	7.9	7.8	8.0	7.9	7.9	7.9
	5	7.9	8.0	7.9	7.9	8.0	7.9	7.8	8.0	7.9	7.9	7.9
SAMPLE 4 PIER 31/32	1	7.8	7.9	7.8	7.9	8.0	7.9	7.8	7.8	7.9	7.9	8.0
	2	7.8	7.9	7.8	7.9	8.0	7.9	7.8	7.8	7.9	8.0	8.0
	3	7.9	7.9	7.9	7.9	8.0	7.9	7.8	7.9	8.0	8.0	8.0
	4	7.9	8.0	7.9	7.9	8.0	7.9	7.8	7.9	8.0	8.0	8.0
	5	7.9	8.0	7.9	7.9	8.0	7.9	7.8	7.9	8.0	8.0	8.0
INIT/QAQC		SD RL	SD RL	CL JB 2/14	CL JB	SD	SD 2/17	CL JB 2/18	CL JB 2/19	SD SD 2/20	SD SG 2/21	CL SG 2/22

2-12 2/13 2/14 2/10

SP-RNEW

NEW

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: MAGUIRE TEST START: 2-12-92 PARAMETER: Salinity

JOB NUMBER: METER NUMBER:

SAMPLE ID	R P	00	1	2	3	4	5	6	7	8	9	10
CONTROL	1	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	2	31.0	32.0	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	3	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	4	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.5	30.0	30.0
	5	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
REFERENCE NEW LONDON	1	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	2	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	3	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	4	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	5	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
SAMPLE 1 MAMA CAKE	1	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.5	30.0	30.0
	2	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	3	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.5	30.0	30.0
	4	31.0	32.0	30.5	30.5	30.0	31.0	30.0	30.0	31.5	30.0	30.0
	5	31.0	32.0	30.5	30.5	30.0	31.0	30.0	30.0	32.0	30.0	30.0
SAMPLE 2 ELECTRIC BOAT	1	31.0	32.0	30.5	30.5	30.0	31.0	30.0	30.0	32.0	30.0	30.0
	2	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	3	31.0	32.0	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	4	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.5	30.0	30.0
	5	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
SAMPLE 3 GOLD STAR	1	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.5	30.0	30.0
	2	31.0	32.0	30.5	30.5	30.0	31.0	30.0	30.0	31.5	30.0	30.0
	3	31.0	32.0	30.5	30.5	30.0	31.0	30.0	30.0	31.0	30.0	30.0
	4	31.0	31.5	30.5	30.5	30.0	31.0	30.0	30.0	31.0	30.0	30.0
	5	31.0	32.0	30.5	30.5	30.0	31.0	30.0	30.0	31.0	30.0	30.0
SAMPLE 4 PIER 31&32	1	31.0	32.0	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	2	31.0	32.0	30.5	30.5	30.0	30.5	30.0	30.0	31.5	30.0	30.0
	3	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	4	31.0	31.5	30.5	30.5	30.0	30.5	30.0	30.0	31.0	30.0	30.0
	5	31.0	32.0	30.5	30.5	30.0	30.5	30.0	30.0	31.5	30.0	30.0
INIT/QAQC		SD 2/12	RW SD 2/13	CL JB 2/14	CL JB 2/15	TB 2/16	SD 2/17	CL JB 2/18	CL JB 2/19	SD 2/20	SD 2/21	CL SD 2/22

SP-RNEW

NEW

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: MAGUIRE TEST START: 2-12-92 PARAMETER: Temp

JOB NUMBER: METER NUMBER:

SAMPLE ID	R P	00	1	2	3	4	5	6	7	8	9	10
CONTROL	1	20.5	20.0	20.5	20.5	20.0	20.5	20.5	21.0	20.5	20.5	20.5
	2	20.5	20.0	20.5	20.5	20.0	20.5	20.5	21.0	20.5	20.5	20.5
	3	20.5	20.0	20.5	20.5	20.0	20.5	20.5	21.0	20.5	20.5	20.5
	4	20.5	20.0	20.5	20.5	20.0	20.5	20.5	21.0	20.5	20.5	20.5
	5	20.5	20.0	20.5	20.5	20.0	20.5	20.5	21.0	20.5	20.5	20.5
REFERENCE NEW LONDON	1	20.5	20.5	20.5	20.5	20.0	20.5	20.5	21.0	20.5	20.5	20.5
	2	20.5	20.0	20.5	20.5	20.0	20.5	20.5	21.0	20.5	20.5	20.5
	3	20.5	20.0	20.5	20.5	20.0	20.5	20.5	21.0	20.5	20.5	20.5
	4	20.5	20.0	20.5	20.5	20.0	20.5	20.5	21.0	20.5	20.5	20.5
	5	20.5	20.0	20.5	20.5	20.0	20.5	20.5	21.0	20.5	20.5	20.5
SAMPLE 1 MAMA COKE	1	20.5	20.0	20.5	21.0	20.0	20.5	20.5	21.0	20.5	20.5	20.5
	2	20.5	20.0	20.5	21.0	20.0	20.5	20.5	21.0	21.0	20.5	20.5
	3	20.5	20.0	20.5	21.0	20.0	20.5	20.5	21.0	21.0	20.5	20.5
	4	20.5	20.0	20.5	21.0	20.0	20.5	20.5	21.0	21.0	21.0	20.5
	5	20.5	20.5	20.5	21.0	20.0	20.5	20.5	21.0	21.5	21.0	20.5
SAMPLE 2 ELECTRIC BOAT	1	20.5	20.5	20.5	21.0	20.0	21.0	21.0	21.0	21.5	21.0	21.0
	2	20.5	20.5	20.5	21.0	20.0	20.5	20.5	21.0	21.0	21.0	20.5
	3	20.5	20.5	20.5	(T) 21.0	20.0	20.5	20.5	21.0	21.0	21.0	20.5
	4	20.5	20.0	20.5	21.0	20.0	20.5	20.5	21.0	21.0	20.5	20.5
	5	20.5	20.0	20.5	21.0	20.0	20.5	20.5	21.0	21.0	20.5	20.5
SAMPLE 3 GOLD STAR	1	20.5	19.0	20.5	20.5	20.0	20.5	21.0	21.0	21.0	21.0	20.5
	2	20.5	20.0	20.5	20.5	20.0	20.5	21.0	21.0	21.0	21.0	21.0
	3	20.5	20.0	20.5	20.5	20.0	21.0	21.0	21.0	20.5	20.5	21.0
	4	20.5	20.0	20.5	20.5	20.0	20.5	21.0	21.0	21.0	20.5	21.0
	5	20.5	20.0	20.5	21.0	20.0	20.5	21.0	21.5	20.5	20.5	21.0
SAMPLE 4 PIER 31+32	1	20.5	20.5	20.5	21.0	20.0	20.5	20.5	21.0	21.0	20.5	21.0
	2	20.0	20.5	20.5	21.0	20.0	20.5	20.5	21.0	21.0	20.5	21.0
	3	20.0	20.0	20.5	21.0	20.0	20.5	20.5	21.0	21.0	20.5	20.5
	4	20.0	20.0	20.5	21.0	20.0	20.5	20.5	21.0	21.5	20.5	20.5
	5	20.0	20.0	20.5	21.0	20.0	20.5	20.5	21.0	21.5	20.5	20.5
INIT/DATE		SD 2/12	SD 2/13	CL JB 2/14	CL TB 2/15	TB 2/16	SP SD 2/17	CL JB 2/18	CL JB 2/19	SL 2/20	SD SG 2/21	SD SG 2/22

(T) 21.0 TB 2/15

SP-RNEW

NEW

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: MAGUIRE TEST START: 2-12-92 PARAMETER: D.O.

JOB NUMBER: METER NUMBER:

SAMPLE ID	RP	00	1	2	3	4	5	6	7	8	9	10
CONTROL	1	6.9	6.3	7.1	6.9	6.9	7.2	6.6	6.8	7.3	6.9	7.2
	2	6.9	6.3	7.0	6.9	6.9	7.3	6.6	6.9	7.4	6.9	7.5
	3	6.9	6.4	7.1	6.9	6.9	7.2	6.6	6.7	7.5	6.8	6.7
	4	6.9	6.4	7.1	6.9	7.0	5.7	6.7	6.8	7.5	6.8	6.8
	5	6.9	6.3	7.1	6.9	6.9	6.9	6.6	6.8	7.3	6.8	6.9
REFERENCE NEW LONDON	1	6.9	6.4	7.2	6.9	6.9	7.2	6.7	6.7	7.4	6.9	7.2
	2	6.9	6.4	7.2	6.7	6.9	7.2	6.7	6.8	7.4	6.9	7.3
	3	6.9	6.3	7.2	6.9	6.9	7.3	6.7	6.8	7.5	6.9	7.3
	4	6.6	6.4	7.0	7.0	6.9	7.2	6.7	6.8	7.4	6.7	7.0
	5	6.9	6.3	7.1	7.0	7.0	7.4	6.6	6.8	7.2	6.8	7.0
SAMPLE 1 MAMA COKE	1	6.6	6.2	6.9	6.7	6.9	7.0	6.7	6.8	7.2	6.7	7.0
	2	6.6	6.1	7.0	6.8	6.9	6.8	6.7	6.8	7.2	6.8	6.7
	3	6.7	6.2	6.9	6.8	6.9	7.3	6.5	6.8	7.3	6.7	7.1
	4	6.7	6.2	6.9	6.9	7.0	7.1	6.5	6.8	7.1	6.4	6.8
	5	6.6	6.1	7.0	6.8	7.0	6.8	6.5	8.0	7.3	6.8	7.2
SAMPLE 2 ELECTRIC BOAT	1	3.5	5.0	7.0	6.7	7.0	6.5	6.5	6.5	6.2	6.5	6.6
	2	6.6	6.1	7.2	6.8	7.0	7.0	6.5	6.7	6.3	5.9	6.5
	3	6.6	6.1	7.2	7.0	6.9	6.8	6.6	6.7	7.1	6.6	7.0
	4	6.7	6.2	7.1	7.0	6.9	7.1	6.6	6.7	7.1	6.8	7.0
	5	6.5	6.2	7.1	6.9	6.9	7.1	6.5	6.7	6.5	6.3	6.6
SAMPLE 3 GOLD STAR	1	6.5	5.9	7.1	6.8	6.9	6.8	6.5	6.7	7.3	6.9	7.2
	2	6.5	6.1	7.0	6.9	6.9	6.6	6.6	6.7	7.3	6.9	7.3
	3	6.5	6.0	7.0	6.8	6.9	6.9	6.6	6.7	7.1	6.8	6.9
	4	6.5	6.1	7.0	6.8	6.9	6.8	6.6	6.7	6.5	5.9	5.8
	5	6.6	6.1	7.2	6.9	6.9	6.9	6.6	6.7	7.1	6.6	6.6
SAMPLE 4 PIER 31-32	1	6.1	4.9	7.0	6.9	7.0	7.2	6.7	6.8	6.7	6.2	6.6
	2	6.3	5.8	7.1	7.0	7.0	6.7	6.7	6.8	5.9	6.3	6.6
	3	6.6	6.1	7.0	6.9	7.0	6.9	6.6	6.8	7.1	6.9	6.9
	4	6.6	6.1	6.9	6.9	6.9	6.4	6.6	6.8	7.3	6.8	7.0
	5	6.4	6.0	7.0	6.9	6.7	6.8	6.6	6.8	7.3	6.9	7.2
INIT/QAQC		SD RM	SD RM	CL JB 2/14	CL 2/15	QB 2/16	SD SM 2/17	CL JB 2/18	CL JB 2/19	SD SM 2/20	SD SM 2/21	SD SM 2/22

2-12 2/10

① 6.9 RM

A-5

② 6.8 QB 2/19

SP-RNEW

NEW

AQUA SURVEY, INC
SOLID PHASE OBSERVATIONS

CLIENT: MAGUIRE TEST START DATE: 2-12-92 TEST START TIME: _____

JOB NUMBER: _____ TEST SPECIES: A. abdita

SAMPLE ID	RP	00	1	2	3	4	5	6	7	8	9	10
CONTROL (AMPELISCA)	1		n	n	N	N	N	N	N	N	N	N
	2		n	n	N	N	N	N	N	N	N	N
	3		0	n	N	N	N	N	N	1-S	N	N
	4		n	n	N	N	1-F	1-S	1-O	1-O	N	N
	5		n	n	1-S	N	1-F	N	1-F	1-D	N	N
REFERENCE NEW LONDON	1		F	n	N	N	N	N	N	N	N	N
	2		n	n	N	N	N	N	N	1-O	N	N
	3		n	n	N	N	N	N	N	1-F	N	N
	4		n	n	N	1-F	1-F	N	N	N	N	N
	5		n	n	N	N	N	N	N	N	N	N
MAMA COKE	1		n	n	N	N	N	N	N	N	N	N
	2		n	n	N	N	1-O	1-O	N	N	N	N
	3		n	n	N	N	N	2-F	1-F	N	N	N
	4		n	n	N	N	2-F	1-O	N	2-D	1-O	1-F
	5		n	n	N	N	N	1-O	N	N	N	1-C
ELECTRIC BOAT	1		n	n	N	N	N	1-F	N	N	N	N
	2		F	n	N	1-S	N	1-F	N	N	N	N
	3		F	n	N	N	N	N	1-F	1-D	N	1-F
	4		n	n	N	N	N	N	N	N	1-O	N
	5		F	n	N	N	N	N	N	N	N	N
GOLD STAR	1		F	n	N	N	1-F	N	N	1-F	N	N
	2		n	n	N	N	N	N	N	N	N	1-F
	3		n	n	N	N	N	N	N	N	N	N
	4		n	n	N	N	N	N	N	N	N	N
	5		2F	n	N	N	N	N	N	N	N	N
PIER 31&32	1		n	n	N	N	N	N	N	N	N	N
	2		n	n	N	N	N	N	N	N	N	1-F
	3		n	n	N	N	N	N	N	N	N	N
	4		n	n	N	N	N	N	N	N	N	N
	5		n	n	N	N	N	N	N	N	N	N
		SD	SD RW 2/13	CL QB 2/14	CL QB 2/15	QB 2/16	SD SG 2/17	CL JB 2/18	CL JB 2/19	SG 2/20	SDSG 2/21	SDSG 2/22

KEY

d = DEAD
f = FLOATER
o = ON SURFACE
s = SWIMMER
n = NOTHING UNUSUAL OBSERVED

@ 1-O QB 2/18 used wrong key
@ 1-O SG 2/20
@ N SG 2/20

AQUA SURVEY INC.

TEST ORGANISM ACCLIMATION & TRANSPORTATION

DATE: 2.12.92 QA/QC: _____

TEST JOB #: 36 CLIENT: Maguire

IN-LAB [✓] MOBILE [ ] SATELLITE [ ]

TEST SPECIES: A. ABDITA

Total Number of organisms acclimated: 600

AQUA SURVEY, INC Investigators: KL GM

A. ORGANISMS

1. ASI Culture/Holding [Tank/Receiving Log #]: CARRIER BATH 92-0106
2. Procured From/Date Received: 92-0021 BREZINA & ASSOC. 2/11/92
3. Age Information: MIXED ADULTS

B. RECEIVING WATER PARAMETERS (Non Cultured Organisms)

1. Temperature: 14.5°C pH: 7.2
2. Salinity: 25.0ppt DO: SAT.
3. Alkalinity: 112

C. HOLDING [✓] CULTURE [ ] WATER PARAMETERS

1. Temperature: 14.5°C → 21.5°C
2. Salinity: 28.5ppt
3. Alkalinity: _____
4. Water Source: ACCLIMATION TO FILTERED MANASQUAN

D. ACCLIMATION [Temperature - Water Type]

1. Acclimation Chamber Volume (Liters): 35l
2. Acclimation Water Type: FILTERED-MANASQUAN
3. Acclimation Water Temperature: 21.5°C
4. Acclimation Water Salinity: 32.0ppt
5. Acclimation Commencement - Date: 2/11/92 Time: 1230 HRS
6. Change-Over Rate (ml/minute): 5-15 ml/min
7. Culture Acclimation Ending-Date: 2/18/92 Time: 1000 HRS
8. _____ Acclimation Ending-Date: _____ Time: _____

E. TRANSFER CUSTODY & TRANSFER WATER PARAMETERS

1. Culture Lab > Test Lab: -Date: 2/18/92 Time: 1635 HRS
2. Temperature: 21.5°C
3. Salinity: 28.5ppt
4. Alkalinity: _____
5. Culture Lab Technician Initials: MH/DB [Transfer]
6. Test Lab Technician Initials: LISA [Receiving]

REMARKS: SEDIMENT / NEW SITE

asi 499 Point Breeze Road • Flemington, New Jersey 08822 • Telephone (201) 788-8700 FAX (201) 788-9165

91-368 A.abdita
File: 91-368.aas Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro Wilks test for normality

D = 0.727

W = 0.987

Critical W (P = 0.05) (n = 25) = 0.918
Critical W (P = 0.01) (n = 25) = 0.888

Data PASS normality test at P=0.01 level. Continue analysis.

91-368 A.abdita
File: 91-368.aas Transform: ARC SINE(SQUARE ROOT(Y))

Bartletts test for homogeneity of variance

Calculated B statistic = 3.78
Table Chi-square value = 13.28 (alpha = 0.01)
Table Chi-square value = 9.49 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 4.00
Used for Chi-square table value ==> df (#groups-1) = 4

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: 91-368 A.abdita
FILE: 91-368.aas
TRANSFORM: ARC SINE(SQUARE ROOT(Y)) NUMBER OF GROUPS: 5

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	0.9500	1.3453
1	reference	2	0.9500	1.3453
1	reference	3	0.9500	1.3453
1	reference	4	0.9000	1.2490
1	reference	5	0.6500	0.9377
2	Mamacoke	1	0.8500	1.1731
2	Mamacoke	2	0.5000	0.7854
2	Mamacoke	3	0.7500	1.0472
2	Mamacoke	4	0.6000	0.8861
2	Mamacoke	5	0.7000	0.9912
3	Electric Boat	1	0.6500	0.9377
3	Electric Boat	2	0.9000	1.2490
3	Electric Boat	3	0.8000	1.1071
3	Electric Boat	4	1.0000	1.4588
3	Electric Boat	5	0.7500	1.0472
4	Gold Star	1	0.8000	1.1071
4	Gold Star	2	0.9500	1.3453
4	Gold Star	3	0.8000	1.1071
4	Gold Star	4	0.9000	1.2490
4	Gold Star	5	0.8500	1.1731
5	Pier 32 and 33	1	0.4500	0.7353
5	Pier 32 and 33	2	0.9000	1.2490
5	Pier 32 and 33	3	0.8000	1.1071
5	Pier 32 and 33	4	1.0000	1.4588
5	Pier 32 and 33	5	0.6500	0.9377

91-368 A.abdita
File: 91-368.aas Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	5	0.938	1.345	1.245
2	Mamacoke	5	0.785	1.173	0.977
3	Electric Boat	5	0.938	1.459	1.160
4	Gold Star	5	1.107	1.345	1.196
5	Pier 32 and 33	5	0.735	1.459	1.098

91-368 A.abdita
File: 91-368.aas Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.031	0.176	0.079
2	Mamacoke	0.022	0.149	0.067
3	Electric Boat	0.041	0.201	0.090
4	Gold Star	0.010	0.102	0.046
5	Pier 32 and 33	0.078	0.279	0.125

91-368 A.abdita
File: 91-368.aas

Transform: ARC SINE(SQUARE ROOT(Y))

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	4	0.214	0.054	1.500
Within (Error)	20	0.727	0.036	
Total	24	0.941		

Critical F value = 2.87 (0.05,4,20)
Since F < Critical F FAIL TO REJECT Ho:All groups equal

91-368 A.abdita
File: 91-368.aas Transform: ARC SINE(SQUARE ROOT(Y))

DUNNETTS TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SI
1	reference	1.245	0.880		
2	Mamacoke	0.977	0.680	2.233	
3	Electric Boat	1.160	0.820	0.705	
4	Gold Star	1.196	0.860	0.402	
5	Pier 32 and 33	1.098	0.760	1.224	

Dunnett table value = 2.30 (1 Tailed Value, P=0.05, df=20,4)

91-368 A.abdita
File: 91-368.aas Transform: ARC SINE(SQUARE ROOT(Y))

DUNNETTS TEST - TABLE 2 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTRO
1	reference	5			
2	Mamacoke	5	0.218	24.8	0.200
3	Electric Boat	5	0.218	24.8	0.060
4	Gold Star	5	0.218	24.8	0.020
5	Pier 32 and 33	5	0.218	24.8	0.120

A. abalone 96 hr LC50

CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(%)
100	5	5	100	3.125
10	5	5	100	3.125
1	5	0	0	3.125
.1	5	0	0	3.125

THE BINOMIAL TEST SHOWS THAT 0 AND + INFINITY CAN BE USED AS STATISCALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS SINCE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS 100 PERCENT.
AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 3.162274

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.

AQUA SURVEY, INC
SALTWATER ORGANISMS
96 HOUR REFERENCE TOXICANT — Ralph-Finder

SPECIES: A. abd. ta
TOXICANT: SODIUM DODECYL SULFATE LOT #:
START DATE: 7/17/92
START TIME: 11:00

SOURCE:
TEST VOLUME: 500 ml
DILUTION WATER: Filtered Mariculture
TEST TEMPERATURE: 21 ± 2°

CONCENTRATION (mg/l) ppm	LIVE COUNTS						
	INITIAL	4	8	24	48	72	96
CONTROL A	5			5	5		
~~CONTROL B~~							
0.1	5			5	5		
1.0	5			5	5		
10.0	5			05	—		
100.0	5			05	—		
NUO	✓			✓	✓		
INITIALS	YF 7/17			YF 7/18	YF 7/19		
QA/QC							

(NUO = NOTHING UNUSUAL OBSERVED)
NOTES AND OBSERVATIONS:

SDS - A. abdita - 2/17/92

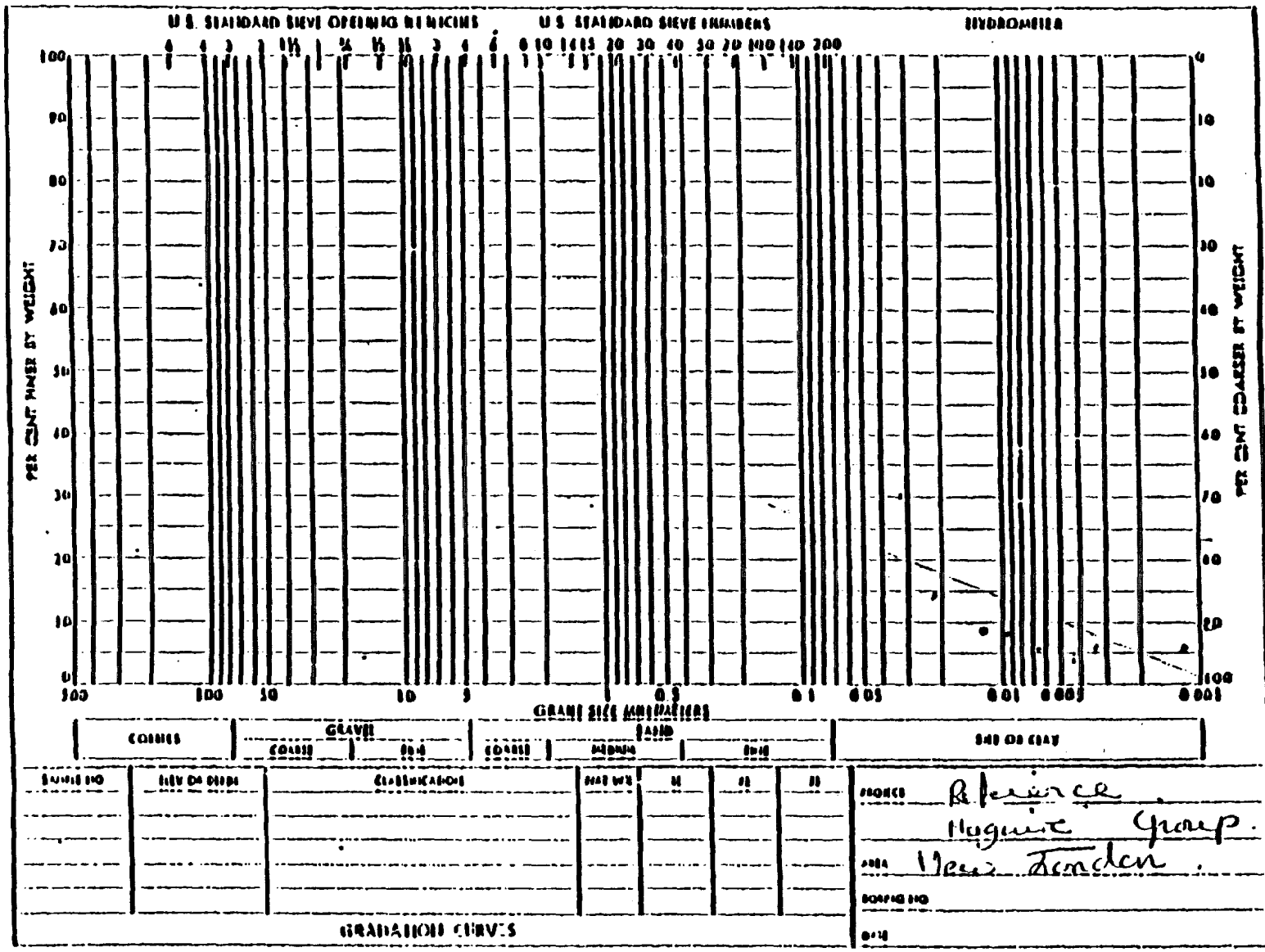
Stock solution (SS) = 100 ppm (100 mg SDS in a total vol. of 1000 mls Milliquan water)

Test solution

Conc. (mg/L)	SS (mls)	Total vol. (mls) Milliquan
0	—	500
.1	.5	500
1	5	500
10	50	500
100	500	500

AT 2/17/92

Sand ≥ 0.0625 0.0039 < Silt < 0.0625 Clay ≥ 0.0039



Clay- 8%
Silt- 15%
Sand- 77%

Report Date: 02/03/92 Page:

Date: 01/22/92
Site: reference New dendron .
Dispersant Correction: 3.000

K Content: 0.01348
Temperature: 21.000

Total # of Samples:
Number of Entries:
Specific Gravity: 2

Sample #: 1 Grams Used: 50.00 f m: 0.99000

Clock Time	Elapse Time (T)	Hydrometer Reading |R h|	Effective Depth (L)	Percent Suspend (%)	Grain Size (mm) (GS mm.)
09:06	2.0	18.00	13.30	30.303030	0.0347617
09:09	5.0	10.00	14.70	14.141414	0.0231134
09:19	15.0	7.00	15.20	8.080808	0.0135696
09:34	30.0	7.00	15.20	8.080808	0.0095951
10:04	60.0	6.00	15.30	6.060606	0.0068071
01:14	250.0	6.00	15.30	6.060606	0.0033348
09:04	1440.0	6.00	15.30	6.060606	0.0013895

Sample #: 1 Grams Used: 0.00 f m: 0.00

Clock Time	Elapse Time (T)	Hydrometer Reading | h|	Effective Depth (L)	Percent Suspend (%)	Grain Size (mm) (GS mm.

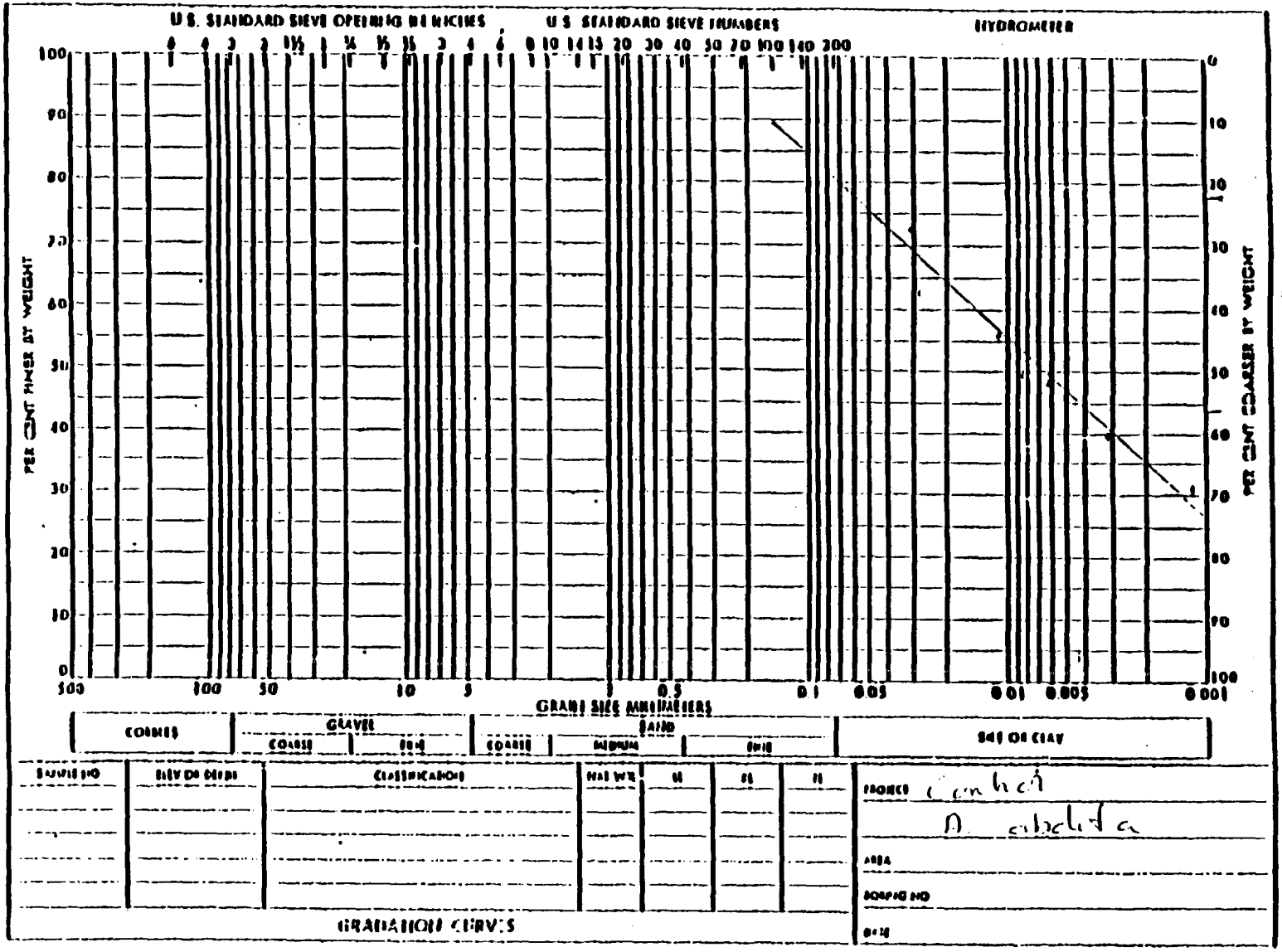
Client: Maguire Group Job #: 91-364

Sample #	Pan Weight	Pan Weight & Wet Sed.	Pan Weight & Air Dry	Percent Moisture	Pan Weight & Oven Dry	Hygroscopic Moisture	HMCF **	G
M. Maguire Con	1.539	67.648	49.044	28.14	48.249		0.98	
A. Gabitt Con	1.538	41.191	17.349	60.13	16.171		0.93	
REF Reagent	1.529	64.538	48.377	25.65	48.014		1.99	

** Percent Moisture = (Wet sample & dish) - (Dry sample & dish) : 100
(Wet sample & dish) - dish

Hygroscopic Moisture Correction Factor = oven dried / air dried

Sand ≥ 0.0625 0.0039 < Silt < 0.0625 Clay ≥ 0.0039



Clay- 44%
Silt- 34%
Sand- 22%

Report Date: 03/04/92

Date: 03/03/92
Site: COntrol A.abdita
Dispersant Correction: 3.000

K Contant: 0.01348
Temperature: 21.000

Total # of Samples.
Number of Entries:
Specific Gravity: 2.6

Sample #: 1 Grams Used: 50.00 m: 0.95000

Clock Time	Elapse Time (T)	Hydrometer Reading |R h|	Effective Depth (L)	Percent Suspend (%)	Grain Size (mm) (GS mm.)
09:10	2.0	38.00	10.10	73.684211	0.0302925
09:13	5.0	33.00	10.90	63.157895	0.0199030
09:23	15.0	30.00	11.40	56.842105	0.0117516
09:38	30.0	27.00	11.90	50.526316	0.0084899
10:08	60.0	26.00	12.00	48.421053	0.0060284
01:18	250.0	22.00	12.70	40.000000	0.0030382
09:08	1440.0	18.00	13.30	31.578947	0.0012955

Sample #: 1 Grams Used: 0.00 m: 0.00

Clock Time	Elapse Time (T)	Hydrometer Reading | h|	Effective Depth (L)	Percent Suspend (%)	Grain Size (GS mm.)

Master

Client: Addl. Tc control Job #: _____

Sample #	Pan Weight	Pan Weight & Wet Sed.	Pan Weight & Air Dry	Percent Moisture	Pan Weight & Oven Dry	Hygroscopic Moisture	HMCF **	Grams used for sed.
Maguire 3-5-92	1.533	44.600	19.481	59.15	18.586		0.95	

** Percent Moisture = $\frac{\text{(Wet sample \& dish) - (Dry sample \& dish)}}{\text{(Wet sample \& dish) - dish}} \times 100$

Hygroscopic Moisture Correction Factor = oven dried / air dried

Date: / / Site:

Hygrometer correction:

Sample # Grams used: 50 f

Agfd. Ta control dis Cor 3" 3-3-92

N. Henderson

Clock Time	T	R h	L	T	GS mm.
9:10	2	38			
9:13	5	33			
9:23	15	30			
9:38	30	27			
10:08	60	26			
1:18	250	22			
9:08	1440	18			

Sample # Grams used: f

M

Clock Time	T	R h	L	T	GS mm.
	2				
	5				
	15				
	30				
	60				
	250				
	1440				

Sample # Grams used: f

M

Clock Time	T	R h	L	T	GS mm.
	2				
	5				
	15				
	30				
	60				
	250				
	1440				

Sample # Grams used: f

M

Clock Time	T	R h	L	T	GS mm.
	2				
	5				
	15				
	30				
	60				
	250				
	1440				

Sample # Grams used: f

M

Clock Time	T	R h	L	T	GS mm.
	2				
	5				
	15				
	30				
	60				
	250				
	1440				

Sample # Grams used: f

M

Clock Time	T	R h	L	T	GS mm.
	2				
	5				
	15				
	30				
	60				
	250				
	1440				

T - Time in minutes after initial mixing

f - Hygroscopic Moisture Factor
M

R - Hygrometer Reading
h

L - Effective Depth, derived from table #2

T - T suspended (prog. #1): input f , then each T.
M h

GS - Grain Size (prog. #2): input T and L

APPENDIX B1

AQUA SURVEY, INC
SOLID PHASE LIVE COUNTS

CLIENT: Maguire group TEST START: 1/10/92 ORGANISM: N. virens

JOB NUMBER: 91-368 DEPURATION START: _____

SAMPLE ID	R P	INITIAL	FINAL	NOTES AND OBSERVATIONS
CONTROL 003.	1	20	17	1 Dead SD 1/13
	2	20	16	
	3	20	17	
	4	void		
	5			
REFERENCE New London.	1	20	17	
	2	20	20	
	3	20	20	
	4	20	20	
	5	20	19	
SAMPLE 1 Electric Boat	1	20	20	
	2	20	19	
	3	20	18	-1 Cl 1/13
	4	20	19	
	5	20	19	
SAMPLE 2 Gold Star	1	20	18	
	2	20	19	
	3	20	19	
	4	20	19	
	5	20	19	
SAMPLE 3 Mama Coke	1	20	19	
	2	20	17	
	3	20	19	
	4	20	18	
	5	20	18	
SAMPLE 4 Pier 32+33	1	20	19	
	2	20	20	
	3	20	20	
	4	20	20	
	5	20	19	
INIT/QAQC	S	SG	YSD SG	

SP-LCNEW

AC5B

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Maggie Gap TEST START DATE: 1/16/92 TEST START TIME _____ PARAMETER: Live Cant

ORGANISM: N. virens JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
REF	SB	20														
Electric Boat	SB	20														
Gold Star	SB	20														

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
REF	SB	-1 (1/15													19	
Electric Boat	SB														18	
Gold Star	SB														18	

PARAMETER: Live Cant

METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Mgmg Cake	SB	20														
Pier 32+33	SB	20														
_____	SB															

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
Mgmg Cake	SB														20	
Pier 32+33	SB														20	
_____	SB														17 40 59	

OBSEVATIONS _____

AC28A

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Mcguire Group TEST START DATE: 1/10/92 TEST START TIME: ____ PARAMETER: pH

ORGANISM: N. virens JOB NUMBER: 91-368 METER NUMBER: ____

SAMPLE ID	RP	00	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CONTROL	1	7.7	8.0	7.8	7.8	8.1	8.1	8.0	8.0	8.1	7.9	8.2	7.9	7.9	8.1	7.9
	2	7.7	8.0	7.8	7.8	8.0	8.1	8.0	8.0	8.1	7.9	8.2	7.9	7.9	8.1	7.9
	3	7.7	8.0	7.8	7.9	8.0	8.1	7.9	8.0	8.1	7.9	8.1	7.9	7.9	8.1	7.9
REFERENCE	1	7.7	8.0	7.9	7.9	8.1	8.1	8.0	8.0	8.1	7.9	8.1	7.9	7.9	8.0	7.9
	2	7.7	8.0	7.9	7.9	8.1	8.1	8.0	8.0	8.1	7.9	8.1	7.9	7.9	8.0	7.9
	3	7.7	8.0	7.9	7.9	8.1	8.1	8.0	8.0	8.1	7.9	8.1	7.9	7.9	8.0	7.9
	4	7.7	8.0	7.9	7.9	8.1	8.1	8.0	8.0	8.1	7.9	8.1	7.9	7.9	8.0	7.9
	5	7.7	8.0	7.9	7.9	8.1	8.1	8.0	8.0	8.1	7.9	8.1	7.9	7.9	8.0	7.9
Elec Tric Bent	1	7.7	8.1	7.9	8.0	8.1	8.1	8.0	8.0	8.1	7.9	8.1	7.9	7.9	8.0	7.9
	2	7.7	8.1	7.9	8.0	8.1	8.1	8.0	8.0	8.1	7.8	8.1	7.9	7.9	8.0	7.9
	3	7.7	8.1	7.9	8.0	8.1	8.1	8.0	8.0	8.0	7.9	8.1	7.9	7.9	8.0	7.9
	4	7.7	8.1	7.9	7.9	8.0	8.1	7.9	8.0	8.1	7.8	8.1	7.9	7.9	8.0	7.9
	5	7.7	8.1	7.9	7.9	8.0	8.1	8.0	8.0	8.1	7.8	8.1	7.9	7.9	8.0	7.9
Gold STAR	1	7.7	8.1	8.0	8.0	8.1	8.1	8.0	8.0	8.0	7.8	8.1	7.9	7.9	8.0	7.9
	2	7.7	8.1	8.0	8.0	8.1	8.1	8.0	8.0	8.1	7.8	8.1	7.9	7.9	8.0	7.9
	3	7.7	8.1	8.0	8.0	8.0	8.1	7.9	8.0	8.0	7.8	8.1	7.9	7.9	8.0	7.9
	4	7.7	8.1	8.0	8.0	8.0	8.1	7.9	8.0	8.0	7.8	8.1	7.9	7.9	8.0	7.9
	5	7.7	8.1	8.0	8.0	8.0	8.1	7.9	8.0	8.1	7.8	8.1	7.9	7.9	8.0	7.9
Mamc Cake	1	7.6	8.0	8.0	8.0	8.0	8.1	8.0	8.0	8.0	7.8	8.1	7.9	7.9	8.0	7.9
	2	7.6	7.9	8.0	7.9	8.0	8.1	8.0	8.0	8.0	7.8	8.1	7.9	7.9	8.0	7.9
	3	7.6	7.9	8.0	7.9	8.0	8.1	8.0	7.9	8.0	7.8	8.1	7.9	7.9	8.0	7.9
	4	7.6	7.9	8.0	7.9	8.0	8.1	8.0	7.9	8.0	7.8	8.1	7.9	7.9	8.0	7.9
	5	7.6	7.9	8.0	7.9	8.1	8.1	7.9	8.0	8.1	7.8	8.1	7.9	7.9	8.0	7.9
Pier 32.33	1	7.8	8.0	8.0	7.9	8.0	8.1	7.9	7.9	8.0	7.8	8.1	7.9	7.9	8.0	7.9
	2	7.8	8.0	8.0	7.9	8.0	8.1	7.9	7.9	8.0	7.8	8.1	7.9	7.9	8.0	7.9
	3	7.8	8.0	8.0	7.9	8.0	8.1	7.9	7.9	8.0	7.8	8.1	7.9	7.9	8.0	7.9
	4	7.8	8.0	8.0	7.9	8.0	8.1	7.9	7.9	8.1	7.8	8.1	7.9	7.9	8.0	7.9
	5	7.8	8.0	8.0	7.9	8.1	8.1	7.9	7.9	8.1	7.8	8.1	7.9	7.9	8.0	7.9
QA/QC																
INITIALS		CL/JT 1/10	CL JB 1/11	SW 1/12	CL JB 1/13	SW CL 1/14	CL JB 1/15	SW CL 1/16	CL JB 1/17	SW 1/18	SW 1/19	JB 1/20	CL JB 1/21	CL	JB 1/23	JB CL 1/24

OBSERVATIONS ____

AC288

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: pH

ORGANISM: N. virens JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
CONTROL	1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.9	7.9	8.0	8.0	8.0	7.9	
	2	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	8.0	7.9	
	3	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.9	8.0	8.0	8.0	7.9	
REFERENCE	1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.8	8.0	8.0	8.0	8.0	7.9	
	2	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	8.0	8.0	8.0	8.0	7.9	
	3	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	8.0	8.0	7.9	
	4	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	8.0	8.0	7.9	
	5	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	8.0	8.0	8.0	8.0	7.9	
Electric Boat	1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.8	8.0	8.0	8.0	8.0	7.9	
	2	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	8.0	8.0	7.9	
	3	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	8.0	8.0	7.9	8.0	7.9	
	4	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	8.0	8.0	8.0	8.0	7.9	
	5	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.8	8.0	8.0	7.9	8.0	7.9	
Gold Star	1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	8.0	8.0	7.9	
	2	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	8.0	8.0	7.9	
	3	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.8	8.0	8.0	8.0	8.0	7.9	
	4	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	8.0	7.9	
	5	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.9	8.0	7.9	8.0	7.9	
Mama Cole	1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.9	8.0	7.9	8.0	7.9	
	2	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.9	8.0	8.0	8.0	7.9	
	3	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.9	8.0	8.0	8.0	7.9	
	4	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.1	7.9	8.0	8.1	8.0	7.9	
	5	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.1	8.0	7.9	
Pier 32+33	1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	8.0	7.9	
	2	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.9	8.0	8.1	8.0	7.9	
	3	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.9	8.0	8.0	8.0	7.9	
	4	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	8.0	7.9	
	5	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.9	8.0	8.1	8.0	7.9	
QA/QC																
INITIALS		CF 1/15	CF 1/16	TRD/LL 1/22	EJ BV 1/25	CL BV 1/29	CWCL or 30	BV LJ 1-31	CL KR 2/1	KB 2/2	TRD/LL 2/3	EL BV 2/4	TP SC 2/5	TPP/EL 2/6	SO/L 2/7	

OBSERVATIONS

8.0 KB 2/1

AC28A

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Magma Group TEST START DATE: 1/10/92 TEST START TIME: ____ PARAMETER: Salinity

ORGANISM: N. virens JOB NUMBER: 91-365 METER NUMBER: ____

SAMPLE ID	RP	00	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CONTROL	1	30.0	30.0	31.0	30.0	30.0	30.0	31.0	30.0	31.5	31.0	33.0	33.0	32.5	33.0	30.0
	2	30.0	30.0	31.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.5	30.0
	3	30.0	30.0	31.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
REFERENCE	1	30.0	30.0	31.0	30.0	30.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	2	30.0	30.0	31.0	30.0	30.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	3	30.0	30.0	31.0	30.0	30.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.5	30.0
	4	30.0	30.0	31.0	30.0	30.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	5	30.0	30.0	31.0	30.0	30.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
Electric Beat	1	30.0	30.0	31.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	2	30.0	30.0	31.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	3	30.0	30.0	30.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	4	30.0	30.0	30.0	30.0	29.5	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	5	30.0	30.0	30.0	30.0	29.5	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
Gold star	1	30.0	30.0	30.0	30.0	29.5	30.0	30.5	30.0	30.5	31.0	33.0	33.0	32.5	31.5	30.0
	2	30.0	30.0	30.0	30.0	29.5	30.0	30.5	30.0	30.5	31.0	33.0	33.0	32.5	31.5	30.0
	3	30.0	30.0	30.0	30.0	29.5	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	31.5	30.0
	4	30.0	30.0	30.0	30.0	29.5	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	5	30.0	30.0	30.0	30.0	29.5	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
Misc coke	1	30.0	30.0	30.0	30.0	29.5	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	2	30.0	30.0	30.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	3	30.0	30.0	30.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	31.5	30.0
	4	30.0	30.0	30.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	5	30.0	30.0	30.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	31.5	30.0
Pier 32.55	1	30.0	30.0	30.0	30.0	29.5	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	2	30.0	30.0	30.0	30.0	29.5	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.5	30.0
	3	30.0	30.0	30.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.5	30.0
	4	30.0	30.0	30.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.5	30.0
	5	30.0	30.0	30.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
QA/QC																
INITIALS		CL/JB 1/10	CL JB 1/11	CL 1/12	CL JB 1/13	JB 1/14	CL JB 1/15	JB 1/16	CL JB 1/17	CL 1/18	CL 1/19	JB 1/20	CL JB 1/21	CL 1/22	JB JB 1-23	JB 1/24

OBSERVATIONS ____

AC288

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: Salinity

ORGANISM: N. virens JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
CONTROL	1	31.0	31.0	30.5	31.0	31.0	31.0	31.0	31.0	31.0	30.5	31.0	31.5	31.0	32.0	
	2	31.0	31.0	30.5	30.5	31.0	31.0	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.5	
	3	31.0	31.0	30.5	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.5	
REFERENCE	1	31.0	31.0	30.5	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	2	31.0	31.0	30.5	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	3	31.0	31.0	30.5	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	4	31.0	31.0	30.5	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	5	31.0	31.0	30.5	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
Electric Boat	1	31.0	31.0	30.5	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	2	31.0	31.0	30.5	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	3	31.0	31.0	30.5	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	4	31.0	31.0	30.5	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	5	31.0	31.0	30.5	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
Gold Star	1	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	2	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	3	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	4	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	5	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
Mama Cake	1	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	2	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	30.5	
	3	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	30.5	
	4	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.4	31.0	31.5	31.0	30.5	
	5	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
Pier 32+33	1	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	2	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	3	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	4	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
	5	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
QA/QC																
INITIALS		1/13		TMP 1/14	RLW 1/15	RLW 1/16	GVC 01-30	SC 30 1-31	LBH 2/1	YB 2/2	TMP/CL 2/3	RLW 2/4	CA 2/5	TMP/CL 2/6	SDCL 2/7	

OBSERVATIONS ① 30.5 - Curl misread - TMP - 2/3/92

AC28A

SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/10/92 TEST START TIME: ____ PARAMETER: Temp

ORGANISM: N. virens JOB NUMBER: 91-365 METER NUMBER: ____

SAMPLE ID	RP	00	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CONTROL	1	15.0	13.0	14.0	15.0	16.0	14.5	13.0	14.0	14.5	14.0	14.0	14.5	14.5	15.0	14.5
	2	15.0	13.0	13.0	15.0	15.5	14.0	13.0	14.0	14.0	13.5	13.5	14.5	14.0	14.5	14.5
	3	15.0	13.0	13.0	15.0	15.5	14.0	13.5	14.0	14.0	13.5	13.5	14.0	14.0	14.5	14.0
REFERENCE	1	12.5	12.5	13.0	15.0	15.5	14.0	13.5	14.0	14.0	13.5	13.5	14.0	14.0	14.5	14.0
	2	12.5	12.0	13.0	15.0	15.5	14.0	13.5	14.0	13.5	13.5	13.5	14.0	14.0	14.5	14.0
	3	12.5	12.0	13.0	15.0	15.5	13.5	13.5	14.0	13.5	13.5	13.5	14.0	14.0	14.5	14.0
	4	12.5	12.0	13.0	15.0	15.5	13.5	13.5	13.5	13.5	13.5	13.5	14.0	14.0	14.5	14.0
	5	12.5	12.0	13.0	15.0	15.5	13.5	13.5	13.5	13.5	13.5	13.5	14.0	14.0	14.5	14.0
Electric Boat	1	12.5	12.0	13.5	15.0	15.5	13.5	13.5	14.0	13.0	13.5	14.0	14.0	14.0	14.5	14.0
	2	12.5	12.0	13.0	15.0	15.0	13.5	13.5	14.0	14.0	13.5	14.0	14.0	14.0	14.0	14.0
	3	12.5	12.0	12.0	15.0	15.0	13.5	13.0	14.0	13.5	13.5	13.5	14.0	14.0	14.0	14.0
	4	12.5	12.0	12.0	15.0	15.0	13.5	13.0	14.0	13.5	13.0	13.5	14.0	13.5	14.0	14.0
	5	12.5	12.0	12.0	14.5	15.0	13.5	13.0	13.5	13.5	13.0	13.5	14.0	13.5	14.0	14.0
Gold STGR	1	12.0	12.0	12.5	14.5	15.0	13.5	13.0	13.5	13.5	13.0	13.5	13.5	13.5	14.0	14.0
	2	12.0	12.0	12.0	14.5	15.0	13.5	13.5	13.5	13.5	13.0	13.5	13.5	13.5	14.0	14.0
	3	12.0	12.0	12.0	14.5	15.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	14.0	14.0
	4	12.0	12.0	12.5	14.5	15.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	14.0	14.0
	5	12.0	12.0	12.0	14.5	15.0	13.5	13.5	13.5	13.5	13.0	14.0	13.5	13.5	14.0	14.0
Maine Coast	1	11.5	12.0	12.0	14.0	15.0	13.5	13.5	13.5	14.0	13.0	14.0	13.5	13.5	14.0	14.0
	2	11.5	12.0	11.5	14.0	15.0	13.5	13.5	13.5	13.5	13.0	13.5	13.5	13.5	14.0	14.0
	3	11.5	11.5	11.5	14.0	15.0	13.5	13.5	13.5	13.5	13.0	13.5	13.5	13.5	14.0	14.0
	4	11.5	11.5	11.5	14.0	15.0	13.5	13.5	13.5	13.5	13.0	13.5	13.5	13.5	14.0	14.0
	5	11.5	11.5	11.5	14.0	15.0	13.5	13.5	13.5	13.5	13.0	13.5	13.5	13.5	14.0	14.0
Pier 32,33	1	12.0	12.0	12.5	14.0	16.0	14.0	13.5	13.5	14.5	13.5	13.5	14.0	14.0	14.5	14.0
	2	12.0	12.0	12.5	14.5	16.0	14.0	13.5	@13.5	14.0	13.5	14.0	14.0	14.0	14.5	14.0
	3	12.0	12.0	12.5	14.5	16.0	14.0	13.5	13.5	14.0	13.0	14.0	14.0	14.0	14.5	14.0
	4	12.0	12.0	12.0	15.0	16.0	14.0	14.0	13.5	13.5	13.0	14.0	14.0	14.0	14.5	14.0
	5	12.0	12.0	12.0	15.0	16.0	14.0	14.0	13.5	13.5	13.0	13.5	14.0	14.0	14.0	14.0
QA/QC																
INITIALS		CL/YT 1/10	CL JB 1/11	SDJ 1/12	CL JB 1/13	JB 1/14	CL JB 1/15	JB 1/16	CL JB 1/17	SH 1/18	SDJ 1/19	JB 1/20	CL JB 1/21	CL 1/22	JB 1/23	JB 1/24

OBSERVATIONS @13.5 1/17 QB mistake

AC288

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: Temp

ORGANISM: N. Virens JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
CONTROL	1	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.0	14.0	14.0	14.0	14.0	14.0	14.5	
	2	14.0	14.5	14.0	14.0	14.5	14.5	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	
	3	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.5	14.0	13.5	14.0	13.5	14.0	14.0	
REFERENCE	1	13.5	13.5	14.0	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	2	13.5	13.5	14.0	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	3	13.5	13.5	14.0	13.5	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	4	13.5	13.5	13.5	13.5	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	5	13.5	13.5	13.5	13.5	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
Electric Boat	1	13.5	13.5	13.5	13.5	14.0	14.5	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	2	13.5	13.5	13.5	13.5	14.0	14.5	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	3	13.5	13.5	13.5	13.5	14.0	14.5	13.5	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	4	13.5	13.5	13.5	13.5	14.0	14.5	13.5	13.5	14.0	13.5	13.5	13.0	13.5	13.5	
	5	13.5	13.5	13.5	13.5	14.0	14.0	13.5	13.5	14.5	13.5	13.5	13.0	13.5	13.0	
Gold Star	1	13.5	13.5	13.5	13.5	13.5	14.0	13.5	13.5	14.5	13.5	13.5	13.0	13.5	13.0	
	2	13.5	13.5	13.5	13.0	13.5	13.5	13.5	13.5	14.0	13.5	13.0	13.0	13.5	13.0	
	3	13.5	13.5	13.5	13.0	13.5	13.5	13.5	13.5	14.0	13.5	13.0	13.0	13.5	13.0	
	4	13.5	13.5	13.5	13.0	13.5	14.0	14.0	13.5	14.0	13.5	13.0	13.0	13.5	13.5	
	5	13.5	13.5	14.0	13.5	14.0	14.0	13.5	13.5	14.0	13.5	13.0	13.0	13.5	13.0	
Mamaroneck	1	13.5	13.5	14.0	13.5	14.0	14.0	13.5	13.5	14.0	13.0	13.0	13.0	13.5	13.0	
	2	13.5	13.5	14.0	13.5	13.5	14.0	13.5	13.5	14.0	13.0	13.0	13.0	13.5	13.0	
	3	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	14.0	13.0	13.0	13.0	13.5	13.0	
	4	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	14.0	13.0	13.0	13.0	13.0	13.0	
	5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	14.0	13.0	13.0	13.0	13.0	13.0	
Pier 32+33	1	13.5	13.5	13.5	14.0	14.0	14.0	14.5	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	2	13.5	13.5	13.5	14.0	14.0	14.0	14.5	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	3	13.5	13.5	13.5	14.0	14.0	14.0	14.5	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	4	13.5	13.5	13.5	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	5	13.5	13.5	13.5	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
QA/QC																
INITIALS		KPS	KPG	TAB 1/14	EcB 1-20	CCBO 1-29	CVC 01-30	SC BV 1-31	KBG 2/1	KB 2/3	JAP/LC 2/3	EcB 2/4	CB 2/5	JAP/LC 2/6	SDLL 2/7	

OBSERVATIONS _____

AC28A

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Mcguire Group TEST START DATE: 1/10/92 TEST START TIME: _____ PARAMETER: D.O.

ORGANISM: N. virens JOB NUMBER: 91-368 METER NUMBER: _____

SAMPLE ID	RP	00	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CONTROL	1	7.4	8.2	8.0	7.5	7.7	8.3	8.6	7.8	8.2	8.1	7.9	8.2	8.0	7.7	7.6
	2	7.4	8.0	8.0	7.1	7.6	8.1	8.5	7.8	8.3	8.1	7.8	8.0	8.1	7.6	7.5
	3	7.6	8.2	8.2	7.5	7.7	8.3	8.6	8.0	8.4	8.1	7.9	8.1	8.0	7.8	7.6
REFERENCE	1	7.8	8.3	8.2	7.5	7.8	8.3	8.6	8.0	8.4	8.1	7.9	8.2	8.3	7.9	7.5
	2	7.9	8.1	8.3	7.6	7.8	8.3	8.7	8.1	8.4	8.2	7.9	8.2	8.4	7.9	7.7
	3	7.9	8.3	8.3	7.6	7.8	8.3	8.7	8.1	8.5	8.2	8.0	8.3	8.4	8.0	7.7
	4	8.3	8.6	8.4	7.6	7.8	8.1	8.7	8.2	8.5	8.2	8.0	8.3	8.5	7.9	7.8
	5	8.3	8.7	8.4	7.7	7.8	8.4	8.7	8.2	8.5	8.3	8.0	8.3	8.4	8.0	7.8
Electric Belt	1	8.3	8.7	8.3	7.7	7.8	8.5	8.7	8.2	8.3	8.1	8.1	8.3	8.4	8.0	7.8
	2	8.1	8.6	8.4	7.5	7.7	8.5	8.6	8.1	8.3	8.1	8.0	8.1	8.4	7.9	7.9
	3	8.1	8.1	8.5	7.5	7.7	8.1	8.7	8.1	8.5	8.2	8.0	8.2	8.4	7.9	7.9
	4	8.3	8.5	8.6	7.6	7.8	8.1	8.7	8.2	8.5	8.3	8.0	8.2	8.4	8.0	8.0
	5	8.4	8.6	8.6	7.6	7.8	8.1	8.7	8.2	8.5	8.3	8.0	8.3	8.5	8.0	8.0
Gold Star	1	8.4	8.5	8.7	7.7	7.8	8.4	8.7	8.2	8.5	8.3	8.1	8.3	8.5	8.0	7.9
	2	8.5	8.6	8.7	7.7	7.8	8.5	8.7	8.2	8.5	8.4	8.0	8.3	8.5	8.0	8.0
	3	8.6	8.5	8.6	7.8	7.9	8.5	8.8	8.3	8.5	8.2	8.2	8.5	8.5	8.1	8.1
	4	8.4	8.5	8.6	7.8	7.9	8.1	8.8	8.3	8.5	8.3	8.1	8.1	8.4	8.1	8.1
	5	8.2	8.6	8.7	7.8	7.8	8.1	8.7	8.2	8.5	8.3	8.0	8.1	8.5	8.0	8.0
Mgmc Coke	1	8.5	8.3	8.8	7.8	7.9	8.4	8.7	8.2	8.5	8.3	8.0	8.3	8.4	8.0	8.0
	2	8.5	8.1	8.8	7.8	7.8	8.5	8.7	8.2	8.5	8.3	8.0	8.3	8.4	8.0	7.9
	3	8.6	8.5	8.9	7.8	7.9	8.5	8.7	8.3	8.6	8.4	8.1	8.3	8.5	8.1	8.0
	4	8.6	8.1	8.8	7.8	7.9	8.5	8.7	8.3	8.5	8.3	8.1	8.1	8.5	8.1	8.0
	5	8.6	8.5	8.8	7.8	7.9	8.5	8.7	8.3	8.5	8.3	8.1	8.1	8.5	8.1	8.1
Pier 32.33	1	8.6	8.6	8.5	7.8	8.0	8.6	8.6	8.2	8.4	8.3	8.1	8.1	8.5	8.1	7.9
	2	8.5	8.7	8.5	7.7	7.8	8.5	8.6	8.2	8.4	8.3	8.1	8.3	8.5	8.0	8.0
	3	8.5	8.5	8.5	7.7	7.7	8.1	8.7	8.2	8.4	8.4	8.0	8.3	8.5	7.9	8.0
	4	8.4	8.5	8.5	7.7	7.6	8.3	8.6	8.1	8.4	8.3	7.9	8.2	8.5	7.8	8.0
	5	8.5	8.5	8.7	7.7	7.7	8.4	8.6	8.2	8.5	8.3	8.0	8.2	8.5	7.9	8.0
QA/QC																
INITIALS		CL 1/10	CL JB 1/11	SW 1/12	CL JB 1/13	SW CL 1/14	CL JB 1/15	SW CL 1/16	CL JB 1/17	SW 1/18	SW 1/19	SW CL 1/20	CL JB 1/21	CL 1/22	JB SW 1-23	SW CL 1/24

OBSERVATIONS _____

AC288

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Aqua Survey TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: D.O.

ORGANISM: N. Virens JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	R P	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
CONTROL	1	7.9	7.9	8.1	7.9	8.2	8.2	8.2	7.8	7.9	7.9	8.2	8.7	8.4	8.2	
	2	7.9	7.8	8.0	7.9	8.1	8.2	8.4	7.7	8.0	7.8	8.3	8.5	8.2	8.2	
	3	7.9	8.0	8.2	8.1	8.2	8.3	8.4	7.7	8.0	7.8	8.3	8.7	8.4	8.3	
REFERENCE	1	8.0	8.1	8.3	8.2	8.3	8.3	8.4	7.6	8.0	7.8	8.3	8.7	8.4	8.4	
	2	7.9	8.1	8.3	8.2	8.3	8.4	8.5	7.8	8.0	7.9	8.3	8.8	8.5	8.4	
	3	8.0	8.0	8.4	8.3	8.4	8.5	8.4	7.7	7.9	7.9	8.3	8.9	8.6	8.5	
	4	8.0	8.0	8.4	8.3	8.4	8.5	8.4	7.8	8.0	8.0	8.3	8.9	8.6	8.5	
	5	8.0	8.0	8.4	8.4	8.4	8.5	8.4	7.7	8.1	8.1	8.3	8.9	8.6	8.5	
Electric Boat	1	8.0	8.1	8.5	8.4	8.5	8.6	8.4	7.7	8.0	8.1	8.4	9.0	8.7	8.5	
	2	8.0	8.1	8.3	8.3	8.4	8.5	8.4	7.6	8.0	8.0	8.3	8.9	8.7	8.5	
	3	8.1	8.1	8.3	8.2	8.4	8.4	8.4	7.7	8.0	8.0	8.3	8.9	8.6	8.5	
	4	8.1	8.1	8.4	8.3	8.4	8.4	8.5	7.7	8.0	8.1	8.4	9.0	8.6	8.5	
	5	8.0	8.0	8.4	8.3	8.4	8.4	8.5	7.7	8.0	8.1	8.4	9.0	8.7	8.5	
Gold Star	1	8.1	8.0	8.5	8.3	8.4	8.2	8.4	7.7	7.7	8.2	8.5	9.0	8.7	8.6	
	2	8.1	8.1	8.5	8.4	8.5	8.3	8.5	7.8	7.9	8.1	8.5	9.0	8.7	8.5	
	3	8.1	8.1	8.6	8.5	8.5	8.5	8.4	7.6	8.2	8.2	8.6	9.0	8.7	8.6	
	4	8.2	8.1	8.5	8.5	8.6	8.5	8.4	7.8	8.0	8.2	8.6	9.0	8.8	8.5	
	5	8.1	8.1	8.4	8.4	8.6	8.4	8.4	7.7	8.2	8.1	8.4	8.9	8.8	8.5	
Mean Cable	1	8.1	8.2	8.4	8.4	8.5	8.5	8.4	7.7	8.3	8.2	8.5	9.0	8.7	8.6	
	2	8.1	8.2	8.4	8.4	8.5	8.5	8.5	7.7	8.3	8.1	8.5	9.0	8.7	8.6	
	3	8.1	8.2	8.5	8.5	8.5	8.6	8.5	7.7	8.3	8.2	8.5	9.0	8.7	8.6	
	4	8.0	8.1	8.5	8.4	8.6	8.5	8.5	7.8	8.3	8.2	8.5	9.1	8.8	8.6	
	5	8.0	8.1	8.5	8.5	8.6	8.5	8.5	7.7	8.3	8.2	8.5	9.1	8.7	8.6	
Pier 32-33	1	8.0	8.1	8.5	8.5	8.5	8.5	8.3	7.7	8.0	8.2	8.5	9.0	8.7	8.5	
	2	8.0	8.2	8.4	8.4	8.5	8.5	8.3	7.8	8.0	8.2	8.4	9.0	8.7	8.5	
	3	8.0	8.2	8.4	8.4	8.5	8.4	8.3	7.8	8.3	8.1	8.4	9.0	8.7	8.5	
	4	8.0	8.1	8.3	8.2	8.4	8.4	8.4	7.7	8.3	8.1	8.3	8.8	8.7	8.5	
	5	8.0	8.1	8.3	8.2	8.4	8.4	8.4	7.7	8.3	8.0	8.4	8.9	8.7	8.5	
QA/QC								8.4								
INITIALS		GHS	1/12	TRD/LL 1/13	CL/SV 1/13	CL/SV 1/14	RVC 01-20	JG SW 1-31	CL 2/1	GS 2/1	TRD/LL 2/3	CL/SV 2/4	CL SG CLS	TRD/LL 3/6	SD/LL 2/4	

OBSERVATIONS _____

(1) Mistake B1

ACSB

AQUA SURVEY, INC.
SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: pH

ORGANISM: N. virens JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	R P	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Electric Boat	SB	7.7	8.0	7.9	8.0	8.0	8.1	8.0	8.0	8.0	7.8	8.1	7.9	7.9	8.0	7.9
Gold Star	SB	7.7	7.9	8.0	8.0	8.1	8.1	8.0	8.0	8.1	7.8	8.1	7.9	7.9	8.0	7.9
Mama Coke	SB	7.6	8.0	8.0	7.9	8.0	8.1	7.9	8.0	8.1	7.8	8.1	7.9	7.9	8.0	7.9

CL JB SD 1/12 CL JB JBCC CL JB JBCC CL JB SD 1/18 SD 1/19 JBCC CL JB CL/TT JBCC JBCC

SAMPLE ID	R P	15	1/11 16	17	1/13 18	1/14 19	1/15 20	1/16 21	1/17 22	23	24	25	1/21 26	27	28	EXTRA
Electric Boat	SB	7.9	7.9	7.4	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	7.9	8.0	7.9	
Gold Star	SB	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	8.0	8.0	8.0	8.0	7.9	
Mama Coke	SB	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	8.0	8.0	8.0	8.0	7.9	

CL 1/15 CL 1/16 TBB/CL 1/27 CL BU CL BU 1/28 1/29 CL/CL 01-30 SC BU 1-31 CL JB 2/1 CB 2/2 TBB/CL 2/3 CL BU 2/4 TB, CL 2/5 TBB/CL 2/6 SD/C 2/7

PARAMETER: 2/9 H

METER NUMBER: _____

SAMPLE ID	R P	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Piers 32 & 33	SB	7.8	8.0	8.0	7.9	8.1	8.1	7.9	7.9	8.0	7.8	8.1	7.9	7.9	8.0	7.9
Ref	SB	7.7	8.0	7.9	8.0	8.1	8.1	8.0	7.9	8.1	7.9	8.0	7.9	7.9	8.0	7.9
_____	SB															

CL JB SD 1/12 CL JB JBCC CL JB JBCC CL JB SD 1/18 SD 1/19 JBCC CL JB CL/TT JBCC JBCC

SAMPLE ID	R P	15	1/11 16	17	1/13 18	1/14 19	1/15 20	1/16 21	1/17 22	23	24	25	1/21 26	27	28	EXTRA
Piers 32 & 33	SB	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.8	8.0	8.0	8.0	8.0	8.0	
Ref	SB	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.9	7.9	8.0	8.0	8.0	7.9	
_____	SB	CL 1/15	CL 1/16	TBB/CL 1/27	CL BU 1/28	CL BU 1/29	CL/CL 01-30	SC BU 1-31	CL JB 2/1	CB 2/2	TBB/CL 2/3	CL BU 2/4	TB, CL 2/5	TBB/CL 2/6	SD/C 2/7	

OBSEVATIONS _____

ACSB

AQUA SURVEY, INC.
SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/6/92 TEST START TIME _____ PARAMETER: Salinity

ORGANISM: N. Virens JOB NUMBER _____ METER NUMBER: _____

SAMPLE ID	R P	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Electric Boat	SB	30.0	30.0	30.0	30.0	29.5	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
Gold Star	SB	30.0	30.0	30.0	30.0	29.5	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	31.5	30.0
Mamm Cove	SB	30.0	30.0	30.0	30.0	30.0	30.0	31.0	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0

CL TB SD/ice CL TB JDL CL TB JDL CL TB SD/HS SD/HS JDL CL TB CL/122 JDL/CL

SAMPLE ID	R P	15	1/11 16	17	1/13 18	1/14 19	1/15 20	1/16 21	1/17 22	23	24	1/20 25	1/21 26	27	28	EXTRA
Electric Boat	SB	31.0	31.0	30.0	30.5	31.0	30.5	31.5	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
Gold Star	SB	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
Mamm Cove	SB	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	

1/13 CL/CC TAP/CC CL BV CL TB JDL CL/CC JDL CL BV CL TB TAP/CC 1/24 CL 1/21 TAP/CC JDL

PARAMETER: Salinity

METER NUMBER: _____

SAMPLE ID	R P	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Ref 32.33	SB	30.0	30.0	29.0	30.0	30.0	30.0	31.0	30.0	31.5	31.0	33.0	33.0	32.5	32.0	30.0
Ref	SB	30.0	30.0	31.0	30.0	30.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	33.0	30.0
_____	SB															

CL TB JDL CL TB JDL CL TB JDL CL TB JDL/HS SD/HS JDL CL TB CL/122 JDL/CL

SAMPLE ID	R P	15	1/11 16	17	1/13 18	1/14 19	1/15 20	1/16 21	1/17 22	23	24	1/20 25	1/21 26	27	28	EXTRA
Ref 32.33	SB	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
Ref	SB	31.0	31.0	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	31.0	31.5	31.0	31.0	
_____	SB	1/25 CL/CC		TAP/CC 1/27	CL BV 1-28	CL BV 1-29	CL/CC 01-30	JDL BV 1-31	CL BV 2/1	CL 2/2	TAP/CC 2/3	CL BV 2/4	CL 2/5	TAP/CC 2/6	JDL 2/7	

OBSEVATIONS _____

B

ACSB

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: Temp

ORGANISM: N. virens JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Electric Boat	SB	12.0	12.0	13.5	14.5	15.0	13.5	13.5	13.5	13.5	13.0	14.0	14.0	13.5	14.5	14.0
Gold Star	SB	12.0	12.0	12.0	14.0	15.0	13.5	13.5	13.5	13.5	13.0	14.0	13.5	13.5	14.0	14.0
Mama Cake	SB	11.5	12.0	12.0	14.0	15.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	14.0	14.0

CL JB 1/11 CL JB 1/13 CL JB 1/15 CL JB 1/16 CL JB 1/17 1/21

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
Electric Boat	SB	13.5	13.5	13.5	13.5	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.0	13.5	13.0	
Gold Star	SB	13.5	13.5	14.0	13.5	14.0	14.0	13.5	13.5	14.0	13.5	13.5	13.0	13.5	13.0	
Mama Cake	SB	13.5	13.5	13.5	13.5	14.0	14.0	13.5	13.5	14.0	13.0	13.0	13.0	13.5	13.5	

1/25 TAP/CL 1/27 CL BU 1-28 CL BU 1-29 CL BU 1-30 SG BU 1-31 CL JC 2/1 TAP/CL 2/3 CL BU 2/4 CL 2/5 TAP/CL 2/6 SG JC 2/7

PARAMETER: Temp

METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Pier 32-33	SB	12.0	11.5	12.0	15.0	16.0	13.5	14.0	13.5	14.0	13.5	13.5	13.5	14.0	14.0	14.0
Ref	SB	12.5	12.0	12.0	15.0	15.5	14.0	13.5	13.5	13.5	13.5	14.0	14.0	14.0	14.5	14.0
_____	SB															

CL JB 1/11 CL JB 1/13 CL JB 1/15 CL JB 1/16 CL JB 1/17 1/21

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
Pier 32-33	SB	13.5	13.5	13.5	13.5	13.5	13.5	14.0	13.5	14.0	13.5	13.0	13.5	13.0	13.5	
Ref	SB	13.5	13.5	13.5	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
_____	SB															

1/25 TAP/CL 1/27 CL BU 1-28 CL BU 1-29 CL JC 1-30 SG BU 1-31 CL JC 2/1 TAP/CL 2/3 CL BU 2/4 CL 2/5 TAP/CL 2/6 SG JC 2/7

OBSEVATIONS _____

B-13

B

ACSB

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Magnox Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: D.O.

ORGANISM: Juveniles JOB NUMBER _____ METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Electric Boat	SB	8.4	8.6	8.6	7.7	7.8	8.5	8.7	8.2	8.5	8.3	8.1	8.3	8.5	8.0	7.8
Gold Star	SB	8.4	8.5	8.6	7.7	7.9	8.4	8.7	8.2	8.5	8.2	8.0	8.3	8.5	8.0	8.0
Mama Cake	SB	8.6	8.6	8.7	7.7	8.0	8.5	8.9	8.2	8.5	8.3	8.0	8.3	8.5	8.0	8.4

CL JB SD 1/12 CL JB 1/13 CL JB 1/15 CL JB 1/16 CL JB 1/17 SD 1/18 SD 1/19 CL JB 1/21

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXT
Electric Boat	SB	8.0	8.0	8.4	8.4	8.5	8.3	8.4	7.8	8.2	8.2	8.5	9.0	8.7	8.5	
Gold Star	SB	8.0	8.1	8.5	8.3	8.4	8.4	8.5	7.9	8.3	8.1	8.4	9.0	8.6	8.5	
Mama Cake	SB	8.1	8.1	8.6	8.4	8.5	8.6	8.5	7.8	8.3	8.1	8.5	9.1	8.4	8.5	

CL JB 1/26 TAP/CL 1/27 CL BV 1/28 CL BV 1/29 CL CC 01-30 SG BV 1-31 CL JB 2/1 JB 2/2 TAP/CL 2/3 CL BV 2/4 CL JB 2/5 TAP/CL 2/6 SD CC 2/7

PARAMETER: D.O.

METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	1
Pier 32&33	SB	8.6	8.6	8.6	7.9	7.9	8.6	8.7	8.3	8.3	8.3	8.2	8.1	8.5	8.1	8.0
Ref	SB	8.4	8.7	8.4	7.7	7.8	8.4	8.7	8.3	8.5	8.3	8.2	8.2	8.4	8.1	8
_____	SB															

CL JB SD 1/12 CL JB 1/13 CL JB 1/15 CL JB 1/16 CL JB 1/17 SD 1/18 SD 1/19 CL JB 1/21

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXT
Pier 32&33	SB	8.0	8.1	8.4	8.5	8.5	8.4	8.4	7.7	8.0	8.1	8.6	8.9	8.7	8.6	
Ref	SB	8.0	8.0	8.5	8.2	8.4	8.5	8.4	7.8	8.3	8.1	8.4	9.0	8.7	8.6	
_____	SB	CL JB 1/25	CL JB 1/26	TAP/CL 1/27	CL BV 1/28	CL BV 1/29	CL CC 01-30	SG BV 1-31	CL JB 2/1	JB 2/2	TAP/CL 2/3	CL BV 2/4	CL JB 2/5	TAP/CL 2/6	SD CC 2/7	

OBSEVATIONS _____

AQUA SURVEY INC.

TEST ORGANISM ACCLIMATION & TRANSPORTATION

DATE: 1-10-92 QA/QC: _____

TEST JOB #: 91-368 CLIENT: Maguire Group

IN-LAB [✓] MOBILE [ ] SATELLITE [ ]

TEST SPECIES: N. Virens

Total Number of organisms acclimated: 800+

AQUA SURVEY, INC Investigators: DON

A. ORGANISMS

1. ASI Culture/Holding [Tank/Receiving Log #]: 92-0003
2. Procured From/Date Received: AQUATIC RESEARCH ORGANISMS - 1/9/92
3. Age Information: MIXED ADULTS

B. RECEIVING WATER PARAMETERS (Non Cultured Organisms)

1. Temperature: 12°C
2. Salinity: /
3. Alkalinity: /

C. HOLDING [✓] CULTURE [ ] WATER PARAMETERS

1. Temperature: 15°C
2. Salinity: /
3. Alkalinity: /
4. Water Source: KEPT MOIST IN SEAWEED WITH MANASQUAN

D. ACCLIMATION [Temperature - Water Type] (1)

1. Acclimation Chamber Volume (Liters): /
2. Acclimation Water Type: /
3. Acclimation Water Temperature: /
4. Acclimation Water Salinity: /
5. Acclimation Commencement - Date: / Time: /
6. Change-Over Rate (ml/minute): /
7. Culture Acclimation Ending-Date: / Time: /
8. _____ Acclimation Ending-Date: / Time: /

E. TRANSFER CUSTODY & TRANSFER WATER PARAMETERS

1. Culture Lab > Test Lab: -Date: 1/10/92 Time: 1800 HRS
2. Temperature: 15°C
3. Salinity: /
4. Alkalinity: /
5. Culture Lab Technician Initials: DB [Transfer]
6. Test Lab Technician Initials: / [Receiving]

REMARKS: (1) Temp Acclimation Only: BROUGHT FROM 12°C TO 15°C DURING PERIOD OF 1/9/92 TO 1/10/92 - 14HRS TOTAL AT 15°C. PRIOR TO TEST USE.

asi 499 Point Breeze Road • Flemington, New Jersey 08822 • Telephone (201) 788-8700 FAX (201) 788-916

A

AQUA SURVEY, INC
SOLID PHASE LIVE COUNTS

CLIENT: Maguire Group TEST START: 1/10/92 ORGANISM: M. nacuta

JOB NUMBER: 91-368 DEPURATION START:

SAMPLE ID	REP	INITIAL	FINAL	NOTES AND OBSERVATIONS
CONTROL	1	25	21	
	2	25	21	
	3	25	23	
	4			
	5	void		
REFERENCE New London	1	25	21	
	2	25	22	
	3	25	23	
	4	25	22	
	5	25	24	
SAMPLE 1 Elec. Boat	1	25	22	
	2	25	22	
	3	25	20	
	4	25	24	
	5	25	25	
SAMPLE 2 Gold St.	1	25	22	
	2	25	~~3~~ 2	SD 2/13
	3	25	18	
	4	25	24	
	5	25	18	
SAMPLE 3 Mans Cove	1	25	22	
	2	25	22	
	3	25	20	
	4	25	~~22~~ 21	SD 2/13
	5	25	19	
SAMPLE 4 Pier 32+33	1	25	18	
	2	25	~~25~~ 22	SD 2/13
	3	25	14	
	4	25	18	
	5	25	~~18~~ 17	SD 2/13
INIT/QAQC	S	JF JB	CA RM SF	

SP-LCNEW

ACSB

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: McGuire Group TEST START DATE: _____ TEST START TIME _____ PARAMETER: Live Count

ORGANISM: M. mercenaria JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
REF	SB	25														
Electric Boat	SB	25														
Gold Star	SB	25														

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
REF	SB														22	
Electric Boat	SB														18	
Gold Star	SB														21	

PARAMETER: Live Count

METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Mamc Colle	SB	25														
Pier 32+33	SB	25														
_____	SB															

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
Mamc Colle	SB														24	
Pier 32+33	SB														21	
_____	SB														54	

OBSEVATIONS _____

H

ACZBA

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Mcguire Group TEST START DATE: 1/10/92 TEST START TIME: ____ PARAMETER: pH

ORGANISM: M. nasuta JOB NUMBER: 91.368 METER NUMBER: ____

SAMPLE ID	RP	00	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CONTROL	1	8.1	7.6	7.7	7.8	8.0	7.8	8.0	8.0	7.8	7.9	7.9	7.7	7.9	8.0	7.8
	2	8.1	7.6	7.7	7.8	8.0	7.9	8.0	8.0	7.8	7.9	7.9	7.7	7.9	8.0	7.7
	3	8.1	7.6	7.7	7.8	8.0	7.9	8.0	8.0	7.9	7.9	7.9	7.7	7.9	8.0	7.8
REFERENCE	1	8.0	7.6	7.7	7.8	8.0	7.9	8.0	8.0	7.9	7.9	7.9	7.7	7.9	8.0	7.9
	2	8.0	7.6	7.7	7.8	8.0	7.9	8.0	8.0	7.9	7.9	7.9	7.7	7.9	8.0	7.8
	3	8.0	7.6	7.7	7.8	8.0	7.9	8.0	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.8
	4	8.0	7.6	7.6	7.8	8.0	7.9	8.0	8.0	8.0	7.9	8.0	7.7	7.9	8.0	7.8
	5	8.0	7.6	7.6	7.8	8.0	7.9	8.0	8.0	8.0	7.9	8.0	7.7	7.9	8.0	7.8
Electric Beat	1	8.1	7.6	7.7	7.8	8.0	7.9	8.0	8.0	7.9	7.9	7.9	7.7	7.9	8.0	7.8
	2	8.1	7.7	7.7	7.8	8.0	7.9	8.0	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.9
	3	8.1	7.8	7.7	7.8	8.0	7.9	8.0	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.8
	4	8.1	7.8	7.7	7.8	8.0	7.9	7.9	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.9
	5	8.1	7.8	7.7	7.8	8.0	7.9	7.9	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.9
Gold Star	1	8.0	8.0	8.0	7.8	8.0	7.9	7.9	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.8
	2	8.0	8.0	8.0	7.8	8.0	7.9	8.0	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.8
	3	7.9	8.0	7.9	7.8	8.0	7.9	8.0	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.8
	4	7.9	8.0	8.0	7.8	8.0	7.9	8.0	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.8
	5	8.1	8.0	8.0	7.8	8.0	7.9	7.9	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.8
Manic Cole	1	8.0	8.0	8.0	7.7	8.0	7.9	7.9	8.0	7.9	7.9	7.9	7.7	7.8	8.0	7.9
	2	7.8	7.9	7.9	7.7	8.0	7.9	7.9	8.0	8.0	7.9	7.9	7.7	7.8	8.0	7.9
	3	7.6	7.9	7.9	7.7	8.0	7.9	7.9	8.0	8.0	7.9	7.9	7.7	7.8	8.0	7.9
	4	7.8	7.9	7.9	7.7	8.0	7.9	7.9	8.0	8.0	7.9	7.9	7.7	7.8	8.0	7.9
	5	7.5	7.9	7.9	7.7	8.0	7.9	8.0	8.0	8.0	7.9	7.9	7.7	7.8	8.0	7.9
Pier 32,33	1	7.9	8.0	7.9	7.7	8.0	7.9	7.9	8.0	7.9	7.8	7.9	7.7	7.8	8.0	7.8
	2	7.7	8.0	7.9	7.7	8.0	7.9	7.9	8.0	8.0	7.8	7.9	7.7	7.8	8.0	7.9
	3	7.6	8.0	8.0	7.7	8.0	7.9	7.9	8.0	8.0	7.9	7.9	7.7	7.8	8.0	7.8
	4	7.7	8.0	8.0	7.7	8.1	7.9	7.9	8.0	8.0	7.8	7.9	7.7	7.8	8.0	7.9
	5	7.9	8.0	8.0	7.7	8.1	8.0	7.9	8.0	8.0	7.9	7.9	7.7	7.8	8.0	7.8
QA/QC																
INITIALS		1/10 SD RM	CL JB 1/11	SD 1/12	CL JB 1/13	JB 1/14	CL JB 1/15	CL 1/16	CL JB 1/17	SM 1/18	BW 1/19	JB 1/20	CL JB 1/21	1/22	JB 1/23	

OBSERVATIONS ____

H

C288

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Magma Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: pH

ORGANISM: M. nasuta JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
CONTROL	1	7.8	7.8	7.8	7.8	7.7	7.9	7.9	7.8	7.8	7.8	7.9	7.9	7.9	7.9	
	2	7.8	7.8	7.8	7.9	7.7	7.9	7.9	7.8	7.8	7.8	7.9	7.9	7.9	7.9	
	3	7.8	7.8	7.8	7.8	7.8	7.9	7.9	7.8	7.8	7.8	7.9	7.9	7.9	7.9	
REFERENCE	1	7.8	7.8	7.8	7.8	7.8	7.9	7.9	7.8	7.8	7.8	7.9	7.9	7.9	7.9	
	2	7.8	7.8	7.8	7.8	7.8	7.9	7.9	7.9	7.8	7.8	7.9	7.9	7.9	7.9	
	3	7.8	7.8	7.8	7.8	7.8	7.9	8.0	7.9	7.8	7.9	7.9	8.0	7.9	7.9	
	4	7.8	7.8	7.8	7.8	7.9	7.9	8.0	7.8	7.8	7.8	8.0	8.0	7.9	8.0	
	5	7.8	7.8	7.8	7.8	7.9	7.9	8.0	7.8	7.9	7.9	8.0	8.0	7.9	8.0	
Electric Boat	1	7.8	7.8	7.8	7.9	7.9	7.9	8.0	7.9	7.9	7.9	8.0	8.0	7.9	8.0	
	2	7.8	7.8	7.8	7.9	7.9	7.9	8.0	7.9	7.8	7.9	8.0	8.0	7.9	8.0	
	3	7.8	7.8	7.9	7.9	7.9	7.9	8.0	7.9	7.8	7.9	8.0	8.0	7.9	8.0	
	4	7.8	7.8	7.9	7.9	7.9	7.9	8.0	7.9	7.8	7.9	8.0	8.0	7.9	8.0	
	5	7.8	7.8	7.9	7.9	7.9	7.9	8.0	7.8	7.8	7.9	8.0	8.0	7.9	8.0	
Gold Star	1	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.9	8.0	8.0	7.9	8.0	
	2	7.8	7.8	7.9	7.9	7.9	8.0	7.9	7.8	7.8	7.9	8.0	7.9	7.9	8.0	
	3	7.8	7.8	7.9	7.9	7.9	8.0	7.9	7.9	7.8	7.9	8.0	7.9	7.9	8.0	
	4	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.9	8.0	
	5	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.8	7.9	7.9	8.0	7.9	7.9	8.0	
Mamaroneck	1	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.9	7.9	
	2	7.8	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.9	7.9	
	3	7.8	7.8	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	7.9	8.0	
	4	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.9	8.0	8.0	7.9	7.9	
	5	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.8	7.8	7.9	8.0	8.0	7.9	8.0	
Pier 32+33	1	7.8	7.8	7.8	7.8	7.9	7.9	7.9	7.9	7.8	7.9	8.0	8.0	7.9	8.0	
	2	7.8	7.8	7.8	7.8	7.9	7.9	7.9	7.9	7.8	7.9	8.0	8.0	7.9	8.0	
	3	7.8	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	7.9	7.9	
	4	7.8	7.8	7.8	7.8	7.9	7.9	7.9	7.9	7.8	7.9	8.0	8.0	7.9	8.0	
	5	7.8	7.8	7.8	7.8	7.9	7.9	8.0	7.9	7.8	7.9	8.0	8.0	7.9	8.0	
QA/QC																
INITIALS		CAS 1/5	TAG 1/6	TAG/CC 1/23	CLBV 1/28	CLBV 1/29	GVCL 2-3	SC BV 2-3	CLBV 2/4	GG 2/7	TAG/CC 2/13	CJS 2/14	TAP 2/25	TAP/CC 2/4	SDAS 2/15	

OBSERVATIONS _____

A

AC28A

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: McGuire Group TEST START DATE: 1/10/92 TEST START TIME: _____ PARAMETER: Salinity

ORGANISM: M. nasuta JOB NUMBER: 91-368 METER NUMBER: _____

SAMPLE ID	RP	00	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CONTROL	1	31.0	30.0	30.0	30.0	29.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30.0
	2	31.0	30.0	30.0	30.0	29.0	30.0	30.5	30.0	30.5	31.0	33.0	33.0	32.5	32.0	30
	3	30.0	30.0	30.0	30.0	29.0	30.0	30.5	30.0	30.5	31.0	33.0	33.0	32.5	32.0	30
REFERENCE	1	29.5	30.0	30.0	30.0	29.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.5	30
	2	29.5	30.0	30.0	30.0	29.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30
	3	29.0	30.0	30.0	30.0	29.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30
	4	29.0	30.0	30.0	30.0	31.0	30.0	30.5	30.0	30.5	31.0	33.0	33.0	32.5	32.0	30
	5	29.5	30.0	30.0	30.0	31.0	30.0	30.5	30.0	30.5	31.0	33.0	33.0	32.5	32.0	30
Electric Eel	1	30.0	30.0	30.0	30.0	31.0	30.0	31.0	30.0	30.0	31.0	33.0	33.0	32.5	32.5	30
	2	30.0	30.0	30.0	30.0	31.0	30.0	31.0	30.0	30.0	31.0	33.0	33.0	32.5	32.0	30.0
	3	28.5	30.0	30.0	30.0	31.0	30.0	31.0	30.0	30.0	31.0	33.0	33.0	32.5	32.0	30
	4	30.5	30.0	30.0	30.0	31.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.5	30
	5	30.0	30.0	30.0	30.0	31.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	33.0	32.0	30
Gold Tiger	1	30.5	30.0	30.0	30.0	31.0	30.0	30.0	30.0	30.0	31.0	33.0	33.0	33.0	32.0	30
	2	30.0	30.0	29.5	30.0	31.0	30.0	30.0	30.0	31.5	31.0	33.0	33.0	32.5	33.5	30
	3	30.0	30.0	31.0	30.0	31.0	30.0	30.0	30.0	31.0	31.0	33.0	33.0	32.5	32.5	30
	4	30.0	30.0	30.0	30.0	31.0	30.0	30.0	30.0	31.0	31.0	33.0	33.0	32.5	32.5	30.0
	5	30.0	30.0	30.0	30.0	31.0	30.0	30.0	30.0	31.0	31.0	33.0	33.0	32.5	32.0	30
Manic cokie	1	30.0	30.0	30.0	30.0	31.0	30.0	30.0	30.0	30.0	31.0	33.0	33.0	32.5	32.5	30.0
	2	29.5	30.0	30.0	30.0	31.0	30.0	30.0	30.0	30.0	31.0	33.0	33.0	33.0	32.5	30
	3	30.0	30.0	30.0	30.0	31.0	30.0	30.0	30.0	31.0	31.0	33.0	33.0	33.0	33.0	30
	4	30.0	30.0	30.0	30.0	31.0	30.0	30.0	30.0	31.0	31.0	33.0	33.0	33.0	32.0	30
	5	29.5	30.0	30.0	30.0	31.0	30.0	30.0	30.0	31.0	31.0	33.0	33.0	32.5	32.5	30
Pier 32-33	1	29.0	30.0	29.0	30.0	31.0	30.0	30.5	30.0	30.0	31.0	33.0	33.0	33.0	32.5	30.0
	2	29.0	30.0	30.0	30.0	31.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	33.0	32.5	30
	3	29.5	30.0	30.0	30.0	31.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	33.0	33.0	30.0
	4	30.0	30.0	30.0	30.0	31.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	33.0	33.0	30
	5	30.5	30.0	30.0	30.0	31.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	33.0	33.0	30.0
QA/QC																
INITIALS		TB 1/10	CL JB 1/11	DDV 1/12	CL JB 1/13	CL JB 1/14	CL JB 1/15	DDV 1/16	CL JB 1/17	SD 1/18	SD 1/19	TB 1/20	CL JB 1/21	CL 1/22	JB 1-23	

OBSERVATIONS

① 31.0
② 31.0
③ 31.0
④ 31.0
⑤ 31.0
⑥ 31.0

mistake 1/14

AC288

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Nagwa Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: Salinity

ORGANISM: M. nasuta JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
CONTROL	1	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	30.5	31.0	31.0	
	2	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	30.5	31.0	31.0	
	3	30.5	30.5	30.0	30.5	31.0	30.5	30.5	31.0	31.0	30.5	30.5	30.5	31.0	30.5	
REFERENCE	1	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	30.5	31.0	31.0	
	2	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	30.5	
	3	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	30.5	
	4	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	30.5	
	5	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
Elec. Tr. Boat	1	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	2	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	3	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	30.5	
	4	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	5	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	30.5	
Gold Star	1	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	2	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	3	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	4	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	5	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
Mami Cake	1	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	2	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	3	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	4	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	5	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
Pier 32+33	1	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	2	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	3	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	4	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
	5	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
QA/QC																
INITIALS		YS	YS	TDD/CC 1-27	CC DD 1-28	CC HD 1-29	DD/CC 1-30	SC DD 1-31	CC YS 2/1	YS 2/2	TDD/CC 2/3	CC BD 2/4	CC 2/5	TDD/CC 2/6	SD CC 2/7	

OBSERVATIONS _____

A

AC28A

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Magure Group TEST START DATE: 1/10/92 TEST START TIME: ____ PARAMETER: Temp

ORGANISM: M. nasuta JOB NUMBER: 91-368 METER NUMBER: ____

SAMPLE ID	RP	00	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CONTROL	1	11.0	13.0	14.0	15.0	14.5	14.0	13.5	14.0	14.0	13.5	14.0	14.0	14.0	14.5	14.0
	2	11.0	13.0	13.0	15.0	14.5	14.0	13.5	14.0	13.5	13.0	14.0	14.0	14.0	14.0	14.0
	3	10.5	13.0	13.0	15.0	14.5	13.5	13.5	14.0	13.5	13.0	13.5	14.0	14.0	13.5	14.0
REFERENCE	1	11.0	13.0	13.0	14.5	14.5	13.5	13.5	13.5	13.5	13.0	13.5	13.5	13.5	14.0	14.0
	2	10.5	12.5	13.0	14.5	14.5	13.5	13.5	13.5	13.5	13.0	13.5	13.5	13.5	13.5	14.0
	3	10.5	12.5	13.0	14.5	14.5	13.5	13.5	13.5	13.5	13.0	13.5	13.5	13.5	13.5	14.0
	4	10.5	12.5	13.0	14.5	14.5	13.5	13.5	13.5	13.5	13.0	13.5	13.5	13.5	13.5	14.0
	5	10.5	12.5	13.5	14.5	14.5	13.5	13.5	13.5	13.5	13.0	13.5	13.5	13.5	14.0	14.0
Electric Beat	1	12.5	13.0	14.0	14.5	14.5	13.5	13.5	13.5	13.5	13.5	14.0	13.5	13.5	14.0	14.0
	2	12.5	13.0	14.0	15.0	14.5	13.5	13.5	13.5	14.0	13.0	14.0	14.0	13.5	14.0	14.0
	3	12.5	13.0	14.0	15.0	14.5	13.5	13.5	13.5	13.5	13.0	14.0	14.0	13.5	14.0	14.0
	4	12.5	13.0	14.0	15.0	14.5	13.5	13.5	13.5	13.5	13.0	14.0	14.0	14.0	14.0	14.0
	5	13.0	13.0	14.0	15.0	14.5	13.5	13.5	13.5	13.5	13.0	14.0	14.0	14.0	14.0	14.0
Gold STAR	1	13.0	13.0	14.0	15.0	15.0	13.5	13.5	13.5	14.0	13.0	13.5	14.0	14.0	14.0	14.0
	2	13.0	13.0	14.0	15.0	15.0	13.5	13.5	13.5	13.5	13.0	13.5	14.0	14.0	14.0	14.0
	3	13.0	13.0	15.0	15.0	15.0	13.5	13.5	13.5	14.0	13.5	14.0	14.0	14.0	14.0	14.0
	4	13.0	13.0	14.5	15.0	15.5	13.5	13.5	13.5	14.0	13.5	14.0	14.0	14.0	14.5	14.0
	5	13.0	13.0	14.5	15.0	15.5	13.5	13.5	13.5	14.0	13.5	14.0	14.0	14.0	14.5	14.0
Msmc coke	1	12.5	13.0	14.5	15.0	15.5	13.5	13.5	14.0	14.5	13.5	13.5	14.0	14.0	14.5	14.0
	2	13.0	13.0	14.0	15.0	15.5	13.5	13.5	14.0	14.0	13.5	13.5	14.0	14.0	14.0	14.0
	3	13.0	13.0	15.5	15.0	15.5	13.5	13.5	14.0	14.0	14.0	13.5	14.0	14.0	14.5	14.0
	4	13.0	13.0	15.5	15.0	15.5	13.5	13.5	14.0	14.0	14.0	13.5	14.0	14.0	14.5	14.0
	5	13.5	13.0	15.5	15.0	15.5	13.5	13.5	14.0	14.0	14.0	13.5	14.0	14.0	14.5	14.0
Pier 32-33	1	12.0	~~13.0~~	12.5	15.0	15.5	14.0	13.5	14.0	14.0	13.0	13.5	14.0	14.0	14.5	14.0
	2	12.0	~~12.5~~	13.5	15.0	15.5	14.0	13.5	13.5	13.5	13.0	14.0	14.0	14.0	14.5	13.5
	3	12.0	12.5	14.0	15.0	15.5	14.0	13.5	13.5	13.5	13.0	14.0	14.0	14.0	14.5	13.5
	4	12.5	12.5	14.0	15.0	15.5	14.0	13.5	13.5	14.0	13.0	14.0	14.0	14.0	14.5	14.0
	5	12.0	12.5	14.0	15.0	15.5	14.0	13.5	13.5	14.0	13.0	14.0	14.0	14.0	14.5	14.5
QA/QC																
INITIALS		SG JB 1/10	CL JB 1/11	SH 1/12	CL JB 1/13	SQ JC 1/14	CL JB 1/15	SQ JC 1/16	CL JB 1/17	SW 1/18	SW 1/19	SQ JC 1/20	CL JB 1/21	1/22	JC 10:30 1-23	SQ JC 1/24

OBSERVATIONS @ 12.5 QB 1/11

AC288

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: Temp

ORGANISM: M. nasuta JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
CONTROL	1	14.0	14.0	13.5	14.0	14.0	14.0	14.0	13.5	14.0	14.0	13.5	13.0	13.5	13.5	
	2	14.0	14.0	13.5	14.0	14.0	14.0	13.5	13.5	14.0	13.5	13.5	13.0	13.5	13.0	
	3	13.5	14.0	13.5	14.0	14.0	14.0	13.5	13.5	14.0	13.0	13.5	13.0	13.5	13.0	
REFERENCE	1	13.5	13.5	13.5	13.5	14.0	14.0	13.5	13.5	14.0	13.0	13.5	13.0	13.5	13.0	
	2	13.5	13.5	13.5	13.5	14.0	14.0	13.5	13.5	13.5	13.0	13.5	13.0	13.5	13.0	
	3	13.5	13.5	13.5	13.5	13.5	14.0	13.5	13.5	13.5	13.0	13.5	13.0	13.0	13.0	
	4	13.5	13.5	13.5	13.5	13.5	14.0	13.5	13.5	14.0	13.5	13.5	13.0	13.0	13.0	
	5	13.5	13.5	13.5	13.5	13.5	14.0	13.5	13.5	14.0	13.5	13.5	13.0	13.0	13.0	
Electric Boat	1	14.0	13.5	14.0	13.5	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.0	13.5	13.5	
	2	14.0	13.5	14.0	13.5	14.0	14.0	13.5	14.0	14.0	13.5	13.5	13.0	13.5	13.5	
	3	14.0	13.5	14.0	13.5	14.0	14.0	13.5	13.5	14.0	13.5	13.5	13.0	13.5	13.5	
	4	14.0	13.5	14.0	13.5	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.0	13.5	13.5	
	5	13.5	13.5	14.0	13.5	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.0	13.5	13.5	
Gold Star	1	13.5	13.5	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.5	13.5	13.0	13.5	13.0	
	2	13.5	13.5	13.5	14.0	14.5	14.0	14.0	14.0	14.0	13.5	13.5	13.0	13.5	13.0	
	3	13.5	13.5	13.5	14.0	14.5	14.5	14.0	14.0	14.0	13.5	13.5	13.0	13.5	13.5	
	4	14.0	13.5	13.5	14.0	14.5	14.5	14.0	13.5	14.0	13.5	13.5	13.0	13.5	13.5	
	5	13.5	13.5	13.5	14.0	14.5	14.5	14.0	13.5	14.0	13.5	13.5	13.0	13.5	13.5	
Maine Coke	1	13.5	13.5	13.5	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	2	13.5	13.5	13.5	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	3	13.5	13.5	13.5	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	4	13.5	13.5	13.5	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	5	13.5	13.5	13.5	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
Pier 32+33	1	14.0	14.0	13.5	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	14.0	
	2	14.0	14.0	13.5	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	3	14.0	14.0	13.5	14.0	14.0	14.0	14.0	13.5	13.5	13.5	13.5	13.5	13.5	13.0	
	4	14.0	14.0	13.5	14.0	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
	5	14.0	14.0	13.5	14.0	14.0	14.0	14.5	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
QA/QC																
INITIALS				TRD/CL 1/27	CL BU 1-28	CL BU 1-29	CL/CL 01-30	SC BU 1-31	CL BU 2/1	BU 2/2	TRD/CL 2/3	CL BU 2/4	CL 2/5	TRD/CL 2/6	BU/CL 2/7	

OBSERVATIONS _____

A

AC28A

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Mobil Group TEST START DATE: 1/10/92 TEST START TIME: _____ PARAMETER: D.O.

ORGANISM: M. nagna JOB NUMBER: 91-368 METER NUMBER: _____

SAMPLE ID	RP	00	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CONTROL	1	7.7	8.7	8.2	7.5	7.7	8.3	8.4	7.8	8.4	8.4	7.9	8.0	8.0	7.9	7.8
	2	7.4	8.4	8.3	7.5	7.7	8.1	8.3	8.0	8.5	8.4	7.9	8.0	8.0	7.9	7.8
	3	7.6	8.5	8.3	7.6	7.8	8.1	8.5	8.1	8.6	8.4	8.0	8.2	8.0	8.0	7.8
REFERENCE	1	8.0	8.4	8.4	7.8	7.9	8.1	8.5	8.1	8.5	8.5	8.1	8.2	8.3	8.1	7.9
	2	7.9	8.4	8.5	7.8	7.8	8.1	8.6	8.2	8.5	8.5	8.1	8.3	8.4	8.0	8.0
	3	7.4	8.4	8.5	7.8	7.8	8.5	8.6	8.2	8.5	8.5	8.1	8.3	8.5	8.0	8.0
	4	7.2	8.4	8.5	7.8	7.9	8.5	8.7	8.2	8.5	8.5	8.1	8.3	8.4	8.0	8.0
	5	6.8	8.4	8.4	7.8	7.9	8.5	8.7	8.3	8.6	8.5	8.1	8.4	8.4	8.1	8.0
Electric Boat	1	6.8	8.2	8.1	7.7	7.9	8.5	8.8	8.2	8.4	8.4	8.2	8.4	8.5	8.0	8.0
	2	7.7	8.2	8.1	7.6	7.9	8.5	8.7	8.2	8.4	8.4	8.1	8.3	8.5	7.9	8.0
	3	7.7	8.3	8.1	7.7	7.9	8.4	8.6	8.2	8.5	8.4	8.1	8.2	8.4	7.9	8.0
	4	7.9	8.3	8.2	7.7	7.9	8.5	8.7	8.2	8.5	8.5	8.1	8.3	8.4	8.1	8.0
	5	7.9	8.2	8.2	7.7	8.0	8.5	8.8	8.2	8.5	8.5	8.1	8.3	8.4	8.1	8.0
Gold Star	1	7.2	8.2	8.2	7.6	7.9	8.5	8.8	8.2	8.3	8.5	8.1	8.3	8.4	8.1	8.0
	2	7.4	8.2	8.2	7.8	8.0	8.5	8.8	8.3	8.4	8.5	8.0	8.3	8.4	8.1	8.0
	3	3.9	8.2	8.1	7.7	7.9	8.2	8.9	8.3	8.3	8.5	8.0	8.3	8.4	8.1	8.0
	4	4.5	8.2	8.0	7.6	7.9	8.3	8.8	8.2	8.3	8.4	8.1	8.3	8.5	8.1	8.1
	5	5.0	8.2	8.0	7.5	8.0	8.3	8.7	8.2	8.4	8.4	8.0	8.2	8.5	8.0	8.0
Mamaroneck	1	7.6	8.1	8.1	7.6	7.9	8.3	8.7	8.2	8.4	8.4	8.1	8.2	8.5	7.9	8.0
	2	7.9	8.2	7.9	7.6	7.8	8.1	8.8	8.2	8.4	8.4	8.1	8.3	8.5	8.0	8.0
	3	7.9	8.4	8.0	7.6	7.8	8.4	8.8	8.2	8.4	8.4	8.1	8.3	8.5	8.0	8.0
	4	7.5	8.4	7.9	7.7	7.8	8.1	8.8	8.3	8.5	8.4	8.1	8.3	8.5	8.0	8.0
	5	5.0	8.4	7.7	7.7	7.8	8.1	8.8	8.2	8.4	8.3	8.1	8.3	8.5	8.0	8.0
Pier 32-33	1	7.6	8.4	8.5	7.5	7.7	8.5	8.6	8.2	8.3	8.5	7.9	8.1	8.5	8.1	7.9
	2	7.4	8.3	8.5	7.5	7.8	8.5	8.7	8.1	8.5	8.6	8.0	8.3	8.5	8.1	7.9
	3	6.2	8.4	8.3	7.7	8.0	8.5	8.8	8.2	8.5	8.6	8.1	8.3	8.5	8.2	8.0
	4	4.2	8.4	8.2	7.7	7.9	8.5	8.8	8.3	8.4	8.5	8.1	8.5	8.5	8.1	8.0
	5	4.3	8.4	8.2	7.7	7.7	8.4	8.7	8.3	8.4	8.5	8.2	8.4	8.5	8.0	8.0
QA/QC																
INITIALS		RM CB 1-10	CL JB 1/11	SDN 1/12	CL JB 1/13	JBC 1/14	CL JB 1/15	JBC 1/16	CL JB 1/17	SDN 1/18	SDN 1/19	JBC 1/20	CL JB 1/21	SDN 1/22	JUBJ 1-23	JBC 1/24

OBSERVATIONS _____

AC288

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/30/92 TEST START TIME _____ PARAMETER: D.O.

ORGANISM: M. nasuta JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
CONTROL	1	7.8	7.9	8.3	8.1	8.0	8.2	8.5	8.0	8.3	8.0	8.2	8.8	8.7	8.5	
	2	7.9	7.9	8.3	8.1	8.1	8.2	8.5	7.8	7.9	8.0	8.1	9.0	8.7	8.5	
	3	8.0	7.9	8.4	8.2	8.2	8.3	8.6	7.8	8.2	8.0	8.2	9.0	8.7	8.5	
REFERENCE	1	8.1	8.1	8.4	8.4	8.2	8.3	8.5	7.8	8.5	8.1	8.4	9.0	8.9	8.6	
	2	8.1	8.0	8.5	8.4	8.4	8.5	8.5	7.8	8.5	8.2	8.4	8.9	8.9	8.6	
	3	8.1	8.1	8.5	8.4	8.5	8.6	8.5	7.8	8.5	8.2	8.4	9.0	8.9	8.6	
	4	8.2	8.1	8.5	8.5	8.5	8.5	8.5	7.8	8.5	8.2	8.5	9.0	8.8	8.6	
	5	8.1	8.2	8.6	8.5	8.5	8.5	8.5	7.9	8.5	8.2	8.5	9.0	8.9	8.7	
Electric Boat	1	8.1	8.3	8.5	8.3	8.6	8.5	8.5	8.0	8.4	8.3	8.5	9.0	8.8	8.6	
	2	8.1	8.3	8.4	8.4	8.5	8.4	8.5	8.0	8.5	8.2	8.3	8.9	8.8	8.5	
	3	8.1	8.2	8.4	8.3	8.5	8.5	8.5	7.9	8.5	8.2	8.4	8.9	8.7	8.5	
	4	8.2	8.3	8.5	8.4	8.6	8.5	8.5	7.8	8.6	8.2	8.5	9.0	8.7	8.5	
	5	8.1	8.2	8.5	8.4	8.6	8.5	8.5	7.7	8.5	8.2	8.5	9.0	8.8	8.5	
Gold Star	1	8.1	8.2	8.5	8.4	8.5	8.6	8.5	7.8	8.2	8.2	8.4	9.0	8.2	8.5	
	2	8.1	8.2	8.5	8.4	8.2	8.5	8.5	7.9	8.5	8.2	8.4	9.0	8.7	8.5	
	3	8.1	8.1	8.6	8.5	8.2	8.6	8.5	7.9	8.5	8.3	8.5	9.1	8.8	8.5	
	4	8.1	8.2	8.5	8.4	8.2	8.3	8.4	8.0	8.4	8.3	8.6	9.1	8.8	8.4	
	5	8.1	8.1	8.4	8.3	8.3	8.3	8.4	8.0	8.4	8.3	8.4	8.9	8.7	8.4	
Mama Coke	1	8.1	8.1	8.4	8.2	8.4	8.4	8.4	7.8	8.4	8.0	8.3	8.9	8.6	8.5	
	2	8.0	8.1	8.5	8.3	8.5	8.5	8.4	7.8	8.5	8.1	8.4	9.0	8.7	8.5	
	3	7.9	8.2	8.5	8.3	8.5	8.5	8.4	7.9	8.5	8.1	8.4	9.0	8.7	8.5	
	4	7.9	8.2	8.5	8.3	8.5	8.5	8.4	7.9	8.5	8.2	8.4	9.0	8.7	8.5	
	5	8.0	8.2	8.5	8.3	8.6	8.5	8.4	7.9	8.5	8.2	8.4	9.0	8.8	8.4	
Pier 32+33	1	8.0	8.2	8.3	8.1	8.3	8.5	8.4	7.7	8.5	8.0	8.2	9.0	8.6	8.5	
	2	8.0	8.1	8.4	8.3	8.5	8.4	8.4	7.7	8.6	8.0	8.2	8.9	8.6	8.5	
	3	8.1	8.1	8.4	8.4	8.5	8.5	8.4	7.7	8.5	8.0	8.3	8.9	8.7	8.5	
	4	8.1	8.1	8.5	8.4	8.7	8.5	8.3	7.8	8.6	8.1	8.4	9.0	8.8	8.5	
	5	8.2	8.1	8.5	8.4	8.6	8.4	8.3	7.9	8.2	8.1	8.3	9.0	8.8	8.4	
QA/QC																
INITIALS				TAP/LL 1/29	CC BU 1-28	CC BU 1/29	CC/CC 01-30	SC BU 1-31	CC TB 2/1	TB 2/2	TAP/LL 2/3	CC BU 2/4	AK 2/5	TAP/LL 2/6	SDC 2/7	

OBSERVATIONS _____

ACSB

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: pH

ORGANISM: M. nasuta JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Ref	SB	8.0	7.6	7.6	7.8	8.0	7.9	8.0	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.8
ElectricBrt	SB	8.0	7.8	7.7	7.7	8.0	7.9	8.0	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.9
Gold Star	SB	8.0	8.0	8.0	7.8	8.0	7.9	7.9	8.0	8.0	7.9	7.9	7.7	7.9	8.0	7.8

CL JB SD½ CL JB JBLL CL JB JBLL CL JB SDLL SDLL/4 JBLL/20 CL JB CL/LL3 JBLL JBLL

SAMPLE ID	RP	15	1/11 16	17	1/13 18	1/14 19	1/15 20	1/16 21	1/17 22	1/18 23	24	25	1/21 26	27	28	EXTRA
Ref	SB	7.8	7.8	7.8	7.8	7.9	7.9	7.9	7.8	7.8	7.9	8.0	8.0	7.9	8.0	
ElectricBrt	SB	7.8	7.8	7.9	7.9	7.9	7.9	8.0	7.9	7.9	7.9	8.0	8.0	7.9	8.0	
Gold Star	SB	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	7.9	8.0	

1/25 CL 1/26 TBD/CL 1/27 CLBV 1/28 CLBJ 1/29 CPOO 01-30 SGBV 1-31 CL 2/1 TB 2/2 TBD/CL 2/3 CLBV 2/4 TP SG 2/5 TBD/CL 2/6 SDCL 2/7 PARAMETER: pH

METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Mama Cole	SB	7.7	7.9	7.9	7.7	8.0	7.9	7.9	8.0	8.0	8.0	7.9	7.7	7.8	8.0	7.8
Rec 32 & 33	SB	7.9	8.0	8.0	7.7	8.1	8.0	7.9	8.0	8.0	7.9	7.9	7.7	7.8	8.0	7.9
_____	SB															

CL JB SD½ CL JB JBLL CL JB JBLL CL JB SDLL SDLL/4 JBLL/20 CL JB CL/LL3 JBLL JBLL

SAMPLE ID	RP	15	1/11 16	17	1/13 18	1/14 19	1/15 20	1/16 21	1/17 22	1/18 23	24	25	1/21 26	27	28	EXTRA
Mama Cole	SB	7.8	7.8	7.8	7.8	7.9	7.9	8.0	7.9	7.9	7.9	8.0	7.9	7.9	8.0	
Rec 32&33	SB	7.8	7.8	7.8	7.9	7.9	7.9	8.0	7.8	7.9	7.9	8.0	8.0	7.9	8.0	
_____	SB	CL 1/25	CL 1/26	TBD/CL 1/27	CLBV 1/28	CLBV 1/29	CPOO 01-30	SGBV 1-31	CL 2/1	TB 2/2	TBD/CL 2/3	CLBV 2/4	TP SG 2/5	TBD/CL 2/6	SDCL 2/7	

OBSEVATIONS _____

ACSB

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: Salinity

ORGANISM: M. nasuta JOB NUMBER _____ METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Ref	SB	30.0	30.0	31.0	30.0	31.0	30.0	30.5	30.0	31.0	31.0	33.0	33.0	32.5	32.5	30.0
ElectricBoat	SB	30.0	30.0	30.0	30.0	31.0	30.0	30.5	30.0	30.0	31.0	33.0	33.0	33.0	31.5	30.0
Gold Star	SB	29.5	30.0	31.0	30.0	31.0	30.0	30.0	30.0	31.0	31.0	33.0	33.0	32.5	32.5	30.0

CL JB SD 1/12 CL JB JBL CL JB JBL CL JB SD 1/18 SD 1/19 JBL 1/20 CL JB CL 1/21 TAP 1/23 JBL 1/24

SAMPLE ID	RP	15	1/11 16	17	1/13 18	1/14 19	1/15 20	1/16 21	1/17 22	23	24	25	1/21 26	27	28	EXTRA
Ref	SB	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
ElectricBoat	SB	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	30.5	
Gold Star	SB	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	

CL JB 1/25 CL 1/26 TAP/CL 1/27 CL DD 1-28 CL DD 1-29 CL DD 01-30 SC BV 1-31 CL TB 2/1 CL 2/2 TAP/CL 2/3 CL BV 2/4 CL 2/5 TAP/CL SDCL 2/6

PARAMETER: Salinity

METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Mama Cola	SB	31.0	30.0	30.0	30.0	31.0	30.0	30.0	30.0	31.0	31.0	33.0	33.0	32.5	33.0	30.0
Pier 32-33	SB	29.5	30.0	31.0	30.0	31.0	30.0	30.5	30.0	31.0	31.5	33.0	33.0	33.0	33.0	30.0
_____	SB															

CL JB SD 1/12 CL JB JBL CL JB JBL CL JB SD 1/18 SD 1/19 JBL 1/20 CL JB CL 1/21 TAP 1/23 JBL 1/24

SAMPLE ID	RP	15	1/11 16	17	1/13 18	1/14 19	1/15 20	1/16 21	1/17 22	23	24	25	1/21 26	27	28	EXTRA
Mama Cola	SB	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	32.0	
Pier 32-33	SB	30.5	30.5	30.0	30.5	31.0	30.5	31.0	31.0	31.0	30.5	30.5	31.0	31.0	31.0	
_____	SB	CL 1/25	CL 1/26	TAP/CL 1/27	CL BV 1-28	CL BV 1-29	CL BV 01-30	SC BV 1-31	CL TB 2/1	CL 2/2	TAP/CL 2/3	CL BV 2/4	CL 2/5	TAP/CL 2/6	SDCL 2/7	

OBSEVATIONS _____

ACSB

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: Temp

ORGANISM: Nassata JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	R P	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Ref	SB	① 8.0	12.5	14.0	14.5	14.5	13.5	13.5	13.5	14.0	13.5	13.5	13.5	13.5	14.0	14
Electric Boat	SB	② 8.0	13.0	14.0	15.0	14.5	13.5	13.5	13.5	13.5	13.0	14.0	14.0	13.5	14.0	14
Gold Star	SB	13.0	13.0	14.5	15.0	15.5	13.5	13.5	14.0	14.0	13.5	14.0	14.0	14.0	14.5	14

SG 1/10 CL JB 1/11 SG 1/12 CL JB 1/13 1/15 1/16 CL JB 1/17 1/21 CL JB

SAMPLE ID	R P	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTR
Ref	SB	13.5	13.5	13.5	13.5	13.5	14.0	14.0	13.5	14.0	13.5	13.5	13.0	13.0	13.5	
Electric Bt	SB	13.5	13.5	14.0	13.5	14.0	14.0	14.0	13.5	14.0	13.5	13.5	13.0	13.5	13.5	
Gold Star	SB	13.5	13.5	13.5	14.0	14.5	14.0	14.0	13.5	14.0	13.5	13.5	13.0	13.5	13.5	

SG JB 1/10 CL JB 1/11 SG 1/12 CL JB 1/13 1/15 SG BV 1-31 CL JB 2/1 SB 2/2 TAP/CL 2/3 CL BV 2/4 CL 2/5 TAP/CL 2/6 SG 2/7

PARAMETER: Temp

METER NUMBER: _____

SAMPLE ID	R P	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Mama Cake	SB	13.5	13.0	16.0	15.0	15.5	13.5	13.5	14.0	14.5	14.0	14.0	14.0	14.0	14.5	1
Pier 32+33	SB	12.0	12.5	14.5	15.0	15.5	14.0	13.5	13.5	14.0	13.5	14.0	14.0	14.0	15.0	14.5
_____	SB															

SB 1/4 CL JB 1/15 SB 1/16 CL JB 1/17 SG 1/18 SG 1/19 TAP/CL 1/20 CL JB 1/21

SAMPLE ID	R P	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EX
Mama Cake	SB	13.5	13.5	13.5	14.0	14.0	14.0	14.5	13.5	14.0	13.5	13.5	13.5	13.5	14.0	
Pier 32+33	SB	14.0	14.0 CL JB	13.5	14.0 CL BV	14.0	14.0	14.5	13.5	14.0	13.5	13.5	13.5	13.5	13.5	
_____	SB	SG 1/25	CL JB 1/11	SG 1/12	CL JB 1/13	CL BV 1/29	CL/CL 01-30	SG BV 1-31	CL JB 2/1	SG 2/2	TAP/CL 2/3	CL BV 2/4	CL 2/5	TAP/CL 2/6	SG 2/7	

SG JB 1/10

OBSEVATIONS ① 11.0 1/10 JB

② 12.5 1/10 JB

AC58

AQUA SURVEY, INC
SOLID PHASE READINGS

CLIENT: Maguire Group TEST START DATE: 1/10/92 TEST START TIME _____ PARAMETER: D.O.

ORGANISM: M. nasuta JOB NUMBER 91-368 METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Ref	SB	7.2	8.4	8.3	~~7.7~~ (1)	8.0	8.5	8.7	8.4	8.5	8.5	8.0	8.5	8.4	8.1	8.4
Electric Boat	SB	7.8	8.2	8.2	~~8.2~~ (1)	8.0	8.5	8.8	8.3	8.5	8.5	8.1	8.3	8.4	8.0	8.0
Gold Star	SB	4.7	8.3	8.1	~~8.~~ (1)	7.9	8.3	8.7	8.2	8.4	8.4	8.1	8.2	8.5	8.0	7.9
			CL JB 1/11	SD 1/12		TBC 1/14	CL JB 1/15	JBC 1/16	CL JB 1/17	SD 1/18	SD 1/19	SDCC 1/20	CL JB 1/21	CL,RC 1/23	JBC 1/24	

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
Ref	SB	8.1	8.2	8.6	8.5	8.6	8.6	8.5	7.9	8.0	8.3	8.5	9.1	8.4	8.7	
Electric Boat	SB	8.1	8.2	8.5	8.4	8.7	8.6	8.4	7.9	8.2	8.3	8.4	8.9	8.7	8.5	
Gold Star	SB	8.1	8.1	8.4	8.3	8.3	8.3	8.4	8.0	8.0	8.2	8.4	8.9	8.6	8.4	
		RM CL/JS 1/10	CL 1/12	TBC/CL 1/27	CL BV 1/28	CL BV 1-29	CL/CL or-30	SG BV 1-31	CL/B 2/1	GB 2/2	TBC/CL 2/3	CL BV 2/4	CL SG 2/5	TBC/CL 2/6	SDCC 2/7	

PARAMETER: 2nd D.O.

METER NUMBER: _____

SAMPLE ID	RP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Mama Cokes	SB	6.3	8.4	7.7	7.7	7.8	8.4	8.9	8.3	8.5	8.2	8.1	8.4	8.5	8.0	8.1
Pier 32 & 33	SB	6.0	8.3	8.2	7.8	7.7	8.4	8.9	8.3	8.4	8.5	8.1	8.4	8.5	8.0	8.0
_____	SB															
			CL JB 1/11		CL JB 1/13	SBC 1/14	CL JB 1/15	SDCC 1/16	CL JB 1/17	SD 1/18	SD 1/19	SDCC 1/20	CL JB 1/21	CL/RC 1/23	JBC 1/24	SDCC 1/25

SAMPLE ID	RP	15	16	17	18	19	20	21	22	23	24	25	26	27	28	EXTRA
Mama Cokes	SB	8.0	8.2	8.5	8.4	8.6	8.5	8.3	7.7	8.0	8.2	8.4	9.0	8.8	8.2	
Pier 32 & 33	SB	8.2	8.1	8.4	8.3	8.5	8.5	8.3	7.8	8.0	8.1	8.3	9.0	8.7	8.4	
_____	SB	CL/JS 1/25	CL/RC		CL BV 1/28	CL BV 1/29	GY/CL 01-30	SG BV 1-31	CL/B 2/1	GB 2/2	TBC/CL 2/3	CL BV 2/4	CL SG 2/5	TBC/CL 2/6	SDCC 2/7	
		RM 1/10		TBC/CL 1/27												

OBSEVATIONS ① 7.8, 7.7, 7.6 } 1/13 QB

① wrong spot SD 1/12

AQUA SURVEY INC.

TEST ORGANISM ACCLIMATION & TRANSPORTATION

DATE: 1/10/92 QA/QC: _____

TEST JOB #: 91-368 CLIENT: Maguire Group

IN-LAB [✓] MOBILE [ ] SATELLITE [ ]

TEST SPECIES: M. nasuta

Total Number of organisms acclimated: 800+

AQUA SURVEY, INC Investigators: DON

A. ORGANISMS

1. ASI Culture/Holding [Tank/Receiving Log #]: 300l / 92-0002
2. Procured From/Date Received: KIM SIEVERS / 1-8-92
3. Age Information: ADULTS

B. RECEIVING WATER PARAMETERS (Non Cultured Organisms)

1. Temperature: 9°C
2. Salinity: /
3. Alkalinity: /

C. HOLDING [✓] CULTURE [ ] WATER PARAMETERS

1. Temperature: 15°C
2. Salinity: 30 °/oo
3. Alkalinity: —
4. Water Source: MANASQUAN / FILTERED

D. ACCLIMATION [Temperature - Water Type]

1. Acclimation Chamber Volume (Liters): 300l
2. Acclimation Water Type: MANASQUAN / FILTERED
3. Acclimation Water Temperature: 10-15°C (1)
4. Acclimation Water Salinity: 30 ppt
5. Acclimation Commencement - Date: 1-8-92 Time: 1400HR
6. Change-Over Rate (ml/minute): N/A (1)
7. Culture Acclimation Ending-Date: 1-8-92 Time: 1415HRS
8. TEMP Acclimation Ending-Date: 1-10-92 Time: _____

E. TRANSFER CUSTODY & TRANSFER WATER PARAMETERS

1. Culture Lab > Test Lab: -Date: 1/10/92 Time: 1600
2. Temperature: 15°C
3. Salinity: 30°/oo
4. Alkalinity: —
5. Culture Lab Technician Initials: DB [Transfer]
6. Test Lab Technician Initials: _____ [Receiving]

REMARKS: (1) Shipment Rcvd 1/8/92: Clams packed in wet/chilled newspapers; allowed air temp to bring clams up 1°C every 1 hour from 1100hrs to 1400hrs. Clams then deposited in 10°C Manasquan and brought up to 15°C by 1/10/92.

91-368 N. virens Bioaccumulation survival
File: 91-368.nvs Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro Wilks test for normality

D = 0.129

W = 0.938

Critical W (P = 0.05) (n = 25) = 0.918
Critical W (P = 0.01) (n = 25) = 0.888

Data PASS normality test at P=0.01 level. Continue analysis.

91-368 N. virens Bioaccumulation survival
File: 91-368.nvs Transform: ARC SINE(SQUARE ROOT(Y))

Bartletts test for homogeneity of variance

Calculated B statistic = 4.41
Table Chi-square value = 13.28 (alpha = 0.01)
Table Chi-square value = 9.49 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 4.00
Used for Chi-square table value ==> df (#groups-1) = 4

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: 91-368 N. virens Bioaccumulation survival
FILE: 91-368.nvs
TRANSFORM: ARC SINE(SQUARE ROOT(Y)) NUMBER OF GROUPS: 5

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	0.8500	1.1731
1	reference	2	1.0000	1.4588
1	reference	3	1.0000	1.4588
1	reference	4	1.0000	1.4588
1	reference	5	0.9500	1.3453
2	Electric boat	1	1.0000	1.4588
2	Electric boat	2	0.9500	1.3453
2	Electric boat	3	0.9000	1.2490
2	Electric boat	4	0.9500	1.3453
2	Electric boat	5	0.9500	1.3453
3	Gold Star	1	0.9000	1.2490
3	Gold Star	2	0.9500	1.3453
3	Gold Star	3	0.9500	1.3453
3	Gold Star	4	0.9500	1.3453
3	Gold Star	5	0.9500	1.3453
4	Mamacoke	1	0.9500	1.3453
4	Mamacoke	2	0.8500	1.1731
4	Mamacoke	3	0.9500	1.3453
4	Mamacoke	4	0.9000	1.2490
4	Mamacoke	5	0.9000	1.2490
5	Pier 32 and 33	1	0.9500	1.3453
5	Pier 32 and 33	2	1.0000	1.4588
5	Pier 32 and 33	3	1.0000	1.4588
5	Pier 32 and 33	4	1.0000	1.4588
5	Pier 32 and 33	5	0.9500	1.3453

1-368 N. virens Bioaccumulation survival
ile: 91-368.nvs Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	5	1.173	1.459	1.379
2	Electric boat	5	1.249	1.459	1.349
3	Gold Star	5	1.249	1.345	1.326
4	Mamacoke	5	1.173	1.345	1.272
5	Pier 32 and 33	5	1.345	1.459	1.413

91-368 N. virens Bioaccumulation survival
ile: 91-368.nvs Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

RP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.016	0.125	0.056
2	Electric boat	0.006	0.074	0.033
3	Gold Star	0.002	0.043	0.019
4	Mamacoke	0.005	0.073	0.033
5	Pier 32 and 33	0.004	0.062	0.028

91-368 N. virens Bioaccumulation survival
File: 91-368.nvs Transform: ARC SINE(SQUARE ROOT(Y))

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	4	0.057	0.014	2.333
Within (Error)	20	0.129	0.006	
Total	24	0.186		

Critical F value = 2.87 (0.05,4,20)
Since F < Critical F FAIL TO REJECT Ho:All groups equal

1-368 N. virens Bioaccumulation survival
File: 91-368.nvs Transform: ARC SINE(SQUARE ROOT(Y))

DUNNETTS TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	reference	1.379	0.960		
2	Electric boat	1.349	0.950	0.616	
3	Gold Star	1.326	0.940	1.080	
4	Mamacoke	1.272	0.910	2.176	
5	Pier 32 and 33	1.413	0.980	-0.703	

Dunnett table value = 2.30 (1 Tailed Value, P=0.05, df=20,4)

1-368 N. virens Bioaccumulation survival
File: 91-368.nvs Transform: ARC SINE(SQUARE ROOT(Y))

DUNNETTS TEST - TABLE 2 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	reference	5			
2	Electric boat	5	0.054	5.6	0.010
3	Gold Star	5	0.054	5.6	0.020
4	Mamacoke	5	0.054	5.6	0.050
5	Pier 32 and 33	5	0.054	5.6	-0.020

TITLE: 91-368 M. nasuta Bioaccumulation survival
FILE: 91-368.mns
TRANSFORM: NO TRANSFORM NUMBER OF GROUPS: 5

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	Reference	1	0.8400	0.8400
1	Reference	2	0.8800	0.8800
1	Reference	3	0.9200	0.9200
1	Reference	4	0.8800	0.8800
1	Reference	5	0.9600	0.9600
2	Electric Boat	1	0.8800	0.8800
2	Electric Boat	2	0.8800	0.8800
2	Electric Boat	3	0.8000	0.8000
2	Electric Boat	4	0.9600	0.9600
2	Electric Boat	5	1.0000	1.0000
3	Gold Star	1	0.8800	0.8800
3	Gold Star	2	0.0900	0.0900
3	Gold Star	3	0.7200	0.7200
3	Gold Star	4	0.9600	0.9600
3	Gold Star	5	0.7200	0.7200
4	Mamacoke	1	0.8800	0.8800
4	Mamacoke	2	0.8800	0.8800
4	Mamacoke	3	0.8000	0.8000
4	Mamacoke	4	0.8400	0.8400
4	Mamacoke	5	0.7600	0.7600
5	Pier 32 and 33	1	0.7200	0.7200
5	Pier 32 and 33	2	0.8800	0.8800
5	Pier 32 and 33	3	0.5600	0.5600
5	Pier 32 and 33	4	0.7200	0.7200
5	Pier 32 and 33	5	0.6800	0.6800

ANALYSIS WITH OUTLIER

91-368 M. nasuta Bioaccumulation survival
File: 91-368.mns Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro Wilks test for normality

D = 0.865

W = 0.846

Critical W (P = 0.05) (n = 25) = 0.918
Critical W (P = 0.01) (n = 25) = 0.888

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

91-368 M. nasuta Bioaccumulation survival
File: 91-368.mns Transform: ARC SINE(SQUARE ROOT(Y))

Bartletts test for homogeneity of variance

Calculated B statistic = 15.92
Table Chi-square value = 13.28 (alpha = 0.01)
Table Chi-square value = 9.49 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 4.00
Used for Chi-square table value ==> df (#groups-1) = 4

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

91-368 M. nasuta Bioaccumulation survival
File: 91-368.mns Transform: NO TRANSFORM

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	Reference	5	0.840	0.960	0.896
2	Electric Boat	5	0.800	1.000	0.904
3	Gold Star	5	0.090	0.960	0.674
4	Mamacoke	5	0.760	0.880	0.832
5	Pier 32 and 33	5	0.560	0.880	0.712

91-368 M. nasuta Bioaccumulation survival
File: 91-368.mns Transform: NO TRANSFORM

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	Reference	0.002	0.046	0.020
2	Electric Boat	0.006	0.078	0.035
3	Gold Star	0.117	0.343	0.153
4	Mamacoke	0.003	0.052	0.023
5	Pier 32 and 33	0.013	0.115	0.051

91-368 M. nasuta Bioaccumulation survival
File: 91-368.mns Transform: NO TRANSFORM

KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2 (p=0.05)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	RANK SUM
1	Reference	0.896	0.896	88.500
2	Electric Boat	0.904	0.904	90.500
3	Gold Star	0.674	0.674	51.500
4	Mamacoke	0.832	0.832	62.000
5	Pier 32 and 33	0.712	0.712	32.500

Calculated H Value = 9.408 Critical H Value Table = 9.490
Since Calc H < Crit H FAIL TO REJECT Ho:All groups are equal.

91-368 M. nasuta Bioaccumulation survival
File: 91-368.mns Transform: NO TRANSFORM

DUNNS MULTIPLE COMPARISON - KRUSKAL-WALLIS - TABLE 2 OF 2 (p=0.05)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	ORIGINAL MEAN	GROUP 0 0 0 0 0 3 5 4 1 2
3	Gold Star	0.674	0.674	\
5	Pier 32 and 33	0.712	0.712	. \
4	Mamacoke	0.832	0.832	. . \
1	Reference	0.896	0.896	. . . \
2	Electric Boat	0.904	0.904	. . . . \

* = significant difference (p=0.05) . = no significant difference
Table q value (0.05,5) = 2.807 SE = 4.564

ANALYSIS WITHOUT OUTLIER

91-368 M. nasuta Bioaccumulation survival
File: test Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro Wilks test for normality

D = 0.289

W = 0.953

Critical W (P = 0.05) (n = 24) = 0.916
Critical W (P = 0.01) (n = 24) = 0.884

Data PASS normality test at P=0.01 level. Continue analysis.

91-368 M. nasuta Bioaccumulation survival
File: test Transform: ARC SINE(SQUARE ROOT(Y))

Bartletts test for homogeneity of variance

Calculated B statistic = 3.79
Table Chi-square value = 13.28 (alpha = 0.01)
Table Chi-square value = 9.49 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 3.80
Used for Chi-square table value ==> df (#groups-1) = 4

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

91-368 M. nasuta Bioaccumulation survival
File: test Transform: NO TRANSFORM

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	4	0.119	0.030	4.286
Within (Error)	19	0.139	0.007	
Total	23	0.258		

Critical F value = 2.90 (0.05,4,19)
Since F > Critical F REJECT Ho:All groups equal

91-368 M. nasuta Bioaccumulation survival
File: test Transform: NO TRANSFORM

BONFERRONI T-TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	Reference	0.896	0.896		
2	Electric Boat	0.904	0.904	-0.151	
3	Gold Star	0.820	0.820	1.354	
4	Mamacoke	0.832	0.832	1.209	
5	Pier 32 and 33	0.712	0.712	3.477	*

Bonferroni T table value = 2.43 (1 Tailed Value, P=0.05, df=19,4)

91-368 M. nasuta Bioaccumulation survival
File: test Transform: NO TRANSFORM

BONFERRONI T-TEST - TABLE 2 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	Reference	5			
2	Electric Boat	5	0.129	14.4	-0.008
3	Gold Star	4	0.137	15.2	0.076
4	Mamacoke	5	0.129	14.4	0.064
5	Pier 32 and 33	5	0.129	14.4	0.184

AQUA SURVEY, INC
SALTWATER ORGANISMS
96 HOUR REFERENCE TOXICANT

SPECIES: N. virens

TOXICANT: ~~SODIUM DODECYL SULFATE~~ Copper LOT #: _____

START DATE: 1/13/93

START TIME: 4:30

SOURCE: _____

TEST VOLUME: 4 L

DILUTION WATER: Mariculture

TEST TEMPERATURE: 12 ± 2

CONCENTRATION (mg/l)	LIVE COUNTS						
	INITIAL	4	8	24	48	72	96
CONTROL A	8			8	8	8	8
CONTROL B	8			8	8	7'	7
.31 A	8			8	8	8	8
.31 B	8			8	8	8	8
.63 A	8			8	8	8	8
.63 B	8			8	7'	7	7
1.25 A	8			8	8	7'	7
1.25 B	8			8	8	7'	6'
2.5 A	8			8	8	0[8]	—
2.5 B	8			8	8	0[3]	—
5.0 A	8			8	3'	0[3]	—
5.0 B	8			8	4'	0'	—
NUO	✓			✓	✓		
INITIALS	YT 1/13			YT 1/14	YT 1/15	YT 1/16	YT 1/17
QA/QC							

(NUO = NOTHING UNUSUAL OBSERVED)
NOTES AND OBSERVATIONS:

SRT-

AQUA SURVEY, INC

SALTWATER ORGANISMS

96 HOUR REFERENCE TOXICANT

SPECIES: N. VIRIDIS

TOXICANT: ~~SODIUM DODECYL SULFATE~~ COPPER LOT #:

START DATE: 1/12/93

START TIME:

TEST VOLUME: 4L

DILUTION WATER: Mass Coastal (0 ppt filtered)

TEST TEMPERATURE: 12 ± 2°C

SAMPLE ID	DISSOLVED OXYGEN (mg/l)					TEMPERATURE (DEGREES CELCIUS)					pH					SALINITY (ppt)				
	00	24	48	72	96	00	24	48	72	96	00	24	48	72	96	00	24	48	72	96
CONTROL A	10.6	7.8	7.6	7.7	7.6	10.0	16.0	14.0	14.0	14.5	8.1	8.0	8.0	7.9	7.8	29.0	29.5	30.5	30.5	31.5
CONTROL B	10.6				7.7	10.0				15.0	8.1				7.8	29.0				31.5
.31 A	10.6	8.0	7.6	7.8	7.6	10.0	16.0	14.0	14.0	15.0	8.1	8.0	8.0	7.9	7.8	29.0	29.5	32.0	31.0	32.0
.31 B	10.6				7.6	10.0				15.5	8.1				7.8	29.0				32.0
.63 A	10.6	7.9	7.6	7.8	7.8	10.0	16.0	14.5	14.0	15.0	8.1	8.0	8.0	7.9	7.8	29.0	29.5	31.0	31.0	30.5
.63 B	10.6				7.5	10.0				15.0	8.1				7.8	29.0				33.0
1.25 A	10.6	7.9	7.6	7.7	7.6	10.0	16.0	15.0	14.5	15.5	8.1	8.0	8.0	7.5	7.8	29.0	29.5	31.0	31.0	33.0
1.25 B	10.6				7.5	10.0				16.0	8.1				7.8	29.0				32.5
2.5 A	10.6	7.8	7.5	~~7.7~~	—	10.0	16.0	15.0	—	~~16.0~~	8.0	8.0	8.0	-	—	29.0	29.5	31.0	-	—
2.5 B	10.6				—	10.0				~~16.0~~	8.0				—	29.0				—
5.0 A	10.6	~~9.0~~	7.4	7.7	—	10.0	16.5	14.5	14.5	~~16.0~~	8.0	8.0	8.0	7.5	—	29.0	29.5	30.5	31.0	—
5.0 B	10.6				—	10.0				—	8.0				—	29.0				—
INITIALS	YT 1/13	YT 1/14	YT 1/15	RJ 1/12	YT 1/7	YT 1/13	YT 1/14	YT 1/15	1/12	YT 1/7	YT 1/13	YT 1/14	YT 1/15	RJ 1/12	YT 1/7	YT 1/13	YT 1/14	YT 1/15	RJ 1/11	YT 1/16
QA/QC																				

0 - all organisms died 1/16/93 YT

SRT

N. Virus - Copper Sulfate - 1/13/92

Stock Solution - 10,000 ppm

Calc. (ppm)	SS (ml's)	DW (Total vo (ml's)
0	—	4,000
.31	.12	4,000
.63	.25	4,000
1.25	.50	4,000
2.5	1.00	4,000
5.0	2.50	4,000

YT 1/13

EPA PROBIT ANALYSIS PROGRAM
USED FOR CALCULATING EC VALUES
Version 1.4

SRT N. virens copper sulfate 96 hour LC50

Conc.	Number Exposed	Number Resp.	Observed Proportion Responding	Adjusted Proportion Responding	Predicted Proportion Responding
0.3100	16	0	0.0000	0.0000	0.0000
0.6300	16	1	0.0625	0.0625	0.0115
1.2500	16	3	0.1875	0.1875	0.3517
2.5000	16	16	1.0000	1.0000	0.9375
5.0000	16	16	1.0000	1.0000	0.9997

Chi - Square Heterogeneity = 6.621

Mu = 0.156767
Sigma = 0.157242

Parameter	Estimate	Std. Err.	95% Confidence Limits
Intercept	4.003026	0.345609	(3.325632, 4.680419)
Slope	6.359607	1.477909	(3.462906, 9.256309)

Theoretical Spontaneous Response Rate = 0.0000

SRT N. virens copper sulfate 96 hour LC50

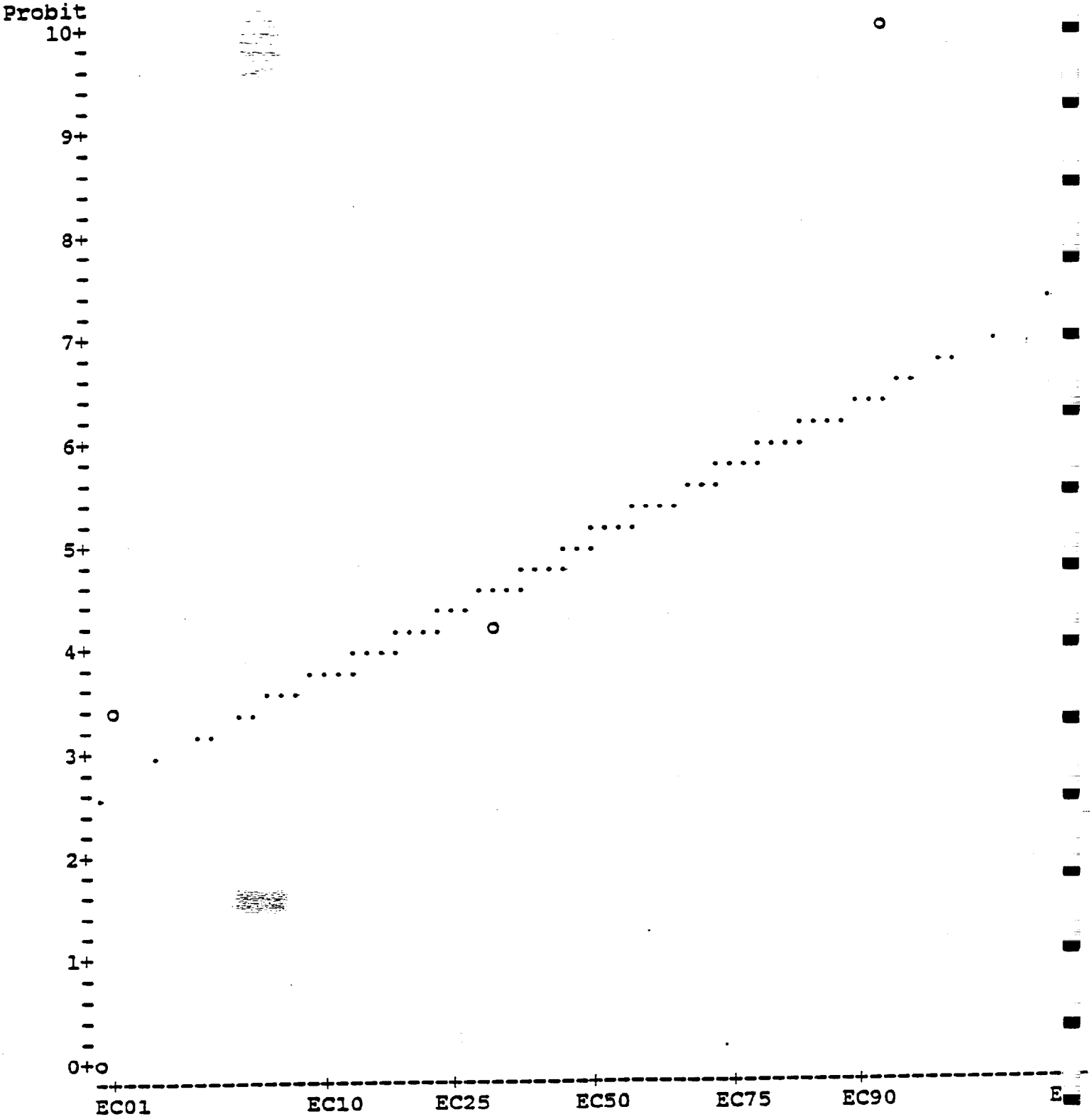
Estimated EC Values and Confidence Limits

1/13/92

Point	Conc.	95% Confidence Limits Lower	Upper
EC 1.00	0.6180	0.2933	0.8383
EC 5.00	0.7909	0.4545	1.0082
EC10.00	0.9021	0.5712	1.1181
EC15.00	0.9858	0.6641	1.2030
EC50.00	1.4347	1.1692	1.7614
EC85.00	2.0880	1.7105	3.1037
EC90.00	2.2819	1.8403	3.6092
EC95.00	2.6026	2.0407	4.5363
EC99.00	3.3309	2.4542	7.0299

SRT N. virens copper sulfate 96 hour LC50

PLOT OF ADJUSTED PROBITS AND PREDICTED REGRESSION LINE



AQUA SURVEY, INC
SALTWATER ORGANISMS
96 HOUR REFERENCE TOXICANT

SPECIES: M. Nigsuta
TOXICANT: ~~SODIUM DODECYL~~ Copper SULFATE LOT #:
START DATE: 1/13/92
START TIME: 4:30

SOURCE:
TEST VOLUME: 10 L
DILUTION WATER: Mugu Lagoon (0.45 Filtered)
TEST TEMPERATURE: 12 ± 2°C

CONCENTRATION (mg/l)	LIVE COUNTS						
	INITIAL	4	8	24	48	72	96
CONTROL A	8			8	8	8	8
CONTROL B	8			8	8	8	8
.625 A	8			8	8	8	8
.625 B	8			8	8	7¹	7
1.25 A	8			8	8	8	5-3
1.25 B	8			8	8	8	6-2
2.5 A	8			8	8	8	5-3
2.5 B	8			7¹	7	6¹	4-2
5.0 A	8			8	6 ~~5~~ 3	3³	2¹
5.0 B	8			8	7¹	5-2	3-2
10.0 A	8			8	4⁴	3	0¹
10.0 B	7			7	3⁴	2¹	0-2
NUO	✓			✓	✓	✓	✓
INITIALS	YT 1/13			YT 1/14	YT 1/15	YT 1/16	YT 1/17
QA/QC							

(NUO = NOTHING UNUSUAL OBSERVED)
NOTES AND OBSERVATIONS:

Counts YT 1/15

SRT-L

AQUA SURVEY, INC

SALTWATER ORGANISMS

96 HOUR REFERENCE TOXICANT

SPECIES: M. nigra

TOXICANT: ~~SODIUM DODECYL SULFATE~~ CdAPOr LOT #:

START DATE: 1/13/92

START TIME:

TEST VOLUME: 10 L

DILUTION WATER: Marine Lab 6 ft. well 0.2µ

TEST TEMPERATURE: 12 ± 2°C

SAMPLE ID	DISSOLVED OXYGEN (mg/l)					TEMPERATURE (DEGREES CELCIUS)					pH					SALINITY (ppt)				
	00	24	48	72	96	00	24	48	72	96	00	24	48	72	96	00	24	48	72	96
CONTROL A	10.6	7.8	7.4	7.9	8.3	10.0	15.5	12.5	11.0	12.5	8.1	8.1	8.0	7.8	7.9	29.0	29.0	29.0	28.5	29.0
CONTROL B	10.6				8.2	10.3				13.0	8.1				7.7	29.0				29.0
.625 A	10.6	8.0	8.0	8.3	8.4	10.0	16.0	13.0	12.0	13.0	8.0	8.1	8.0	7.8	7.8	29.0	29.0	29.0	28.5	29.0
.625 B	10.0				8.3	10.0				13.5	8.0				7.8	29.0				29.5
1.25 A	10.6	8.1	8.0	8.3	8.2	10.0	16.0	12.5	12.5	14.0	8.0	8.1	8.0	7.8	7.8	29.0	29.5	30.0	30.0	29.5
1.25 B	10.0				8.2	10.0				14.0	8.0				7.8	29.0				30.0
2.5 A	10.6	8.0	8.0	8.2	8.2	10.0	16.0	14.0	12.5	13.5	8.0	8.1	8.1	7.8	7.7	29.0	29.5	30.0	30.0	30.0
2.5 B	10.0				8.1	10.0				13.5	8.0				7.8	29.0				30.0
5.0 A	10.6	8.0	7.9	8.1	8.2	10.0	16.5	13.5	12.5	13.0	8.0	8.1	8.1	7.8	7.7	29.0	29.0	29.5	30.0	29.5
5.0 B	10.6			① ~~8.0~~		10.0				13.0	8.0				7.7	29.0				29.5
10.0 A	10.6	7.9	7.8	8.1	8.1	10.0	16.0	13.0	12.5	13.0	7.9	8.0	8.1	7.8	7.7	29.0	29.0	29.5	29.5	29.5
10.0 B	10.6				8.1	10.0				13.0	7.9				7.7	29.0				29.5
INITIALS	YT 1/13	YT 1/14	YT 1/15	[illegible] 1/16	YT 1/17	YT 1/13	YT 1/14	YT 1/15	[illegible]	YT 1/17	YT 1/13	YT 1/14	YT 1/15	[illegible]	YT 1/17	YT 1/13	YT 1/14	YT 1/15	[illegible] 1/16	YT 1/17
QA/QC																				

① 8.2 YT 1/17

SRT- CoSUy M. Nasuta 1/10/91

Stock solution(ss) #1 - 10,000 ppm

~~Stock solution #2~~ void 11/11/91

Conc. (mg/l)	SS #1 (ml)	Dilution water (ml)	Tot (ml)
0	—	10,000	10,
.625	.625	9,999	10,
1.25	1.25	9,998	10,
2.5	2.5	9,997	10,
5.0	5.0	9,995	10,
10.0	10.0	9,990	10,

EPA PROBIT ANALYSIS PROGRAM
USED FOR CALCULATING EC VALUES
Version 1.4

EPA PROBIT ANALYSIS PROGRAM
USED FOR CALCULATING EC VALUES
Version 1.4

SRT M. nasuta 96 hour LC50 copper sulfate

Conc.	Number Exposed	Number Resp.	Observed Proportion Responding	Adjusted Proportion Responding	Predicted Proportion Responding
0.6250	16	1	0.0625	0.0625	0.0694
1.2500	16	5	0.3125	0.3125	0.2311
2.5000	16	7	0.4375	0.4375	0.5038
5.0000	16	11	0.6875	0.6875	0.7746
10.0000	15	15	1.0000	1.0000	0.9330

Chi - Square Heterogeneity = 2.661

Mu = 0.394130
Sigma = 0.404212

Parameter	Estimate	Std. Err.	95% Confidence Limits
Intercept	4.024944	0.248679	(3.537532, 4.512356)
Slope	2.473947	0.467959	(1.556746, 3.391147)

Theoretical Spontaneous Response Rate = 0.0000

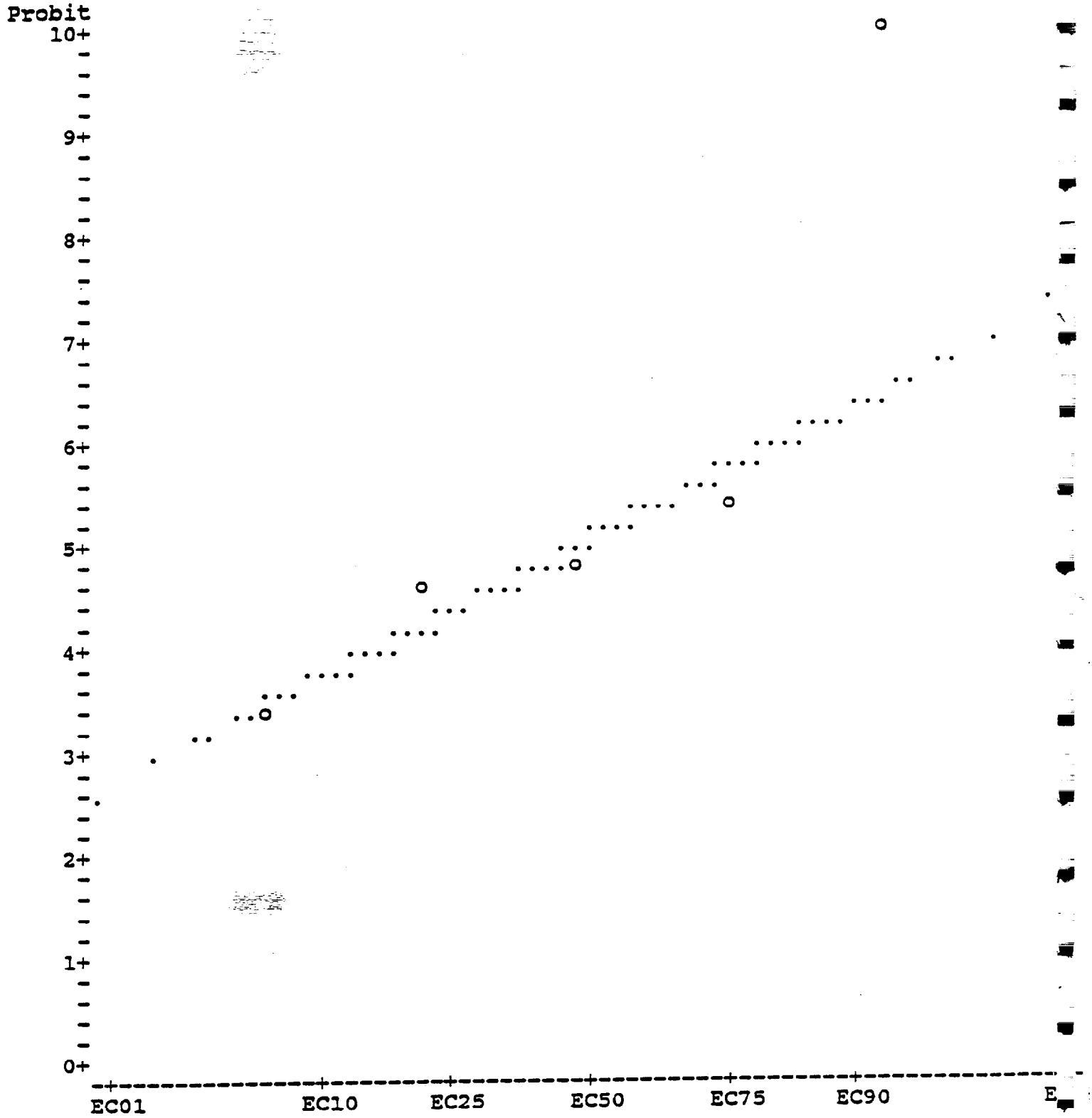
SRT M. nasuta 96 hour LC50 copper sulfate

Estimated EC Values and Confidence Limits

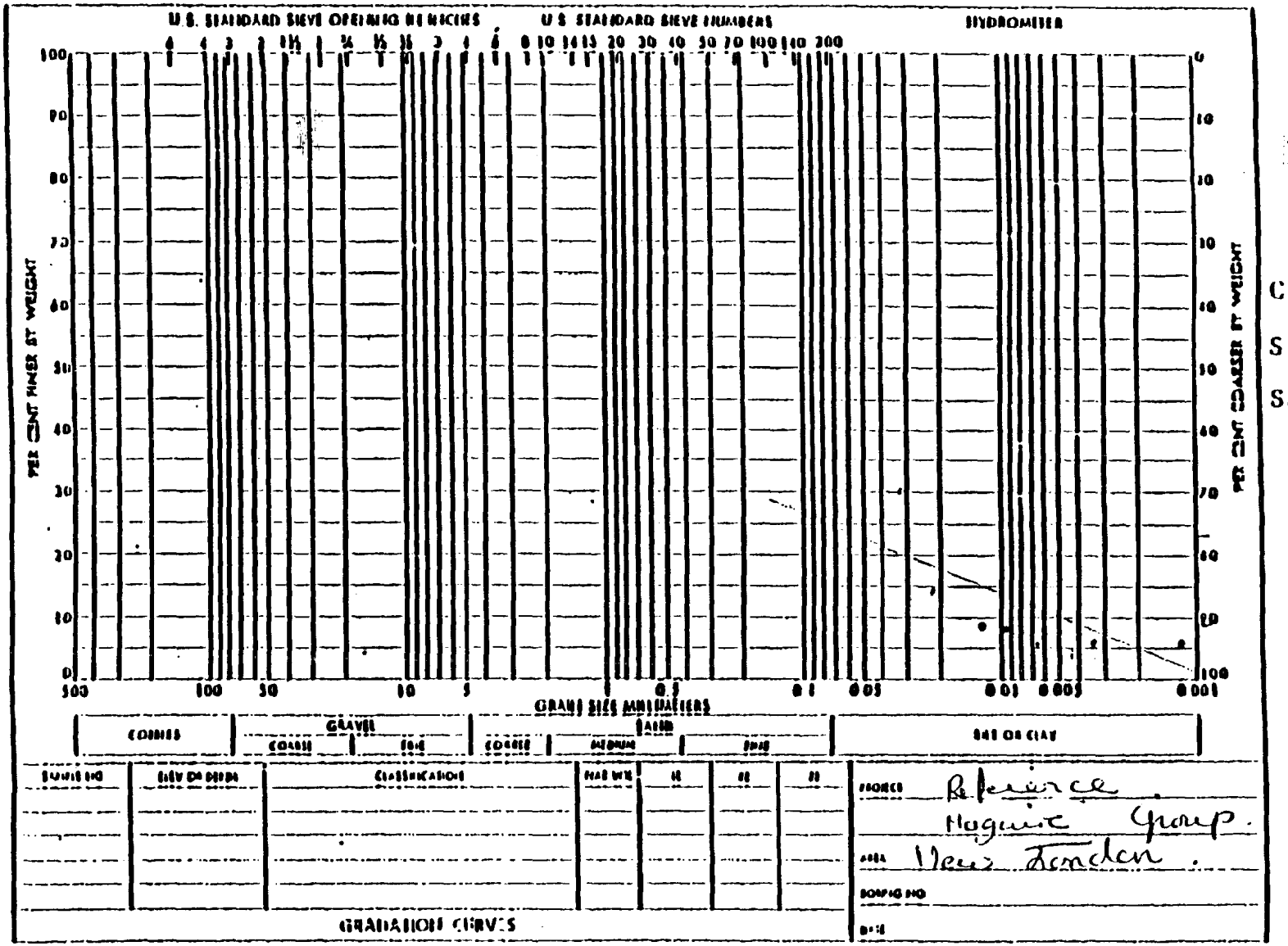
Point	Conc.	Lower 95% Confidence	Upper Limits
EC 1.00	0.2843	0.0753	0.5397
EC 5.00	0.5361	0.2019	0.8759
EC10.00	0.7518	0.3390	1.1426
EC15.00	0.9445	0.4783	1.3748
EC50.00	2.4782	1.7821	3.4541
EC85.00	6.5021	4.4553	12.9351
EC90.00	8.1690	5.3588	18.2554
EC95.00	11.4556	6.9884	30.6610
EC99.00	21.5998	11.3384	82.2345

SRT M. nasuta 96 hour LC50 copper sulfate

PLOT OF ADJUSTED PROBITS AND PREDICTED REGRESSION LINE



Sand ≥ 0.0625 0.0039 < Silt < 0.0625 Clay ≥ 0.0039



Clay- 8%
Silt- 15%
Sand- 77%

Report Date: 02/03/92

Page

Date: 01/22/92
Site: reference New dendem
Dispersant Correction: 3.000

K Content: 0.01348
Temperature: 21.000

Total # of Samples:
Number of Entries:
Specific Gravity: 2.

Sample #: 1 Grams Used: 50.00 f m: 0.99000

Clock Time	Elapse Time (T)	Hydrometer Reading |R | h|	Effective Depth (L)	Percent Suspend (%)	Grain Size (mm) (GS mm.)
09:06	2.0	18.00	13.30	30.303030	0.0347617
09:09	5.0	10.00	14.70	14.141414	0.0231134
09:19	15.0	7.00	15.20	8.080808	0.0135696
09:34	30.0	7.00	15.20	8.080808	0.0095951
10:04	60.0	6.00	15.30	6.060606	0.0068071
01:14	250.0	6.00	15.30	6.060606	0.0033348
09:04	1440.0	6.00	15.30	6.060606	0.0013895

Sample #: 1 Grams Used: 0.00 f m: 0

Clock Time	Elapse Time (T)	Hydrometer Reading | h|	Effective Depth (L)	Percent Suspend (%)	Grain Size (GS m

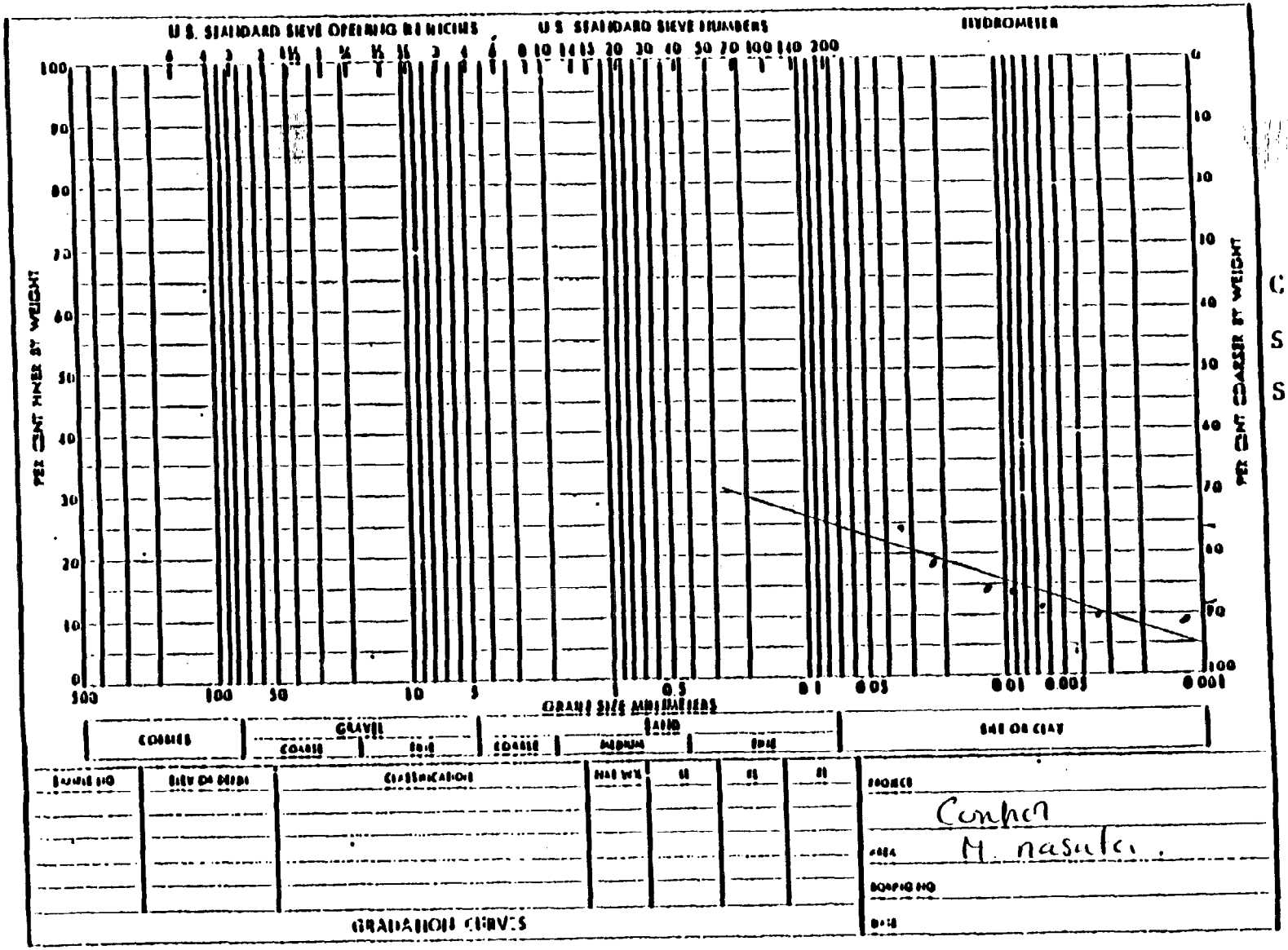
Client: Maguire Group Job #: 91-364

Sample #	Pan Weight	Pan Weight & Wet Sed.	Pan Weight & Air Dry	Percent Moisture	Pan Weight & Oven Dry	Hygroscopic Moisture	HMCF **	Grams use for sed.
M. moisture can	1.539	67.648	49.044	28.14	48.249		0.98	
A. edit can	1.538	41.191	17.349	60.13	16.171		0.93	
REF Reagent	1.529	64.538	48.377	25.65	48.014		0.99	

** Percent Moisture = $\frac{\text{(Wet sample \& dish) - (Dry sample \& dish)}}{\text{(Wet sample \& dish) - dish}} \times 100$

Hygroscopic Moisture Correction Factor = oven dried / air dried

Sand ≥ 0.0625 0.0039 < Silt < 0.0625 Clay ≥ 0.0039



Clay- 12%
Silt- 12%
Sand- 76%

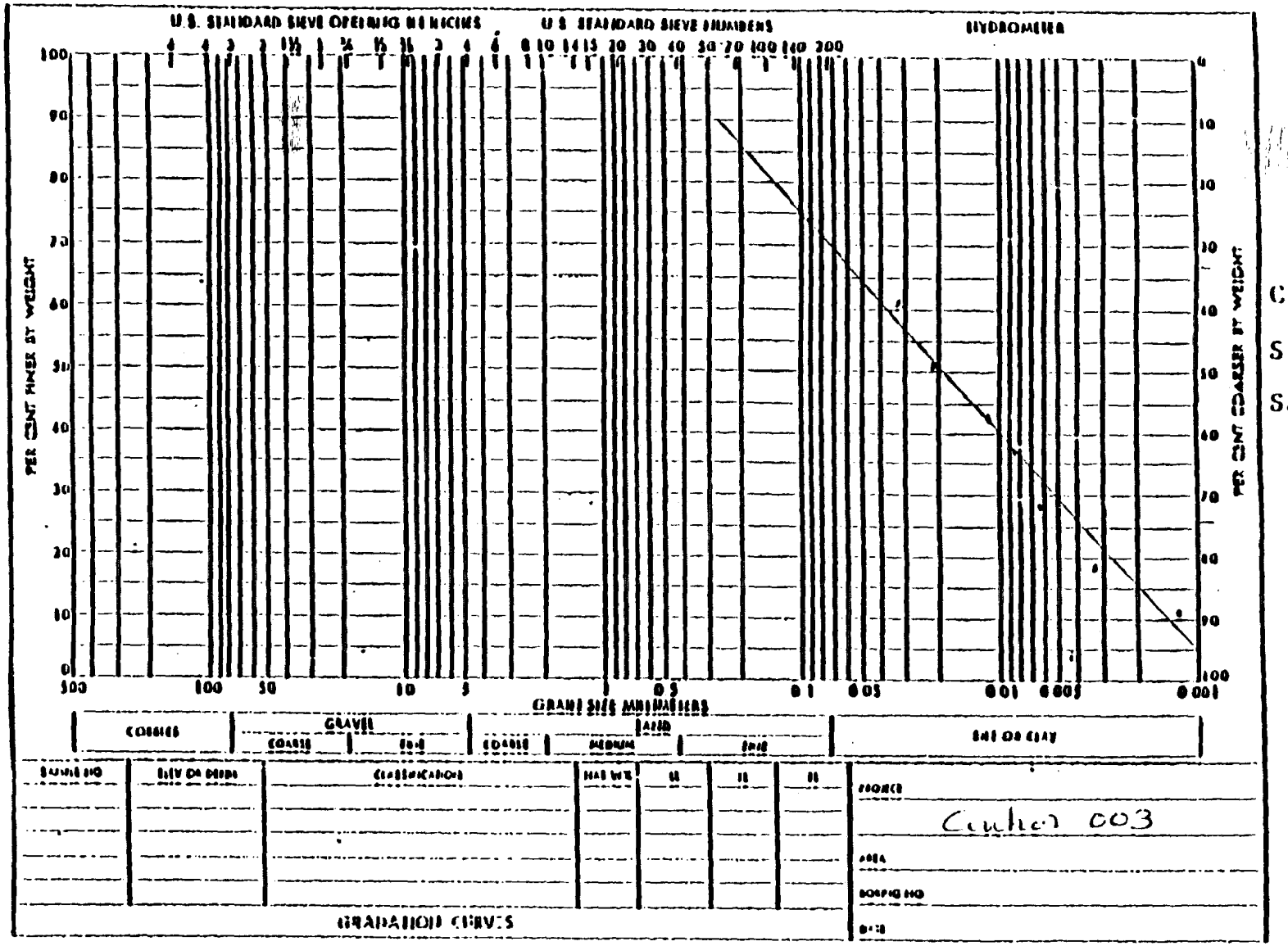
Client: Maguire Group Job #: 91-36

Sample #	Pan Weight	Pan Weight & Wet Sed.	Pan Weight & Air Dry	Percent Moisture	Pan Weight & Oven Dry	Hygroscopic Moisture	HMCF **	Grams used for sed.
M. Massie Con	1.539	67.648	49.044	28.14	48.249		0.98	
A. Gabitt Con	1.538	41.191	17.349	60.13	16.171		0.93	
REF Regional	1.529	64.538	48.377	25.65	48.014		0.99	

** Percent Moisture = $\frac{\text{(Wet sample \& dish) - (Dry sample \& dish)}}{\text{(Wet sample \& dish) - dish}} \times 100$

Hygroscopic Moisture Correction Factor = oven dried / air dried

Sand ≥ 0.0625 0.0039 < Silt < 0.0625 Clay ≥ 0.0039



Clay- 26%
Silt- 41%
Sand- 33%

Report Date: 02/03/92

Page:

Date: 01/22/92
Site: Con. M. nasuta
Dispersant Correction: 3.000

K Content: 0.01348
Temperature: 21.000

Total # of Samples:
Number of Entries:
Specific Gravity:

Sample #: 1 Grams Used: 50.00 f m: 0.98000

Clock Time	Elapse Time (T)	Hydrometer Reading R h	Effective Depth (L)	Percent Suspend (%)	Grain Size (mm) (GS mm.)
09:02	2.0	15.00	13.80	24.489796	0.0354091
09:05	5.0	12.00	14.30	18.367347	0.0227967
09:15	15.0	10.00	14.70	14.285714	0.0133445
09:30	30.0	10.00	14.70	14.285714	0.0094360
10:00	60.0	9.00	14.80	12.244898	0.0066949
01:10	250.0	8.00	15.00	10.204082	0.0033019
09:00	1440.0	7.00	15.20	8.163265	0.0013849

Sample #: 1 Grams Used: 0.00 f m: 0.0

Clock Time	Elapse Time (T)	Hydrometer Reading h	Effective Depth (L)	Percent Suspend (%)	Grain Size (m (GS mm

Report Date: 01/08/92

Date: 01/03/92
Site: control #003
Dispersant Correction: 4.000

K Content: 0.01348
Temperature: 21.000

Total # of Samples:
Number of Entries:
Specific Gravity:

Sample #: 1 Grams Used: 50.00 f m: 0.97000

Clock Time	Elapse Time (T)	Hydrometer Reading |R h|	Effective Depth (L)	Percent Suspend (%)	Grain Size (mm) (GS mm.)
09:02	2.0	34.00	10.70	61.855670	0.0311793
09:05	5.0	29.00	11.50	51.546392	0.0204434
09:15	15.0	25.00	12.20	43.298969	0.0121569
09:30	30.0	22.00	12.70	37.113402	0.0087706
10:00	60.0	18.00	13.30	28.865979	0.0063466
01:10	250.0	13.00	14.20	18.556701	0.0032127
09:00	1440.0	10.00	14.70	12.371134	0.0013620

Sample #: 1 Grams Used: 0.00 f m: 0.

Clock Time	Elapse Time (T)	Hydrometer Reading | h|	Effective Depth (L)	Percent Suspend (%)	Grain Size (GS m...)

Master

Client: Control Job #: _____

Sample #	Pan Weight	Pan Weight & Wet Sed.	Pan Weight & Air Dry	Percent Moisture	Pan Weight & Oven Dry	Hygroscopic Moisture	HMCF ¤	Grams used for sed.
#001 5-30-91	1.088	34.534	16.459	54.04	16.071		0.98	
#002 9-25-91	1.153	30.545	10.282	68.17	10.339		0.98	
#003 11-20-91	1.520	54.765	22.577	60.45	22.001		0.97	

¤ Percent Moisture = $\frac{\text{(Wet sample \& dish) - (Dry sample \& dish)}}{\text{(Wet sample \& dish) - dish}} \times 100$

Hygroscopic Moisture Correction Factor = oven dried / air dried

REPORT OF ANALYSIS FOR

Aqua Survey
499 Point Breeze Rd.
Flemington, NJ 08822

Attn: James Todd
Ref: US Navy-New London
(Add Work to Login 11231)

Project No.: 9218645
Log in No: 11639
Sample Received: 1/25/92
Report Date: March 12, 1992
P.O. # 92-91368

We find as follows:

Results in mg/kg (dry wt. basis):

Parameter(s)	Sample Identification	
	001 (1163901)	Method Blank
Copper	6.95	<5
Nickel	7.96	<5
Zinc	38.2	<5

Respectfully submitted,
Nytest Environmental, Inc.

Douglas Sheeley
Laboratory Director

NJ Cert # 73469
mar

APPENDIX

ELECTRIC BOAT

B 2

nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11231

We find as follows:

Parameter(s)	Sample Identification	
	001 (1123101)	METHOD BLANK
% Moisture	30.7	<0.02
Results in mg/kg (dry wt. basis):		
Arsenic	<2	<2
Barium	18.4	<10
Cadmium	<1	<1
Chromium	15.7	<5
Lead	11.4	<5
Mercury	<0.01	<0.01
Selenium	<1	<1
Silver	<5	<5
Total Organic Carbon	12400	<40

00005

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11231

We find as follows:

Results in ug/kg (Dry Wt. basis):

Parameter(s)	Sample Identification	
	001 (1123101)	SBLKF13 (F9936)
Acenaphthene	510.0 U	330.0 U
Acenaphthylene	510.0 U	330.0 U
Anthracene	510.0 U	330.0 U
Benzo (a) anthracene	510.0 U	330.0 U
Benzo (a) pyrene	510.0 U	330.0 U
Benzo (b) fluroanthene	510.0 U	330.0 U
Benzo (g,h,i) perylene	510.0 U	330.0 U
Benzo (k) fluroanthene	510.0 U	330.0 U
Chrysene	510.0 U	330.0 U
Dibenzo (a,h)anthracene	510.0 U	330.0 U
Fluoranthene	510.0 U	330.0 U
Indeno (1,2,3-cd) pyrene	510.0 U	330.0 U
Naphthalene	510.0 U	330.0 U
Phenanthrene	75.0 J	330.0 U
Pyrene	110.0 J	330.0 U

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nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Pretest - Nireis Virens

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification PRETEST WORM
% Water	1.0	84.5
% Total Organic Carbon	0.1	38.6
% Lipids	-	2.01
Results in ppm (dry wt.):		
Arsenic	0.5	NA *
Cadmium	0.5	NA *
Chromium	1.0	NA *
Copper	1.0	NA *
Lead	1.0	NA *
Nickel	1.0	NA *
Mercury	0.10	< 0.143
Zinc	1.0	NA*

NA * = Insufficient sample for analysis.

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Reference - Nireis Virens

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification REF-WORM1	REF-WORM2	REF-WORM3	REF-WORM4	REF-WO?
% Water	1.0	84.9	85.7	85.3	85.6	87.7
% Total Organic Carbon	0.1	21.7	31.0	83.9	64.7	63.4
% Lipids	-	9.07	11.7	9.52	6.86	11.7
Results in ppm (dry wt.):						
Arsenic	0.5	< 0.5	< 0.5	< 0.5	0.657	< 0.5
Cadmium	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	1.0	1.68	1.52	1.40	2.01	1.64
Lead	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Nickel	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	36	18.3	24.5	37.8	18.0

NA * = Insufficient sample for analysis.

nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Electric Boat

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification EL-WORM1	EL-WORM2	EL-WORM3	EL-WORM4	EL-WORM5
% Water	1.0	85.8	84.7	85.5	85.4	NA *
% Total Organic Carbon	0.1	47.4	51.4	66.9	41.5	82.8
% Lipids	-	6.37	5.96	4.59	4.95	NA *
Results in ppm (dry wt.):						
Arsenic	0.5	< 0.5	< 0.5	< 1.56	NA *	NA *
Cadmium	0.5	< 0.5	< 0.5	< 0.83	NA *	NA *
Chromium	1.0	< 1.0	< 1.0	< 1.0	NA *	NA *
Copper	1.0	1.3	1.58	< 2.08	NA *	NA *
Lead	1.0	< 1.0	< 1.0	< 4.17	NA *	NA *
Nickel	1.0	< 1.0	< 1.0	< 3.33	NA *	NA *
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	20	20.4	214	NA *	NA *

NA * = Insufficient sample for analysis.

00011

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Electric Boat

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification EL-WORM5A	EL-WORM5B
% Water	1.0	NA *	85.0
% Total Organic Carbon	0.1	35.6	33.8
% Lipids	-	NA *	NA *
Results in ppm (dry wt.):			
Arsenic	0.5	< 0.5	< 0.5
Cadmium	0.5	< 0.5	< 0.5
Chromium	1.0	< 1.0	< 1.0
Copper	1.0	1.40	1.58
Lead	1.0	< 1.0	< 1.0
Nickel	1.0	< 1.0	< 1.0
Mercury	0.10	< 0.10	< 0.10
Zinc	1.0	38.6	11.2

NA * = Insufficient sample for analysis.

nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Pretest - Macoma

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification PRETEST MAC
% Water	1.0	87.7
% Total Organic Carbon	0.1	31.0
% Lipids	-	1.28
Results in ppm (dry wt.):		
Arsenic	0.5	< 0.5
Cadmium	0.5	< 0.5
Chromium	1.0	< 1.0
Copper	1.0	2.0
Lead	1.0	< 1.0
Nickel	1.0	1.61
Mercury	0.10	< 0.10
Zinc	1.0	51.6

NA * = Insufficient sample for analysis.

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Reference - Macoma

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification REF-MAC1	REF-MAC2	REF-MAC3	REF-MAC4	REF-MAC5
% Water	1.0	NA *	88.2	NA *	NA *	87.9
% Total Organic Carbon	0.1	28.7	21.7	33.2	51.2	36.5
% Lipids	-	NA *	11.9	NA *	NA *	13.8
Results in ppm (dry wt.):						
Arsenic	0.5	NA *	2.85	3.18	3.16	3.50
Cadmium	0.5	NA *	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	1.0	NA *	< 1.0	< 1.0	< 1.0	< 1.0
Copper	1.0	NA *	3.36	4.34	3.55	3.11
Lead	1.0	NA *	1.22	1.08	< 1.0	1.52
Nickel	1.0	NA *	1.52	1.50	1.77	1.66
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	NA *	50.7	35.9	42.2	39.8

NA * = Insufficient sample for analysis.

00028

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Electric Boat

We find as follows:

Parameter(s)		Method Detection Limit	Sample Identification EL-MAC1	EL-MAC2	EL-MAC3	EL-MAC4	EL-MAC5
% Water		1.0	NA *	NA *	NA *	85.0	NA *
% Total Organic Carbon		0.1	72.4	35.3	36.3	29.2	37.9
% Lipids		-	NA *	NA *	NA *	5.19	NA *
Results in ppm (dry wt.):							
Arsenic	< 0.5	0.5	3.14	NA *	NA *	< 0.5	NA *
Cadmium	< 0.5	0.5	< 0.5	NA *	NA *	< 0.5	NA *
Chromium	< 1.0	1.0	< 1.0	NA *	NA *	< 1.0	NA *
Copper	1.58	1.0	2.72	NA *	NA *	13.4	NA *
Lead	< 1.0	1.0	1.25	NA *	NA *	< 1.0	NA *
Nickel	< 1.0	1.0	2.57	NA *	NA *	< 1.0	NA *
Mercury	< 0.10	0.10	< 0.10	< 0.10	< 0.10	< 0.14	NA *
Zinc	20.4	1.0	42.3	NA *	NA *	9.18	NA *

NA * = Insufficient sample for analysis.

00013

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Electric Boat

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification EL-MAC5A	EL-MAC5B
% Water	1.0	NA *	NA *
% Total Organic Carbon	0.1	47.1	40.6
% Lipids	-	NA *	NA *
Results in ppm (dry wt.):			
Arsenic	0.5	NA *	NA *
Cadmium	0.5	NA *	NA *
Chromium	1.0	NA *	NA *
Copper	1.0	NA *	NA *
Lead	1.0	NA *	NA *
Nickel	1.0	NA *	NA *
Mercury	0.10	< 0.13	< 0.29
Zinc	1.0	NA *	NA *

NA * = Insufficient sample for analysis.

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92
ANALYSIS DATE: 3/18/92
(GPC CLEAN-UP)

SAMPLE ID: PRETEST WORM
LAB ID: 1148267
DIL FACTOR: 8.10
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	2700.0 U.
43	208-96-8	Acenaphthylene	2700.0 U.
44	83-32-9	Acenaphthene	2700.0 U.
45	86-73-7	Fluorene	2700.0 U.
46	85-01-8	Phenanthrene	2700.0 U.
47	120-12-7	Anthracene	2700.0 U.
48	206-44-0	Fluoranthene	2700.0 U.
49	129-00-0	Pyrene	2700.0 U.
50	56-55-3	Benzo(a)Anthracene	2700.0 U.
51	218-01-9	Chrysene	2700.0 U.
52	205-99-2	Benzo(b)Fluoranthene	2700.0 U.
53	207-08-9	Benzo(k)Fluoranthene	2700.0 U.
54	50-32-8	Benzo(a)Pyrene	2700.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	2700.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	2700.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	2700.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00235

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/11/92

(GPC CLEAN-UP)

SAMPLE ID: REF-WORM1
LAB ID: 1148257
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0
44	83-32-9	Acenaphthene	660.0
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0
47	120-12-7	Anthracene	660.0
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0
51	218-01-9	Chrysene	660.0
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0
54	50-32-8	Benzo(a)Pyrene	660.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/11/92

SAMPLE ID: REF-WORM2
LAB ID: 1148258
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00202

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/13/92
UG/KG

(GPC CLEAN-UP)

SAMPLE ID: REF-WORM3
LAB ID: 1148259
DIL FACTOR: 2.00
% MOISTURE: NA
UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	
42	91-20-3	Naphthalene	660.0 U
43	208-96-8	Acenaphthylene	660.0 U
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U
47	120-12-7	Anthracene	660.0 U
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0
50	56-55-3	Benzo(a)Anthracene	660.0 U
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0
54	50-32-8	Benzo(a)Pyrene	660.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0
57	191-24-2	Benzo(g,h,i)Perylene	660.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

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NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/13/92

(GPC CLEAN-UP)

SAMPLE ID: REF-WORM4
LAB ID: 1148260
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00208

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/11/92
(GPC CLEAN-UP)

SAMPLE ID: REF-WORMS
LAB ID: 1148261
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0
43	208-96-8	Acenaphthylene	990.0
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0
47	120-12-7	Anthracene	990.0 U
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0
50	56-55-3	Benzo(a)Anthracene	990.0
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0
54	50-32-8	Benzo(a)Pyrene	990.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0
57	191-24-2	Benzo(g,h,i)Perylene	990.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00211

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/14/92
(GPC CLEAN-UP)
SAMPLE ID: REF-WORM5A
LAB ID: 148261A
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00214

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/16/92
(GPC CLEAN-UP)
SAMPLE ID:REF-WORM5B
LAB ID: 1482618
DIL FACTOR: 3.00
% MOISTURE:NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U
43	208-96-8	Acenaphthylene	990.0 U
44	83-32-9	Acenaphthene	990.0 U
45	86-73-7	Fluorene	990.0 U
46	85-01-8	Phenanthrene	990.0 U
47	120-12-7	Anthracene	990.0 U
48	206-44-0	Fluoranthene	990.0 U
49	129-00-0	Pyrene	990.0 U
50	56-55-3	Benzo(a)Anthracene	990.0 U
51	218-01-9	Chrysene	990.0 U
52	205-99-2	Benzo(b)Fluoranthene	990.0 U
53	207-08-9	Benzo(k)Fluoranthene	990.0 U
54	50-32-8	Benzo(a)Pyrene	990.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00217

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/12/92
(GPC CLEAN-UP)

SAMPLE ID: EL-WORMS1
LAB ID: 1148201
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00031

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/12/92

(GPC CLEAN-UP)

SAMPLE ID: EL-WORM2
LAB ID: 1148202
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0
44	83-32-9	Acenaphthene	990.0
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0
47	120-12-7	Anthracene	990.0
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0
51	218-01-9	Chrysene	990.0
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0
54	50-32-8	Benzo(a)Pyrene	990.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

18-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/12/92
(GPC CLEAN-UP)
SAMPLE ID: EL-WORM3
LAB ID: 1148203
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00037

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/12/92
(GPC CLEAN-UP)

SAMPLE ID: EL-WORM4
LAB ID: 1148204
DIL FACTOR: 4.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	1320.0
43	208-96-8	Acenaphthylene	1320.0
44	83-32-9	Acenaphthene	1320.0 U.
45	86-73-7	Fluorene	1320.0 U.
46	85-01-8	Phenanthrene	1320.0
47	120-12-7	Anthracene	1320.0 U.
48	206-44-0	Fluoranthene	1320.0 U.
49	129-00-0	Pyrene	1320.0
50	56-55-3	Benzo(a)Anthracene	1320.0
51	218-01-9	Chrysene	1320.0 U.
52	205-99-2	Benzo(b)Fluoranthene	1320.0 U.
53	207-08-9	Benzo(k)Fluoranthene	1320.0
54	50-32-8	Benzo(a)Pyrene	1320.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	1320.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	1320.0
57	191-24-2	Benzo(g,h,i)Perylene	1320.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00040

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/10/92
(GPC CLEAN-UP)

SAMPLE ID: EL-WORM5
LAB ID: 1148205
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/11/92

(GPC CLEAN-UP)

SAMPLE ID: EL-WORM5A
LAB ID: 1148206
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00046

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/10/92

(GPC CLEAN-UP)

SAMPLE ID: EL-WORM5B
LAB ID: 1148207
DIL FACTOR: 3.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/16/92

SAMPLE ID: PRETEST MAC
LAB ID: 1148268
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U
44	83-32-9	Acenaphthene	660.0 U
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U
47	120-12-7	Anthracene	660.0 U
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U
51	218-01-9	Chrysene	660.0 U
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U
54	50-32-8	Benzo(a)Pyrene	660.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92
ANALYSIS DATE: 3/18/92

(GPC CLEAN-UP)

SAMPLE ID: REF-MAC1
LAB ID: 1148262
DIL FACTOR: 21.60
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	7100.0 U.
43	208-96-8	Acenaphthylene	7100.0 U.
44	83-32-9	Acenaphthene	7100.0 U.
45	86-73-7	Fluorene	7100.0 U.
46	85-01-8	Phenanthrene	7100.0 U.
47	120-12-7	Anthracene	7100.0 U.
48	206-44-0	Fluoranthene	7100.0 U.
49	129-00-0	Pyrene	7100.0 U.
50	56-55-3	Benzo(a)Anthracene	7100.0 U.
51	218-01-9	Chrysene	7100.0 U.
52	205-99-2	Benzo(b)Fluoranthene	7100.0 U.
53	207-08-9	Benzo(k)Fluoranthene	7100.0 U.
54	50-32-8	Benzo(a)Pyrene	7100.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	7100.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	7100.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	7100.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00220

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92
ANALYSIS DATE: 3/18/92

(GPC CLEAN-UP)

SAMPLE ID: REF-MAC2
LAB ID: 1148263
DIL FACTOR: 10.70
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG	
42	91-20-3	Naphthalene	3500.0	U.
43	208-96-8	Acenaphthylene	3500.0	
44	83-32-9	Acenaphthene	3500.0	U.
45	86-73-7	Fluorene	3500.0	U.
46	85-01-8	Phenanthrene	3500.0	
47	120-12-7	Anthracene	3500.0	
48	206-44-0	Fluoranthene	140.0	J.
49	129-00-0	Pyrene	3500.0	
50	56-55-3	Benzo(a)Anthracene	3500.0	
51	218-01-9	Chrysene	3500.0	U.
52	205-99-2	Benzo(b)Fluoranthene	3500.0	U.
53	207-08-9	Benzo(k)Fluoranthene	3500.0	
54	50-32-8	Benzo(a)Pyrene	3500.0	
55	193-39-5	Indeno(1,2,3-cd)Pyrene	3500.0	U.
56	53-70-3	Dibenz(a,h)Anthracene	3500.0	
57	191-24-2	Benzo(g,h,i)Perylene	3500.0	
58				
59				
60				
		ACID COMPOUNDS		
61	108-95-2	Phenol	NA	
62	95-57-8	2-Chlorophenol	NA	
63	100-51-6	Benzyl Alcohol	NA	
64	95-48-7	2-Methylphenol	NA	
65	106-44-5	4-Methylphenol	NA	
66	88-75-5	2-Nitrophenol	NA	
67	105-67-9	2,4-Dimethylphenol	NA	
68	65-85-0	Benzoic Acid	NA	
69	120-83-2	2,4-Dichlorophenol	NA	
70	59-50-7	4-Chloro-3-Methylphenol	NA	
71	88-06-2	2,4,6-Trichlorophenol	NA	
72	95-95-4	2,4,5-Trichlorophenol	NA	
73	51-28-5	2,4-Dinitrophenol	NA	
74	100-02-7	4-Nitrophenol	NA	
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA	
76	87-86-5	Pentachlorophenol	NA	
77				
78				
79				
80				

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/16/92
SAMPLE ID: REF-MAC3
LAB ID: 1148264
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

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NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/16/92
UG/KG

SAMPLE ID: REF-MAC4
LAB ID: 1148265
DIL FACTOR: 2.00
% MOISTURE: NA
UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS		CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	
1	111-44-4	bis(2-Chloroethyl)ether	NA	42	91-20-3	Naphthalene	660.0 U.
2	541-73-1	1,3-Dichlorobenzene	NA	43	208-96-8	Acenaphthylene	660.0 U.
3	106-46-7	1,4-Dichlorobenzene	NA	44	83-32-9	Acenaphthene	660.0 U.
4	95-50-1	1,2-Dichlorobenzene	NA	45	86-73-7	Fluorene	660.0 U.
5	108-60-1	bis(2-chloroisopropyl)ether	NA	46	85-01-8	Phenanthrene	660.0 U.
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA	47	120-12-7	Anthracene	660.0 U.
7	67-72-1	Hexachloroethane	NA	48	206-44-0	Fluoranthene	660.0 U.
8	98-95-3	Nitrobenzene	NA	49	129-00-0	Pyrene	660.0 U
9	78-59-1	Isophorone	NA	50	56-55-3	Benzo(a)Anthracene	660.0 U
10	111-91-1	bis(2-chloroethoxy)Methane	NA	51	218-01-9	Chrysene	660.0 U.
11	120-82-1	1,2,4-Trichlorobenzene	NA	52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
12	106-47-8	4-Chloroaniline	NA	53	207-08-9	Benzo(k)Fluoranthene	660.0 U
13	87-68-3	Hexachlorobutadiene	NA	54	50-32-8	Benzo(a)Pyrene	660.0 U
14	91-57-6	2-Methylnaphthalene	NA	55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
15	77-47-4	Hexachlorocyclopentadiene	NA	56	53-70-3	Dibenz(a,h)Anthracene	660.0 U
16	91-58-7	2-Chloronaphthalene	NA	57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
17	88-74-4	2-Nitroaniline	NA	58			
18	131-11-3	Dimethyl Phthalate	NA	59			
19	99-09-2	3-Nitroaniline	NA	60			
20	132-64-9	Dibenzofuran	NA			ACID COMPOUNDS	
21	121-14-2	2,4-Dinitrotoluene	NA				
22	606-20-2	2,6-Dinitrotoluene	NA	61	108-95-2	Phenol	NA
23	84-66-2	Diethylphthalate	NA	62	95-57-8	2-Chlorophenol	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA	63	100-51-6	Benzyl Alcohol	NA
25	100-01-6	4-Nitroaniline	NA	64	95-48-7	2-Methylphenol	NA
26	86-30-6	N-Nitrosodiphenylamine	NA	65	106-44-5	4-Methylphenol	NA
27	101-55-3	4-Bromophenyl-phenylether	NA	66	88-75-5	2-Nitrophenol	NA
28	118-74-1	Hexachlorobenzene	NA	67	105-67-9	2,4-Dimethylphenol	NA
29	84-74-2	Di-n-Butylphthalate	NA	68	65-85-0	Benzoic Acid	NA
30	85-68-7	Butylbenzylphthalate	NA	69	120-83-2	2,4-Dichlorophenol	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA	70	59-50-7	4-Chloro-3-Methylphenol	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA	71	88-06-2	2,4,6-Trichlorophenol	NA
33	117-84-0	Di-n-Octyl Phthalate	NA	72	95-95-4	2,4,5-Trichlorophenol	NA
34	62-75-9	N-Nitrosodimethylamine	NA	73	51-28-5	2,4-Dinitrophenol	NA
35	62-53-3	Aniline	NA	74	100-02-7	4-Nitrophenol	NA
36	92-87-5	Benzidine	NA	75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
37		Dioxin (Screen)	NA	76	87-86-5	Pentachlorophenol	NA
38				77			
39				78			
40				79			
41				80			

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1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/16/92

(GPC CLEAN-UP)

SAMPLE ID: REF-MACS
LAB ID: 1148266
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00232

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/17/92

(GPC CLEAN-UP)

SAMPLE ID: EL-MAC1
LAB ID: 1148208
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG	
42	91-20-3	Naphthalene	660.0	U.
43	208-96-8	Acenaphthylene	660.0	U
44	83-32-9	Acenaphthene	660.0	U
45	86-73-7	Fluorene	660.0	U.
46	85-01-8	Phenanthrene	660.0	U
47	120-12-7	Anthracene	660.0	U
48	206-44-0	Fluoranthene	660.0	U
49	129-00-0	Pyrene	56.0	J.
50	56-55-3	Benzo(a)Anthracene	660.0	U
51	218-01-9	Chrysene	660.0	U
52	205-99-2	Benzo(b)Fluoranthene	660.0	U.
53	207-08-9	Benzo(k)Fluoranthene	660.0	U
54	50-32-8	Benzo(a)Pyrene	660.0	U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0	U
56	53-70-3	Dibenz(a,h)Anthracene	660.0	U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0	U
58				
59				
60				
		ACID COMPOUNDS		
61	108-95-2	Phenol	NA	
62	95-57-8	2-Chlorophenol	NA	
63	100-51-6	Benzyl Alcohol	NA	
64	95-48-7	2-Methylphenol	NA	
65	106-44-5	4-Methylphenol	NA	
66	88-75-5	2-Nitrophenol	NA	
67	105-67-9	2,4-Dimethylphenol	NA	
68	65-85-0	Benzoic Acid	NA	
69	120-83-2	2,4-Dichlorophenol	NA	
70	59-50-7	4-Chloro-3-Methylphenol	NA	
71	88-06-2	2,4,6-Trichlorophenol	NA	
72	95-95-4	2,4,5-Trichlorophenol	NA	
73	51-28-5	2,4-Dinitrophenol	NA	
74	100-02-7	4-Nitrophenol	NA	
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA	
76	87-86-5	Pentachlorophenol	NA	
77				
78				
79				
80				

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/17/92

SAMPLE ID: EL-MAC2
LAB ID: 1148209
DIL FACTOR: 3.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00055

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/17/92
(GPC CLEAN-UP)

SAMPLE ID: EL-MAC3
LAB ID: 1148210
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	25.0 J.
50	56-55-3	Benzo(a)Anthracene	660.0 U
51	218-01-9	Chrysene	660.0 U
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U
54	50-32-8	Benzo(a)Pyrene	660.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00058

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/17/92

SAMPLE ID: EL-MAC4
LAB ID: 1148211
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00061

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/17/92
(GPC CLEAN-UP)

SAMPLE ID: EL-MAC5
LAB ID: 1148212
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U
43	208-96-8	Acenaphthylene	660.0 U
44	83-32-9	Acenaphthene	660.0 U
45	86-73-7	Fluorene	660.0 U
46	85-01-8	Phenanthrene	660.0 U
47	120-12-7	Anthracene	660.0 U
48	206-44-0	Fluoranthene	660.0 U
49	129-00-0	Pyrene	660.0 U
50	56-55-3	Benzo(a)Anthracene	660.0 U
51	218-01-9	Chrysene	660.0 U
52	205-99-2	Benzo(b)Fluoranthene	660.0 U
53	207-08-9	Benzo(k)Fluoranthene	660.0 U
54	50-32-8	Benzo(a)Pyrene	660.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/17/92
(GPC CLEAN-UP)
SAMPLE ID: EL-MACSA
LAB ID: 1148213
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00067

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92
ANALYSIS DATE: 3/17/92
UG/KG

(GPC CLEAN-UP)

SAMPLE ID: EL-MAC58
LAB ID: 1148214
DIL FACTOR: 5.00
% MOISTURE: NA
UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	
42	91-20-3	Naphthalene	1650.0 U.
43	208-96-8	Acenaphthylene	1650.0 U
44	83-32-9	Acenaphthene	1650.0 U
45	86-73-7	Fluorene	1650.0 U.
46	85-01-8	Phenanthrene	1650.0 U
47	120-12-7	Anthracene	1650.0 U
48	206-44-0	Fluoranthene	1650.0 U
49	129-00-0	Pyrene	1650.0 U.
50	56-55-3	Benzo(a)Anthracene	1650.0 U
51	218-01-9	Chrysene	1650.0 U
52	205-99-2	Benzo(b)Fluoranthene	1650.0 U.
53	207-08-9	Benzo(k)Fluoranthene	1650.0 U
54	50-32-8	Benzo(a)Pyrene	1650.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	1650.0 U
56	53-70-3	Dibenz(a,h)Anthracene	1650.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	1650.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00070

TITLE: Maguire New London, N. virens, Arsenic Bioaccumulation
FILE: mnlw.as
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 5

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	0.5000	0.5000
1	reference	2	0.5000	0.5000
1	reference	3	0.5000	0.5000
1	reference	4	0.6570	0.6570
1	reference	5	0.5000	0.5000
2	electric boat	1	0.5000	0.5000
2	electric boat	2	0.5000	0.5000
2	electric boat	3	1.5600	1.5600
2	electric boat	4	0.5000	0.5000
3	gold star	1	0.5080	0.5080
3	gold star	2	1.1400	1.1400
3	gold star	3	0.5000	0.5000
3	gold star	4	1.5900	1.5900
3	gold star	5	0.5000	0.5000
4	mamacoke	1	0.5000	0.5000
4	mamacoke	2	0.6430	0.6430
4	mamacoke	3	0.5000	0.5000
4	mamacoke	4	0.5000	0.5000
5	pier 32 and 33	1	0.5000	0.5000
5	pier 32 and 33	2	0.5000	0.5000
5	pier 32 and 33	3	1.2500	1.2500
5	pier 32 and 33	4	0.5000	0.5000
5	pier 32 and 33	5	0.5000	0.5000

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	5	0.500	0.657	0.531
2	electric boat	4	0.500	1.560	0.765
3	gold star	5	0.500	1.590	0.848
4	mamacoke	4	0.500	0.643	0.536
5	pier 32 and 33	5	0.500	1.250	0.650

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.005	0.070	0.031
2	electric boat	0.281	0.530	0.265
3	gold star	0.248	0.498	0.223
4	mamacoke	0.005	0.072	0.036
5	pier 32 and 33	0.113	0.335	0.150

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	reference	0.531				
2	electric boat	0.765	21.00	10.00	4	
3	gold star	0.848	33.00	16.00	5	
4	mamacoke	0.536	20.00	10.00	4	
5	pier 32 and 33	0.650	28.00	16.00	5	

Critical values use k = 4, are 1 tailed, and alpha = 0.05

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 2.321

W = 0.825

Critical W (P = 0.05) (n = 23) = 0.914
Critical W (P = 0.01) (n = 23) = 0.881

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 17.01
Table Chi-square value = 13.28 (alpha = 0.01)
Table Chi-square value = 9.49 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 3.60
Used for Chi-square table value ==> df (#groups-1) = 4

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 5.214

W = 0.804

Critical W (P = 0.05) (n = 24) = 0.916
Critical W (P = 0.01) (n = 24) = 0.884

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance
Bartletts test for homogeneity of variance

These two tests can not be performed because at least one group has zero variance.

Data FAIL to meet homogeneity of variance assumption.
Additional transformations are useless.

TITLE: Maguire New London, N. virens, Nickel Bioaccumulation
FILE: mnlw.ni
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 5

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	1.0000	1.0000
1	reference	2	1.0000	1.0000
1	reference	3	1.0000	1.0000
1	reference	4	1.0000	1.0000
1	reference	5	1.0000	1.0000
2	electric boat	1	1.0000	1.0000
2	electric boat	2	1.0000	1.0000
2	electric boat	3	3.3300	3.3300
2	electric boat	4	1.0000	1.0000
3	gold star	1	1.0000	1.0000
3	gold star	2	1.2500	1.2500
3	gold star	3	1.0000	1.0000
3	gold star	4	1.0000	1.0000
3	gold star	5	1.2900	1.2900
4	mamacoke	1	1.6200	1.6200

4	mamacoke	2	1.0000	1.0000
4	mamacoke	3	1.6800	1.6800
4	mamacoke	4	1.9500	1.9500
4	mamacoke	5	1.0000	1.0000
5	pier 32 and 33	1	1.6800	1.6800
5	pier 32 and 33	2	1.2800	1.2800
5	pier 32 and 33	3	1.3300	1.3300
5	pier 32 and 33	4	1.0000	1.0000
5	pier 32 and 33	5	1.0000	1.0000

aguire New London, N. virens, Nickel Bioaccumulation
ile: mnlw.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	5	1.000	1.000	1.000
2	electric boat	4	1.000	3.330	1.583
3	gold star	5	1.000	1.290	1.108
4	mamacoke	5	1.000	1.950	1.450
5	pier 32 and 33	5	1.000	1.680	1.258

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

RP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.000	0.000	0.000
2	electric boat	1.357	1.165	0.583
3	gold star	0.022	0.149	0.066
4	mamacoke	0.184	0.429	0.192
5	pier 32 and 33	0.079	0.281	0.126

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 0.220

W = 0.903

Critical W (P = 0.05) (n = 8) = 0.818
Critical W (P = 0.01) (n = 8) = 0.749

Data PASS normality test at P=0.01 level. Continue analysis.

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 0.12
Table Chi-square value = 9.21 (alpha = 0.01)
Table Chi-square value = 5.99 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 1.67
Used for Chi-square table value ==> df (#groups-1) = 2

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Maguire New London, M. nasuta, Lead Bioaccumulation
FILE: mnlc.as
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 3

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	1.2200	1.2200
1	reference	2	1.0800	1.0800
1	reference	3	1.0000	1.0000
1	reference	4	1.5200	1.5200
2	electric boat	1	1.2500	1.2500
2	electric boat	2	1.0000	1.0000
3	mamacoke	1	2.3300	2.3300
3	mamacoke	2	2.0800	2.0800

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	4	1.000	1.520	1.205
2	electric boat	2	1.000	1.250	1.125
3	mamacoke	2	2.080	2.330	2.205

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.052	0.229	0.114
2	electric boat	0.031	0.177	0.125
3	mamacoke	0.031	0.177	0.125

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	2	1.590	0.795	18.068
Within (Error)	5	0.220	0.044	
Total	7	1.809		

Critical F value = 5.79 (0.05,2,5)
Since F > Critical F REJECT Ho:All groups equal

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 1.281

W = 0.878

Critical W (P = 0.05) (n = 8) = 0.818
Critical W (P = 0.01) (n = 8) = 0.749

Data PASS normality test at P=0.01 level. Continue analysis.

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 14.73
Table Chi-square value = 9.21 (alpha = 0.01)
Table Chi-square value = 5.99 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 1.67
Used for Chi-square table value ==> df (#groups-1) = 2

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Maguire New London, M. nasuta, Nickel Bioaccumulation
FILE: mnlc.ni
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 3

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	1.5200	1.5200
1	reference	2	1.5000	1.5000
1	reference	3	1.7700	1.7700
1	reference	4	1.6600	1.6600
2	electric boat	1	2.5700	2.5700
2	electric boat	2	1.0000	1.0000
3	mamacoke	1	1.7900	1.7900
3	mamacoke	2	1.8000	1.8000

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	4	1.500	1.770	1.613
2	electric boat	2	1.000	2.570	1.785
3	mamacoke	2	1.790	1.800	1.795

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.016	0.127	0.063
2	electric boat	1.232	1.110	0.785
3	mamacoke	0.000	0.007	0.005

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2 (p=0.05)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	RANK SUM
1	reference	1.613	1.613	14.000
2	electric boat	1.785	1.785	9.000
3	mamacoke	1.795	1.795	13.000

Calculated H Value = 2.000 Critical H Value Table = 5.333
Since Calc H < Crit H FAIL TO REJECT Ho:All groups are equal.

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

DUNNS MULTIPLE COMPARISON - KRUSKAL-WALLIS - TABLE 2 OF 2 (p=0.05)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	ORIGINAL MEAN	GROUP 0 0 0 1 2 3
1	reference	1.613	1.613	\
2	electric boat	1.785	1.785	. \
3	mamacoke	1.795	1.795	. . \

* = significant difference (p=0.05) . = no significant difference
Table q value (0.05,3) = 2.394 Unequal reps - several SE values

APPENDIX

GOLD STAR BRIDGE

B 3

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11231

We find as follows:

Parameter(s)	Sample Identification	
	001 (1123101)	METHOD BLANK
% Moisture	30.7	<0.02
Results in mg/kg (dry wt. basis):		
Arsenic	<2	<2
Barium	18.4	<10
Cadmium	<1	<1
Chromium	15.7	<5
Lead	11.4	<5
Mercury	<0.01	<0.01
Selenium	<1	<1
Silver	<5	<5
Total Organic Carbon	12400	<40

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nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11231

We find as follows:

Results in ug/kg (Dry Wt. basis):

Parameter(s)	Sample Identification	
	001 (1123101)	SBLKF13 (F9936)
Acenaphthene	510.0 U	330.0 U
Acenaphthylene	510.0 U	330.0 U
Anthracene	510.0 U	330.0 U
Benzo (a) anthracene	510.0 U	330.0 U
Benzo (a) pyrene	510.0 U	330.0 U
Benzo (b) fluroanthene	510.0 U	330.0 U
Benzo (g,h,i) perylene	510.0 U	330.0 U
Benzo (k) fluroanthene	510.0 U	330.0 U
Chrysene	510.0 U	330.0 U
Dibenzo (a,h)anthracene	510.0 U	330.0 U
Fluoranthene	510.0 U	330.0 U
Indeno (1,2,3-cd) pyrene	510.0 U	330.0 U
Naphthalene	510.0 U	330.0 U
Phenanthrene	75.0 J	330.0 U
Pyrene	110.0 J	330.0 U

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nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Pretest - Nireis Virens

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification PRETEST WORM
% Water	1.0	84.5
% Total Organic Carbon	0.1	38.6
% Lipids	-	2.01
Results in ppm (dry wt.):		
Arsenic	0.5	NA *
Cadmium	0.5	NA *
Chromium	1.0	NA *
Copper	1.0	NA *
Lead	1.0	NA *
Nickel	1.0	NA *
Mercury	0.10	< 0.143
Zinc	1.0	NA*

NA * = Insufficient sample for analysis.

nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Reference - Nireis Virens

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification REF-WORM1	REF-WORM2	REF-WORM3	REF-WORM4	REF-WOR
% Water	1.0	84.9	85.7	85.3	85.6	87.7
% Total Organic Carbon	0.1	21.7	31.0	83.9	64.7	63.4
% Lipids	-	9.07	11.7	9.52	6.86	11.7
Results in ppm (dry wt.):						
Arsenic	0.5	< 0.5	< 0.5	< 0.5	0.657	< 0.5
Cadmium	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	1.0	1.68	1.52	1.40	2.01	1.64
Lead	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Nickel	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	36	18.3	24.5	37.8	18.0

NA * = Insufficient sample for analysis.

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Gold Start

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification GS-WORM1	GS-WORM2	GS-WORM3	GS-WORM4	GS-WORM5
% Water	1.0	86.9	85.8	84.5	85.8	NA *
% Total Organic Carbon	0.1	25.8	39.6	77.6	54.1	71.1
% Lipids	-	5.36	10.4	8.77	9.08	NA *
Results in ppm (dry wt.):						
Arsenic	0.5	0.508	1.14	< 0.5	< 0.5	< 0.5
Cadmium	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	1.0	1.62	1.42	1.49	1.40	1.36
Lead	1.0	< 1.0	< 1.56	< 1.0	< 1.0	< 1.0
Nickel	1.0	< 1.0	< 1.25	< 1.0	< 1.0	< 1.0
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	33.3	14.9	11.2	9.26	41.9

NA * = Insufficient sample for analysis.

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Gold Start

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification GS-WORM5A	GS-WORM5B
% Water	1.0	87.1	NA *
% Total Organic Carbon	0.1	73.4	55.6
% Lipids	-	8.45	NA *
Results in ppm (dry wt.):			
Arsenic	0.5	NA *	2.68
Cadmium	0.5	NA *	< 0.5
Chromium	1.0	NA *	< 1.0
Copper	1.0	NA *	2.4
Lead	1.0	NA *	< 1.0
Nickel	1.0	NA *	1.58
Mercury	0.10	< 0.10	< 0.10
Zinc	1.0	NA *	39.9

NA * = Insufficient sample for analysis.

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Pretest - Macoma

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification PRETEST MAC
% Water	1.0	87.7
% Total Organic Carbon	0.1	31.0
% Lipids	-	1.28
Results in ppm (dry wt.):		
Arsenic	0.5	< 0.5
Cadmium	0.5	< 0.5
Chromium	1.0	< 1.0
Copper	1.0	2.0
Lead	1.0	< 1.0
Nickel	1.0	1.61
Mercury	0.10	< 0.10
Zinc	1.0	51.6

NA * = Insufficient sample for analysis.

nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Reference - Macoma

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification REF-MAC1	REF-MAC2	REF-MAC3	REF-MAC4	REF-MAC5
% Water	1.0	NA *	88.2	NA *	NA *	87.9
% Total Organic Carbon	0.1	28.7	21.7	33.2	51.2	36.5
% Lipids	-	NA *	11.9	NA *	NA *	13.8
Results in ppm (dry wt.):						
Arsenic	0.5	NA *	2.85	3.18	3.16	3.50
Cadmium	0.5	NA *	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	1.0	NA *	< 1.0	< 1.0	< 1.0	< 1.0
Copper	1.0	NA *	3.36	4.34	3.55	3.11
Lead	1.0	NA *	1.22	1.08	< 1.0	1.52
Nickel	1.0	NA *	1.52	1.50	1.77	1.66
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	NA *	50.7	35.9	42.2	39.8

NA * = Insufficient sample for analysis.

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Gold Start

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification				
		GS-MAC1	GS-MAC2	GS-MAC3	GS-MAC4	GS-MAC5
% Water	1.0	NA *	NA *	NA *	86.1	NA *
% Total Organic Carbon	0.1	92.8	50.6	44.2	27.8	29.6
% Lipids	-	NA *	NA *	NA *	8.13	NA *
Results in ppm (dry wt.):						
Arsenic	0.5	NA *	NA *	NA *	NA *	NA *
Cadmium	0.5	NA *	NA *	NA *	NA *	NA *
Chromium	1.0	NA *	NA *	NA *	NA *	NA *
Copper	1.0	NA *	NA *	NA *	NA *	NA *
Lead	1.0	NA *	NA *	NA *	NA *	NA *
Nickel	1.0	NA *	NA *	NA *	NA *	NA *
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	NA *	NA *	NA *	NA *	NA *

NA * = Insufficient sample for analysis.

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nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Gold Start

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification GS-MAC5A	GS-MAC5B
% Water	1.0	NA *	NA *
% Total Organic Carbon	0.1	36.4	37.9
% Lipids	-	NA *	NA *
Results in ppm (dry wt.):			
Arsenic	0.5	NA *	NA *
Cadmium	0.5	NA *	NA *
Chromium	1.0	NA *	NA *
Copper	1.0	NA *	NA *
Lead	1.0	NA *	NA *
Nickel	1.0	NA *	NA *
Mercury	0.10	< 0.10	< 0.10
Zinc	1.0	NA *	NA *

NA * = Insufficient sample for analysis.

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/18/92

SAMPLE ID: PRETEST WORM
LAB ID: 1148267
DIL FACTOR: 8.10
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	2700.0 U.
43	208-96-8	Acenaphthylene	2700.0 U.
44	83-32-9	Acenaphthene	2700.0 U.
45	86-73-7	Fluorene	2700.0 U.
46	85-01-8	Phenanthrene	2700.0 U.
47	120-12-7	Anthracene	2700.0 U.
48	206-44-0	Fluoranthene	2700.0 U.
49	129-00-0	Pyrene	2700.0 U.
50	56-55-3	Benzo(a)Anthracene	2700.0 U.
51	218-01-9	Chrysene	2700.0 U.
52	205-99-2	Benzo(b)Fluoranthene	2700.0 U.
53	207-08-9	Benzo(k)Fluoranthene	2700.0 U.
54	50-32-8	Benzo(a)Pyrene	2700.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	2700.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	2700.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	2700.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

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1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/11/92
(GPC CLEAN-UP)

SAMPLE ID: REF-WORM1
LAB ID: 1148257
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U
43	208-96-8	Acenaphthylene	660.0 U
44	83-32-9	Acenaphthene	660.0
45	86-73-7	Fluorene	660.0
46	85-01-8	Phenanthrene	660.0 U
47	120-12-7	Anthracene	660.0
48	206-44-0	Fluoranthene	660.0
49	129-00-0	Pyrene	660.0 U
50	56-55-3	Benzo(a)Anthracene	660.0
51	218-01-9	Chrysene	660.0
52	205-99-2	Benzo(b)Fluoranthene	660.0
53	207-08-9	Benzo(k)Fluoranthene	660.0 U
54	50-32-8	Benzo(a)Pyrene	660.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

18-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/11/92
(GPC CLEAN-UP)
SAMPLE ID: REF-WORM2
LAB ID: 1148258
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00202

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/13/92
(GPC CLEAN-UP)
SAMPLE ID: REF-WORM3
LAB ID: 1148259
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00205

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/13/92

SAMPLE ID: REF-WORM4
LAB ID: 1148260
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00208

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/11/92

(GPC CLEAN-UP)

SAMPLE ID: REF-WORM5
LAB ID: 1148261
DIL FACTOR: 3.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U
48	206-44-0	Fluoranthene	990.0 U
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U
51	218-01-9	Chrysene	990.0 U
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00211

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/14/92

SAMPLE ID: REF-WORMSA
LAB ID: 148261A
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00214

18-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/16/92
(GPC CLEAN-UP)
SAMPLE ID: REF-WORM5B
LAB ID: 1482618
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00217

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/11/92

SAMPLE ID: GS-WORM1
LAB ID: 1148215
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/12/92
(GPC CLEAN-UP)
SAMPLE ID: GS-WORM2
LAB ID: 1148216
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0
44	83-32-9	Acenaphthene	660.0
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0
47	120-12-7	Anthracene	660.0
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0
51	218-01-9	Chrysene	660.0
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0
54	50-32-8	Benzo(a)Pyrene	660.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

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1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/13/92
(GPC CLEAN-UP)
SAMPLE ID: GS-WORM3
LAB ID: 1148217
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

18-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/13/92
UG/KG

(GPC CLEAN-UP)

SAMPLE ID: GS-WORM4
LAB ID: 1148218
DIL FACTOR: 2.00
% MOISTURE: NA
UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS		CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	
1	111-44-4	bis(2-Chloroethyl)ether	NA	42	91-20-3	Naphthalene	660.0 U
2	541-73-1	1,3-Dichlorobenzene	NA	43	208-96-8	Acenaphthylene	660.0 U.
3	106-46-7	1,4-Dichlorobenzene	NA	44	83-32-9	Acenaphthene	660.0
4	95-50-1	1,2-Dichlorobenzene	NA	45	86-73-7	Fluorene	660.0
5	108-60-1	bis(2-chloroisopropyl)ether	NA	46	85-01-8	Phenanthrene	660.0 U.
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA	47	120-12-7	Anthracene	660.0
7	67-72-1	Hexachloroethane	NA	48	206-44-0	Fluoranthene	660.0
8	98-95-3	Nitrobenzene	NA	49	129-00-0	Pyrene	660.0 U
9	78-59-1	Isophorone	NA	50	56-55-3	Benzo(a)Anthracene	660.0 U
10	111-91-1	bis(2-chloroethoxy)Methane	NA	51	218-01-9	Chrysene	660.0
11	120-82-1	1,2,4-Trichlorobenzene	NA	52	205-99-2	Benzo(b)Fluoranthene	660.0
12	106-47-8	4-Chloroaniline	NA	53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
13	87-68-3	Hexachlorobutadiene	NA	54	50-32-8	Benzo(a)Pyrene	660.0
14	91-57-6	2-Methylnaphthalene	NA	55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0
15	77-47-4	Hexachlorocyclopentadiene	NA	56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
16	91-58-7	2-Chloronaphthalene	NA	57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
17	88-74-4	2-Nitroaniline	NA	58			
18	131-11-3	Dimethyl Phthalate	NA	59			
19	99-09-2	3-Nitroaniline	NA	60			
20	132-64-9	Dibenzofuran	NA			ACID COMPOUNDS	
21	121-14-2	2,4-Dinitrotoluene	NA				
22	606-20-2	2,6-Dinitrotoluene	NA	61	108-95-2	Phenol	NA
23	84-66-2	Diethylphthalate	NA	62	95-57-8	2-Chlorophenol	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA	63	100-51-6	Benzyl Alcohol	NA
25	100-01-6	4-Nitroaniline	NA	64	95-48-7	2-Methylphenol	NA
26	86-30-6	N-Nitrosodiphenylamine	NA	65	106-44-5	4-Methylphenol	NA
27	101-55-3	4-Bromophenyl-phenylether	NA	66	88-75-5	2-Nitrophenol	NA
28	118-74-1	Hexachlorobenzene	NA	67	105-67-9	2,4-Dimethylphenol	NA
29	84-74-2	Di-n-Butylphthalate	NA	68	65-85-0	Benzoic Acid	NA
30	85-68-7	Butylbenzylphthalate	NA	69	120-83-2	2,4-Dichlorophenol	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA	70	59-50-7	4-Chloro-3-Methylphenol	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA	71	88-06-2	2,4,6-Trichlorophenol	NA
33	117-84-0	Di-n-Octyl Phthalate	NA	72	95-95-4	2,4,5-Trichlorophenol	NA
34	62-75-9	N-Nitrosodimethylamine	NA	73	51-28-5	2,4-Dinitrophenol	NA
35	62-53-3	Aniline	NA	74	100-02-7	4-Nitrophenol	NA
36	92-87-5	Benzidine	NA	75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
37		Dioxin (Screen)	NA	76	87-86-5	Pentachlorophenol	NA
38				77			
39				78			
40				79			
41				80			

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NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/10/92

SAMPLE ID: GS-WORM5
LAB ID: 1148219
DIL FACTOR: 3.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/18/92

SAMPLE ID: GS-WORM5A
LAB ID: 1148220
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG	
42	91-20-3	Naphthalene	990.0	U.
43	208-96-8	Acenaphthylene	990.0	
44	83-32-9	Acenaphthene	990.0	
45	86-73-7	Fluorene	990.0	U.
46	85-01-8	Phenanthrene	990.0	
47	120-12-7	Anthracene	990.0	
48	206-44-0	Fluoranthene	990.0	U.
49	129-00-0	Pyrene	180.0	J.
50	56-55-3	Benzo(a)Anthracene	990.0	
51	218-01-9	Chrysene	990.0	
52	205-99-2	Benzo(b)Fluoranthene	990.0	U.
53	207-08-9	Benzo(k)Fluoranthene	990.0	
54	50-32-8	Benzo(a)Pyrene	990.0	
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0	U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0	U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0	
58				
59				
60				
		ACID COMPOUNDS		
61	108-95-2	Phenol	NA	
62	95-57-8	2-Chlorophenol	NA	
63	100-51-6	Benzyl Alcohol	NA	
64	95-48-7	2-Methylphenol	NA	
65	106-44-5	4-Methylphenol	NA	
66	88-75-5	2-Nitrophenol	NA	
67	105-67-9	2,4-Dimethylphenol	NA	
68	65-85-0	Benzoic Acid	NA	
69	120-83-2	2,4-Dichlorophenol	NA	
70	59-50-7	4-Chloro-3-Methylphenol	NA	
71	88-06-2	2,4,6-Trichlorophenol	NA	
72	95-95-4	2,4,5-Trichlorophenol	NA	
73	51-28-5	2,4-Dinitrophenol	NA	
74	100-02-7	4-Nitrophenol	NA	
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA	
76	87-86-5	Pentachlorophenol	NA	
77				
78				
79				
80				

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92
ANALYSIS DATE: 3/18/92

(GPC CLEAN-UP)

SAMPLE ID: GS-WORM5B
LAB ID: 1148221
DIL FACTOR: 45.10
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	15000.0 U.
43	208-96-8	Acenaphthylene	15000.0 U.
44	83-32-9	Acenaphthene	15000.0 U.
45	86-73-7	Fluorene	15000.0 U.
46	85-01-8	Phenanthrene	15000.0 U.
47	120-12-7	Anthracene	15000.0 U.
48	206-44-0	Fluoranthene	15000.0 U.
49	129-00-0	Pyrene	15000.0 U.
50	56-55-3	Benzo(a)Anthracene	15000.0 U.
51	218-01-9	Chrysene	15000.0 U.
52	205-99-2	Benzo(b)Fluoranthene	15000.0 U.
53	207-08-9	Benzo(k)Fluoranthene	15000.0 U.
54	50-32-8	Benzo(a)Pyrene	15000.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	15000.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	15000.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	15000.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

18-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/16/92

SAMPLE ID: PRETEST MAC
LAB ID: 1148268
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0
45	86-73-7	Fluorene	660.0
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0
48	206-44-0	Fluoranthene	660.0
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00238

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/18/92

SAMPLE ID: REF-MAC1
LAB ID: 1148262
DIL FACTOR: 21.60
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	7100.0 U.
43	208-96-8	Acenaphthylene	7100.0 U.
44	83-32-9	Acenaphthene	7100.0 U.
45	86-73-7	Fluorene	7100.0 U.
46	85-01-8	Phenanthrene	7100.0 U.
47	120-12-7	Anthracene	7100.0 U.
48	206-44-0	Fluoranthene	7100.0 U.
49	129-00-0	Pyrene	7100.0 U.
50	56-55-3	Benzo(a)Anthracene	7100.0 U.
51	218-01-9	Chrysene	7100.0 U.
52	205-99-2	Benzo(b)Fluoranthene	7100.0 U.
53	207-08-9	Benzo(k)Fluoranthene	7100.0 U.
54	50-32-8	Benzo(a)Pyrene	7100.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	7100.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	7100.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	7100.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00220

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92
ANALYSIS DATE: 3/18/92
(GPC CLEAN-UP)

SAMPLE ID: REF-MAC2
LAB ID: 1148263
DIL FACTOR: 10.70
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG	
1	111-44-4	bis(2-Chloroethyl)ether	NA	
2	541-73-1	1,3-Dichlorobenzene	NA	
3	106-46-7	1,4-Dichlorobenzene	NA	
4	95-50-1	1,2-Dichlorobenzene	NA	
5	108-60-1	bis(2-chloroisopropyl)ether	NA	
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA	
7	67-72-1	Hexachloroethane	NA	
8	98-95-3	Nitrobenzene	NA	
9	78-59-1	Isophorone	NA	
10	111-91-1	bis(2-chloroethoxy)Methane	NA	
11	120-82-1	1,2,4-Trichlorobenzene	NA	
12	106-47-8	4-Chloroaniline	NA	
13	87-68-3	Hexachlorobutadiene	NA	
14	91-57-6	2-Methylnaphthalene	NA	
15	77-47-4	Hexachlorocyclopentadiene	NA	
16	91-58-7	2-Chloronaphthalene	NA	
17	88-74-4	2-Nitroaniline	NA	
18	131-11-3	Dimethyl Phthalate	NA	
19	99-09-2	3-Nitroaniline	NA	
20	132-64-9	Dibenzofuran	NA	
21	121-14-2	2,4-Dinitrotoluene	NA	
22	606-20-2	2,6-Dinitrotoluene	NA	
23	84-66-2	Diethylphthalate	NA	
24	7005-72-3	4-Chlorophenyl-phenylether	NA	
25	100-01-6	4-Nitroaniline	NA	
26	86-30-6	N-Nitrosodiphenylamine	NA	
27	101-55-3	4-Bromophenyl-phenylether	NA	
28	118-74-1	Hexachlorobenzene	NA	
29	84-74-2	Di-n-Butylphthalate	NA	
30	85-68-7	Butylbenzylphthalate	NA	
31	91-94-1	3,3'-Dichlorobenzidine	NA	
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA	
33	117-84-0	Di-n-Octyl Phthalate	NA	
34	62-75-9	N-Nitrosodimethylamine	NA	
35	62-53-3	Aniline	NA	
36	92-87-5	Benzidine	NA	
37		Dioxin (Screen)	NA	
38				
39				
40				
41				

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG	
42	91-20-3	Naphthalene	3500.0	U.
43	208-96-8	Acenaphthylene	3500.0	
44	83-32-9	Acenaphthene	3500.0	
45	86-73-7	Fluorene	3500.0	U.
46	85-01-8	Phenanthrene	3500.0	"
47	120-12-7	Anthracene	3500.0	
48	206-44-0	Fluoranthene	140.0	J
49	129-00-0	Pyrene	3500.0	U.
50	56-55-3	Benzo(a)Anthracene	3500.0	
51	218-01-9	Chrysene	3500.0	
52	205-99-2	Benzo(b)Fluoranthene	3500.0	U.
53	207-08-9	Benzo(k)Fluoranthene	3500.0	"
54	50-32-8	Benzo(a)Pyrene	3500.0	
55	193-39-5	Indeno(1,2,3-cd)Pyrene	3500.0	U
56	53-70-3	Dibenz(a,h)Anthracene	3500.0	U.
57	191-24-2	Benzo(g,h,i)Perylene	3500.0	
58				
59				
60				
		ACID COMPOUNDS		
61	108-95-2	Phenol	NA	
62	95-57-8	2-Chlorophenol	NA	
63	100-51-6	Benzyl Alcohol	NA	
64	95-48-7	2-Methylphenol	NA	
65	106-44-5	4-Methylphenol	NA	
66	88-75-5	2-Nitrophenol	NA	
67	105-67-9	2,4-Dimethylphenol	NA	
68	65-85-0	Benzoic Acid	NA	
69	120-83-2	2,4-Dichlorophenol	NA	
70	59-50-7	4-Chloro-3-Methylphenol	NA	
71	88-06-2	2,4,6-Trichlorophenol	NA	
72	95-95-4	2,4,5-Trichlorophenol	NA	
73	51-28-5	2,4-Dinitrophenol	NA	
74	100-02-7	4-Nitrophenol	NA	
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA	
76	87-86-5	Pentachlorophenol	NA	
77				
78				
79				
80				

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/16/92

SAMPLE ID: REF-MAC3
LAB ID: 1148264
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00226

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/16/92

(GPC CLEAN-UP)

SAMPLE ID: REF-MAC4
LAB ID: 1148265
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U
44	83-32-9	Acenaphthene	660.0 U
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U
47	120-12-7	Anthracene	660.0 U
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U
51	218-01-9	Chrysene	660.0 U
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U
54	50-32-8	Benzo(a)Pyrene	660.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/16/92
(GPC CLEAN-UP)
SAMPLE ID: REF-MAC5
LAB ID: 1148266
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00232

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/16/92
UG/KG

(GPC CLEAN-UP)

SAMPLE ID: GS-MAC1
LAB ID: 1148222
DIL FACTOR: 2.00
% MOISTURE: NA
UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS		CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	
1	111-44-4	bis(2-Chloroethyl)ether	NA	42	91-20-3	Naphthalene	660.0 U.
2	541-73-1	1,3-Dichlorobenzene	NA	43	208-96-8	Acenaphthylene	660.0 U
3	106-46-7	1,4-Dichlorobenzene	NA	44	83-32-9	Acenaphthene	660.0 U
4	95-50-1	1,2-Dichlorobenzene	NA	45	86-73-7	Fluorene	660.0 U.
5	108-60-1	bis(2-chloroisopropyl)ether	NA	46	85-01-8	Phenanthrene	660.0 U
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA	47	120-12-7	Anthracene	660.0 U
7	67-72-1	Hexachloroethane	NA	48	206-44-0	Fluoranthene	660.0 U.
8	98-95-3	Nitrobenzene	NA	49	129-00-0	Pyrene	660.0 U.
9	78-59-1	Isophorone	NA	50	56-55-3	Benzo(a)Anthracene	660.0 U
10	111-91-1	bis(2-chloroethoxy)Methane	NA	51	218-01-9	Chrysene	660.0 U
11	120-82-1	1,2,4-Trichlorobenzene	NA	52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
12	106-47-8	4-Chloroaniline	NA	53	207-08-9	Benzo(k)Fluoranthene	660.0 U
13	87-68-3	Hexachlorobutadiene	NA	54	50-32-8	Benzo(a)Pyrene	660.0 U
14	91-57-6	2-Methylnaphthalene	NA	55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
15	77-47-4	Hexachlorocyclopentadiene	NA	56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
16	91-58-7	2-Chloronaphthalene	NA	57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
17	88-74-4	2-Nitroaniline	NA	58			
18	131-11-3	Dimethyl Phthalate	NA	59			
19	99-09-2	3-Nitroaniline	NA	60			
20	132-64-9	Dibenzofuran	NA			ACID COMPOUNDS	
21	121-14-2	2,4-Dinitrotoluene	NA				
22	606-20-2	2,6-Dinitrotoluene	NA	61	108-95-2	Phenol	NA
23	84-66-2	Diethylphthalate	NA	62	95-57-8	2-Chlorophenol	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA	63	100-51-6	Benzyl Alcohol	NA
25	100-01-6	4-Nitroaniline	NA	64	95-48-7	2-Methylphenol	NA
26	86-30-6	N-Nitrosodiphenylamine	NA	65	106-44-5	4-Methylphenol	NA
27	101-55-3	4-Bromophenyl-phenylether	NA	66	88-75-5	2-Nitrophenol	NA
28	118-74-1	Hexachlorobenzene	NA	67	105-67-9	2,4-Dimethylphenol	NA
29	84-74-2	Di-n-Butylphthalate	NA	68	65-85-0	Benzoic Acid	NA
30	85-68-7	Butylbenzylphthalate	NA	69	120-83-2	2,4-Dichlorophenol	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA	70	59-50-7	4-Chloro-3-Methylphenol	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA	71	88-06-2	2,4,6-Trichlorophenol	NA
33	117-84-0	Di-n-Octyl Phthalate	NA	72	95-95-4	2,4,5-Trichlorophenol	NA
34	62-75-9	N-Nitrosodimethylamine	NA	73	51-28-5	2,4-Dinitrophenol	NA
35	62-53-3	Aniline	NA	74	100-02-7	4-Nitrophenol	NA
36	92-87-5	Benzidine	NA	75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
37		Dioxin (Screen)	NA	76	87-86-5	Pentachlorophenol	NA
38				77			
39				78			
40				79			
41				80			

1 B-T

NYTEST ENVIRONMENTAL INC.

TCL SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: MED
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/16/92

SAMPLE ID: GS-MAC2
LAB ID: 1148223
DIL FACTOR: 10.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34			
35			
36			
37			
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	200000.0 U.
43	208-96-8	Acenaphthylene	200000.0 U.
44	83-32-9	Acenaphthene	200000.0 U.
45	86-73-7	Fluorene	200000.0 U.
46	85-01-8	Phenanthrene	200000.0 U.
47	120-12-7	Anthracene	200000.0 U.
48	206-44-0	Fluoranthene	200000.0 U.
49	129-00-0	Pyrene	200000.0 U.
50	56-55-3	Benzo(a)Anthracene	200000.0 U.
51	218-01-9	Chrysene	200000.0 U.
52	205-99-2	Benzo(b)Fluoranthene	200000.0 U.
53	207-08-9	Benzo(k)Fluoranthene	200000.0 U.
54	50-32-8	Benzo(a)Pyrene	200000.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	200000.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	200000.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	200000.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00097

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/16/92
(GPC CLEAN-UP)

SAMPLE ID: GS-MAC3
LAB ID: 1148224
DIL FACTOR: 2.40
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	790.0 U.
43	208-96-8	Acenaphthylene	790.0 U
44	83-32-9	Acenaphthene	790.0 U
45	86-73-7	Fluorene	790.0 U.
46	85-01-8	Phenanthrene	790.0 U
47	120-12-7	Anthracene	790.0 U
48	206-44-0	Fluoranthene	790.0 U.
49	129-00-0	Pyrene	790.0 U.
50	56-55-3	Benzo(a)Anthracene	790.0 U
51	218-01-9	Chrysene	790.0 U
52	205-99-2	Benzo(b)Fluoranthene	790.0 U.
53	207-08-9	Benzo(k)Fluoranthene	790.0 U
54	50-32-8	Benzo(a)Pyrene	790.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	790.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	790.0 U
57	191-24-2	Benzo(g,h,i)Perylene	790.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00100

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/16/92

SAMPLE ID: GS-MAC4
LAB ID: 1148225
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00103

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/16/92
(GPC CLEAN-UP)

SAMPLE ID: GS-MACS
LAB ID: 1148226
DIL FACTOR: 4.30
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	1400.0 U.
43	208-96-8	Acenaphthylene	1400.0
44	83-32-9	Acenaphthene	1400.0
45	86-73-7	Fluorene	1400.0 U.
46	85-01-8	Phenanthrene	1400.0 "
47	120-12-7	Anthracene	1400.0
48	206-44-0	Fluoranthene	1400.0 U
49	129-00-0	Pyrene	1400.0 U.
50	56-55-3	Benzo(a)Anthracene	1400.0
51	218-01-9	Chrysene	1400.0
52	205-99-2	Benzo(b)Fluoranthene	1400.0 U.
53	207-08-9	Benzo(k)Fluoranthene	1400.0
54	50-32-8	Benzo(a)Pyrene	1400.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	1400.0 U
56	53-70-3	Dibenz(a,h)Anthracene	1400.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	1400.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00106

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/16/92

SAMPLE ID: GS-MAC5A
LAB ID: 1148227
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00109

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92
ANALYSIS DATE: 3/18/92
(GPC CLEAN-UP)
SAMPLE ID: GS-MAC58
LAB ID: 1148228
DIL FACTOR: 26.20
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	8600.0 U
43	208-96-8	Acenaphthylene	8600.0 U
44	83-32-9	Acenaphthene	8600.0 U
45	86-73-7	Fluorene	8600.0 U
46	85-01-8	Phenanthrene	8600.0 U
47	120-12-7	Anthracene	8600.0 U
48	206-44-0	Fluoranthene	8600.0 U
49	129-00-0	Pyrene	8600.0
50	56-55-3	Benzo(a)Anthracene	8600.0 U
51	218-01-9	Chrysene	8600.0 U
52	205-99-2	Benzo(b)Fluoranthene	8600.0 U
53	207-08-9	Benzo(k)Fluoranthene	8600.0 U
54	50-32-8	Benzo(a)Pyrene	8600.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	8600.0 U
56	53-70-3	Dibenz(a,h)Anthracene	8600.0 U
57	191-24-2	Benzo(g,h,i)Perylene	8600.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00112

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	4	1.500	1.770	1.613
2	electric boat	2	1.000	2.570	1.785
3	mamacoke	2	1.790	1.800	1.795

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.016	0.127	0.063
2	electric boat	1.232	1.110	0.785
3	mamacoke	0.000	0.007	0.005

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2 (p=0.05)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	RANK SUM
1	reference	1.613	1.613	14.000
2	electric boat	1.785	1.785	9.000
3	mamacoke	1.795	1.795	13.000

Calculated H Value = 2.000 Critical H Value Table = 5.333
Since Calc H < Crit H FAIL TO REJECT Ho:All groups are equal.

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

DUNNS MULTIPLE COMPARISON - KRUSKAL-WALLIS - TABLE 2 OF 2 (p=0.05)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	ORIGINAL MEAN	GROUP 0 0 0 1 2 3
1	reference	1.613	1.613	\
2	electric boat	1.785	1.785	. \
3	mamacoke	1.795	1.795	. . \

* = significant difference (p=0.05) . = no significant difference
Table q value (0.05,3) = 2.394 Unequal reps - several SE values

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 0.220

W = 0.903

Critical W (P = 0.05) (n = 8) = 0.818
Critical W (P = 0.01) (n = 8) = 0.749

Data PASS normality test at P=0.01 level. Continue analysis.

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 0.12
Table Chi-square value = 9.21 (alpha = 0.01)
Table Chi-square value = 5.99 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 1.67
Used for Chi-square table value ==> df (#groups-1) = 2

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Maguire New London, M. nasuta, Lead Bioaccumulation
FILE: mnlc.as
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 3

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	1.2200	1.2200
1	reference	2	1.0800	1.0800
1	reference	3	1.0000	1.0000
1	reference	4	1.5200	1.5200
2	electric boat	1	1.2500	1.2500
2	electric boat	2	1.0000	1.0000
3	mamacoke	1	2.3300	2.3300
3	mamacoke	2	2.0800	2.0800

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	4	1.000	1.520	1.205
2	electric boat	2	1.000	1.250	1.125
3	mamacoke	2	2.080	2.330	2.205

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.052	0.229	0.114
2	electric boat	0.031	0.177	0.125
3	mamacoke	0.031	0.177	0.125

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	2	1.590	0.795	18.068
Within (Error)	5	0.220	0.044	
Total	7	1.809		

Critical F value = 5.79 (0.05,2,5)
Since F > Critical F REJECT Ho:All groups equal

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 2.321

W = 0.825

Critical W (P = 0.05) (n = 23) = 0.914
Critical W (P = 0.01) (n = 23) = 0.881

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 17.01
Table Chi-square value = 13.28 (alpha = 0.01)
Table Chi-square value = 9.49 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 3.60
Used for Chi-square table value ==> df (#groups-1) = 4

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Maguire New London, N. virens, Arsenic Bioaccumulation
FILE: mnlw.as
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 5

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	0.5000	0.5000
1	reference	2	0.5000	0.5000
1	reference	3	0.5000	0.5000
1	reference	4	0.6570	0.6570
1	reference	5	0.5000	0.5000
2	electric boat	1	0.5000	0.5000
2	electric boat	2	0.5000	0.5000
2	electric boat	3	1.5600	1.5600
2	electric boat	4	0.5000	0.5000
3	gold star	1	0.5080	0.5080
3	gold star	2	1.1400	1.1400
3	gold star	3	0.5000	0.5000
3	gold star	4	1.5900	1.5900
3	gold star	5	0.5000	0.5000
4	mamacoke	1	0.5000	0.5000
4	mamacoke	2	0.6430	0.6430
4	mamacoke	3	0.5000	0.5000
4	mamacoke	4	0.5000	0.5000
5	pier 32 and 33	1	0.5000	0.5000
5	pier 32 and 33	2	0.5000	0.5000
5	pier 32 and 33	3	1.2500	1.2500
5	pier 32 and 33	4	0.5000	0.5000
5	pier 32 and 33	5	0.5000	0.5000

aguire New London, N. virens, Arsenic Bioaccumulation
ile: mnlw.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	5	0.500	0.657	0.531
2	electric boat	4	0.500	1.560	0.765
3	gold star	5	0.500	1.590	0.848
4	mamacoke	4	0.500	0.643	0.536
5	pier 32 and 33	5	0.500	1.250	0.650

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

RP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.005	0.070	0.031
2	electric boat	0.281	0.530	0.265
3	gold star	0.248	0.498	0.223
4	mamacoke	0.005	0.072	0.036
5	pier 32 and 33	0.113	0.335	0.150

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	reference	0.531				
2	electric boat	0.765	21.00	10.00	4	
3	gold star	0.848	33.00	16.00	5	
4	mamacoke	0.536	20.00	10.00	4	
5	pier 32 and 33	0.650	28.00	16.00	5	

Critical values use k = 4, are 1 tailed, and alpha = 0.05

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

SD = 5.214

W = 0.804

Critical W (P = 0.05) (n = 24) = 0.916
Critical W (P = 0.01) (n = 24) = 0.884

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance
Bartletts test for homogeneity of variance

These two tests can not be performed because at least one group has zero variance.

Data FAIL to meet homogeneity of variance assumption.
Additional transformations are useless.

TITLE: Maguire New London, N. virens, Nickel Bioaccumulation
FILE: mnlw.ni
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 5

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	1.0000	1.0000
1	reference	2	1.0000	1.0000
1	reference	3	1.0000	1.0000
1	reference	4	1.0000	1.0000
1	reference	5	1.0000	1.0000
2	electric boat	1	1.0000	1.0000
2	electric boat	2	1.0000	1.0000
2	electric boat	3	3.3300	3.3300
2	electric boat	4	1.0000	1.0000
3	gold star	1	1.0000	1.0000
3	gold star	2	1.2500	1.2500
3	gold star	3	1.0000	1.0000
3	gold star	4	1.0000	1.0000
3	gold star	5	1.2900	1.2900
4	mamacoke	1	1.6200	1.6200

4	mamacoke	2	1.0000	1.0000
4	mamacoke	3	1.6800	1.6800
4	mamacoke	4	1.9500	1.9500
4	mamacoke	5	1.0000	1.0000
5	pier 32 and 33	1	1.6800	1.6800
5	pier 32 and 33	2	1.2800	1.2800
5	pier 32 and 33	3	1.3300	1.3300
5	pier 32 and 33	4	1.0000	1.0000
5	pier 32 and 33	5	1.0000	1.0000

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
	reference	5	1.000	1.000	1.000
	electric boat	4	1.000	3.330	1.583
3	gold star	5	1.000	1.290	1.108
4	mamacoke	5	1.000	1.950	1.450
	pier 32 and 33	5	1.000	1.680	1.258

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

P	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.000	0.000	0.000
2	electric boat	1.357	1.165	0.583
	gold star	0.022	0.149	0.066
	mamacoke	0.184	0.429	0.192
5	pier 32 and 33	0.079	0.281	0.126

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 1.281

W = 0.878

Critical W (P = 0.05) (n = 8) = 0.818
Critical W (P = 0.01) (n = 8) = 0.749

Data PASS normality test at P=0.01 level. Continue analysis.

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic =	14.73	
Table Chi-square value =	9.21	(alpha = 0.01)
Table Chi-square value =	5.99	(alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 1.67
Used for Chi-square table value ==> df (#groups-1) = 2

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Maguire New London, M. nasuta, Nickel Bioaccumulation
FILE: mnlc.ni
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 3

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	1.5200	1.5200
1	reference	2	1.5000	1.5000
1	reference	3	1.7700	1.7700
1	reference	4	1.6600	1.6600
2	electric boat	1	2.5700	2.5700
2	electric boat	2	1.0000	1.0000
3	mamacoke	1	1.7900	1.7900
3	mamacoke	2	1.8000	1.8000

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	4	1.500	1.770	1.613
2	electric boat	2	1.000	2.570	1.785
3	mamacoke	2	1.790	1.800	1.795

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.016	0.127	0.063
2	electric boat	1.232	1.110	0.785
3	mamacoke	0.000	0.007	0.005

APPENDIX

MAMACOKE

B4

nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11231

We find as follows:

Parameter(s)	Sample Identification	
	001 (1123101)	METHOD BLANK
% Moisture	30.7	<0.02
Results in mg/kg (dry wt. basis):		
Arsenic	<2	<2
Barium	18.4	<10
Cadmium	<1	<1
Chromium	15.7	<5
Lead	11.4	<5
Mercury	<0.01	<0.01
Selenium	<1	<1
Silver	<5	<5
Total Organic Carbon	12400	<40

00005

nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11231

We find as follows:

Results in ug/kg (Dry Wt. basis):

Parameter(s)	Sample Identification	
	001 (1123101)	SBLKF13 (F9936)
Acenaphthene	510.0 U	330.0 U
Acenaphthylene	510.0 U	330.0 U
Anthracene	510.0 U	330.0 U
Benzo (a) anthracene	510.0 U	330.0 U
Benzo (a) pyrene	510.0 U	330.0 U
Benzo (b) fluroanthene	510.0 U	330.0 U
Benzo (g,h,i) perylene	510.0 U	330.0 U
Benzo (k) fluroanthene	510.0 U	330.0 U
Chrysene	510.0 U	330.0 U
Dibenzo (a,h)anthracene	510.0 U	330.0 U
Fluoranthene	510.0 U	330.0 U
Indeno (1,2,3-cd) pyrene	510.0 U	330.0 U
Naphthalene	510.0 U	330.0 U
Phenanthrene	75.0 J	330.0 U
Pyrene	110.0 J	330.0 U

00005

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Pretest - Nireis Virens

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification PRETEST WORM
% Water	1.0	84.5
% Total Organic Carbon	0.1	38.6
% Lipids	-	2.01
Results in ppm (dry wt.):		
Arsenic	0.5	NA *
Cadmium	0.5	NA *
Chromium	1.0	NA *
Copper	1.0	NA *
Lead	1.0	NA *
Nickel	1.0	NA *
Mercury	0.10	< 0.143
Zinc	1.0	NA*

NA * = Insufficient sample for analysis.

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Reference - Nireis Virens

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification				
		REF-WORM1	REF-WORM2	REF-WORM3	REF-WORM4	REF-WOR
% Water	1.0	84.9	85.7	85.3	85.6	87.7
% Total Organic Carbon	0.1	21.7	31.0	83.9	64.7	63.4
% Lipids	-	9.07	11.7	9.52	6.86	11.7
Results in ppm (dry wt.):						
Arsenic	0.5	< 0.5	< 0.5	< 0.5	0.657	< 0.5
Cadmium	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	1.0	1.68	1.52	1.40	2.01	1.64
Lead	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Nickel	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1
Zinc	1.0	36	18.3	24.5	37.8	18.0

NA * = Insufficient sample for analysis.

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Mamacore

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification				
		MA-WORM1	MA-WORM2	MA-WORM3	MA-WORM4	MA-WORM5
% Water	1.0	86.5	86.9	86.7	86.7	NA *
% Total Organic Carbon	0.1	42.0	56.7	39.9	24.2	28.0
% Lipids	-	9.18	9.39	10.7	8.57	NA *
Results in ppm (dry wt.):						
Arsenic	0.5	< 0.5	0.643	< 0.5	< 0.5	NA *
Cadmium	0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA *
Chromium	1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA *
Copper	1.0	1.73	1.59	1.64	1.22	NA *
Lead	1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA *
Nickel	1.0	1.62	< 1.0	1.68	1.95	NA *
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	23.4	22.5	15.4	10.2	NA *

NA * = Insufficient sample for analysis.

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Mamacore

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification MA-WORM5A	MA-WORM5B
% Water	1.0	86.5	87.2
% Total Organic Carbon	0.1	39.7	29.2
% Lipids	-	8.81	9.45
Results in ppm (dry wt.):			
Arsenic	0.5	< 0.5	< 0.5
Cadmium	0.5	< 0.5	< 0.5
Chromium	1.0	< 1.0	< 1.0
Copper	1.0	1.21	1.24
Lead	1.0	< 1.0	< 1.0
Nickel	1.0	< 1.0	< 1.0
Mercury	0.10	< 0.10	< 0.10
Zinc	1.0	33.6	18.0

NA * = Insufficient sample for analysis.

nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Pretest - Macoma

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification PRETEST MAC
% Water	1.0	87.7
% Total Organic Carbon	0.1	31.0
% Lipids	-	1.28
Results in ppm (dry wt.):		
Arsenic	0.5	< 0.5
Cadmium	0.5	< 0.5
Chromium	1.0	< 1.0
Copper	1.0	2.0
Lead	1.0	< 1.0
Nickel	1.0	1.61
Mercury	0.10	< 0.10
Zinc	1.0	51.6

NA * = Insufficient sample for analysis.

nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Reference - Macoma

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification REF-MAC1	REF-MAC2	REF-MAC3	REF-MAC4	REF-MAC5
% Water	1.0	NA *	88.2	NA *	NA *	87.9
% Total Organic Carbon	0.1	28.7	21.7	33.2	51.2	36.5
% Lipids	-	NA *	11.9	NA *	NA *	13.8
Results in ppm (dry wt.):						
Arsenic	0.5	NA *	2.85	3.18	3.16	3.50
Cadmium	0.5	NA *	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	1.0	NA *	< 1.0	< 1.0	< 1.0	< 1.0
Copper	1.0	NA *	3.36	4.34	3.55	3.11
Lead	1.0	NA *	1.22	1.08	< 1.0	1.52
Nickel	1.0	NA *	1.52	1.50	1.77	1.66
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	NA *	50.7	35.9	42.2	39.8

NA * = Insufficient sample for analysis.

00028

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Mamacore

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification MA-MAC1	MA-MAC2	MA-MAC3	MA-MAC4	MA-MAC5
% Water	1.0	85.1	85.3	87.1	86.0	NA *
% Total Organic Carbon	0.1	49.8	29.8	50.2	45.6	28.7
% Lipids	-	9.13	12.5	6.95	11.4	NA *
Results in ppm (dry wt.):						
Arsenic	0.5	NA *	NA *	0.727	1.41	NA *
Cadmium	0.5	NA *	NA *	< 0.5	< 0.5	NA *
Chromium	1.0	NA *	NA *	1.08	< 1.0	NA *
Copper	1.0	NA *	NA *	2.84	2.05	NA *
Lead	1.0	NA *	NA *	2.33	2.08	NA *
Nickel	1.0	NA *	NA *	1.79	1.80	NA *
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	NA *	NA *	32.5	38.1	NA *

NA * = Insufficient sample for analysis.

00021

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Mamacore

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification MA-MAC5A	MA-MAC5B
% Water	1.0	NA *	NA *
% Total Organic Carbon	0.1	11.7	49.7
% Lipids	-	NA *	NA *
Results in ppm (dry wt.):			
Arsenic	0.5	NA *	NA *
Cadmium	0.5	NA *	NA *
Chromium	1.0	NA *	NA *
Copper	1.0	NA *	NA *
Lead	1.0	NA *	NA *
Nickel	1.0	NA *	NA *
Mercury	0.10	< 0.10	< 0.10
Zinc	1.0	NA *	NA *

NA * = Insufficient sample for analysis.

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92
ANALYSIS DATE: 3/18/92
UG/KG

(GPC CLEAN-UP)

SAMPLE ID: PRETEST WORM
LAB ID: 1148267
DIL FACTOR: 8.10
% MOISTURE: NA
UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS		CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	
1	111-44-4	bis(2-Chloroethyl)ether	NA	42	91-20-3	Naphthalene	2700.0 U.
2	541-73-1	1,3-Dichlorobenzene	NA	43	208-96-8	Acenaphthylene	2700.0 U.
3	106-46-7	1,4-Dichlorobenzene	NA	44	83-32-9	Acenaphthene	2700.0 U.
4	95-50-1	1,2-Dichlorobenzene	NA	45	86-73-7	Fluorene	2700.0 U.
5	108-60-1	bis(2-chloroisopropyl)ether	NA	46	85-01-8	Phenanthrene	2700.0 U.
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA	47	120-12-7	Anthracene	2700.0 U.
7	67-72-1	Hexachloroethane	NA	48	206-44-0	Fluoranthene	2700.0 U.
8	98-95-3	Nitrobenzene	NA	49	129-00-0	Pyrene	2700.0 U.
9	78-59-1	Isophorone	NA	50	56-55-3	Benzo(a)Anthracene	2700.0 U.
10	111-91-1	bis(2-chloroethoxy)Methane	NA	51	218-01-9	Chrysene	2700.0 U.
11	120-82-1	1,2,4-Trichlorobenzene	NA	52	205-99-2	Benzo(b)Fluoranthene	2700.0 U.
12	106-47-8	4-Chloroaniline	NA	53	207-08-9	Benzo(k)Fluoranthene	2700.0 U.
13	87-68-3	Hexachlorobutadiene	NA	54	50-32-8	Benzo(a)Pyrene	2700.0 U.
14	91-57-6	2-Methylnaphthalene	NA	55	193-39-5	Indeno(1,2,3-cd)Pyrene	2700.0 U.
15	77-47-4	Hexachlorocyclopentadiene	NA	56	53-70-3	Dibenz(a,h)Anthracene	2700.0 U.
16	91-58-7	2-Chloronaphthalene	NA	57	191-24-2	Benzo(g,h,i)Perylene	2700.0 U.
17	88-74-4	2-Nitroaniline	NA	58			
18	131-11-3	Dimethyl Phthalate	NA	59			
19	99-09-2	3-Nitroaniline	NA	60			
20	132-64-9	Dibenzofuran	NA			ACID COMPOUNDS	
21	121-14-2	2,4-Dinitrotoluene	NA				
22	606-20-2	2,6-Dinitrotoluene	NA	61	108-95-2	Phenol	NA
23	84-66-2	Diethylphthalate	NA	62	95-57-8	2-Chlorophenol	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA	63	100-51-6	Benzyl Alcohol	NA
25	100-01-6	4-Nitroaniline	NA	64	95-48-7	2-Methylphenol	NA
26	86-30-6	N-Nitrosodiphenylamine	NA	65	106-44-5	4-Methylphenol	NA
27	101-55-3	4-Bromophenyl-phenylether	NA	66	88-75-5	2-Nitrophenol	NA
28	118-74-1	Hexachlorobenzene	NA	67	105-67-9	2,4-Dimethylphenol	NA
29	84-74-2	Di-n-Butylphthalate	NA	68	65-85-0	Benzoic Acid	NA
30	85-68-7	Butylbenzylphthalate	NA	69	120-83-2	2,4-Dichlorophenol	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA	70	59-50-7	4-Chloro-3-Methylphenol	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA	71	88-06-2	2,4,6-Trichlorophenol	NA
33	117-84-0	Di-n-Octyl Phthalate	NA	72	95-95-4	2,4,5-Trichlorophenol	NA
34	62-75-9	N-Nitrosodimethylamine	NA	73	51-28-5	2,4-Dinitrophenol	NA
35	62-53-3	Aniline	NA	74	100-02-7	4-Nitrophenol	NA
36	92-87-5	Benzidine	NA	75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
37		Dioxin (Screen)	NA	76	87-86-5	Pentachlorophenol	NA
38				77			
39				78			
40				79			
41				80			

00235

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/11/92

(GPC CLEAN-UP)

SAMPLE ID: REF-WORM1
LAB ID: 1148257
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0
48	206-44-0	Fluoranthene	660.0
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0
51	218-01-9	Chrysene	660.0
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/11/92

(GPC CLEAN-UP)

SAMPLE ID: REF-WORM2
LAB ID: 1148258
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00202

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/13/92

SAMPLE ID: REF-WORM3
LAB ID: 1148259
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0
44	83-32-9	Acenaphthene	660.0
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0
47	120-12-7	Anthracene	660.0
48	206-44-0	Fluoranthene	660.0 U
49	129-00-0	Pyrene	660.0
50	56-55-3	Benzo(a)Anthracene	660.0
51	218-01-9	Chrysene	660.0
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0
54	50-32-8	Benzo(a)Pyrene	660.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U
56	53-70-3	Dibenz(a,h)Anthracene	660.0
57	191-24-2	Benzo(g,h,i)Perylene	660.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00205

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/13/92

(GPC CLEAN-UP)

SAMPLE ID: REF-WORM4
LAB ID: 1148260
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00208

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/11/92

SAMPLE ID: REF-WORMS
LAB ID: 1148261
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U
44	83-32-9	Acenaphthene	990.0 U
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U
47	120-12-7	Anthracene	990.0 U
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U
50	56-55-3	Benzo(a)Anthracene	990.0 U
51	218-01-9	Chrysene	990.0 U
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U
54	50-32-8	Benzo(a)Pyrene	990.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00211

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/14/92
(GPC CLEAN-UP)
SAMPLE ID: REF-WORM5A
LAB ID: 148261A
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00214

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/16/92

(GPC CLEAN-UP)

SAMPLE ID: REF-WORM5B
LAB ID: 1482618
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U
45	86-73-7	Fluorene	990.0 U
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U
48	206-44-0	Fluoranthene	990.0 U
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U
51	218-01-9	Chrysene	990.0
52	205-99-2	Benzo(b)Fluoranthene	990.0
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

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NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/13/92
UG/KG

SAMPLE ID: MA-WORM1
LAB ID: 11428229
DIL FACTOR: 2.00
% MOISTURE: NA
UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/13/92

SAMPLE ID: MA-WORM2
LAB ID: 1148230
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0
45	86-73-7	Fluorene	660.0
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0
48	206-44-0	Fluoranthene	660.0
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0
51	218-01-9	Chrysene	660.0
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
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1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/13/92
UG/KG

SAMPLE ID: MA-WORM3
LAB ID: 1148231
DIL FACTOR: 2.00
% MOISTURE: NA
UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00121

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/13/92

SAMPLE ID: MA-WORM4
LAB ID: 1148232
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0
44	83-32-9	Acenaphthene	660.0
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0
47	120-12-7	Anthracene	660.0
48	206-44-0	Fluoranthene	660.0 U
49	129-00-0	Pyrene	660.0
50	56-55-3	Benzo(a)Anthracene	660.0
51	218-01-9	Chrysene	660.0
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0
54	50-32-8	Benzo(a)Pyrene	660.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00124

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/10/92
(GPC CLEAN-UP)
SAMPLE ID: MA-WORM5
LAB ID: 1148233
DIL FACTOR: 2.40
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	790.0 U.
43	208-96-8	Acenaphthylene	790.0 U.
44	83-32-9	Acenaphthene	790.0 U.
45	86-73-7	Fluorene	790.0 U.
46	85-01-8	Phenanthrene	790.0 U.
47	120-12-7	Anthracene	790.0 U.
48	206-44-0	Fluoranthene	790.0 U.
49	129-00-0	Pyrene	790.0 U.
50	56-55-3	Benzo(a)Anthracene	790.0 U.
51	218-01-9	Chrysene	790.0 U.
52	205-99-2	Benzo(b)Fluoranthene	790.0 U.
53	207-08-9	Benzo(k)Fluoranthene	790.0 U.
54	50-32-8	Benzo(a)Pyrene	790.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	790.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	790.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	790.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00127

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92
ANALYSIS DATE: 3/18/92

(GPC CLEAN-UP)

SAMPLE ID: MA-WORM5A
LAB ID: 1148234
DIL FACTOR: 4.50
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	1500.0 U.
43	208-96-8	Acenaphthylene	1500.0 U
44	83-32-9	Acenaphthene	1500.0 U
45	86-73-7	Fluorene	1500.0 U.
46	85-01-8	Phenanthrene	1500.0 U.
47	120-12-7	Anthracene	1500.0 U
48	206-44-0	Fluoranthene	1500.0 U
49	129-00-0	Pyrene	1500.0 U.
50	56-55-3	Benzo(a)Anthracene	1500.0 U
51	218-01-9	Chrysene	1500.0 U
52	205-99-2	Benzo(b)Fluoranthene	1500.0 U.
53	207-08-9	Benzo(k)Fluoranthene	1500.0 U.
54	50-32-8	Benzo(a)Pyrene	1500.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	1500.0 U
56	53-70-3	Dibenz(a,h)Anthracene	1500.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	1500.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00130

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/10/92

SAMPLE ID: MA-WORM5B
LAB ID: 1148235
DIL FACTOR: 2.40
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	790.0 U.
43	208-96-8	Acenaphthylene	790.0 U.
44	83-32-9	Acenaphthene	790.0 U.
45	86-73-7	Fluorene	790.0 U.
46	85-01-8	Phenanthrene	790.0 U.
47	120-12-7	Anthracene	790.0 U.
48	206-44-0	Fluoranthene	790.0 U.
49	129-00-0	Pyrene	790.0 U.
50	56-55-3	Benzo(a)Anthracene	790.0 U.
51	218-01-9	Chrysene	790.0 U.
52	205-99-2	Benzo(b)Fluoranthene	790.0 U.
53	207-08-9	Benzo(k)Fluoranthene	790.0 U.
54	50-32-8	Benzo(a)Pyrene	790.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	790.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	790.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	790.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

18-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/16/92

SAMPLE ID: PRETEST MAC
LAB ID: 1148268
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U
44	83-32-9	Acenaphthene	660.0 U
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U
48	206-44-0	Fluoranthene	660.0 U
49	129-00-0	Pyrene	660.0 U
50	56-55-3	Benzo(a)Anthracene	660.0 U
51	218-01-9	Chrysene	660.0 U
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U
54	50-32-8	Benzo(a)Pyrene	660.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/18/92

SAMPLE ID: REF-MAC1
LAB ID: 1148262
DIL FACTOR: 21.60
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	7100.0 U.
43	208-96-8	Acenaphthylene	7100.0 U.
44	83-32-9	Acenaphthene	7100.0 U.
45	86-73-7	Fluorene	7100.0 U.
46	85-01-8	Phenanthrene	7100.0 U.
47	120-12-7	Anthracene	7100.0 U.
48	206-44-0	Fluoranthene	7100.0 U.
49	129-00-0	Pyrene	7100.0 U.
50	56-55-3	Benzo(a)Anthracene	7100.0 U.
51	218-01-9	Chrysene	7100.0 U.
52	205-99-2	Benzo(b)Fluoranthene	7100.0 U.
53	207-08-9	Benzo(k)Fluoranthene	7100.0 U.
54	50-32-8	Benzo(a)Pyrene	7100.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	7100.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	7100.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	7100.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00220

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92
ANALYSIS DATE: 3/18/92
(GPC CLEAN-UP)

SAMPLE ID: REF-MAC2
LAB ID: 1148263
DIL FACTOR: 10.70
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	3500.0 U
43	208-96-8	Acenaphthylene	3500.0 U
44	83-32-9	Acenaphthene	3500.0 U
45	86-73-7	Fluorene	3500.0 U
46	85-01-8	Phenanthrene	3500.0 U
47	120-12-7	Anthracene	3500.0 U
48	206-44-0	Fluoranthene	140.0 J
49	129-00-0	Pyrene	3500.0 U
50	56-55-3	Benzo(a)Anthracene	3500.0 U
51	218-01-9	Chrysene	3500.0 U
52	205-99-2	Benzo(b)Fluoranthene	3500.0 U
53	207-08-9	Benzo(k)Fluoranthene	3500.0 U
54	50-32-8	Benzo(a)Pyrene	3500.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	3500.0 U
56	53-70-3	Dibenz(a,h)Anthracene	3500.0 U
57	191-24-2	Benzo(g,h,i)Perylene	3500.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/16/92
UG/KG

SAMPLE ID: REF-MAC3
LAB ID: 1148264
DIL FACTOR: 2.00
% MOISTURE: NA
UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS		CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	
1	111-44-4	bis(2-Chloroethyl)ether	NA	42	91-20-3	Naphthalene	660.0 U.
2	541-73-1	1,3-Dichlorobenzene	NA	43	208-96-8	Acenaphthylene	660.0 U.
3	106-46-7	1,4-Dichlorobenzene	NA	44	83-32-9	Acenaphthene	660.0 U.
4	95-50-1	1,2-Dichlorobenzene	NA	45	86-73-7	Fluorene	660.0 U.
5	108-60-1	bis(2-chloroisopropyl)ether	NA	46	85-01-8	Phenanthrene	660.0 U.
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA	47	120-12-7	Anthracene	660.0 U.
7	67-72-1	Hexachloroethane	NA	48	206-44-0	Fluoranthene	660.0 U.
8	98-95-3	Nitrobenzene	NA	49	129-00-0	Pyrene	660.0 U.
9	78-59-1	Isophorone	NA	50	56-55-3	Benzo(a)Anthracene	660.0 U.
10	111-91-1	bis(2-chloroethoxy)Methane	NA	51	218-01-9	Chrysene	660.0 U.
11	120-82-1	1,2,4-Trichlorobenzene	NA	52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
12	106-47-8	4-Chloroaniline	NA	53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
13	87-68-3	Hexachlorobutadiene	NA	54	50-32-8	Benzo(a)Pyrene	660.0 U.
14	91-57-6	2-Methylnaphthalene	NA	55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
15	77-47-4	Hexachlorocyclopentadiene	NA	56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
16	91-58-7	2-Chloronaphthalene	NA	57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
17	88-74-4	2-Nitroaniline	NA	58			
18	131-11-3	Dimethyl Phthalate	NA	59			
19	99-09-2	3-Nitroaniline	NA	60			
20	132-64-9	Dibenzofuran	NA			ACID COMPOUNDS	
21	121-14-2	2,4-Dinitrotoluene	NA				
22	606-20-2	2,6-Dinitrotoluene	NA	61	108-95-2	Phenol	NA
23	84-66-2	Diethylphthalate	NA	62	95-57-8	2-Chlorophenol	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA	63	100-51-6	Benzyl Alcohol	NA
25	100-01-6	4-Nitroaniline	NA	64	95-48-7	2-Methylphenol	NA
26	86-30-6	N-Nitrosodiphenylamine	NA	65	106-44-5	4-Methylphenol	NA
27	101-55-3	4-Bromophenyl-phenylether	NA	66	88-75-5	2-Nitrophenol	NA
28	118-74-1	Hexachlorobenzene	NA	67	105-67-9	2,4-Dimethylphenol	NA
29	84-74-2	Di-n-Butylphthalate	NA	68	65-85-0	Benzoic Acid	NA
30	85-68-7	Butylbenzylphthalate	NA	69	120-83-2	2,4-Dichlorophenol	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA	70	59-50-7	4-Chloro-3-Methylphenol	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA	71	88-06-2	2,4,6-Trichlorophenol	NA
33	117-84-0	Di-n-Octyl Phthalate	NA	72	95-95-4	2,4,5-Trichlorophenol	NA
34	62-75-9	N-Nitrosodimethylamine	NA	73	51-28-5	2,4-Dinitrophenol	NA
35	62-53-3	Aniline	NA	74	100-02-7	4-Nitrophenol	NA
36	92-87-5	Benzidine	NA	75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
37		Dioxin (Screen)	NA	76	87-86-5	Pentachlorophenol	NA
38				77			
39				78			
40				79			
41				80			

00226

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/16/92
(GPC CLEAN-UP)
SAMPLE ID: REF-MAC4
LAB ID: 1148265
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U
44	83-32-9	Acenaphthene	660.0 U
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U
51	218-01-9	Chrysene	660.0 U
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U
54	50-32-8	Benzo(a)Pyrene	660.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00229

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/16/92
(GPC CLEAN-UP)
SAMPLE ID: REF-MAC5
LAB ID: 1148266
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00232

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/17/92

SAMPLE ID: MA-MAC1
LAB ID: 1148236
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0
45	86-73-7	Fluorene	660.0
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0
48	206-44-0	Fluoranthene	660.0
49	129-00-0	Pyrene	660.0 U
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0
52	205-99-2	Benzo(b)Fluoranthene	660.0
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00136

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/17/92

SAMPLE ID: MA-MAC2
LAB ID: 1148237
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/17/92

SAMPLE ID: MA-MAC3
LAB ID: 1148238
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	28.0 J.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/17/92

SAMPLE ID: MA-MAC4
LAB ID: 1148239
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00145

18-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92
ANALYSIS DATE: 3/17/92
(GPC CLEAN-UP)
SAMPLE ID: MA-MAC5
LAB ID: 1148240
DIL FACTOR: 2.40
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	790.0 U.
43	208-96-8	Acenaphthylene	790.0
44	83-32-9	Acenaphthene	790.0
45	86-73-7	Fluorene	790.0 U.
46	85-01-8	Phenanthrene	790.0
47	120-12-7	Anthracene	790.0
48	206-44-0	Fluoranthene	790.0 U.
49	129-00-0	Pyrene	790.0 U.
50	56-55-3	Benzo(a)Anthracene	790.0
51	218-01-9	Chrysene	790.0
52	205-99-2	Benzo(b)Fluoranthene	790.0 U.
53	207-08-9	Benzo(k)Fluoranthene	790.0
54	50-32-8	Benzo(a)Pyrene	790.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	790.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	790.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	790.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00148

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/17/92

SAMPLE ID: MA-MAC5A
LAB ID: 1148241
DIL FACTOR: 2.40
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	790.0 U.
43	208-96-8	Acenaphthylene	790.0 U.
44	83-32-9	Acenaphthene	790.0 U.
45	86-73-7	Fluorene	790.0 U.
46	85-01-8	Phenanthrene	790.0 U.
47	120-12-7	Anthracene	790.0 U.
48	206-44-0	Fluoranthene	790.0 U.
49	129-00-0	Pyrene	80.0 J.
50	56-55-3	Benzo(a)Anthracene	790.0 U.
51	218-01-9	Chrysene	790.0 U.
52	205-99-2	Benzo(b)Fluoranthene	790.0 U.
53	207-08-9	Benzo(k)Fluoranthene	790.0 U.
54	50-32-8	Benzo(a)Pyrene	790.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	790.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	790.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	790.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92
ANALYSIS DATE: 3/17/92
(GPC CLEAN-UP)
SAMPLE ID: MA-MACSB
LAB ID: 1148242
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0
44	83-32-9	Acenaphthene	660.0
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0
47	120-12-7	Anthracene	660.0
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0
51	218-01-9	Chrysene	660.0
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0
54	50-32-8	Benzo(a)Pyrene	660.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2 (p=0.05)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	RANK SUM
1	reference	1.613	1.613	14.000
2	electric boat	1.785	1.785	9.000
3	mamacoke	1.795	1.795	13.000

Calculated H Value = 2.000 Critical H Value Table = 5.333
Since Calc H < Crit H FAIL TO REJECT Ho:All groups are equal.

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

DUNNS MULTIPLE COMPARISON - KRUSKAL-WALLIS - TABLE 2 OF 2 (p=0.05)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	ORIGINAL MEAN	GROUP 0 0 0 1 2 3
1	reference	1.613	1.613	\
2	electric boat	1.785	1.785	. \
3	mamacoke	1.795	1.795	. . \

* = significant difference (p=0.05) . = no significant difference
Table q value (0.05,3) = 2.394 Unequal reps - several SE values us

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 0.220

W = 0.903

Critical W (P = 0.05) (n = 8) = 0.818
Critical W (P = 0.01) (n = 8) = 0.749

Data PASS normality test at P=0.01 level. Continue analysis.

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 0.12
Table Chi-square value = 9.21 (alpha = 0.01)
Table Chi-square value = 5.99 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 1.67
Used for Chi-square table value ==> df (#groups-1) = 2

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Maguire New London, M. nasuta, Lead Bioaccumulation
FILE: mnlc.as
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 3

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	1.2200	1.2200
1	reference	2	1.0800	1.0800
1	reference	3	1.0000	1.0000
1	reference	4	1.5200	1.5200
2	electric boat	1	1.2500	1.2500
2	electric boat	2	1.0000	1.0000
3	mamacoke	1	2.3300	2.3300
3	mamacoke	2	2.0800	2.0800

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	4	1.000	1.520	1.205
2	electric boat	2	1.000	1.250	1.125
3	mamacoke	2	2.080	2.330	2.205

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.052	0.229	0.114
2	electric boat	0.031	0.177	0.125
3	mamacoke	0.031	0.177	0.125

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	2	1.590	0.795	18.068
Within (Error)	5	0.220	0.044	
Total	7	1.809		

Critical F value = 5.79 (0.05,2,5)
Since F > Critical F REJECT Ho:All groups equal

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 2.321

W = 0.825

Critical W (P = 0.05) (n = 23) = 0.914
Critical W (P = 0.01) (n = 23) = 0.881

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 17.01
Table Chi-square value = 13.28 (alpha = 0.01)
Table Chi-square value = 9.49 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 3.60
Used for Chi-square table value ==> df (#groups-1) = 4

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Maguire New London, N. virens, Arsenic Bioaccumulation
FILE: mnlw.as
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 5

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	0.5000	0.5000
1	reference	2	0.5000	0.5000
1	reference	3	0.5000	0.5000
1	reference	4	0.6570	0.6570
1	reference	5	0.5000	0.5000
2	electric boat	1	0.5000	0.5000
2	electric boat	2	0.5000	0.5000
2	electric boat	3	1.5600	1.5600
2	electric boat	4	0.5000	0.5000
3	gold star	1	0.5080	0.5080
3	gold star	2	1.1400	1.1400
3	gold star	3	0.5000	0.5000
3	gold star	4	1.5900	1.5900
3	gold star	5	0.5000	0.5000
4	mamacoke	1	0.5000	0.5000
4	mamacoke	2	0.6430	0.6430
4	mamacoke	3	0.5000	0.5000
4	mamacoke	4	0.5000	0.5000
5	pier 32 and 33	1	0.5000	0.5000
5	pier 32 and 33	2	0.5000	0.5000
5	pier 32 and 33	3	1.2500	1.2500
5	pier 32 and 33	4	0.5000	0.5000
5	pier 32 and 33	5	0.5000	0.5000

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	5	0.500	0.657	0.531
2	electric boat	4	0.500	1.560	0.765
3	gold star	5	0.500	1.590	0.848
4	mamacoke	4	0.500	0.643	0.536
5	pier 32 and 33	5	0.500	1.250	0.650

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.005	0.070	0.031
2	electric boat	0.281	0.530	0.265
3	gold star	0.248	0.498	0.223
4	mamacoke	0.005	0.072	0.036
5	pier 32 and 33	0.113	0.335	0.150

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	reference	0.531				
2	electric boat	0.765	21.00	10.00	4	
3	gold star	0.848	33.00	16.00	5	
4	mamacoke	0.536	20.00	10.00	4	
5	pier 32 and 33	0.650	28.00	16.00	5	

Critical values use k = 4, are 1 tailed, and alpha = 0.05

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 5.214

W = 0.804

Critical W (P = 0.05) (n = 24) = 0.916
Critical W (P = 0.01) (n = 24) = 0.884

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance
Bartletts test for homogeneity of variance

These two tests can not be performed because at least one group has zero variance.

Data FAIL to meet homogeneity of variance assumption.
Additional transformations are useless.

TITLE: Maguire New London, N. virens, Nickel Bioaccumulation
FILE: mnlw.ni
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 5

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	1.0000	1.0000
1	reference	2	1.0000	1.0000
1	reference	3	1.0000	1.0000
1	reference	4	1.0000	1.0000
1	reference	5	1.0000	1.0000
2	electric boat	1	1.0000	1.0000
2	electric boat	2	1.0000	1.0000
2	electric boat	3	3.3300	3.3300
2	electric boat	4	1.0000	1.0000
3	gold star	1	1.0000	1.0000
3	gold star	2	1.2500	1.2500
3	gold star	3	1.0000	1.0000
3	gold star	4	1.0000	1.0000
3	gold star	5	1.2900	1.2900
4	mamacoke	1	1.6200	1.6200

4	mamacoke	2	1.0000	1.0000
4	mamacoke	3	1.6800	1.6800
4	mamacoke	4	1.9500	1.9500
4	mamacoke	5	1.0000	1.0000
5	pier 32 and 33	1	1.6800	1.6800
5	pier 32 and 33	2	1.2800	1.2800
5	pier 32 and 33	3	1.3300	1.3300
5	pier 32 and 33	4	1.0000	1.0000
5	pier 32 and 33	5	1.0000	1.0000

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	5	1.000	1.000	1.000
2	electric boat	4	1.000	3.330	1.583
3	gold star	5	1.000	1.290	1.108
4	mamacoke	5	1.000	1.950	1.450
5	pier 32 and 33	5	1.000	1.680	1.258

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.000	0.000	0.000
2	electric boat	1.357	1.165	0.583
3	gold star	0.022	0.149	0.066
4	mamacoke	0.184	0.429	0.192
5	pier 32 and 33	0.079	0.281	0.126

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 1.281

W = 0.878

Critical W (P = 0.05) (n = 8) = 0.818
Critical W (P = 0.01) (n = 8) = 0.749

Data PASS normality test at P=0.01 level. Continue analysis.

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 14.73
Table Chi-square value = 9.21 (alpha = 0.01)
Table Chi-square value = 5.99 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 1.67
Used for Chi-square table value ==> df (#groups-1) = 2

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Maguire New London, M. nasuta, Nickel Bioaccumulation
FILE: mnlc.ni
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 3

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	1.5200	1.5200
1	reference	2	1.5000	1.5000
1	reference	3	1.7700	1.7700
1	reference	4	1.6600	1.6600
2	electric boat	1	2.5700	2.5700
2	electric boat	2	1.0000	1.0000
3	mamacoke	1	1.7900	1.7900
3	mamacoke	2	1.8000	1.8000

APPENDIX

PIERS 32 AND 33

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11231

We find as follows:

Parameter(s)	Sample Identification	
	001 (1123101)	METHOD BLANK
% Moisture	30.7	<0.02
Results in mg/kg (dry wt. basis):		
Arsenic	<2	<2
Barium	18.4	<10
Cadmium	<1	<1
Chromium	15.7	<5
Lead	11.4	<5
Mercury	<0.01	<0.01
Selenium	<1	<1
Silver	<5	<5
Total Organic Carbon	12400	<40

00005

nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11231

We find as follows:

Results in ug/kg (Dry Wt. basis):

Parameter(s)	Sample Identification	
	001 (1123101)	SBLKF13 (F9936)
Acenaphthene	510.0 U	330.0 U
Acenaphthylene	510.0 U	330.0 U
Anthracene	510.0 U	330.0 U
Benzo (a) anthracene	510.0 U	330.0 U
Benzo (a) pyrene	510.0 U	330.0 U
Benzo (b) fluroanthene	510.0 U	330.0 U
Benzo (g,h,i) perylene	510.0 U	330.0 U
Benzo (k) fluroanthene	510.0 U	330.0 U
Chrysene	510.0 U	330.0 U
Dibenzo (a,h)anthracene	510.0 U	330.0 U
Fluoranthene	510.0 U	330.0 U
Indeno (1,2,3-cd) pyrene	510.0 U	330.0 U
Naphthalene	510.0 U	330.0 U
Phenanthrene	75.0 J	330.0 U
Pyrene	110.0 J	330.0 U

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nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Pretest - Nireis Virens

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification PRETEST WORM
% Water	1.0	84.5
% Total Organic Carbon	0.1	38.6
% Lipids	-	2.01
Results in ppm (dry wt.):		
Arsenic	0.5	NA *
Cadmium	0.5	NA *
Chromium	1.0	NA *
Copper	1.0	NA *
Lead	1.0	NA *
Nickel	1.0	NA *
Mercury	0.10	< 0.143
Zinc	1.0	NA*

NA * = Insufficient sample for analysis.

00029

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Reference - Nireis Virens

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification REF-WORM1	REF-WORM2	REF-WORM3	REF-WORM4	REF-WORM5
% Water	1.0	84.9	85.7	85.3	85.6	87.7
% Total Organic Carbon	0.1	21.7	31.0	83.9	64.7	63.4
% Lipids	-	9.07	11.7	9.52	6.86	11.7
Results in ppm (dry wt.):						
Arsenic	0.5	< 0.5	< 0.5	< 0.5	0.657	< 0.5
Cadmium	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	1.0	1.68	1.52	1.40	2.01	1.64
Lead	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Nickel	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	36	18.3	24.5	37.8	18.0

NA * = Insufficient sample for analysis.

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Pier 32 & 33

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification PIER-WORM1	PIER-WORM2	PIER-WORM3	PIER-WORM4	PIER-WORM5
% Water	1.0	84.0	NA *	NA *	NA *	NA *
% Total Organic Carbon	0.1	56.2	62.4	86.0	55.2	82.8
% Lipids	-	7.06	NA *	NA *	NA *	NA *
Results in ppm (dry wt.):						
Arsenic	0.5	< 0.5	< 0.5	1.25	< 0.5	< 0.5
Cadmium	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	1.0	1.33	1.65	1.88	1.65	1.45
Lead	1.0	< 1.0	< 1.0	< 1.67	< 1.0	< 1.0
Nickel	1.0	1.68	1.28	< 1.33	< 1.0	< 1.0
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	12	17.6	15.8	13.4	16.6

NA * = Insufficient sample for analysis.

00023

nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Pier 32 & 33

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification PIER-WORM5A	PIER-WORM5B
% Water	1.0	NA *	NA *
% Total Organic Carbon	0.1	37.9	32.1
% Lipids	-	NA *	NA *
Results in ppm (dry wt.):			
Arsenic	0.5	< 0.5	< 0.5
Cadmium	0.5	< 0.5	< 0.5
Chromium	1.0	< 1.0	< 1.0
Copper	1.0	1.35	1.41
Lead	1.0	< 1.0	< 1.0
Nickel	1.0	< 1.0	< 1.0
Mercury	0.10	< 0.10	< 0.10
Zinc	1.0	8.35	21.5

NA * = Insufficient sample for analysis.

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Pretest - Macoma

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification PRETEST MAC
% Water	1.0	87.7
% Total Organic Carbon	0.1	31.0
% Lipids	-	1.28
Results in ppm (dry wt.):		
Arsenic	0.5	< 0.5
Cadmium	0.5	< 0.5
Chromium	1.0	< 1.0
Copper	1.0	2.0
Lead	1.0	< 1.0
Nickel	1.0	1.61
Mercury	0.10	< 0.10
Zinc	1.0	51.6

NA * = Insufficient sample for analysis.

nytest environmental inc

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Reference - Macoma

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification REF-MAC1	REF-MAC2	REF-MAC3	REF-MAC4	REF-MAC5
% Water	1.0	NA *	88.2	NA *	NA *	87.9
% Total Organic Carbon	0.1	28.7	21.7	33.2	51.2	36.5
% Lipids	-	NA *	11.9	NA *	NA *	13.5
Results in ppm (dry wt.):						
Arsenic	0.5	NA *	2.85	3.18	3.16	3.50
Cadmium	0.5	NA *	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	1.0	NA *	< 1.0	< 1.0	< 1.0	< 1.0
Copper	1.0	NA *	3.36	4.34	3.55	3.11
Lead	1.0	NA *	1.22	1.08	< 1.0	1.52
Nickel	1.0	NA *	1.52	1.50	1.77	1.66
Mercury	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	1.0	NA *	50.7	35.9	42.2	39.8

NA * = Insufficient sample for analysis.

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Pier 32 & 33

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification				
		PIER-MAC1	PIER-MAC2	PIER-MAC3	PIER-MAC4	PIER-MAC5
% Water	1.0	NA *	86.5	NA *	86.7	NA *
% Total Organic Carbon	0.1	24.7	33.9	44.2	53.4	28.0
% Lipids	-	NA *	13.2	NA *	11.3	NA *
Results in ppm (dry wt.):						
Arsenic	0.5	NA *	NA *	NA *	NA *	NA *
Cadmium	0.5	NA *	NA *	NA *	NA *	NA *
Chromium	1.0	NA *	NA *	NA *	NA *	NA *
Copper	1.0	NA *	NA *	NA *	NA *	NA *
Lead	1.0	NA *	NA *	NA *	NA *	NA *
Nickel	1.0	NA *	NA *	NA *	NA *	NA *
Mercury	0.10	< 0.22	< 0.10	< 0.10	< 0.20	< 1.0
Zinc	1.0	NA *	NA *	NA *	NA *	NA *

NA * = Insufficient sample for analysis.

nytest environmental inc.

REPORT OF ANALYSIS

Log In No.: 11482

New England Requirements
RE: Pier 32 & 33

We find as follows:

Parameter(s)	Method Detection Limit	Sample Identification PIER-MAC5A	PIER-MAC5B
% Water	1.0	NA *	NA *
% Total Organic Carbon	0.1	61.8	30.2
% Lipids	-	NA *	NA *
Results in ppm (dry wt.):			
Arsenic	0.5	NA *	NA *
Cadmium	0.5	NA *	NA *
Chromium	1.0	NA *	NA *
Copper	1.0	NA *	NA *
Lead	1.0	NA *	NA *
Nickel	1.0	NA *	NA *
Mercury	0.10	< 0.10	< 0.133
Zinc	1.0	NA *	NA *

NA * = Insufficient sample for analysis.

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92
ANALYSIS DATE: 3/18/92
(GPC CLEAN-UP)
SAMPLE ID: PRETEST WORM
LAB ID: 1148267
DIL FACTOR: 8.10
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	2700.0 U.
43	208-96-8	Acenaphthylene	2700.0 U.
44	83-32-9	Acenaphthene	2700.0 U.
45	86-73-7	Fluorene	2700.0 U.
46	85-01-8	Phenanthrene	2700.0 U.
47	120-12-7	Anthracene	2700.0 U.
48	206-44-0	Fluoranthene	2700.0 U.
49	129-00-0	Pyrene	2700.0 U.
50	56-55-3	Benzo(a)Anthracene	2700.0 U.
51	218-01-9	Chrysene	2700.0 U.
52	205-99-2	Benzo(b)Fluoranthene	2700.0 U.
53	207-08-9	Benzo(k)Fluoranthene	2700.0 U.
54	50-32-8	Benzo(a)Pyrene	2700.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	2700.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	2700.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	2700.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00235

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/11/92
(GPC CLEAN-UP)
SAMPLE ID: REF-WORM1
LAB ID: 1148257
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U
43	208-96-8	Acenaphthylene	660.0 U
44	83-32-9	Acenaphthene	660.0 U
45	86-73-7	Fluorene	660.0 U
46	85-01-8	Phenanthrene	660.0 U
47	120-12-7	Anthracene	660.0 U
48	206-44-0	Fluoranthene	660.0 U
49	129-00-0	Pyrene	660.0 U
50	56-55-3	Benzo(a)Anthracene	660.0 U
51	218-01-9	Chrysene	660.0
52	205-99-2	Benzo(b)Fluoranthene	660.0 U
53	207-08-9	Benzo(k)Fluoranthene	660.0 U
54	50-32-8	Benzo(a)Pyrene	660.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/11/92
UG/KG

SAMPLE ID: REF-WORM2
LAB ID: 1148258
DIL FACTOR: 2.00
% MOISTURE: NA
UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00202

18-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/13/92
(GPC CLEAN-UP)

SAMPLE ID: REF-WORM3
LAB ID: 1148259
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U
43	208-96-8	Acenaphthylene	660.0 U
44	83-32-9	Acenaphthene	660.0 U
45	86-73-7	Fluorene	660.0 U
46	85-01-8	Phenanthrene	660.0 U
47	120-12-7	Anthracene	660.0 U
48	206-44-0	Fluoranthene	660.0 U
49	129-00-0	Pyrene	660.0 U
50	56-55-3	Benzo(a)Anthracene	660.0 U
51	218-01-9	Chrysene	660.0 U
52	205-99-2	Benzo(b)Fluoranthene	660.0 U
53	207-08-9	Benzo(k)Fluoranthene	660.0 U
54	50-32-8	Benzo(a)Pyrene	660.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00205

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/13/92

SAMPLE ID: REF-WORM4
LAB ID: 1148260
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00208

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/11/92
(GPC CLEAN-UP)

SAMPLE ID: REF-WORMS
LAB ID: 1148261
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U
43	208-96-8	Acenaphthylene	990.0 U
44	83-32-9	Acenaphthene	990.0 U
45	86-73-7	Fluorene	990.0 U
46	85-01-8	Phenanthrene	990.0 U
47	120-12-7	Anthracene	990.0 U
48	206-44-0	Fluoranthene	990.0 U
49	129-00-0	Pyrene	990.0 U
50	56-55-3	Benzo(a)Anthracene	990.0 U
51	218-01-9	Chrysene	990.0 U
52	205-99-2	Benzo(b)Fluoranthene	990.0 U
53	207-08-9	Benzo(k)Fluoranthene	990.0 U
54	50-32-8	Benzo(a)Pyrene	990.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00211

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/14/92

SAMPLE ID: REF-WORM5A
LAB ID: 148261A
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00214

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/16/92
(GPC CLEAN-UP)

SAMPLE ID: REF-WORM5B
LAB ID: 1482618
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0
51	218-01-9	Chrysene	990.0
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0
54	50-32-8	Benzo(a)Pyrene	990.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00217

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/13/92

SAMPLE ID: PIER-WORM1
LAB ID: 1148243
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00157

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/13/92

SAMPLE ID: PIER-WORM2
LAB ID: 1148244
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U
45	86-73-7	Fluorene	660.0 U
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U
49	129-00-0	Pyrene	660.0 U
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U
52	205-99-2	Benzo(b)Fluoranthene	660.0 U
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00160

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NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92
ANALYSIS DATE: 3/11/92
(GPC CLEAN-UP)
SAMPLE ID: PIER-WORM3
LAB ID: 1148245
DIL FACTOR: 4.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	1320.0 U.
43	208-96-8	Acenaphthylene	1320.0 U.
44	83-32-9	Acenaphthene	1320.0 U.
45	86-73-7	Fluorene	1320.0 U.
46	85-01-8	Phenanthrene	1320.0 U.
47	120-12-7	Anthracene	1320.0 U.
48	206-44-0	Fluoranthene	1320.0 U.
49	129-00-0	Pyrene	1320.0 U.
50	56-55-3	Benzo(a)Anthracene	1320.0 U.
51	218-01-9	Chrysene	1320.0 U.
52	205-99-2	Benzo(b)Fluoranthene	1320.0 U.
53	207-08-9	Benzo(k)Fluoranthene	1320.0 U.
54	50-32-8	Benzo(a)Pyrene	1320.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	1320.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	1320.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	1320.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

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1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/24/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/11/92

SAMPLE ID: PIER-WORM4
LAB ID: 1148246
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U
44	83-32-9	Acenaphthene	22.0 J
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U
47	120-12-7	Anthracene	660.0 U
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	280.0 J.
50	56-55-3	Benzo(a)Anthracene	660.0 U
51	218-01-9	Chrysene	660.0 U
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U
54	50-32-8	Benzo(a)Pyrene	660.0 U
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

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NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/10/92

(GPC CLEAN-UP)

SAMPLE ID: PIER-WORMS
LAB ID: 1148247
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/10/92

(GPC CLEAN-UP)

SAMPLE ID: PIER-WORM5A
LAB ID: 1148248
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

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NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/25/92
ANALYSIS DATE: 3/10/92
(GPC CLEAN-UP)
SAMPLE ID:PIER-WCRN5B
LAB ID: 1148249
DIL FACTOR: 3.00
% MOISTURE:NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0 U.
45	86-73-7	Fluorene	990.0 U.
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0 U.
48	206-44-0	Fluoranthene	990.0 U.
49	129-00-0	Pyrene	990.0 U.
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0 U.
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
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NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92
ANALYSIS DATE: 3/18/92
(GPC CLEAN-UP)
SAMPLE ID: REF-MAC1
LAB ID: 1148262
DIL FACTOR: 21.60
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	7100.0 U.
43	208-96-8	Acenaphthylene	7100.0 U.
44	83-32-9	Acenaphthene	7100.0 U.
45	86-73-7	Fluorene	7100.0 U.
46	85-01-8	Phenanthrene	7100.0 U.
47	120-12-7	Anthracene	7100.0 U.
48	206-44-0	Fluoranthene	7100.0 U.
49	129-00-0	Pyrene	7100.0 U.
50	56-55-3	Benzo(a)Anthracene	7100.0 U.
51	218-01-9	Chrysene	7100.0 U.
52	205-99-2	Benzo(b)Fluoranthene	7100.0 U.
53	207-08-9	Benzo(k)Fluoranthene	7100.0 U.
54	50-32-8	Benzo(a)Pyrene	7100.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	7100.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	7100.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	7100.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

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NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 3/8/92
ANALYSIS DATE: 3/18/92
(GPC CLEAN-UP)
SAMPLE ID: REF-MAC2
LAB ID: 1148263
DIL FACTOR: 10.70
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	3500.0 U.
43	208-96-8	Acenaphthylene	3500.0 U.
44	83-32-9	Acenaphthene	3500.0 U.
45	86-73-7	Fluorene	3500.0 U.
46	85-01-8	Phenanthrene	3500.0 U.
47	120-12-7	Anthracene	3500.0 U.
48	206-44-0	Fluoranthene	140.0 J.
49	129-00-0	Pyrene	3500.0 U.
50	56-55-3	Benzo(a)Anthracene	3500.0 U.
51	218-01-9	Chrysene	3500.0 U.
52	205-99-2	Benzo(b)Fluoranthene	3500.0 U.
53	207-08-9	Benzo(k)Fluoranthene	3500.0 U.
54	50-32-8	Benzo(a)Pyrene	3500.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	3500.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	3500.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	3500.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

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NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/16/92
(GPC CLEAN-UP)

SAMPLE ID: REF-MAC3
LAB ID: 1148264
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

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NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/16/92

SAMPLE ID: REF-MAC4
LAB ID: 1148265
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00229

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92
ANALYSIS DATE: 3/16/92
UG/KG

(GPC CLEAN-UP)

SAMPLE ID: REF-MAC5
LAB ID: 1148266
DIL FACTOR: 2.00
% MOISTURE: NA
UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS		CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	
1	111-44-4	bis(2-Chloroethyl)ether	NA	42	91-20-3	Naphthalene	660.0 U.
2	541-73-1	1,3-Dichlorobenzene	NA	43	208-96-8	Acenaphthylene	660.0 U
3	106-46-7	1,4-Dichlorobenzene	NA	44	83-32-9	Acenaphthene	660.0 U
4	95-50-1	1,2-Dichlorobenzene	NA	45	86-73-7	Fluorene	660.0 U.
5	108-60-1	bis(2-chloroisopropyl)ether	NA	46	85-01-8	Phenanthrene	660.0 U
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA	47	120-12-7	Anthracene	660.0 U
7	67-72-1	Hexachloroethane	NA	48	206-44-0	Fluoranthene	660.0 U.
8	98-95-3	Nitrobenzene	NA	49	129-00-0	Pyrene	660.0 U.
9	78-59-1	Isophorone	NA	50	56-55-3	Benzo(a)Anthracene	660.0 U
10	111-91-1	bis(2-chloroethoxy)Methane	NA	51	218-01-9	Chrysene	660.0 U
11	120-82-1	1,2,4-Trichlorobenzene	NA	52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
12	106-47-8	4-Chloroaniline	NA	53	207-08-9	Benzo(k)Fluoranthene	660.0 U
13	87-68-3	Hexachlorobutadiene	NA	54	50-32-8	Benzo(a)Pyrene	660.0 U
14	91-57-6	2-Methylnaphthalene	NA	55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
15	77-47-4	Hexachlorocyclopentadiene	NA	56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
16	91-58-7	2-Chloronaphthalene	NA	57	191-24-2	Benzo(g,h,i)Perylene	660.0 U
17	88-74-4	2-Nitroaniline	NA	58			
18	131-11-3	Dimethyl Phthalate	NA	59			
19	99-09-2	3-Nitroaniline	NA	60			
20	132-64-9	Dibenzofuran	NA			ACID COMPOUNDS	
21	121-14-2	2,4-Dinitrotoluene	NA				
22	606-20-2	2,6-Dinitrotoluene	NA	61	108-95-2	Phenol	NA
23	84-66-2	Diethylphthalate	NA	62	95-57-8	2-Chlorophenol	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA	63	100-51-6	Benzyl Alcohol	NA
25	100-01-6	4-Nitroaniline	NA	64	95-48-7	2-Methylphenol	NA
26	86-30-6	N-Nitrosodiphenylamine	NA	65	106-44-5	4-Methylphenol	NA
27	101-55-3	4-Bromophenyl-phenylether	NA	66	88-75-5	2-Nitrophenol	NA
28	118-74-1	Hexachlorobenzene	NA	67	105-67-9	2,4-Dimethylphenol	NA
29	84-74-2	Di-n-Butylphthalate	NA	68	65-85-0	Benzoic Acid	NA
30	85-68-7	Butylbenzylphthalate	NA	69	120-83-2	2,4-Dichlorophenol	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA	70	59-50-7	4-Chloro-3-Methylphenol	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA	71	88-06-2	2,4,6-Trichlorophenol	NA
33	117-84-0	Di-n-Octyl Phthalate	NA	72	95-95-4	2,4,5-Trichlorophenol	NA
34	62-75-9	N-Nitrosodimethylamine	NA	73	51-28-5	2,4-Dinitrophenol	NA
35	62-53-3	Aniline	NA	74	100-02-7	4-Nitrophenol	NA
36	92-87-5	Benzidine	NA	75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
37		Dioxin (Screen)	NA	76	87-86-5	Pentachlorophenol	NA
38				77			
39				78			
40				79			
41				80			

00232

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/21/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/16/92

SAMPLE ID: PRETEST MAC
LAB ID: 1148268
DIL FACTOR: 2.00
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00238

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92
ANALYSIS DATE: 3/18/92
UG/KG

(GPC CLEAN-UP)

SAMPLE ID: PIER-MAC1
LAB ID: 1148250
DIL FACTOR: 4.30
% MOISTURE: NA
UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	
42	91-20-3	Naphthalene	1420.0
43	208-96-8	Acenaphthylene	1420.0 U
44	83-32-9	Acenaphthene	1420.0 U
45	86-73-7	Fluorene	1420.0
46	85-01-8	Phenanthrene	1420.0
47	120-12-7	Anthracene	1420.0 U.
48	206-44-0	Fluoranthene	1420.0
49	129-00-0	Pyrene	1420.0
50	56-55-3	Benzo(a)Anthracene	1420.0 U.
51	218-01-9	Chrysene	1420.0 U.
52	205-99-2	Benzo(b)Fluoranthene	1420.0
53	207-08-9	Benzo(k)Fluoranthene	1420.0 U
54	50-32-8	Benzo(a)Pyrene	1420.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	1420.0
56	53-70-3	Dibenz(a,h)Anthracene	1420.0
57	191-24-2	Benzo(g,h,i)Perylene	1420.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00178

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92
ANALYSIS DATE: 3/18/92

(GPC CLEAN-UP)

SAMPLE ID: PIER-MAC2
LAB ID: 1148251
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00181

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92
ANALYSIS DATE: 3/18/92
(GPC CLEAN-UP)
SAMPLE ID: PIER-MAC3
LAB ID: 1148252
DIL FACTOR: 2.20
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	730.0 U.
43	208-96-8	Acenaphthylene	730.0 U.
44	83-32-9	Acenaphthene	730.0 U.
45	86-73-7	Fluorene	730.0 U.
46	85-01-8	Phenanthrene	730.0 U.
47	120-12-7	Anthracene	730.0 U.
48	206-44-0	Fluoranthene	730.0 U.
49	129-00-0	Pyrene	730.0 U.
50	56-55-3	Benzo(a)Anthracene	730.0 U.
51	218-01-9	Chrysene	730.0 U.
52	205-99-2	Benzo(b)Fluoranthene	730.0 U.
53	207-08-9	Benzo(k)Fluoranthene	730.0 U.
54	50-32-8	Benzo(a)Pyrene	730.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	730.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	730.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	730.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00184

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/18/92

SAMPLE ID: PIER-MAC4
LAB ID: 1148253
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U.
44	83-32-9	Acenaphthene	660.0 U.
45	86-73-7	Fluorene	660.0 U.
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0 U.
48	206-44-0	Fluoranthene	660.0 U.
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0 U.
51	218-01-9	Chrysene	660.0 U.
52	205-99-2	Benzo(b)Fluoranthene	660.0 U.
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00187

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92
ANALYSIS DATE: 3/18/92

(GPC CLEAN-UP)

SAMPLE ID: PIER-MAC5
LAB ID: 1148254
DIL FACTOR: 2.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	660.0 U.
43	208-96-8	Acenaphthylene	660.0 U
44	83-32-9	Acenaphthene	660.0
45	86-73-7	Fluorene	660.0 U
46	85-01-8	Phenanthrene	660.0 U.
47	120-12-7	Anthracene	660.0
48	206-44-0	Fluoranthene	660.0
49	129-00-0	Pyrene	660.0 U.
50	56-55-3	Benzo(a)Anthracene	660.0
51	218-01-9	Chrysene	660.0
52	205-99-2	Benzo(b)Fluoranthene	660.0 U
53	207-08-9	Benzo(k)Fluoranthene	660.0 U.
54	50-32-8	Benzo(a)Pyrene	660.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	660.0
56	53-70-3	Dibenz(a,h)Anthracene	660.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	660.0
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00190

1B-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92
ANALYSIS DATE: 3/18/92
(GPC CLEAN-UP)
SAMPLE ID: PIER-MAC5A
LAB ID: 1148255
DIL FACTOR: 2.40
% MOISTURE: NA

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	790.0 U.
43	208-96-8	Acenaphthylene	790.0 U.
44	83-32-9	Acenaphthene	790.0 U.
45	86-73-7	Fluorene	790.0 U.
46	85-01-8	Phenanthrene	790.0 U.
47	120-12-7	Anthracene	790.0 U.
48	206-44-0	Fluoranthene	51.0 J.
49	129-00-0	Pyrene	27.0 J.
50	56-55-3	Benzo(a)Anthracene	790.0 U.
51	218-01-9	Chrysene	790.0 U.
52	205-99-2	Benzo(b)Fluoranthene	790.0 U.
53	207-08-9	Benzo(k)Fluoranthene	790.0 U.
54	50-32-8	Benzo(a)Pyrene	790.0 U.
55	193-39-5	Indeno(1,2,3-cd)Pyrene	790.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	790.0 U.
57	191-24-2	Benzo(g,h,i)Perylene	790.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

00193

18-P

NYTEST ENVIRONMENTAL INC.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE MATRIX: SOIL
CONC. LEVEL: LOW
EXTRACTION DATE: 2/22/92 (GPC CLEAN-UP)
ANALYSIS DATE: 3/18/92

SAMPLE ID: PIER-MACSB
LAB ID: 1148256
DIL FACTOR: 3.00
% MOISTURE: NA

UG/KG

CMPD #	CAS Number	BASE NEUTRAL COMPOUNDS	UG/KG
1	111-44-4	bis(2-Chloroethyl)ether	NA
2	541-73-1	1,3-Dichlorobenzene	NA
3	106-46-7	1,4-Dichlorobenzene	NA
4	95-50-1	1,2-Dichlorobenzene	NA
5	108-60-1	bis(2-chloroisopropyl)ether	NA
6	621-64-7	N-Nitroso-Di-n-Propylamine	NA
7	67-72-1	Hexachloroethane	NA
8	98-95-3	Nitrobenzene	NA
9	78-59-1	Isophorone	NA
10	111-91-1	bis(2-chloroethoxy)Methane	NA
11	120-82-1	1,2,4-Trichlorobenzene	NA
12	106-47-8	4-Chloroaniline	NA
13	87-68-3	Hexachlorobutadiene	NA
14	91-57-6	2-Methylnaphthalene	NA
15	77-47-4	Hexachlorocyclopentadiene	NA
16	91-58-7	2-Chloronaphthalene	NA
17	88-74-4	2-Nitroaniline	NA
18	131-11-3	Dimethyl Phthalate	NA
19	99-09-2	3-Nitroaniline	NA
20	132-64-9	Dibenzofuran	NA
21	121-14-2	2,4-Dinitrotoluene	NA
22	606-20-2	2,6-Dinitrotoluene	NA
23	84-66-2	Diethylphthalate	NA
24	7005-72-3	4-Chlorophenyl-phenylether	NA
25	100-01-6	4-Nitroaniline	NA
26	86-30-6	N-Nitrosodiphenylamine	NA
27	101-55-3	4-Bromophenyl-phenylether	NA
28	118-74-1	Hexachlorobenzene	NA
29	84-74-2	Di-n-Butylphthalate	NA
30	85-68-7	Butylbenzylphthalate	NA
31	91-94-1	3,3'-Dichlorobenzidine	NA
32	117-81-7	bis(2-Ethylhexyl)Phthalate	NA
33	117-84-0	Di-n-Octyl Phthalate	NA
34	62-75-9	N-Nitrosodimethylamine	NA
35	62-53-3	Aniline	NA
36	92-87-5	Benzidine	NA
37		Dioxin (Screen)	NA
38			
39			
40			
41			

CMPD #	CAS Number	BASE NEUTRAL/PAH COMPOUNDS	UG/KG
42	91-20-3	Naphthalene	990.0 U.
43	208-96-8	Acenaphthylene	990.0 U.
44	83-32-9	Acenaphthene	990.0
45	86-73-7	Fluorene	990.0
46	85-01-8	Phenanthrene	990.0 U.
47	120-12-7	Anthracene	990.0
48	206-44-0	Fluoranthene	54.0
49	129-00-0	Pyrene	25.0 J
50	56-55-3	Benzo(a)Anthracene	990.0 U.
51	218-01-9	Chrysene	990.0
52	205-99-2	Benzo(b)Fluoranthene	990.0 U.
53	207-08-9	Benzo(k)Fluoranthene	990.0 U.
54	50-32-8	Benzo(a)Pyrene	990.0
55	193-39-5	Indeno(1,2,3-cd)Pyrene	990.0 U.
56	53-70-3	Dibenz(a,h)Anthracene	990.0 U
57	191-24-2	Benzo(g,h,i)Perylene	990.0 U.
58			
59			
60			
		ACID COMPOUNDS	
61	108-95-2	Phenol	NA
62	95-57-8	2-Chlorophenol	NA
63	100-51-6	Benzyl Alcohol	NA
64	95-48-7	2-Methylphenol	NA
65	106-44-5	4-Methylphenol	NA
66	88-75-5	2-Nitrophenol	NA
67	105-67-9	2,4-Dimethylphenol	NA
68	65-85-0	Benzoic Acid	NA
69	120-83-2	2,4-Dichlorophenol	NA
70	59-50-7	4-Chloro-3-Methylphenol	NA
71	88-06-2	2,4,6-Trichlorophenol	NA
72	95-95-4	2,4,5-Trichlorophenol	NA
73	51-28-5	2,4-Dinitrophenol	NA
74	100-02-7	4-Nitrophenol	NA
75	534-52-1	4,6-Dinitro-2-Methylphenol	NA
76	87-86-5	Pentachlorophenol	NA
77			
78			
79			
80			

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2 (p=0.05)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	RANK SUM
1	reference	1.613	1.613	14.000
2	electric boat	1.785	1.785	9.000
3	mamacoke	1.795	1.795	13.000

Calculated H Value = 2.000 Critical H Value Table = 5.333
Since Calc H < Crit H FAIL TO REJECT Ho:All groups are equal.

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

DUNNS MULTIPLE COMPARISON - KRUSKAL-WALLIS - TABLE 2 OF 2 (p=0.05)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	ORIGINAL MEAN	GROUP 0 0 0 1 2 3
1	reference	1.613	1.613	\
2	electric boat	1.785	1.785	. \
3	mamacoke	1.795	1.795	. . \

* = significant difference (p=0.05) . = no significant difference
Table q value (0.05,3) = 2.394 Unequal reps - several SE values us

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 0.220

W = 0.903

Critical W (P = 0.05) (n = 8) = 0.818
Critical W (P = 0.01) (n = 8) = 0.749

Data PASS normality test at P=0.01 level. Continue analysis.

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 0.12
Table Chi-square value = 9.21 (alpha = 0.01)
Table Chi-square value = 5.99 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 1.67
Used for Chi-square table value ==> df (#groups-1) = 2

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Maguire New London, M. nasuta, Lead Bioaccumulation
FILE: mnlc.as
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 3

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	1.2200	1.2200
1	reference	2	1.0800	1.0800
1	reference	3	1.0000	1.0000
1	reference	4	1.5200	1.5200
2	electric boat	1	1.2500	1.2500
2	electric boat	2	1.0000	1.0000
3	mamacoke	1	2.3300	2.3300
3	mamacoke	2	2.0800	2.0800

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	4	1.000	1.520	1.205
2	electric boat	2	1.000	1.250	1.125
3	mamacoke	2	2.080	2.330	2.205

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.052	0.229	0.114
2	electric boat	0.031	0.177	0.125
3	mamacoke	0.031	0.177	0.125

Maguire New London, M. nasuta, Lead Bioaccumulation
File: mnlc.as Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	2	1.590	0.795	18.068
Within (Error)	5	0.220	0.044	
Total	7	1.809		

Critical F value = 5.79 (0.05,2,5)
Since F > Critical F REJECT Ho:All groups equal

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 2.321

W = 0.825

Critical W (P = 0.05) (n = 23) = 0.914
Critical W (P = 0.01) (n = 23) = 0.881

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 17.01
Table Chi-square value = 13.28 (alpha = 0.01)
Table Chi-square value = 9.49 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 3.60
Used for Chi-square table value ==> df (#groups-1) = 4

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Maguire New London, N. virens, Arsenic Bioaccumulation
FILE: mnlw.as
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 5

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	0.5000	0.5000
1	reference	2	0.5000	0.5000
1	reference	3	0.5000	0.5000
1	reference	4	0.6570	0.6570
1	reference	5	0.5000	0.5000
2	electric boat	1	0.5000	0.5000
2	electric boat	2	0.5000	0.5000
2	electric boat	3	1.5600	1.5600
2	electric boat	4	0.5000	0.5000
3	gold star	1	0.5080	0.5080
3	gold star	2	1.1400	1.1400
3	gold star	3	0.5000	0.5000
3	gold star	4	1.5900	1.5900
3	gold star	5	0.5000	0.5000
4	mamacoke	1	0.5000	0.5000
4	mamacoke	2	0.6430	0.6430
4	mamacoke	3	0.5000	0.5000
4	mamacoke	4	0.5000	0.5000
5	pier 32 and 33	1	0.5000	0.5000
5	pier 32 and 33	2	0.5000	0.5000
5	pier 32 and 33	3	1.2500	1.2500
5	pier 32 and 33	4	0.5000	0.5000
5	pier 32 and 33	5	0.5000	0.5000

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	5	0.500	0.657	0.531
2	electric boat	4	0.500	1.560	0.765
3	gold star	5	0.500	1.590	0.848
4	mamacoke	4	0.500	0.643	0.536
5	pier 32 and 33	5	0.500	1.250	0.650

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.005	0.070	0.031
2	electric boat	0.281	0.530	0.265
3	gold star	0.248	0.498	0.223
4	mamacoke	0.005	0.072	0.036
5	pier 32 and 33	0.113	0.335	0.150

Maguire New London, N. virens, Arsenic Bioaccumulation
File: mnlw.as Transform: NO TRANSFORMATION

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	reference	0.531				
2	electric boat	0.765	21.00	10.00	4	
3	gold star	0.848	33.00	16.00	5	
4	mamacoke	0.536	20.00	10.00	4	
5	pier 32 and 33	0.650	28.00	16.00	5	

Critical values use k = 4, are 1 tailed, and alpha = 0.05

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 5.214

W = 0.804

Critical W (P = 0.05) (n = 24) = 0.916
Critical W (P = 0.01) (n = 24) = 0.884

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance
Bartletts test for homogeneity of variance

These two tests can not be performed because at least one group has zero variance.

Data FAIL to meet homogeneity of variance assumption.
Additional transformations are useless.

TITLE: Maguire New London, N. virens, Nickel Bioaccumulation
FILE: mnlw.ni
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 5

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	1.0000	1.0000
1	reference	2	1.0000	1.0000
1	reference	3	1.0000	1.0000
1	reference	4	1.0000	1.0000
1	reference	5	1.0000	1.0000
2	electric boat	1	1.0000	1.0000
2	electric boat	2	1.0000	1.0000
2	electric boat	3	3.3300	3.3300
2	electric boat	4	1.0000	1.0000
3	gold star	1	1.0000	1.0000
3	gold star	2	1.2500	1.2500
3	gold star	3	1.0000	1.0000
3	gold star	4	1.0000	1.0000
3	gold star	5	1.2900	1.2900
4	mamacoke	1	1.6200	1.6200

4	mamacoke	2	1.0000	1.0000
4	mamacoke	3	1.6800	1.6800
4	mamacoke	4	1.9500	1.9500
4	mamacoke	5	1.0000	1.0000
5	pier 32 and 33	1	1.6800	1.6800
5	pier 32 and 33	2	1.2800	1.2800
5	pier 32 and 33	3	1.3300	1.3300
5	pier 32 and 33	4	1.0000	1.0000
5	pier 32 and 33	5	1.0000	1.0000

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	5	1.000	1.000	1.000
2	electric boat	4	1.000	3.330	1.583
3	gold star	5	1.000	1.290	1.108
4	mamacoke	5	1.000	1.950	1.450
5	pier 32 and 33	5	1.000	1.680	1.258

Maguire New London, N. virens, Nickel Bioaccumulation
File: mnlw.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.000	0.000	0.000
2	electric boat	1.357	1.165	0.583
3	gold star	0.022	0.149	0.066
4	mamacoke	0.184	0.429	0.192
5	pier 32 and 33	0.079	0.281	0.126

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 1.281

W = 0.878

Critical W (P = 0.05) (n = 8) = 0.818
Critical W (P = 0.01) (n = 8) = 0.749

Data PASS normality test at P=0.01 level. Continue analysis.

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 14.73
Table Chi-square value = 9.21 (alpha = 0.01)
Table Chi-square value = 5.99 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 1.67
Used for Chi-square table value ==> df (#groups-1) = 2

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Maguire New London, M. nasuta, Nickel Bioaccumulation
FILE: mnlc.ni
TRANSFORM: NO TRANSFORMATION NUMBER OF GROUPS: 3

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	reference	1	1.5200	1.5200
1	reference	2	1.5000	1.5000
1	reference	3	1.7700	1.7700
1	reference	4	1.6600	1.6600
2	electric boat	1	2.5700	2.5700
2	electric boat	2	1.0000	1.0000
3	mamacoke	1	1.7900	1.7900
3	mamacoke	2	1.8000	1.8000

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	reference	4	1.500	1.770	1.613
2	electric boat	2	1.000	2.570	1.785
3	mamacoke	2	1.790	1.800	1.795

Maguire New London, M. nasuta, Nickel Bioaccumulation
File: mnlc.ni Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	reference	0.016	0.127	0.063
2	electric boat	1.232	1.110	0.785
3	mamacoke	0.000	0.007	0.005