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FINAL DRAFT LISTING SITE INSPECTION REPORT
SAG HARBOR - BRIDGE STREET
SAG HARBOR, NEW YORK
VOLUME I

PREPARED UNDER

FIELD INVESTIGATION TEAM ACTIVITIES AT UNCONTROLLED HAZARDOUS SUBSTANCES FACILITIES — ZONE I

NUS CORPORATION
SUPERFUND DIVISION

0032-D
02-8907-

02-8907-29-LI
REV. NO. 1

FINAL DRAFT LISTING SITE INSPECTION REPORT
SAG HARBOR - BRIDGE STREET
SAG HARBOR, NEW YORK
VOLUME I

PREPARED UNDER
TECHNICAL DIRECTIVE DOCUMENT NO. 02-8907-29
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

FEBRUARY 22, 1990

NUS CORPORATION
SUPERFUND DIVISION

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TABLE OF CONTENTS

SECTION		PAGE
1.0	**INTRODUCTION**	**1-1**
1.1	Project Objectives	1-1
1.2	Project Management	1-2
2.0	**SITE BACKGROUND INFORMATION**	**2-1**
2.1	Site Description	2-1
2.2	Site History	2-6
2.3	Previous Investigations	2-7
2.3.1	Sampling Data	2-7
2.3.2	Nonsampling Data	2-8
3.0	**WASTE/SOURCE INVESTIGATION AND SUMMARY**	**3-1**
3.1	Objectives	3-1
3.2	Sampling Summary	3-2
3.3	LSI Waste/Source Results	3-14
3.3.1	Sampling Results	3-14
3.4	Data Analysis	3-25
3.4.1	Background Contaminant Levels	3-25
3.4.2	Soil Sample Evaluation	3-28
3.5	Waste/Source Summary	3-32
4.0	**AIR INVESTIGATION AND SUMMARY**	**4-1**
4.1	Objectives	4-1
4.2	Sampling Summary	4-1
4.3	LSI Air Pathway Results	4-2
4.4	Data Analysis	4-2
4.5	Air Migration Pathway Summary	4-2
5.0	**GROUNDWATER INVESTIGATION AND SUMMARY**	**5-1**
5.1	Objectives	5-1
5.2	Sampling Summary	5-1
5.3	LSI Groundwater Pathway Results	5-2
5.4	Data Analysis	5-2
5.5	Groundwater Migration Pathway Summary	5-2
6.0	**SURFACE WATER INVESTIGATION AND SUMMARY**	**6-1**
6.1	Objectives	6-1
6.2	Sampling Summary	6-2
6.3	LSI Surface Water Results	6-2
6.4	Data Analysis	6-2
6.5	Surface Water Pathway Summary	6-2

TABLE OF CONTENTS

SECTION		PAGE
7.0	**ONSITE EXPOSURE PATHWAY INVESTIGATION AND SUMMARY**	**7-1**
7.1	Objectives	7-1
7.2	Sampling Summary	7-2
7.3	LSI Onsite Exposure Pathway Results	7-2
7.3.1	Analytical Data	7-2
7.3.2	Other LSI Data	7-2
7.4	Data Analysis	7-3
7.5	Onsite Exposure Pathway Summary	7-4
8.0	**REFERENCES**	**8-1**

LIST OF TABLES

TABLE NO.	DESCRIPTION	PAGE
2-1	Sample Analysis Results from the Sampling Conducted by the Suffolk County Department of Health Services (SCDHS)	2-10
2-2	Descriptions of Borings and Sample Analysis Results from the Soil Investigation by Storch Associates	2-12
2-3	Sample Analysis Results from the Groundwater Investigation by Storch Associates	2-15
2-4	NUS Corp. Region 2 FIT SSI Sampling Results	2-18
2-5	Sag Harbor-Bridge Street Site Groundwater Pathway Target Population	2-26
3-1	Sample Descriptions for Samples Collected from the Sag Harbor-Bridge Street Site on June 27 to 29, 1989	3-4
3-2	Soil Descriptions for Soil Samples Collected from the Sag Harbor-Bridge Street Site	3-15
3-3	Distribution of Soil Types Encountered in Soil Samples Collected from the Sag Harbor-Bridge Street Site	3-21
3-4	Characteristic Compounds Found in Manufactured Gas Plant Tars	3-29

LIST OF CHARTS

CHART NO.	DESCRIPTION	PAGE
3-1	Soil Classification Chart	3-13

LIST OF FIGURES

FIGURE NO.	DESCRIPTION	PAGE
2-1	Site Location Maps	2-2
2-2	Site Maps	2-3
2-3	East Side of Bridge Street	2-4
2-4	West Side of Bridge Street	2-5
2-5	Locations of Samples and Borings	2-9
3-1	Grid Sample Locations	3-3
3-2	Judgmental Soil Sample Locations	3-11
3-3	Background Soil Sample Locations	3-12
6-1	Surface Water Sample Location	6-3

APPENDICES

APPENDIX NO.	DESCRIPTION
1	Organic And Inorganic Analysis Results 1A: Organics 1B: Inorganics
2	Background Contaminant Level Calculations 2A: Organics 2B: Inorganics
3	Compounds Detected at Concentrations Significantly Above Background 3A: Organics 3B: Inorganics

1.0 INTRODUCTION

This section presents an introduction and defines project objectives for the Sag Harbor - Bridge Street Site (SHBS) Listing Site Inspection (LSI) in Sag Harbor, New York. The U.S. Environmental Protection Agency Region 2 requested that the NUS Region 2 Field Investigation Team (FIT) conduct an LSI at the SHBS Site. The SHBS Site LSI workplan and field work were conducted under Technical Directive Document TDD Nos. 02-8904-64 and 02-8906-05, respectively. This report was prepared under TDD No. 02-8907-29. Previous work conducted on the SHBS Site by the FIT includes a preliminary assessment (PA) and a screening site inspection (SSI) which were conducted under TDD Nos. 02-8807-05 and 02-8810-73, respectively.

1.1 PROJECT OBJECTIVES

The objectives of the project consist of overall project objectives and site-specific objectives. The overall objectives are directed towards meeting the data needs to support a National Priorities List (NPL) decision. Site-specific objectives, while also directed towards meeting the overall objectives, are specifically directed toward providing sufficient data to evaluate the SHBS Site for the LSI.

Overall project objectives were as follows:

- To acquire the data needed to support an NPL decision.
- To field test implementation of the preremedial process and decision points.
- To determine data requirements, sampling procedures, cost, and time schedule to conduct LSIs.

Site-specific objectives are primarily directed toward gathering sufficient information to fill the data gaps identified during previous investigations (PA and SSI) at the site. The data gaps and the proposed plan to collect data to fill the gaps were discussed in detail in the SHBS Site LSI work plan. Some site - specific objectives are provided below:

- To estimate the areal extent of contamination at the site.
- To determine whether contaminants associated with the site are present on nearby residential properties.

- To determine background contaminant levels in soils.
- To determine whether contaminants are migrating to surface water.

Site-specific objectives are discussed further in subsequent sections of this report.

1.2 PROJECT MANAGEMENT

Project management for the SHBS Site has generally been in accordance with the management plan described in the LSI work plan. Changes to the management plan and problems encountered in implementing the plan are described in this section.

Project Personnel

Project management personnel consist of the Project Coordinator and the Project Manager.

The HRS Field Testing Project Coordinator for the LSI was Donald Hessemer. The Field Testing Project Coordinator oversees the Project Manager in administration of project activities. The Field Testing Project Coordinator acts as a focal point for coordination of the field testing projects at the FIT office. The Field Testing Project Coordinator communicates and coordinates field testing project activities both between the EPA and the senior management of the FIT, and between the FIT and the SHBS LSI Project Committee.

The Project Manager for the LSI was Joseph Mayo. The Project Manager provides overall project management and is responsible for all aspects of the LSI. The Project Manager has direct responsibility for administrative functions such as work plan development, maintenance of project schedules and budgets, and project reporting. The Project Manager oversees all aspects of field operations.

Project staff and project support personnel were assigned on an as-needed basis. In order to provide a degree of project continuity, project staff for field activities included individuals involved in the SHBS Site PA and SSI field activities.

The EPA points-of-contact personnel for this investigation were Roger Ennis and Jeffrey Gaal.

Project Reporting

Biweekly progress reports were submitted to the NUS Zone Project Management Office (ZPMO) and to the EPA Region 2 points-of-contact. Since August 1989, progress reports have been submitted on a monthly basis.

Project Costs and Schedule

The work plan, sampling trip report, and field work were completed in accordance with the management plan schedule. The schedule for completion of the LSI report was based on a 30-day turnaround time for laboratory analyses handled under the Contract Laboratory Program. Final QA/QC-reviewed analytical data was received approximately 110 days after sampling occurred. This condition has had a negative impact on the schedule for the completion of the LSI report and subsequent deliverables.

A detailed estimate of the costs to complete the LSI at the SHBS Site will be provided at the completion of the project. Sample analysis costs will be reduced as only 55 samples were collected as opposed to the 63 samples that were planned. Level of effort (LOE) for workplan preparations and field work are in general agreement with the estimates provided in the LSI workplan.

Community Relations

With the initiation of sampling at a number of residential properties in the area, community concern regarding the LSI activities was high. A number of area residents had questions concerning LSI activities, the potential health effects of contamination, and the results of our activities. These inquiries were directed to EPA representatives who were on site during part of the sampling, or the residents were directed to call the appropriate EPA representative. EPA letters of introduction and letters describing the proposed LSI activities were sent to all property owners whose properties were sampled. The Town of Sag Harbor was also informed of the proposed activities and all property owners were contacted by telephone prior to the initiation of field work.

In addition to the residents concerns, there was concern that FIT field activities would have a negative impact on the tourist industry in Sag Harbor. Sag Harbor is a major summer resort area and Bridge Street is within view of Main Street, which is the center of much of the tourist activity in Sag Harbor. Local officials were informed of our activities and the field team maintained a high level of discretion in their activities. Media interest was high, and photographers from local newspapers visited the site. Media inquires were referred to EPA.

2.0 SITE BACKGROUND INFORMATION

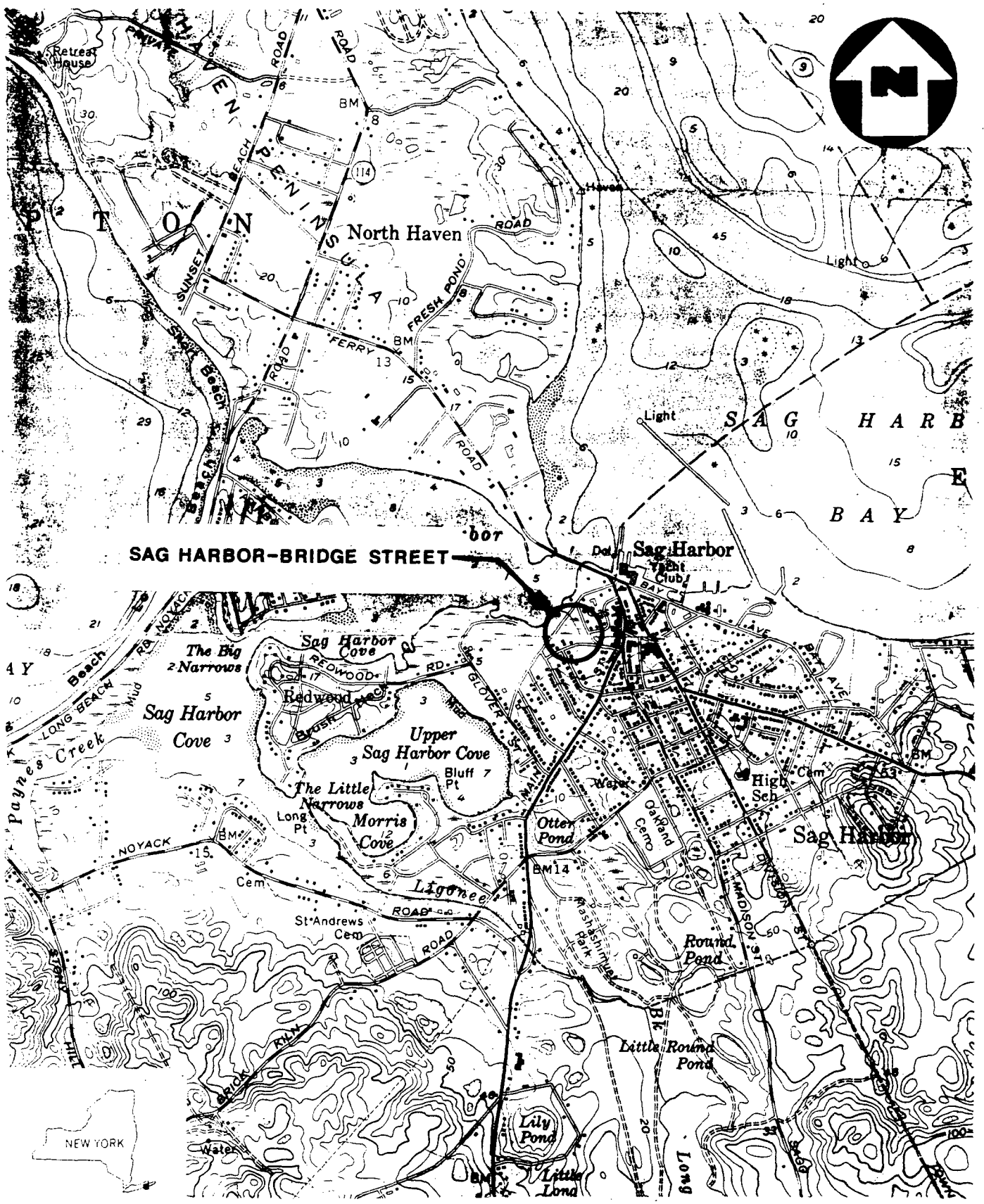
This section provides a description of the site, a summary of the site history, and a summary of previous investigations. The site description includes a description of the site location and the surrounding area including topography and land use. The site history section includes a description of the ownership and uses of some of the site properties, and identifies pertinent events which caused the site to be considered a candidate for a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) investigation. A summary of investigations conducted by FIT and other investigators is provided in Section 2.3.

2.1 SITE DESCRIPTION

The town of Sag Harbor is located on a point of land on the northern side of the southern fork of eastern Long Island, Suffolk County, New York. Sag Harbor Bay is located north of the town, and Sag Harbor Cove is to the west. The major landforms in this part of Long Island are hills, valleys, and plains. Beyond 1 mile to the southeast and southwest of the site, the topography is hilly with hills ranging from 100 to 200 feet above mean sea level (MSL). A plain slopes at a relatively uniform gradient from the southern base of the hills towards the south and the Atlantic Ocean. There are few streams in the area, and most surface water in this part of Long Island is found in ponds, some of which are hydraulically connected to the Atlantic Ocean.

The town of Sag Harbor lies on wetlands that have been filled to provide usable land. Most of the town of Sag Harbor is relatively flat and is less than 10 feet above MSL. The area around Bridge Street is less than 5 feet above MSL and is located in a 100-year floodplain. Street signs near the site warn that the area is flood prone.

The SHBS Site is located in a residential/commercial area near the lower downtown area of Sag Harbor. The exact boundries of the site have not been defined. The site is currently considered to be between Long Island Avenue and Rose Street in the vicinity of Bridge Street. The Long Island Lighting Co. (LILCO), Long Island Fisherman (LIF) printing facility, several residences, and the Harbor Close Condominiums (HCC) are located on Bridge Street. Figure 2-1 provides a site location map, and Figures 2-2 through 2-4 provide site maps.



(QUAD) SAG HARBOR/GREENPORT, N.Y.

FIGURE 2-1

SITE LOCATION MAP

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

SCALE: 1"= 2000'

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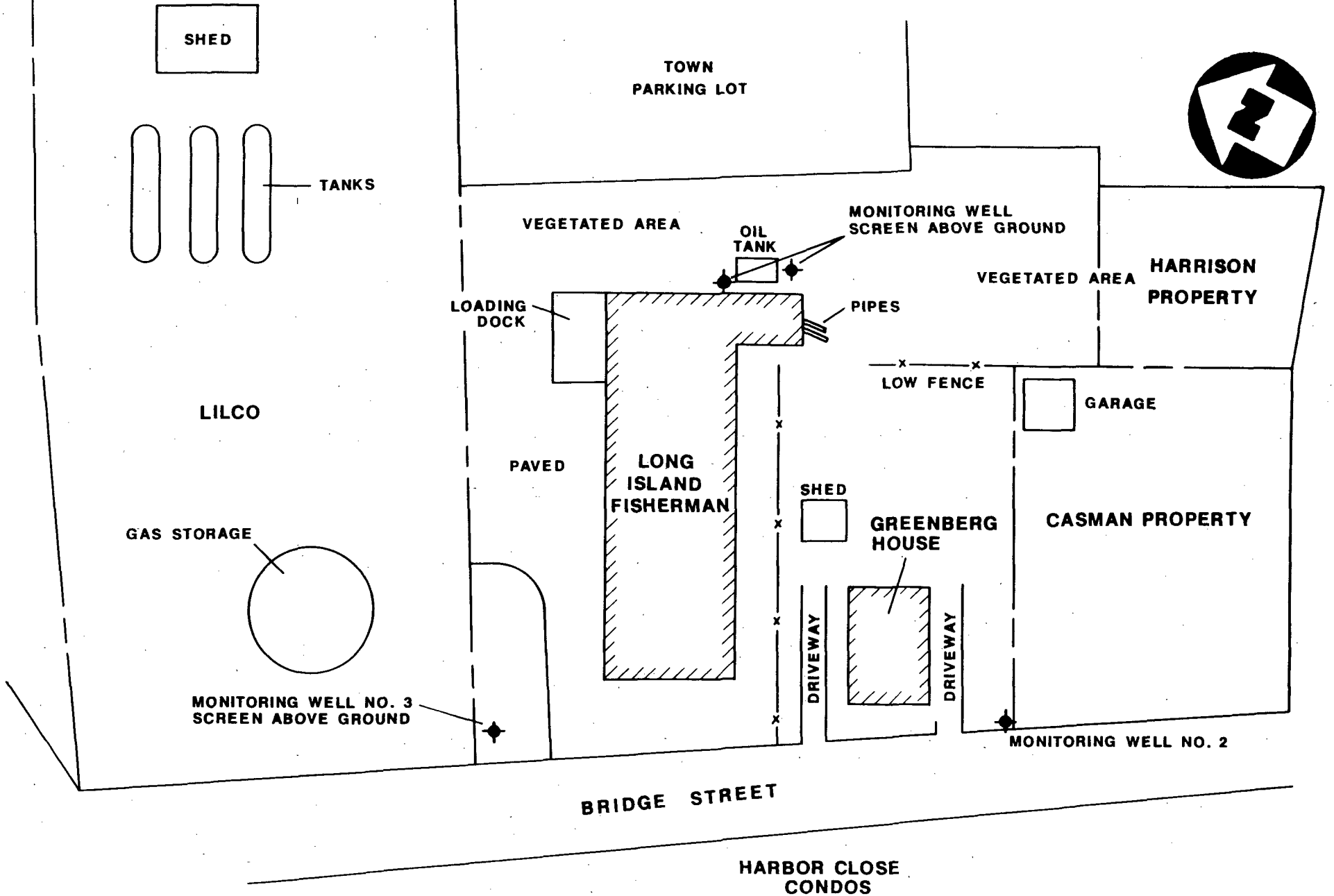


FIGURE 2-3

EAST SIDE OF BRIDGE STREET

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

NOT TO SCALE

NUS CORPORATION

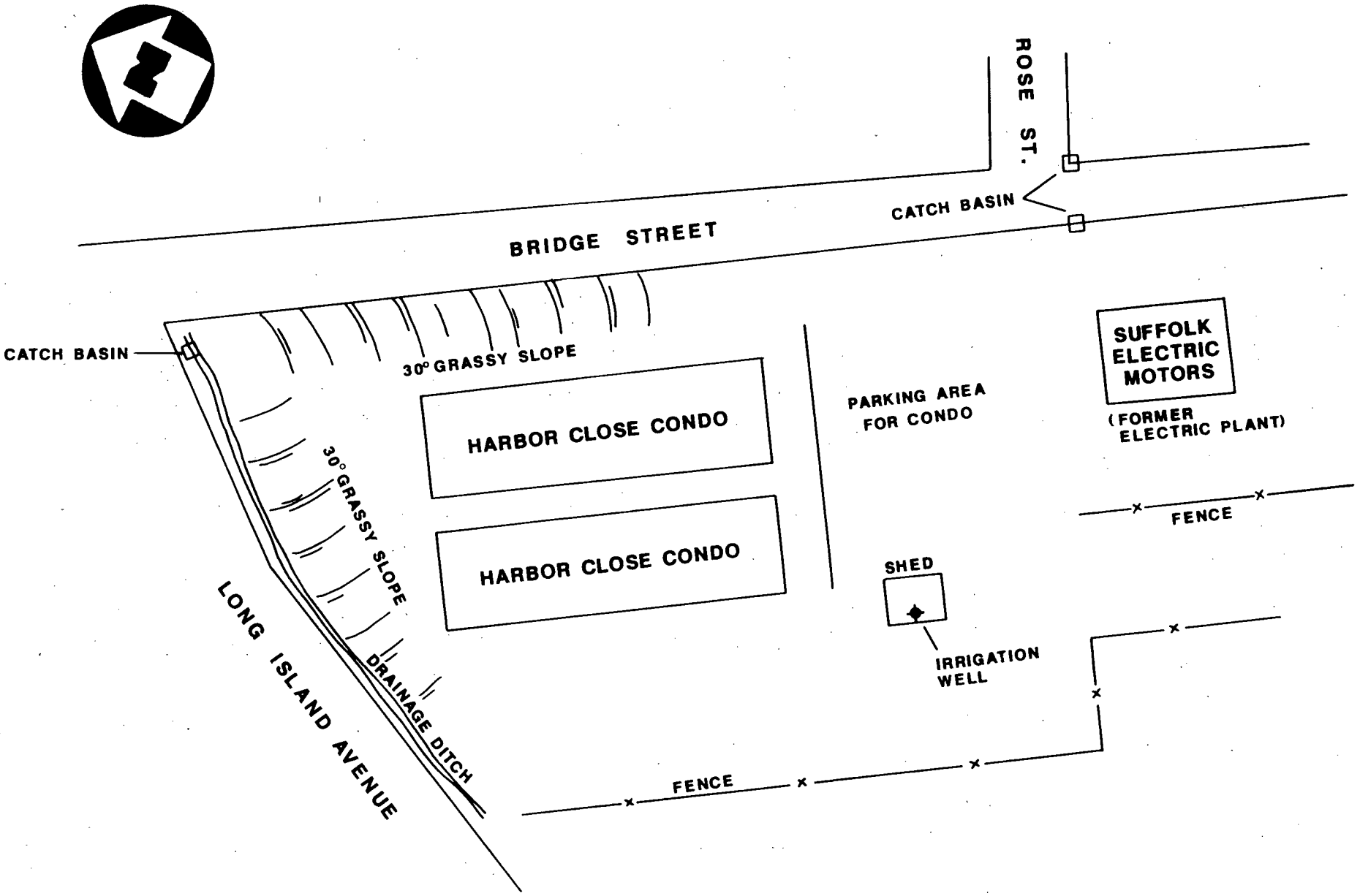


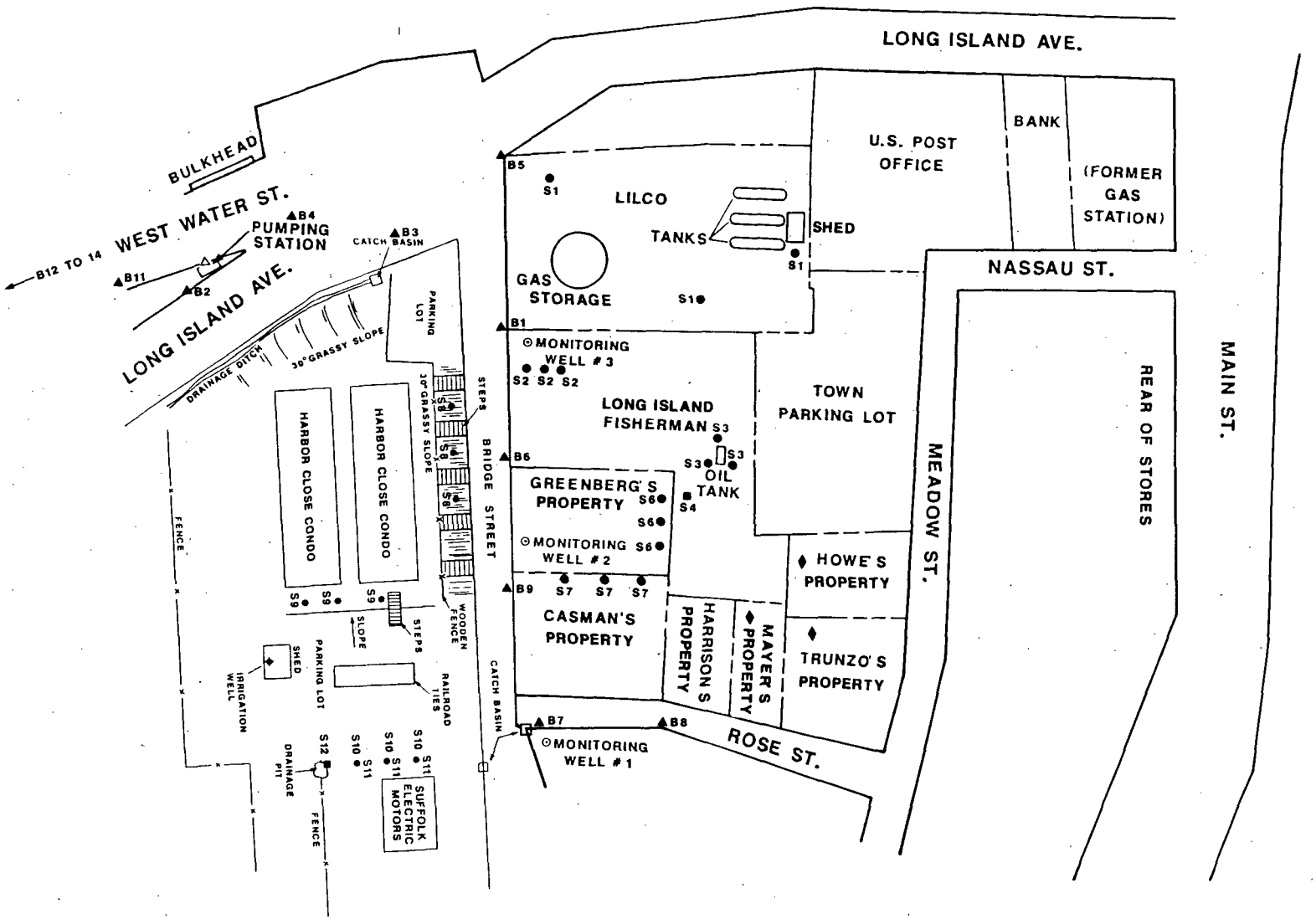
FIGURE 2-4

WEST SIDE OF BRIDGE STREET

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

NOT TO SCALE

NUS CORPORATION



LEGEND

- ● COMPOSITE SOIL SAMPLE
- ■ SOIL SAMPLE
- ▲ BORING LOCATION (STORCH ASSOC.)
- ⊙ MONITORING WELL SAMPLE
- ♦ RESIDENTIAL WELL SAMPLE (SCHD)
- △ STORM EFFLUENT SAMPLE

MAP IS NOT DRAWN TO SCALE

FIGURE 2-5

LOCATIONS OF SAMPLES AND BORINGS

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

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2.2 SITE HISTORY

Prior to 1929, a town gas plant was located on Bridge Street near Long Island Avenue. Fuel gas was manufactured at the plant from either coal or rosin. LILCO purchased the property in 1929, installed a pressurized gas holder, and discontinued gas manufacturing operations. The LILCO facility is currently used for the storage and distribution of natural gas.

The LIF Printing Facility is located on Bridge Street adjacent to the LILCO property. The LIF facility was built in the late 1960s and is currently closed; printing operations no longer take place on the property. In October 1984, an above ground fuel storage tank in the rear of the LIF property was found to be leaking. The spill was remediated by removal of approximately 35 cubic yards of contaminated soil. Monitoring wells were installed and the case was closed in April 1986. At the time of the discovery of the fuel tank leak, analysis of soil samples collected from the LIF facility showed the presence of No. 2 fuel oil and a nontype-fuel oil possibly containing polychlorinated biphenyls (PCBs). No remediation of the nontype- fuel oil is known to have occurred.

Sometime after the fuel tank leak, undocumented accounts of skin irritation were voiced by Suffolk County Water Authority (SCWA) construction personnel who had performed a soil excavation on Bridge Street opposite the LIF printing facility. The excavation was being performed so that a sewer could be installed to collect sewage from local residences. Because of the high water table, residents in the area around Bridge Street had been experiencing drainage problems with their septic systems. Residents complained of septage draining onto Rose Street and surfacing in their back yards. These problems are exacerbated by heavy rains.

In response to the complaints of the SCWA personnel, the Town of Sag Harbor contracted Storch Associates to conduct two environmental investigations in 1987 along the route of the proposed drainage system (SCWA excavation path). Soil, groundwater, and surface water contamination was noted during the investigations. Based on the Storch Associates investigations, the mayor of Sag Harbor requested that a Superfund (CERCLA) investigation be conducted at the site. The potentially hazardous conditions along the proposed sewer system path precluded further excavation activities. The Town of Sag Harbor lacked the resources to conduct a thorough investigation and, if necessary, the cleanup needed to allow the excavation to continue.

2.3 PREVIOUS INVESTIGATIONS

Previous investigations were conducted at the SHBS Site by Storch Associates and FIT. Storch Associates collected soil samples and groundwater samples in the Bridge Street area. FIT completed a PA and conducted an SSI at the site. No sampling was conducted during the PA, but an off-site reconnaissance was conducted and background information was gathered. During the SSI 11 soil samples were collected from properties in the vicinity of Bridge Street. The Suffolk County Department of Health Services (SCDHS) collected samples from three private wells in the Bridge Street area. The following two sections present the sampling data and the nonsampling data collected during the previous investigations.

2.3.1 SAMPLING DATA

This section presents the sampling data collected during previous investigations at the SHBS Site.

- SCDHS, 1984

  Three private wells, two on Meadow Street and one on Rose Street were sampled and analyzed for a number of sanitary parameters, inorganic substances, and volatile organic compounds. Sampling locations are provided in Figure 2-5. Results of the sampling are provided in Table 2-1.

- Storch Associates, 1987

  Five soil samples were collected from five borings (B-1 and B-4 through B-7) ranging in depth from 3.0 to 6.0 feet. These samples were analyzed for volatile organic compounds, pesticides, PCBs, and petroleum hydrocarbons. Sampling locations are provided in Figure 2-5. Results of the sampling are provided in Table 2-2.

  One groundwater sample was collected from each of three monitoring wells located along Bridge Street. The samples were analyzed for priority pollutants and petroleum hydrocarbons. Sampling locations are provided in Figure 2-5. Results of the sampling are provided in Table 2-3.

  One storm water effluent sample was collected from a pumphouse which discharges stormwater from the area to Sag Harbor Bay. Results of the sampling are provided in Table 2-3.

- NUS Corp. Region 2 FIT, 1988

  Eleven soil samples were collected from properties in the vicinity of Bridge Street. The samples were analyzed for Target Compound List (TCL) constituents. Sampling locations are provided in Figure 2-5. Results of the sampling are provided in Table 2-4.

Analytical results of previous soil sampling in the vicinity of the SHBS Site indicate the presence of polynuclear aromatic hydrocarbons (PAHs), volatile organic compounds, pesticides, and petroleum hydrocarbons. PCBs, identified as the commercial mixtures Aroclor-1248 and Aroclor-1254, were present in a soil sample collected from the Greenberg property. However, the PCB concentrations were only estimated. Boring B-1 on Bridge Street near the border of the LIF and LILCO properties showed the presence of benzene, toluene, xylene, ethylbenzene, styrene, 4,4'-DDT, 4,4'-DDE, and petroleum hydrocarbons. Composite soil samples collected from the LILCO and LIF properties by NUS Region 2 FIT showed individual PAH concentrations up to 21,000 ppb and 11,000 ppb, respectively. PAH concentrations for 14 PAHs average 9,820 ppb and 4,960 ppb for the LILCO and LIF samples, respectively. Lesser quantities and fewer types of PAHs were found on other properties sampled by the FIT.

Monitoring wells were installed by Storch Associates along Bridge Street in response to a leaking aboveground fuel oil storage tank on the LIF property. Monitoring Well No. 3 (MW-3) located on the LIF property near the LILCO border, showed the presence of benzene, toluene, ethylbenzene, naphthalene, 2-methylnaphthalene, PAHs, phenols, cyanide, and petroleum hydrocarbons. Arsenic, copper, lead, and zinc were also detected in MW-3 and MW-2. However, it is unknown if the levels detected in these wells are above background as there were no upgradient samples collected. The SCDHS indicated that the three private wells they sampled met standards for the constituents analyzed with the exception of iron at one location and manganese at two locations. However, it should be noted that low levels of 1,1,1-trichloroethane, 1,1,2-trichloroethylene, tetrachloroethylene, cis-dichloroethylene, and o-dichloroethane were detected in the well on Rose Street. Information obtained during the SSI indicates that the three private wells above are no longer in use as the area is served by a public water supply.

The stormwater effluent sample collected by Storch Associates showed the presence of 1,1-trichloroethane, arsenic, copper, and lead. However, it is uncertain whether these substances are attributable to the site as the effluent may be composed of runoff from areas other than the Bridge Street area.

2.3.2 Nonsampling Data

This section provides nonsampling data collected during previous investigations at the SHBS Site. Nonsampling data are data that are not derived from sampling activities and are primarily directed toward support of the HRS.

TABLE 2-I

SAMPLE ANALYSIS RESULTS FROM THE WELL SAMPLING CONDUCTED BY THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES (SCDHS)

	Trunzo* Well	Howe* Well	Mayer* Well
coliform	<2.2	<2.2	<2.2
free ammonia	1.19	0.32	0.03
nitrate	6.7	4.0	5.0
pH	6.3	6.5	6.4
specific conductivity	300	400	280
chloride	33	50	26
sulfate	17	21	24
iron	<0.1	0.11	1.25
manganese	1.3	1.01	<0.05
copper	<0.1	<0.1	<0.1
zinc	<0.4	<0.4	<0.4
sodium	20.5	34.9	24.1
MBAS	<0.1	<0.1	<0.1
chloroform	<5	<5	<5
1,1,1-trichloroethane	<2	<2	2.3
carbon tetrachloride	<1	<1	<1
1,1,2-trichloroethylene	<5	<5	6
chlorodibromomethane	<2	<2	<2
bromoform	<5	<5	<5
tetrachloroethylene	<2	<2	2

* The units for the values reported for the analytes above are unknown. They are assumed to be, and are typically as follows:

coliforms - coliform bacteria/100 milliliter (ml)
inorganics - milligrams/liter (mg/L)
pH - standard pH units
specific conductivity - micromhos/centimeter (umhos/cm)
organics - micrograms/liter (ug/L)

TABLE 2-I (cont'd)

SAMPLE ANALYSIS RESULTS FROM THE WELL SAMPLING CONDUCTED BY THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES (SCDHS)

	Trunzo* Well	Howe* Well	Mayer* Well
cis-dichloroethylene	<4	<4	5
freon 113	<4	<4	<4
bromodichloromethane	<3	<3	<3
1,1,2-trichloroethane	<5	<5	<5
benzene	<3	<3	<3
toluene	<3	<3	<3
chlorobenzene	<3	<3	<3
ethylbenzene	<3	<3	<3
xylenes	<3	<3	<3
bromobenzene	<4	<4	<4
chlorotoluenes	<3	<3	<3
1,3,5-trimethylbenzene	<3	<3	<3
1,2,4-trimethylbenzene	<3	<3	<3
m,p-dichlorobenzene	<4	<4	<4
o-dichlorobenzene	<4	<4	8
p-diethylbenzene	<3	<3	<3
1,2,4,5-tetramethylbenze	<3	<3	<3
1,2,4-trichlorobenzene	<4	<4	<4
1,2,3-trichlorobenzene	<5	<5	<5
s-tetrachloroethane	<3	<3	<3

* The units for the values reported for the analytes above are unknown. They are assumed to be, and are typically as follows:

coliforms - coliform bacteria/100 milliliter (ml)
inorganics - milligrams/liter (mg/L)
pH - standard pH units
specific conductivity - micromhos/centimeter (umhos/cm)
organics - micrograms/liter (ug/L)

TABLE 2-2

Descriptions of Borings and Sample Analysis Results from the Soil Investigation by Storch Associates

Borehole No.	Depth (ft)	HNu Reading parts per million (ppm)	Field Observations	Sample ID	Depth (ft)	Parameter	Concentration parts per billion (ppb)
B-1				**SS-1**	**3.2**		
	0.5-1.0	54	Groundwater at 8 in.			Benzene	360
	0.1-2.0	66	Strong petroleum odor and sheen			Toluene	340
	2.0-3.0	140	Strong petroleum odor and sheen			Ethylbenzene	380
	3.0-3.2	300	Strong petroleum odor and sheen			Styrene	200
	3.2	---	Bottom of boring			Xylenes	500
						4,4'-DDE	110
						4,4'-DDT	700
						PCBs	None Found
						Petroleum Hydrocarbons	380 ppm
B-2							
	0.5-6.0	---	Groundwater at 2.8 ft; no petroleum odor or sheen				
	6.0	---	Bottom of boring				
B-3							
	0.5-3.0	---	Groundwater at 3.0 ft;				
	3.0-4.0	---	Strong petroleum odor and sheen				
	4.0	--	Bottom of boring				
B-4				**SS-4**			
	0.5-5.0	---	No petroleum odor		---	Pesticides	None Found
	6.0-7.0	---	Groundwater at 6.0 ft; strong petroleum odor and sheen			PCBs	None Found
						Petroleum Hydrocarbons	93 ppm
	7.0	---	Bottom of boring				

TABLE 2-2 (cont'd)

Descriptions of Borings and Sample Analysis Results from the Soil Investigation by Storch Associates

Borehole No.	Depth (ft)	HNu Reading (ppm)	Field Observations	Sample ID	Depth (ft)	Parameter	Concentration (ppb)
B-5				**SS-5**	**6**		
	0.5-4.5	---	Groundwater at 3.5 ft; no odor or sheen			Petroleum Hydrocarbons	30 ppm
	5.0-6.0	---	Petroleum odor, no sheen				
	6.0	---	Bottom of boring				
B-6				**SS-6**	**3.5**		
	0.5-2.5	---	Groundwater at 8 in.			Petroleum Hydrocarbons	200 ppm
	3.0-3.5	---	Petroleum odor and sheen				
	3.5	---	Bottom of boring				
B-7				**SS-7**	**3.0-4.0**		
	0.5-1.0	50	Groundwater at 8 in.			Pesticides	None Found
	1.0-3.0	---	No odor or sheen			PCBs	None Found
	3.0-3.5	120	Slight petroleum odor, no sheen				
	3.5-4.0	40	Slight petroleum odor, no sheen				
	4.0	---	Bottom of boring				
B-8							
	0.5-1.0	140	Groundwater at 8 in., no odor or sheen				
	1.0-3.0	---	No odor or sheen				
	3.0-3.5	15	Slight tar odor				
	4.0-5.0	5	No odor or sheen				
	5.0	---	Bottom of boring				
B-9							
	0.5-1.5	---	Groundwater at 6 in.				
	2.0-2.5	20	Petroleum odor, no sheen				
	3.5	---	Bottom of boring				

TABLE 2-2 (cont'd)

Descriptions of Borings and Sample Analysis Results from the Soil Investigation by Storch Associates

Borehole No.	Depth (ft)	HNu Reading (ppm)	Field Observations	Sample ID	Depth (ft)	Parameter	Concentration (ppb)
B-10							
	0.5-2.0	---	Groundwater at 1.0 ft				
	2.5-3.0	2	No petroleum odor or sheen				
	3.0-5.0	---	Slight hydrogen sulfide odor				
	5.0	---	Bottom of boring				
B-11							
	0.5-3.0	---	Groundwater at 3.0 ft				
	3.0-5.0	---	No odor or sheen				
	5.0-6.0	5	No odor or sheen				
	6.0-7.0	---	No odor or sheen				
	7.0	---	Bottom of boring				
B-12							
	0.5-4.0	---	Groundwater at 4.0 ft				
	5.0-6.0	2	No odor or sheen				
	6.0	---	Bottom of boring				
B-13							
	0.5-1.0	---	Groundwater at 1.0 ft				
	1.0-4.0	---	No odor or sheen				
	4.0-5.0	34	No odor or sheen				
	5.0	---	Bottom of boring				
B-14							
	0.5-2.0	---	Groundwater at surface				
	2.0-2.5	25	No odor or sheen				
	2.5	---	Bottom of boring				

TABLE 2-3

Sample Analysis Results from the Groundwater Investigation by Storch Associates

Sample	Priority Pollutant Water Sampling Results: Parameter	Concentration (ppb)	HNu Head Space Analysis: Depth (ft)	HNu Reading (ppm)	Field Observations
Monitoring Well 1					
	N-Nitrosodiphenylamine	4.7*	0-2	16	GWI at 1 foot
	Bis (2-ethylhexyl) phthalate	2.9*	2-4	11	
	Copper	17	7-9	8	H_2S odor
	Lead	14	9-11	19	H_2S odor
	Zinc	560			
	Cyanide, Total	ND			
	Phenols, Total	ND			
Monitoring Well 2					
	N-Nitrosodiphenylamine	4.2*	0.2	40	
	Bis(2-ethylhexyl)phthalate	2.4*	2-4	45	GWI at 2.5 feet
	Arsenic	5.0	4-6	30	
	Copper	27	6-8	44	H_2S odor
	Lead	29	8-10	46	H_2S odor
	Zinc	210			
	Cyanide, Total	14			
	Phenols, Total	34			
			GWI groundwater interface		
			HNu Background - 1 ppm		
Monitoring Well 3					
	Benzene	140			
	Toluene	38	---	---	---
	Ethylbenzene	290			
	Naphthalene	1000			
	2-Methylnaphthalene	210			
	Acenaphthylene	11*			

TABLE 2-3 (cont'd)

Sample Analysis Results from the Groundwater Investigation by Storch Associates

Sample	Priority Pollutant Water Sampling Results: Parameter	Concentration (ppb)	HNu Head Space Analysis: Depth (ft)	HNu Reading (ppm)	Field Observations
Monitoring Well 3 cont'd					
	Acenaphthene	270			
	Fluorene	79*			
	N-Nitrosodiphenylamine	19*	---	---	---
	Phenanthrene	120			
	Fluoranthene	21*			
	Pyrene	25*			
	Petroleum Hydrocarbon Fingerprinting	4700 Total Petroleum Hydrocarbons			
	Arsenic	13.7			
	Copper	37			
	Lead	81			
	Zinc	2100			
	Cyanide, Total	105			
	Phenols, Total	20			
Field Blank					
	1,1,1-Trichloroethene	3.4	---	---	---
ERCO Blank					
	Di-n-butyl phthalate	4.1*	---	---	---
Storm Effluent					
	Methylene chloride	16B			
	Acetone	5.3B			
	1,1,-Trichloroethane	2.5	---	---	---
	Bis(2-ethylhexyl)phthalate	3.6*			
	Arsenic	7			
	Copper	41			
	Lead	60			

TABLE 2-3 (cont'd)

Sample Analysis Results from the Groundwater Investigation by Storch Associates

Sample	Priority Pollutant Water Sampling Results: Parameter	Concentration (ppb)	Depth (ft)	HNu Head Space Analysis: HNu Reading (ppm)	Field Observations
Storm Effluent					
	Zinc	110			
	Cyanides, Total	ND			
	Phenols, Total	ND			
ERCO Blank					
	Methylene Chloride	2.9*			
	Acetone	3.2*			

* Trace Concentrations below reporting limits
B Compound Also Detected in Blank
ND None Detected

TABLE 2-4
NUS CORP. REGION 2 FIT SSI SAMPLING RESULTS

	LILCO (S1)	LIF: northwest (S2)	LIF: oil tank (S3)	LIF: pipes (S4)
Benzoic acid	270*	160*	99*	450*
Naphthalene	440	460	27*	28*
2-Methylnaphthalene	330*	270*	12*	24*
Acenaphthylene	3900	3800	130*	260*
Acenaphthene	250*	59*	---	24*
Dibenzofuran	390*	---	---	---
Fluorene	1000	590	14*	29*
Phenanthrene	5700	790	54*	67*
Anthracene	1900	1800	34*	120*
Di-n-butyl phthalate	---	---	---	---
Fluoranthene	12000	3900	180*	500*
Pyrene	21000	8100	430	900
Butylbenzyl phthalate	---	---	7*	---
Benzo(a)anthracene	11000	4200	180*	570*

* - Estimated value, compound present below CRDL but above IDL.
All values in ppb.
LIF - Long Island Fisherman.

TABLE 2-4 (cont'd)
NUS CORP. REGION 2 FIT SSI SAMPLING RESULTS

	LILCO (S1)	LIF: northwest (S2)	LIF: oil tank (S3)	LIF: pipes (S4)
Chrysene	11000	6000	240*	820
Bis(2-ethylhexyl)phthalate	---	---	550	1700
Di-n-octyl phthalate	---	---	4*	18*
Benzo(b)fluoranthene	12000	6700	270*	550*
Benzo(k)fluoranthene	12000	4100	210*	470*
Benzo(a)pyrene	13000	9100	360*	530*
Indeno(1,2,3-cd)pyrene	12000	7100	290*	520*
Dibenzo(a,h)anthracene	3100	1800	64*	110*
Benzo(g,h,i)perylene	18000	11000	460	770
Dieldrin	---	70**	---	47**
4,4'-DDE	---	260**	14*	190**
4,4,'-DDD	---	260**	120	180**
4,4'-DDT	---	720**	28**	520**
Aroclor-1248	---	---	---	---
Aroclor-1254	---	---	---	---

* - Estimated value, compound present below CRDL but above IDL.
** - Estimated Value.
All values in ppb.
LIF - Long Island Fisherman.

TABLE 2-4 (cont'd)
NUS CORP. REGION 2 FIT SSI SAMPLING RESULTS

	Greenberg (S6)	Casman (S7)	HCC (S8)	HCC (S9)	HCC (S10,11)	HCC (S12)
Benzoic acid	170*	210*	---	---	---	46*
Naphthalene	---	---	---	---	---	11*
2-Methylnaphthalene	---	16*	---	---	5*	9*
Acenaphthylene	61*	79*	26*	8*	36*, 23*	62*
Acenaphthene	---	---	---	---	48*, 5*	---
Dibenzofuran	---	16*	---	---	---	---
Fluorene	---	25*	---	---	5*, 6*	
Phenanthrene	81*	340*	---	---	36*	60*
Anthracene	---	73*	---	---	---	33*
Di-n-butyl phthalate	340**	---	---	---	---	---
Fluoranthene	210*	620	110*	45*	150*, 120*	200*
Pyrene	300*	940	140*	55*	250*, 160*	260*
Butylbenzyl phthalate	870	14*	10*	---	---	---
Benzo(a)anthracene	---	380*	---	---	---	---
Chrysene	180*	430*	---	---	180*, 120*	180*

* - Estimated value, compounds present below CRDL but above IDL.
** - Estimated Value.
All values in ppb.
HCC - Harbor Close Condominiums.

TABLE 2-4 (cont'd)
NUS CORP. REGION 2 FIT SSI SAMPLING RESULTS

	Greenberg (S6)	Casman (S7)	HCC (S8)	HCC (S9)	HCC (S10,11)	HCC (S12)
Bis(2-ethylhexyl)phthalate	---	---	---	---	---	---
Di-n-octyl phthalate	---	---	---	3*	---	6*
Benzo(b)fluoranthene	160*	420*	120*	46*	160*, 95*	280*
Benzo(k)fluoranthene	150*	390*	98*	34*	160*, 110*	150*
Benzo(a)pyrene	200*	430*	110*	26*	130*, 89*	200*
Indeno(1,2,3-cd)pyrene	130*	330*	69*	31*	100*, 73*	160*
Dibenzo(a,h)anthracene	35*	80*	---	---	28*, 27*	30*
Benzo(g,h,i)perylene	180*	460*	97*	38*	150*, 87*	250*
Dieldrin	---	---	14**	11**	2.7*	6*
4,4'-DDE	---	34	140**	49	14*, 6.8*	26**
4,4'-DDD	---	13*	130**	49	74, 27	420**
4,4'-DDT	---	31**	360**	130**	18**, 12*	45**
Aroclor-1248	1000**	---	---	---	---	---
Aroclor-1254	600**	---	---	---	---	---

* - Estimated value, compound present below CRDL but above IDL.
** - Estimated Value.
All values in ppb.
HCC - Harbor Close Condominiums.

TABLE 2-4 (cont'd)
NUS CORP. REGION 2 FIT SSI SAMPLING RESULTS

	LILCO (S1)	LIF: northwest (S2)	LIF: oil tank (S3)	LIF: pipes (S4)
Aluminum	3450.0**	2000.0**	2810.0**	3930.0**
Antimony	---	---	---	---
Arsenic	15.9	5.7	1.8*	5.3
Barium	117.0**	23.6*	23.1*	235.0**
Cadmium	4.2	---	---	4.6
Calcium	5150.0**	690.0*	2040.0**	3730.0**
Chromium	---	---	---	---
Cobalt	3.0*	1.0*	---	---
Copper	125.00**	---	---	---
Iron	13800.0**	4650.0**	5250.0**	14300.0**
Lead	314.0**	23.9**	11.0**	72.2**
Magnesium	2010.0**	327.0*	893.0*	1010.0*
Manganese	138.0**	26.3**	85.2**	82.7**
Vanadium	10.5*	4.7*	5.5*	9.1*
Silver	---	---	---	24.9**
Zinc	666.0**	64.4**	50.5**	123.0**

* - Estimated value, compound present below CRDL but above IDL.
** - Estimated value.
All values in ppm.
LIF - Long Island Fisherman.

TABLE 2-4 (cont'd)
NUS CORP. REGION 2 FIT SSI SAMPLING RESULTS

	Greenberg (S6)	Casman (S7)	HCC (S8)	HCC (S9)	HCC (S10,11)	HCC (S12)
Aluminum	1760.0**	4510.0**	11100.0**	6890.0**	3430.0**, 2230.0**	1950.0**
Antimony	---	16.5*	24.6**	17.4**	---	---
Arsenic	2.4*	5.8	63.9	19.1	2.5, 2.0*	1.9*
Barium	730.0**	195.0**	59.3	43.2*	20.2*, 12.5*	19.6*
Cadmium	2.3	4.1	3.8	3.3	---	1.4
Calcium	13100.0**	6500.0**	4040.0**	5170.0**	571.0*, 434*	1530.0**
Chromium	---	---	---	94.6**	---	---
Cobalt	---	3.0*	2.6*	2.1*	---	---
Copper	---	---	69.4**	43.7**	---	---
Iron	7530.0**	13000.0**	11400.0**	8820.0**	4870**, 3070**	4120.0**
Lead	325.0**	394.0**	55.9**	12.4**	9.2**, 11.8**	7.0**
Magnesium	1210.0*	702.0*	2190.0**	2880.0**	625.0*, 444.0*	526.0*
Manganese	79.2**	331.0**	90.9**	113.0**	93.4**, 58.6**	62.0**
Silver	2.5*	---	---	---	---	---
Vanadium	4.0*	13.4*	18.8	13.1	5.4*, 4.3*	9.1*
Zinc	485.0**	460.0**	58.0**	70.3**	---	51.8**

* - Estimated value, compounds present below CRDL but above IDL.
** - Estimated Value.
All values in ppm.
HCC-Harbor Close Condominiums

Waste Sources

The source and extent of the contamination at the SHBS Site were not fully identified in the PA and SSI; however, some potential sources were identified. These sources include the LIF Printing Facility and the former location of a town gas plant which is now owned by LILCO. There may be other unknown sources in the area. Some of the nonsampling information collected during the PA and SSI is as follows:

- An oil spill occurred on the LIF property which was the former location of a printing facility.
- A sludgelike substance was observed on a window on the south side of the LIF building.
- The soil in the vicinity of the oil tank in the rear of the LIF building appeared stained.
- A town gas plant operated on what is now the LILCO facility.
- SCWA personnel reported skin irritation while excavating a trench on Bridge Street.

Air Migration Pathway

Nonsampling data collection activities for the air migration pathway include a drive-by survey conducted by the FIT on November 10, 1988, to determine the population near the site; collection of Graphical Exposure Modeling System (GEMS) population data; and continuous air monitoring, using an OVA flame ionization detector (FID) and HNu photoionization detector (PID), during the SSI sampling activities.

There are 76 people living on Bridge Street between Long Island Avenue and Rose Street. Within a quarter mile of Bridge Street, there are 151 houses and an eight-unit condominium. Beyond the one-quarter mile radius and up to the one-half mile radius of Bridge Street, there are 316 houses and a 50-unit condominium. A topographic map house count indicated that there are 520 houses between the one-half mile radius and the one mile radius of Bridge Street.

Data for the population within 4 miles of the site are provided below:

	GEMS DATA		DRIVE-BY DATA		MAP HOUSE COUNT		TARGET POPULATION
Distance (Mi.)	Population	Houses	Population	Houses	Population	Houses	Population
0 (Bridge St.)	---	---	76 +	---	---	---	76
0.25	0	0	372*	159	---	---	372
0.50	1686	748	856*	366	---	---	856
1.0	0	0	---	---	1217*	520	1217
2.0	1662	688	---	---	---	---	1662
3.0	2025	834	---	---	---	---	2025
4.0	1776	671	---	---	---	---	1776

* Population determined using census average of 2.34 people per unit for the Town of Southhampton.
+ Determined from interviews and drive-by survey.

The drive-by observations and topographic map house counts were used to supplement the GEMS data as there were gaps in the GEMS data.

Continuous air monitoring was conducted during the FIT SSI on November 30, 1988. The monitoring was conducted using an OVA FID and HNu PID. No readings above background were detected during the reconnaissance or sampling activities.

Air monitoring, using an HNu PID, was conducted by Storch Associates during soil boring activities in the vicinity of Bridge Street. HNu readings, and the depths below the soil surface at which they occurred, are provided in Table 2-2. HNu readings from 50 to 140 ppm were detected at depths less than 1 foot in three soil borings. The readings were detected in soil boring B-1, at the border of the LILCO and LIF properties, and in Borings B-7 and B-8, along Rose Street.

Groundwater Migration Pathway

The nonsamping groundwater information gathered during the SHBS Site PA and SSI is summarized below:

- Depth from the ground surface to groundwater in the vicinity of Sag Harbor is 2 to 3 feet.
- Groundwater in the vicinity of Sag Harbor is tidally influenced.
- The nearest private well which is currently in use is located 0.25 mile from Bridge Street.
- The site is underlain by the Magothy and Upper Glacial Aquifers, both of which are sole source aquifers.
- A public well, which serves most of Sag Harbor, is located 1 mile south of Bridge Street. This well serves about 1,300 people and is not connected to any other supply.
- Within a 4-mile radius of Bridge Street, there are 1,748 residences that use groundwater for drinking. The distribution of the groundwater pathway target population for Sag Harbor and North Haven is provided in Table 2-5.
- Groundwater within 4 miles of Bridge Street is also used for irrigation and commercial and industrial purposes.

Surface Water Migration Pathway

Surface water runoff from Bridge Street is collected in a catch basin located at the intersection of Rose and Bridge Streets. The water is then pumped into Sag Harbor Cove, about 100 feet north of Bridge Street. Sag Harbor Cove and Bay, Sheter Island Sound, Gardiners Bay, and Nayack Bay are all

TABLE 2-5

SAG HARBOR-BRIDGE STREET SITE GROUNDWATER PATHWAY TARGET POPULATION

Distance from Bridge Street	Houses Served		
	By Private Well		
(mile)	Sag Harbor	North Haven	By SCWA Well
0-$\frac{1}{4}$	12	---	---
$\frac{1}{4}$-$\frac{1}{2}$	19	---	---
$\frac{1}{2}$-1	15	42	---
1-2	153	117	1300
2-3	12	45	---
3-4	33	---	---

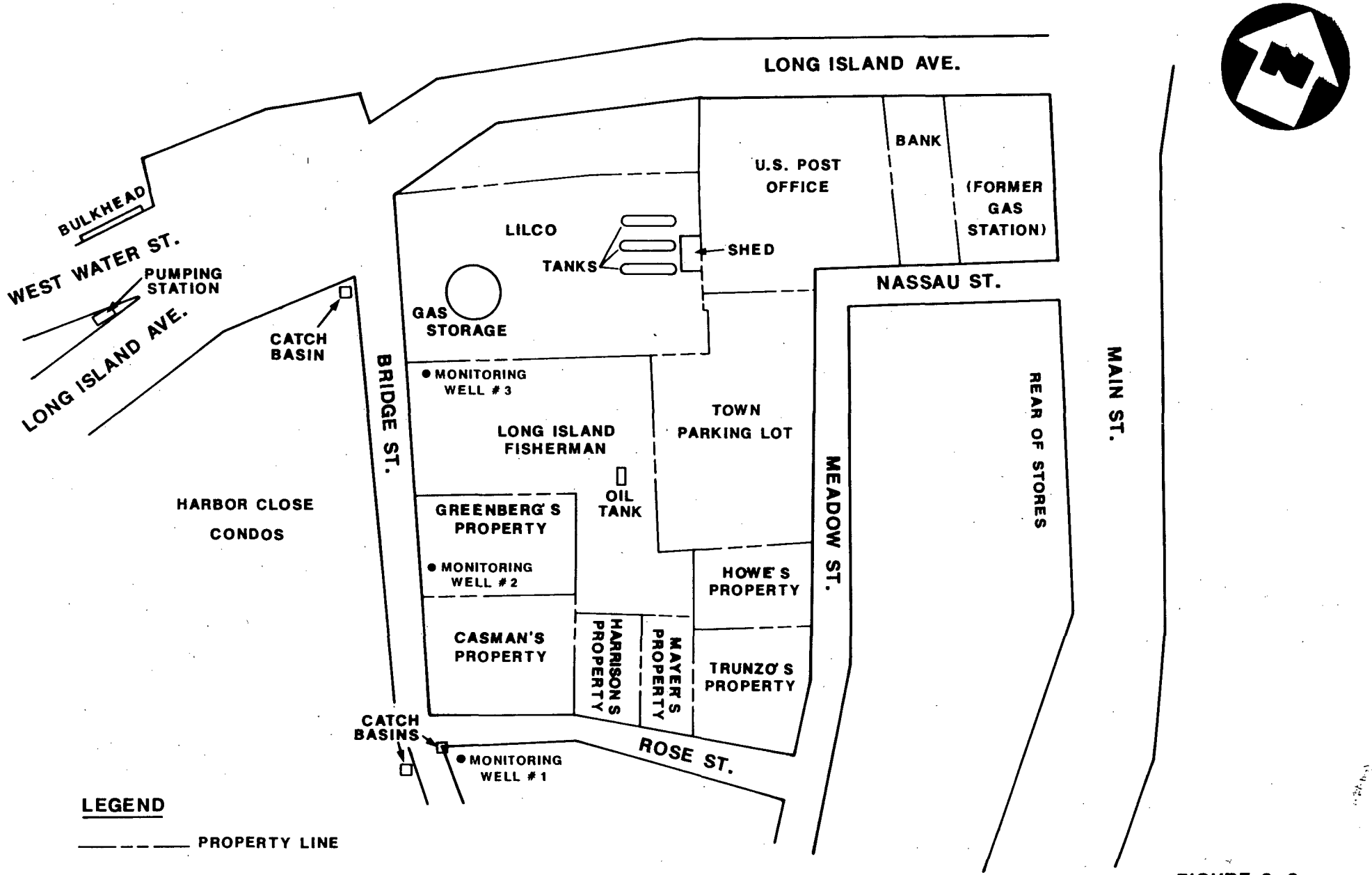


FIGURE 2-2

SITE MAP

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

NOT TO SCALE

NUS CORPORATION

within 15 miles of the site. These waters are used for boating and commercial and recreational fishing. There are many nationally designated wetlands within 15 miles of Bridge Street. Also, Bridge Street is located in a 100-year flood zone.

Onsite Exposure Pathway

Nonsampling population data indicate that there are six private residences and the HCC within 0.1 mile of Bridge Street. The HCC and the Greenberg and Casman residences are located along Bridge Street. There are 64 persons living in the HCC, 7 persons living at the Casman residence, and 5 persons living in the Greenberg residence. The total population residing along Bridge Street between Long Island Avenue and Rose Street is 76. The other four residences that are within 0.1 mile of the site are located on Meadow and Rose Streets. Three of these properties border the LIF property.

With respect to accessibility, the LILCO facility is surrounded by a continuous fence. The LIF property is not surrounded by a fence. There is a low, discontinuous fence where the LIF property adjoins the Greenberg property.

3.0 WASTE/SOURCE INVESTIGATION AND SUMMARY

This section presents the information gathered during the LSI and previous investigations that is pertinent to the determination of waste sources at the SHBS Site. The objectives of the investigation and a summary of the sampling activities is presented. This is followed by a presentation of the analytical data from the LSI and any other data that are pertinent to the waste/source investigation. Following the data presentation is an analysis of the LSI data, which includes any LSI data calculations, transformations, and interpretations. Finally, a waste source summary is provided. This summary provides a comprehensive description of waste source areas, based on information collected during previous investigations and the LSI.

3.1 OBJECTIVES

The primary objective of the waste/source investigation was to collect sufficient data to fill the data gaps identified in the SSI and described in the SHBS Site LSI work plan. Data gaps in waste source information described in the SHBS LSI work plan include incomplete waste quantity information, and incomplete toxicity/mobility and toxicity/persistence information. In the SSI, waste quantity, for all pathways except the onsite exposure pathway, was scored using minimum values. Minimum values were used because the area of contaminated soil determined by previous sampling did not meet the minimum size requirement for a waste source. However, the determination of a larger area of contamination by sampling could have a significant impact on the onsite exposure pathway evaluation. Further, if samples collected on nearby residential properties showed the presence of contaminants associated with the site, the onsite exposure pathway evaluation could be more significant.

Benzo(a) pyrene was used to determine the toxicity/mobility and toxicity/persistence values in the SSI. These values could be increased if the PCBs detected in a soil sample from the Greenberg property were used to determine the toxicity/mobility and toxicity/persistence values. However, the PCBs were present at estimated concentrations and, therefore, could not be considered valid data.

In support of the objectives above, the sampling plan was designed to estimate the areal extent of contamination so that reliable waste quantity data would be available, and to determine whether substances were present in the waste sources that had greater toxicity/persistence and toxicity/mobility values than those substances previously detected.

3.2 SAMPLING SUMMARY

Soil sampling, to determine waste source areas at the SHBS Site, consisted of systematic grid, judgmental, and background soil sampling. Systematic grid sampling was conducted primarily to estimate the areal extent of contamination at the site and thereby arrive at a waste quantity value. The judgmental soil samples were collected primarily to determine if contaminants were present on residential properties. Background soil samples were collected to provide a basis for determining if contaminants detected in the systematic grid samples and judgmental samples are present at levels above background. The results of the soil sampling will be used to evaluate the air, groundwater, surface water, and onsite exposure pathways.

Systematic Grid Soil Sampling

Systematic grid sampling was conducted at the SHBS Site on June 27 to 29, 1989, by the FIT. A total of 29 soil samples were collected. The grid covered the LILCO, LIF, and Greenberg properties and part of the Casman property. The grids were 60-feet squares except for the northern row of grids on the LILCO property which were 50 feet on the north-south axis and 60 feet on the east-west axis. The grids were laid out on June 26, 1989, using a compass, transit, and standard surveying techniques. Most samples were collected at the grid nodes. Four samples had to be collected a short distance from the grid modes because of obstructions. Most samples were collected from a depth of 12 to 24 inches. Some samples had to be collected at depths less than 12 to 24 inches because obstructions were encountered during augering. All samples were shipped to the designated Contract Laboratory Program (CLP) laboratory on the day of collection for Target Compound List (TCL) analysis.

Figure 3-1 shows the location of the grid soil samples and the orientation of the grid with respect to Bridge Street area properties. Table 3-1 provides the NUS sample number, date of collection, time of collection, and sample locations for samples collected during the LSI.

Judgmental Soil Sampling

Judgmental soil sampling was conducted at the SHBS Site on June 28 and 29, 1989 by the FIT. A total of 9 judgmental soil samples including one duplicate sample were collected. Two judgmental soil samples were collected on the HCC property and one soil sample each was collected on the Greenberg, Casman, Harrison, Mayer, and Trunzo properties. One soil sample and one duplicate soil sample were collected on the Howe property. The HCC soil samples were collected adjacent to the

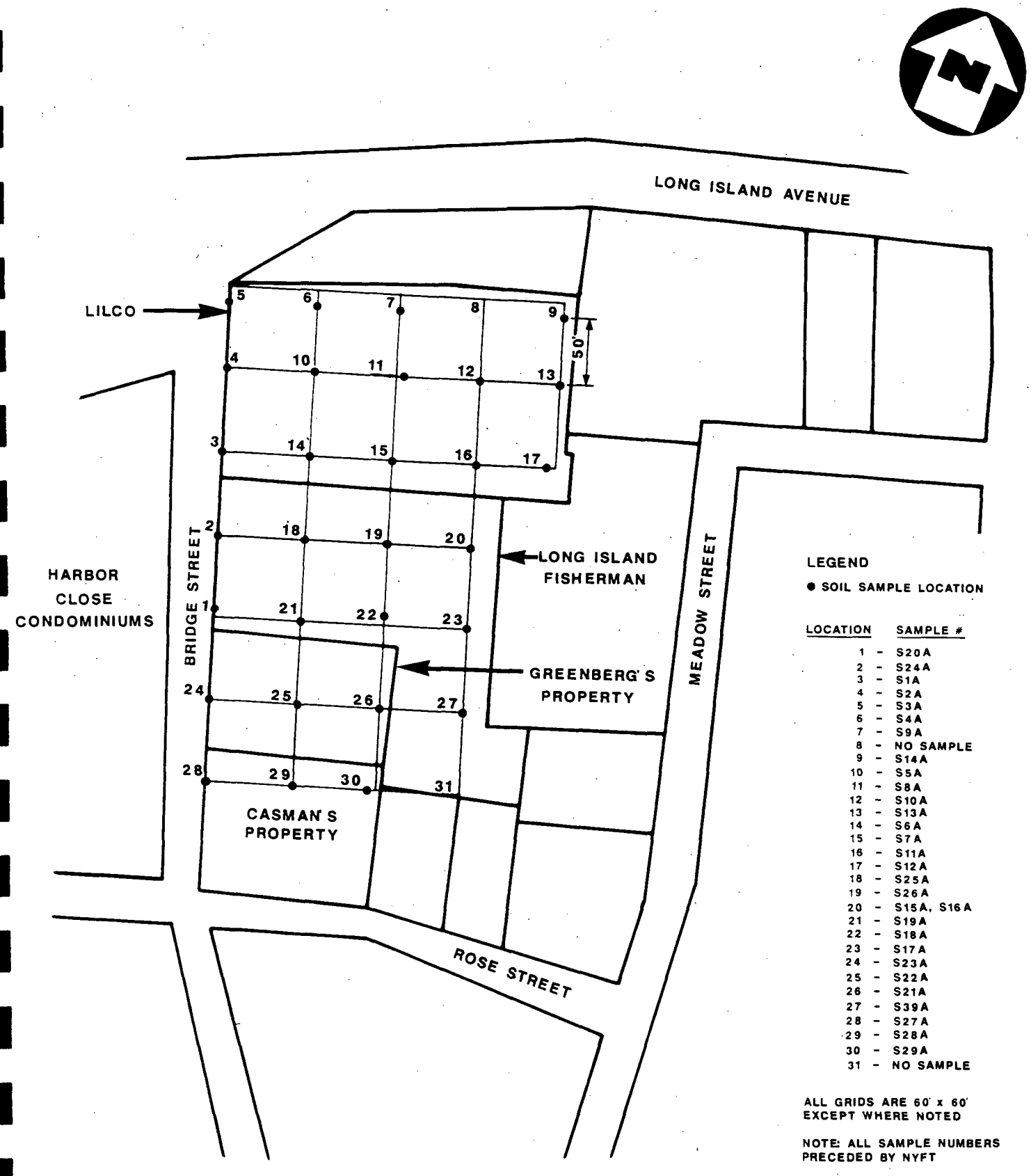


FIGURE 3-1

GRID SAMPLE LOCATIONS

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

APPROXIMATE SCALE: 1" = 100'

NUS CORPORATION

TABLE 3-I

SAMPLE DESCRIPTIONS FOR SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE ON JUNE 27, TO 29, 1989

NUS Sample Number	Collection Date	Collection Time	Sample Type	Sample Location
NYFT-S1A*	6/27/89	1045	Soil	Grid sample location No. 3 at a depth of 0 to 8 inches.
NYFT-S2A	6/27/89	1105	Soil	Grid sample location No. 4 at a depth of 12 to 24 inches.
NYFT-S3A	6/27/89	1120	Soil	Grid sample location No. 5 at a depth of 12 to 20 inches.
NYFT-S4A	6/27/89	1140	Soil	Grid sample location No. 6 at a depth of 12 to 24 inches.
NYFT-S5A	6/27/89	1201	Soil	Grid sample location No. 10 at a depth of 12 to 24 inches.
NYFT-S6A	6/27/89	1207	Soil	Grid sample location No. 14 at a depth of 12 to 24 inches.
NYFT-S7A	6/27/89	1235	Soil	Grid sample location No. 15 at a depth of 10 to 14 inches.
NYFT-S8A	6/27/89	1400	Soil	Three feet east of grid sample location No. 11 at a depth of 0 to 8 inches.
NYFT-S9A	6/27/89	1410	Soil	Grid sample location No. 7 at a depth of 12 to 24 inches.
NYFT-S10A	6/27/89	1440	Soil	Grid sample location No. 12 at a depth of 0 to 6 inches.
NYFT-S11A	6/27/89	1455	Soil	Grid sample location No. 16 at a depth of 0 to 12 inches.
NYFT-S12A	6/27/89	1520	Soil	Grid sample location No. 17 at a depth of 12 to 24 inches.
NYFT-S13A	6/27/89	1535	Soil	Grid sample location No. 13 at a depth of 0 to 8 inches.

* MS/MSD - Indicates that additional sample volume was collected and shipped to the laboratory for matrix spike (MS) and matrix spike duplicate (MSD) analysis.

TABLE 3-I (cont'd)

SAMPLE DESCRIPTIONS FOR SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE ON JUNE 27, TO 29, 1989

NUS Sample Number	Collection Date	Collection Time	Sample Type	Sample Location
NYFT-S14A	6/27/89	1550	Soil	Grid sample location No. 9 at a depth of 0 to 12 inches.
NYFT-RIN1A	6/27/89	1210	Aqueous Rinsate Blank	Trowel rinsate collected in the field.
NYFT-RIN2A	6/27/89	1430	Aqueous Rinsate Blank	Bowl rinsate collected in the field.
NYFT-RIN3A	6/27/89	1430	Aqueous Rinsate Blank	Auger rinsate collected in the field.
NYFT-S15A	6/28/89	0900	Soil	Grid sample location No. 20 at a depth of 12 to 20 inches.
NYFT-S16A**	6/28/89	0905	Soil	Same as S15A
NYFT-S17A	6/28/89	0915	Soil	Grid sample location No. 23 at a depth of 12 to 24 inches.
NYFT-S18A	6/28/89	0940	Soil	Five feet north of grid sample location No. 22 at a depth of 12 to 24 inches.
NYFT-S19A	6/28/89	0955	Soil	Grid sample location No. 21 at a depth of 12 to 24 inches.
NYFT-S20A	6/28/89	1020	Soil	Six feet north of grid sample location No. 1 at a depth of 12 to 22 inches. This location is 5 feet 10 inches and 245° from the southwest corner of the Long Island Fisherman building. All grid sample locations were fixed in relation to this point.

** Duplicate - Indicates that a sample was designated for duplicate analysis.

TABLE 3-I (cont'd)

SAMPLE DESCRIPTIONS FOR SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE ON JUNE 27, TO 29, 1989

NUS Sample Number	Collection Date	Collection Time	Sample Type	Sample Location
NYFT-S21A*	6/28/89	1100	Soil	Grid sample location No. 26 at a depth of 12 to 14 inches.
NYFT-S22A	6/28/89	1125	Soil	Grid sample location No. 25 at a depth of 12 to 24 inches.
NYFT-S23A	6/28/89	1155	Soil	Grid sample location No. 24 at a depth of 12 to 24 inches.
NYFT-S24A	6/28/89	1235	Soil	Grid sample location No. 2 at a depth of 12 to 20 inches.
NYFT-S25A	6/28/89	1300	Soil	Grid sample location No. 18 at a depth of 12 to 24 inches.
NYFT-S26A	6/28/89	1310	Soil	Grid sample location No. 19 at a depth of 12 to 24 inches.
NYFT-S27A	6/28/89	1340	Soil	Grid sample location No. 28 at a depth of 12 to 24 inches.
NYFT-S28A	6/28/89	1346	Soil	Grid sample location No. 29 at a depth of 12 to 24 inches.
NYFT-S29A	6/28/89	1358	Soil	Grid sample location No. 30 at a depth of 12 to 24 inches.
NYFT-S30A	6/28/89	1405	Soil	Collected 6 inches east of the center of the easternmost timbers which surround the vegetable garden on the Casman property. Sample depth is 12 to 24 inches.
NYFT-RIN4A	6/28/89	0815	Aqueous Rinsate Blank	Trowel rinsate collected in the field.
NYFT-RIN5A	6/28/89	0855	Aqueous Rinsate Blank	Bowl rinsate collected in the field.

* MS/MSD - Indicates that additional sample volume was collected and shipped to the laboratory for matrix spike (MS) and matrix spike duplicate (MSD) analysis.

TABLE 3-I (cont'd)

SAMPLE DESCRIPTIONS FOR SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE ON JUNE 27, TO 29, 1989

NUS Sample Number	Collection Date	Collection Time	Sample Type	Sample Location
NYFT-RIN6A	6/28/89	0910	Aqueous Rinsate Blank	Auger rinsate collected in the field.
NYFT-S31A	6/29/89	0840	Soil	Collected from the Howe property, 18 feet and 034° from the large tree near the western property border. Sample depth is 12 to 24 inches.
NYFT-S32A**	6/29/89	0846	Soil	Same location as NYFT-S31A.
NYFT-S33A	6/29/89	0905	Soil	Collected from the Trunzo property, 10 feet 3 inches and 350° from the northwest corner of the shed in the rear of the property. Sample depth is 12 to 24 inches.
NYFT-S34A	6/29/89	0923	Soil	Collected from the Mayer property, 17 feet 7 inches and 330° from the northwest corner of the house. Sample depth is 12 to 24 inches.
NYFT-S35A	6/29/89	1055	Soil	Collected from the Harrison property, 39 feet 7 inches and 040° from the northwest corner of the house. Sample depth is 12 to 24 inches.
NYFT-S36A	6/29/89	1115	Soil	Collected from the Greenberg property adjacent to the Long Island Fisherman (LIF) property. Sample is 6 feet 6 inches and 220° from the southwest corner of the LIF building. Sample depth is 0 to 16 inches.
NYFT-S37A	6/29/89	1130	Soil	Collected on the Harbor Close Condominium (HCC) property, 20 feet 3 inches and 150° from the LIL No. 4 utility pole. Sample depth is 12 to 24 inches.

** Duplicate - Indicates that a sample was designated for duplicate analysis.

TABLE 3-I (cont'd)

SAMPLE DESCRIPTIONS FOR SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE ON JUNE 27, TO 29, 1989

NUS Sample Number	Collection Date	Collection Time	Sample Type	Sample Location
NYFT-S38A	6/29/89	1145	Soil	Collected on the HCC property 50 feet 1 inch and 170° from the LIL No. 4 utility pole. Sample depth is 12 to 24 inches.
NYFT-S39A	6/29/89	1215	Soil	Grid sample location No. 27 at a depth of 12 to 24 inches.
NYFT-S40A	6/29/89	1300	Soil	Collected from the Beach Plum Gardens (BPG) Nursery property 17 feet 6 inches and 200° from utility pole NYT No. 4 located at the eastern property border of BPG Nursery. Sample depth is 12 to 24 inches.
NYFT-S41A*	6/29/89	1310	Soil	Collected from the BPG Nursery at the same direction and depth as NYFT-S40A, but the distance from utility pole NYT No. 4 is 32 feet 6 inches. Sample depth is 12 to 24 inches.
NYFT-S42A	6/29/89	1325	Soil	Collected from the BPG Nursery at the same direction and depth as NYFT-S40A, but the distance from utility pole NYT No. 4 is 47 feet 6 inches. Sample depth is 12 to 24 inches.
NYFT-S43A*	6/29/89	1340	Soil	Collected from the BPG Nursery at the same direction and depth as NYFT-40A, but the distance from utility pole NYT No. 4 is 62 feet 6 inches. Sample depth is 12 to 24 inches.
NYFT-RIN7A	6/29/89	0930	Aqueous Rinsate Blank	Trowel rinsate blank collected in the field.

* MS/MSD - Indicates that additional sample volume was collected and shipped to the laboratory for matrix spike (MS) and matrix spike duplicate (MSD) analysis.

TABLE 3-I (cont'd)

SAMPLE DESCRIPTIONS FOR SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE ON JUNE 27, TO 29, 1989

NUS Sample Number	Collection Date	Collection Time	Sample Type	Sample Location
NYFT-RIN8A	6/29/89	0955	Aqueous Rinsate Blank	Bowl rinsate blank collected in the field.
NYFT-RIN9A	6/29/89	1033	Aqueous Rinsate Blank	Auger rinsate blank collected in the field.
NYFT-SW1*	6/29/89	0805	Aqueous	Catch basin at the intersection of Rose and Bridge Streets.
NYFT-SW2**	6/29/89	0810	Aqueous	Same location as sample NYFT-SW1.
NYFT-TBLK1	6/29/89	0710	Aqueous Trip Blank	Trip blank; demonstrated analyte-free water obtained from NUS Corp. Region 2 FIT, Edison, N.J.

* MS/MSD - Indicates that additional sample volume was collected and shipped to the laboratory for matrix spike (MS) and matrix spike duplicate (MSD) analysis.

** Duplicate - Indicates that a sample was designated for duplicate analysis.

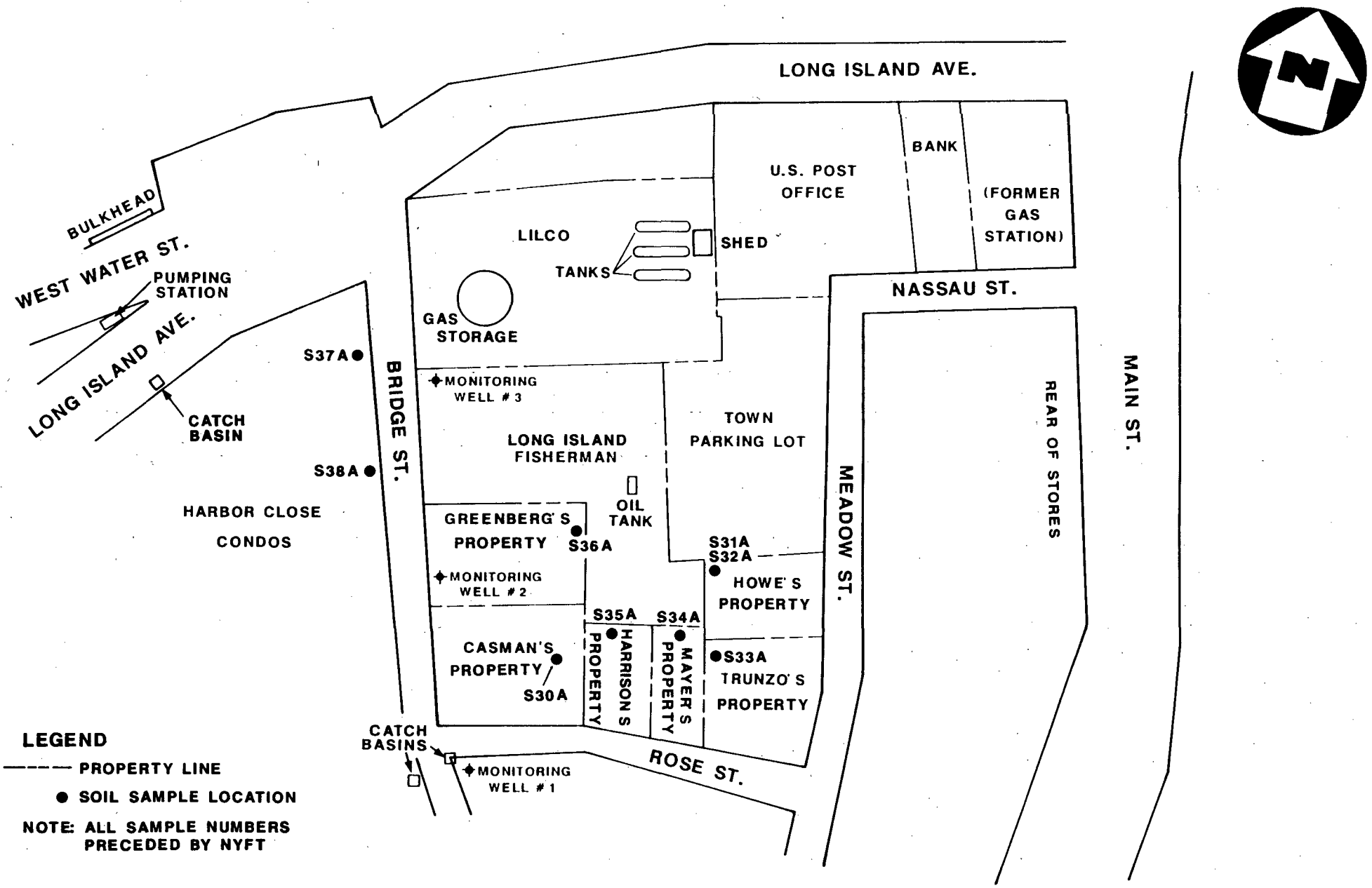
former location of the SCWA sewer line excavation. The soil sample from the Greenberg property was collected at the same location where estimated concentrations of PCBs were detected in a sample collected during the SSI. The remaining samples were collected in areas where contaminant migration was possible. The locations of the judgmental soil samples are shown in Figure 3-2. Table 3-1 provides the NUS sample number, date of collection, time of collection, and sample locations for samples collected during the LSI. All judgmental soil samples with the exception of one sample collected on the Greenberg property (NYFT-S36A) were collected at a depth of 12 to 24 inches. The judgmental soil sample from the Greenberg property was collected at a depth of 0 to 16 inches. All samples were shipped to the designated CLP laboratory on the day of collection for TCL analysis.

Background Soil Sampling

Background soil sampling was conducted on the Beach Plum Gardens (BPG) Nursery on June 29, 1989, by the FIT. The samples were collected along an undisturbed area of the BPG Nursery along the eastern border of the property adjacent to an undeveloped area. The BPG Nursery property was not the initial choice for the location of the background sampling. However, the owner of the property that was originally selected for the background soil sampling would not give his final approval for the sampling. As a result, the BPG Nursery property was selected. The area selected is undeveloped, and historical aerial photographs indicate that the area sampled and the adjacent area were undisturbed and were never developed. In the LSI work plan, it was proposed that the background soil samples be collected from a gridded area; however, the size of the accessible area did not allow for the establishment of a grid. As an alternative, the background samples were collected at evenly spaced intervals along a transect. Figure 3-3 shows the background soil sample locations. Table 3-1 provides the sample number, date of collection, time of collection, and sample locations for samples collected during the LSI. All background soil samples were collected at a depth of 12 to 24 inches. The samples were shipped to the designated CLP laboratory on the day of collection for TCL analysis.

Soil Classification

All soil samples collected during the LSI were classified according to the Unified Soil Classification System (ASTM D2487). A description of the soil classification system is provided in Chart 3-1. Soil color was determined by using visual observations in conjunction with Munsell® soil color charts. Soils were not sieved, but grain size and distribution and soil consistency were estimated using visual and tactile observations. These soils were classified in order to determine whether the "on-site" soil samples were sufficiently similar to the background soil samples to be comparable, particularly with regard to naturally occurring substances.



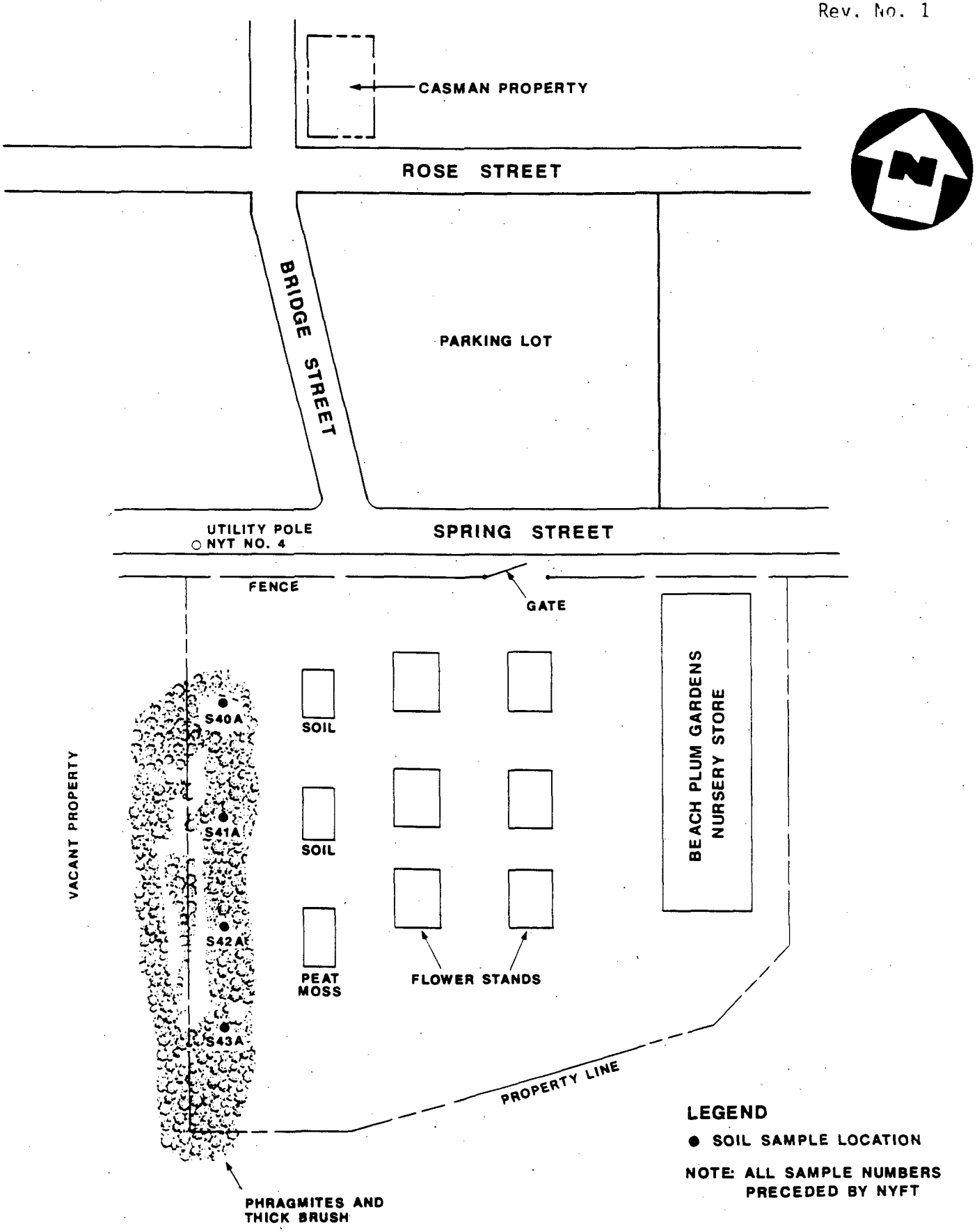
JUDGMENTAL SOIL SAMPLE LOCATIONS

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

NOT TO SCALE

FIGURE 3-2

NUS CORPORATION



BACKGROUND SOIL SAMPLE LOCATIONS

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

NOT TO SCALE

FIGURE 3-3

NUS CORPORATION

CHART 3-1

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			GROUP SYMBOLS (ASTM D2487)	TYPICAL DESCRIPTIONS
COARSE-GRAINED SOILS (MORE THAN 50% RETAINED ON NO. 200 SIEVE *)	GRAVELS (50% OR MORE OF COARSE FRACTION RETAINED ON NO. 4 SIEVE)	CLEAN GRAVELS	GW	WELL-GRADED GRAVELS & GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
			GP	POORLY GRADED GRAVELS & GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES	GM	SILTY GRAVELS, GRAVEL SAND CLAY MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL SAND CLAY MIXTURES
	SANDS (MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE)	CLEAN SANDS	SW	WELL-GRADED SANDS & GRAVELLY SANDS, LITTLE OR NO FINES
			SP	POORLY GRADED SANDS & GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTURES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE-GRAINED SOILS (50% OR MORE PASSES NO. 200 SIEVE *)	SILTS & CLAYS (LIQUID LIMIT 50% OR LESS)		ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS & CLAYS (LIQUID LIMIT GREATER THAN 50%)		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDS OR SILTS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS			PT	PEAT, MUCK & OTHER HIGHLY ORGANIC SOILS

*BASED ON MATERIAL PASSING THE 3" (75 MM) SIEVE

GRADATION**

TERM	% BY WEIGHT
TRACE	1 TO 12
LITTLE	13 TO 20
SOME	21 TO 30
ADD "Y"	OVER 30

COMPACTNESS** (SAND AND/OR GRAVEL)

TERM	% RELATIVE DENSITY
LOOSE	0 TO 40
MEDIUM DENSE	41 TO 70
DENSE	71 TO 90
VERY DENSE	91 TO 100

CONSISTENCY** (CLAY AND/OR SILT)

TERM	SHEAR STRENGTH TONS/SQ. FT.
SOFT	LESS THAN 0.25
FIRM	0.25 TO 0.5
STIFF	0.5 TO 1.0
VERY STIFF	1.0 TO 2.0
HARD	OVER 2.0

**VALUES ARE FROM LABORATORY OR FIELD TEST DATA, WHERE APPLICABLE. WHEN NO TESTING WAS PERFORMED, VALUES ARE ESTIMATED.

PLATE _____

Table 3-2 provides a description of soils from samples collected during the LSI and Table 3-3 shows the distribution of soil types in soil samples collected from the SHBS Site. From these tables it can be seen that the soils in the sampled area are predominantly sands. Sandy soils of the groups SW, SP and SM accounted for 85.2 percent of all the soils encountered. Two of the background samples, designated SM/OL, contained a large percentage of silt. Two sample locations had a layer of roots and grass mat (PT) at the surface, and three samples had a layer of blacktop (F) at the surface. At a number of sample locations there were abrupt changes in soil characteristics, particularly soil color, with increasing depth. In addition, a number of samples contained non-native materials such as coal fines, ash, wood, coal, clinker coal, brick, glass, and what appeared to be construction grade sand and gravel. The abrupt changes in soil characteristics with increasing depth and the presence of non-native materials suggest that areas of the site have been filled. Historical information also suggests that much of the town of Sag Harbor has been filled. The Suffolk County Soil Survey indicates that much of the site is composed of fill land that has been filled with dredged materials. Mr. Greenberg, who is one of the property owners on Bridge Street, indicated that he had recently placed large quantities of fill in his yard because of drainage problems associated with the high water table and the use of septic systems in the area.

Given the above information and keeping in mind that at least some of the site area has been filled, for purposes of this report and the HRS scoring, the on-site soils will be considered to be of the same general soil type, i.e., coarse-grained soils consisting predominantly of clean sands and sands with fines.

3.3 LSI WASTE SOURCE RESULTS

Waste source results for the SHBS Site include analytical data from soil sampling and any other data collected during the LSI activities. Although the analytical results for the soil samples collected from the site will be used in the evaluation of all pathways, the results will only be provided in this section.

It should be noted, that for purposes of this report, the phrase "significantly above background" is defined as greater than three times the contaminant levels detected in the background soil samples. Appendix 2 provides a summary of background contaminant levels for the SHBS Site.

3.3.1 Sampling Results

Final quality assured analytical data for samples collected from the SHBS Site were received on October 20, 1989. Sampling results consisted of TCL organic and inorganic analysis for 43 soil samples (including 3 duplicates), 2 surface water samples (including 1 duplicate), and 9 sampling instrument rinsates. One trip blank was shipped for volatile organic analysis only. Soil sampling results are

TABLE 3-2

SOIL DESCRIPTIONS FOR SOIL SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE

Sample No.	Depth	Color	Soil Group Symbol	Description
NYFTS1A	0 to 6 in.	Black	SP	Soft, moist, medium to fine sand, trace silt and gravel.
	6 to 12 in.	V. dark grayish brown	SP	Soft, moist, medium to fine sand, trace silt and gravel.
NYFTS2A	0 to 16 in.	Dark brown	SP	Soft, moist, medium to coarse sand, some cobbles, trace silt and trace organics.
	16 to 24 in.	V. dark gray	SP	Soft, wet, medium to coarse sand, some cobbles, trace silt, and trace organics.
NYFTS3A	0 to 8 in.	Light brownish gray	SP	Dry, medium to fine sand, little gravel.
	8 to 18 in.	V. dark grayish brown	SP	Moist, medium to fine sand, little gravel.
NYFTS4A	0 to 12 in.	Light brownish gray	SP	Dry, medium to fine sand, little gravel.
	12 to 24 in.	Yellow	SP	Wet, medium to fine sand, little coarse sand, trace cobbles.
NYFTS5A	0 to 24 in.	Dark gray	SP	Soft, moist, medium to fine sand, trace silt, ash, shale, and wood.
NYFTS6A	0 to 24 in.	Dark reddish brown	SP	Saturated, medium to coarse sand, some cobbles.
NYFTS7A	0 to 13 in.	Dark reddish brown	SP	Saturated medium to coarse sand, some cobbles.
	13 to 14 in.	Gray	SP	Soft, saturated, medium to fine sand, trace clay.

TABLE 3-2 (CONT'D)

SOIL DESCRIPTIONS FOR SOIL SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE

Sample No.	Depth	Color	Soil Group Symbol	Description
NYFTS8A	0 to 8 in.	Black	SP	Soft, moist, medium to fine sand, some coal fines, cobbles, and fill.
	at 5 in.	V.pale brown	SW	Thin layer of medium sand.
NYFTS9A	1 to 5 in.	Black	SP	Soft, moist, medium to fine sand with some coal fines, cobbles, and fill.
	5 to 24 in.	V. pale brown	SW	Medium sand.
NYFTS10A	0 to 6 in.	Black	SP	Soft, moist, medium to coarse sand, some gravel, trace silt.
NYFTS11A	0 to 12 in.	Black	SP	Soft, wet, medium to fine sand, some cobbles, trace coarse sand, trace silt.
NYFTS12A	0 to 24 in.	Black	SP	Soft, wet, medium to fine sand, some cobbles, trace sand and silt.
NYFTS13A	0 to 8 in.	V. pale brown	SP	Soft, moist, medium to fine sand, some gravel.
NYFTS14A	0 to 12 in.	Black	SP	Moist, medium to fine sand, some cobbles, trace coarse sand, trace silt.
NYFTS15A	0 to 20 in.	Black	SP	Wet, medium to coarse sand, some gravel, trace silt, organics, and coal.
NYFTS16A	0 to 20 in.	Black	SP	Wet, medium to coarse sand, some gravel, trace silt, organics, and coal.

TABLE 3-2 (CONT'D)

SOIL DESCRIPTIONS FOR SOIL SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE

Sample No.	Depth	Color	Soil Group Symbol	Description
NYFTS17A	0 to 24 in.	V. dark grayish brown	SP	Wet, medium to coarse sand, some gravel, trace silt, trace organics.
NYFTS18A	0 to 12 in.	Black	PT	Wet roots and grass mat.
	12 to 24 in.	V. dark gray	SM	Soft, wet, medium to coarse sand, some organics.
NYFTS19A	0 to 2 in.	Black	PT	Wet roots and grass mat.
	2 to 24 in.	Black	SP	Soft, wet, medium sand, trace gravel, coarse sand, silt, and organics.
NYFTS20A	0 to 22 in.	Black	SP	Soft, moist, medium to coarse sand, some clinker coal residue, trace gravel.
NYFTS22A	0 to 12 in.	Reddish yellow	SP	Soft, moist, medium to fine sand.
	12 to 20 in.	Grayish brown	SP	Soft, wet, medium to fine sand, trace gravel, trace coarse sand.
	20 to 24 in.	V. dark gray	SP	Soft, wet, medium to fine sand, trace gravel, coarse sand, and clinker coal.
NYFTS23A	0 to 24 in.	V. dark grayish brown	SP	Soft, wet, medium to coarse sand, trace gravel, trace pieces of brick.
NYFTS24A	0 to 4 in.	Black	F	Blacktop
	4 to 20 in.	V. dark gray	SP	Soft, moist, medium sand, some gravel, trace silt.

TABLE 3-2 (CONT'D)

SOIL DESCRIPTIONS FOR SOIL SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE

Sample No.	Depth	Color	Soil Group Symbol	Description
NYFTS25A	0 to 2 in.	Black	F	Blacktop
	2 to 14 in.	Brown to dark brown	SP	soft, damp to wet, medium sand, trace coarse sand, trace gravel.
	14 to 24 in.	V. dark brown	SP	Soft, wet, medium to coarse sand, some gravel, trace silt, trace organics.
NYFTS26A	0 to 2 in.	Black	F	Blacktop
	2 to 14 n.	Brown to dark brown	SP	Soft, damp to wet, medium sand, trace coarse sand, trace gravel.
	14 to 24 in.	V. dark brown	SP	Soft, wet, medium to coarse sand, some gravel, trace silt, trace organics.
NYFTS27A	0 to 24 in.	Black	SM	Soft, wet, fine to coarse sand, some silt, little gravel, trace shell fragments.
NYFTS28A	0 to 24 in.	Black	SM	Soft, wet, fine to coarse sand, some silt, little gravel, trace shell fragments.
NYFTS29A	0 to 24 in.	Black	SM	Soft, wet, fine to coarse sand, some silt, little gravel, trace shell fragments.
NYFTS30A	0 to 24 in.	Black	SM	Soft, wet, fine to coarse sand, some silt, little gravel, trace shell fragments.
NYFTS31A	0 to 24 in.	V. dark grayish brown	SP	Soft, wet, medium to coarse sand, little gravel, trace cobbles.

TABLE 3-2 (CONT'D)

SOIL DESCRIPTIONS FOR SOIL SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE

Sample No.	Depth	Color	Soil Group Symbol	Description
NYFTS32A	0 to 24 in.	V. dark grayish brown	SP	Soft, wet, medium to coarse sand, little gravel, trace cobbles.
NYFT33A	0 to 24 in.	V. dark grayish brown	SP	Soft, wet, medium to coarse sand, little gravel, trace cobbles.
NYFT34A	0 to 24 in.	V. dark grayish brown	SP	Soft, moist, medium to fine sand, trace coarse sand, gravel and silt.
NYFT36A	0 to 24 in.	V. dark grayish brown	SP	Firm, wet, medium to fine sand and organic material, trace gravel, coarse sand, and silt.
NYFTS37A	0 to 12 in.	Reddish yellow	SW	Soft, moist, medium sand.
NYFTS38A	0 to 12 in.	Reddish yellow	SW	Soft, moist, medium sand.
	12 to 24 in.	V. dark grayish brown	SP	Soft, wet, medium to fine sand, trace gravel, coarse sand, and silt.
NYFTS39A	0 to 24 in.	Black	SP	Soft, moist, medium to fine sand, little coarse sand, trace gravel, silt, and organics.
	at 25 in.	V. pale brown	SP	Soft, moist, medium to fine sand, little coarse sand, trace gravel, silt, and organics.
NYFTS40A	0 to 24 in.	Black	SM/OL	Firm, wet silt, some fine to medium sand, trace coarse sand, trace organics.
NYFTS41A	0 to 24 in.	Black	SM/OL	Firm, wet silt, some fine to medium sand, some gravel, trace coarse sand, trace organics.

TABLE 3-2 (CONT'D)

SOIL DESCRIPTIONS FOR SOIL SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE

Sample No.	Depth	Color	Soil Group Symbol	Description
NYFTS42A	0 to 18 in.	Black	SP	Soft, wet, medium to fine sand, some coarse sand, trace gravel, trace silt.
	18 to 24 in.	Dark grayish brown	SP	Soft, wet, fine to medium sand, trace gravel.
NYFTS43A	0 to 18 in.	Black	SP	Soft, wet, medium to fine sand, some coarse sand, trace gravel trace silt.
	18 to 24 in.	Dark grayish brown	SP	Soft, wet, medium to fine sand, trace gravel, glass, and brick.

TABLE 3-3

DISTRIBUTION OF SOIL TYPES ENCOUNTERED IN SOIL SAMPLES COLLECTED FROM THE SAG HARBOR-BRIDGE STREET SITE

Soil Group Symbol	Number Of Occurrences	Percent Of Total
SP	31	66.0
SW	3	6.4
SM	6	12.8
SM/OL	2	4.3
PT	2	4.3
F	3	6.4
	Total 47	Total 100.2 ≈ 100

presented in accordance with the types of samples collected during the LSI (i.e. Systematic grid, judgmental, and background soil samples). It should be noted that with the exception of inorganic substances, the sample concentrations reported in this section have not been evaluated with respect to background contaminant levels. The samples will be evaluated with respect to background contaminant levels in the Data Analysis section of this report. Surface water sampling results are provided in Section 6.0 of this report. Quality assurance samples (i.e. rinsates, trip blank, duplicates) are only discussed if the results have a direct impact on the environmental sample results. A summary of the analytical data for all samples analyzed in connection with the SHBS LSI is provided in Appendix 1.

Systematic Grid Soil Sampling Results

Systematic grid soil samples were collected from the LILCO, LIF, Greenberg, and Casman properties. The systematic grid samples include sample numbers NYFT-S1A through NYFT-S29A and NYFT-S39A. Refer to Figure 3-1 for the locations of the grid samples.

LILCO Property

Grid samples collected on the LILCO property showed the presence of volatile organic compounds, semivolatile organic compounds, consisting primarily of polynuclear aromatic hydrocarbon (PAHs), pesticides and polychlorinated biphenyls, and inorganic substances. Volatile organic compounds detected include benzene (1 sample), toluene (3 samples), ethylbenzene (4 samples), and total xylenes (4 samples). Concentrations of benzene and toluene were equal to or less than 11 micrograms/kilogram (ug/kg). Concentrations of ethylbenzene and total xylenes ranged from 16 to 280 ug/kg and 47 to 460 ug/kg, respectively. A wide range of PAH compounds were detected in all samples with individual PAH concentrations ranging from below the contract required quantitation limit (CRQL) to 330,000 ug/kg for individual PAH compounds. Total PAH concentrations for 18 PAHs ranged from below the CRQL to 1,849,000 ug/kg or 0.18 percent on a dry weight basis. Dibenzofuran was detected in four samples at concentrations ranging from 710 to 9,100 ug/kg. The pesticides 4,4'-DDT (3 samples), beta-BHC (1 sample), and aldrin (1 sample) were also detected. PCBs, identified as the commercial mixture Aroclor-1260, were present at a concentration of 1,400 ug/kg in one sample. A number of inorganic substances were detected in all soil samples. Most of the inorganics detected were below the levels that are considered significantly above background and/or are within the normal ranges for natural soils. The inorganic substances present in samples that are present at levels significantly above background are identified and discussed in Section 3.4.2 of this report. Appendix 3B provides a summary of the inorganic substances detected at significantly above-background concentrations in samples from the SHBS Site.

LIF Property

Volatile organic compounds were present in two grid samples collected from the LIF property. Ethylbenzene was detected in one sample at a concentration of 94 ug/kg and total xylenes were present in one sample at a concentration of 10 ug/kg and in another sample at a concentration of 400 ug/kg. A variety of PAHs were detected with individual PAH concentrations ranging from below the CRQL to 160,000 ug/kg. Total PAH concentrations for individual samples ranged from 580 ug/kg to 854,000 ug/kg. Dibenzofuran was detected in one sample at a concentrations of 3,200 ug/kg. The pesticides beta-BHC; endosulfan 1; 4,4'-DDE; 4,4'-DDD; 4,4'-DDT; and gamma chlrodane were detected in one or more samples. No PCBs were detected in any of the samples. A number of inorganic substances were detected in all soil samples. With the exception of two inorganic substances - magnesium and silver - all the inorganic substances detected in soil samples are below levels that are considered significantly above background. The presence of magnesium and silver in the samples is discussed further in Section 3.4.2 of this report. Appendix 3B provides a summary of the inorganic substances detected at significantly - above - background concentrations in samples from the SHBS Site.

Greenberg Property

No volatile organic compounds were present in the three grid samples collected from the Greenberg property; however, a number of PAHs were detected in the grid samples collected from the Greenberg property. The concentration of individual PAHs in the samples ranged from below the CRQL to 3,780 ug/kg. The PAH concentrations detected in the grid samples were significantly lower than the concentrations detected in samples from the LILCO and LIF properties. One pesticide, beta-BHC, was detected at a concentration of 210 ug/kg in one sample. No PCBs were detected in any of the grid samples. No inorganic substances were present at levels significantly above background.

Casman Property

No volatile organic compounds were detected in the three grid samples collected from the Casman property. A number of PAHs were detected in the three samples. The concentrations of individual PAHs in the samples ranged from below the CRQL to 2,300 ug/kg. The PAH concentrations detected in the three grid samples were significantly lower than the concentrations of PAHs detected in samples from the LILCO and LIF properties. No pesticides or PCBs were detected and no inorganic substances were present at levels significantly above background in grid soil samples.

Judgmental Soil Samples

Judgmental soil samples were collected from the Casman, Greenberg, Howe, Trunzo, Mayer, Harrison, and HCC properties. No volatile organic compounds were detected in any of the judgmental samples at concentrations exceeding the CRQL. No PAHs were detected at concentrations exceeding the CRQL in judgmental samples collected from the Trunzo, Mayer, Harrison, or Greenberg properties. Butylbenzylphthalate was detected at an estimated concentration of 590 ug/kg in the judgmental sample from the Greenberg property. PAHs were present in judgmental samples collected from the Casman, Howe, and HCC Properties. PAH concentrations detected in the sample from the Casman property ranged from below the CRQL to 10,000 ug/kg. PAH concentrations in samples from the Howe property and HCC ranged from below the CRQL to 2,500 ug/kg and below the CRQL to 4,200 ug/kg, respectively. No pesticides were detected in judgmental samples collected from the Casman, Trunzo, or Mayer properties. One or more of the pesticides 4,4' DDD; 4,4' DDT; and endosulfan sulfate were detected on the Howe, Harrison, Greenberg, and HCC properties. The pesticides beta-BHC, dieldrin, and 4,4' DDE were also detected in the sample from the Harrison property. No PCBs were detected in any of the judgmental soil samples.

Background Soil Samples

Four background samples, designated NYFT-S40A through S43A, consecutively, were collected from an area near the edge of the BPG Nursery. These samples will be referred to as B_1 through B_4, respectively. No volatile organic compounds were detected in samples B_1, B_3, and B_4. Sample B_2 contained 2-butanone at an estimated concentration of 240 ug/kg. No semivolatile compounds were detected in sample B_3 at concentrations exceeding the CRQL. The PAHs fluoranthene and pyrene were present in sample B_4 at concentrations of 610 and 540 ug/kg, respectively. No other semivolatile compound were present at concentrations exceeding the CRQL in sample B_4. Sample B_2 contained four PAHs at concentrations exceeding the CRQL. Fluoranthene and pyrene were present at concentrations of 2,200 and 1,400 ug/kg, respectively, and benzo(b) fluoranthene and benzo(k) fluoranthene were both present at an estimated concentration of 2,400 ug/kg in sample B_2. In sample B_1, nine PAHs were present at concentrations exceeding the CRQL. The PAH concentrations ranged from 1,800 to 5,600 ug/kg. No other semivolatile compounds were present in samples B_2 or B_1.

No pesticides were detected in samples B_3 or B_4. The pesticides beta-BHC; 4,4'-DDE; and 4,4'-DDD were detected in both samples B_1 and B_2. 4,4'-DDT was also detected in sample B_2.

A number of inorganic substances were detected in all the background samples. The concentrations of inorganic substances detected in samples B_3 and B_4 were within the normal ranges for natural soils; however, a number of the inorganic substances detected in background samples B_1 and B_2 were present at concentrations exceeding the normal ranges for natural soils. The inorganic substances arsenic, cadmium, copper, lead, manganese, and zinc were present in one or both of these samples at concentrations exceeding the normal ranges for natural soils. Of particular note were the concentrations of lead which were present at concentrations of 1,540 and 1,000 mg/kg in samples B_1 and B_2 respectively. The high concentrations of some metals, relative to natural soil levels and relative to the majority of the other samples collected, led to the conclusion that samples B_1 and B_2 were not representative of background conditions for inorganic substances.

3.4 DATA ANALYSIS

To evaluate the presence of contaminants in samples collected during an LSI, two conditions must be met. These conditions are as follows:

- The contaminant(s) must be present at levels significantly above background levels
- The contaminants must be attributable to the facility

These conditions require that the analytical data for the SHBS site be evaluated to determine background contaminant levels and attribution of the contaminants to the site. For purposes of this report, the phrase "significantly above background" is defined as greater than three times the contaminant levles detected in the background samples. This section provides the methods used to arrive at background contaminant levels for the SHBS Site and provides site-specific background contaminant levels used to evaluate the analytical data. In addition, attribution of the above-background contaminant levels to the site will be discussed.

3.4.1 Background Contaminant Levels

Four background soil samples were collected for the purpose of identifying background contaminant levels. The location of these samples was based on the judgment of the field crew. The following elements were considered in the selection of the background soil sample location:

- The location was sufficient distance from the site so that it was unlikely that it was directly affected by the site.

- The location was sufficiently near the site so that the on-site sample and background sample soil types would be comparable.
- The location was in an area that was, as much as possible, free from other contaminant influences.

In this section the methods and calculations used to arrive at background contaminant levels for organic and inorganic contaminants at the SHBS Site are provided.

Organic Soil Contaminant Background Levels

Background contaminant levels for organic constituents in soils were determined by calculating the mean concentration of the organic compounds in four background samples. Where no organic compound was detected in a background samples, or the compound was present at a concentration below the CRQL, the CRQL for that compound was used to calculate the mean. However, the CRQL for the compounds in each sample is dependent upon the dilution factors used by the laboratory analyzing the samples. Dilution factors varied among samples as well as among the types of compounds analyzed (i.e. volatiles, semivolatiles, pesticides etc.). When the dilution factor was greater than one, the sample specific CRQL was calculated for each compound using the CRQL and the dilution factor as follows:

CRQL × DF = Sample Specific CRQL

DF = Dilution Factor

When estimated values were provided by the laboratory, these were used in the calculations. Appendix 2 provides a list of the calculated background contaminant levels and contaminant levels that are significantly above background for TCL constituents. Appendix 2A shows the calculations used to determine background levels for organic TCL constituents.

Inorganic Soil Contaminant Background Levels

Inorganic soil contaminant background levels were not based on all four background samples. A review of the inorganic data indicated that the levels of arsenic, cadmium, copper, lead, manganese, and zinc were greater than the normal ranges found in natural soils in one or both of background samples B_1 (NYFT-S40A) and B_2 (NYFT-S41A). As a result, background samples B_1 and B_2 were not considered to be representative of background conditions and, therefore, were not used to determine background soil contaminant levels for inorganic substances. Background soil contaminant levels for inorganic TCL constituents were based on background samples B_3 (NYFT-S42A), and B_4, (NYFT-S43A).

Background contaminant levels for inorganic TCL constituents in soils were determined by calculating the mean concentration of the inorganic substances in background samples B_3 and B_4. Where no inorganic substance was detected in a background sample, or the inorganic substance was present at a concentration below the CRDL, the CRDL for the substance was used to calculate the mean. However, the CRDL for the inorganic substances is dependent upon the percent solids in the sample and there are no established CRDLs for soils. Soils CRDLs must be calculated from aqueous CRDLs using the relationship below:

$$\text{ACRDL (ug/L)} = \text{SCRDL (mg/kg)} \times 5 \times \frac{\%\ \text{solids}}{100}$$

rearranging:

$$\text{SCRDL (ug/L)} = \frac{\text{ACRDL}}{5}\ \text{(mg/kg)} \times \frac{100}{\%\ \text{solids}}$$

simplify:

$$\text{SCRDL (ug/L)} = \text{ACRDL (mg/kg)} \times \frac{20}{\%\ \text{solids}}$$

Where:

ACRDL = Aqueous contract required detection limit (ug/L)

SCRDL = Soil contract required detection limit (mg/kg)

5 = Factor to account for sample volume differences in aqueous (1,000 ml) and solid (200 ml) matrix analyses.

Appendix 2 provides a list of the mean background contaminant levels and the contaminant concentrations considered to represent levels that are significantly above background for TCL constituents. Appendix 2B also shows the calculations used to determine background levels for inorganic TCL constituents.

3.4.2 Soil Sample Evaluation

In this section, hazardous substances detected in soil samples from the SHBS Site are evaluated with respect to significantly-above-background contaminant levels, and with respect to their attribution to the site. The soil sample evaluation is presented in accordance with the types of soil samples collected during the LSI (i.e. judgmental and systematic grid soil samples). In the interest of simplifying the following discussions, please note that all organic and inorganic contaminants referred to in the systematic grid soil samples evaluation and the judgmental soil samples evaluation subsections below are present at concentrations significantly above background unless otherwise noted. Appendix 3 provides a summary of the organic and inorganic substances present at concentrations significantly above background in the systematic grid samples and judgmental samples collected from the SHBS Site.

Systematic Grid Soil Samples Evaluation

This section provide an evaluation of the systematic grid soil samples collected during the SHBS LSI.

LILCO Property

Grid samples collected from the LILCO property showed the presence of volatile organic compounds, semivolatile organic compounds, consisting primarily of PAHs, pesticides and PCBs, and inorganic substances. The inorganic substances detected in samples from the LILCO property were present only at estimated concentrations. The volatile organic compounds ethylbenzene and xylenes were both detected in each of four samples. The concentrations of ethylbenzene and xylenes ranged from 16 to 280 ug/kg and 47 to 460 ug/kg, respectively. Xylenes are typically associated with coal gasification plant tars. Ethybenzene, however, is not typically associated with coal gasification plant tars and is more often associated with petroleum distillates such as gasoline and fuel oils. Table 3-4 provides a list of characteristic compounds found in manufactured gas plant tars. Acetone was detected in one sample at an estimated concentration of 220 ug/kg. Acetone is a typical laboratory contaminant. No other volatile organic compounds were detected in samples from the LILCO property at concentrations significantly above background.

A wide range of PAH compounds were detected at concentrations significantly above background in 11 of the 14 grid soil samples. Individual PAH concentrations ranged from 2,000 to 333,000 ug/kg. Total PAH concentrations were as high as 1,842,900 ug/kg. Of the 15 semivolatile compounds found

TABLE 3-4

CHARACTERISTIC COMPOUNDS FOUND IN MANUFACTURED GAS PLANT TARS

Benzene
Toluene
Xylenes
Phenol
Cresols
Naphthalene
Xylenols
Pyridine
Methylnaphthalenes
Dimethylnaphthalenes
Acenaphthene

Carbazole
Fluoranthene
Anthracene
Phenanthrene
Pyrene
Chrysene
Benzo(a)anthracene
Benzo(k)fluoranthene
Benzo(a)pyrene

Perylene
Benzo(g,h,i) perylene
Benzo(b)chrysene
Dibenzo(a,h)anthracene

Ref. No. 39

in manufactured gas plant tars (Refer to Table 3-4) that were analyzed for in samples from the LILCO property, 13 were detected in more than one sample and the majority were detected in all samples that contained PAHs at concentrations significantly above background. The semivolatile compound dibenzofuran was detected in two samples. No other semivolatile compounds were detected at concentrations significantly above background.

The pesticides beta-BHC (1 sample), aldrin (1 sample), and 4,4'-DDT (2 samples) were found in samples from the LILCO property. Sag Harbor is a low-lying coastal community and these pesticides were probably used to control insects. 4,4'-DDT was banned for use in the United States in 1972. 4,4'-DDT is ubiquitous in the environment and is probably present as a residual from previous use. The presence of the above pesticides is not known to be associated with any improper applications or illegal disposals and, therefore, the detected pesticides are not considered to be attributable to the facility. PCBs, identified as the commercial mixture Aroclor-1260, were found in one sample. PCBs are not known to be associated with any recent activities on the LILCO property.

A number of inorganic substances including calcium (1 sample), lead (2 samples), magnesium (1 sample), mercury (2 samples), and cyanide (1 sample) were found in samples collected from the LILCO property. All of these inorganic substances were present at estimated concentrations. Although the levels of calcium (21,200 mg/kg), magnesium (5,740 mg/kg), and mercury (3.2 and 3.1 mg/kg) were significantly above background, they were within the normal ranges for natural soils. Lead was found in two samples at the notable concentrations of 1,770 mg/kg and 976 mg/kg. Cyanide was present in one sample at a concentration of 11.7 mg/kg.

LIF Property

Grid soil samples collected from the LIF property showed the presence of volatile organic compounds, semivolatile organic compounds, pesticides, and two inorganic substances, at concentrations significantly above background. No PCBs were found in the samples at concentrations significantly above background. The volatile organic compounds ethylbenzene (94 ug/kg) and xylenes (400 ug/kg) were detected in one sample collected in the area near the fuel oil spill. No other volatile organic compounds were found at concentrations significantly above background.

A number of PAHs were found in eight of the ten grid soil samples collected from the LIF property. One sample contained only one PAH and one sample did not contain any PAHs. The concentration of individual PAH compounds in the samples ranged from 1,600 ug/kg to 160,000 ug/kg. In the samples where PAHs were present, the range of total PAHs was from 4,600 ug/kg to 163,800 ug/kg.

The pesticides beta-BHC; endosulfan 1; 4,4'-DDE; 4,4'-DDD; 4,4'-DDT; and gamma-chlordane were detected at concentrations significantly above background in one or more samples. As was stated previously, Sag Harbor is a low-lying coastal community and these pesticides were probably used in the past to control insects. In a 1971 study, soils in five cities were sampled and analyzed for 4,4'-DDT and 4,4'-DDD. The range of 4,4'-DDT detected was 0.01 to 5.86 ppm (10 to 5,860 ppb) and the range of 4,4'-DDD was 0.01 to 39 ppm (10 to 39,000 ppb). No improper or illegal handling, application, or disposal of pesticides is known to be associated with the LIF property. Two inorganic substances were detected at concentrations significantly above background. Silver was detected in one sample at a concentration of 15.9 mg/kg and magnesium was detected at a concentration of 6,510 mg/kg in another sample. Although magnesium is present at above-background levels, the concentration is still within the normal range for natural soils. Silver is present at a concentration that is approximately two times the maximum concentration typically found in natural soils. However, silver is not known to be associated with any of the wastes on the LIF property.

Greenberg Property

Grid soil samples collected from the Greenberg property did not show the presence of any volatile organic compounds, semivolatile organic compounds, PCBs, or inorganic substances at concentrations significantly above background. The pesticide beta-BHC was detected in one sample near the LIF property at a concentration of 210 ug/kg. This pesticide may be associated with previous pesticide applications on the LIF property.

Casman Property

No volatile organic compounds, semivolatile organic compounds, pesticides, PCBs, or inorganic substances were detected at concentrations significantly above background in any of the grid soil samples collected from the Casman property.

Judgmental Soil Samples Evaluation

No volatile organic compounds, semivolatile organic compounds, pesticides, PCBs, or inorganic substances were detected at concentrations significantly above background in judgmental samples from the Trunzo, Mayer, or Harrison properties. In addition, no volatile organic compounds, pesticides, or PCBs were detected at concentrations significantly above background in any of the other judgmental samples from the Casman, Howe, Greenberg, and HCC samples. One or more semivolatile compounds were detected in judgmental samples from the Casman, Greenberg, and HCC properties, and one inorganic substance was detected in each of the judgmental samples from the Casman and Howe properties and in one of the two samples from the HCC property.

The judgmental soil sample collected adjacent to the vegetable garden on the Casman property showed the presence of six PAHs ranging in concentration from 1,800 to 10,000 ug/kg and having a total concentration of 37,800 ug/kg. In addition, the sample contained lead at the notable concentration of 2,620 mg/kg. This lead level is approximately three times greater than the maximum lead concentration found in natural soils. There is no known source to which the lead concentration in the sample can be attributed. The PAHs found on the Casman property were also found on the LILCO and LIF properties.

Only one compound, butylbenzylphthalate, was detected in the judgmental soil sample (at a concentration of 590 ug/kg) on the Greenberg property. The concentration of this compound was estimated and it is not known to be associated with the site.

One of the two judgmental samples collected from the HCC property contained benzo(b)fluoranthene at a concentration of 4,200 ug/kg and the other sample contained lead at a concentration of 1,870 mg/kg. Benzo(b)fluoranthene was also detected in samples from the LILCO and LIF properties. The lead concentration in the sample is more than two times greater than the maximum lead concentration typically found in natural soils. It should be noted that both samples were collected adjacent to Bridge Street and that PAH and lead levels are typically elevated adjacent to roadways.

The only substance detected at a concentration significantly above background in the judgmental soil sample and duplicate judgmental soil sample from the Howe property was copper. Copper was detected in the soil sample and the duplicate soil sample at concentrations of 2720 mg/kg and 1,000 mg/kg, respectively. Copper is not known to be associated with any sources from the site. The sample was collected near the intersection of the Howe, LIF, and parking lot properties.

3.5 WASTE SOURCE SUMMARY

This section provides a comprehensive description of the waste/source areas associated with the SHBS Site. The waste source area description is based on information collected during the PA, SSI, and LSI investigations and any other investigations that were conducted at the site.

Nonsampling waste source information gathered during the PA and SSI indicated that a town gas plant operated on the property that is currently the LILCO facility and that an oil spill occurred on the LIF property. Field observations during the SSI indicated that the soil in the vicinity of the LIF oil tank appeared stained. SCWA personnel reported skin irritation while excavating a trench on Bridge Street.

In a study conducted by Storch Associates, a sample from a boring (B-1) near the border of the LIF and LILCO properties showed the presence of benzene, toluene, ethylbenzene, styrene, xylenes, pesticides, and petroleum hydrocarbons. Ethylbenzene and total xylenes were also detected at concentrations significantly above background in samples collected from the LILCO and LIF properties. These compounds are typically associated with petroleum products; however, xylenes, benzene, and toluene are also known to be associated with gas plant tars.

A wide range of PAH compounds were detected at concentrations significantly above background in grid soil samples collected from the LILCO and LIF properties during the LSI. A number of PAHs were also detected in soil samples collected from the LILCO and LIF properties during the SSI. PAHs were also detected in samples collected from other properties during the SSI, but fewer PAHs were detected in these samples and the concentrations were lower. Similarly, PAHs detected in soil samples collected from the LILCO and LIF properties during the LSI were generally larger in number and higher in concentration than the PAHs detected in samples from other properties in the area. In fact, only two samples collected during the LSI (Casman property and HCC property) showed the presence of any PAHs at concentrations exceeding background levels. Most of the soil samples collected during the SSI and LSI contained more than one of the PAHs that are typically found in manufactured gas plant tars. On the basis of the SSI and LSI sampling results, the LILCO and LIF properties are considered to be contaminated with PAHs at concentrations significantly above background. In addition, many of the PAH compounds detected on these two properties are associated with manufactured gas plant tars. Therefore, the source area is 84,000 ft^2 and it consists of the LILCO, LIF, and Casman properties.

Soil samples were collected on the Greenberg property to confirm the presence of PCBs, which were detected at estimated concentrations in samples collected during the SSI. Analytical results for soil samples collected from the Greenberg property during the LSI did not show the presence of any PCBs. However, PCBs, identified as the commercial mixture Aroclor-1260, were detected in one sample collected from the LILCO property.

4.0 AIR INVESTIGATION AND SUMMARY

This section provides a summary of the information collected during the PA, SSI, and LSI that is pertinent to the evaluation of the air migration pathway. The objectives of the LSI air investigation are provided and a summary of pertinent LSI sampling activities and the resultant analytical data are also provided. Finally an analysis of the LSI data and a comprehensive summary of the information gathered during the LSI and previous investigations are presented.

4.1 OBJECTIVES

The primary objective of the air investigation was to collect sufficient information to fill the data gaps that were identified in the SSI and that were discussed in the LSI workplan. No attempt was made to collect air samples to document an observed release at the site as source areas were poorly defined and, therefore, attribution of an air release to the site was not likely. In addition, air monitoring during the SSI using an OVA (FID) and an HNu (PID) did not indicate that the determination of an observed release was likely. As a result, background data and soil sampling data are used to evaluate the potential of the site to release hazardous substances.

A review of the SSI indicated that significant data gaps existed in the source type, source mobility, containment, and toxicity/mobility factors of the air migration pathway. One of the objectives of the soil sampling program described in Section 3.2 was to provide sufficient information to evaluate these data gaps. The source type factor score could be documented if the soil sampling showed that an area of soil contamination greater than the minimum size requirement of 169,000 ft^2 existed. Similarly, the source mobility and toxicity/mobility values would be larger if sampling showed the presence of more toxic and/or more mobile hazardous substances at concentrations significantly above background than were detected during previous sampling efforts. Analytical results of previous samplings suggested that more toxic and/or more mobile substances were present in on-site soils, and that the contaminants could be distributed over an area greater than the minimum size requirement of 169,000 ft^2.

4.2 SAMPLING SUMMARY

As indicated in Section 3.1, no air sampling was conducted at the SHBS Site to support the air migration pathway. The analytical results of on-site soil sampling will be used to evaluate the potential for the site to release hazardous substances. A summary of the soil sampling conducted during the SHBS Site LSI is presented in Section 3.2.

4.3 LSI AIR PATHWAY RESULTS

No air sampling was conducted at the SHBS Site to support the air migration pathway. Analytical results of soil samples collected during the LSI and previous investigations will be used to evaluate the potential for the site to release hazardous substances via the air migration pathway Analytical results of the soil sampling conducted at the SHBS Site are discussed in Sections 3.3 and 3.4 of this report.

4.4 DATA ANALYSIS

Analytical data for the soil samples collected during the LSI indicate that the soils of the LILCO and LIF properties contain ethylbenzene, xylene, and a variety of PAHs at concentrations significantly above background. No observed release to air was documented. See Sections 3.4 and 3.5 for further discussion about the analytical data collected during the LSI.

4.5 AIR MIGRATION PATHWAY SUMMARY

No observed release to air was documented by the data collected during the PA, SSI LSI, or previous investigations. No readings above background were detected on the OVA (FID) or the HNu (PID) in undisturbed soil during on-site SSI or LSI activities. Using an HNu PID, Storch Associates recorded readings from 50 to 140 ppm at depths less than 1 foot in three borings along Bridge Street. HNu readings, and the depths below the soil surface at which they occurred, are provided in Table 2-2.

Volatile organics and PAHs were detected at concentrations significantly above background in soil samples collected from the LILCO and LIF properties (Refer to Section 3.5 for further discussion of contamination on the LILCO and LIF properties). The potential exists for the on-site contaminants to be transported via the air pathway to the surrounding population. Within 0.25 mile of Bridge Street, there are 151 houses and an eight-unit condominium. The area of soil considered to be contaminated at levels significantly above background is approximately 84,000 ft^2 and includes the LILCO, LIF, and Casman properties.

This area does not meet the minimum size requirement of 169,000 ft^2. The presence of ethylbenzene and total xylenes in samples from the LILCO and LIF properties will increase the gas mobility value determined in the SSI.

5.0 GROUNDWATER INVESTIGATION AND SUMMARY

This section provides information collected during the PA, SSI, and LSI that is pertinent to the evaluation of the groundwater migration pathway. The objectives of the LSI groundwater investigation are presented and a summary of pertinent LSI sampling activities and the resultant analytical data are also presented. Finally, an analysis of the LSI data and a comprehensive summary of the information gathered during the LSI and previous investigations are presented.

5.1 OBJECTIVES

The primary objective of the groundwater investigation was to collect sufficient information to fill data gaps that were identified in the SSI, and that were discussed in the LSI workplan. A review of the SSI report indicated that the only significant data gap in the groundwater pathway was in the mobility factor. Sampling conducted during the SSI suggested (but did not confirm) that PCBs were present in a sample collected from the Greenberg property. Further soil sampling was proposed to close this data gap. Information for the hydraulic conductivity and sorptive capacity values was derived from literature values and, therefore, was considered estimated. Soil borings were not conducted to verify the literature values as the groundwater table is approximately 2 feet below the ground surface and, soil boring information was available from previous investigations by Storch Associates. Further, changes in these factors as a result of conducting borings would not significantly affect the groundwater migration pathway evaluation. Hand soil augering and soil classification during shallow (approximately 2 feet) soil sampling in conjunction with literature values provided sufficient information to accurately assess the hydraulic conductivity and sorptive capacity factors.

5.2 SAMPLING SUMMARY

No monitoring wells were installed and no groundwater sampling was conducted at the SHBS Site to support the groundwater migration pathway. The results of the on-site soil sampling conducted during the LSI and information gathered during previous investigations are used to evaluate the potential for the site to release hazardous substances.

5.3 LSI GROUNDWATER PATHWAY RESULTS

During the LSI, on-site soils were classified at all sample locations. The soil classification results are provided in Section 3.2 of this report. This information is used to support the literature values for hydraulic conductivity, sorptive capacity, and depth to groundwater values.

5.4 DATA ANALYSIS

Analytical data for soil samples collected during the LSI indicate that the soils of the LILCO and LIF properties contain ethylbenzene, xylenes, and a variety of PAHs at concentrations significantly above background. Contaminants were also detected in soil samples from some of the nearby properties. Refer to Sections 3.4 and 3.5 of this report for further discussion of the analytical data collected during the LSI.

5.5. GROUNDWATER MIGRATION PATHWAY SUMMARY

The SHBS Site lies above the Upper Glacial and Magothy aquifers. The Upper Glacial aquifer overlies the Magothy aquifer in the area of the site. The thickness of this aquifer in south central Suffolk County is 120 feet. The Upper Glacial Aquifer is composed of glacial materials that were deposited during the Pleistocene period. During this period two terminal moraines, known as the Harbor Hill Moraine and the Ronkonkoma Moraine, were deposited on Long Island. A portion of the east-west trending Ronkomkoma Moraine was deposited in the area that is currently Sag Harbor. These deposits are primarily till which is composed of clay, sand, gravel, and boulders. Till is generally poorly to moderately permeable; however, outwash deposits near the terminal moraines are moderately to highly permeable. No information on the hydraulic conductivity of the Upper Glacial Aquifer in the Sag Harbor area is available; however, the average hydraulic conductivity of wells in the south central area of Suffolk County, which is more than 15 miles southwest of Sag Harbor, is 1,900 gallons/day/ft^2 (gpd/ft^2) or 9.8×10^{-2} cm/sec. The range of hydraulic conductivities for 408 Upper Glacial Aquifer wells on Long Island that are screened in deposits with lithologies described as

medium, fine, and very fine sand, and sand with silt or clay is 400 to 1,800 gpd/ft^2 (1.9 $\times$ 10^{-2} to 8.7 $\times$ 10^{-2} cm/sec). Greater than 95 percent of the wells evaluated that are screened in the Upper Glacial Aquifer on Long Island have hydraulic conductivities greater than 1,100 gpd/ft^2 (5.3 $\times$ 10^{-2} cm/sec).

The Magothy Formation is composed of fine to medium sand which is clayey in part. These deposits are interbedded with lenses and layers of coarse sand and sandy and solid clay. Most layers are poorly to moderately permeable but some layers are locally highly permeable. The Magothy Formation is approximately 1,000 feet thick in eastern Long Island. The Magothy Aquifer underlies the Upper Glacial Aquifer and is considered to be hydraulically connected to the Upper Glacial Aquifer; there are no confining layers between the aquifers. The average hydraulic conductivity of wells in south central Suffolk County that are screened in the Magothy Aquifer is 360 gpd/ft^2 (1.7 $\times$ 10^{-2} cm/sec). The range of hydraulic conductivity for the wells evaluated on Long Island that are screened in the Magothy Aquifer and have lithologies described as medium, fine, and very fine sand, and sand with silt or clay layers is 200 to 1,000 gpd/ft^2 (9.7 $\times$ 10^{-2} to 4.8 $\times$ 10^{-2} cm/sec).

The water table in the Bridge Street area is very shallow. Depth to water in monitoring wells MW1 and MW2, installed by Storch Associates, is 1 and 2.5 feet, respectively. During soil sampling, FIT encountered groundwater at depths less than or equal to 2 feet at 21 of 41 on-site sample locations. In 14 soil borings conducted along Bridge Street and Long Island Avenue by Storch Associates, depth to groundwater ranged from 0 to 6 feet and was less than or equal to 3 feet in 11 of the 14 boreholes. Other factors that suggest a shallow groundwater table include the following:

- The low-lying topography of the area.
- Problems with septic system drainage that were voiced by area residents.
- The flood-prone nature of the area.

Given the above information, depth to groundwater for the SHBS Site will be considered to be 2 feet.

As was indicated previously, monitoring wells were not installed at the site nor were groundwater samples collected during the LSI. Storch Associates had previously installed and sampled wells along Bridge Street. Results of the sample analysis are presented in Table 2-3. Samples from MW2 and MW3 showed the presence of cyanide and phenols. All of the samples contained inorganic compounds and MW3 showed the presence of benzene, toluene, ethylbenzene, a number of PAHs,

and petroleum hydrocarbons. The U.S.Geological Survey (USGS) has indicated that groundwater flow in the area is tidally influenced and; therefore, groundwater flow direction is variable and unknown at any given sampling time. In addition, the wells were placed in a line along Bridge Street and this type of well placement did not allow for groundwater sampling that was representative of background conditions and, therefore, a contaminant release could not be documented. Because of the tidally influenced groundwater flow, even if additional wells were installed, it was unclear whether background conditions could be clearly defined.

As a contaminant release can not be documented, the likelihood of site to release hazardous substances is considered in the groundwater pathway evaluation. Sampling during the LSI and previous investigations indicate the presence of volatile organic compounds and a number of PAHs at concentrations significantly above background in soils on the LILCO and LIF properties. The groundwater table is very shallow in the Bridge Street Area, and the hydraulic conductivity of the sandy surficial soils in the area is estimated from the soil classification data to be 10^{-4} cm/sec or greater. Wells in the surficial aquifer show that the Upper Glacial Aquifer generally has a hydraulic conductivity greater than 10^{-3} cm/sec. Groundwater within 4 miles of the site is used for both public and private supplies which serve approximately 1,700 residences with drinking water. The nearest well that is currently in use is less than 1 mile from the site. Refer to Table 2-5 for further information on the potentially affected population.

6.0 SURFACE WATER INVESTIGATION AND SUMMARY

This section provides a summary of the information collected during the PA, SSI, and LSI that is pertinent to the evaluation of the surface water migration pathway. The objectives of the LSI surface water investigation are presented, and a summary of the LSI sampling activities and the resultant analytical data are included. Finally, an analysis of the LSI data and a comprehensive summary of the information gathered during the LSI and previous investigations are presented.

6.1 OBJECTIVES

As with the other pathways, the primary objective of the surface water pathway investigation was to collect sufficient information to fill the data gaps that were identified in the SSI and that are discussed in the LSI workplan. A review of the SHBS SSI indicates that most of the values for the surface water migration pathway were determined using hard data and, therefore, there are few significant data gaps. The only significant data gaps in the surface water pathway occur in the waste characteristics and include toxicity, persistence, and hazardous waste quantity. The toxicity and persistence values could be higher if sampling results indicate that there are substances present on site that are more toxic and/or more persistent then the substances previously used to evaluate the surface water pathway. Previous soil sampling at the site suggested (but did not confirm) the presence of PCBs which have a higher toxicity/persistence value than the substances that were previously used to evaluate the surface water pathway. Further soil sampling was conducted to confirm the presence of PCBs on the site.

Soil sampling was not conducted to document the hazardous waste quantity for the surface water migration pathway as the total area of site, if it was found to be contaminated at levels significantly above background, would not produce a value greater than the waste quantity default value. In fact, a contaminated soil area approximately 10 times the size of the study area would be required to obtain a hazardous waste quantity value that would exceed the default value.

A surface water sample was collected from the catch basin at the intersection of Rose and Bridge Streets in an attempt to document an observed release. This basin collects water that constantly seeps from the residential properties along Rose Street. Site contaminants might also be discharged with the seepage.

6.2 SAMPLING SUMMARY

Two surface water samples were proposed to be collected from catch basins near the site. One surface water sample was to be collected from the catch basin on Long Island Avenue near the north end of Bridge Street and one sample was to be collected from the catch basin at the intersection of Rose and Bridge Streets. Of these two samples, the former was not collected as it was apparent from the topography of the area that this basin did not collect runoff from the Bridge Street area. The latter sample was collected and shipped to the EPA laboratory for TCL analysis. Figure 6-1 shows the location of the catch basins and the surface water sample location. The sampled catch basin collects runoff from Bridge and Rose Streets. In addition to stormwater runoff, the catch basin collected water which constantly seeps from the residential properties along Rose Street. Water from the catch basins is discharged to Sag Harbor Cove.

6.3 LSI SURFACE WATER RESULTS

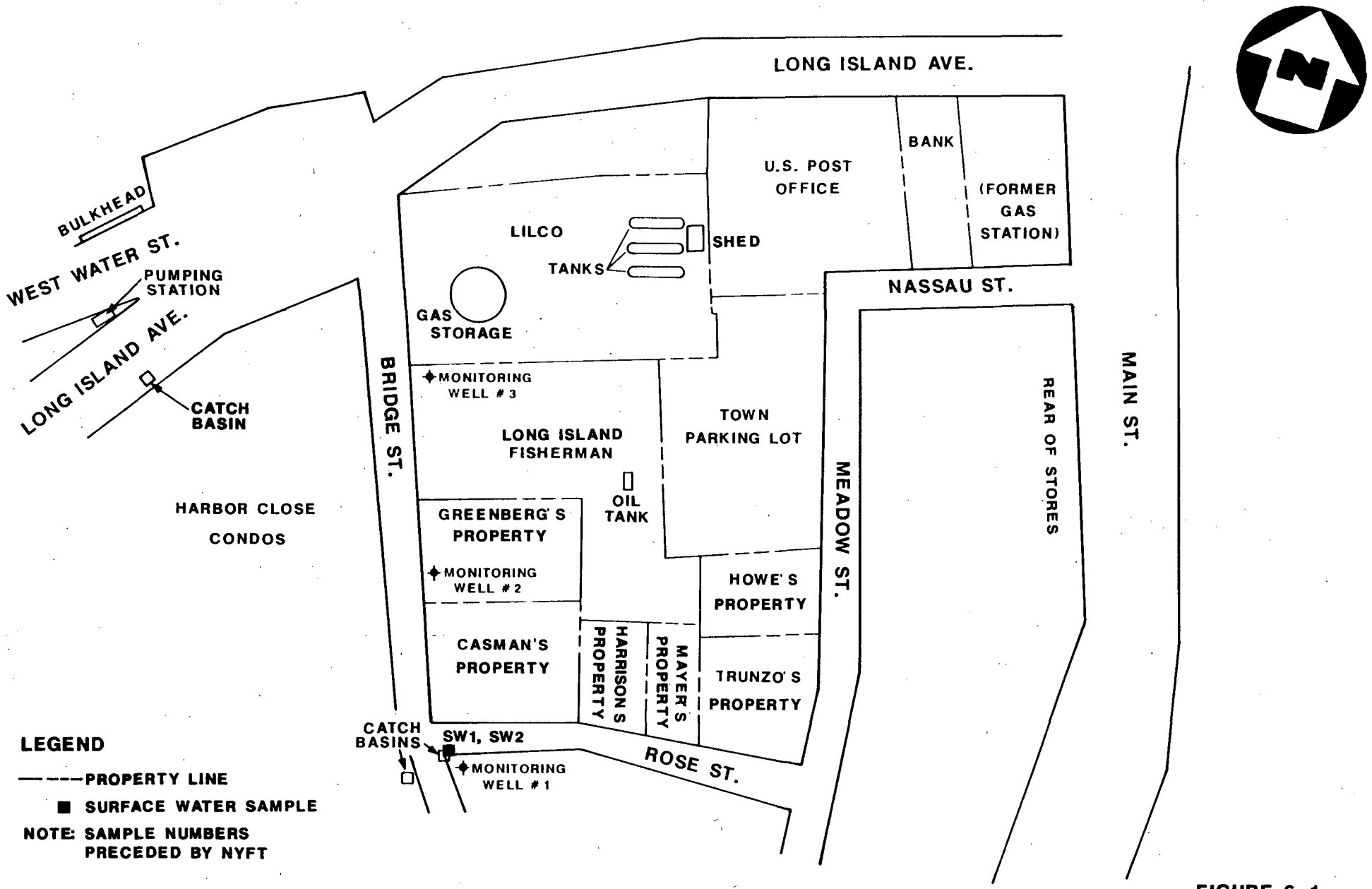
Analysis of the surface water samples collected from the catch basin at the intersection of Bridge and Rose Street does not indicate the presence of any semivolatile organic compounds (including PAHs), pesticides, or PCBs at concentrations above the CRQL. A number or inorganic substances were detected but the concentrations were within the normal ranges for natural waters.

6.4 DATA ANALYSIS

The volatile organic compound methylene chloride was detected in the samples, but it was also present in the blank. Methylene chloride is a common laboratory contaminant and is not known to be associated with contaminants found on the site. Therefore no observed release to surface water could be documented.

6.5 SURFACE WATER PATHWAY SUMMARY

Although no observed release to surface water was documented, a number of volatile organic compounds and high concentrations of a variety of PAHs were detected in shallow soil samples from the LILCO and LIF properties. The potential exists for these contaminants to be transported off site to nearby surface water by runoff during precipitation events or by flooding. Surface water is located



SURFACE WATER SAMPLE LOCATION

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

NOT TO SCALE

FIGURE 6-1

NUS CORPORATION

less than 0.1 mile from the site, but this water is marine in origin and, therefore, it is not used for drinking or irrigation purposes. There are a number of waters within 15 miles of the site. These include Sag Harbor Cove, Sag Harbor Bay, Shelter Island Sound, Northwest Harbor, and Northwest Creek. These areas are known to support commercial and recreational fisheries, and other recreational activities. In addition, there are a number of wetlands associated with these waters.

7.0 ONSITE EXPOSURE PATHWAY INVESTIGATION AND SUMMARY

This section provides the information collected during the PA, SSI, and LSI that is pertinent to the onsite exposure pathway. The objectives of the LSI onsite exposure pathway are presented, and a summary of the LSI sampling activities and the resultant analytical data are included. Finally, an analysis of the LSI data and a comprehensive summary of the information gathered during the LSI and previous investigations are provided.

7.1 OBJECTIVES

The primary objective of the onsite exposure pathway investigation was to fill the data gaps that were identified in the SSI. A number of data gaps existed in the resident population threat and nearby population threat categories. For the resident population threat category, data gaps existed for the likelihood of exposure and total resident population factors. The likelihood of exposure value for the site could be maximized if above-background contamination was found on an area containing a resident population. Soil sample analysis results showed the presence of PCBs on the Greenberg property; however, the PCBs were present at estimated values and therefore, their presence could not considered valid data. Further soil sampling was conducted on the Greenberg property during the LSI to determine if PCBs were present.

For the nearby population threat category, a data gap existed for the waste quantity value. In the SSI, waste quantity was determined by considering that the area of the LILCO and LIF properties were contaminated based on SSI and previous sampling results. Although samples on these properties did show the presence of contaminants, few samples were collected, and therefore, the data were considered insufficient to provide a good estimate of the areal extent of contamination for purposes of evaluating the onsite exposure pathway. In addition, previous sampling by the FIT suggested that contaminants might be present on nearby properties (e.g. Greenberg property). Further sampling would have a significant impact on the onsite exposure pathway evaluation if contaminants were found to be present on residential properties.

Given the above conditions, specific objectives of the onsite exposure pathway were to estimate the areal extent of contamination at the site and determine whether contaminants are present on residential properties.

7.2 SAMPLING SUMMARY

Soil sampling to meet the objectives described in Section 7.1 included systematic grid soil sampling, judgmental soil sampling, and background soil sampling. A summary of the soil sampling conducted at the SHBS Site is provided in Section 3.2 of this report.

7.3 LSI ONSITE EXPOSURE PATHWAY RESULTS

This section presents the LSI results that are pertinent to the evaluation of the onsite exposure pathway. To meet the objectives of the onsite exposure pathway investigation, systematic soil samples, judgmental soil samples, and background soil samples were collected from the site and shipped to laboratories for TCL analysis. In addition, soils were classified at all sample locations to determine the soil characteristics and ensure comparability of the analytical data.

7.3.1 Analytical Data

Analytical data for soil samples collected from the site during the LSI indicate the presence of volatile organic compounds, a variety of PAHs, and inorganic substances in samples collected from the LILCO and LIF properties. PAHs and inorganic substances were also detected in samples from two of the residential properties. Refer to Sections 3.4 and 3.5 of this report for a summary and analysis of the soil sample analytical data collected during the LSI. Appendices 1A and 1B provide the analytical data for all samples collected during the LSI, and Appendices 3A and 3B provide a summary of the TCL substances that were detected in LSI samples at concentrations significantly above background.

7.3.2 Other LSI Data

Soils were classified at each location sampled during the LSI. This was done to ensure that all samples were comparable, particularly with respect to naturally occurring analytes in the soils. Results of the soil classification analysis indicate that although there was variation among the samples, the soils were of the same general type. The soils were predominantly sands and sands with fines. There were some non-native materials and fill materials evident in many of the samples. Background information indicates that much of the Bridge Street area was filled. Most of the fill material used was probably dredged from nearby waters. Further LSI soil classification data is provided in the Soil Classification section of Section 3.2 of this report.

7.4 DATA ANALYSIS

An analysis of all soil samples collected during the SHBS LSI is provided in Section 3.4 of this report. This section provides an analysis of the soils data that are pertinent to the onsite exposure pathway.

Systematic grid soil samples from the LILCO and LIF properties showed the presence of volatile organic compounds, a number of PAHs, and inorganic substances at concentrations significantly above background levels. A number of judgmental soil samples were collected from properties around the LILCO and LIF properties to determine if any contaminants associated with the LILCO and LIF properties were present on the surrounding properties. With the exception of the Casman and HCC properties, the soil samples did not indicate the presence of any contaminants that were associated with the contaminants on the LILCO and LIF properties and that were present at concentrations significantly above background.

One contaminant was present at a concentration significantly above background in each of two samples collected from the HCC property. One sample contained benzo(b)fluoranthene at a concentration of 4,200 ug/kg and the other contained lead at a concentration of 1,870 mg/kg. Benzo(a)fluoranthene was also detected in samples from the LILCO and LIF properties. The lead concentration in the other sample is more than two times greater than the maximum lead concentration typically found in natural soils. It should be noted that both of the above samples were collected adjacent to Bridge Street and that both PAH and lead levels are typically elevated adjacent to roadways. In addition, high lead levels were also detected in two of the background soil samples. For the reasons cited above, the residents of the HCC property will not be considered as onsite population for purposes of evaluating the onsite exposure pathway.

The systematic grid samples collected from the Casman property did not show the presence of any contaminants at concentrations significantly above background levels. However, the judgmental soil sample collected adjacent to the vegetable garden on the Casman property showed the presence of six PAHs ranging in concentration from 1,800 to 10,000 ug/kg. The total PAH concentration in the sample is 37,800 ug/kg. In addition, the sample contained lead at the notable concentration of 2,620 mg/kg. This level is approximately three times greater than the maximum lead concentration typically found in natural soils. The source of this lead is unknown. The PAHs found in the sample were present at levels significantly above background and were also found in samples collected from the LILCO and LIF properties. As a result, the residents of the Casman property will be considered as onsite population for the purposes of evaluating the onsite exposure pathway, and the area of the Casman property will be used in the calculation of the waste quantity for the onsite exposure pathway.

Further sampling on the Greenberg property did not confirm the presence of PCBs. PCBs were present at estimated concentrations in previous sampling on the Greenberg property.

7.5 ONSITE EXPOSURE PATHWAY SUMMARY

A previous investigation by Storch Associates showed the presence of volatile organic compounds, pesticides, and petroleum hydrocarbons in samples collected from borings along Bridge Street and Long Island Avenue. Soil samples collected during the SSI showed the presence of PAHs, pesticides, and inorganic substances in samples from the LILCO and LIF properties. Lower concentrations of PAHs were also detected in soil samples from the Greenberg, Casman, and HCC properties. Inorganic substances and pesticides were also detected on the Greenberg, Casman, and Harbor Close Condominium properties. During the LSI, systematic grid soil sampling and judgmental soil sampling were conducted to provide an estimate of the contaminated area and to determine if contaminants were present on nearby residential properties. Background soil samples were collected to provide a basis for evaluating the systematic grid soil samples and judgmental soil samples. Analysis of the soil samples indicates that the LILCO and LIF soils contain volatile organic compounds and a variety of PAHs at concentrations significantly above background levels. A sample from the Casman property showed the presence of PAHs that are associated with the site and are present at levels significantly above background. The residents of the Casman property are considered as onsite population for purposes of evaluating the onsite exposure pathway. No contaminants that are associated with the site and present at levels above background were present on the other nearby properties.

The combined area of the LILCO and LIF properties is approximately 71,500 ft^2, and the area of the Casman property is approximately 12,500 ft^2. The combined area of the properties above is approximately 84,000 ft^2. There are seven adults living in the Casman house. Refer to the Onsite Exposure Pathway and Air Migration Pathway Sections of Section 2.3.2 of this report for further information concerning the population in the vicinity of the SHBS Site.

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APPENDIX 1

1A: ORGANICS

1B: INORGANICS

[redacted]ME: S[redacted]OR - [redacted]STREET[redacted]

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

02-[redacted]7-2[redacted]
Rev. No. 1

TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

VOLATILES											
Sample ID No.	MYFT-S1A(MS/MSD)	MYFT-S2A	MYFT-S3A	MYFT-S4A	MYFT-S5A	MYFT-S6A	MYFT-S7A	MYFT-S8A	MYFT-S9A	MYFT-S10A
Traffic Report No.	BBA01	BBA02	BBA03	BBA04	BBA05	BBA06	BBA07	BBA08	BBA09	BBA10
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor	1	1	1	1	1	1	1	1	1	1
Percent Moisture	27	27	12	12	18	23	25	16	14	11
Chloromethane										
Bromomethane										
Vinyl Chloride										
Chloroethane										
Methylene Chloride										
Acetone		220 E								
Carbon Disulfide										
1,1-Dichloroethene										
1,1-Dichloroethane										
Trans-1,2-Dichloroethene (total)										
Chloroform										
1,2-Dichloroethane										
2-Butanone		61 E								
1,1,1-Trichloroethane										
Carbon Tetrachloride										
Vinyl Acetate										
Bromodichloromethane										
1,2-Dichloropropane										
cis-1,3-Dichloropropene										
Trichloroethene										
Dibromochloromethane										
1,1,2-Trichloroethane										
Benzene		J				J	11			
trans-1,3-Dichloropropene										
Bromoform										
4-Methyl-2-Pentanone										
2-Hexanone										
Tetrachloroethene										
Toluene		7			10		8			
1,1,2,2-Tetrachloroethane										
Chlorobenzene										
Ethylbenzene		250			46	J	16			
Styrene							J			
Xylenes (Total)		320			460	J	47			

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >10%

[redacted] 02-[redacted]-2[redacted]
Rev. No. 1

[redacted]ME: [redacted]BOR - [redacted]STREET[redacted]

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

SEMI-VOLATILES										
Sample ID No.	NYFT-S1A(MS/MSD)	NYFT-S2A	NYFT-S3A	NYFT-S4A	NYFT-S5A	NYFT-S6A	NYFT-S7A	NYFT-S8A	NYFT-S9A	NYFT-S10A
Traffic Report No.	BBA01	BBA02	BBA03	BBA04	BBA05	BBA06	BBA07	BBA08	BBA09	BBA10
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	5	1	1	10	5	2	5	1	1
Percent Moisture	27	27	12	12	18	23	25	16	14	11
Phenol										
bis(2-Chloroethyl)ether										
2-Chlorophenol										
1,3-Dichlorobenzene										
1,4-Dichlorobenzene										
Benzyl alcohol										
1,2-Dichlorobenzene										
2-Methylphenol										
bis(2-Chloroisopropyl)ether									R	
4-Methylphenol	J									
N-Nitroso-di-n-dipropylamine										
Hexachloroethane										
Nitrobenzene										
Isophorone										
2-Nitrophenol										
2,4-Dimethylphenol							J			
Benzoic acid	J									
bis(2-Chloroethoxy)methane										
2,4-Dichlorophenol										
1,2,4-Trichlorobenzene										
Naphthalene	1000	26000	J		54000	J	3100	3100		J
4-Chloroaniline										
Hexachlorobutadiene										
4-Chloro-3-Methylphenol										
2-Methylnaphthalene	620	18000	J		69000	J	J	2200		J
Hexachlorocyclopentadiene										
2,4,6-Trichlorophenol										
2,4,5-Trichlorophenol										
2-Chloronaphthalene										
2-Nitroaniline										
Dimethylphthalate										
Acenaphthylene	J	14000	J		50000	20000	14000	74000	550	38000
2,6-Dinitrotoluene										
3-Nitroaniline										
Acenaphthene	J	23000			130000	J	1200	2000	580	2500
2,4-Dinitrophenol										
4-Nitrophenol										
Dibenzofuran	710	J	J		9100	J	J			1600
2,4-Dinitrotoluene										
Diethylphthalate										
4-Chlorophenyl-phenyl ether										
Fluorene	1100	18000	J		110000	4400	6300	6100	390	J
4-Nitroaniline										
4,6-Dinitro-2-methylphenol										
N-nitrosodiphenylamine										
4-Bromophenyl-phenyl ether										
Hexachlorobenzene										

APPENDIX 1A - ORGANIC COMPOUNDS ANALYSIS RESULTS

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

SEMI-VOLATILES											
Sample ID No.	MYFT-S1A(MS/MSD)	MYFT-S2A	MYFT-S3A	MYFT-S4A	MYFT-S5A	MYFT-S6A	MYFT-S7A	MYFT-S8A	MYFT-S9A	MYFT-S10A
Traffic Report No.	BBA01	BBA02	BBA03	BBA04	BBA05	BBA06	BBA07	BBA08	BBA09	BBA10
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	5	1	1	10	5	2	5	1	1
Percent Moisture	27	27	12	12	18	23	25	16	14	11
Pentachlorophenol										
Phenanthrene	11000	38000	390	J	330000	14000	J	40000	1200	89000
Anthracene	2300	20000	J		140000	10000	14000	15000	430	J
Di-n-butylphthalate			J	J						
Fluoranthene	42000	29000	650	J	210000	100000	16000	110000	1300	150000
Pyrene	53000	32000	480	J	280000	150000	34000	180000	2400	220000
Butylbenzylphthalate										
3,3'-Dichlorobenzidine										
Benzo(a)anthracene	18000	19000	380	J	98000	63000	19000	110000	990	74000
Chrysene	26000	25000	560	J	78000	78000	18000	110000	1000	91000
bis(2-Ethylhexyl)phthalate										
Di-n-octylphthalate										
Benzo(b)fluoranthene	25000	20000 EN	1100 EN	JN	83000 EN	120000 EN	42000 EN	260000 EN	630	120000 EN
Benzo(k)fluoranthene	23000	20000 EN	1100 EN	JN	83000 EN	120000 EN	42000 EN	260000 EN	690	120000 EN
Benzo(a)pyrene	29000	29000	410	J	65000	72000	32000	170000	1300	83000
Indeno(1,2,3-cd)pyrene	14000	22000	J		22000	26000	21000	58000	610	J
Dibenz(a,h)anthracene	2300	6500	J		9900	7400	6400	14000	J	4800
Benzo(g,h,i)perylene	19000	31000	J		28000	49000	31000	75000	1400	45000

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor)1 and/or percent moisture)0%

[redacted]02-[redacted]-29[redacted]
Rev. No. 1

APPENDIX 1A - ORGANIC COMPOUNDS ANALYSIS RESULTS

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

PESTICIDES										
Sample ID No.	NYFT-S1A(MS/MSD)	NYFT-S2A	NYFT-S3A	NYFT-S4A	NYFT-S5A	NYFT-S6A	NYFT-S7A	NYFT-S8A	NYFT-S9A	NYFT-S10A
Traffic Report No.	BBA01	BBA02	BBA03	BBA04	BBA05	BBA06	BBA07	BBA08	BBA09	BBA10
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	10	10	1	1	20	4	10	10	1	10
Percent Moisture	27	27	12	12	18	23	25	16	14	11
alpha-BHC										
beta-BHC			38					R		
delta-BHC										
gamma-BHC (Lindane)										
Heptachlor										
Aldrin								R		
Heptachlor epoxide										
Endosulfan I										
Dieldrin										
4,4'-DDE										
Endrin										
Endosulfan II										
4,4'-DDD										
Endosulfan sulfate										
4,4'-DDT	380	230	22							
Methoxychlor										
Endrin ketone										
alpha-Chlordane										
gamma-Chlordane										
Toxaphene										
Aroclor-1016										
Aroclor-1221										
Aroclor-1232										
Aroclor-1242										
Aroclor-1248										
Aroclor-1254										
Aroclor-1260										

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX 1A - ORGANIC COMPOUNDS ANALYSIS RESULTS

SITE NAME: SAG HARBOR - BRIDGE STREET
TODM: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

VOLATILES							
Sample ID No.	NYFT-S11A	NYFT-S12A	NYFT-S13A	NYFT-S14A	NYFT-RIN1A	NYFT-RIN2A	NYFT-RIN3A
Traffic Report No.	BBA11	BBA12	BBA13	BBA14	BBA49	BBA50	BBA51
Matrix	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L
Dilution Factor	1	5	1	1	1	1	1
Percent Moisture	17	30	11	16	--	--	--
Chloromethane						J	
Bromomethane							
Vinyl Chloride							
Chloroethane							
Methylene Chloride							
Acetone							
Carbon Disulfide					J	J	
1,1-Dichloroethene							
1,1-Dichloroethane							
Trans-1,2-Dichloroethene (total)							
Chloroform					J	J	J
1,2-Dichloroethane							
2-Butanone					R	R	R
1,1,1-Trichloroethane							
Carbon Tetrachloride							
Vinyl Acetate							
Bromodichloromethane							
1,2-Dichloropropane							
cis-1,3-Dichloropropene							
Trichloroethene							
Dibromochloromethane							
1,1,2-Trichloroethane							
Benzene							
trans-1,3-Dichloropropene							
Bromoform							
4-Methyl-2-Pentanone							
2-Hexanone							
Tetrachloroethene							
Toluene							
1,1,2,2-Tetrachloroethane							
Chlorobenzene							
Ethylbenzene		280					
Styrene							
Xylenes (Total)		270					

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

[redacted]ME: [redacted]BOR - [redacted]STREE[redacted]

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

02-[redacted]7-2[redacted]
Rev. No. 1

TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/23/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

SEMI-VOLATILES							
Sample ID No.	NYFT-S11A	NYFT-S12A	NYFT-S13A	NYFT-S14A	NYFT-RIN1A	NYFT-RIN2A	NYFT-RIN3A
Traffic Report No.	BBA11	BBA12	BBA13	BBA14	BBA49	BBA50	BBA51
Matrix	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	5	2	5	5	1	1	1
Percent Moisture	17	30	11	16	--	--	--
Phenol							
bis(2-Chloroethyl)ether							
2-Chlorophenol							
1,3-Dichlorobenzene							
1,4-Dichlorobenzene							
Benzyl alcohol							
1,2-Dichlorobenzene							
2-Methylphenol							
bis(2-Chloroisopropyl)ether		R	R				
4-Methylphenol							
N-Nitroso-di-n-dipropylamine							
Hexachloroethane							
Nitrobenzene							
Isophorone							
2-Nitrophenol							
2,4-Dimethylphenol							
Benzoic acid							
bis(2-Chloroethoxy)methane							
2,4-Dichlorophenol							
1,2,4-Trichlorobenzene							
Naphthalene	J	13000	J	J			
4-Chloroaniline							
Hexachlorobutadiene							
4-Chloro-3-Methylphenol							
2-Methylnaphthalene	J	J		J			
Hexachlorocyclopentadiene							
2,4,6-Trichlorophenol							
2,4,5-Trichlorophenol							
2-Chloronaphthalene							
2-Nitroaniline							
Dimethylphthalate							
Acenaphthylene	17000	1200	2500	6400			
2,6-Dinitrotoluene							
3-Nitroaniline							
Acenaphthene	9000						
2,4-Dinitrophenol							
4-Nitrophenol							
Dibenzofuran	2000						
2,4-Dinitrotoluene							
Diethylphthalate							
4-Chlorophenyl-phenyl ether							
Fluorene	6100		J	J			
4-Nitroaniline							
4,6-Dinitro-2-methylphenol							
N-nitrosodiphenylamine							
4-Bromophenyl-phenyl ether							
Hexachlorobenzene							

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

[redacted]ME: [redacted]BOR - [redacted]STREET[redacted]
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

SEMI-VOLATILES							
Sample ID No.	NYFT-S11A	NYFT-S12A	NYFT-S13A	NYFT-S14A	NYFT-RIN1A	NYFT-RIN2A	NYFT-RIN3A
Traffic Report No.	BBA11	BBA12	BBA13	BBA14	BBA49	BBA50	BBA51
Matrix	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	5	2	5	5	1	1	1
Percent Moisture	17	30	11	16	—	—	—
Pentachlorophenol							
Phenanthrene	20000	J	2400	2800			
Anthracene	8900	J	J	2900			
Di-n-butylphthalate			J				
Fluoranthene	27000	1300	8700	11000			
Pyrene	28000	3200	14000	18000			
Butylbenzylphthalate							
3,3'-Dichlorobenzidine							
Benzo(a)anthracene	20000	1800	8900	11000			
Chrysene	22000	2800	11000	13000			
bis(2-Ethylhexyl)phthalate							
Di-n-octylphthalate							
Benzo(b)fluoranthene	54000 EN	3200	24000 EN	23000 EN			
Benzo(k)fluoranthene	54000 EN	3100	24000 EN	23000 EN			
Benzo(a)pyrene	34000	6800	9200	19000			
Indeno(1,2,3-cd)pyrene	14000	4400	5700	9600			
Dibenz(a,h)anthracene	4400	1300	J	3900			
Benzo(g,h,i)perylene	21000	5900	6700	16000			

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

[redacted]NE: [redacted]BOR - [redacted] STREET

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

02-8907-29-LI
Rev. No. 1

TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

PESTICIDES							
Sample ID No.	MYFT-S11A	MYFT-S12A	MYFT-S13A	MYFT-S14A	MYFT-RIN1A	MYFT-RIN2A	MYFT-RIN3A
Traffic Report No.	BBA11	BBA12	BBA13	BBA14	BBA49	BBA50	BBA51
Matrix	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	20	2	4	1	1	1	1
Percent Moisture	17	30	11	16	--	--	--
alpha-BHC							
beta-BHC							
delta-BHC							
gamma-BHC (Lindane)							
Heptachlor							
Aldrin			47				
Heptachlor epoxide							
Endosulfan I							
Dieldrin							
4,4'-DDE							
Endrin							
Endosulfan II							
4,4'-DDD							
Endosulfan sulfate							
4,4'-DDT							
Methoxychlor							
Endrin ketone							
alpha-Chlordane							
gamma-Chlordane							
Toxaphene							
Aroclor-1016							
Aroclor-1221							
Aroclor-1232							
Aroclor-1242							
Aroclor-1248							
Aroclor-1254							
Aroclor-1260				1400			

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

[redacted] NAME: [redacted] HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

VOLATILES									
Sample ID No.	NYFT-S15A	NYFT-S16A(DUP)	NYFT-S17A	NYFT-S18A	NYFT-S19A	NYFT-S20A	NYFT-S21A(MS/MSD)	NYFT-S22A	NYFT-S23A
Traffic Report No.	BBA15	BBA16	BBA17	BBA18	BBA19	BBA20	BBA21	BBA22	BBA23
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor	1	1	1	1	1	1	1	1	1
Percent Moisture	22	20	17	31	24	20	23	12	32
Chloromethane									
Bromomethane									
Vinyl Chloride									
Chloroethane									
Methylene Chloride									
Acetone									
Carbon Disulfide									
1,1-Dichloroethene									
1,1-Dichloroethane									
Trans-1,2-Dichloroethene (total)									
Chloroform							J		
1,2-Dichloroethane									
2-Butanone									
1,1,1-Trichloroethane									
Carbon Tetrachloride									
Vinyl Acetate									
Bromodichloromethane									
1,2-Dichloropropane									
cis-1,3-Dichloropropene									
Trichloroethene									
Dibromochloromethane									
1,1,2-Trichloroethane									
Benzene	J	J		8					
trans-1,3-Dichloropropene									
Bromoform									
4-Methyl-2-Pentanone									
2-Hexanone									
Tetrachloroethene									
Toluene									
1,1,2,2-Tetrachloroethane									
Chlorobenzene									
Ethylbenzene				J					
Styrene									
Xylenes (Total)	J			10					

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

SEMI-VOLATILES									
Sample ID No.	NYFT-S15A	NYFT-S16A(DUP)	NYFT-S17A	NYFT-S18A	NYFT-S19A	NYFT-S20A	NYFT-S21A(MS/MSD)	NYFT-S22A	NYFT-S23A
Traffic Report No.	BBA15	BBA16	BBA17	BBA18	BBA19	BBA20	BBA21	BBA22	BBA23
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	5	5	1	1	1	1	1	1	1
Percent Moisture	22	20	17	31	24	20	23	12	20
Phenol				J					
bis(2-Chloroethyl)ether									
2-Chlorophenol									
1,3-Dichlorobenzene									
1,4-Dichlorobenzene									
Benzyl alcohol									
1,2-Dichlorobenzene									
2-Methylphenol									
bis(2-Chloroisopropyl)ether									
4-Methylphenol				J	J		J		
N-Nitroso-di-n-dipropylamine									
Hexachloroethane									
Nitrobenzene	J								
Isophorone									
2-Nitrophenol									
2,4-Dimethylphenol									
Benzoic acid	J			J	J	J			
bis(2-Chloroethoxy)methane									
2,4-Dichlorophenol									
1,2,4-Trichlorobenzene									
Naphthalene	J	J	510	580	3400	J	J		
4-Chloroaniline									
Hexachlorobutadiene									
4-Chloro-3-Methylphenol									
2-Methylnaphthalene	J	J	J	J	1200	J	J		
Hexachlorocyclopentadiene									
2,4,6-Trichlorophenol									
2,4,5-Trichlorophenol									
2-Chloronaphthalene									
2-Nitroaniline									
Dimethylphthalate									
Acenaphthylene	J	4600	2700	J	J	4500	J	J	J
2,6-Dinitrotoluene									
3-Nitroaniline									
Acenaphthene	J		J	J	5400	J	J		
2,4-Dinitrophenol									
4-Nitrophenol									
Dibenzofuran	J		J		3200	J	J		
2,4-Dinitrotoluene									
Diethylphthalate									
4-Chlorophenyl-phenyl ether									
Fluorene	12000		J	J	5500		J		
4-Nitroaniline									
4,6-Dinitro-2-methylphenol									
N-nitrosodiphenylamine									
4-Bromophenyl-phenyl ether									
Hexachlorobenzene									

[redacted]02-[redacted]-2[redacted]
Rev. No. 1

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

[redacted]ME: [redacted]OR - [redacted]STREET[redacted]
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

SEMI-VOLATILES									
Sample ID No.	NYFT-S15A	NYFT-S16A(DUP)	NYFT-S17A	NYFT-S18A	NYFT-S19A	NYFT-S20A	NYFT-S21A(MS/MSD)	NYFT-S22A	NYFT-S23A
Traffic Report No.	BBA15	BBA16	BBA17	BBA18	BBA19	BBA20	BBA21	BBA22	BBA23
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	5	5	1	1	1	1	1	1	1
Percent Moisture	22	20	17	31	24	20	23	12	20
Pentachlorophenol									J
Phenanthrene	49000	3300	730	J	26000	2900	1500	J	J
Anthracene	16000	J	660	J	10000	1200	J	J	J
Di-n-butylphthalate				J				J	
Fluoranthene	120000	11000	2400	J	29000	10000	3300	610	J
Pyrene	160000	21000	5800	J	23000	16000	3700	980	480
Butylbenzylphthalate									
3,3'-Dichlorobenzidine									
Benzo(a)anthracene	67000	12000	2700	J	12000	7800	1800	600	J
Chrysene	80000	13000	3500	J	11000	8600	2100	740	J
bis(2-Ethylhexyl)phthalate			16000 E	J					
Di-n-octylphthalate			1900						
Benzo(b)fluoranthene	110000 EN	24000 EN	6700 EN	J	16000 EN	20000 EN	3600	1300	660
Benzo(k)fluoranthene	110000 EN	24000 EN	6700 EN	J	16000 EN	20000 EN			
Benzo(a)pyrene	57000	13000	3500	J	6500	11000	1600	820	J
Indeno(1,2,3-cd)pyrene	30000	6600	3100	J	2200	4700	1000	580	J
Dibenz(a,h)anthracene	11000	2500	1000		1200	1600	450	J	J
Benzo(g,h,i)perylene	31000	8300	4700	J	2100	9900	1200	860	470

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NA - analysis not required
Detection limits elevated if Dilution Factor !1 and/or percent moisture !0%

[redacted]ME: S[redacted]OR - [redacted] STREET

APPENDIX 1A - ORGANIC COMPOUNDS ANALYSIS RESULTS

TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

PESTICIDES									
Sample ID No.	NYFT-S15A	NYFT-S16A(DUP)	NYFT-S17A	NYFT-S18A	NYFT-S19A	NYFT-S20A	NYFT-S21A(MS/MSD)	NYFT-S22A	NYFT-S23A
Traffic Report No.	BBA15	BBA16	BBA17	BBA18	BBA19	BBA20	BBA21	BBA22	BBA23
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	4	4	2	4	20	4	1	1	1
Percent Moisture	22	20	17	31	24	20	23	12	20
alpha-BHC									
beta-BHC						110	210		
delta-BHC									
gamma-BHC (Lindane)									
Heptachlor									
Aldrin									
Heptachlor epoxide									
Endosulfan I	61								
Dieldrin									
4,4'-DDE									
Endrin									
Endosulfan II									
4,4'-DDD	2100	1600	200	280	1700				
Endosulfan sulfate									
4,4'-DDT		510	110			140			
Methoxychlor									
Endrin ketone									
alpha-Chlordane									
gamma-Chlordane	700								
Toxaphene									
Aroclor-1016									
Aroclor-1221									
Aroclor-1232									
Aroclor-1242									
Aroclor-1248									
Aroclor-1254									
Aroclor-1260									

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

[redacted] [redacted]AME: [redacted]BOR - [redacted] STREE[redacted] [redacted] AP[redacted]ENDIX [redacted] - OR[redacted]ANIC [redacted]OMPOUNDS ANALYSIS RESULTS [redacted]

TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

VOLATILES										
Sample ID No.	NYFT-S24A	NYFT-S25A	NYFT-S26A	NYFT-S27A	NYFT-S28A	NYFT-S29A	NYFT-S30A	NYFT-RIN4A	NYFT-RIN5A	NYFT-RIN6A
Traffic Report No.	BBA24	BBA25	BBA26	BBA27	BBA28	BBA29	BBA30	BBA52	BBA53	BBA54
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L
Dilution Factor	1	1	1	1	1	1	1	1	1	1
Percent Moisture	15	24	31	50	27	45	30	—	—	—
Chloromethane										
Bromomethane										
Vinyl Chloride										
Chloroethane										
Methylene Chloride								J	J	J
Acetone										
Carbon Disulfide								5	J	J
1,1-Dichloroethene										
1,1-Dichloroethane										
Trans-1,2-Dichloroethene (total)										
Chloroform										
1,2-Dichloroethane										
2-Butanone								R	R	R
1,1,1-Trichloroethane										
Carbon Tetrachloride										
Vinyl Acetate										
Bromodichloromethane										
1,2-Dichloropropane										
cis-1,3-Dichloropropene										
Trichloroethene										
Dibromochloromethane										
1,1,2-Trichloroethane										
Benzene			J							
trans-1,3-Dichloropropene										
Bromoform										
4-Methyl-2-Pentanone										
2-Hexanone										
Tetrachloroethene										
Toluene										
1,1,2,2-Tetrachloroethane										
Chlorobenzene										
Ethylbenzene			J							
Styrene										
Xylenes (Total)			J							

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX 1A - ORGANIC COMPOUNDS ANALYSIS RESULTS

SITE NAME: [redacted] - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

SEMI-VOLATILES										
Sample ID No.	MYFT-S24A	MYFT-S25A	MYFT-S26A	MYFT-S27A	MYFT-S28A	MYFT-S29A	MYFT-S30A	MYFT-RIN4A	MYFT-RIN5A	MYFT-RIN6A
Traffic Report No.	BBA24	BBA25	BBA26	BBA27	BBA28	BBA29	BBA30	BBA52	BBA53	BBA54
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	2	5	2	1	1	1	2	1	1	1
Percent Moisture	15	16	23	27	27	32	30	—	—	—
Phenol										
bis(2-Chloroethyl)ether										
2-Chlorophenol										
1,3-Dichlorobenzene										
1,4-Dichlorobenzene										
Benzyl alcohol										
1,2-Dichlorobenzene										
2-Methylphenol										
bis(2-Chloroisopropyl)ether										
4-Methylphenol										
N-Nitroso-di-n-dipropylamine										
Hexachloroethane										
Nitrobenzene										
Isophorone										
2-Nitrophenol										
2,4-Dimethylphenol										
Benzoic acid							J			
bis(2-Chloroethoxy)methane										
2,4-Dichlorophenol										
1,2,4-Trichlorobenzene										
Naphthalene	3200	J	1100				J			
4-Chloroaniline										
Hexachlorobutadiene										
4-Chloro-3-Methylphenol										
2-Methylnaphthalene	1000	J	J				J			
Hexachlorocyclopentadiene										
2,4,6-Trichlorophenol										
2,4,5-Trichlorophenol										
2-Chloronaphthalene										
2-Nitroaniline										
Dimethylphthalate										
Acenaphthylene	9300	4000	J	J	J	J	J			
2,6-Dinitrotoluene								R	R	
3-Nitroaniline										
Acenaphthene	2100	J	J				J			
2,4-Dinitrophenol										
4-Nitrophenol										
Dibenzofuran	J	J					J			
2,4-Dinitrotoluene								R	R	
Diethylphthalate										
4-Chlorophenyl-phenyl ether										
Fluorene	3200	J	J			J	J			
4-Nitroaniline										
4,6-Dinitro-2-methylphenol										
N-nitrosodiphenylamine										
4-Bromophenyl-phenyl ether										
Hexachlorobenzene										

[redacted]ME: [redacted]BOR - [redacted] STREET [redacted]

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

02[redacted]7-2[redacted]I
Rev. No. 1

TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

SEMI-VOLATILES										
Sample ID No.	NYFT-S24A	NYFT-S25A	NYFT-S26A	NYFT-S27A	NYFT-S28A	NYFT-S29A	NYFT-S30A	NYFT-RIN4A	NYFT-RIN5A	NYFT-RIN6A
Traffic Report No.	BBA24	BBA25	BBA26	BBA27	BBA28	BBA29	BBA30	BBA32	BBA33	BBA34
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	2	5	2	1	1	1	2	1	1	1
Percent Moisture	15	16	23	27	27	32	30	—	—	—
Pentachlorophenol										
Phenanthrene	1600 E	13000	1600	J	J	1300	9400			
Anthracene	8500	4600	J	J	J	J	1800			
Di-n-butylphthalate	920	J								
Fluoranthene	7800	21000	2900	J	630	2100	10000			
Pyrene	13000	24000	4500	J	610	1800	6700			
Butylbenzylphthalate										
3,3'-Dichlorobenzidine										
Benzo(a)anthracene	6000	12000	1900	J	J	1300	4000			
Chrysene	9000	13000	2600	J	J	1600	3400			
bis(2-Ethylhexyl)phthalate	1000	J	J			J	J			
Di-n-octylphthalate										
Benzo(b)fluoranthene	17000	20000	4600	560	J	2300	5900			
Benzo(k)fluoranthene					J					
Benzo(a)pyrene	11000	11000	2900	J	J	1200	3400			
Indeno(1,2,3-cd)pyrene	7200	7400	2100	J	J	710	1900			
Dibenz(a,h)anthracene	4800	2600	J	J	J	J	J			
Benzo(g,h,i)perylene	10000	11000	3000	J	J	880	2000			

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor)1 and/or percent moisture)0%

[redacted] 02-[redacted]7-2[redacted]
Rev. No. 1

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

SITE NAME: [redacted] SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

PESTICIDES										
Sample ID No.	MYFT-S24A	MYFT-S25A	MYFT-S26A	MYFT-S27A	MYFT-S28A	MYFT-S29A	MYFT-S30A	MYFT-RIN4A	MYFT-RIN5A	MYFT-RIN6A
Traffic Report No.	BBA24	BBA25	BBA26	BBA27	BBA28	BBA29	BBA30	BBA52	BBA53	BBA54
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	2	1	2	1	1	1	1	1	1	1
Percent Moisture	15	16	23	27	27	32	30	—	—	—
alpha-BHC		R								
beta-BHC		96 E					R			
delta-BHC		R								
gamma-BHC (Lindane)		R								
Heptachlor		R								
Aldrin		R								
Heptachlor epoxide		R								
Endosulfan I		R								
Dieldrin		R								
4,4'-DDE	710	R								
Endrin		R								
Endosulfan II		R								
4,4'-DDD	2000	R	320							
Endosulfan sulfate		R								
4,4'-DDT		R								
Methoxychlor		R								
Endrin ketone		R								
alpha-Chlordane		R								
gamma-Chlordane		R								
Toxaphene		R								
Aroclor-1016		R								
Aroclor-1221		R								
Aroclor-1232		R								
Aroclor-1242		R								
Aroclor-1248		R								
Aroclor-1254		R								
Aroclor-1260		R								

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

[redacted] [redacted]ME: [redacted]BOR - [redacted]STREET[redacted] [redacted] APPENDIX 1A - ORGANIC COMPOUNDS ANALYSIS RESULTS [redacted] 02[redacted]7-2[redacted]
Rev. No. 1

TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM & U.S. EPA

VOLATILES											
Sample ID No.	NYFT-S31A	NYFT-S32A(DUP)	NYFT-S33A	NYFT-S34A	NYFT-S35A	NYFT-S36A	NYFT-S37A	NYFT-S38A	NYFT-S39A	NYFT-S40A	NYFT-S41A(DUP)
Traffic Report No.	BBA31	BBA32	BBA33	BBA34	BBA35	BBA36	BBA37	BBA38	BBA39	BBA40	BBA41
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor	1	1	1	1	1	1	1	1	1	1	1
Percent Moisture	30	15	33	12	25	33	25	19	17	51	47
Chloromethane											
Bromomethane											
Vinyl Chloride											
Chloroethane											
Methylene Chloride											
Acetone											
Carbon Disulfide											
1,1-Dichloroethene											
1,1-Dichloroethane											
Trans-1,2-Dichloroethene (total)											
Chloroform											
1,2-Dichloroethane											
2-Butanone											240 E
1,1,1-Trichloroethane											
Carbon Tetrachloride											
Vinyl Acetate											
Bromodichloromethane											
1,2-Dichloropropane											
cis-1,3-Dichloropropene											
Trichloroethene											
Dibromochloromethane											
1,1,2-Trichloroethane											
Benzene											
trans-1,3-Dichloropropene											
Bromoform											
4-Methyl-2-Pentanone											
2-Hexanone											
Tetrachloroethene											
Toluene						J			J		
1,1,2,2-Tetrachloroethane											
Chlorobenzene											
Ethylbenzene									94		
Styrene											
Xylenes (Total)									400		

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor)1 and/or percent moisture)0%

APPENDIX 1A - ORGANIC COMPOUNDS ANALYSIS RESULTS

SITE NAME: SAS HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM & U.S. EPA

SEMI-VOLATILES												
Sample ID No.	MYFT-S31A	MYFT-S32A(DUP)	MYFT-S33A	MYFT-S34A	MYFT-S35A	MYFT-S36A	MYFT-S37A	MYFT-S38A	MYFT-S39A	MYFT-S40A	MYFT-S41A(DUP)
Traffic Report No.	BBA31	BBA32	BBA33	BBA34	BBA35	BBA36	BBA37	BBA38	BBA39	BBA40	BBA41
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	2	2	20	2	2
Percent Moisture	30	15	33	12	25	33	25	19	17	51	47
Phenol						510					
bis(2-Chloroethyl)ether											
2-Chlorophenol											
1,3-Dichlorobenzene											
1,4-Dichlorobenzene											
Benzyl alcohol											
1,2-Dichlorobenzene											
2-Methylphenol											
bis(2-Chloroisopropyl)ether											
4-Methylphenol						J		J		J	
N-Nitroso-di-n-dipropylamine											
Hexachloroethane											
Nitrobenzene											
Isophorone											
2-Nitrophenol											
2,4-Dimethylphenol											
Benzoic acid				R		J				J	
bis(2-Chloroethoxy)methane											
2,4-Dichlorophenol											
1,2,4-Trichlorobenzene											
Naphthalene	J	J							8400	J	J
4-Chloroaniline											
Hexachlorobutadiene											
4-Chloro-3-Methylphenol											
2-Methylnaphthalene								J	47000	J	
Hexachlorocyclopentadiene											
2,4,6-Trichlorophenol											
2,4,5-Trichlorophenol											
2-Chloronaphthalene											
2-Nitroaniline											
Dimethylphthalate											
Acenaphthylene	J	J					J	1300	J	J	J
2,6-Dinitrotoluene											
3-Nitroaniline				R							
Acenaphthene								J	J		
2,4-Dinitrophenol				R							
4-Nitrophenol				R							
Dibenzofuran									J	J	
2,4-Dinitrotoluene											
Diethylphthalate											
4-Chlorophenyl-phenyl ether											
Fluorene							J	J	J	J	
4-Nitroaniline				R							
4,6-Dinitro-2-methylphenol											
N-nitrosodiphenylamine									32000		
4-Bromophenyl-phenyl ether											
Hexachlorobenzene											

APPENDIX 3A

ORGANIC COMPOUNDS DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

SEMI-VOLATILES																	
Sample ID No.	MYFT-S15A	MYFT-S16A(DUP)	MYFT-S17A	MYFT-S18A	MYFT-S19A	MYFT-S20A	MYFT-S21A(MS/MSD)	MYFT-S22A	MYFT-S23A	MYFT-S24A	MYFT-S25A	MYFT-S26A	MYFT-S27A	MYFT-S28A	MYFT-S29A	MYFT-S30A
Traffic Report No.	88A15	88A16	88A17	88A18	88A19	88A20	88A21	88A22	88A23	88A24	88A25	88A26	88A27	88A28	88A29	88A30
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	5	5	1	1	1	1	1	1	1	2	5	2	1	1	1	2
Percent Moisture	22	20	17	31	24	20	23	12	20	15	16	23	27	27	32	30
4,6-Dinitro-2-methylphenol																
N-nitrosodiphenylamine																
4-Bromophenyl-phenyl ether																
Hexachlorobenzene																
Pentachlorophenol																
Phenanthrene	49000	3500			26000	2900					13000					9400
Anthracene	16000				10000					8500	4600					1800
Di-n-butylphthalate																
Fluoranthene	120000	11000			29000	10000				7800	21000					10000
Pyrene	160000	21000	5800		23000	16000				13000	24000					6700
Butylbenzylphthalate																
3,3'-Dichlorobenzidine																
Benzo(a)anthracene	67000	12000			12000	7800				6000	12000					4000
Chrysene	80000	13000			11000	8600				9000	13000					
bis(2-Ethylhexyl)phthalate																
Di-n-octylphthalate			1900													
Benzo(b)fluoranthene	110000 EN	24000 EN	8700 EN		16000 EN	20000 EN				17000	20000	4600				5900
Benzo(k)fluoranthene	110000 EN	24000 EN	8700 EN		16000 EN	20000 EN										
Benzo(a)pyrene	57000	13000	5500		6500	11000				11000	11000					
Indeno(1,2,3-cd)pyrene	30000	6600	3100			4700				7200	7400					
Dibenz(a,h)anthracene	11000	2500				1600				4800	2600					
Benzo(g,h,i)perylene	31000	8300				9900				10000	11000					

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
N - Presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX 3A

ORGANIC COMPOUNDS DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

PESTICIDES

Sample ID No.	MYFT-S15A	MYFT-S16A(DUP)	MYFT-S17A	MYFT-S18A	MYFT-S19A	MYFT-S20A	MYFT-S21A(MS/MSD)	MYFT-S22A	MYFT-S23A	MYFT-S24A	MYFT-S25A	MYFT-S26A	MYFT-S27A	MYFT-S28A	MYFT-S29A	MYFT-S30A
Traffic Report No.	BBA15	BBA16	BBA17	BBA18	BBA19	BBA20	BBA21	BBA22	BBA23	BBA24	BBA25	BBA26	BBA27	BBA28	BBA29	BBA30
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	4	4	2	4	20	4	1	1	1	2	1	2	1	1	1	1
Percent Moisture	22	20	17	31	24	20	23	12	20	15	16	23	27	27	32	30
alpha-BHC																
beta-BHC																
delta-BHC						110	210									
gamma-BHC (Lindane)																
Heptachlor																
Aldrin																
Heptachlor epoxide																
Endosulfan I	61															
Dieldrin																
4,4'-DDE																
Endrin										710						
Endosulfan II																
4,4'-DDD	2100	1600			1700											
Endosulfan sulfate										2000						
4,4'-DDT		510														
Methoxychlor																
Endrin ketone																
alpha-Chlordane																
gamma-Chlordane	700															
Toxaphene																
Aroclor-1016																
Aroclor-1221																
Aroclor-1232																
Aroclor-1242																
Aroclor-1248																
Aroclor-1254																
Aroclor-1260																

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
N - Presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX 3A

ORGANIC COMPOUNDS DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM & U.S. EPA

VOLATILES											
Sample ID No.	NYFT-S31A	NYFT-S32A(DUP)	NYFT-S33A	NYFT-S34A	NYFT-S35A	NYFT-S36A	NYFT-S37A	NYFT-S38A	NYFT-S39A	NYFT-SW1(MS/MSD)	NYFT-SW2(DUP)
Traffic Report No.	BBA31	BBA32	BBA33	BBA34	BBA35	BBA36	BBA37	BBA38	BBA39	093496	093497
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L
Dilution Factor	1	1	1	1	1	1	1	1	1		
Percent Moisture	30	15	33	12	25	33	25	19	17		
Chloromethane											
Bromomethane											
Vinyl Chloride											
Chloroethane											
Methylene Chloride											31.8 E
Acetone											
Carbon Disulfide											
1,1-Dichloroethene											
1,1-Dichloroethane											
Trans-1,2-Dichloroethene (total)											
Chloroform											
1,2-Dichloroethane											
2-Butanone											
1,1,1-Trichloroethane											
Carbon Tetrachloride											
Vinyl Acetate											
Bromodichloromethane											
1,2-Dichloropropane											
cis-1,3-Dichloropropene											
Trichloroethene											
Dibromochloromethane											
1,1,2-Trichloroethane											
Benzene											
trans-1,3-Dichloropropene											
Bromoform											
4-Methyl-2-Pentanone											
2-Hexanone											
Tetrachloroethene											
Toluene											
1,1,2,2-Tetrachloroethane											
Chlorobenzene											
Ethylbenzene									94		
Styrene											
Xylenes (Total)									400		

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
N - Presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX 3A

ORGANIC COMPOUNDS DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM & U.S. EPA

SEMI-VOLATILES												
Sample ID No.	MYFT-S31A	MYFT-S32A(DUP)	MYFT-S33A	MYFT-S34A	MYFT-S35A	MYFT-S36A	MYFT-S37A	MYFT-S38A	MYFT-S39A	MYFT-SW1(MS/MSD)	MYFT-SW2(DUP)
Traffic Report No.	BBA31	BBA32	BBA33	BBA34	BBA35	BBA36	BBA37	BBA38	BBA39	093496	093497
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	2	2	20		
Percent Moisture	30	15	33	12	25	33	25	19	17		
Phenol											
bis(2-Chloroethyl)ether											
2-Chlorophenol											
1,3-Dichlorobenzene											
1,4-Dichlorobenzene											
Benzyl alcohol											
1,2-Dichlorobenzene											
2-Methylphenol											
bis(2-Chloroisopropyl)ether											
4-Methylphenol											
N-Nitroso-di-n-dipropylamine											
Hexachloroethane											
Nitrobenzene											
Isophorone											
2-Nitrophenol											
2,4-Dimethylphenol											
Benzoic acid											
bis(2-Chloroethoxy)methane											
2,4-Dichlorophenol											
1,2,4-Trichlorobenzene											
Naphthalene									8400		
4-Chloroaniline											
Hexachlorobutadiene											
4-Chloro-3-Methylphenol											
2-Methylnaphthalene									47000		
Hexachlorocyclopentadiene											
2,4,6-Trichlorophenol											
2,4,5-Trichlorophenol											
2-Chloronaphthalene											
2-Nitroaniline											
Dimethylphthalate											
Acenaphthylene											
2,6-Dinitrotoluene											
3-Nitroaniline											
Acenaphthene											
2,4-Dinitrophenol											
4-Nitrophenol											
Dibenzofuran											
2,4-Dinitrotoluene											
Diethylphthalate											
4-Chlorophenyl-phenyl ether											
Fluorene											
4-Nitroaniline											

APPENDIX 3A

ORGANIC COMPOUNDS DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SMB HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM & U.S. EPA

SEMI-VOLATILES												
Sample ID No.	MYFT-S31A	MYFT-S32A(DUP)	MYFT-S33A	MYFT-S34A	MYFT-S35A	MYFT-S36A	MYFT-S37A	MYFT-S38A	MYFT-S39A	MYFT-SW1(MS/MSD)	MYFT-SW2(DUP)
Traffic Report No.	88A31	88A32	88A33	88A34	88A35	88A36	88A37	88A38	88A39	093496	093497
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	2	2	20		
Percent Moisture	30	15	33	12	25	33	25	19	17		
4,6-Dinitro-2-methylphenol											
N-nitrosodiphenylamine									32000		
4-Bromophenyl-phenyl ether											
Hexachlorobenzene											
Pentachlorophenol											
Phenanthrene									14000		
Anthracene											
Di-n-butylphthalate											
Fluoranthene											
Pyrene									16000		
Butylbenzylphthalate						590 E					
3,3'-Dichlorobenzidine											
Benzo(a)anthracene											
Chrysene									8000		
bis(2-Ethylhexyl)phthalate											
Di-n-octylphthalate											
Benzo(b)fluoranthene								4200			
Benzo(k)fluoranthene											
Benzo(a)pyrene									8600		
Indeno(1,2,3-cd)pyrene											
Dibenz(a,h)anthracene											
Benzo(g,h,i)perylene											

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
N - Presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX 3A

ORGANIC COMPOUNDS DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM & U.S. EPA

PESTICIDES											
Sample ID No.	MYFT-S31A	MYFT-S32A(DUP)	MYFT-S33A	MYFT-S34A	MYFT-S35A	MYFT-S36A	MYFT-S37A	MYFT-S38A	MYFT-S39A	MYFT-SW1(MS/MSD)	MYFT-SW2(DUP)
Traffic Report No.	BBA31	BBA32	BBA33	BBA34	BBA35	BBA36	BBA37	BBA38	BBA39	093496	093497
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	1	1	2		
Percent Moisture	30	15	33	12	25	33	25	19	17		
alpha-BHC											
beta-BHC											
delta-BHC											
gamma-BHC (Lindane)											
Heptachlor											
Aldrin											
Heptachlor epoxide											
Endosulfan I											
Dieldrin											
4,4'-DDE											
Endrin											
Endosulfan II											
4,4'-DDD									1700		
Endosulfan sulfate											
4,4'-DDT									420		
Methoxychlor											
Endrin Ketone											
alpha-Chlordane											
gamma-Chlordane											
Toxaphene											
Aroclor-1016											
Aroclor-1221											
Aroclor-1232											
Aroclor-1242											
Aroclor-1248											
Aroclor-1254											
Aroclor-1260											

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
N - Presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX 3B

INORGANIC SUBSTANCES DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: BAR HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241
LAB NAME: ENSECO/RMAL

INORGANICS															
Sample ID No.	MYFT-S1A(MS/MSD)	MYFT-S2A	MYFT-S3A	MYFT-S4A	MYFT-S5A	MYFT-S6A	MYFT-S7A	MYFT-S8A	MYFT-S9A	MYFT-S10A	MYFT-S11A	MYFT-S12A	MYFT-S13A	MYFT-S14A
Traffic Report No.	MBZ501	MBZ502	MBZ503	MBZ504	MBZ505	MBZ506	MBZ507	MBZ508	MBZ509	MBZ510	MBZ511	MBZ512	MBZ513	MBZ514
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
% Solid	78.8	71.9	89.3	86.7	78.7	75.6	67.6	81.5	84.2	88.9	83.2	66.1	89.1	84.5
Aluminum														
Antimony														
Arsenic														
Barium														
Beryllium														
Cadmium														
Calcium														21200 E
Chromium														
Cobalt														
Copper														
Iron														
Lead		1770 E											976 E	
Magnesium		5740 E												
Manganese														
Mercury											3.2 E		3.1 E	
Nickel														
Potassium														
Selenium														
Silver														
Sodium														
Thallium														
Vanadium														
Zinc														
Cyanide		11.7 E												

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value

APPENDIX 3B

INORGANIC SUBSTANCES DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241
LAB NAME: ENSECO/RMRL

INORGANICS																	
Sample ID No.	MYFT-S15A	MYFT-S16A(DUP)	MYFT-S17A	MYFT-S18A	MYFT-S19A	MYFT-S20A	MYFT-S21A(MS/MSD)	MYFT-S22A	MYFT-S23A	MYFT-S24A	MYFT-S25A	MYFT-S26A	MYFT-S27A	MYFT-S28A	MYFT-S29A	MYFT-S30A
Traffic Report No.	MBZ515	MBZ516	MBZ517	MBZ518	MBZ519	MBZ520	MBZ521	MBZ522	MBZ523	MBZ524	MBZ525	MBZ526	MBZ527	MBZ528	MBZ529	MBZ530
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
% Solid	74.6	79.2	74.2	73.0	74.2	82.7	79.3	83.6	73.9	85.5	74.5	72.5	59.2	73.1	51.4	59.3
Aluminum																
Antimony																
Arsenic																
Barium																
Beryllium																
Cadmium																
Calcium																
Chromium																
Cobalt																
Copper																
Iron																
Lead																2620
Magnesium										6510						
Manganese																
Mercury																
Nickel																
Potassium																
Selenium																
Silver					15.9											
Sodium																
Thallium																
Vanadium																
Zinc																
Cyanide																

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value

APPENDIX 3B

INORGANIC SUBSTANCES DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241
LAB NAME: ENSECO/ARAL & U.S. EPA LAB

INORGANICS											
Sample ID No.	MYFT-S31A	MYFT-S32A(DUP)	MYFT-S33A	MYFT-S34A	MYFT-S35A	MYFT-S36A	MYFT-S37A	MYFT-S38A	MYFT-S39A	MYFT-SW1(MS/MSD)	MYFT-SW2(DUP)
Traffic Report No.	MBZ531	MBZ532	MBZ533	MBZ534	MBZ535	MBZ536	MBZ537	MBZ538	MBZ539	093496	093497
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/L	ug/L
% Solid	50.7	67.9	73.1	89.5	75.0	56.7	75.0	78.3	82.5	0.0	0.0
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper	2720	1000									
Iron											
Lead							1870				
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value

[redacted] 02-[redacted]7-2[redacted]
Rev. No. 1

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM & U.S. EPA

SEMI-VOLATILES												
Sample ID No.	MYFT-S31A	MYFT-S32A(DUP)	MYFT-S33A	MYFT-S34A	MYFT-S35A	MYFT-S36A	MYFT-S37A	MYFT-S38A	MYFT-S39A	MYFT-S40A	MYFT-S41A(DUP)
Traffic Report No.	BBA31	BBA32	BBA33	BBA34	BBA35	BBA36	BBA37	BBA38	BBA39	BBA40	BBA41
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	2	2	20	2	2
Percent Moisture	30	15	33	12	25	33	25	19	17	51	47
Pentachlorophenol											
Phenanthrene	J	J	J			J	J	1300	14000	2500	J
Anthracene	J	J					J	J	J	J	J
Di-n-butylphthalate											
Fluoranthene	1600	910	J	J		J	J	2400	J	5600	2200
Pyrene	2300	2200	J	J	J	J	1300	4100	16000	5300	1400
Butylbenzylphthalate						590 E					
3,3'-Dichlorobenzidine				R							
Benzo(a)anthracene	1200	2000	J	J		J	J	1900	J	3000	J
Chrysene	1600	1200	J	J		J	1100	2300	8000	4200	J
bis(2-Ethylhexyl)phthalate	R	R	R		R	J			54000 E		
Di-n-octylphthalate											
Benzo(b)fluoranthene	2500	2100		J		J	1800	4200	J	4200	2400 EN
Benzo(k)fluoranthene						J					2400 EN
Benzo(a)pyrene	1300	1000		J		J	1600	3900	8600	3900	J
Indeno(1,2,3-cd)pyrene	510	J					J	1400	J	2000	J
Dibenz(a,h)anthracene	J	J					J	J	J	J	J
Benzo(g,h,i)perylene	670	J					1200	1700	J	1800	J

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM & U.S. EPA

PESTICIDES											
Sample ID No.	MYFT-S31A	MYFT-S32A(DUP)	MYFT-S33A	MYFT-S34A	MYFT-S35A	MYFT-S36A	MYFT-S37A	MYFT-S38A	MYFT-S39A	MYFT-S40A	MYFT-SA1A(DUP)
Traffic Report No.	BBA31	BBA32	BBA33	BBA34	BBA35	BBA36	BBA37	BBA38	BBA39	BBA40	BBA41
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	1	1	2	2	1
Percent Moisture	30	15	33	12	25	33	25	19	17	51	47
alpha-BHC					R						
beta-BHC					240 E					180	87
delta-BHC					R						
gamma-BHC (Lindane)					R						
Heptachlor					R						
Aldrin					R						
Heptachlor epoxide					R						
Endosulfan I					R						
Dieldrin					53 E						
4,4'-DDE					160 E				470	330	210
Endrin					R						
Endosulfan II					R						
4,4'-DDD	130	64			65 E		88		1700	88	460
Endosulfan sulfate					R	100					
4,4'-DDT	60	58			R	93		21	420		140
Methoxychlor					R						
Endrin ketone					R						
alpha-Chlordane					R						
gamma-Chlordane					R						
Toxaphene					R						
Aroclor-1016					R						
Aroclor-1221					R						
Aroclor-1232					R						
Aroclor-1242					R						
Aroclor-1248					R						
Aroclor-1254					R						
Aroclor-1260					R						

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

[redacted] NAME: [redacted] HARBOR - [redacted] STREET [redacted]

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

02[redacted]07-2[redacted]1
Rev. No. 1

TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM & U.S

VOLATILES								
Sample ID No.	MYFT-S42A	MYFT-S43A(DUP)	MYFT-RIN7A	MYFT-RIN8A	MYFT-RIN9A	MYFT-SW1(MS/MSD)	MYFT-SW2(DUP)	MYFT-TBLK1
Traffic Report No.	BBA42	BBA43	BBA55	BBA56	BBA57	093496	093497	093499
Matrix	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor	1	1	1	1	1			
Percent Moisture	31	36	--	--	--			
Chloromethane								
Bromomethane								
Vinyl Chloride								
Chloroethane								
Methylene Chloride			B				31.8 E	32.6 E
Acetone								
Carbon Disulfide							J	J
1,1-Dichloroethene								
1,1-Dichloroethane								
Trans-1,2-Dichloroethene (total)								
Chloroform								
1,2-Dichloroethane								
2-Butanone			R	R	R			
1,1,1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate								
Bromodichloromethane								
1,2-Dichloropropane								
cis-1,3-Dichloropropene								
Trichloroethene								
Dibromochloromethane								
1,1,2-Trichloroethane								
Benzene								
trans-1,3-Dichloropropene								
Bromoform								
4-Methyl-2-Pentanone								
2-Hexanone								
Tetrachloroethene								
Toluene								
1,1,2,2-Tetrachloroethane								
Chlorobenzene								
Ethylbenzene								
Styrene								
Xylenes (Total)								

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor)1 and/or percent moisture)0%

[redacted] NAME: [redacted] HARBOR - [redacted] STREET [redacted]

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

02[redacted]7-2[redacted]
Rev. No. 1

TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM & U.S

SEMI-VOLATILES								
Sample ID No.	NYFT-S42A	NYFT-S43A(DUP)	NYFT-RIN7A	NYFT-RINBA	NYFT-RIN9A	NYFT-SW1(MS/MSD)	NYFT-SW2(DUP)	NYFT-TBLK1
Traffic Report No.	BBA42	BBA43	BBA55	BBA56	BBA57	093496	093497	093499
Matrix	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1			
Percent Moisture	31	36	—	—	—			
Phenol								NR
bis(2-Chloroethyl)ether								NR
2-Chlorophenol								NR
1,3-Dichlorobenzene								NR
1,4-Dichlorobenzene								NR
Benzyl alcohol								NR
1,2-Dichlorobenzene								NR
2-Methylphenol								NR
bis(2-Chloroisopropyl)ether								NR
4-Methylphenol	J							NR
N-Nitroso-di-n-dipropylamine								NR
Hexachloroethane								NR
Nitrobenzene								NR
Isophorone								NR
2-Nitrophenol								NR
2,4-Dimethylphenol								NR
Benzoic acid								NR
bis(2-Chloroethoxy)methane								NR
2,4-Dichlorophenol								NR
1,2,4-Trichlorobenzene								NR
Naphthalene		J						NR
4-Chloroaniline								NR
Hexachlorobutadiene								NR
4-Chloro-3-Methylphenol								NR
2-Methylnaphthalene								NR
Hexachlorocyclopentadiene								NR
2,4,6-Trichlorophenol								NR
2,4,5-Trichlorophenol								NR
2-Chloronaphthalene								NR
2-Nitroaniline								NR
Dimethylphthalate								NR
Acenaphthylene								NR
2,6-Dinitrotoluene								NR
3-Nitroaniline								NR
Acenaphthene								NR
2,4-Dinitrophenol								NR
4-Nitrophenol								NR
Dibenzofuran								NR
2,4-Dinitrotoluene								NR
Diethylphthalate								NR
4-Chlorophenyl-phenyl ether								NR
Fluorene								NR
4-Nitroaniline								NR
4,6-Dinitro-2-methylphenol								NR
N-nitrosodiphenylamine								NR
4-Bromophenyl-phenyl ether								NR
Hexachlorobenzene								NR

[redacted] 02[redacted]7-2[redacted]
Rev. No. 1

APPENDIX 1A - ORGANIC COMPOUNDS ANALYSIS RESULTS

[redacted]E: [redacted] HARBOR - BRIDGE STREET

TDD#: 02-8906-05

SAMPLING DATES: 6/27/89-6/29/89

EPA CASE NO.: 12241 LAB: COMPUCHEM & U.S

SEMI-VOLATILES								
Sample ID No.	MYFT-S42A	MYFT-S43A(DUP)	MYFT-RIN7A	MYFT-RIN8A	MYFT-RIN9A	MYFT-SW1(MS/MSD)	MYFT-SW2(DUP)	MYFT-TBLK1
Traffic Report No.	BBA42	BBA43	BBA55	BBA56	BBA57	093496	093497	093499
Matrix	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1			
Percent Moisture	31	36	--	--	--			
Pentachlorophenol								NR
Phenanthrene		J						NR
Anthracene								NR
Di-n-butylphthalate								NR
Fluoranthene	J	610						NR
Pyrene	J	540						NR
Butylbenzylphthalate								NR
3,3'-Dichlorobenzidine								NR
Benzo(a)anthracene		J						NR
Chrysene	J	J						NR
bis(2-Ethylhexyl)phthalate								NR
Di-n-octylphthalate								NR
Benzo(b)fluoranthene		JN						NR
Benzo(k)fluoranthene	J	JN						NR
Benzo(a)pyrene	J	J						NR
Indeno(1,2,3-cd)pyrene		J						NR
Dibenz(a,h)anthracene		J						NR
Benzo(g,h,i)perylene		J						NR

NOTES:

Blank space - compound analyzed for but not detected

B - compound found in lab blank as well as sample, indicates possible/probable blank contamination

E - estimated value

J - estimated value, compound present below CRQL but above IDL

R - analysis did not pass EPA QA/QC

N - Presumptive evidence of the presence of the material

NR - analysis not required

Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX IA - ORGANIC COMPOUNDS ANALYSIS RESULTS

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM & U.S

PESTICIDES								
Sample ID No.	NYFT-S42A	NYFT-S43A(DUP)	NYFT-RIN7A	NYFT-RIN8A	NYFT-RIN9A	NYFT-SW1(MS/MSD)	NYFT-SW2(DUP)	NYFT-TBLK1
Traffic Report No.	BBA42	BBA43	BBA55	BBA56	BBA57	093496	093497	093499
Matrix	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1			
Percent Moisture	31	36	—	—	—			
alpha-BHC								NR
beta-BHC								NR
delta-BHC								NR
gamma-BHC (Lindane)								NR
Heptachlor								NR
Aldrin								NR
Heptachlor epoxide								NR
Endosulfan I								NR
Dieldrin								NR
4,4'-DDE								NR
Endrin								NR
Endosulfan II								NR
4,4'-DDD								NR
Endosulfan sulfate								NR
4,4'-DDT								NR
Methoxychlor								NR
Endrin ketone								NR
alpha-Chlordane								NR
gamma-Chlordane								NR
Toxaphene								NR
Aroclor-1016								NR
Aroclor-1221								NR
Aroclor-1232								NR
Aroclor-1242								NR
Aroclor-1248								NR
Aroclor-1254								NR
Aroclor-1260								NR

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

[redacted] 02-[redacted]-29[redacted]
Rev. No. 1

SITE NAME: [redacted] HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241
LAB NAME: ENSECO/RMAL

APPENDIX 1B - INORGANIC SUBSTANCES ANALYSIS RESULTS

INORGANICS										
Sample ID No.	NYFT-S1A(MS/MSD)	NYFT-S2A	NYFT-S3A	NYFT-S4A	NYFT-S5A	NYFT-S6A	NYFT-S7A	NYFT-S8A	NYFT-S9A	NYFT-S10A
Traffic Report No.	MBZ501	MBZ502	MBZ503	MBZ504	MBZ505	MBZ506	MBZ507	MBZ508	MBZ509	MBZ510
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
% Solid	78.8	71.9	89.3	86.7	78.7	75.8	67.6	81.5	84.2	88.9
Aluminum	2120	2140	2010	1490	633	2360	1800	1330	1930	2380
Antimony										
Arsenic	4.7 E	12	4.1 E	J	3.6 E	J	J	13	J	5.4
Barium	60.6	J	J	J	J	J	J	J	J	50
Beryllium	J	J	J			J	J	J		J
Cadmium										
Calcium	10400 E	J	J	J	J	3340 E	J	3890 E	J	4810 E
Chromium	9.7	4.1	4.1	J	J	3.5	5.1	4.6	3.1	5.3
Cobalt	J	J	J	J	J	J	J	J	J	J
Copper	45.7 E	72.5 E	73.3 E	19.4 E	14.1	11	73.5 E	22.9 E	30.6 E	26.4 E
Iron	16200	11400	13800	2550	870	4790	5520	13100	2980	6900
Lead	1770 E	374 E	186 E	66.4 E	44	98.9 E	155 E	369 E	99.3 E	376 E
Magnesium	5740 E	J	J	J	J	2140 E	J	J	J	1870 E
Manganese	66.9	55.3	103	152	7.5	30.1	27.3	23.9	17.8	84.5
Mercury	R	R	R	R	R			R		R
Nickel	J	J	J	J	J	J	J	J	J	J
Potassium	J	J	J	J	J	J	J	J	J	J
Selenium	J	J								
Silver	J	J								
Sodium										
Thallium										
Vanadium	J	J	J	J	J	J	J	J	J	J
Zinc	312 E	118 E	R	54.8 E	355 E	63.8 E	75.8 E	157 E	R	135 E
Cyanide	11.7 E					1.6 E	0.89 E	1.5 E		1.1 E

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
J - estimated value, compound present below CRDL but above IDL
R - analysis did not pass EPA QA/QC
NR - analysis not required

[redacted]ME: [redacted]BOR - [redacted] STREET [redacted]

APPENDIX 1B - INORGANIC SUBSTANCES ANALYSIS RESULTS

TODA: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241
LAB NAME: ENSECO/RMAL

INORGANICS							
Sample ID No.	NYFT-S11A	NYFT-S12A	NYFT-S13A	NYFT-S14A	NYFT-RIN1A	NYFT-RIN2A	NYFT-RIN3A
Traffic Report No.	MBZ511	MBZ512	MBZ513	MBZ514	MBZ549	MBZ550	MBZ551
Matrix	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER
Units	mg/kg	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L
% Solid	83.2	66.1	89.1	84.5	0.0	0.0	0.0
Aluminum	2540	1460	2840	2510			
Antimony							
Arsenic	14.3	3.3 E	4.2 E	7.2			
Barium	J	242	J	202			
Beryllium	J		J	J			
Cadmium							
Calcium	4530 E	J	1140 E	21200 E			
Chromium	16.5	7.2	6.4	7.3			
Cobalt	J	J	J	J			
Copper	59.4 E	65.6 E	47.7 E	29.1 E			
Iron	16100	11400	17900	9280			
Lead	300 E	372 E	976 E	238 E			
Magnesium	1260 E	J	J	4740 E			
Manganese	45.8	58.7	101	116			
Mercury	3.2 E	R	3.1 E	R	0.5 E	0.5 E	0.7 E
Nickel	J	J	J	J			
Potassium	J	J	J	J			
Selenium							
Silver		J					
Sodium							
Thallium							
Vanadium	J	J	13.7	J			
Zinc	170 E	63.7 E	50.2 E	298 E	J	J	J
Cyanide	6.1 E	5.7 E	7.5 E	2.1 E			

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
J - estimated value, compound present below CRDL but above IDL
R - analysis did not pass EPA QA/QC
NR - analysis not required

APPENDIX 1B - INORGANIC SUBSTANCES ANALYSIS RESULTS

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241
LAB NAME: ENSECO/RMAL

INORGANICS									
Sample ID No.	NYFT-S15A	NYFT-S16A(DUP)	NYFT-S17A	NYFT-S18A	NYFT-S19A	NYFT-S20A	NYFT-S21A(MS/MSD)	NYFT-S22A	NYFT-S23A
Traffic Report No.	MBZ515	MBZ516	MBZ517	MBZ518	MBZ519	MBZ520	MBZ521	MBZ522	MBZ523
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
% Solid	74.6	79.2	74.2	73.0	74.2	82.7	79.3	83.6	73.9
Aluminum	2650	2270	1560	2350	2760	2020	4060	3040	3330
Antimony									
Arsenic	3.5 E	3.2 E	J	3.2 E	J	7.6	3.5 E	J	2.7 E
Barium	J	J	J	J	J	48.4	121	82.1	131
Beryllium	J	J				J	J	J	J
Cadmium	J	J							
Calcium	1410 E	1330 E	J	J	J	1790 E	1630	J	J
Chromium	6 E	13.9 E	3.2	5.6	3.4	3.8	9.3	5.7 E	7.2 E
Cobalt	J	J		J	J	J	J	J	J
Copper	23 E	68.8 E	10.6	10.4	15	21.7 E	105	19	52.6
Iron	14500 E	30900 E	3560	4080	6990	8270	9800	5610	6840
Lead	289 E	199 E	40.2	22.3 E	45.8	69.1 E	443	200	212
Magnesium	J	J	J	J	J	J	J	J	J
Manganese	86.7	107	32	25.4	20.8	52.2	72.6	64	100
Mercury	R	R	R	R	R		R	R	R
Nickel	12.7	16.6	J	J	J	J	J	J	J
Potassium	J	J	J	J	J	J	J	J	J
Selenium							J		
Silver					15.9		3.9 E		5.7 E
Sodium									
Thallium									
Vanadium	J	J	J	J	J	J	J	J	J
Zinc	435 E	467 E	R	R	60.4 E	41.1 E	294 E	161 E	159 E
Cyanide	2 E	2.1 E							

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
J - estimated value, compound present below CRDL but above IDL
R - analysis did not pass EPA QA/QC
NR - analysis not required

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241
LAB NAME: ENSECO/ANAL & U.S. EPA LAB

APPENDIX 1B - INORGANIC SUBSTANCES ANALYSIS RESULTS

INORGANICS											
Sample ID No.	NYFT-S31A	NYFT-S32A(DUP)	NYFT-S33A	NYFT-S34A	NYFT-S35A	NYFT-S36A	NYFT-S37A	NYFT-S38A	NYFT-S39A	NYFT-S40A	NYFT-S41A(MS/MSD)
Traffic Report No.	MBZ531	MBZ532	MBZ533	MBZ534	MBZ535	MBZ536	MBZ537	MBZ538	MBZ539	MBZ540	MBZ541
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
% Solid	50.7	67.9	73.1	89.5	75.0	56.7	75.0	78.3	82.5	52.3	53.6
Aluminum	2620	1180	1590	4190	3480	2800	2180	2550	2540	5670	6730
Antimony											
Arsenic	J	3.2 E	2.9 E	J	5.9 E	J	J	4 E	3.4 E	7.1 E	12.6 E
Barium	241	141	J	J	157	99.1	J	J	116	307	303
Beryllium	J			J	J	J	J	J	J	J	J
Cadmium										24.9 E	19.2
Calcium	3130	1640	J	J	1490	2900	J	J	J	4920	4070
Chromium	9.2 E	4.2 E	J	4.9 E	9.5	7.5 E	5.2 E	4.3 E	6.3 E	18.8	17.8
Cobalt	J	J		J	J	J	J		J	J	J
Copper	2720	1000	12.9	14.4	33.2	31.6	188	18.4	17.3	119	253
Iron	11600	6330	2990	7220	7750	9550	19200	3360	7380	29600	27200
Lead	517	318	22.4	48.9	129	290	1870	21.7	163	1540	1000
Magnesium	J	J	J	J	J	J	J	J	J	J	J
Manganese	92.2	52	33.3	59.8	84.9	78.8	108	42.9	87.2	1200	1610
Mercury	R	R	R	R	R	R	R	R	R	R	R
Nickel	J	J		J	J	J	J		J	J	18.6
Potassium	J	J	J	J	J	J	J	J	J	J	J
Selenium										2.9 E	3 E
Silver							J			6.1 E	7.1 E
Sodium											
Thallium											
Vanadium	J	J	J	J	J	J	J	J	J	J	24.4
Zinc	758 E	399 E	50.9 E	101 E	311 E	234 E	231 E	22.9 E	85.7 E	4020 E	3560
Cyanide	3.4	1.2							1.3		

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
J - estimated value, compound present below CRDL but above IDL
R - analysis did not pass EPA QA/QC
NR - analysis not required

APPENDIX 1B - INORGANIC SUBSTANCES ANALYSIS RESULTS

[redacted] NAME: [redacted] HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241
LAB NAME: ENSECO/RMAL

INORGANICS										
Sample ID No.	NYFT-S24A	NYFT-S25A	NYFT-S26A	NYFT-S27A	NYFT-S28A	NYFT-S29A	NYFT-S30A	NYFT-RIN4A	NYFT-RIN5A	NYFT-RIN6A
Traffic Report No.	MBZ524	MBZ525	MBZ526	MBZ527	MBZ528	MBZ529	MBZ530	MBZ552	MBZ553	MBZ554
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L
% Solid	85.5	74.5	72.5	59.2	73.1	51.4	59.3	0.0	0.0	0.0
Aluminum	2540	1960	1700	3450	2930	4140	3440			
Antimony							J			
Arsenic	4.4 E	J	J	7.3	J	6.6 E	4.7 E			
Barium	J	J	J	225	79.2	211	303			
Beryllium	J	J	J	J	J	J	J			
Cadmium										
Calcium	15800	J	5510	4700	1610	2080	9040			
Chromium	5.2 E	3.8 E	5.3 E	9.2 E	6.2 E	13.6	15.4			
Cobalt	J	J	J	J	J	J	J			
Copper	17	13	14.4	65.8	43.6	90.7	102	J		
Iron	5420	3380	4650	12200	4210	15800	11100			
Lead	69.8	27.5	43.2	804	245	494	3620		J	
Magnesium	6510	J	J	J	J	J	J			
Manganese	54.7	33.7	44.4	84.8	64.3	71.5	127			
Mercury	R		R	R	R	R	R	0.5	0.3	0.3
Nickel	J	J	J	J	J	J	J			
Potassium	J	J	J	J	J	J	J			
Selenium				2.4 E	J					
Silver				J	J	J	3.8 E			
Sodium										
Thallium										
Vanadium	J	J	14.7	J	J	J	J			
Zinc	40.9 E	22.7 E	43 E	464 E	352 E	543 E	703 E	J	J	J
Cyanide										

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
J - estimated value, compound present below CRDL but above IDL
R - analysis did not pass EPA QA/QC
NR - analysis not required

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241
LAB NAME: ENSECO/RMAL & U.S. EPA LAB

INORGANICS

Sample ID No.	NYFT-S42A	NYFT-S43A(DUP)	NYFT-RIN7A	NYFT-RIN8A	NYFT-RIN9A	NYFT-SW1(MS/MSD)	NYFT-SW2(DUP)	NYFT-TBLK1
Traffic Report No.	MBZ542	MBZ543	MBZ555	MBZ556	MBZ557	093496	093497	093499
Matrix	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER	WATER
Units	mg/kg	mg/kg	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
% Solid	64.4	60.0	0.0	0.0	0.0	0.0	0.0	0.0
Aluminum	2810	5660						
Antimony						J	J	
Arsenic	7.5 E	6 E						
Barium	160	152				J		
Beryllium	J	J						
Cadmium								
Calcium	2120	9260						
Chromium	4.1 E	10.9				46000	46000	
Cobalt	J	J						
Copper	29	176			J			
Iron	12900	23000						
Lead	188	382				3720	3970	
Magnesium	J	J						
Manganese	71.9	161				9900	9800	
Mercury	R	R	0.5	0.3	0.3	250	240	
Nickel	J	J				J	J	
Potassium	J	J						
Selenium	J	1.7 E				14600 E	13800	
Silver		J						
Sodium								
Thallium						71400	74900	
Vanadium	J	20.7						
Zinc	253	451	J	R	R			
Cyanide								

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
J - estimated value, compound present below CRDL but above IDL
R - analysis did not pass EPA QA/QC
NR - analysis not required

APPENDIX 2

2A: ORGANICS

2B: INORGANICS

APPENDIX 2A

Background Contaminant Level Calculations for Organic Compounds

VOLATILES	Soil CRQL	B_1 Calculated CRQL or Detected Value + DF = 1	B_2 Calculated CRQL or Detected Value + DF = 1	B_3 Calculated CRQL or Detected Value + DF = 1	B_4 Calculated CRQL or Detected Value + DF = 1	$\sum_{i=1}^{4} B_i$	N Number of Values	X Mean Background Level	Significantly Above Background Level 3.X
Chloromethane	10	10	10	10	10	40	4	10	30
Bromomethane	10	10	10	10	10	40	4	10	30
Vinyl Chloride	10	10	10	10	10	40	4	10	30
Chloroethane	10	10	10	10	10	40	4	10	30
Methylene Chloride	5	5	5	5	5	20	4	5	15
Acetone	10	10	10	10	10	40	4	10	30
Carbon Disulfide	5	5	5	5	5	20	4	5	15
1,1-Dichloroethene	5	5	5	5	5	20	4	5	15
1,1-Dichloroethane	5	5	5	5	5	20	4	5	15
Trans-1,2-Dichloroethene (Total)	5	5	5	5	5	20	4	5	15
Chloroform	5	5	5	5	5	20	4	5	15
1,2-Dichloroethane	5	5	5	5	5	20	4	5	15
2-Butanone	10	10	10	10	10	40	4	10	30
1,1,1-Trichloroethane	5	5	5	5	5	20	4	5	15
Carbon Tetrachloride	5	5	5	5	5	20	4	5	15
Vinyl Acetate	10	10	10	10	10	40	4	10	30
Bromodichloromethane	5	5	5	5	5	20	4	5	15
1,2-Dichloropropane	5	5	5	5	5	20	4	5	15
cis-1,3-Dichloropropene	5	5	5	5	5	20	4	5	15
Trichloroethene	5	5	5	5	5	20	4	5	15
Dibromochloromethane	5	5	5	5	5	20	4	5	15
1,1,2-Trichloroethane	5	5	5	5	5	20	4	5	15
Benzene	5	5	5	5	5	20	4	5	15
trans-1,3-Dichloropropene	5	5	5	5	5	20	4	5	15
Bromoform	5	5	5	5	5	20	4	5	15

Notes:
DF - Dilution Factor
All concentrations are in ug/kg unless otherwise noted
CRQL - Contract Required Quantitation Limit
+ - Detected Value

APPENDIX 2A (Cont'd)

Background Contaminant Level Calculations for Organic Compounds

VOLATILES	Soil CRQL	B_1 Calculated CRQL or Detected Value + DF = 1	B_2 Calculated CRQL or Detected Value + DF = 1	B_3 Calculated CRQL or Detected Value + DF = 1	B_4 Calculated CRQL or Detected Value + DF = 1	$\sum_{i=1}^{4} B_i$	N Number of Values	X Mean Background Level	Significantly Above Background Level 3.X
4-Methyl-2-Pentanone	10	10	10	10	10	40	4	10	30
2-Hexanone	10	10	10	10	10	40	4	10	30
Tetrachloroethene	5	5	5	5	5	20	4	5	15
Toluene	5	5	5	5	5	20	4	5	15
1,1,2,2-Tetrachloroethane	5	5	5	5	5	20	4	5	15
Chlorobenzene	5	5	5	5	5	20	4	5	15
Ethylbenzene	5	5	5	5	5	20	4	5	15
Styrene	5	5	5	5	5	20	4	5	15
Xylenes (Total)	5	5	5	5	5	20	4	5	15

Notes:
DF - Dilution Factor
All concentrations are in ug/kg unless otherwise noted
CRQL - Contract Required Quantitation Limit
+ - Detected Value

APPENDIX 2A (Cont'd)

Background Contaminant Level Calculations for Organic Compounds

SEMI-VOLATILES	Soil CRQL	B_1 Calculated CRQL or Detected Value + DF = 1	B_2 Calculated CRQL or Detected Value + DF = 1	B_3 Calculated CRQL or Detected Value + DF = 1	B_4 Calculated CRQL or Detected Value + DF = 1	$\sum_{i=1}^{4} B_i$	N Number of Values	X Mean Background Level	Significantly Above Background Level 3.X
Phenol	330	660	660	330	330	1,980	4	495	1,485
Bis(2-Chloroethyl)ether	330	660	660	330	330	1,980	4	495	1,485
2-Chlorophenol	330	660	660	330	330	1,980	4	495	1,485
1,3-Dichlorobenzene	330	660	660	330	330	1,980	4	495	1,485
1,4-Dichlorobenzene	330	660	660	330	330	1,980	4	495	1,485
Benzyl alcohol	330	660	660	330	330	1,980	4	495	1,485
1,2-Dichlorobenzene	330	660	660	330	330	1,980	4	495	1,485
2-Methylphenol	330	660	660	330	330	1,980	4	495	1,485
bis(2-Chloroisoprophyl)ether	330	660	660	330	330	1,980	4	495	1,485
4-Methylphenol	330	660	660	330	330	1,980	4	495	1,485
N-Nitroso-di-n-dipropylamine	330	660	660	330	330	1,980	4	495	1,485
Hexachloroethane	330	660	660	330	330	1,980	4	495	1,485
Nitrobenzene	330	660	660	330	330	1,980	4	495	1,485
Isophronone	330	660	660	330	330	1,980	4	495	1,485
2-Nitrophenol	330	660	660	330	330	1,980	4	495	1,485
2,4-Dimethylphenol	330	660	660	330	330	1,980	4	495	1,485
Benzoic acid	1,600	3,200	3,200	1,600	1,600	9,600	4	2,400	7,200
bis(2-Chloroethoxy)methane	330	660	660	330	330	1,980	4	495	1,485
2,4-Dichlorophenol	330	660	660	330	330	1,980	4	495	1,485
1,2,4-Trichlorobenzene	330	660	660	330	330	1,980	4	495	1,485
Naphthalene	330	660	660	330	330	1,980	4	495	1,485
4-Chloroaniline	330	660	660	330	330	1,980	4	495	1,485
Hexachlorobutadiene	330	660	660	330	330	1,980	4	495	1,485
4-Chloro-3-Methylphenol	330	660	660	330	330	1,980	4	495	1,485
2-Methylnaphthalene	330	660	660	330	330	1,980	4	495	1,485

Notes:

DF - Dilution Factor

All concentrations are in ug/kg unless otherwise noted

CRQL - Contract Required Quantitation Limit

\+ - Detected Value

APPENDIX 2A (Cont'd)

Background Contaminant Level Calculations for Organic Compounds

SEMI-VOLATILES	Soil CRQL	B_1 Calculated CRQL or Detected Value + DF = 1	B_2 Calculated CRQL or Detected Value + DF = 1	B_3 Calculated CRQL or Detected Value + DF = 1	B_4 Calculated CRQL or Detected Value + DF = 1	$\Sigma_{i=1}^{4} B_i$	N Number of Values	X Mean Background Level	Significantly Above Background Level 3.X
Hexachlorocyclopentadiene	330	660	660	330	330	1,980	4	495	1,485
2,4,6-Trichlorophenol	330	660	660	330	330	1,980	4	495	1,485
2,4,5-Trichlorophenol	1,600	3,200	3,200	1,600	1,600	9,600	4	2,400	7,200
2-Chloronaphthalene	330	660	660	330	330	1,980	4	495	1,485
2-Nitroaniline	1600	3,200	3,200	1,600	1,600	9,600	4	2,400	7,200
Dimethylphthalate	330	660	660	330	330	1,980	4	495	1,485
Acenaphthylene	330	660	660	330	330	1,980	4	495	1,485
2,6-Dinitrotoluene	330	660	660	330	330	1,980	4	495	1,485
3-Nitroaniline	1,600	3,200	3,200	1,600	1,600	9,600	4	2,400	7,200
Acenaphthene	330	660	660	330	330	1,980	4	495	1,485
2,4-Dinitrotoluene	330	660	660	330	330	1,980	4	495	1,485
Diethylphthalate	330	660	660	330	330	1,980	4	495	1,485
4-Chlorophenyl-phenyl ether	330	660	660	330	330	1,980	4	495	1,485
Fluorene	330	660	660	330	330	1,980	4	495	1,485
4-Nitroaniline	1600	3,200	3,200	1,600	1,600	9,600	4	2,400	7,200
4,6-Dinitro-2-methylphenol	1,600	3,200	3,200	1,600	1,600	9,600	4	2,400	7,200
N-nitrosodiphenylamine	330	660	660	330	330	1,980	4	600	1,980
4-Bromophenyl-phenyl ether	330	660	660	330	330	1,980	4	600	19,80
Hexachlorobenzene	330	660	660	330	330	1,980	4	600	1,980
Pentachlorophenol	1,600	3,200	3,200	1,600	1,600	9,600	4	2,400	7,200
Phenanthrene	330	2,500 +	660	330	330	3,820	4	955	2,865
Anthracene	330	660	660	330	330	1,980	4	495	1,485
Di-n-butylphthalate	330	660	660	330	330	1,980	4	495	1,485
Fluoranthene	330	5,600 +	2,200 +	330	610 +	8,740	4	2,185	6,555

Notes:
DF - Dilution Factor
All concentrations are in ug/kg unless otherwise noted
CRQL - Contract Required Quantitation Limit
+ Detected value

APPENDIX 2A (Cont'd)

Background Contaminant Level Calculations for Organic Compounds

SEMI-VOLATILES	Soil CRQL	B_1 Calculated CRQL or Detected Value + DF = 1	B_2 Calculated CRQL or Detected Value + DF = 1	B_3 Calculated CRQL or Detected Value + DF = 1	B_4 Calculated CRQL or Detected Value + DF = 1	$\Sigma_{i=1}^{4} B_i$	N Number of Values	X Mean Background Level	Significantly Above Background Level 3.X
Pyrene	330	5,300 +	1,400 +	330	540 +	7,570	4	1,893	5,679
Butylbenzylphthalate	330	660	660	330	330	1,980	4	495	1,485
3,3'-Dichlorobenzidine	660	1,320	1,320	660	660	3,960	4	990	2,970
Benzo(a)anthracene	330	3,000 +	660	330	330	4,320	4	1,080	3,240
Chrysene	330	4,200 +	660	330	330	5,520	4	1,380	4,140
bis(2-Ethylhexyl)phthalate	330	660	660	330	330	1,980	4	495	1,485
Di-n-octylphthalate	330	660	660	330	330	1,980	4	495	1,485
Benzo(b)fluoranthene	330	4,200 +	660	330	330	5,520	4	1,380	4,140
Benzo(k)fluoranthene	330	660	660	330	330	1,980	4	495	1,485
Benzo(a)pyrene	330	3,900 +	660	330	330	5,220	4	1,305	3,915
Indeno(1,2,3-cd)pyrene	330	2,000 +	660	330	330	3,320	4	830	2,490
Dibenz(a,h)anthracene	330	660	660	330	330	1,980	4	495	1,485
Benzo(g,h,i)perylene	330	1,800 +	660	330	330	6,440	4	1,610	4,830

Notes:

DF - Dilution Factor

All concentrations are in ug/kg unless otherwise noted

CRQL - Contract Required Quantitation Limit

\+ Detected value

APPENDIX 2B

Background Contaminant Level Calculations for Inorganic Substances

INORGANICS	Aqueous CRQL CRQL (ug/L)	B_1 Calculated CRDL* or Detected Value PS - 52.3	B_2 Calculated CRDL* or Detected Value PS = 53.8	B_3 Calculated CRDL* or Detected Value PS = 64.4	B_4 Calculated CRDL* or Detected Value PS = 60.0	4 ΣBi i = 3	Number of Values	X Mean Background Level	3.X
Aluminum	200	5,670	6,730	2,810	5,660	8,470	2	4,235	12,705
Antimony	60	22.9*	22.3*	18.6*	20.0*	38.6	2	19	58
Arsenic	10	71.E	12.6E	3.1*	6	9.1	2	5	15
Barium	200	307	303	160	152	312	2	156	468
Beryllium	5	1.9*	1.9*	1.6*	1.7*	3.3	2	2	6
Cadmium	5	24.9E	19.2	1.6*	1.7*	3.3	2	2	6
Calcium	500	4,920	4,070	2,120	9,260	11,380	2	5,690	17,070
Chromium	10	18.8	17.8	4.1E	10.9	15	2	8	24
Cobalt	50	19.1*	19	15.5*	16.7*	32.2	2	16	48
Copper	25	119	253	29	176	205	2	103	309
Iron	100	2,9600	27,200	12,900	23,000	35,900	2	17,950	53,850
Lead	5	1,540	1000	188	382	570	2	285	855
Magnesium	5,000	1,912.0*	1,858.7*	1,552.8*	1,666.7*	3,219.5	2	1,610	4,830
Manganese	15	1,200	1,610	71.9	161	232.9	2	116	348
Mercury	0.2	0.08*	0.07*	0.06*	0.07*	0.13	2	0.07	0.21
Nickel	40	15.3*	18.6	12.4*	13.3*	25.7	2	13	39
Potassium	5,000	1,912.0*	1,858.7*	1,552.8*	1,666.7*	3,219.5	2	1,610	4,830
Selenium	5	2.9E	3E	1.6*	1.7E	3.3	2	2	6
Silver	10	6.1E	7.1E	3.1*	3.3*	6.4	2	3	9
Sodium	5,000	1,912.0*	1,858.7*	1,552.8*	1,666.7*	3,219.5	2	1,610	4,830
Thallium	10	4	3.7	3.1*	3.3*	6.4	2	3	9
Vanadium	50	19.1*	24.4	15.5*	20.7	36.2	2	18	54
Zinc	20	4,020E	3,560	253	451	704	2	352	1,056
Cyanide	10	3.8*	3.7*	3.1*	3.3*	6.4	2	3	9

Notes:
Allvalues in mg/kg except where noted
CRDL - Contact Required Detection Limit
* CRDL
PS - Percent Solids
E = Estimated Value

APPENDIX 2A (Cont'd)

Background Contaminant Level Calculations for Organic Compounds

PESTICIDES	Soil CRQL	B_1 Calculated CRQL or Detected Value + DF = 1	B_2 Calculated CRQL or Detected Value + DF = 1	B_3 Calculated CRQL or Detected Value + DF = 1	B_4 Calculated CRQL or Detected Value + DF = 1	$\sum_{i=1}^{4} B_i$	N Number of Values	X Mean Background Level	Significantly Above Backgroune Level 3.X
alpha-BHC	8	16	8	8	8	40	4	10	30
beta-BHC	8	180 +	87 +	8	8	283	4	71	213
delta-BHC	8	16	8	8	8	40	4	10	30
gamma-BHC (Lindane)	8	16	8	8	8	40	4	10	30
Heptachlor	8	16	8	8	8	40	4	10	30
Endosulfan I	8	16	8	8	8	40	4	10	30
Dieldrin	16	32	16	16	16	80	4	20	60
4,4'-DDE	16	550 +	210 +	16	16	792	4	198	594
Endrin	16	32	16	16	16	80	4	20	60
Endosulfan II	16	32	16	16	16	80	4	20	60
4,4'-DDD	16	88 +	460 +	16	16	580	4	145	435
Endosulfan sulfate	16	32	16	16	16	80	4	20	60
4,4'-DDT	16	32	140 +	16	16	204	4	51	153
Methoxychlor	16	32	16	16	16	80	4	20	60
Endrin ketone	80	160	80	80	80	400	4	100	300
alpha-Chlordane	80	160	80	80	80	400	4	100	300
gamma-Chlordane	80	160	80	80	80	400	4	100	300
Toxaphene	160	320	160	160	160	800	4	200	600
Aroclor-1016	80	160	80	80	80	400	4	100	300
Aroclor-1221	80	160	80	80	80	400	4	100	300
Aroclor-1232	80	160	80	80	80	400	4	100	300
Aroclor-1242	80	160	80	80	80	400	4	100	300
Aroclor-1248	80	160	80	80	80	400	4	100	300
Aroclor-1254	160	320	160	160	160	800	4	200	600
Aroclor-1260	160	320	160	160	160	800	4	200	600

Notes:

DF - Dilution Factor

All concentrations are in ug/kg unless otherwise noted

CRQL - Contract Required Quantitation Limit

\+ Detected value

APPENDIX 3

3A: ORGANICS

3B: INORGANICS

APPENDIX 3A

ORGANIC COMPOUNDS DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

VOLATILES														
Sample ID No.	MYFT-S1A(MS/MSD)	MYFT-S2A	MYFT-S3A	MYFT-S4A	MYFT-S5A	MYFT-S6A	MYFT-S7A	MYFT-S8A	MYFT-S9A	MYFT-S10A	MYFT-S11A	MYFT-S12A	MYFT-S13A	MYFT-S14A
Traffic Report No.	BBA01	BBA02	BBA03	BBA04	BBA05	BBA06	BBA07	BBA08	BBA09	BBA10	BBA11	BBA12	BBA13	BBA14
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor	1	1	1	1	1	1	1	1	1	1	1	5	1	1
Percent Moisture	27	27	12	12	18	23	25	16	14	11	17	30	11	16
Chloromethane														
Bromomethane														
Vinyl Chloride														
Chloroethane														
Methylene Chloride														
Acetone		220 E												
Carbon Disulfide														
1,1-Dichloroethene														
1,1-Dichloroethane														
Trans-1,2-Dichloroethene (total)														
Chloroform														
1,2-Dichloroethane														
2-Butanone														
1,1,1-Trichloroethane														
Carbon Tetrachloride														
Vinyl Acetate														
Bromodichloromethane														
1,2-Dichloropropane														
cis-1,3-Dichloropropene														
Trichloroethene														
Dibromochloromethane														
1,1,2-Trichloroethane														
Benzene														
trans-1,3-Dichloropropene														
Bromoform														
4-Methyl-2-Pentanone														
2-Hexanone														
Tetrachloroethene														
Toluene														
1,1,2,2-Tetrachloroethane														
Chlorobenzene														
Ethylbenzene		250		46		16						280		
Styrene														
Xylenes (Total)		320		460		47						270		

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
N - Presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX 3A

ORGANIC COMPOUNDS DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

SEMI-VOLATILES														
Sample ID No.	MYFT-S1A(MS/MSD)	MYFT-S2A	MYFT-S3A	MYFT-S4A	MYFT-S5A	MYFT-S6A	MYFT-S7A	MYFT-S8A	MYFT-S9A	MYFT-S10A	MYFT-S11A	MYFT-S12A	MYFT-S13A	MYFT-S14A
Traffic Report No.	BBA01	BBA02	BBA03	BBA04	BBA05	BBA06	BBA07	BBA08	BBA09	BBA10	BBA11	BBA12	BBA13	BBA14
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	5	1	1	10	5	2	5	1	1	5	2	5	5
Percent Moisture	27	27	12	12	18	23	25	16	14	11	17	30	11	16
Phenol														
bis(2-Chloroethyl)ether														
2-Chlorophenol														
1,3-Dichlorobenzene														
1,4-Dichlorobenzene														
Benzyl alcohol														
1,2-Dichlorobenzene														
2-Methylphenol														
bis(2-Chloroisopropyl)ether														
4-Methylphenol														
N-Nitroso-di-n-dipropylamine														
Hexachloroethane														
Nitrobenzene														
Isophorone														
2-Nitrophenol														
2,4-Dimethylphenol														
Benzoic acid														
bis(2-Chloroethoxy)methane														
2,4-Dichlorophenol														
1,2,4-Trichlorobenzene														
Naphthalene		26000			54000		3100	3100				13000		
4-Chloroaniline														
Hexachlorobutadiene														
4-Chloro-3-Methylphenol														
2-Methylnaphthalene		18000			69000			2200						
Hexachlorocyclopentadiene														
2,4,6-Trichlorophenol														
2,4,5-Trichlorophenol														
2-Chloronaphthalene														
2-Nitroaniline														
Dimethylphthalate														
Acenaphthylene		14000			50000	20000	14000	74000		38000	17000		2500	6400
2,6-Dinitrotoluene														
3-Nitroaniline														
Acenaphthene		23000			130000			2000		2500	9000			
2,4-Dinitrophenol														
4-Nitrophenol														
Dibenzofuran					9100						2000			
2,4-Dinitrotoluene														
Diethylphthalate														
4-Chlorophenyl-phenyl ether														
Fluorene		18000			110000	4400	6300	6100			6100			
4-Nitroaniline														

APPENDIX 3A

ORGANIC COMPOUNDS DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAB HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

SEMI-VOLATILES															
Sample ID No.	MYFT-S1A(MS/MSD)	MYFT-S2A	MYFT-S3A	MYFT-S4A	MYFT-S5A	MYFT-S6A	MYFT-S7A	MYFT-S8A	MYFT-S9A	MYFT-S10A	MYFT-S11A	MYFT-S12A	MYFT-S13A	MYFT-S14A
Traffic Report No.	BBA01	BBA02	BBA03	BBA04	BBA05	BBA06	BBA07	BBA08	BBA09	BBA10	BBA11	BBA12	BBA13	BBA14
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	5	1	1	10	5	2	5	1	1	5	2	5	5
Percent Moisture	27	27	12	12	18	23	25	16	14	11	17	30	11	16
4,6-Dinitro-2-methylphenol														
N-nitrosodiphenylamine														
4-Bromophenyl-phenyl ether														
Hexachlorobenzene														
Pentachlorophenol														
Phenanthrene	11000	38000			330000	14000		40000		89000	20000			
Anthracene	2300	20000			140000	10000	14000	15000			8900			2900
Di-n-butylphthalate														
Fluoranthene	42000	29000			210000	100000	16000	110000		150000	27000		8700	11000
Pyrene	53000	32000			280000	150000	34000	180000		220000	28000		14000	18000
Butylbenzylphthalate														
3,3'-Dichlorobenzidine														
Benzo(a)anthracene	18000	19000			98000	63000	19000	110000		74000	20000		8900	11000
Chrysene	26000	25000			78000	78000	18000	110000		91000	22000		11000	13000
bis(2-Ethylhexyl)phthalate														
Di-n-octylphthalate														
Benzo(b)fluoranthene	25000	20000 EN			83000 EN	120000 EN	42000 EN	260000 EN		120000 EN	54000 EN		24000 EN	23000 EN
Benzo(k)fluoranthene	23000	20000 EN			83000 EN	120000 EN	42000 EN	260000 EN		120000 EN	54000 EN	3100	24000 EN	23000 EN
Benzo(a)pyrene	29000	29000			65000	72000	32000	170000		83000	34000	6800	9200	19000
Indeno(1,2,3-cd)pyrene	14000	22000			22000	26000	21000	58000			14000	4400	5700	9600
Dibenz(a,h)anthracene	2300	8500			9900	7400	6400	14000		4800	4400			3900
Benzo(g,h,i)perylene	19000	31000			28000	49000	31000	75000		45000	21000	5900	6700	16000

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
N - Presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX 3A

ORGANIC COMPOUNDS DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

PESTICIDES															
Sample ID No.	NYFT-S1A(MS/MSD)	NYFT-S2A	NYFT-S3A	NYFT-S4A	NYFT-S5A	NYFT-S6A	NYFT-S7A	NYFT-S8A	NYFT-S9A	NYFT-S10A	NYFT-S11A	NYFT-S12A	NYFT-S13A	NYFT-S14A
Traffic Report No.	BBA01	BBA02	BBA03	BBA04	BBA05	BBA06	BBA07	BBA08	BBA09	BBA10	BBA11	BBA12	BBA13	BBA14
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	10	10	1	1	20	4	10	10	1	10	20	2	4	1
Percent Moisture	27	27	12	12	18	23	25	16	14	11	17	30	11	16
alpha-BHC														
beta-BHC			38											
delta-BHC														
gamma-BHC (Lindane)														
Heptachlor														
Aldrin													47	
Heptachlor epoxide														
Endosulfan I														
Dieldrin														
4,4'-DDE														
Endrin														
Endosulfan II														
4,4'-DDD														
Endosulfan sulfate														
4,4'-DDT	380	230												
Methoxychlor														
Endrin ketone														
alpha-Chlordane														
gamma-Chlordane														
Toxaphene														
Aroclor-1016														
Aroclor-1221														
Aroclor-1232														
Aroclor-1242														
Aroclor-1248														
Aroclor-1254														
Aroclor-1260														1400

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
N - Presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX 3A

ORGANIC COMPOUNDS DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

VOLATILES																	
Sample ID No.	MYFT-S15A	MYFT-S16A(DUP)	MYFT-S17A	MYFT-S18A	MYFT-S19A	MYFT-S20A	MYFT-S21A(MS/MSD)	MYFT-S22A	MYFT-S23A	MYFT-S24A	MYFT-S25A	MYFT-S26A	MYFT-S27A	MYFT-S28A	MYFT-S29A	MYFT-S30A
Traffic Report No.	BBA15	BBA16	BBA17	BBA18	BBA19	BBA20	BBA21	BBA22	BBA23	BBA24	BBA25	BBA26	BBA27	BBA28	BBA29	BBA30
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Percent Moisture	22	20	17	31	24	20	23	12	32	15	24	31	50	27	45	30
Chloromethane																
Bromomethane																
Vinyl Chloride																
Chloroethane																
Methylene Chloride																
Acetone																
Carbon Disulfide																
1,1-Dichloroethene																
1,1-Dichloroethane																
Trans-1,2-Dichloroethene (total)																
Chloroform																
1,2-Dichloroethane																
2-Butanone																
1,1,1-Trichloroethane																
Carbon Tetrachloride																
Vinyl Acetate																
Bromodichloromethane																
1,2-Dichloropropane																
cis-1,3-Dichloropropene																
Trichloroethene																
Dibromochloromethane																
1,1,2-Trichloroethane																
Benzene																
trans-1,3-Dichloropropene																
Bromoform																
4-Methyl-2-Pentanone																
2-Hexanone																
Tetrachloroethene																
Toluene																
1,1,2,2-Tetrachloroethane																
Chlorobenzene																
Ethylbenzene																
Styrene																
Xylenes (Total)																

NOTES:
Blank space - compound analyzed for but not detected
E - estimated value
N - Presumptive evidence of the presence of the material
Detection limits elevated if Dilution Factor >1 and/or percent moisture >0%

APPENDIX 3A

ORGANIC COMPOUNDS DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND

SITE NAME: SAG HARBOR - BRIDGE STREET
TDD#: 02-8906-05
SAMPLING DATES: 6/27/89-6/29/89
EPA CASE NO.: 12241 LAB: COMPUCHEM

SEMI-VOLATILES																	
Sample ID No.	MYFT-S15A	MYFT-S16A(DUP)	MYFT-S17A	MYFT-S18A	MYFT-S19A	MYFT-S20A	MYFT-S21A(MS/MSD)	MYFT-S22A	MYFT-S23A	MYFT-S24A	MYFT-S25A	MYFT-S26A	MYFT-S27A	MYFT-S28A	MYFT-S29A	MYFT-S30A
Traffic Report No.	BBA15	BBA16	BBA17	BBA18	BBA19	BBA20	BBA21	BBA22	BBA23	BBA24	BBA25	BBA26	BBA27	BBA28	BBA29	BBA30
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	5	5	1	1	1	1	1	1	1	2	5	2	1	1	1	2
Percent Moisture	22	20	17	31	24	20	23	12	20	15	16	23	27	27	32	30
Phenol																
bis(2-Chloroethyl)ether																
2-Chlorophenol																
1,3-Dichlorobenzene																
1,4-Dichlorobenzene																
Benzyl alcohol																
1,2-Dichlorobenzene																
2-Methylphenol																
bis(2-Chloroisopropyl)ether																
4-Methylphenol																
N-Nitroso-di-n-dipropylamine																
Hexachloroethane																
Nitrobenzene																
Isophorone																
2-Nitrophenol																
2,4-Dimethylphenol																
Benzoic acid																
bis(2-Chloroethoxy)methane																
2,4-Dichlorophenol																
1,2,4-Trichlorobenzene																
Naphthalene					3400					3200						
4-Chloroaniline																
Hexachlorobutadiene																
4-Chloro-3-Methylphenol																
2-Methylnaphthalene																
Hexachlorocyclopentadiene																
2,4,6-Trichlorophenol																
2,4,5-Trichlorophenol																
2-Chloronaphthalene																
2-Nitroaniline																
Dimethylphthalate																
Acenaphthylene		4600	2700			4500				9300	4000					
2,6-Dinitrotoluene																
3-Nitroaniline																
Acenaphthene					5400					2100						
2,4-Dinitrophenol																
4-Nitrophenol																
Dibenzofuran					3200											
2,4-Dinitrotoluene																
Diethylphthalate																
4-Chlorophenyl-phenyl ether																
Fluorene	12000				5500					3200						
4-Nitroaniline																

02-8907-29-LI
REV. NO. 0

FINAL DRAFT LISTING SITE INSPECTION REPORT
SAG HARBOR - BRIDGE STREET
SAG HARBOR, NEW YORK
VOLUME II

PREPARED UNDER
TECHNICAL DIRECTIVE DOCUMENT NO. 02-8907-29
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

DECEMBER 22, 1989

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:

JOSEPH MAYO
PROJECT MANAGER

REVIEWED/APPROVED BY:

RONALD M. NAMAN
FIT OFFICE MANAGER

REFERENCE NO. 1

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

RECEIVED
MAY 24 1988
DIVISION OF SOLID WASTE
NYSDEC REGION 1

Thomas C. Jorling
Commissioner

MAY 19 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Village of Sag Harbor
Main Street
Sag Harbor, New York 11963

Dear Sir/Madam:

As mandated by Section 27-1305 of the Environmental Conservation Law (ECL), copy enclosed, the New York State Department of Environmental Conservation (NYSDEC) must maintain a registry of all inactive disposal sites suspected or known to contain hazardous wastes. The ECL also mandates that this Department notify, by certified mail, the owner of all or any part of each site or area included in the Registry of Inactive Hazardous Waste Disposal Sites.

Our records indicate that you are the owner or part owner of the site listed below. Therefore, this letter constitutes notification of the inclusion of such site in the Registry of Inactive Hazardous Waste Disposal Sites in New York State.

DEC Site No.: 152126
Site Name: Sag Harbor Bridge Street
Site Address: Sag Harbor, New York

Enclosed is a copy of the New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation, Inactive Hazardous Waste Disposal Site Report form as it appears in the Registry and Annual Report, and an explanation of the site classifications. The Law allows the owner and/or operator of a site listed in the Registry to petition the Commissioner of the New York State Department of Environmental Conservation for deletion of such site, modification of site classification, or modification of any information regarding such site, by submitting a written statement setting forth the grounds of the petition. Such petition may be addressed to:

Mr. Thomas C. Jorling
Commissioner
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-1010

Pursuant to Section 27-1317 of the ECL and Section 1389-d of the Public Health Law, enclosed is a copy of 6 NYCRR Part 375 Inactive Hazardous Waste Disposal Sites, which became effective on April 16, 1987. Section 375.9 of the previously referenced regulation mandates that no person may substantially change the manner in which an inactive hazardous waste disposal site listed in the Registry is used without notifying this Department and the New York State Department of Health.

For additional information, please contact Mr. Robert Olazagasti, Section Chief, Site Control Section, Bureau of Hazardous Site Control, at (518) 457-0747.

Sincerely,

Frank T. Ricotta

Frank T. Ricotta, P.E.
Director
Bureau of Hazardous Site Control
Division of Hazardous Waste Remediation

Enclosures

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

NYD 986 869170

CLASSIFICATION CODE: 2 REGION: 1 SITE CODE: 152126
EPA ID:

NAME OF SITE : Sag Harbor Bridge Street
STREET ADDRESS: Bridge Street

TOWN/CITY:	COUNTY:	ZIP:
Sag Harbor	Suffolk	11963

SITE TYPE: Open Dump- Structure-X Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Village of Sag Harbor
CURRENT OWNER ADDRESS.: Main Street, Sag Harbor, NY
OWNER(S) DURING USE...:
OPERATOR DURING USE...: Rance Industries
OPERATOR ADDRESS.....: Bridgehampton Turnpike, Sag Harbor, NY
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From Unknown To Unknown

SITE DESCRIPTION:
This site was a printing facility once owned by Rance Industries, on Bridgehampton Turnpike in Sag Harbor.

Undocumented accounts of skin irritation were voiced from Suffolk County Water Authority construction personnel who performed a soil excavation on Poridge Street, opposite the printing facility. Environmental investigation consisted of fourteen soil borings that revealed subsurface soil contamination. This included volatile organics (up to 1.8 ppm), petroleum hydrocarbons (up to 380 ppm) and DDT and DDE (0.8 ppm).
Analytical results revealed the presence of volatile and base/neutrals in MW-3; benzene (140 ppb), toluene (38 ppb), ethylbenzene (290 ppb), napthalene (1000 ppb), methylnaphalene (210 ppb), acenaphthene (290 ppb) and phenanthrene (120 ppb).
In addition; lead (81 ppb), cyanide (20 ppb), copper (37 ppb), petroleum hydrocarbons (4,700 ppb), arsenic (13 ppb) and zinc (2,100 ppb).
Contaminants found in the groundwater include: volatiles, base/neutrals, acid extractables, petroleum hydrocarbons and lead.

HAZARDOUS WASTE DISPOSED: TYPE	Confirmed-X	Suspected- QUANTITY (units)
Benzene		Unknown
Toluene		Unknown
Ethylbenzene		Unknown
Cyanide		Unknown
Phenols		Unknown
Arsenic		Unknown
Lead		Unknown

SITE CODE: 152126

ANALYTICAL DATA AVAILABLE:
Air- Surface Water- Groundwater-X Soil-X Sediment- None-

CONTRAVENTION OF STANDARDS:
Groundwater-X Drinking Water-X Surface Water- Air-

LEGAL ACTION:

TYPE..: None State- Federal-
STATUS: Negotiation in Progress- Order Signed-

REMEDIAL ACTION:

Proposed- Under design- In Progress- Completed-
NATURE OF ACTION: None

GEOTECHNICAL INFORMATION:
SOIL TYPE: Unknown
GROUNDWATER DEPTH: Unknown

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Groundwater contamination, potential drinking water contamination.

ASSESSMENT OF HEALTH PROBLEMS:

Medium	Contaminants Available	Migration Potential	Potentially Exposed Population	Need for Investigation
Air				
Surface Soil				
Groundwater				
Surface Water				

Health Department Site Inspection Date :

MUNICIPAL WASTE ID:

REFERENCE NO. 2

[redacted]

speedimemo®

TO BOB GAZZAGASTI | AT SOWOLF RD

SUBJECT SAG HARBOR / BRIDGE ST. AREA | DA

PLEASE CONSIDER THIS SITE FOR INCLUSION ON THE STATE SUPERFUN REGISTRY

REC

MAR 1

PLEASE REPLY TO | SIGNED Robert A Becker

RE

AR

DATE | SIGNED

BUREAU
EXPOSU

REDIFORM 4S 469
POLY PAK (50 SETS) 4P 469

SEND PARTS 1 AND 3 INTACT -
PART 3 WILL BE RETURNED WITH REPLY.

[redacted]

MEMORANDUM

DATE: 3/17/88 RE: New Site Sag Harbor / Bu

TO: C. Johnson St. Area Rg 1 152...

Please review carefully & make sure all paperwork needed to add are included. If you agree initial & return to me

For Review

3/1[illegible]

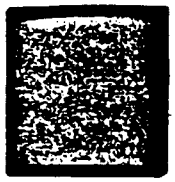
SIGNED: [illegible] D.B. Memo of 2/29/88

TOPS FORM NO. 4150

Bob 3/29

IF THIS IS RELATED TO THE EPA SUPERFUND SITE, HAVE THEY BEEN CONTACTED RELATIVE TO COMBINING EFFORTS ON BOTH. PRP SEARCH, COST RECOVERY ETC.?

Vance



New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
50 Wolf Road
Albany, New York 12233-4015

(2)

Sag Harbor/Bridge St. Area New 152126

ROUTING AND TRANSMITTAL SLIP Date 3/18/8

TO:	Initials	Date
1. ~~W. Demick~~/M. Chen	MC	3/19/
2. V. Bryant	VB	3/29/
3. R. Tramontano	RT	4/5/8
4.		
5.		

	Action		File		Note and Return
X	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate	X	For Your Information		See Me
X	Comment		Investigate		Signature
	Coordination		Justify		

REMARKS

sign in two places

Thanks

FROM:	Room No.
R.A. Olazagasti DEC BHSC	218
	Phone No. 457-0747

MC 3/19

New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
50 Wolf Road
Albany, New York 12233-4015

Add: ✓
Modify
Reclassify
Delist

ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

Site Name Sag Harbor Bridge St ~~Street~~ Site ID Number 152-126

Site Address Bridge Street County Suffolk
Village of Sag Harbor.

✓ Add New Site: (Potential hazardous waste site, Site Inspection Summary Report, EPA Preliminary Assessment Form and Registry Form must be completed and attached)

___ Modify Registry data (detail below)

___ Reclassify from class ___ to class ___. (justify below)

___ Delist (justify below)

Detail/Justification

See attached Sheets.

Prepared by: Cecil Johnson Date: 3/18/88

Approvals:

Reg. Haz. Waste Eng.	See attached	Date:
R. Tramontano NYSDOH	R.J. Tramontano	Date: 4/5/88
V. Bryant DEE	Vance Bryant	Date: 3/29/88
W. Demick/M.Chen	Marsden Chen	Date: 3/19/88
R.A. Olazagasti	[illegible]	Date: 4/13/88
Frank T. Ricotta	Frank T. Ricotta	Date: 4/25/88

Add X
Modify
Reclassify
Delist

ADDITIONS/CHANGES TO REGISTRY OF
INACTIVE HAZARDOUS WASTE DISPOSAL SITES

Site Name Sag Harbor Bridge St. Area DEC ID Number 1-52-126

Site Address Bridge Street, Sag Harbor Village County Suffolk

X Add New Site: (Potential Hazardous Waste Site Summary Form, EPA Preliminary Assessment Form and Registry Form must be completed and attached)

___ Modify data as follows:

___ Reclassify from class ___ to class ___
Justification:

___ Delist:
Justification:

Prepared by: Alexander M. Moskie Date: 1/15/88

Approved by: Anthony Candela

Regional Hazardous Waste Engineer: [signature] Date: 2/29/88

Robert Olazagasti, Supervisor _____ Date:

~~Charles Goddard~~ FRANK RICOTTA, Bureau Chief Frank T. Ricotta Date: 4-25-88

cc: Region Marsden Chen 3/19/88
Department of Health R Tramontano 4/5-88

Division of Solid and Hazardous Waste
New York State
Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-4015

POTENTIAL HAZARDOUS WASTE SITE

SITE INSPECTION SUMMARY REPORT

Sag Harbor Bridge St. Area — Name of Site
1-52-126 — DEC Site ID Number

Bridge St — Street Address
Spring-Summer 198 — Date of Visit

Village of Sag Harbor — Town/City
Suffolk — County
11963 — Zip

SITE DESCRIPTION

PRIORITY FOR FURTHER ACTION

High ____ Medium X
Low ____ None ____

ADD TO REGISTRY

Yes V No ____ Suggested Classification ____

JUSTIFICATION

Prepared by: Alexander M. Moskie Date: 1/15/88

Representing: NYS DEC

cc: Region
Department of Health

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: 2 REGION: 1 SITE CODE: 152-12
EPA ID:

NAME OF SITE : Sag Harbor Bridge Str.
STREET ADDRESS: Bridge Str.
TOWN/CITY: Village of Sag Harbor COUNTY: Suffolk ZIP: 1196
Street and surrounding area

SITE TYPE: ~~Open Dump- Structure-~~ Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....:
CURRENT OWNER ADDRESS.:
OWNER(S) DURING USE...:
OPERATOR DURING USE...:
OPERATOR ADDRESS.....:
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From To unknown

SITE DESCRIPTION:
Area ~~between~~ bound by Garden Str., Spring Str., Main St., Meadow Str., Nassau St., Bay Str. and Sag Harbor Co. Oil spill has been documented and other spills are suspected ~~in the area of~~ at the site. Borings ~~sh~~ installed by Paul Storch associates ~~should groundwater~~ enabled to find groundwater and soil contamination.

(See Next Site Description)

HAZARDOUS WASTE DISPOSED: Confirmed-X Suspected-
TYPE QUANTITY (units)

Benzene, toluene, ethyl-benzene, ~~naph~~ naphthalene, cyanide, phenols, arsenic, lead. unknown

TECHNICAL DATA AVAILABLE: STATE CODE:

Surface Water- Groundwater-X Soil-X Sediment- None-

CONTRAVENTION OF STANDARDS:
Groundwater- X Drinking Water-X Surface Water- Air-

LEGAL ACTION:

TYPE..: None State- Federal-
STATUS: In Progress- Completed-

REMEDIAL ACTION: None

Proposed- Under design- In Progress- Completed-
NATURE OF ACTION:

GEOTECHNICAL INFORMATION: Unknown
SOIL TYPE: "
GROUNDWATER DEPTH: Unknown "

ASSESSMENT OF ENVIRONMENTAL PROBLEMS: Potential drinking water contamination
Groundwater Contamination

ASSESSMENT OF HEALTH PROBLEMS:

Medium	Contaminants Available	Migration Potential	Potentially Exposed Population	Need for Investigation
Surface Soil				
Groundwater				
Surface Water				

Health Department Site Inspection Date :

MUNICIPAL WASTE ID:

ICS ID:

SPEDES ID:

New Site Description:

This site was a printing facility once owned and operated by Rowe Industries, wh[illegible] created the Superfund site on Bridgeham[illegible] Tpke in Sag Harbor.
In addition undocumented accounts of skin irrita[illegible] were voiced from Suffolk County Water Authority Construction personnel who had performed a soil excavation on Bridge Street, opposite the printin[illegible] facility.
Environmental investigation which consisted of fourteen soil borings in the general area revea[illegible] subsurface soil contamination. This included substantial amounts of petroleum hydrocarbons (up to 380 ppm) volatile organics compounds up 1.8 ppm) and the pesticides DDT and DDE (total 0.8 ppm)

Analytical results revealed the presence of several volatile, and water base neautral compounds in MW-3, 140 ppb benzene, 38 ppb toluene, 290 ppb ethylbenzene, 1,000 ppb naptha[illegible] 210 ppb methylnapthalene, 290 ppb Acenaphthene and 120 ppb phenanthrene.

In addition Lead 81 ppb, Cyanide 20 ppb, Copper [illegible] ppb, ~~and~~ 4,700 ppb, Petroleum Hydrocarbons; Arsenic 13 ppb, and Zinc 2,100 ppb.

Contaminants found in the groundwater, i
total volatiles, total base neutral extractable
total acid extractables, total acid extractab
and total petroleum hydrocarbons, also exceed
the action levels of the NJDEP, ECRA
Guidelines.

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

EPA

I. IDENTIFICATION
01 STATE: XXXXX | 02 SITE NUMBER:

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Sag Harbor Bridge Street Area	Bridge Str				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG. DIST**
Village of Sag Harbor	NY	11963	Suffolk	52	

09 COORDINATES: LATITUDE __ __ __ __ . __ | LONGITUDE __ __ __ __ . __

10 DIRECTIONS TO SITE (Starting from nearest public road)

On a public road

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)		
Village of Sag Harbor	Main Street		
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 TELEPHONE NUMBER**
Village of Sag Harbor	NY	11963-0015	516 725-0222
07 OPERATOR (If known and different from owner)	**08 STREET (Business, mailing, residential)**		
Same	Main Street		
09 CITY	**10 STATE**	**11 ZIP CODE**	**12 TELEPHONE NUMBER**
			( )

13 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☒ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON-SITE INSPECTION
☒ YES DATE 1987 (MONTH DAY YEAR)
☐ NO

02 BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: Paul Stone Associates (Specify)
CONTRACTOR NAME(S): _____

03 SITE STATUS (Check one)
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

04 YEARS OF OPERATION
BEGINNING YEAR | ENDING YEAR ☒ UNKNOWN

05 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN OR ALLEGED
Benzene, toluene, naphthalene, ethylbenzene, lead, arsenic, cyanide found in the groundwater samples at the site

06 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Drinking water contamination

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☒ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed; complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)		03 TELEPHONE NUMBER
G. Butts	Mayor of Sag Harbor Village		(516) 725-0222
04 PERSON RESPONSIBLE FOR ASSESSMENT	**05 AGENCY**	**06 ORGANIZATION**	**07 TELEPHONE NUMBER**	**08 DATE**
A. Moskie	NYSDEC	St. Bronx	(516) 737-7900	1 / 15 / 87 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE: XXXX | 02 SITE NUMBER:

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- A SOLID
- B POWDER, FINES
- C SLUDGE
- D OTHER (Specify)
- E SLURRY
- F LIQUID
- G GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS
- CUBIC YARDS: UNKNOWN
- NO OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

- X A TOXIC
- B CORROSIVE
- C RADIOACTIVE
- D PERSISTENT
- E SOLUBLE
- F INFECTIOUS
- X G FLAMMABLE
- H IGNITABLE
- I HIGHLY VOLATILE
- J EXPLOSIVE
- K REACTIVE
- L INCOMPATIBLE
- M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS	UNKNOWN	—	—
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	UNKNOWN	—	—

IV. HAZARDOUS SUBSTANCES (See appendix for most frequently cited CAS numbers)

CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	Benzene			140 ppb	
	Toluene			38 ppb	
	ethyl benzene			290 "	
	~~1,2-dichloroethane~~ naphthalene			1,600 "	
	Petroleum hydrocarbons			4,700 ppb	
	Cyanide			105 ppb	
	Phenols			20 ppb	
	Arsenic			13 "	
	Lead			81 ppb	
	Zinc			2,160 "	

V. FEEDSTOCKS (See appendix for CAS numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS		
FDS		
FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

Samples results from the monitoring wells installed at the site by Paul Storch Associates in 1987.

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
XXXX	1-52-1

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A GROUNDWATER CONTAMINATION — 02 ☒ OBSERVED (DATE 1987) — ☐ POTENTIAL — ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION — Samples taken by P. Smith Associates, showed a set of contaminants in ground water

01 ☐ B SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION
Unknown

01 ☐ C CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION
//

01 ☐ D FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION
//

01 ☐ E DIRECT CONTACT — 02 ☐ OBSERVED (DATE _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION
//

01 ☐ F CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE 1987) — ☐ POTENTIAL — ☒ ALLEGED
03 AREA POTENTIALLY AFFECTED _____ (Acres) — 04 NARRATIVE DESCRIPTION
~~Unknown~~

01 ☐ G DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION
//

01 ☐ H WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE _____) — ☐ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
//

01 ☐ I POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION
//

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: XXXX | 02 SITE NUMBER:

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Unknown

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
//

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
//

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills runoff standing liquids leaking drums) — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
//

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
//

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
//

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
//

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
//

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS
petroleum spills were recorded on Bridge St. (L.I. Fishermen's printing shop)

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)
Village of Lay Harbor & their consultant, P. Storch Associates.

REFERENCE NO. 3

STORCH ASSOCIATES

ENGINEERS · ARCHITECTS · LANDSCAPE ARCHITECTS
PLANNERS · ENVIRONMENTAL CONSULTANTS

800 ELLISON AVENUE
WESTBURY, NEW YORK 11590
(516) 832-8222

June 4, 1987

5 1987
VILLAGE OF SAG HARBOR
CLERK'S OFFICE

Hon. George E. Butts, Jr.
Mayor
Village of Sag Harbor
P.O. Box 660
Sag Harbor, NY 11963

Dear Mayor Butts:

This letter report summarizes the recent environmental investigation of soil contamination along the route of the proposed drainage improvement line on Long Island Avenue and Bridge Street in Sag Harbor, NY.

Background

This limited environmental investigation was conducted in conjunction with a proposed drainage improvement program underway with the Village of Sag Harbor. Prior to any construction taking place it was desired that soils along the route of the drainage line be spot checked for the presence of environmental contaminants. Contaminants in the area were suspected due to a previous recorded petroleum spill at the former printing facility of the Long Island Fisherman on Bridge Street. In addition, undocumented accounts of skin irritation were voiced from Suffolk County Water Authority construction personnel who had performed a soil excavation on Bridge Street opposite the printing facility.

Sampling Locations

Monitoring occurred on three different days (April 29, May 4 and May 12, 1987) at a total of fourteen locations (B1-B14). The specific monitoring locations are identified on the attached Boring Location Plan.

Initially, sampling was only planned for the area immediately in front of the printing facility along Bridge Street (B1). However, after the preliminary field analysis, additional sampling was conducted along a larger portion of the proposed drainage line (B2-B6). Environmental observations along this pathway then prompted further investigation along an optional path for the drainage line (B7-B14) that follows Island Avenue, Garden Street and crosses a wooded area to Rose Street.

Sampling Procedures

Monitoring at each of the locations entailed hand augering a boring, observing conditions of the subsurface soil and performing a headspace analysis on selected soil samples for volatile organic compounds. Based on the historic site information and field observations some subsurface soil samples were also collected and sent for laboratory analysis for selected priority pollutants including volatile organic compounds, PCBs, pesticides and petroleum hydrocarbons.

Soil samples were collected in accordance with USEPA Region II sampling protocol as detailed in the Federal Register dated October 26, 1984. A stainless steel hand auger and trowels were used for boring the holes and collecting subsurface soil samples. Between borings these instruments were decontaminated with a non-phosphate, biodegradable detergent and tap water wash, distilled water rinse, acetone rinse, air dry and final deionized water rinse. Borings at each location were advanced to depths of 2.5 - 7.0 feet below grade. The final depth of a boring was dependent on the evidence of contamination, reaching the lowest depth of the proposed construction activity (about seven feet below grade), hitting an obstruction or having the hole collapse while augering.

An Hnu (photoionization analyzer) head space analysis of several soil samples was conducted. The procedure entailed first collecting a soil sample of interest. This occurred when evidence of contamination was observed or at random depths in the boring. The sample was placed in either a glass container covered with aluminum foil or in an aluminum foil pouch and heated in a hot water bath (40-70 degrees Celsius) for about ten minutes. Upon removing the sample, the aluminum foil was punctured and the concentrations of organic vapors were recorded using the Hnu meter.

Appropriate quality control measures were implemented while conducting the environmental investigation. Field activities were documented on-site and a daily field log was kept. Chain-of-custody procedures were implemented upon collection of the samples.

Observations and Results

Observations at each of the borings are presented in Table 1. Monitoring started on Bridge Street at a location adjacent to the former printing facility (B1). At about one foot below grade level (bgl) a petroleum hydrocarbon odor and oil sheen were observed in the soils. This condition continued to the final depth of the boring (3.2' bgl). A headspace analysis of soil from the 3.0 - 3.2 foot level registered high concentrations (300 ppm) of organic vapors. A sample was then collected from this same depth and sent to ERCO laboratory for analysis of priority pollutant volatiles, PCBs, pesticides along with petroleum

hydrocarbons. The results, presented in Table 2, show the presence of several volatile compounds (360 ppb benzene, 340 ppb tolene, 500 ppb xylene, 380 ppb ethyl benzene, 200 ppb styrene), some DDT (700 ppb) and DDE (110 ppb) and substantial levels of petroleum hydrocarbons (380 ppm). No PCBs were detected.

A qualitative groundwater inspection was conducted on some sample collected from a previously installed monitoring well located about 3 feet away from boring #1. The sample was observed to have a sheen on the surface and left a heavy multi-colored oil-type residue on the bottom of the bail water bucket after the sample was returned to the monitoring well. An Hnu reading of 3.5 ppm was recorded in the monitoring well.

Monitoring continued with borings #2 - #6. These are located along the path of the proposed drainage line between the printing facility on Bridge Street and the pump station on Long Island Avenue. A petroleum hydrocarbon odor and sheen was observed at all but one location, B2. A headspace analysis was not performed on these soils because the rainy conditions this day caused the monitoring equipment to operate unreliably. Based on visual and olfactory observations, soil samples were collected from B4, B5 and B6 for laboratory analysis of petroleum hydrocarbons. Samples B4 and B6 were also analyzed for PCBs and pesticides. Results show the presence of petroleum hydrocarbons (30-200 ppm) but no PCBs or pesticides.

A total of eight (8) additional borings (B7-B14) were conducted in order to investigate conditions along the optional path of the proposed drainage line. Environmental conditions appeared much better at these locations than at most of the previous ones. At sites B7 and B9 only a slight petroleum hydrocarbon odor was noticed in the soil but no sheen was apparent. A headspace analysis of soil from about the three foot level at B7 showed 120 ppm on the Hnu meter. This concentration dropped to 40 ppm with a sample taken one foot deeper. Soils from B9 showed a headspace concentration of only 20 ppm. A field analysis of these samples using color detector tubes for benzene and other hydrocarbons did not yield any positive results. Only natural organic conditions were encountered at sites B10 - B14. In addition, no petroleum hydrocarbon odor or sheen was detected at these locations. Headspace analysis of soils from these sites only showed low concentrations of organic vapors, between 2 and 34 ppm. Based on the field investigation, one soil sample (B7 - 3 foot level) was collected for laboratory analysis of pesticides and PCBs. Results did not show the presence of these contaminants.

Conditions were also checked at a location (B8) where previous landscape plantings had died. Headspace analysis of soils revealed that concentrations were highest at the surface (140 ppm) and decreased with depth (5 ppm at the 5 foot level). No petroleum hydrocarbon odor or sheen were observed in the soils. In addition, color detector tubes for benzene and other hydrocarbons showed negative results.

Some surface contaminants were also noticed during the subsurface soil investigation. A thin-film with sheen was observed seeping out of weep holes in the curb on the north side of Rose Street. Apparently, this unknown contaminant is in the soil and finds a suitable outlet via the weep holes used to alleviate flooding conditions on the associated properties. This material was observed to migrate across Rose Street and travel toward the street drains. Several locations of pavement on the south side of Rose Street showed an accumulation of a multi-colored contaminant similiar in appearance to that observed in the groundwater from the monitoring well near B1. In addition, this same area showed a suspicious reddish discoloration similar to that observed on and near the former Long Island Fisherman printing facility located about 200 feet away.

Assessment

Analysis of the data collected from this environmental investigation indicates that a large area of subsurface soil contamination exists in the vicinity of the proposed drainage line along Bridge Street.

The limited laboratory analysis performed on some subsurface soil samples shows that substantial amounts of petroleum hydrocarbons (up to 380 ppm) are present. Some volatile organic compounds (1.8 ppm total at B1) and pesticides (total of 0.8 ppm at B1) were also found. Currently, New York State does not have standards or guidelines that govern the allowable levels of these contaminants in soil. However, some guidance on the magnitude of the findings can be obtained by comparing the laboratory results with New Jersey's ECRA action limits. These guidelines suggest that the presence of petroleum hydrocarbons and volatile organics in the soil should not exceed 100 ppm and 1 ppm, respectively. Therefore, based on these guidelines the soils where contamination was found would need to be cleaned up. In addition, it is possible that the previous contractor's complaints of skin irritation was due to the presence of pesticides, acids or other contaminants in the soil.

The field investigation of soils along the optional path of the drainage line did not show any significant level of contamination. The low level of Hnu readings (2-34 ppm) could be attributed to natural organic compounds present in the soil as no petroleum odor or sheen could be detected. The only questionable area along this path is at the intersection of Rose Street and Bridge Street where boring #7 is located. At this site a slight petroleum odor was observed along with a maximum Hnu reading of 120 ppm. However, benzene and other hydrocarbons were not detected when soils were tested with color detector (Daiger) tubes. In addition, no sheen was apparent in the soil. Therefore, this minimal indication of foreign material is not expected to hinder the installation of the drainage system. However, prolonged dewatering of an excavation at this location might create migration of contaminants into the area.

At the landscape planting area near site B8, it would appear that some contaminants have accumulated at the surface level of soils, possibly due to run-off or surface deposit, thereby affecting the root zone of plants and causing some plants to die.

The investigation that was conducted was only meant to examine subsurface soil conditions along the path of the proposed drainage line. An outstanding question about the extent of the contamination and impact to groundwater still remains. In addition, other contaminants in the area are also possible. At this time, the nature of the reddish discoloration observed in the area is unknown and could be a cause of concern as no natural source is apparent. Furthermore, the source and nature of contamination seeping out of the curb weep holes on the north side of Rose Street is unknown. This material is currently migrating to the street drains and being discharged to the bay.

Recommendation

Due to the presence of contaminants found at sites B1 and B3-B6, we would suggest rerouting the proposed drainage line along the optional path. At this time it would also appear that a more exhaustive investigation of the area is warranted in order to define the horizontal and vertical extent of contamination to soil and groundwater. However, before any redesign, construction or further monitoring takes place, the New York State Department of Environmental Conservation (DEC) should be contacted for a discussion of our findings and recommendations on a further course of action. Their input could alleviate an unnecessary expenditure time and finances.

Limitations

The conclusions summarized herein were based on observations made by our staff and the limited exploration, as stated herein, at the time these services were conducted. Future events and/or investigations could change the findings stated herein. Laboratory analysis was limited to:

- Volatile Organics - U.S. EPA Method 8240
- Petroleum Hydrocarbon Content IR Scan - U.S. EPA Method 418.1
- Pesticides/PCBs - U.S. EPA Method 8080

Should additional investigations encounter differing conditions, sections of this report may require modification.

This report was prepared in accordance with current acceptable engineering practices. No other warranty, expressed or implied, is made.

Very truly yours,

STORCH ASSOCIATES

Dean Anson, II
Supervising Environmental Engineer

DA/ABS/vpw/LI
8225

TABLE 1
SAG HARBOR
HNU HEAD SPACE ANALYSIS

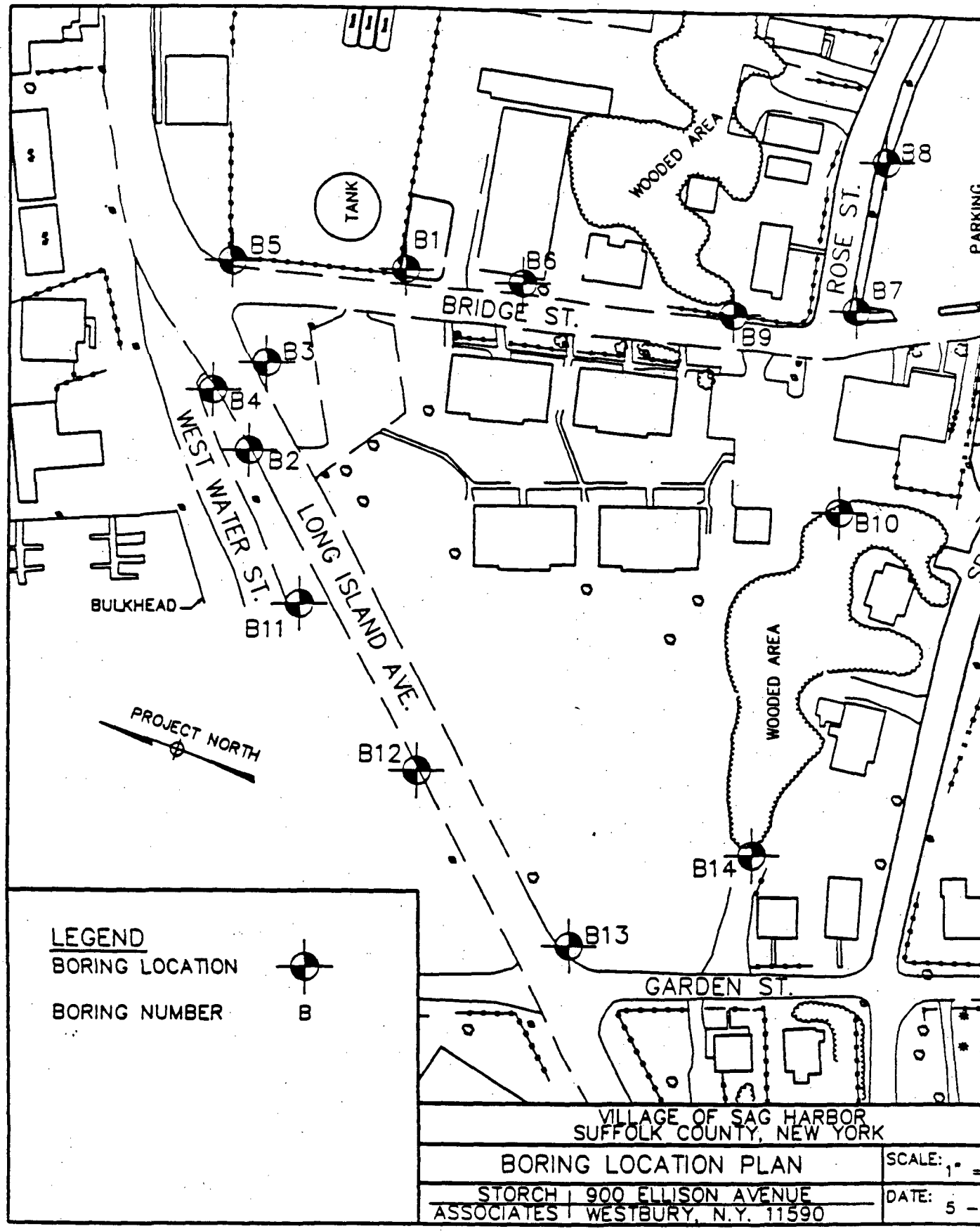
SAMPLE #	DEPTH (ft)	HNU READING (ppm)	FIELD OBSERVATIONS
B-1	0.5-1.0	54	GROUNDWATER AT 8"
	1.0-2.0	60	STRONG PETROLEUM ODOR AND S
	2.0-3.0	140	STRONG PETROLEUM ODOR AND S
	3.0-3.2	300	STRONG PETROLEUM ODOR AND S
	3.2	-	BOTTOM OF BORING
B-2	0.5-6.0	-	GROUNDWATER AT 2.8' NO PETR LEUM ODOR OR SHEEN
	6.0	-	BOTTOM OF BORING
B-3	0.5-3.0	-	GROUNDWATER AT 3.0'
	3.0-4.0	-	STRONG PETROLEUM ODOR AND H SHEEN
	4.0	-	BOTTOM OF BORING
B-4	0.5-5.0	-	NO PETROLEUM ODOR
	6.0-7.0	-	GROUNDWATER AT 6.0' , STRON PETROLEUM ODOR AND SHEEN
	7.0	-	BOTTOM OF BORING
B-5	0.5-4.5	-	GROUNDWATER AT 3.5 NO ODOR OR SHEEN
	5.0-6.0	-	PETROLEUM ODOR NO SHEEN
	6.0	-	BOTTOM OF BORING
B-6	0.5-2.5	-	GROUNDWATER AT 8"
	3.0-3.5	-	PETROLEUM ODOR AND SHEEN
	3.5	-	BOTTOM OF BORING
B-7	0.5-1.0	50	GROUNDWATER AT 8"
	1.0-3.0	-	NO ODOR OR SHEEN
	3.0-3.5	120	SLIGHT PETROLEUM ODOR NO SH
	3.5-4.0	40	SLIGHT PETROLEUM ODOR NO SH
	4.0	-	BOTTOM OF BORING
B-8	0.5-1.0	140	GROUNDWATER AT 8" NO PETROLEUM ODOR OR SHEEN
	1.0-3.0	-	NO ODOR OR SHEEN
	3.0-3.5	15	SLIGHT TAR ODOR
	4.0-5.0	5	NO ODOR OR SHEEN
	5.0	-	BOTTOM OF BORING
B-9	0.5-1.5	-	GROUNDWATER AT 6"
	2.0-2.5	20	PETROLEUM ODOR NO SHEEN
	2.5		BOTTOM OF BORING

TABLE 1 (CONT'D)

SAMPLE #	DEPTH (ft)	HNU READING (ppm)	FIELD OBSERVATIONS
B-10	0.5-2.0	-	GROUNDWATER AT 1.0'
	2.5-3.0	2	NO PETROLEUM ODOR OR SHEEN
	3.0-5.0	-	SLIGHT HYDROGEN SULFIDE OD
	5.0	-	BOTTOM OF BORING
B-11	0.5-3.0	-	GROUNDWATER AT 3.0'
	3.0-5.0	-	NO ODOR OR SHEEN
	5.0-6.0	5	NO ODOR OR SHEEN
	6.0-7.0	-	NO ODOR OR SHEEN
	7.0	-	BOTTOM OF BORING
B-12	0.5-4.0	-	GROUNDWATER AT 4.0'
	5.0-6.0	2	NO ODOR OR SHEEN
	6.0	-	BOTTOM OF BORING
B-13	0.5-1.0	-	GROUNDWATER AT 1.0'
	1.0-4.0	-	NO ODOR OR SHEEN
	4.0-5.0	34	NO ODOR OR SHEEN
	5.0	-	BOTTOM OF BORING
B-14	0.5-2.0	-	GROUNDWATER AT SURFACE
	2.0-2.5	25	NO ODOR OR SHEEN
	2.5	-	BOTTOM OF BORING

TABLE 2
SAG HARBOR
SOIL SAMPLE LABORATORY RESULTS

BORING #	SAMPLE ID	DEPTH	PARAMETER	CONCENTRATION	REPORTING LIMIT
B-1	SS-1	3.2'	VOLATILE ORGANICS		
			-BENZENE	360 ppb	50 ppb
			-TOLUENE	340 ppb	50 ppb
			-ETHYL BENZENE	380 ppb	50 ppb
			-STYRENE	200 ppb	50 ppb
			-XYLENES	500 ppb	50 ppb
			PESTICIDES		
			-4,4'-DDE	110 ppb	16 ppb
			-4,4'-DDT	700 ppb	16 ppb
			PCB's	NONE FOUND	80-160 ppb
			PETROLEUM HYDROCARBONS	390 ppm	17 ppm
B-4	SS-4		PESTICIDES	NONE FOUND	800 ppb
			PCB's	NONE FOUND	800-1600 ppb
			PETROLEUM HYDROCARBONS	93 ppm	16 ppm
B-5	SS-5	6'	PETROLEUM HYDROCARBONS	30 ppm	16 ppm
B-6	SS-6	3.5'	PESTICIDES	NONE FOUND	800-1600 ppb
			PCB's	NONE FOUND	800 ppb
			PETROLEUM HYDROCARBONS	200 ppm	16 ppm
B-7	SS-7	3.0-4.0	PESTICIDES	NONE FOUND	80-1600 ppb
			PCB's	NONE FOUND	800-1600 ppb



VILLAGE OF SAG HARBOR
SUFFOLK COUNTY, NEW YORK

BORING LOCATION PLAN

SCALE: 1" =

STORCH ASSOCIATES | 900 ELLISON AVENUE WESTBURY, N.Y. 11590

DATE: 5 –

STORCH ASSOCIATES

ENGINEERS · ARCHITECTS · LANDSCAPE ARCHITECTS
PLANNERS · ENVIRONMENTAL CONSULTANTS

900 ELLISON AVENUE
WESTBURY, NEW YORK 11590
(516) 832-0222

June 4, 1987

5 1987
VILLAGE OF SAG HARBOR
CLERK'S OFFICE

Hon. George E. Butts, Jr.
Mayor
Village of Sag Harbor
P.O. Box 660
Sag Harbor, NY 11963

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Background

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Recommendation

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Very truly yours,

STORCH ASSOCIATES

Dean Anson, II
Supervising Environmental Engineer

DA/ABS/vpw/LI
8225

TABLE 1
SAG HARBOR
HNU HEAD SPACE ANALYSIS

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B-3	0.5-3.0	-	GROUNDWATER AT 3.0'
	3.0-4.0	-	STRONG PETROLEUM ODOR AND H SHEEN
	4.0	-	BOTTOM OF BORING
B-4	0.5-5.0	-	NO PETROLEUM ODOR
	6.0-7.0	-	GROUNDWATER AT 6.0' , STRONG PETROLEUM ODOR AND SHEEN
	7.0	-	BOTTOM OF BORING
B-5	0.5-4.5	-	GROUNDWATER AT 3.5 NO ODOR OR SHEEN
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	6.0	-	BOTTOM OF BORING
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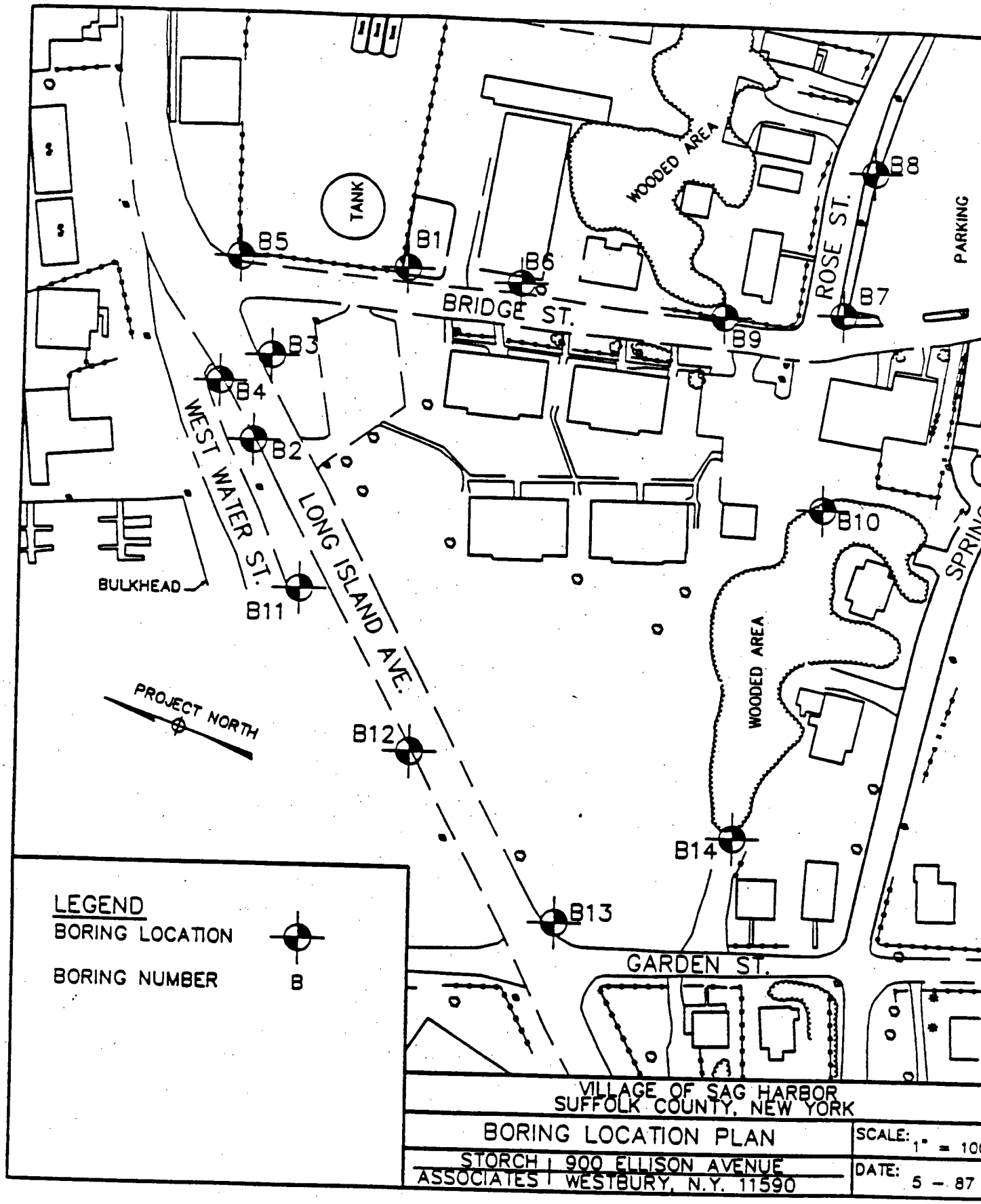
	1.0-3.0	-	NO ODOR OR SHEEN
	3.0-3.5	15	SLIGHT TAR ODOR
	4.0-5.0	5	NO ODOR OR SHEEN
	5.0	-	BOTTOM OF BORING
B-9	0.5-1.5	-	GROUNDWATER AT 6"
	2.0-2.5	20	PETROLEUM ODOR NO SHEEN
	3.5		BOTTOM OF BORING

TABLE 1 (CONT'D)

SAMPLE #	DEPTH (ft)	HNU READING (ppm)	FIELD OBSERVATIONS
B-10	0.5-2.0	-	GROUNDWATER AT 1.0'
	2.5-3.0	2	NO PETROLEUM ODOR OR SHEEN
	3.0-5.0	-	SLIGHT HYDROGEN SULFIDE ODO
	5.0	-	BOTTOM OF BORING
B-11	0.5-3.0	-	GROUNDWATER AT 3.0'
	3.0-5.0	-	NO ODOR OR SHEEN
	5.0-6.0	5	NO ODOR OR SHEEN
	6.0-7.0	-	NO ODOR OR SHEEN
	7.0	-	BOTTOM OF BORING
B-12	0.5-4.0	-	GROUNDWATER AT 4.0'
	5.0-6.0	2	NO ODOR OR SHEEN
	6.0	-	BOTTOM OF BORING
B-13	0.5-1.0	-	GROUNDWATER AT 1.0'
	1.0-4.0	-	NO ODOR OR SHEEN
	4.0-5.0	34	NO ODOR OR SHEEN
	5.0	-	BOTTOM OF BORING
B-14	0.5-2.0	-	GROUNDWATER AT SURFACE
	2.0-2.5	25	NO ODOR OR SHEEN
	2.5	-	BOTTOM OF BORING

TABLE 2
SAG HARBOR
SOIL SAMPLE LABORATORY RESULTS

BORING #	SAMPLE ID	DEPTH	PARAMETER	CONCENTRATION	REPORTING LIMIT
B-1	SS-1	3.2'	VOLATILE ORGANICS		
			-BENZENE	360 ppb	50 ppb
			-TOLUENE	340 ppb	50 ppb
			-ETHYL BENZENE	380 ppb	50 ppb
			-STYRENE	200 ppb	50 ppb
			-XYLENES	500 ppb	50 ppb
			PESTICIDES		
			-4,4'-DDE	110 ppb	16 ppb
			-4,4'-DDT	700 ppb	16 ppb
			PCB's	NONE FOUND	80-160 ppb
			PETROLEUM HYDROCARBONS	350 ppm	17 ppm
B-4	SS-4		PESTICIDES	NONE FOUND	800 ppb
			PCB's	NONE FOUND	800-1600 ppb
			PETROLEUM HYDROCARBONS	93 ppm	16 ppm
B-5	SS-5	6'	PETROLEUM HYDROCARBONS	30 ppm	16 ppm
B-6	SS-6	3.5'	PESTICIDES	NONE FOUND	800-1600 ppb
			PCB's	NONE FOUND	800 ppb
			PETROLEUM HYDROCARBONS	200 ppm	16 ppm
B-7	SS-7	3.0-4.0	PESTICIDES	NONE FOUND	80-1600 ppb
			PCB's	NONE FOUND	800-1600 ppb


TANK
WOODED AREA
ROSE ST.
PARKING
BRIDGE ST.
B1
B2
B3
B4
B5
B6
B7
B8
B9
B10
B11
B12
B13
B14
WEST WATER ST.
LONG ISLAND AVE.
BULKHEAD
PROJECT NORTH
WOODED AREA
GARDEN ST.
LEGEND
BORING LOCATION
BORING NUMBER
B
VILLAGE OF SAG HARBOR
SUFFOLK COUNTY, NEW YORK
BORING LOCATION PLAN
SCALE: 1" = 100
STORCH ASSOCIATES
900 ELLISON AVENUE
WESTBURY, N.Y. 11590
DATE: 5 - 87

REFERENCE NO. 4

STORCH ASSOCIATES
ENGINEERS · ARCHITECTS · LANDSCAPE ARCHITECTS
PLANNERS · ENVIRONMENTAL CONSULTANTS
900 ELLISON AVENUE
WESTBURY, NEW YORK 11590
(516) 832-6222

APR 1 1

October 2, 1987

Honorable George E. Butts, Jr.
Mayor
Village of Sag Harbor
Main Street
Sag Harbor, NY 11963-0015

Re: Installation & sampling of monitoring wells on Bridge and Rose Streets, Sag Harbor, New York

Dear Mayor Butts:

This letter report summarizes the recent investigation of ground water quality in the vicinity of Bridge Street and Rose Street in Sag Harbor.

BACKGROUND

This preliminary environmental investigation was conducted in conjunction with the proposed drainage improvement program underway with the Village of Sag Harbor.

Based on the results of our previous subsurface soil investigation and a meeting with The New York State Department of Environmental Investigation (NYSDEC) and Suffolk County Department of Health Services, it was determined that a preliminary investigation of ground water quality was necessary prior to the construction of the drainage line in the area of Bridge and Rose Streets. This investigative effort has aided in the assessment of environmental contaminants present in the ground water and in identifying future actions regarding the construction of the drainage system.

INSTALLATION OF MONITORING WELLS

Two ground water monitoring wells were installed in the project area (see location map) in accordance with the USEPA Region II specifications on June 25, 1987. Monitoring well as-builts are attached. The equipment used for installation was decontaminated in between wells to minimize cross-contamination.

Soil samples were collected at approximately two foot intervals from the cuttings brought to the surface during drilling. A head space analysis for organic vapors was conductd on these soil samples utilizing an HNU photoionization analyzer. Soil cutting generated during the drilling operations were left on site. The monitoring wells were developed immediately following installation, and were let stand approximately one week. This allowed for restoration of the natural hydraulic conductivity of the surrounding soils to obtain representative ground water samples.

SUMMARY OF SAMPLING ACTIVITIES

Ground water samples were collected on July 13, 1987 from the two newly installed monitoring wells MW1 and MW2 and from the existing monitoring well MW3 located on the northern perimeter of the Long Island Fisherman's property. MW3 was previously installed by other parties.

The ground water samples were collected in accordance with USEPA Region II sampling protocol as detailed in the Federal Register dated October 26, 1984. Prior to sampling, the wells were evacuated of 3-5 volumes of water in order to obtain representative samples. The samples were iced upon collection and shipped to ERCO, a NYSDEC certified laboratory, for full priority pollutants and petroleum hydrocarbon analysis as specified by the NYSDEC.

A field blank sample for quality assurance and quality control purposes was collected in the following maner: Deionized water was poured through a decontaminated bailer and into sample containers. This sample was shipped to the laboratory with the ground water samples to be analyzed for petroleum hydrocarbons and priority pollutants excluding cyanide and phenols.

On July 31, 1987, a storm water effluent sample was collected from the pump station located between Long Island Avenue and West Water Street. It was not possible to collect an effluent sample directly from the discharge pipe in the harbor since it is under water during high and low tidal conditions. The samples were iced upon collection and shipped to Erco Laboratories to be analyzed for full priority pollutants and petroleum hydrocarbons.

OBSERVATIONS AND RESULTS

Observations at each of the monitoring wells and HNU field readings are presented in Table 1. During the drilling operations at MW1, there was no petroleum hydrocarbon odor or sheen apparent. The HNU readings ranged from 11 parts per million (ppm) to 19 ppm. Background readings were 1 ppm.

At MW2, there was no apparent petroleum hydrocarbon odor or sheen present in the drill soil cuttings. However, a hydrogen sulfide type odor was noted. Hydrogen sulfide results from the decay of sulfur containing organic matter, possible originating from the underlying peat layer in the soil at the site. The HNU readings at this location ranged from 30 ppm to 46 ppm. These readings and the readings from MW1 drill cuttings may be attributed to the presence of organic materials in the soil.

At the time of collection, ground water samples from MW1 and MW2 did not exhibit a petroleum hydrocarbon type odor or sheen. Samples collected from MW3 emmited a very strong petroleum hydrocarbon type odor and two inches of floating petroleum product were noted.

Laboratory analysis results, presented in Table 2, show the presence of several volatile and base/neutral compounds in MW3: 140 parts per billion (ppb) benzene, 38 ppb toluene, 290 ppb ethyl benzene, 1,000 ppb napthalene, 210 ppb 2-methylnapthalene, 270 ppb acenahthene, 120 ppb phenanthrene and trace concentrations of other base/neutral compounds. In addition, 4,700 ppb of petroleum hydrocarbons, 105 ppb of cyanide, 20 ppb of phenols, 13 ppb arsenic, 37 ppb copper, 81 ppb lead, 2,100 ppb zinc were detected.

Volatile and base/neutral compounds were not detected in MW1 and MW2. Low levels of metals were detected and are most likely due to natural conditions. However, 14 ppb cyanide and 34 ppb of phenols were detected in MW2.

Laboratory analysis of sample WS-5 collected from the storm water effluent indicates the presence of relatively low levels of the following metals: Arsenic (7 ppb), Copper (41 ppb), Lead (60 ppb) and Zinc (11 ppb). In addition low levels of 1, 1, 1-Trichloroethane (2.5 ppb) were detected.

CONCLUSIONS AND RECOMMENDATIONS

Upon review of field observations and the laboratory data, we conclude that the ground water that was sampled from MW3 in the vicinity of Bridge Street and Long Island Avenue is contaminated with volatile organics, base/neutral compounds, lead and phenols. These contaminants were not present in the samples from MW1 and MW2.Dewatering operations from the drainage construction excavations at the intersection of Bridge and Rose Streets may cause the contamination found at MW3 to migrate towards the excavations. Should the contamination migrate, the Village would be responsible for that migration and the high costs associated with disposing of any contaminated ground water resulting from the dewatering operations. The levels of contaminants present exceed NYSDEC effluent discharge limits. Therefore, the contaminated ground water cannot be discharged to the bay and would have to be disposed of as a hazardous liquid.

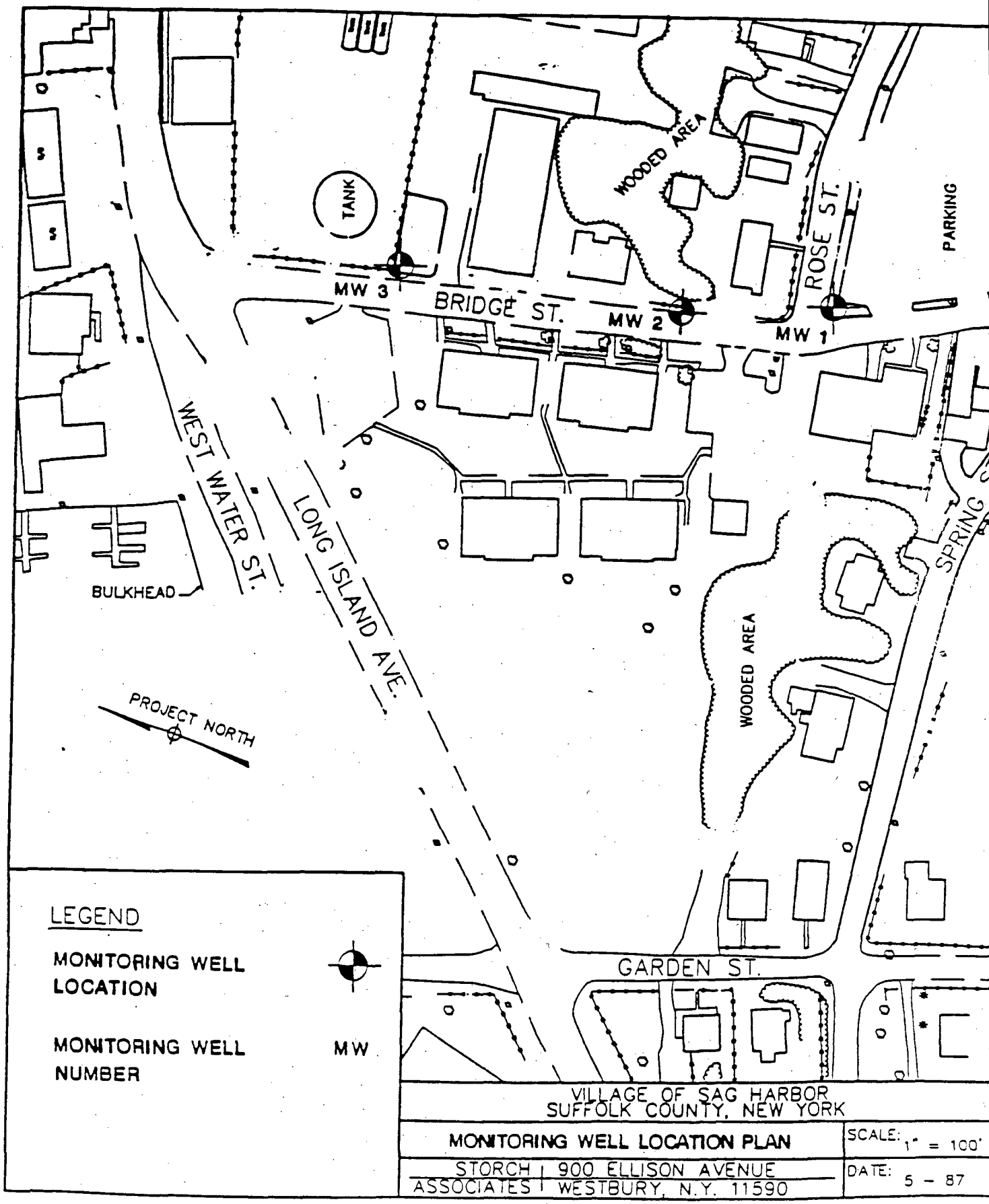
Storch Associates recommends that the drainage project avoid the aforementioned areas, as outlined in our letter dated October 5, 1987.Should you have any questions regarding the preceding report, do not hesitate to call.

Very truly yours,

STORCH ASSOCIATES

Dean Anson

DA/amv/LI



VILLAGE OF SAG HARBOR
SUFFOLK COUNTY, NEW YORK

MONITORING WELL LOCATION PLAN	SCALE: 1" = 100'
STORCH ASSOCIATES | 900 ELLISON AVENUE | WESTBURY, N.Y. 11590	DATE: 5 - 87

TABLE 1
SAG HARBOR
HNU HEAD SPACE ANALYSIS

SAMPLE #	DEPTH (FEET)	HNU READING (PPM)	FIELD OBSERVATIONS
MW1	0-2	16	GWI AT 1 FOOT
	2-4	11	
	7-9	8	H2S ODOR
	9-11	19	H2S ODOR
MW2	0-2	40	
	2-4	45	GWI AT 2.5 FEET
	4-6	30	
	6-8	44	H2S ODOR
	8-10	46	H2S ODOR

PPM - Parts per million
GWI - Ground water interface
HNU Background - 1PPM

TABLE 2
PRIORITY POLLUTANT
WATER SAMPLING RESULTS

ID	MATRIX	ANALYSIS	DETECTED	CONCENTRATION (ppb)	REPORTING LIMITS
MW-1	WATER	SEMIVOLATILE ORGANICS	N-NITROSODIPHENYLAMINE	4.7*	20
			BIS(2-ETHYLHEXYL)PHTHALATE	2.9*	20
		METALS	COPPER	17	10
			LEAD	14	20
			ZINC	560	20
		CYANIDE, TOT		ND	
		PHENOLS, TOT		ND	
MW-2	WATER	SEMIVOLATILE ORGANICS	N-NITROSODIPHENYLAMINE	4.2*	20
			BIS(2-ETHYLHEXYL)PHTHALATE	2,4*	20
		METALS	ARSENIC	5.9	5
			COPPER	27	
			LEAD	29	10
			ZINC	210	20
		CYANIDE, TOT.		14	
		PHENOLS, TOT.		34	
MW-3	WATER	VOLATILE ORGANICS	BENZENE	140	2
			TOLUENE	38	2
			ETHYL BENZENE	290	2
		SEMIVOLATILE	NAPHTHALENE	1000	100
			2-METHYLNAPHTHALENE	210	100
			ACENAPHTHYLENE	11*	100
			ACENAPHTHENE	270	100
			FLOURENE	79*	100
			N-NITRODIPHENYLAMINE	19*	100
			PHENANTHRENE	120	100
			FLOURANTHENE	21*	100
			PYRENE	25*	100
			PETROLEUM HYDROCARBON FINGERPRINTING	4700 Total Petroleum Hydrocarbons	(For Individual Hydrocarbons) 10 (For Total Product) 250

The sample has GC/FID characteristics that are similar to a coal tar product

*TRACE CONCENTRATIONS DETECTED BELOW REPORTING LIMITS
ND=NONE DETECTED

TABLE 2 (CONT'D)

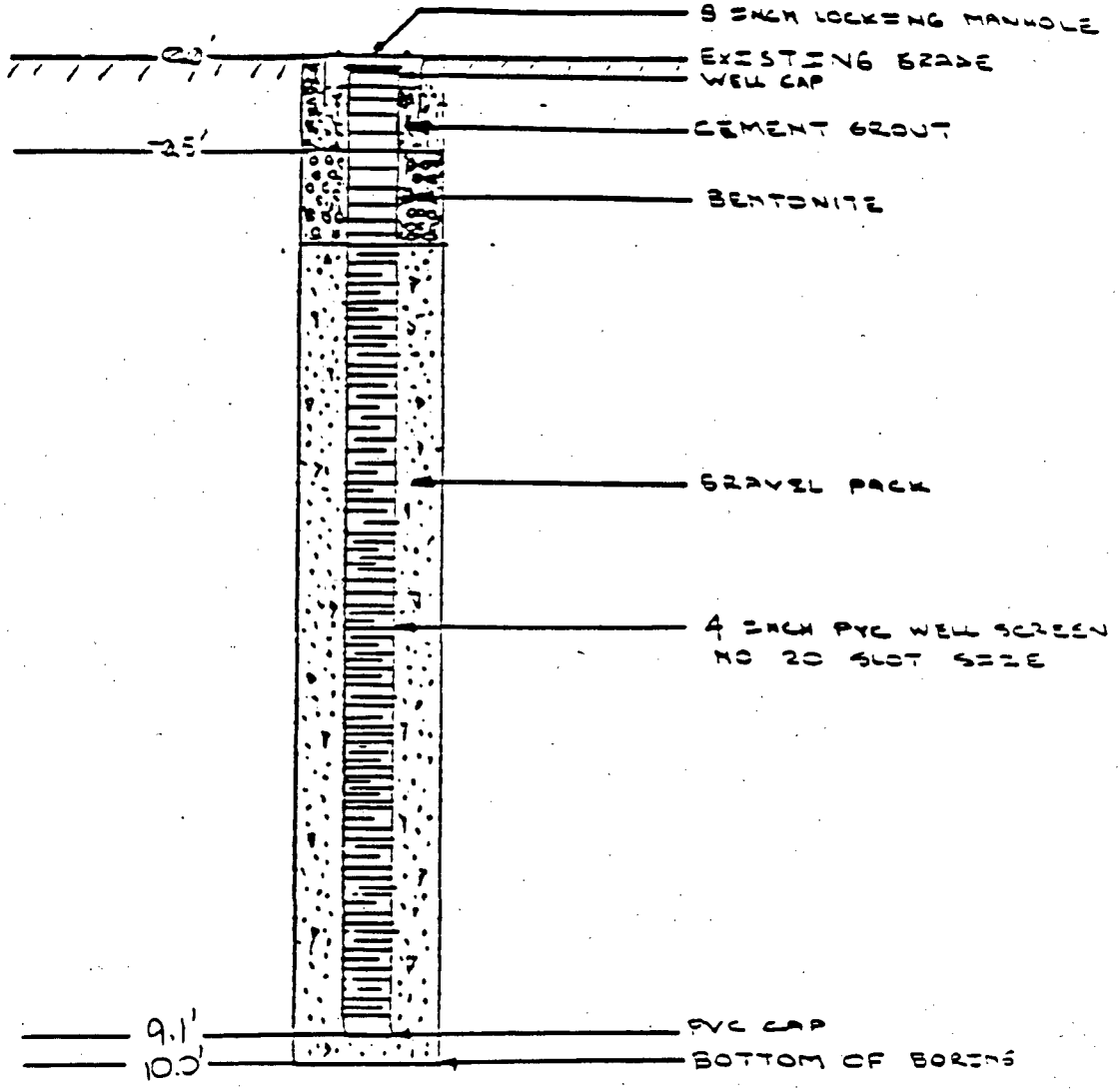
ID	MATRIX	ANALYSIS	DETECTED	CONCENTRATION (ppb)	REPORTING LIMITS
		METALS	ARSENIC	17.7	5
			COPPER	37	10
			LEAD	81	10
			ZINC	2100	20
		CYANIDE, TOTAL		10E	
		PHENOLS, TOTAL		20	
FIELD BLANK	WATER	VOLATILE ORGANICS	1,1,1 TRICHLOROETHENE	3.4	2
ERCO BLANK		SEMIVOLATILE ORGANICS	DI-N-BUTYL PHTHALATE	4.1*	20
MS-5	WATER	VOLATILE ORGANICS	METHYLENE CHLORIDE	16B	5
			ACETONE	5.3B	50
			1,1,1 TRICHLOROETHANE	2.5	2
		SEMIVOLATILE ORGANICS	BIS(2-ETHYLHEXYL)PHTHALATE	3.6*	20
		METALS	ARSENIC	7	5
			COPPER	41	6
			LEAD	60	10
			ZINC	110	20
		CYANIDES, TOT.		ND	
		PHENOLS, TOT.		ND	
ERCO BLANK	WATER	VOLATILE	METHYLENE CHLORIDE	2.9*	5
			ACETONE	3.2*	50

* TRACE CONCENTRATIONS DETECTED BELOW REPORTING LIMIT
B COMPOUND ALSO DETECTED IN BLANK
ND=NONE DETECTED

STORCH ENGINEERS
STORCH ASSOCIATES
Engineers - Landscape Architects - Architects
Planners - Environmental Consultants

JOB 8225 SPG HR230R
SHEET NO. ____ OF ____
CALCULATED BY SG DATE 10-2-87
CHECKED BY ____ DATE ____
SCALE NOT TO SCALE

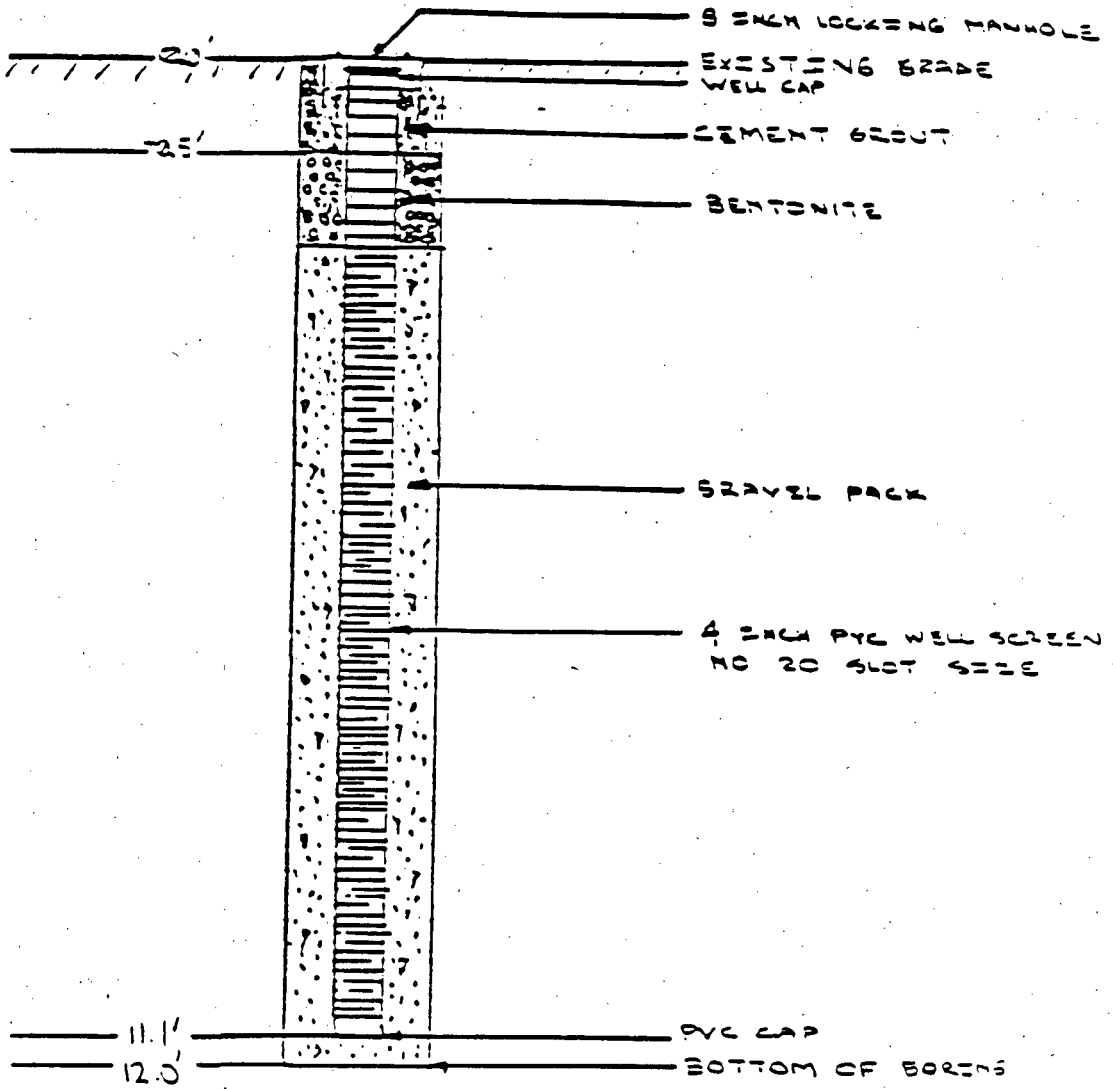
MONITORING WELL # 1



STORCH ENGINEERS
STORCH ASSOCIATES
Engineers · Landscape Architects · Architects
Planners · Environmental Consultants

JOB 6225 - SPG HAZ30E
SHEET NO _____ OF _____
CALCULATED BY SG DATE 12-2-87
CHECKED BY _____ DATE _____
SCALE NOT TO SCALE

MONITORING WELL # 2



Well Monitoring Data Sheet

Site Name: LONG ISLAND FISHERMAN
Date: Beg. 7/13/97 End 7/13/97

Location: BRIDGE/ROSE ST. SAG HARBOR
Well No. MW1 Lat. _____ Long. _____

EPA Id #: —
Site Rep. —

Sampler(s): S. GOGOS
D. BAMMAN
Photo Log —

Well Measurements

Well Diameter: _____ cm 4 in
Well Depth: _____ m 9.1 ft
Casing Size: _____ cm 6 in
Water Depth: _____ m 1.2 ft
Hght of Water (Well Dpt - Water Dpt): _____ m 8.9 ft

General Observations

Detectable Odor - OVA _____
- HNU _____
Temperature _____ pH _____
Turbidity _____ Sediment _____
Color SL. GREY Odor NONE
Conductivity _____

Evacuation Method

Vacuum: PUMP
Bailer: _____
Pressure: _____
Other: _____
Time: Beg. 11:30 End _____
Rate of Discharge _____
Volume: 5.8 GALLONS
Volume Removed: 18 GALLONS
Recharge Wait: 45 MINUTES

Sample Method

Bailer: TEFLON
Diaphragm: _____
Other: _____
Time: Beg. 12:55 End 1:05
Depth Sampled: _____

Analysis:

FULL PRIORITY POLLUTANTS
PETROLEUM HYDROCARBONS

Preservation Method:

General Comments:

Conversions: 1 meter = 3.28 ft
1 foot = .3048 m

Well Monitoring Data Sheet

Site Name: LONG ISLAND FISHERMAN

Date: Beg. 7/13/87 End 7/13/87

Location: BRIDGE/ERIE ST SAG HARBOR

Well No. MW2 Lat. _____ Long. _____

EPA Id #: —

Site Rep. —

Sampler(s): S. GOGOS

D. BAMMAN

Photo Log —

Well Measurements

Well Diameter _____ cm _____ in

Well Depth _____ m _____ ft

Casing Size _____ cm _____ in

Water Depth _____ m _____ ft

Hght of Water (Well Dpt - Water Dpt)

_____ m _____ ft

General Observations

Detectable Odor - OVA _____

- HNU _____

Temperature _____ pH _____

Turbidity _____ Sediment _____

Color BLACK Odor SULFUR / H_2S

Conductivity _____

Evacuation Method

Vacuum PUMP

Bailer _____

Pressure _____

Other _____

Time: Beg. 12:40 End 13:30

Rate of Discharge _____

Volume 6.1 GAL

Volume Removed 20 GAL

Recharge Wait _____

Sample Method

Bailer - TEFLON

Diaphragm _____

Other _____

Time: Beg. 12:15 End 12:30

Depth Sampled _____

General Comments:

-

Analysis:

FULL PRIORITY POLLUTANTS

PETROLEUM HYDROCARBONS

Preservation Method:

Conversions: 1 meter = 3.28 ft
1 foot = .3048 m

Well Monitoring Data Sheet

Site Name: LONG ISLAND FISHERMAN

Location: BRIDGE ST. BAR HARBOR

EPA Id #: —

Sampler(s): S. GOGOS, D. BANNON

Date: Beg. 7/13/87 End 7/13/87

Well No. MW3 Lat. _____ Long. _____

Site Rep. —

Photo Log —

Well Measurements

Well Diameter _____ cm 4 in

Well Depth _____ m 10.6 ft

Casing Size _____ cm 6 in

Water Depth _____ m 1.0 ft

Hght of Water (Well Dpt - Water Dpt)

_____ m 9.6 ft

General Observations

Detectable Odor - OVA _____

- HNU _____

Temperature _____ pH _____

Turbidity _____ Sediment _____

Color BLACK Odor PETROLEUM HYDROCA

Conductivity _____

Evacuation Method

Vacuum PUMP

Bailer _____

Pressure _____

Other _____

Time: Beg. 13:45 End 14:10

Rate of Discharge _____

Volume 6.1 GALL

Volume Removed 20 GAL

Recharge Wait 20 MINUTES

Sample Method

Bailer _____

Diaphragm _____

Other _____

Time: Beg. 14:45 End 14:55

Depth Sampled _____

General Comments:

OIL SHEEN AND GLOBULES

FLOATING OIL

Analysis:

FULL PRIORITY POLLUTANTS

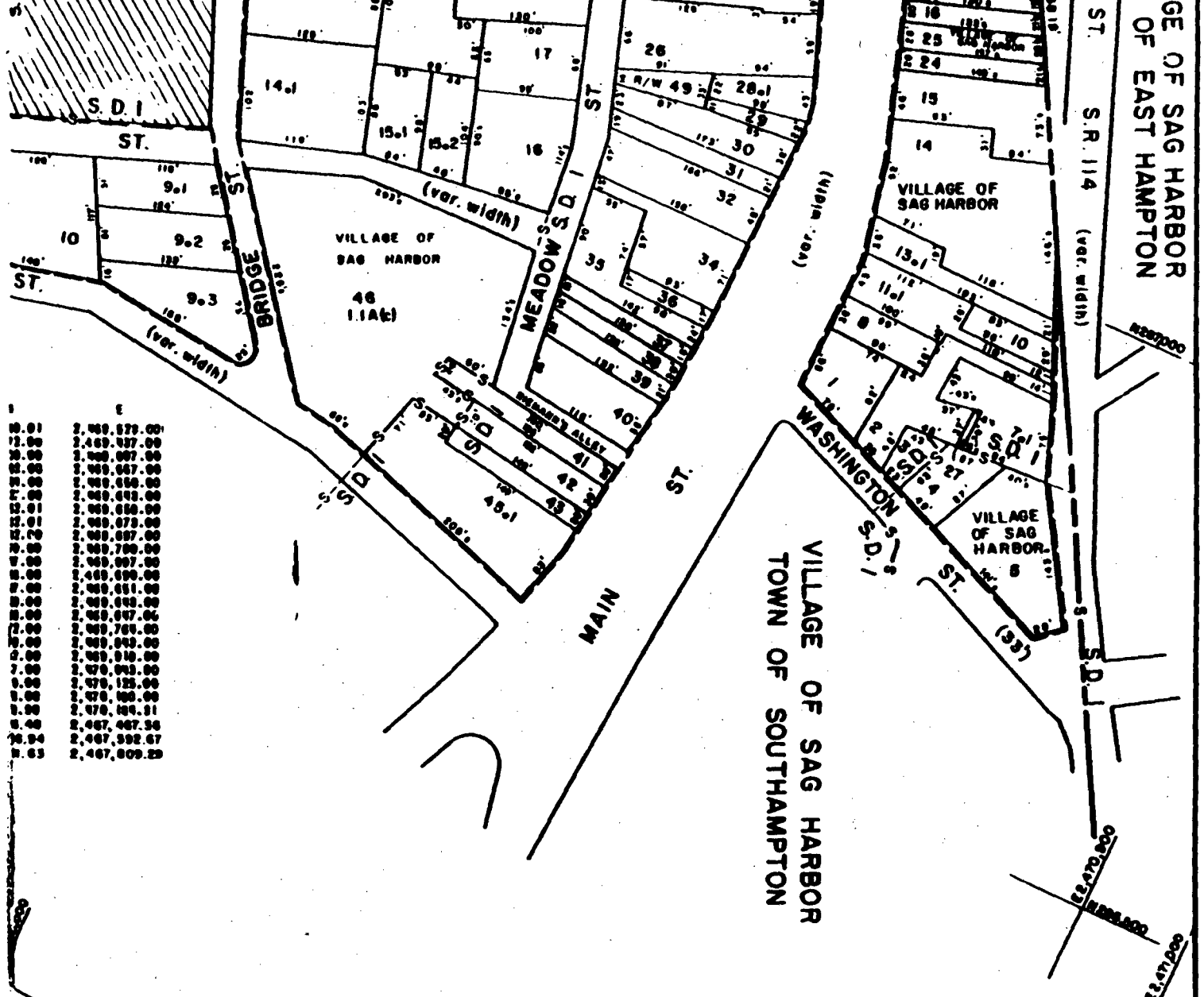
PETROLEUM HYDROCARBONS

Preservation Method:

Conversions: 1 meter = 3.28 ft
1 foot = .3048 m

REFERENCE NO. 5

(11) House, Jo Ann
221 Fox Lane Ln
Southampton Comm



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36.00	2,469,567.00
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72.00	2,469,616.00
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96.01	2,469,673.00
108.00	2,469,687.00
120.00	2,469,707.00
132.00	2,469,727.00
144.00	2,469,747.00
156.00	2,469,767.00
168.00	2,469,787.00
180.00	2,469,807.00
192.00	2,469,827.00
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216.00	2,469,867.00
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264.00	2,469,947.00
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312.00	2,470,027.00
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372.00	2,470,127.00
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396.00	2,470,167.00
408.00	2,470,187.00
420.00	2,470,207.00
432.00	2,470,227.00
444.00	2,470,247.00
456.00	2,470,267.00
468.00	2,470,287.00
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1740.00	2,472,407.00
1752.00	2,472,427.00
1764.00	2,472,447.00
1776.00	2,472,467.00
1788.00	2,472,487.00
1800.00	2,472,507.00
1812.00	2,472,527.00
1824.00	2,472,547.00
1836.00	2,472,567.00
1848.00	2,472,587.00
1860.00	2,472,607.00
1872.00	2,472,627.00
1884.00	2,472,647.00
1896.00	2,472,667.00
1908.00	2,472,687.00
1920.00	2,472,707.00
1932.00	2,472,727.00
1944.00	2,472,747.00
1956.00	2,472,767.00
1968.00	2,472,787.00
1980.00	2,472,807.00
1992.00	2,472,827.00
2004.00	2,472,847.00
2016.00	2,472,867.00
2028.00	2,472,887.00
2040.00	2,472,907.00
2052.00	2,472,927.00
2064.00	2,472,947.00
2076.00	2,472,967.00
2088.00	2,472,987.00
2100.00	2,473,007.00
2112.00	2,473,027.00
2124.00	2,473,047.00
2136.00	2,473,067.00
2148.00	2,473,087.00
2160.00	2,473,107.00
2172.00	2,473,127.00
2184.00	2,473,147.00
2196.00	2,473,167.00
2208.00	2,473,187.00
2220.00	2,473,207.00
2232.00	2,473,227.00
2244.00	2,473,247.00
2256.00	2,473,267.00
2268.00	2,473,287.00
2280.00	2,473,307.00
2292.00	2,473,327.00
2304.00	2,473,347.00
2316.00	2,473,367.00
2328.00	2,473,387.00
2340.00	2,473,407.00
2352.00	2,473,427.00
2364.00	2,473,447.00
2376.00	2,473,467.00
2388.00	2,473,487.00
2400.00	2,473,507.00
2412.00	2,473,527.00
2424.00	2,473,547.00
2436.00	2,473,567.00
2448.00	2,473,587.00
2460.00	2,473,607.00
2472.00	2,473,627.00
2484.00	2,473,647.00
2496.00	2,473,667.00
2508.00	2,473,687.00
2520.00	2,473,707.00
2532.00	2,473,727.00
2544.00	2,473,747.00
2556.00	2,473,767.00
2568.00	2,473,787.00
2580.00	2,473,807.00
2592.00	2,473,827.00
2604.00	2,473,847.00
2616.00	2,473,867.00
2628.00	2,473,887.00
2640.00	2,473,907.00
2652.00	2,473,927.00
2664.00	2,473,947.00
2676.00	2,473,967.00
2688.00	2,473,987.00
2700.00	2,474,007.00
2712.00	2,474,027.00
2724.00	2,474,047.00
2736.00	2,474,067.00
2748.00	2,474,087.00
2760.00	2,474,107.00
2772.00	2,474,127.00
2784.00	2,474,147.00
2796.00	2,474,167.00
2808.00	2,474,187.00
2820.00	2,474,207.00
2832.00	2,474,227.00
2844.00	2,474,247.00
2856.00	2,474,267.00
2868.00	2,474,287.00
2880.00	2,474,307.00
2892.00	2,474,327.00
2904.00	2,474,347.00
2916.00	2,474,367.00
2928.00	2,474,387.00
2940.00	2,474,407.00
2952.00	2,474,427.00
2964.00	2,474,447.00
2976.00	2,474,467.00
2988.00	2,474,487.00
3000.00	2,474,507.00
3012.00	2,474,527.00
3024.00	2,474,547.00
3036.00	2,474,567.00
3048.00	2,474,587.00
3060.00	2,474,607.00
3072.00	2,474,627.00
3084.00	2,474,647.00
3096.00	2,474,667.00
3108.00	2,474,687.00
3120.00	2,474,707.00
3132.00	2,474,727.00
3144.00	2,474,747.00
3156.00	2,474,767.00
3168.00	2,474,787.00
3180.00	2,474,807.00
3192.00	2,474,827.00
3204.00	2,474,847.00
3216.00	2,474,867.00
3228.00	2,474,887.00
3240.00	2,474,907.00
3252.00	2,474,927.00
3264.00	2,474,947.00
3276.00	2,474,967.00
3288.00	2,474,987.00
3300.00	2,475,007.00
3312.00	2,475,027.00
3324.00	2,475,047.00
3336.00	2,475,067.00
3348.00	2,475,087.00
3360.00	2,475,107.00
3372.00	2,475,127.00
3384.00	2,475,147.00
3396.00	2,475,167.00
3408.00	2,475,187.00
3420.00	2,475,207.00
3432.00	2,475,227.00
3444.00	2,475,247.00
3456.00	2,475,267.00
3468.00	2,475,287.00
3480.00	2,475,307.00
3492.00	2,475,327.00
3504.00	2,475,347.00
3516.00	2,475,367.00
3528.00	2,475,387.00
3540.00	2,475,407.00
3552.00	2,475,427.00
3564.00	2,475,447.00
3576.00	2,475,467.00
3588.00	2,475,487.00
3600.00	2,475,507.00
3612.00	2,475,527.00
3624.00	2,475,547.00
3636.00	2,475,567.00
3648.00	2,475,587.00
3660.00	2,475,607.00
3672.00	2,475,627.00
3684.00	2,475,647.00
3696.00	2,475,667.00
3708.00	2,475,687.00
3720.00	2,475,707.00
3732.00	2,475,727.00
3744.00	2,475,747.00
3756.00	2,475,767.00
3768.00	2,475,787.00
3780.00	2,475,807.00
3792.00	2,475,827.00
3804.00	2,475,847.00
3816.00	2,475,867.00
3828.00	2,475,887.00
3840.00	2,475,907.00
3852.00	2,475,927.00
3864.00	2,475,947.00
3876.00	2,475,967.00
3888.00	2,475,987.00
3900.00	2,476,007.00
3912.00	2,476,027.00
3924.00	2,476,047.00
3936.00	2,476,067.00
3948.00	2,476,087.00
3960.00	2,476,107.00
3972.00	2,476,127.00
3984.00	2,476,147.00
3996.00	2,476,167.00
4008.00	2,476,187.00
4020.00	2,476,207.00
4032.00	2,476,227.00
4044.00	2,476,247.00
4056.00	2,476,267.00
4068.00	2,476,287.00
4080.00	2,476,307.00
4092.00	2,476,327.00
4104.00	2,476,347.00
4116.00	2,476,367.00
4128.00	2,476,387.00
4140.00	2,476,407.00
4152.00	2,476,427.00
4164.00	2,476,447.00
4176.00	2,476,467.00
4188.00	2,476,487.00
4200.00	2,476,507.00
4212.00	2,476,527.00
4224.00	2,476,547.00
4236.00	2,476,567.00
4248.00	2,476,587.00
4260.00	2,476,607.00
4272.00	2,476,627.00
4284.00	2,476,647.00
4296.00	2,476,667.00
4308.00	2,476,687.00
4320.00	2,476,707.00
4332.00	2,476,727.00
4344.00	2,476,747.00
4356.00	2,476,767.00
4368.00	2,476,787.00
4380.00	2,476,807.00
4392.00	2,476,827.00
4404.00	2,476,847.00
4416.00	2,476,867.00
4428.00	2,476,887.00
4440.00	2,476,907.00
4452.00	2,476,927.00
4464.00	2,476,947.00
4476.00	2,476,967.00
4488.00	2,476,987.00
4500.00	2,477,007.00
4512.00	2,477,027.00
4524.00	2,477,047.00
4536.00	2,477,067.00
4548.00	2,477,087.00
4560.00	2,477,107.00
4572.00	2,477,127.00
4584.00	2,477,147.00
4596.00	2,477,167.00
4608.00	2,477,187.00
4620.00	2,477,207.00
4632.00	2,477,227.00
4644.00	2,477,247.00
4656.00	2,477,267.00
4668.00	2,477,287.00
4680.00	2,477,307.00
4692.00	2,477,327.00
4704.00	2,477,347.00
4716.00	2,477,367.00
4728.00	2,477,387.00
4740.00	2,477,407.00
4752.00	2,477,427.00
4764.00	2,477,447.00
4776.00	2,477,467.00
4788.00	2,477,487.00
4800.00	2,477,507.00
4812.00	2,477,527.00
4824.00	2,477,547.00
4836.00	2,477,567.00
4848.00	2,477,587.00
4860.00	2,477,607.00
4872.00	2,477,627.00
4884.00	2,477,647.00
4896.00	2,477,667.00
4908.00	2,477,687.00
4920.00	2,477,707.00
4932.00	2,477,727.00
4944.00	2,477,747.00
4956.00	2,477,767.00
4968.00	2,477,787.00
4980.00	2,477,807.00
4992.00	2,477,827.00
5004.00	2,477,847.00
5016.00	2,477,867.00
5028.00	2,477,887.00
5040.00	2,477,907.00
5052.00	2,477,927.00
5064.00	2,477,947.00
5076.00	2,477,967.00
5088.00	2,477,987.00
5100.00	2,478,007.00
5112.00	2,478,027.00
5124.00	2,478,047.00
5136.00	2,478,067.00
5148.00	2,478,087.00
5160.00	2,478,107.00
5172.00	2,478,127.00
5184.00	2,478,147.00
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5208.00	2,478,187.00
5220.00	2,478,207.00
5232.00	2,478,227.00
5244.00	2,478,247.00
5256.00	2,478,267.00
5268.00	2,478,287.00
5280.00	2,478,307.00
5292.00	2,478,327.00
5304.00	2,478,347.00
5316.00	2,478,367.00
5328.00	2,478,387.00
5340.00	2,478,407.00
5352.00	2,478,427.00
5364.00	2,478,447.00
5376.00	2,478,467.00
5388.00	2,478,487.00
5400.00	2,478,507.00
5412.00	2,478,527.00
5424.00	2,478,547.00
5436.00	2,478,567.00
5448.00	2,478,587.00
5460.00	2,478,607.00
5472.00	2,478,627.00
5484.00	2,478,647.00
5496.00	2,478,667.00
5508.00	2,478,687.00
5520.00	2,478,707.00
5532.00	2,478,727.00
5544.00	2,478,747.00
5556.00	2,478,767.00
5568.00	2,478,787.00
5580.00	2,478,807.00
5592.00	2,478,827.00
5604.00	2,478,847.00
5616.00	2,478,867.00
5628.00	2,478,887.00
5640.00	2,478,907.00
5652.00	2,478,927.00
5664.00	2,478,947.00
5676.00	2,478,967.00
5688.00	2,478,987.00
5700.00	2,479,007.00
5712.00	2,479,027.00
5724.00	2,479,047.00
5736.00	2,479,067.00
5748.00	2,479,087.00
5760.00	2,479,107.00
5772.00	2,479,127.00
5784.00	2,479,147.00
5796.00	2,479,167.00
5808.00	2,479,187.00
5820.00	2,479,207.00
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5844.00	2,479,247.00
5856.00	2,479,267.00
5868.00	2,479,287.00
5880.00	2,479,307.00
5892.00	2,479,327.00
5904.00	2,479,347.00
5916.00	2,479,367.00
5928.00	2,479,387.00
5940.00	2,479,407.00
5952.00	2,479,427.00
5964.00	2,479,447.00
5976.00	2,479,467.00
5988.00	2,479,487.00
6000.00	2,479,507.00
6012.00	2,479,527.00
6024.00	2,479,547.00
6036.00	2,479,567.00
6048.00	2,479,587.00
6060.00	2,479,607.00
6072.00	2,479,627.00
6084.00	2,479,647.00
6096.00	2,479,667.00
6108.00	2,479,687.00
6120.00	2,479,707.00
6132.00	2,479,727.00
6144.00	2,479,747.00
6156.00	2,479,767.00
6168.00	2,479,787.00
6180.00	2,479,807.00
6192.00	2,479,827.00
6204.00	2,479,847.00
6216.00	2,479,867.00
6228.00	2,479,887.00
6240.00	2,479,907.00
6252.00	2,479,927.00
6264.00	2,479,947.00
6276.00	2,479,967.00
6288.00	2,479,987.00
6300.00	2,480,007.00
6312.00	2,480,027.00
6324.00	2,480,047.00
6336.00	2,480,067.00
6348.00	2,480,087.00
6360.00	2,480,107.00
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6384.00	2,480,147.00
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6432.00	2,480,227.00
6444.00	2,480,247.00
6456.00	2,480,267.00
6468.00	2,480,287.00
6480.00	2,480,307.00
6492.00	2,480,327.00
6504.00	2,480,347.00
6516.00	2,480,367.00
6528.00	2,480,387.00
6540.00	2,480,407.00
6552.00	2,480,427.00
6564.00	2,480,447.00
6576.00	2,480,467.00
6588.00	2,480,487.00
6600.00	2,480,507.00
6612.00	2,480,527.00
6624.00	2,480,547.00
6636.00	2,480,567.00
6648.00	2,480,587.00
6660.00	2,480,607.00
6672.00	2,480,627.00
6684.00	2,480,647.00
6696.00	2,480,667.00
6708.00	2,480,687.00
6720.00	2,480,707.00
6732.00	2,480,727.00
6744.00	2,480,747.00
6756.00	2,480,767.00
6768.00	2,480,787.00
6780.00	2,480,807.00
6792.00	2,480,827.00
6804.00	2,480,847.00
6816.00	2,480,867.00
6828.00	2,480,887.00
6840.00	2,480,907.00
6852.00	2,480,927.00
6864.00	2,480,947.00
6876.00	2,480,967.00
6888.00	2,480,987.00
6900.00	2,481,007.00
6912.00	2,481,027.00
6924.00	2,481,047.00
6936.00	2,481,067.00
6948.00	2,481,087.00
6960.00	2,481,107.00
6972.00	2,481,127.00
6984.00	2,481,147.00
6996.00	2,481,167.00
7008.00	2,481,187.00
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7032.00	2,481,227.00
7044.00	2,481,247.00
7056.00	2,481,267.00
7068.00	2,481,287.00
7080.00	2,481,307.00
7092.00	2,481,327.00
7104.00	2,481,347.00
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7140.00	2,481,407.00
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7164.00	2,481,447.00
7176.00	2,481,467.00
7188.00	2,481,487.00
7200.00	2,481,507.00
7212.00	2,481,527.00
7224.00	2,481,547.00
7236.00	2,481,567.00
7248.00	2,481,587.00
7260.00	2,481,607.00
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7284.00	2,481,647.00
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7308.00	2,481,687.00
7320.00	2,481,707.00
7332.00	2,481,727.00
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7356.00	2,481,767.00
7368.00	2,481,787.00
7380.00	2,481,807.00
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7416.00	2,481,867.00
7428.00	2,481,887.00
7440.00	2,481,907.00
7452.00	2,481,927.00
7464.00	2,481,947.00
7476.00	2,481,967.00
7488.00	2,481,987.00
7500.00	2,482,007.00
7512.00	2,482,027.00
7524.00	2,482,047.00
7536.00	2,482,067.00
7548.00	2,482,087.00
7560.00	2,482,107.00
7572.00	2,482,127.00
7584.00	2,482,147.00
7596.00	2,482,167.00
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7656.00	2,482,267.00
7668.00	2,482,287.00
7680.00	2,482,307.00
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7728.00	2,482,387.00
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7776.00	2,482,467.00
7788.00	2,482,487.00
7800.00	2,482,507.00
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7836.00	2,482,567.00
7848.00	2,482,587.00
7860.00	2,482,607.00
7872.00	2,482,627.00
7884.00	2,482,647.00
7896.00	2,482,667.00
7908.00	2,482,687.00
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7932.00	2,482,727.00
7944.00	2,482,747.00
7956.00	2,482,767.00
7968.00	2,482,787.00
7980.00	2,482,807.00
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8040.00	2,482,907.00
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8076.00	2,482,967.00
8088.00	2,482,987.00
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8112.00	2,483,027.00
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8148.00	2,483,087.00
8160.00	2,483,107.00
8172.00	2,483,127.00
8184.00	2,483,147.00
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8220.00	2,483,207.00
8232.00	2,483,227.00
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8364.00	2,483,447.00
8376.00	2,483,467.00
8388.00	2,483,487.00
8400.00	2,483,507.00
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8436.00	2,483,567.00
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8532.00	2,483,727.00
8544.00	2,483,747.00
8556.00	2,483,767.00
8568.00	2,483,787.00
8580.00	2,483,807.00
8592.00	2,483,827.00
8604.00	2,483,847.00
8616.00	2,483,867.00
8628.00	2,483,887.00
8640.00	2,483,907.00
8652.00	2,483,927.00
8664.00	2,483,947.00
8676.00	2,483,967.00
8688.00	2,483,987.00
8700.00	2,484,007.00
8712.00	2,484,027.00
8724.00	2,484,047.00
8736.00	2,484,067.00
8748.00	2,484,087.00
8760.00	2,484,107.00
8772.00	2,484,127.00
8784.00	2,484,147.00
8796.00	2,484,167.00
8808.00	2,484,187.00
8820.00	2,484,207.00
8832.00	2,484,227.00
8844.00	2,484,247.00
8856.00	2,484,267.00
8868.00	2,484,287.00
8880.00	2,484,307.00
8892.00	2,484,327.00
8904.00	2,484,347.00
8916.00	2,484,367.00
8928.00	2,484,387.00
8940.00	2,484,407.00
8952.00	2,484,427.00
8964.00	2,484,447.00
8976.00	2,484,467.00
8988.00	2,484,487.00
9000.00	2,484,507.00
9012.00	2,484,527.00
9024.00	2,484,547.00
9036.00	2,484,567.00
9048.00	2,484,587.00
9060.00	2,484,607.00
9072.00	2,484,627.00
9084.00	2,484,647.00
9096.00	2,484,667.00
9108.00	2,484,687.00
9120.00	2,484,707.00
9132.00	2,484,727.00
9144.00	2,484,747.00
9156.00	2,484,767.00
9168.00	2,484,787.00
9180.00	2,484,807.00
9192.00	2,484,827.00
9204.00	2,484,847.00
9216.00	2,484,867.00
9228.00	2,484,887.00
9240.00	2,484,907.00
9252.00	2,484,927.00
9264.00	2,484,947.00
9276.00	2,484,967.00
9288.00	2,484,987.00
9300.00	2,485,007.00
9312.00	2,485,027.00
9324.00	2,485,047.00
9336.00	2,485,067.00
9348.00	2,485,087.00
9360.00	2,485,107.00
9372.00	2,485,127.00
9384.00	2,485,147.00
9396.00	2,485,167.00
9408.00	2,485,187.00
9420.00	2,485,207.00
9432.00	2,485,227.00
9444.00	2,485,247.00
9456.00	2,485,267.00
9468.00	2,485,287.00
9480.00	2,485,307.00
9492.00	2,485,327.00
9504.00	2,485,347.00
9516.00	2,485,367.00
9528.00	2,485,387.00
9540.00	2,485,407.00
9552.00	2,485,427.00
9564.00	2,485,447.00
9576.00	2,485,467.00
9588.00	2,485,487.00
9600.00	2,485,507.00
9612.00	2,485,527.00
9624.00	2,485,547.00
9636.00	2,485,567.00
9648.00	2,485,587.00
9660.00	2,485,607.00
9672.00	2,485,627.00
9684.00	2,485,647.00
9696.00	2,485,667.00
9708.00	2,485,687.00
9720.00	2,485,707.00
9732.00	2,485,727.00
9744.00	2,485,747.00
9756.00	2,485,767.00
9768.00	2,485,787.00
9780.00	2,485,807.00
9792.00	2,485,827.00
9804.00	2,485,847.00
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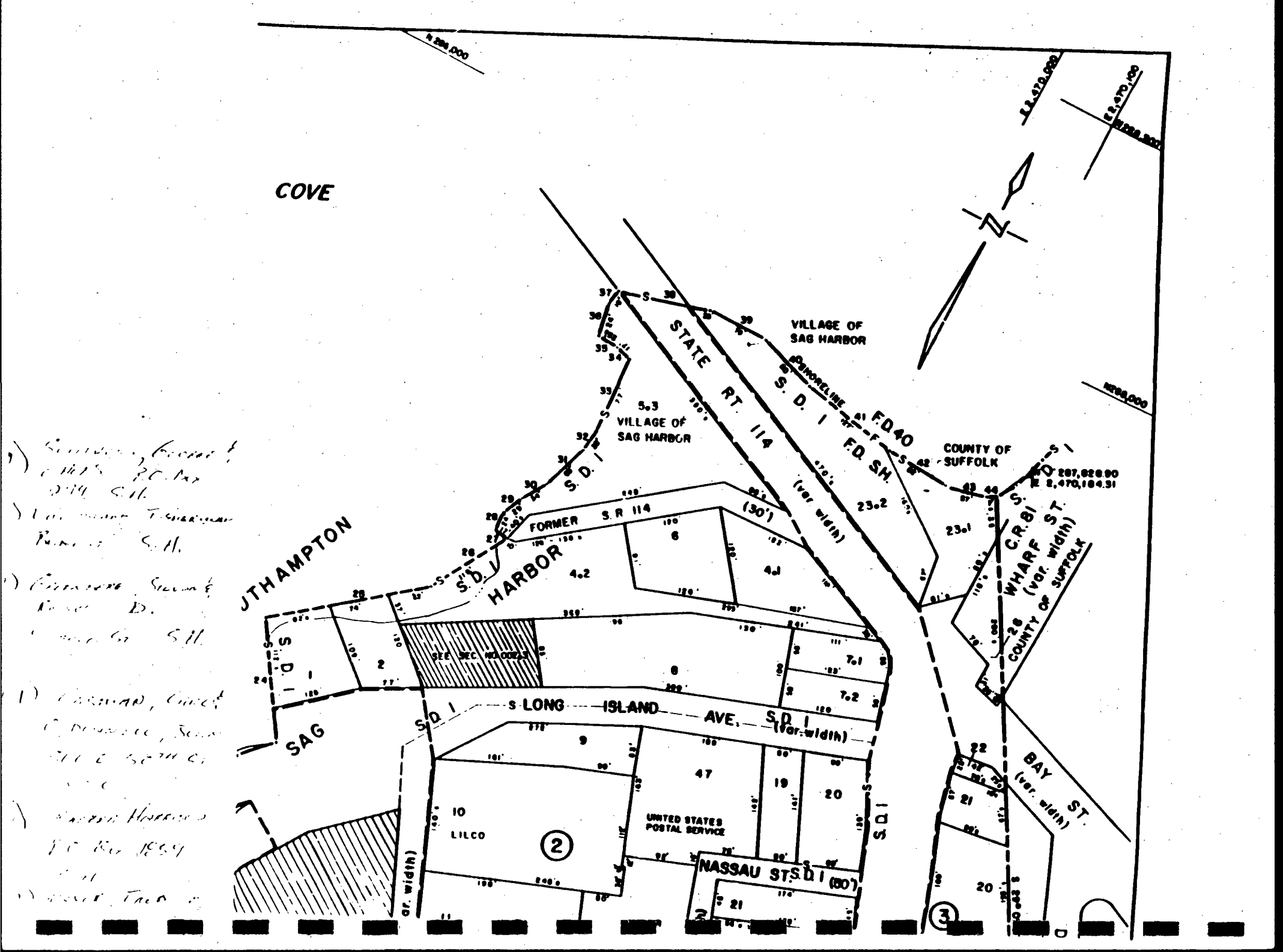
9828.00	2,485,887.00
9840.00	2,485,907.00
9852.00	2,485,927


COVE
VILLAGE OF SAG HARBOR
STATE RT. 114
S. D. I
F.D. SH.
F.D. 40
SHORELINE
COUNTY OF SUFFOLK
C.R. 81
WHARF ST. (var. width)
COUNTY OF SUFFOLK
BAY ST. (var. width)
5.3
VILLAGE OF SAG HARBOR
FORMER S.R. 114
(30')
(var. width)
HARBOR
SAG
LONG ISLAND AVE. S.D. I (var. width)
SEE SEC. NO. 002.3
LILCO
UNITED STATES POSTAL SERVICE
NASSAU ST. S.D. I (50')
(var. width)
N 284,000
E 2,470,000
E 2,470,100
N 288,000
287,828.90
E 2,470,184.31

REFERENCE NO. 6

00441
02-8810-73

NUS CORPORATION

II

0321

SAG HARBOR-BRIDGE STREET
02-8810-73
SITE MANAGER-D. COHEN
LOGBOOK #0321
NOVEMBER 4, 1988

TABLE OF CONTENTS

ON-SITE RECONNAISSANCE	pp 4-10	
map of SAG HARBOR - BUSINESS AREA	Opposite	pg 5
map for house count	Opposite	pg 9
site maps	Opposite	pg 10
SAMPLING AND NON-SAMPLING INSPECTION 11/29,30	pp 11-26	
PERSONNEL FOR SAMPLING	pg 11	
NON-SAMPLING DATA COLLECTION NOVEMBER 29	pg 12-14	
SAMPLING	pg 15-22	
PHOTO LOG	pg 23-26	
TABLE OF SAMPLE ID NO.S	pg 27	

Sag Harbor - Bridge Street, Sag Harbor, NY

On-site reconnaissance 02-8810-73

November 10, 1988

NUS Personnel

Deborah Cohen	Site Manager
Laura Lafonge	Co Investigator
Richard Pagano	Site Safety Officer

Weather Conditions

35° - 45°F, partly cloudy, winds approx 2-5 miles

11/10/88 Imaged 11/.4/88

Sag Harbor - Bridge Street November 10, 1988 32-3810-73

0715 During breakfast met with Vincent Canelli, prospective buyer of Long Island Fisherman. He informed us of:

He was going to take samples but decided against it since we would be out sampling. He works at Provisions of Sag Harbor on Main Street. If we have any questions/problems call him

725-3277 office
725-1916 Home

A man in the resturant pointed out where gas stations used to be. These are marked out on the map opposite.

0810 Talked to Charlie Mazzili. He said Rick Schmidt will be meeting us at 11:00 at LILCO.

0815 LEFT message for John Naylor that we would be on Bridge street between 9-12 and that I talked to Vincent Canuelli. He had said it was no problem to look around the building

0830 Arrived at Bridge Street. Setting up for reconnaissance.

0845 Met with Jerry McClean, maintenance man for Harbor Close Condo. He said they have a well they use for irrigation. Not sure how deep. The property is all fill. Was done about 25 years ago. They have a lot of ponding on the street sometimes he sees oil sheen floating on top

[signature] 11/10/88 [signature] 11-14-88

S+G HARBOR - BRIDGE STREET November 10 1988 C2-8810-7

Train went from Bridgehampton to Sag Harbor along Long Island Avenue.

HarborClose Condo has 32 units, 2 people in each no children. All elderly.

Most homes in area have cesspools.

Also he said there was an electrical plant on the property next to the Condos on the east.

0900 Walking on Harbor Close Condo property
~~Prior to this~~ DJL 11/10/88 Field tested HNU and Ova

HNU F EPA# 307246
OVA A EPA# 469758
Mini Alert EPA# 428588
Escape Packs #
Debbie 192042
Laura 192053
Rich 192094

Background readings on HNU & OVA 0ppm

Weather becoming sunny
No readings above background

0915 Another property behind Harbor Close. Wooden fence separates them. Undisturbed, no houses, owned by Harbor Cove Realty

Side of property on Long Island Ave/W. Water Street has slope into drainage ditch. Property drainage into here.

Soil is moist on all of property

Debbie [signature] 11/10/88 [signature] 11-14-88

SAG HARBOR - BRIDGE STREET NOVEMBER 10 1988 02-5810-73 7

0930 Slope in front of Condos on Bridge Street side

~~Go over to Casman's property~~ DSL 11/10/88

0 Walking north on Bridge Street. Ground very wet on property
water draining down street to catch basin on corner of Rose
oil floating on top, orange compound floating

0945 Long Island Fisherman property

No readings above background on HNU or OVA

~~Possibly~~ DSL 11/10/88 Monitoring well 3 is not locked and no security casing (OR MONITORING WELL ON LIF property) ~~Cap~~ DSL 11/10/88, Screen above ground level.

Soil is stained in back of building.

~~Near~~ DSL 11/10/88 Oil tank - appears to have leaked ~~and~~ DSL 11/10/88 ~~maybe~~
~~Soil~~ 11/10/88 Oil on floor under tank.

South side of building to pipes - water coming out of one. orange stain fence separating LIF and Greenberg house is low.

Well next to oil tank - screen is above ground and well is not locked and no security casing DSL 11/10/88

No barrier between LIF and parking lot

Ground is well vegetated, soil moist

1000 Greenberg - 2 children under 7, one is not even a year

Julia Roome in apartment

Talked to Julia Roome. The greenberg house is two parts - Greenbergs and Roome's apartment

[signature] 11/10/88 M Vogel 11-14-88

SAG HARBOR - BRIDGE STREET November 10, 1988 LIF 02-5810-73

1015 Drain pipe hole on side of Building
Very wet on side of bldg
No readings above background on HNU or OVA

Black box said poison dont not touch, appeared empty

Talked Deborah Oswell said she put down a 5 to 7 ft and a half of soil down in the backyard in the spring. The children play in the back.

No fence between part of their property and LIF, other part fence is
1030 ~~Not Checked [illegible]~~ 11/10/88 low. Where no fence is where pipes are.
Gray stuff all over the window on the Long Island Fishermen Building.

Casman Property, No one home
They have oil tank and cess pool on Rose Street side of house

Walking on Rose Street

orange stuff coming out of weep holes in curb. Drain toward catch basin
Walked onto Harrison Property. All paved around house
Doctors office Richard J. Richter Foot Specialist
Fence around back of property

No readings above background on HNU or OVA

Deborah J [illegible] 11/10/88 [illegible] 11/14/88

SAG HARBOR - BRIDGE STREET — NOVEMBER 10, 1988 — 02-5810-73

1045 Walking around the perimeter of the LILCO property. Completly fenced in East END Behind the three tanks is a low point.

1100 Met w/ Rick Schmidt of LILCO

85% of transformers < 50ppb PCB
In Bridgehampton they have a storage yard for transformers. Only transformers here on the poles

There might be a map of the area prior to when LILCO bought it. ~~Prior~~ 11/10/88 It was a town gas plant.

Surface soils samples are ok but if we want to take deeper samples we have to wait until April when the major heating season is over. Before sampling have LILCO mark out area. He said if sampling is to be done in connection with old town gas plant, would have to talk samples down to water table, probably about 4 or 5 feet. Also so much gravel and fill soil on top that surface soils wouldn't be good for this.

1130 Didn't go to Mayer and Howes homes. Private wells are no longer hooked up and it would be impossible to find them since they are buried

11:45 LEFT SITE

12:00 CONDUCTED DRIVE BY SURVEY HOUSE COUNT WITHIN 1/4 MILE OF SITE AND 1/2 MILE OF SITE.

Deborah J Cr 11/10/88 — Mvogel 11-14-88

SAG HARBOR - BRIDGE STREET NOVEMBER 10, 1988 02-8810-73

12:15 DROVE DOWN MEADOWLARK LANE. MOST OF THE HOUSES ARE ABOUT TO BE HOOKED UP TO SCWA WELL. TALKED TO ANITA CILLI, LAST HOUSE ON MEADOWLARK LANE. SHE SAID THEY ARE ALL ON PRIVATE WELLS AWAITING THE WORD TO DISCONNECT AND START USING SCWA'S WATER. ONE HOUSE, THE MILLERS, DONT WANT TO HAVE PUBLIC WATER

SHE SAID SOMETIME AGO, MAYBE FEBUARY THEY ALL HAD THEIR WELLS TESTED AFTER ONE HOUSE ON THE CORNER HAD HIS WELL TESTED. HIS WELL WAS FOUND TO BE UNPOTABLE. SHE FORGETS WHO SAMPLED HER WELL. AFTER TESTING THE VILLAGE OF SAG HARBOR ASKED THEM IF THEY WANTED PUBLIC WATER AND OFFERED A PLAN TO HOOK UP CHEAPLY.

A MAN TOLD US THAT HE LIVES ON HENRY STREET AND HE'S NOT HOOKED UP TO PUBLIC WATER. ALSO SOME OTHER HOMES AROUND HIM HAVE PRIVATE WELLS.

[signature] 11/10/88 [signature] 11-14-88

SAG HARBOR BRIDGE STREET NOVEMBER 30, 1988 02-1810-73

SAMPLING TRIP

NUS PERSONNEL

DEBORAH COHEN 11/30/88 SITE MANAGER
LAURA LAFORGE 11/30/88 SITE SAFETY OFFICER
JANE BULLIS 11/30/88 SAMPLE MANAGEMENT OFFICER
RICH PAGANI 11/30/88 SAMPLER
KEN ROOF 11/30/88 SAMPLER
JOHN BULICH 11/30/88 SAMPLER

WORK PLAN AND QA REQUIREMENTS WERE DISCUSSED WITH THE ABOVE LISTED ONSITE PERSONNEL 11/30/88
~~NOVEMBER 30~~ DSH

WEATHER CONDITION COOL 30-35°F WIND COMING FROM SW 0-5 miles

Deborah J Cohen 11/30/88 M Vogel 12-8-88

SAG HARBOR - BRIDGE STREET NOVEMBER 29, 1988 02-8810-73

12

13:00 MET GEORGE FINKENOR SR., THE VILLAGE OF SAG HARBOR LOCAL HISTORIAN, AT THE MUNICIPAL BUILDING. HE GAVE US A TOUR OF THE AREA AROUND BRIDGE STREET. HE SAID ON THE CORNER OF MAIN AND LONG ISLAND AVE, ON THE NORTHSIDE OF THE STREET THERE WAS A GAS STATION, SINCLAIR STATION. BEFORE THAT, BEFORE WORLD WAR II, IT WAS A COAL YARD. THE RAILROAD WENT DOWN LONG ISLAND AVENUE. THE DRIVE INN BANK, BETWEEN THE POST OFFICE AND HARBOR COVE REALTY, WAS THE STATION. THE BUILDING IS THE ORIGINAL BUILDING. THE POST OFFICE WAS BUILT IN 1975. OTHER GAS STATIONS WERE WHERE THE PROVISIONS/CAFE/SAG HARBOR COUNTRY STORE IS. THIS WAS CALLED ALIPO. IT ~~WAS~~ HAD A SINGLE PUMP, GARAGE AND SMALL EATERY. HE DOESNT THINK THE TANKS ARE STILL THERE. THE REQUIREMENT IS THAT TANKS MUST BE TAKEN OUT OR FILLED WITH SAND. THE TANKS AT THE SINCLAIR STATION AND WHERE HARBOR COVE REALTY IS WERE REMOVED BECAUSE THE OWNER DIDNT WANT TO PAY TO FILL THEM. ALIPO CLOSED AROUND 1945. ON MAIN STREET, IN BETWEEN A BANK AND A WHITE BUILDING (BANK OF THE HAMPTONS) DSC 12/1/88 ON THE EAST SIDE OF THE STREET (ACROSS FROM SINCLAIR) WAS A GAS STATION THAT WENT OUT OF BUSINESS IN THE 1930S. ONE OTHER GAS STATION IS WHERE SPITZ IS ON MAIN STREET, NEAR THE MONUMENT. IT WAS OWNED BY HARRY YOUNG

HE HAD A PHOTOGRAPH OF THE AREA FROM THE 1850S. HE POINTED OUT THE GAS HOLDING TANK ON THE PROPERTY NOW OWNED BY LILCO WHERE THE COAL GAS PLANT WAS. ~~BEHIND~~ IN FRONT OF IT, WAS A LUMBER YARD. LAST YEAR LILCO TORE DOWN THE ORIGINAL BUILDINGS USED WHEN THE PROPERTY WAS A COAL GAS PLANT. THEY ALSO PUT UP THE SHED AND FIXED UP THE PROPERTY

Deborah S Cohen 11/29/88 Mvogel 12-8-88

SAG HARBOR - BRIDGE STREET NOVEMBER 29, 1988 02-8810-73

MR FINCKENOR ALSO SAID MOST OF THE HOMES ON NORTH HAVEN WERE USING PRIVATE WELLS EXCEPT NEAR THE SOUTHERN TIP WHERE PUBLIC WATER IS AVAILABLE FOR ~~THE~~ DJC A FEW HOMES.

HE ALSO SAID THE SEWAGE TREATMENT PLANT IS LOCATED NEXT TO THE YACHT CLUB OFF OF SAG HARBOR BAY.

ACCORDING TO MR FINCKENOR LONG POND, OFF OF RT 79, WAS USED FOR DRINKING WATER. THE PUMP STATION WAS LOCATED NEXT TO ROWE INDUSTRIES (NOW SAG HARBOR INDUSTRIES). DEMAND BECAME GREATER THAN THE WATER SUPPLY COULD HANDLE AND SOMETIME AFTER SUFFOLK COUNTY WATER BEGAN TO SUPPLY WATER. HE SAID THE POPULATION OF SAG HARBOR IS BETWEEN 7-8,000 AND IN THE SUMMER GOES UP TO ABOUT 18,000.

1400 LEFT MR. FINCKENOR AND DROVE OVER TO SUFFOLK COUNTY WATER AUTHORITY

1430 DROVE BY THE WATER TOWER NEAR ~~BY~~ DIVISION STREET AND MIDDLE LINE HIGHWAY.

1500 SPOKE WITH MR BLAKE AT SCWA. HE SAID THERE ARE APPROXIMATELY 1300 ACCOUNTS THEY SERVICE IN SAG HARBOR. THERE IS ONE PUMP STATION WITH THREE WELLS. THE SAG HARBOR SUPPLY IS SELF CONTAINED, THEY ARE NOT CONNECTED WITH OTHER WELLS. (ALSO ~~BUSINESSES~~ COMMERCIAL, INDUSTRIAL AND AGRICULTURAL BUSINESSES ALL USE GROUNDWATER IN THE AREA EITHER PUBLIC OR PRIVATE. 12/10/88)

[signature] 11/29/88 [signature] 12-8-88

SAG HARBOR - BRIDGE STREET NOVEMBER 29, 1988 02-3810-73

14

SOME STREETS NOT SERVICED BY SCWA, THAT DON'T HAVE WATER MAINS ARE: LOVE LANE, SAGE ST BETWEEN CHURCH + DIVISION, CHURCH BETWEEN SAGE AND BURKE, RYSAM ST, RECTOR ST, CROSS ST, MARSDEN, HARRISON, MONTAUK AVE AFTER GRAND, SUSAN ST, MADISON AFTER SUSAN ST, SAG HARBOR TPK AFTER CARROL ST, LAUREL LANE, LILY POND DR, STREET ACROSS FROM LILY POND DR, BRICK KILN RD (STREETS NEAR BY, NEAR ST ANDREWS CEMETERY), HILDRETH ST, NOYACK RD, STONY HILL RD, WICKA TUCK DR, LONG BEACH LANE, BAYVIEW DR, VALLEY DR, RIDGE RD, N. Valley Rd. (FROM MAP OF SCWA MAINS AND HYDRANT). ALSO FERRY RD UPTO ABOUT FRESH RD.

1600 DROVE BY WETLAND AREA ON NORTH HAVEN AT THE SOUTH TIP EAST SIDE.

1615 CALLED RICK SCHMIDT, LILCO, ENVIRONMENTAL SERVICES. HE WILL MEET US WED AT 10:00.

CALLED JOHN NAYLOR TO INFORM HIM WE WOULD BE SAMPLING 8:00, WED AT LONG ISLAND FISHERMAN

Debbie J Chr 11/29/88

M Vogel 12.8.88

0-73

SAG HARBOR - BRIDGE STREET NOVEMBER 30, 1988 02-5810-73 15

0700 SET UP COMMAND POST ON THE LONG ISLAND FISHERMAN PROPERTY

HNU F 307139 CHECKED OUT OK

OVA K 469782 CHECKED OUT OK

MINI RAD 428520 CHECKED OUT OK

BACKGROUND HNU + OVA 0ppm
MINI RAD 8 counts per min

0745 Islp Deconning equipment

0800 SITE SAFETY MEETING. SEE PAGE 11 FOR PERSONNEL LIST

0815 RICHARD REINA STOPPED BY. HE WANTS SPLIT SAMPLES. HE WENT TO GET BOTTLES FOR THE SAMPLE
BRIAN LESHINGER OF PEDNEAULT ASSOCIATES ARRIVED
SHARON STELTZ ARRIVED

0820 BEGIN AUGERING S2. NO READINGS ABOVE BACKGROUND ON HNU OR OVA GRASSY AREA
1st AUGER HOLE 0-8 inch no reading
8"-2ft No reading, water table at 2ft
COLLECTED SAMPLE AT 2-3ft
STRONG SEPTIC SMELL

[signature] 11/30/88 [signature] 12-8-88

SAG HARBOR - BRIDGE STREET NOVEMBER 30, 1988 02-5810-73

S2 Auger hole-1 6'6" S OF LILCO FENCE, 56' W OF CURB ON BRIDGE STREET

-2 18'0" S OF LILCO FENCE, 29' W OF CURB

-3 7'0" S OF LILCO FENCE, 5'7" W OF CURB

SAMPLE COLLECTED AT 2-3 ft FROM THE THREE AUGER HOLES AND COMPOSITED WITH THE EXCEPTION OF THE VOA PORTION. VOA PORTION COLLECTED AT THE THIRD AUGER HOLE

IT WAS NOTICED THAT THE NORTH DIRECTIONAL ON THE sample location MAP OF THE EAST SIDE OF BRIDGE STREET IS WRONG AFTER CHECKING WITH TWO COMPASSES FOR THE CORRECT NORTH DIRECTION. THE CORRECT DIRECTION IS MARKED ON THE MAP OPPOSITE PAGE 17.
DJC 12/21/88

11/30/88

-5810-73

SAG HARBOR · BRIDGE STREET NOVEMBER 30, 1988 02-8810-73

F CURB ON
DGE STREET

CURB

CURB

AUGER

OA PORTION

mplelocation
MAP

CKING
THE

17
12/21/88

0830 S2 - AUGERHOLE 2 AUGERHOLE 3 7ft S OF FENCE
0-8in. NO READINGS ABOVE BACKGROUND 0-8 NO READINGS ABOVE BACKGROUND 5'7" W OF CURB
2ft WATER TABLE COLLECTING VOA AT THIS HOLE

~~S3~~ DJC SOIL DARK, MOIST

0835 2s 2p RICH PAGANO
COLLECTING SAMPLE S2 ~~FPG~~ DJC

0837 3s 3p AUGERHOLE 2 18ft S OF LILCO FENCE

0838 4s 4p AUGERHOLE 1 6ft 6in S OF LILCO FENCE

0900 JEFF GAAL ARRIVED

0905 RICH PAGANO COLLECTING SAMPLE S3 BY OIL TANK
AUGER FIRST HOLE 0-6in HIT WATER TABLE, SAGEN ON WATER. COLLECTED VOA PORTION. ORGANIC, ROOTS CLAY, SILT AND SOME SAND IN SOIL.

0930 5s 5p COLLECTING VOA AT FIRST ~~AUGER~~ DJC 12/1/88 HOLE

0-7in COMPOSITE OF 3 ~~AUGER~~ DJC 12/1/88 HOLES SINCE THE WATER TABLE WAS SO CLOSE TO THE SOIL SURFACE AND THERE WAS AN OIL SHEEN ON SURFACE OF WATER
NO READINGS ON HNU / OVA ABOVE BACKGROUND

WATER TABLE NEAR SURFACE. ~~OIL SHEEN~~ DJC 11/30/88

0935 6s 6p SECOND ~~AUGER~~ DJC 12/1/88 HOLE FOR S3

0937 7s 7p THIRD ~~AUGER~~ DJC HOLE FOR S3

~~AUGER~~ OIL HOLE 1 2'2" N OF OIL TANK, 7' E OF LIF BUILDING
2 2'~~2~~" E (10'2" E OF BUILDING) OF OIL TANK, 9'9" S OF NORTH END OF OIL TANK
3 3'3" S OF OIL TANK, 4'3" E OF LIF BUILDING

Deb [signature] 11/30/88 [signature] 12 8 88

09:45 SPOKE WITH BUDDY. TOLD HIM WE DIDNT HAVE SODIUM HYDROXIDE TO SPIKE THE AQUEOUS CYANIDE SAMPLE. ALSO NO ALCONOX. ASKED IF CAN USE BORAXO INSTEAD.

0950 COLLECTING S4 FROM NEXT TO DRAIN PIPE

OVA NOT WORKING. TOO COLD AND PUMP NOT WORKING

STANDING WATER AROUND PIPE ABOUT 1/2 ft DEEP OR LESS. SHEEN ON WATER SURFACE, RUSTY COLOR

1000 8s 8p COLLECTING S4

NO READINGS ABOVE BACKGROUND

SAMPLE COLLECT 0-8in, 8ft E of FENCE, 7ft S of BUILDING.

AREA BEHIND GREENBERG ~~HOUSE~~ PROPERTY 11/30/88 OSC, SOUTH OF LIF BUILDING IS ABOUT 1 ACRE, OVERGROWN WITH WEED AND PLANTS. WATER APPEARS TO BE COLLECTING HERE AND ALONG THE ~~SO~~ EASTERN BORDER OF THE GREENBERG PROPERTY BY THE FENCE ON TH LIF SIDE OF THE FENCE.

1025 ~~COLLECTING~~ 11/30/88 CANT COLLECT S5. LARGE PUDDLE ALONG SOUTH SIDE OF BUILDING. CANT COLLECT ANY SOIL. ALSO SW1 WONT BE COLLECTED. WATER SEEMS TO BE DRAINING AND COLLECTING IN THIS AREA. FROM A OSC RECENT RAIN RUNOFF FROM OTHER PROPERTIES

Deborah J Cole 11/30/88 M Vogel 12.8.88

SAG HARBOR - BRIDGE STREET NOVEMBER 30, 1988 02-581C-73

PHONE NO. (516) 420-6143

Steve Dalton - 516-420-~~6147~~ 6132

RICHARD J. SCHMITZ
ENVIRONMENTAL ENGINEER
ENVIRONMENTAL ENGINEERING DEPT.
LONG ISLAND LIGHTING COMPANY

ENGINEERING HEADQUARTERS
1660 WALT WHITMAN RD.
MELVILLE, N.Y. 11747

S6 Augerhole 1 14'10" W ~~S~~ OF FENCE, 9'~~10~~6" S ~~W~~ OF LIF BUILDING

2 29'3" W ~~S~~ OF FENCE ~~HT~~ IN LINE WITH AUGER HOLE 1

3 37'4" W ~~S~~ OF FENCE, IN LINE WITH AUGER HOLE 1

Robert Schmitz 11/30/88

02-3810-73

SAG HARBOR - BRIDGE STREET NOVEMBER 30, 1988 02-3810-73

POSSIBLY RUNOFF FROM OTHER PROPERTIES IS ~~COLLECTING~~ PONDING HERE

10 30 9s 9p WINDOW ON SOUTH SIDE OF LIF BUILDING

10 35 RICH SCHMIDT, FROM LILCO ARRIVED. WAITING FOR LILCO PERSON TO MARK OUT SAMPLE LOCATION

11 00 WILL COLLECT S6 FROM GREENBERG PROPERTY

11 05 10s 10p AUGERING HOLE 1

...DING
...TH AUGER

...GER HOLE 1

AUGER HOLE 1 2ft, SOIL COLOR DARKER THAN TOP FILL LAYER
WATER TABLE AT 2FT
NO READINGS ABOVE BACKGROUND ON HNU

2 COLLECTING VOA AT THIS HOLE, CLOSEST HOLE TO DRAINPIPE, 1ft deep.
WATER TABLE AT 1-1½ ft.

3 1-1½ WATER TABLE ON ~~HH~~ PIC
NO READINGS ABOVE BACKGROUND ON HNU

11:10 11s 11p COLLECTING VOA S6 FROM AUGER HOLE 2
S6 - COMPOSITE OF THREE AUGER HOLES, SOIL COLLECTED AT 1½-2 ft BELOW FILL SOIL

11:15 12s 12p AUGERING HOLE 3

FILL: LARGE GRAIN SAND WITH SILT, INORGANIC. ABOUT 1 to 2ft DEEP.

SAMPLE S6 WAS AUGERED SINCE A FILL OF ABOUT 1 to 1½ ft WAS LAID DOWN. ~~PIC~~

Deborah S Cohen 11/30/88 [illegible] 12-8-88

SAG HARBOR - BRIDGE STREET NOVEMBER 30, 1988 C2-8810-73

SA

11

11.

11

S1 Auger hole 1 12'1" S OF LILCO FENCE ON NORTH BORDER, 40'8" E OF FENCE ON WEST BORDER

2 BEHIND SHED, 38" S OF FENCE ON NORTH BORDER, 1'2" W OF FENCE ON EAST BORDER

3 11'3" N OF FENCE ON SOUTH BORDER, 38'4" W OF FENCE ON E BORDER

MOST OF THE NORTH SIDE OF THE PROPERTY ESPECIALLY BETWEEN THE SHED AND WHERE AUGER HOLE 1 WAS MADE THERE IS A LOT OF CONCRETE FROM THE FOUNDATION OF BUILDINGS FORMERLY ON SITE. IT WAS IMPOSSIBLE TO AUGER IN THIS AREA. THE SOUTHWEST CORNER HAD MANY PIPES AND WAS TOO CLOSE TO THE GAS SPHERE TO AUGER DSC ~~GET A SAMPLE~~ 12/1/88. RICK SCHMIDT SAID HE THINKS THE COAL PILE WAS IN THE NORTH WEST CORNER, SOME PRODUCTION BUILDING WAS EAST OF THAT. EAST OF THAT BUILDING WAS A PURIFYING HOUSE WHERE HE THINKS WOOD CHIPS MAY HAVE BEEN ~~WERE~~ TREATED WITH CYANIDE. DSC 11/30/88

12:

12:1

12:3

12:3

Deborah J[illegible] 11/30/88

-88IC-73.

SAG HARBOR-BRIDGE STREET NOVEMBER 30, 1988 02-88IC 73

19

11:25 GARY ROLAND OF LILCO ARRIVED. FINISHED SAMPLING ON GREENBERG PROPERTY BACK TO COMMAND POST

11:30 ELMER BYRD ARRIVED

11:45 ON LILCO PROPERTY. COLLECTING S1

40'3" E

ORDER,

'4" W OF

BETWEEN

ALOT

WAS

CORNER

SPHERE

THE COAL

ACTION

A

CREATED

AUGER HOLE 1 COLOR CHANGE IN SOIL ABOUT 1ft DOWN
DISCOLORED SOIL, BLACKER
COLLECTED SAMPLE AT ABOUT 2ft
NO READINGS ABOVE BACKGROUND ON HNU

2 2ft WATER TABLE COLLECTED
SAMPLE 2-3ft. BEHIND SHED
NO READINGS ABOVE BACKGROUND ON HNU

3 COLLECTED SAMPLE ABOUT 2-3ft
COAL TAR SMELL.
NO READINGS ON HNU
SOIL VERY ROCKY, GROUNDWATER AT SURFACE

WIND PICKING UP. COMING FROM SW

12:00 13s 13p AUGER HOLE 1

12:15 14s 14p AUGER HOLE 3, COLLECTING VOA

12:30 OFF LILCO PROPERTY, BACK TO COMMAND POST

12:35 CALL JOHN O'DONALD. HE SAID HE CAN'T MEET US BUT ITS FINE TO GO SAMPLE.

Deborah J Cohn 11/30/88 M Vogel 12.8.88

SAGHARBOR BRIDGE STREET NOVEMBER 30, 1988 02-8810-73

SA

13(

S7 ~~AUGER~~ DTC 12/21/88 HOLE 1 6'4" W OF SHED, 7'8 S OF FENCE BETWEEN CASMAN AND GREENBERG PROPERTY

2 13'2" W OF SHED, 8'4 S OF FENCE

3 22'4" W OF SHED, 6'8" S OF FENCE

COMPOSITE SAMPLE OF THREE ~~AUGER~~ 11/30/88 HOLES COLLECTED AT 0-6 IN.

13:1

13:2

140

S10 WAS COLLECTED AS CLOSE TO THE SUFFOLK ELECTRIC MOTOR PROPERTY, POSSIBLY A SOURCE OF CONTAIMINATION, AS POSSIBLE. S11 BECAME THE ENVIRONMENTAL DUPLICATE FOR LOATION S10. S12 IS AT THE SAME LOCATON ORIGINALLY INDICATED AS S10 ON THE SAMPLE LOCATION MAP. DSC 12/21/88

Deborah Jan 11/30/88

2-8810-73

SAG HARBOR - BRIDGE STREET NOVEMBER 30, 1988 02-8810-73

1300 TASMAN PROPERTY (O'DONNELL) SAMPLE S7

WATER TABLE AT SURFACE
NO READINGS ABOVE BACKGROUND ON HNU

FENCE BETWEEN
PERTY

FENCE

FENCE
AT
-6 IN.

15S 15p ~~AUGER~~ OSCILLATOR HOLE 2

~~AUGER~~ HOLE 1 WATER TABLE AT SURFACE, SOIL COLLECTED 0-6
2 WATER TABLE AT SURFACE, SOIL COLLECTED 0-6
3 COLLECTED VOA, 0-6 in WATER TABLE 6 in
NO READINGS ABOVE BACKGROUND ON HNU

13:10 16S 16p RICH COLLECTING S7

13:20 BACK TO COMMAND POST

1400 JERRY MCLEAN MET US. SAID WE'D START SAMPLING IN ABOUT TWENTY MINUTES

S8 WILL BE COLLECTED FROM THE SLOPE ON BRIDGE STREET ONLY. A PARKING LOT SEPARATES THE SLOPE ON LONG ISLAND AVE AND BRIDGE. ~~SO S~~

MOTOR PROPERTY,
ME THE
T THE
F SAMPLE

S10 WILL BE COLLECTED FROM THE SOUTH BORDER OF THE CONDO PROPERTY ADJACENT TO THE SUFFOLK ELECTRIC MOTOR BUILDING. WE DID NOT GET ACCESS TO THEIR PROPERTY SO S11 WILL NOT BE ~~SAMPLED~~ COLLECTED AS MARKED ON THE ORIGINAL WORK PLAN
S12 WILL BE COLLECTED FROM THE DRAINAGE PIT AT THE SOUTH END OF THE CONDO PROPERTY AND WEST END OF THE SUFFOLK ELECTRIC MOTOR PROPERTY

Deborah JCL 11/30/88 M Vogel 12-8-88

SAG HARBOR BRIDGE STREET NOVEMBER 30, 1958 02-5810-73

S8 AUGER HOLE 1 20'8" S OF FIRST STAIRWAY DOWN TO STREET LEVEL, 1'2" E OF FENCE ON EAST SIDE OF CONDO PROPERTY
2 16'7" S OF SECOND STAIRWAY, 1'8 E OF FENCE
3 20'10 N OF FOURTH STAIRWAY, 2'6" E OF FENCE
COMPOSITED 0-6 IN FROM 3 AUGER HOLES

S9 AUGER HOLE 1 ~~3~~ 7' W OF THE STEPS FROM PARKING AREA 5'4" N OF PARKING AREA CURB ON NORTH SIDE
2 14'9" W OF AUGER HOLE 1, IN LINE WITH AUGER HOLE 1
3. 25'6" W OF AUGER HOLE 1, IN LINE WITH AUGER HOLE 1

S10, 11 AUGER HOLE 1 4'5" S OF THE SOUTH END OF THE PARKING AREA 15'5" W OF AUGER HOLE 2
2 4'5" S OF PARKING AREA, IN LINE WITH WEST END OF RAILROAD TIES IN CENTER OF PARKING AREA
3 4'5" S OF PARKING AREA, 14'11" E OF AUGER HOLE 2

Debbie S [signature] 11/30/58

02-3810-73

SAG HARBOR: BRIDGE STREET NOVEMBER 30, 1988 02-3810-73

TREET LEVEL,
CONDO PROPERTY
OF FENCE
" E. OF FENCE

1415 DSC 12/5/88 HOLE 1 0-6 in NO READING ON HNU
2 0-6 in " " " "
3 0-6 in VOA COLLECTED, NO READING ON HNU

1420 17s17p COLLECTING S8

1430 COLLECTING S ~~10~~ 9 DSC 11/30/88

G AREA
ON NORTH SIDE
E WITH AUGER
WITH AUGER HOLE 1

~~AUGER~~ DSC 12/5/88 HOLE 1 0-6 in NO READING ABOVE BACKGROUND ON HNU
2 0-6 in " " " " "
3 0-6 in VOA COLLECTED, NO READING " "

1440 18s18p COLLECTING S9

E PARKING AREA

1445 COLLECTING S10 AND S11. S11 IS AN ENVIRONMENTAL DUPLICATE OF S10
AUGER HOLE 1 COLLECTED 2-3ft
2 " 2-3ft
3 COLLECTED VOA, 2-3ft
NO READINGS ABOVE BACKGROUND ON HNU

INE WITH WEST
RKING AREA
E OF AUGER

1500 19s19p S10

15:05 20s20p S11

Debbie Slater 11/30/88 M Vogel 12.5.88

SAG HARBOR BRIDGE STREET NOVEMBER 30, 1988 C2-88-10-73

15:10 COLLECTING S12 BY DRAINAGE AREA
ON SOUTH SIDE OF HARBOR CLOSE CONDO
0-1ft. 3' N of CONCRETE BENCH MARK IN FRONT OF FENCE ON SUFFOLK MOTOR PROPERTY
1515 21p S12. NO SLIDE FILM LEFT

HARBOR CLOSE CONDO LAWN WAS JUST FERTILIZED RECENTLY. ALSO USES ~~FERTILIZER~~ WEED KILL 12/1/88

THE OWNER OF THE BAR NEXT TO SUFFOLK ELECTRIC MOTORS SAID HES NOW HALF OWNER OF THE SUFFOLK ELECTRIC MOTOR BUILDING. ~~THE PREVIOUS~~ ABOUT FOUR YEARS AGO SUFFOLK ELECTRIC MOTOR MOVED OUT. AS FAR AS HE KNOWS THE PROPERTY HAS ALWAYS BEEN USED AS A MOTOR REPAIR SHOP. HE SAID THE BACK YARD WAS NEVER USED FOR ANYTHING. ~~AS~~ HE'D LIKE TO BUILD A CONDO ON THE PROPERTY.

A SURFACE WATER SAMPLE WAS NOT COLLECTED FROM THE WEEP HOLES ON THE CORNER OF ROSE STREET & BRIDGE STREET DUE TO INSUFFICIENT FLUID QUANTITY. DJC 12/2/88

Deborah Cohn 11/30/88 JMVogel 12.8.88

SAG HARBOR BRIDGE STREET NOVEMBER 30, 1988 02 5810-73

23

Photo Log
November 30, 1988
PHOTOGRAPHER: D. COHEN

TIME	ROLL NO/FRAME NO		DESCRIPTION
0745	1	p-1 s1	R. PAGANO, K. ROOF, AND J. BULICH DECONING EQUIPMENT
0835	1	p2 s2	R. PAGANO COLLECTING THE VOA PORTION OF NYFT-S2 SOIL SAMPLE AT THE THIRD AUGER HOLE
0837	1	p3 s3	PHOTO SHOWING THE SECOND AUGER HOLE FOR DSC ~~SAMPLE~~ 11/30/88 NYFTS2 SOIL SAMPLE ON THE GRASSY AREA IN THE NW CORNER OF THE LONG ISLAND FISHERMAN PROPERTY. IN THE BACKGROUND IS THE WHITE STAND OF THE GAS BALL ON THE LILCO PROPERTY.
0838	1	p4 s4	PHOTO SHOWING THE FIRST AUGER HOLE FOR DSC 11/30/88 ~~SAMPLE~~ NYFT-S2 SOIL SAMPLE NEAR THE MONITORING WELL IN THE GRASSY AREA.
0930	1	p5 s5	RICH PAGANO COLLECTING THE VOA PORTION OF NYFT-S3 SOIL SAMPLE AT THE ~~FE~~ DSC FIRST HOLE, NORTH OF THE OIL TANK BEHIND THE LONG ISLAND FISHERMAN BUILDING
0935	1	p6 s6	R. PAGANO COLLECTING SOIL FROM THE SECOND HOLE OF NYFT-S3 SOIL SAMPLE EAST OF THE OIL TANK
0937	1	p7 s7	PHOTO OF THE THIRD AUGER HOLE OF NYFT-S3 SOIL SAMPLE NEAR THE MONITORING WELL SOUTH OF THE OIL TANK

Deborah J Cohen 11/30/88

M Vogel 12 8 88

SAG HARBOR - BRIDGE STREET NOVEMBER 30, 1988 02-3810 7

24

TIME	ROLL No.	FRAME No.	DESCRIPTION
1000	1	p8 s8	KEN ROOF COLLECTING NYFT-S4 SOIL SAMPLE FROM SOIL NEAR THE DRAINAGE PIPES ON THE SOUTHSIDE OF THE LONG ISLAND FISHERMAN BUILDING
1030	1	p9 s9	PHOTO OF THE WINDOW ON THE SOUTH SIDE OF THE LONG ISLAND FISHERMAN BUILDING WITH GRAY MATERIAL ON SILL.
1105	1	p10 s10	J. BULICH AUGERING FIRST HOLE FOR ~~SAMPLE~~ DTC 1430 NYFT-S6 SOIL SAMPLE AT THE ~~EAST~~ NE DTC SIDE OF THE GREENBERG PROPERTY.
1110	1	p11 s11	K. ROOF COLLECTING THE VOA PORTION OF NYFT-S6 SOIL SAMPLE AT THE SECOND AUGER HOLE
1115	1	p12 s12	J. BULICH AUGERING AT THE THIRD HOLE OF NYFT-S6 SOIL SAMPLE
1200	1	p13 s13	R. PAGANO COLLECTING SOIL FOR NYFT-S1 SOIL SAMPLE AT THE FIRST AUGER HOLE. PHOTO FACING SE WITH THE PUBLIC PARKING LOT OFF MEADOW STREET IN THE BACKGROUND

[signature] 11/30/88 [signature] 10.8.88

SAG HARBOR BRIDGE STREET NOVEMBER 30, 1988 02-8810-7

TIME	ROLL No./ FRAME No.	DESCRIPTION
1215	1 p14s14	K. ROOF COLLECTING THE VOA PORTION OF NYFT-S1 SOIL SAMPLE AT THE THIRD AUGER HOLE IN THE SE SIDE OF THE LILCO PROPERTY
1300	1 p15s15	R. PAGANO COLLECTING SOIL FROM THE FIRST HOLE OF NYFT-S7 SOIL SAMPLE ON THE CASHMAN PROPERTY WEST OF THE GARAGE
1310	1 p16s16	R. PAGANO COLLECTING NYFT-S7 SOIL SAMPLE.
1420	1 p17s17	R. PAGANO COLLECTING THE VOA PORTION OF NYFT-S8 SOIL SAMPLE AT THE THIRD HOLE, ON THE EAST SIDE OF THE HARBOR CLOSE CONDO. PROPERTY.
1440	1 p18s18	R. PAGANO COLLECTING NYFT-S9 SOIL SAMPLE, ~~FROM THE~~ p2c 11/30/88 SOUTH OF ~~THE~~ CONDOMINIUMS ADJACENT TO THE PARKING LOT
1500	1 p19s19	K. ROOF COLLECTING THE VOA PORTION OF NYFT-S10 SOIL SAMPLE AT THE THIRD AUGER HOLE ON THE SOUTH SIDE OF THE CONDOMINIUM PROPERTY, ADJACENT TO THE SUFFOLK ELECTRIC MOTOR PROPERTY

Deborah J Lohr 11/30/88 M Vogel 12-8-88

SAG HARBOR - BRIDGE STREET NOVEMBER 30, 1988 02-3810-73

26

TIME	ROLL NO./ FRAME NO.	DESCRIPTION
1505	1 p20s20	K. LOOF COLLECTING NYFT-S11 SOIL SAMPLE FROM THE SAME LOCATION AS NYFT-S10.
1515	1 p21 ~~SET~~ DSC within	R. PADRANO COLLECTING NYFT-S12 SOIL SAMPLE FROM THE DRAINAGE PIT ~~ON THE SOUTH SIDE~~ DSC within JUST ~~NORTH~~ WEST OF NYFT-S10,11 NEAR THE FENCE.

[signature] 11/20/88 M Vogel 12-8-88

SAG HARBOR BRIDGE STREET DECEMBER 1, 1988 02-8310-73

SAS No. 4304B

AMPLE ID No.	ORGANIC TRAFFIC RPT No	INORGANIC TRAFFIC REPORT No.
NYFT-S1	BW874	MBT 298
NYFT-S2 (MS/MSD)	BW875	MBT 299
NYFT-S3	BW876	MBT 300
NYFT-S4	BW877	MBT 301
NYFT-S6	BW879	MBT 303
NYFT-S7	BW880	MBT 304 DJC 12/1/88
NYFT-S8	BW881	MBT 305
NYFT-S9	BW882	MBT 306
NYFT-S10	BW883	MBT 307
NYFT-S11	BW884	MBT 308
NYFT-S12	BW885	MBT 309
NYFT-TRP BLK1	BW886	
NYFT-RIN 1 (TRWEL)	BW887	MBT 311
NYFT-RIN 2 (AUGER)	BW888	MBT 312
NYFT-RIN 3 (BOWL)	BW889	MBT 313

ORGANIC LAB
EMS LABORATORY
8525 NE 38th St
Kansas City, MO 64147
ATTN JOHN MURRAY
AIRBILL No. 9276045660
SENT AT 1420

INORGANIC LAB
CHEMTECH CONSULTING
360 W. 11th St
NY, NY 10014
Attn. DAVID WILLIAMS
AIRBILL No. 9276045671
SENT AT 1420

[signature] 12/1/88

[signature] 12-8-88

REFERENCE NO. 7

PRELIMINARY INFORMATION (X) SUFFOLK ( ) NASSAU NYSDOT #[illegible]

1. DATE OF SPILL: 10/10/84 APPROX. TIME: 12:05 PM
2. INFO. SOURCE: Fred Licitara TEL. NO. 725-4200 TIME 9:05 AM DATE: 10/11/84
   FROM REPORT BY: L I Fisherman TEL. NO. _____ TIME _____ DATE: _____
   FROM REPORT BY: _____ TEL. NO. _____ TIME _____ DATE: _____
3. SPILL LOCATION: Bridge St. Sag Harbor - L I Fisherman
4. MATERIAL SPILLED: Oil + Grease QUANTITY: Unknown (GALS.)
5. SOURCE: Discharge from dewatering operation by SCWA while repair
6. CAUSE OF SPILL: water main break.
7. ENVIRONMENTAL IMPACTS: Discharge onto ground into positive drainage system | X | On Ground | X | Drainage | X | Possible Groundwater | X | Surface Water into Sag Harbor Cove.
8. SPILLER: Unknown
9. INITIAL ACTIONS TAKEN: _____

ESTIGATING /X/ NYSDEC INVESTIGATING / / U.S.C.G. INVESTIGATING

...ATIONS (NAME/TEL. NO./AGENCY/TIME)

- [ ] NCDH
- [ ] NCFM
- [X] SCDHS 10/15/84 - Al Santino by telephone. Copy of report forwarded to SCDHS.

COMMENTS:

10/11/84 J. Licata + W. Parish investigated. Met with Richard Reina Sr. + Jr.. Mr. Reina(Sr) owns the building.

Their plumber, F. Schiavone, was working in the area on Wednesday, 10/10/84, to locate a water service line break. The excavation was being pumped dry while the break was temporarily repaired. Water was pumped onto the ground, flowed onto the street and into positive drainage system which discharges to Sag Harbor Cove. Puddles of water were still present during our visit. A sheen was present on the surface.

Further investigation yielded an above ground fuel oil (#2) tank, approximately 1,000 gal. capacity, on the rear of the building which appeared to be leaking. Soil on the left of the tank and around the tank appeared to be contaminated with fuel oil (sight and smell). (Cont'd.)

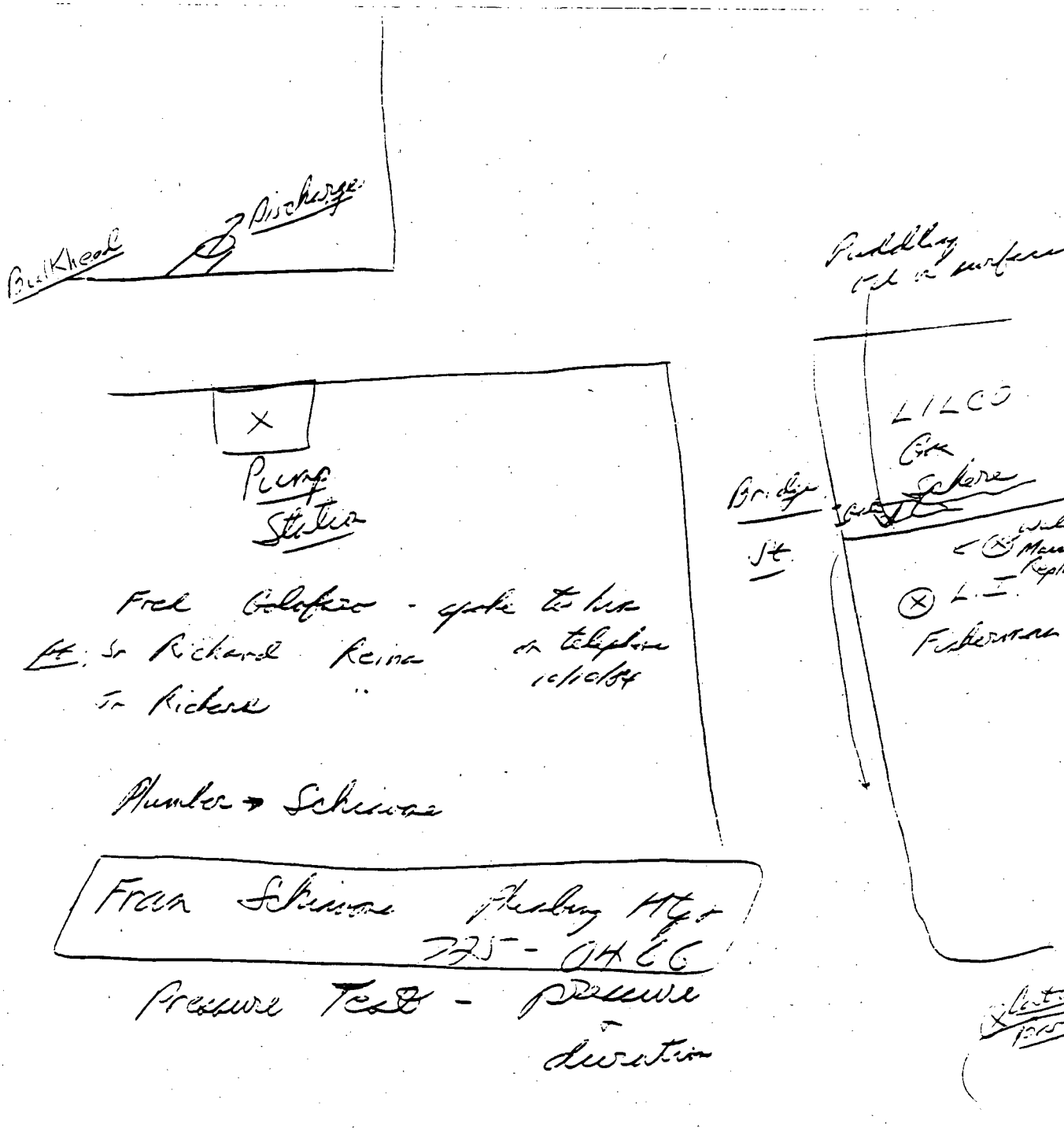
REPORT PREPARED BY: John Licata DATE 10/10/84

PP 10/4/84 - 10/31/84

4-23-86
Ace J.L.

Sheen observed on standing water in driveway on side of L.I. Fisherman building

No oil or grease observed on surface water.



Fred Galofaro - spoke to him on telephone 10/10/84

Lt: Sr Richard Reina

Sr Richard "

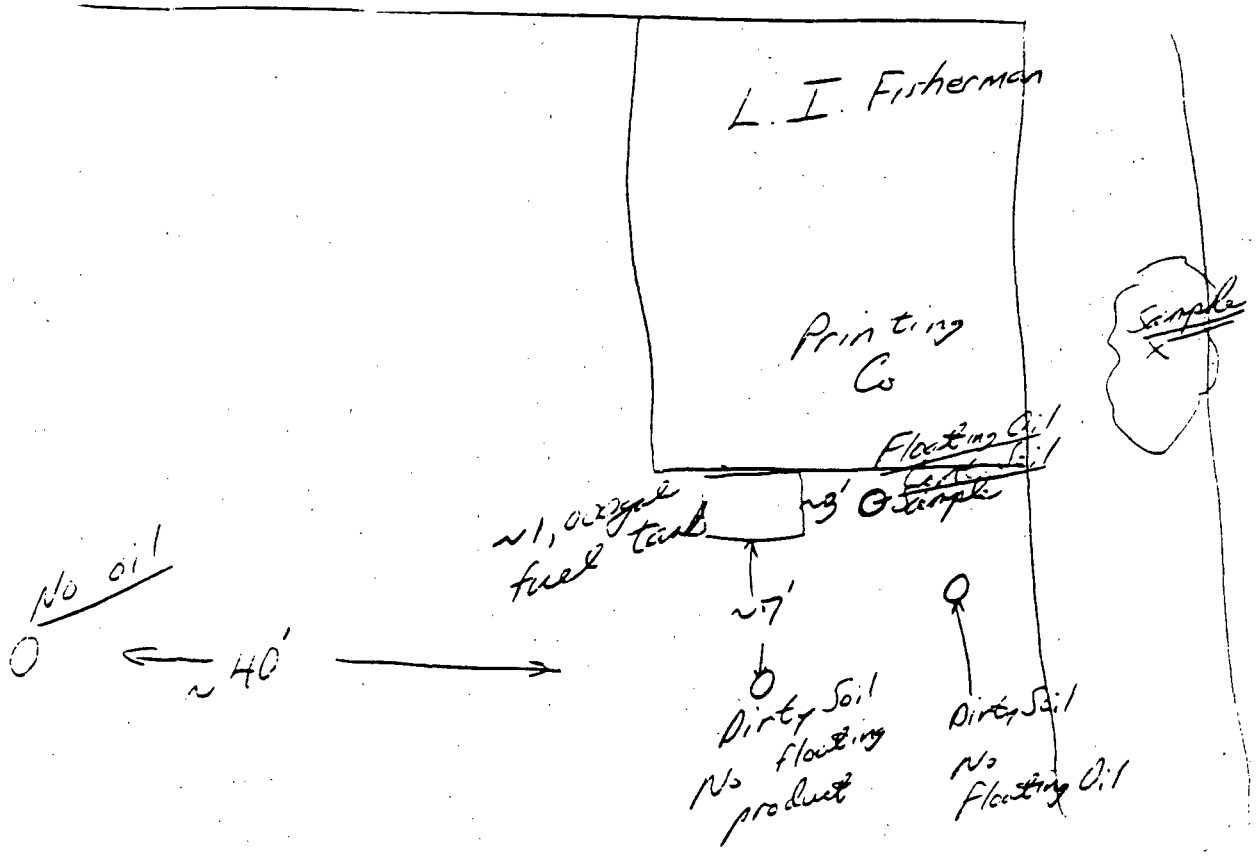
Plumber → Schiavone

Fran Schiavone Plumbing Htg + 775-0466

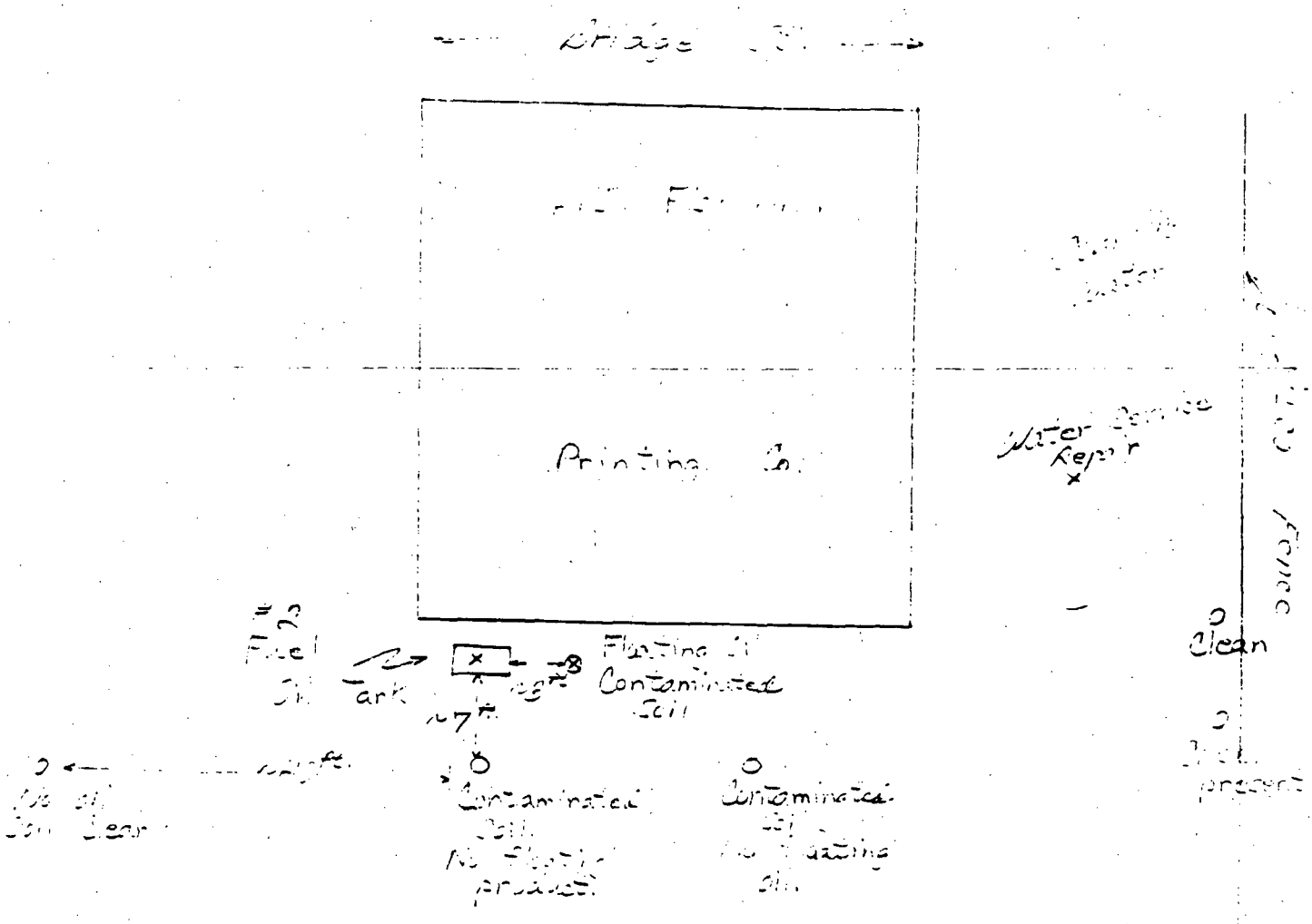
Pressure Test - pressure + duration

L. I. Fisherman

Rear of Building



Site Plan



O - Augered Holes

X - Sample locations

Not to Scale

Figure 2

Plumber, F Schuster, appeared on site and checked tank. He felt that there was no reason to test (pressure) the tank since it was apparent to him that the tank was leaking. Testing and/or replacement of the tank was to be discussed with the owner, K Reina, Sr.

Three samples were collected for fingerprinting. Locations are shown on figure 2. Samples brought to Pendenault on 10/12/84

10/14/84 Preliminary sample results received from Pendenault Labs.

Sample from tank and augered hole is no 2 fuel oil.

Sample from puddle contains lube oil used for small motors. Contains pcb's; resembles 1260

Wet Stain Under Tank Near Concrete Pier.

Suspected Leaking 1000 Gal Tank. - Behind Bldg. on East Side.

R.J. Fisherman Co. Spill Site. - Bridge St.
Spill # 34-1367 10-11-34.

L.I. FISHERMAN
BRIDGE ST. SAG HARBOR

10/25/84
84-

PIPES ALONG FOOTING WHERE TANK WAS LOCATED. SOIL CONTAMINATED. G.W. APPEARS TIDAL.

EXCAVATION APPROX. 3 ft Deep by 15 ft WIDE by 25 ft LONG BLACK OIL ON G.W. AT THIS END OF EXCAVATION.

- Resampled soil on north-side of loading area. Will analyze for PCB's.
- APPROX. 100 yds.^{3} Removed.

REFERENCE NO. 8

Building 40, SUNY
Stony Brook, NY 11794

(516) 751-7900 or 7725 (Ext. 279)

FILE

April 24, 1986

FILE COPY

Mr. Riena
The Long Island Fisherman
Bridge Street
Sag Harbor, NY 11963

Re: Spill No. 84-1867

Dear Mr. Riena:

This is to inform you that the monitoring wells installed around your property to determine the extent of the number 2 fuel oil spill which was observed on 10/10/84 have been periodically checked by this Department. To date, no floating product has ever been observed in any of these wells. We, therefore, are closing this spill.

It should be noted that in conducting our investigation of the fuel oil spill, laboratory findings revealed the presence of a non-type fuel oil suspected to contain PCB's in a few of the samples. Further investigation of the area by you remains your responsibility.

If there are any further quetions, please contact me.

Sincerely yours,

John A. Licata, P.E.
Regional Oil Spill Engineer

JAL:cr
cc: P. Barbato

REFERENCE NO. 9

NUS CORPORATION TELECON NOT

CONTROL NO:	DATE:	TIME:
02-8807-05	8/25/88	13.50

DISTRIBUTION:

Sag Harbor - Bridge Street

BETWEEN:	OF: Suffolk County Planning Department	PHONE: (516) 360-5190

AND:

Deborah Cohen (NUS

DISCUSSION:

Re: Census Avg for people/unit

1988, for Town of Southhampton = 2.34

Deborah Cohen 8/25/88

ACTION ITEMS:

REFERENCE NO. 10

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: File DATE: 8/25/88

FROM: Deborah Cohen COPIES:

SUBJECT: Population within 1 mile of PSC

REFERENCE:

Estimated population from house count on topographical map. From 4-mile radius map (Quads: Sag Harbor / Greenport) I drew in 1/4-mile, 1/2-mile, 3/4-mile rings.

0-1/4 mile ring	# houses ≅ 152	356
1/4-1/2 mile ring	# houses ≅ 345	807
1/2-3/4 mile ring	# house ≅ 295	690
3/4-1 mile ring	# house ≅ 225	527

Census Avg for the Town of Southhampton of people/unit for 1988 is 2.34 (See Telecon Note 8/25, Suffolk ~~County Water~~ Planning Dept. PSC Department)

1/23/89

Deborah Cohen 8/25/88

REFERENCE NO. 11

VILLAGE OF SAG HARBOR

George E. Butts, Jr., Mayor
Judith A Schiavoni, Deputy Mayor
Edward Gregory, Trustee
George R. Simonson, Trustee
Robert McDade, Trustee

516-725-0222
P.O. BOX 660
MAIN ST., SAG HARBOR, L.I., N.Y. 11963-0015

Joan E. Feehan, Clerk-Trea
Carol A. Schroeder, Deputy
Frederick Butts, Assessor
Eugene Pizzo, Building Insp
Richard DePetris, Attorney

November 5, 1987

Residents of the
Village of Sag Harbor

Dear Resident:

This letter is to inform you of the outcome of recent environmental investigations conducted by the Village near Bridge Street and Rose Street. The presence of contamination was suspected due to a previously recorded fuel oil spill at the printing facility of the Long Island Fisherman on Bridge Street. In addition, undocumented accounts of skin irritation were voiced from the Suffolk County Water Authority construction personnel who had performed a soil excavation on Bridge Street, opposite the printing facility.

The first investigation occurred on three different days (April 29, May 4, and May 12, 1987). Its purpose was to conduct a spot check on the soils along the route of a proposed drainage line in order to assess the presence of environmental contaminants. The Village investigation, which consisted of fourteen soil borings in the general area of Bridge Street and Rose Street on the west, and Spring Street on the south, revealed an area of subsurface soil contamination. On Bridge Street, this included substantial amounts of:

° Petroleum Hydrocarbons (380 ppm)
° Volatile Organic Compounds (total of 1.8 ppm)
° Pesticides (total of 0.8 ppm).

In addition, a monitoring well located between the Lilco property and the Long Island Fisherman revealed the presence of a large amount of an oily type material.

The second investigation (July 13, 1987) consisted of a groundwater quality survey in the above mentioned area in order to establish the impact of the contamination on the groundwater. Two monitoring wells were installed on Bridge Street, and sampled along with the existing well located between Lilco and the Long Island Fisherman. Analytical results revealed the presence of several organic compounds and metals. According to data from the U.S. Environmental Protection Agency (U.S.E.P.A.), New York State Department of Environmental Conservation and New Jersey Departmen of Environmental Protection several of the constituents discovere in the groundwater are at levels which may be harmful if the water is used as a source of drinking water. Concentration of th constituents were highest in the sample collected from the well located between Lilco and the L.I. Fisherman facility. The following table compares these analytical results with the availa standards/guidelines from the agencies listed above. All concen- trations are given in parts per billion (ppb).

The groundwater samples collected in July, 1987, in addition to the field observations conducted in April - May, 1987 indicate that there is contamination in the vicinity of Bridge Street and Long Island Avenue, with a smaller degree of contamination occurring in the direction of Rose Street. At the observed level some of the hazardous constituents discovered in the groundwater may pose a threat to public health if used as a source of drinkin water. Use of the groundwater in this area for other purposes, such as cleaning or irrigation, and disturbance of the soil durin excavations, may also result in an increased risk to public healt Due to these findings we suggest that residents in the vicinity o Bridge and Rose Streets have their water tested if they have priv wells which are operational. Residents on the public water suppl system would most likely not be affected by this situation as the main supply well is not located near the problem area. In additi the public water supply system is under positive pressure which should not allow contaminants to enter the water supply through possible cracks or leaks in the underground pipes. Residents in this same area who are contemplating excavations should be aware of the possibility of encountering contaminated soils.

Currently, action is being sought with the New York State Department of Environmental Conservation (DEC) to have the area throughly investigated and placed on the Superfund list for clean

This situation is being brought to your attention in order t protect your health and welfare. The Village of Sag Harbor is committed to being a great place to live and work and as such will keep you informed of the progress related to this situation.

If you would like your water tested, call 800-242-6800 for a free water test kit.

Sincerely,

George E. Butts, Jr.
Mayor

GEB/mb

Compound	Concentration Found In Ground Water Sample (ppb)	EPA Permissible Concentration in Drinking Water In order to Protect Human Health (ppb)	New York State Drinking Water Standards (ppb)	New Jersey Guidelines for Contaminants in Groundwater* (ppb)
Benzene	140	preferably zero	5	
Toluene	38	14,300	* *	10
Ethylbenzene	290	1,400	* *	(Total Volatiles)
Napthalene	1,000	* *	* *	
Methylnapthalene	210	* *	* *	50
Acenaphthene	270	20	* *	(Total Base Neutrals)
Phenanthrene	120	preferably zero	* *	
Petroleum Hydrocarbons	4,700	* *	* *	1,000
Cyanide	105	200	200	200
Phenols	20	3,500	1	* *
Arsenic	13	50	25	50
Copper	37	1,000	1,000	1,000
Lead	81	50	25	50
Zinc	2,100	5,000	5,000	5,000

* New Jersey Department of Environmental Protection guideline for contaminants in groundwater - Environmental Cleanup Responsibility Act.

** Data Not Available

REFERENCE NO. 12

COUNTY OF SUFFOLK

PETER F. COHALAN
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

DAVID HARRIS, M.D., M.P.H.
COMMISSIONER

December 11, 1984

Mr. John A. Licata, P.E.
Senior Sanitary Engineer
New York State DEC
State University at Stony Brook
Building 40
Stony Brook, New York 11790

Re: Private Well Samples - Rose Street,
Meadow Street, Sag Harbor

Dear Mr. Licata:

Enclosed find copies of results of water samples collected at three locations on the referenced streets, as requested in your letter of October 26, 1984.

Although quality is somewhat marginal and typical of shallow wells in relatively high density areas, with the exception of iron in one location and manganese in two locations, the wells met standards for constituents analyzed. Please note no analyses were performed for PCB, but a number of chlorinated and non-chlorinated hydrocarbons were analyzed.

Very truly yours,

Paul J. Ponturo, P.E.
Senior Public Health Engineer
Drinking Water Supply Section

PJP/jdm
Enclosure

225 RABRO DRIVE EAST
HAUPPAUGE, N.Y. 11788
(516) 348-2892

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
DRINKING WATER SUPPLY SECTION

SURVEY: 10/31/84
DATE: SAG HARBOR
MEADOW ST

	PAT TRUNZO	JOHN HOWE	GERTRUDE PARKER ROSE ST			
coliform	<2.2	<2.2	<2.2			
free ammonia	1.19	0.32	0.03			
nitrate	6.7	4.0	5.0			
pH	6.3	6.5	6.4			
specific conductivity	300.	400.	280			
chloride	33	50.	26			
sulfate	17.	21.	24.			
iron	<0.1	0.11	1.25			
manganese	1.3	1.01	<0.05			
copper	<0.1	<0.1	<0.1			
zinc	<0.4	<0.4	<0.4			
sodium	20.5	34.9	24.1			
MBAS	<0.1	<0.1				
chloroform	<5	<5	<5			
1,1,1 trichloroethane	<2	<2	23			
carbon tetrachloride	<1	<1	<1			
1,1,2 trichloroethylene	<5	<5	10			
chlorodibromomethane	<2	<2	<2			
bromoform	<5	<5	<5			
tetrachloroethylene	<2	<2	2			
cis dichloroethylene	<4	<4	5			
freon 113	<4	<4	<4			
bromodichloromethane	<3	<3	<3			
1,1,2 trichloroethane	<5	<5	<5			
benzene	<3	<3	<3			
toluene	<3	<3	<3			
chlorobenzene	<3	<3	<3			
ethylbenzene	<3	<3	<3			
xylenes	<3	<3	<3			
bromobenzene	<4	<4	<4			
chlorotoluenes	<3	<3	<3			
1,3,5 trimethylbenzene	<3	<3	<3			
1,2,4 trimethylbenzene	<3	<3	<3			
m,p dichlorobenzene	<4	<4	<4			
o dichlorobenzene	<4	<4	8			
p diethylbenzene	<3	<3	<3			
1,2,4,5 tetrmethylbenz	<3	<3	<3			
1,2,4 trichlorobenzene	<4	<4	<4			
1,2,3 trichlorobenzene	<5	<5	<5			
s tetrachloroethane	<3	<3	<3			

REFERENCE NO. 13

PRELIMINARY ASSESSMENT
OFF SITE RECONNAISSANCE
INFORMATION REPORTING FORM

Date: 7/14/88

Site Name: Sag Harbor - Bridge Street TDD: 02-8807-05

Site Address: Bridge Street
Street, Box, etc.

Village of Sag Harbor
Town

Suffolk
County

New York
State

NUS Personnel:

Name	Discipline
Greg Pollack	Environmental Sci.
Don Hessemer	Environmental Sci.

Weather Conditions (clear, cloudy, rain, snow, etc.):
Partly Cloudy / Hazy, Wind SW 15 mph

Estimated wind direction and wind speed: Southwest 15 mph

Estimated temperature: 87°F

Signature: Greg Pollack Date: 7/14/88

Countersigned: Don Hessemer Date: 7/18/88

PRELIMINARY ASSESSMENT

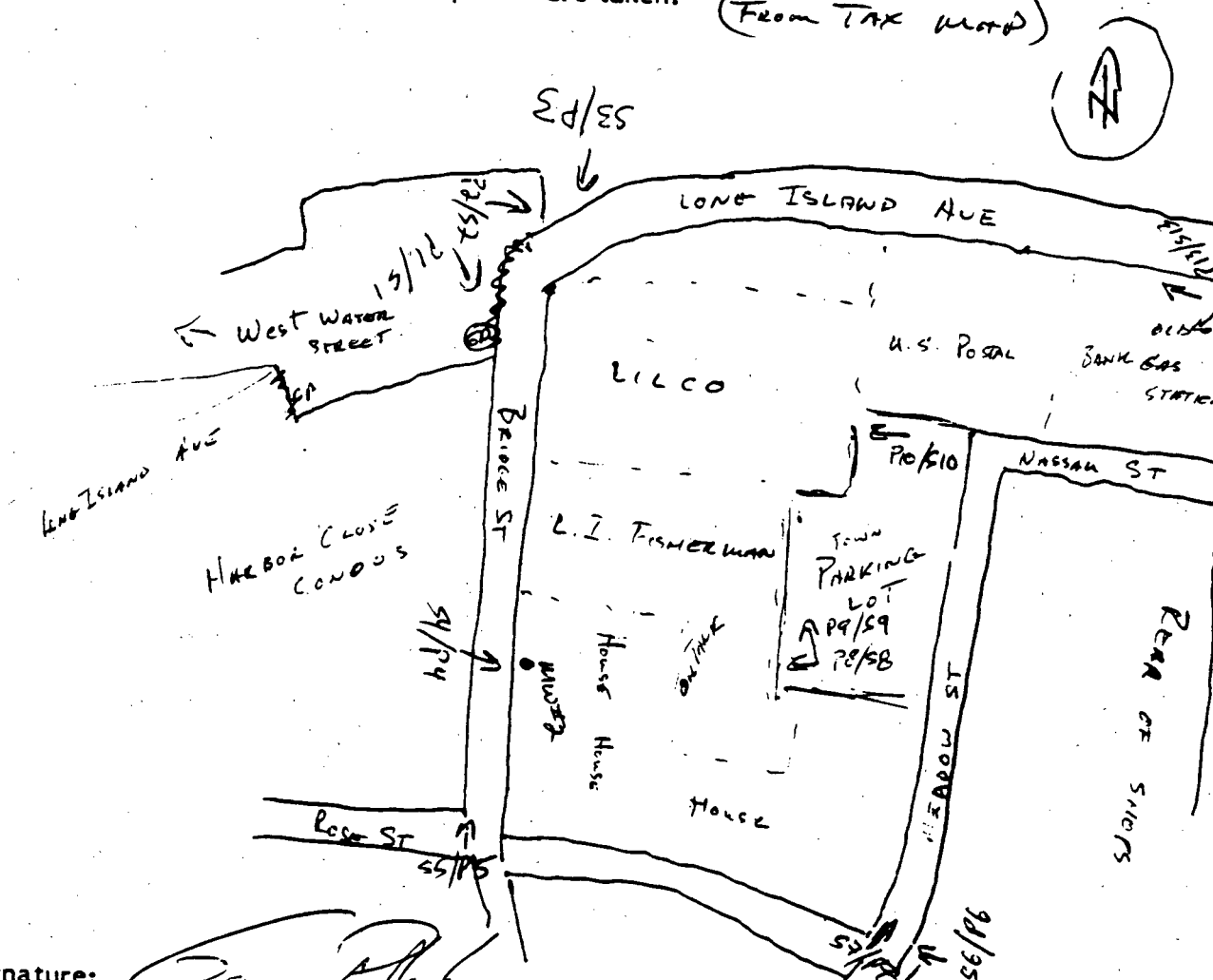
INFORMATION REPORTING FORM

Date: 7/14/88

Site Name: Sag Harbor - Bridge Street TDD: 02-8807-05

Site Sketch:

Indicate relative landmark locations (streets, buildings, streams, etc.). Provide locations from which photos are taken. (From Tax Map)



Signature: [signature] Date: 7/14/88

Countersigned: Don Hessen Date: 7/18/88

PRELIMINARY ASSESSMENT

INFORMATION REPORTING FORM

Date: 7/14/88

Site Name: Sag Harbor - Bridge Street TDD: 02-8807-05

Notes (Periodically indicate time of entries in military time):

1300 G. Pollack & D Hessemer obtain tax map from town hall

1340 Return to vehicle & pickup cameras

1350 Bridge street located in the lower down town area of Sag Harbor. Several shops restaurants and hotels are nearby.

1355 Photo S1/P1 View from corner of Bridge St. & West Water St. toward LILCO Property & Long Island Fisherman, Print Shop.

1356 Photo S2/P2 View toward shop area in Sag Harbor

1400 View South down Bridge Street Photo S3/P3

1405 Photo S4/P4 View of monitor well No. 2

1410 Photo S5/P5 View North up Bridge Street at intersection of Rose Street.

1415 Photo S6/P6 View west down Rose St

1416 Photo S7/P7 View of rear shop areas from East end of Rose Street

Signature: [signature] Date: 7/14/88

Countersignature: [signature] Date: 7/18/88

PRELIMINARY ASSESSMENT

INFORMATION REPORTING FORM

Date: 7/14/88

Site Name: SAG HARBOR - BRIDGE STREET TDD: 02-8807-05

Notes (Cont'd):

1420 PROCEEDING TO PARKING LOT AREA BEHIND L.I FISHERMAN PHOTO S8/P8 VIEW GP OF REAR OF L.I. FISHERMAN (142) PHOTO S9/P9 SAME LOCATION AS S8/P8 TOWARD LILCO PROPERTY 1425 VIEW FROM END OF PARKING LOT TOWARD LILCO TANK AREA, THRU FENCE. S10/P10 1430 HARBOR COVE REALTY ON THE CORNER OF MAIN ST & LONG ISLAND AVENUE OCCUPIES AN OLD GAS STATION PHOTO S11/P11 VIEW UP MAIN STREET FROM CORNER PHOTO S12/P12 VIEW OF OLD GAS STATION NOW HARBOR COVE REALTY PHOTO S13/P13 VIEW WEST DOWN LONG ISLAND AVE FROM MAIN STREET. 1445 RETURN TO MUNICIPAL OFFICES REVIEW TAX BOOK 1505 REVIEWING HARBOR CLOSE CONDO OCCUPANT LIST - 37 UNITS. BEGIN WALKING STREETS LOOKING FOR OTHER SOURCES. DEPART SAG HARBOR BRIDGE STREET 1530

Attach additional sheets if necessary. Provide site name, TDD number, signature, and countersignature ~~on each~~.

Signature: [signature] Date: 7/14/88

Countersignature: Don Hessen Date: 7/18/88

PRELIMINARY ASSESSMENT

INFORMATION REPORTING FORM

Date: 7/14/88

Site Name: Sag Harbor - Bridge Street TDD: 02-8807-05

Photolog: (All Photos Taken By Don Hessemer)

Frame/Photo Number	Time ~~Date~~ GP	Date ~~Time~~ GP	Photographer	Description
S1/P1	1355	7/14/88	D. Hessemer	View From Corner of Bridge Stre West Water Street Toward Site
S2/P2	1356	7/14/88	D. Hessemer	View Toward Shop Area in Sag H From Location S1/P1.
S~~3~~4/P~~3~~4 GP	1400 5 GP	7/14/88	D. Hessemer	View of Monitor Well on Bridge Street.
S~~4~~5/P~~4~~5 GP	1410 GP	7/14/88	D. Hessemer	View North up Bridge Street at Intersection of Rose Stre
S~~5~~3/P~~5~~3 GP	1408 GP	7/14/88	D. Hessemer	View South Down Bridge Street
S6/P6	1415	7/14/88	D. Hessemer	View West Down Rose Street
S7/P~~6~~7	1416	7/14/88	D. Hessemer	View of Rear Shop Areas From East End of Rose Stre
S8/P8	1420	7/14/88	D Hessemer	View of Rear of L.I Fisherman
S9/P9	1421	7/14/88	D Hessemer	View Toward LILCO Property From Location S8/P8

Attach additional sheets if necessary. Provide site name, TDD number, signature, and countersignature on each.

Signature: [signature] Date: 7/14/88

Countersignature: Don Hessemer Date: 7/18/88

NUS CORPORATION AND SUBSIDIARIES			STANDARD CALCULATION SHEET
CLIENT:	FILE NO.: 02-8807-05	BY: G. Pollack	PAGE 1 OF 1
SUBJECT: Sag Harbor - Bridge Street Photolog Continuation		CHECKED BY:	DATE: 7/14/88

Film/Photo No.	Time	Date	Photographer	Description
S10/P10	1425	7/14/88	D. Hessemer	View of LILCO Tank Storage Area
S11/P11	1430	7/14/88	D. Hessemer	View up Main Street at the corner of Long Island Avenue.
S12/P12	1431	7/14/88	D. Hessemer	View of old gas station now Harbor Cove Realty
S13/P13	1432	7/14/88	D. Hessemer	View West Down Long Island Avenue from Main Street.

Additional Notes.

After walking around the site area G. Pollack & D. Hessemer attempted to locate additional potential source areas for the alleged G.W. contamination at Bridge Street. The only other potential source may be the old gas station on the corner of Long Island Ave. & Main St. if the old tanks had leaked and/or are still in the ground.

G. Pollack 7/14/88

Don Hessemer 7/18/88

NUS 155A REVISED 0285

REFERENCE NO. 14

NUS CORPORATION — TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-2510-73	1/25/89	1530

DISTRIBUTION:

Sag Harbor - Bridge Street

BETWEEN:	OF:	PHONE:
Richard Reina	Long Island Fisherman	(516)345-5200

AND:

Deborah Cotton (NUS)

DISCUSSION:

RE: Information on Long Island Fisherman, Bridge Street, Sag Harbor

He wasn't in. Left a message for him to call back.

1/26 1130 R. Reina called back. He said they did printing and typesetting in the Long Island Fisherman building. They put out the Long Island Fisherman magazine and some Sag Harbor and local newspapers. The building has been empty since June, 1988. He said the only chemical that could come from them is silver which is used in film processing. He asked if results were in. I told him to speak with the EPA, Jeff Gaal in about a month.

Deborah J Cotton
1/26/89

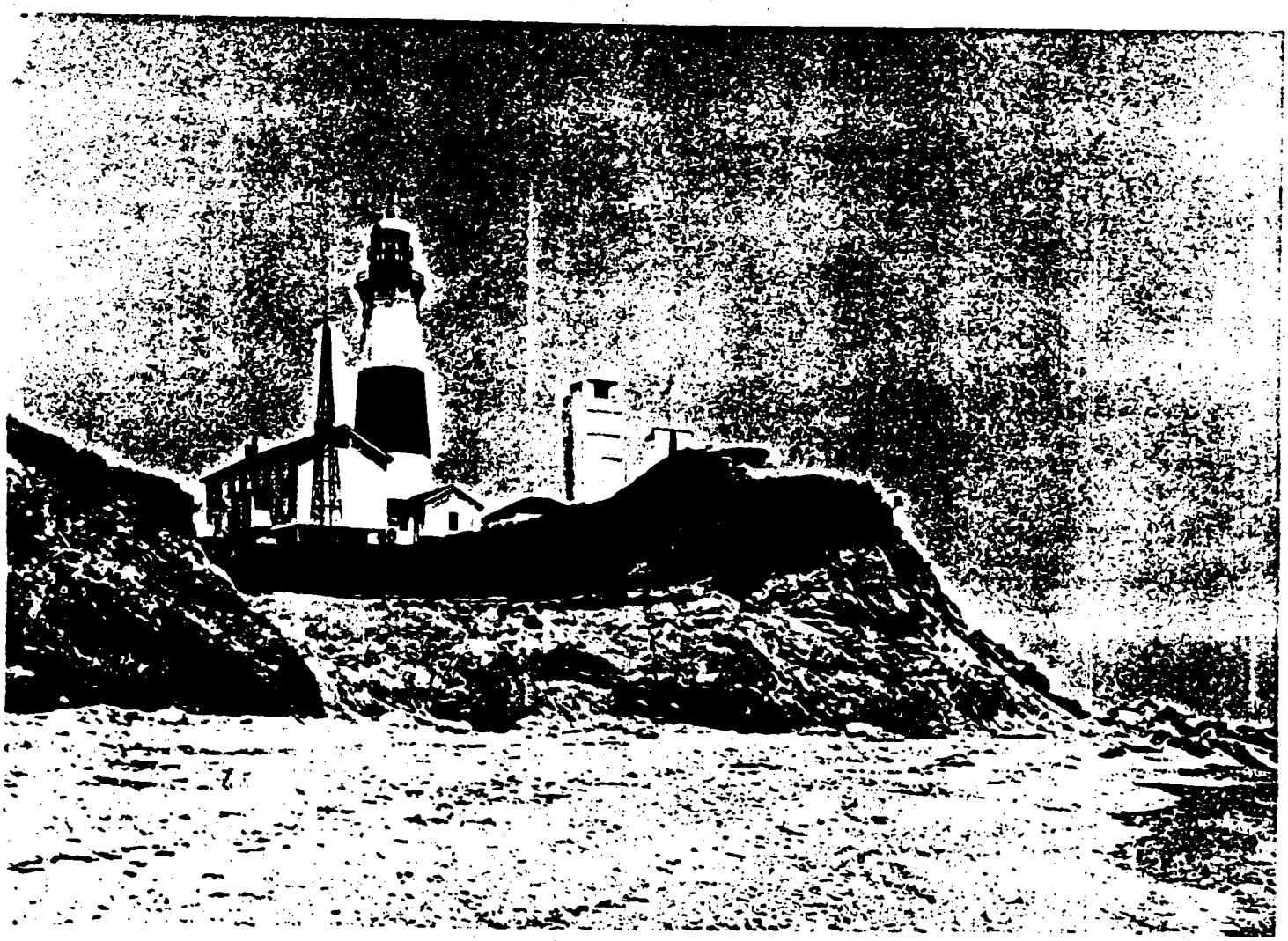
ACTION ITEMS:

NUS 087 REVISED 0581

REFERENCE NO. 15

SOIL SURVEY OF

Suffolk County, New York



United States Department of Agriculture
Soil Conservation Service
in cooperation with
Cornell Agricultural Experiment Station

TABLE 5.—*Estimated engineer*

Not included in this table, because the characteristics are too variable to estimate, are the miscellaneous land types Bc, CuB, CuC, C it is highly organic and is not suitable for engineering. An asterisk beside the series name in the first column indicates that at le and limitations, and for this reason it is necessary to follow carefully the instructions for referring to other series that appear in

Soil series and map symbols	Depth to seasonal high water table	Depth from surface (typical profile)	Classification		
			USDA texture	Unified	AASHO
	Feet	*Inches*			
Atsion: At	½–1½	0–27	Sand and loamy sand	SM, SP-SM	A-2-4
		27–56	Stratified sand and gravel or sand.	SM, SP-SM, GP, GP-GM, SP	A-1, A-3
Berryland: Bd	0–½	0–30	Sand and loamy sand	SM, SP-SM	A-2-4
		30–52	Sand or gravelly sand	SP-SM, SM, SP	A-3, A-1
Bridgehampton:					
BgA, BgB	>3	0–56	Silt loam and very fine sandy loam.	ML	A-4
		56–80	Fine gravel and sand	GP-GM, GM, SP-SM, SM, SW-SM	A-1
BhB, BhC	>3	0–48	Silt loam and very fine sandy loam.	ML	A-4
		48–61	Sandy loam or fine sandy loam, gravelly sandy loam.	SM	A-2-4, A-4, A-1
		61–81	Loamy sand or gravelly loamy sand.	SM, SP-SM	A-1, A-2-4
Canadice: Ca	½–1½	0–18	Silt loam or loam	ML, ML-CL	A-4
		18–50	Silty clay, silty clay loam, clay loam.	CL	A-6, A-7
*Carver: CpA, CpC, CpE. For Plymouth part, see the Plymouth series.	>4	0–22	Fine sand to coarse sand	SP-SM, SW-SM	A-3, A-1
		22–60	Coarse sand to gravelly sand	SP, SP-SM	A-3, A-1
Deerfield: De	1½–2	0–25	Sand to fine sand or loamy sand.	SM, SP-SM	A-3, A-1
		25–53	Sand to stratified sand and gravel.	SP, SP-SM	A-1, A-3
Haven:[2] HaA, HaB, HaC, He	>4	0–19	Loam, silt loam, and very fine sandy loam.	ML, ML-CL	A-4
		19–28	Silt loam, very fine sandy loam, and gravelly loam.	ML, SM	A-4, A-2-4 or A-1
		28–55	Gravelly sand, loamy sand, sandy loam, or stratified sand and gravel.	SM, SP, SP-SM or GP	A-1 or A-2-4
Montauk: MfA, MfB, MfC, MkA, MkB, MkC.	>2	0–27	Fine sandy loam, silt loam, loam, or sandy loam.	SM, ML	A-4, A-2-4
		27–40	Sandy loam, fine sandy loam, and loamy sand.	SM, SW-SM	A-2-4, A-4, A-1
		40–60	Loamy sand, gravelly loamy sand, sandy loam, and fine sandy loam.	SM, SP-SM	A-1, A-2-4
Montauk, sandy variants: MnA, MnB, MnC, MnE.	>4	0–24	Loamy sand or sand	SM, SP-SM	A-2-4, A-1
		24–60	Loamy sand and sand	SM, SP-SM	A-2-4, A-1
Plymouth:					
PlA, PlB, PlC, PmB3, PmC3	>4	0–27	Loamy sand, loamy fine sand, gravelly loamy sand, and sand.	SM, SP-SM	A-2-4, A-1
		27–58	Sand and gravel, coarse sand, and gravelly coarse sand.	SP, GP, SP-SM, GP-GM	A-1, A-3
PsA, PsB	>3	0–38	Loamy sand	SM	A-2-4
		38–64	Silt loam	ML	A-4
		64–80	Fine gravel and sand	GP-GM, GM, SP-SM, SM	A-1

See footnotes at end of table.

properties of the soils

Du, Es, Fd, Fs, Gp, Ma, Rc, Tm, and Ur and the graded soils Bm, MlB, MlC, RhB, and RhC. Muck (Mu) also is not included, bec
one mapping unit in that series is made up of two or more kinds of soil. The soils in such mapping units may have different prope
first column. Absence of data indicates that no estimate was made. >=greater than <=less than]

Coarse fraction more than 3 inches in diameter	Percentage less than 3 inches passing sieve—				Permeability	Available moisture capacity [1]	Reaction
	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 40 (0.42 mm).	No. 200 (0.07 mm).			
Percent					*Inches per hour*	*Inches per inch of soil*	*pH value*
	95–100	90–100	50–75	10–30	>6. 3	0. 04–0. 08	4. 5–
	45–95	40–95	15–55	0–15	>6. 3	0. 02–0. 04	4. 5–
	85–100	80–100	50–75	10–30	>6. 3	0. 03–0. 08	4. 5–
	75–100	70–100	35–70	0–15	>6. 3		4. 5–
	95–100	90–100	90–100	60–95	0. 63–2. 0	0. 15–0. 20	4. 5–
	45–95	35–95	20–40	5–15	>6. 3		5. 1–
	95–100	90–100	90–100	60–95	0. 63–2. 0	0. 15–0. 20	4. 5–
0–5	70–95	60–95	40–75	20–40	< 0. 63		4. 5–
0–5	65–95	60–90	35–70	10–30	>6. 3		4. 5–
	100	100	85–100	65–85	0. 63–2. 0	0. 17–0. 20	5. 1–6
	95–100	95–100	90–100	70–95	< 0. 20	0. 13–0. 17	5. 6–6
	75–100	70–100	25–65	5–10	>6. 3	0. 03–0. 04	4. 5–5
0–5	55–95	45–95	15–55	0–10	>6. 3	0. 02–0. 04	4. 5–5
	95–100	90–100	45–70	5–25	>6. 3	0. 04–0. 06	4. 5–5
0–5	55–90	50–90	25–65	0–10	>6. 3	0. 02–0. 04	4. 5–5
	85–100	80–100	70–85	50–80	0. 63–2. 0	0. 14–0. 20	4. 5–5
0–3	60–80	55–75	45–70	25–55	>2. 0	0. 03–0. 14	4. 5–5
0–3	45–95	30–95	5–75	0–30	>6. 3	0. 01–0. 04	4. 5–5
0–5	80–100	75–100	55–95	25–85	0. 63–6. 3	0. 11–0. 20	4. 5–5
0–5	70–95	60–95	40–75	10–40	< 0. 63	0. 08–0. 12	4. 5–5
0–5	65–95	60–90	35–70	10–30	< 0. 63		4. 5–5
0–5	80–95	75–95	40–70	10–25	6. 3	0. 03–0. 07	4. 5–5
0–5	65–95	60–90	30–70	5–25	0. 20–2. 0	0. 02–0. 07	4. 5–5
0–5	75–95	70–95	35–70	5–25	>6. 3	0. 04–0. 08	4. 5–5
0–5	45–95	40–95	15–55	0–10	>6. 3	0. 02–0. 04	4. 5–5
	90–100	85–100	50–75	15–30	>6. 3	0. 06–0. 08	4. 5–5
	95–100	90–100	90–100	60–95	0. 63–2. 0		4. 5–5
	45–95	35–95	20–40	5–15	>6. 3		5. 1–6

In a representative profile about 4 inches of organic matter is on the surface. The upper 2 inches is leaves and partly decomposed organic matter, and the lower 2 inches is dark reddish-brown decomposed organic matter. Below this mat is a surface layer of very dark gray sand, 1 inch thick, that contains a large proportion of organic matter. It is underlain by a subsurface layer of gray, loose sand that extends to a depth of 10 inches. The upper part of the subsoil, to a depth of 15 inches, consists of dark reddish-brown, firm loamy sand. The lower part, to a depth of about 27 inches, is dark-brown, very friable sand. The substratum, to a depth of 56 inches, is brown to dark-brown, very friable to loose sand that contains a few pebbles.

These soils have a seasonal high water table. Depth to the water table ranges from about 6 to 18 inches. Permeability is rapid in these sandy soils. Available moisture capacity is very low. Reaction is strongly acid to very strongly acid throughout. Natural fertility is low. The response of crops to lime and fertilizer is fair to poor. The root zone is 15 to 20 inches thick. Available moisture generally is more than adequate for most plants, but in areas that are drained, little moisture is available to plants that have shallow roots.

Representative profile of Atsion sand, in a wooded area, 1 mile north of Manorville near the south end of Linus Pond:

O1—4 to 2 inches, loose hardwood leaves and partly decomposed organic matter that contains very many roots.

O2—2 inches to 0, dark reddish-brown (5YR 2/2) decomposed organic matter; very friable; many medium and coarse roots.

A1—0 to 1 inch, very dark gray (10YR 3/1) sand; massive; very friable; many fine and medium roots; many, clean, white sand grains; very strongly acid; abrupt, wavy boundary.

A2—1 to 10 inches, light-gray to gray (5YR 6/1) sand; single grain; loose; a few medium roots; very strongly acid; abrupt, irregular boundary.

B21h—10 to 15 inches, dark reddish-brown (5YR 2/2) loamy sand; massive; firm; a few roots; a few fine pores; very strongly acid; clear, irregular boundary.

B22—15 to 27 inches, dark-brown (10YR 3/3) sand; single grain, very friable; no roots; no coarse fragments; very strongly acid; gradual, wavy boundary.

C1—27 to 48 inches, brown to dark-brown (10YR 4/3) sand; massive; very friable; no roots; less than 2 percent coarse fragments; very strongly acid; clear, smooth boundary.

C2—48 to 56 inches, brown to dark-brown (10YR 4/3) coarse sand; single grain; loose; 2 to 5 percent coarse fragments; very strongly acid.

The solum ranges from 18 to 36 inches in thickness. The content of coarse fragments in the solum generally is less than 10 percent but is as much as 30 or 40 percent in the substratum. Reaction ranges from strongly acid to very strongly acid. Texture throughout the solum ranges from sand to loamy sand. The O horizons range from 1 to 7 inches in thickness.

The A1 horizon dominantly has 10YR hues, but it ranges from black (N 2/0) to very dark gray (10YR 3/1). This horizon is massive or structure is weak granular. Consistence ranges from very friable to loose.

The upper part of the B horizon ranges from dark reddish brown (5YR 2/2) to dark brown (7.5YR 3/2). Consistence is firm or very firm, and the horizon is weakly cemented in places. Texture is dominantly loamy sand but ranges to sand.

The lower part of the B horizon ranges from very dark-grayish brown (10YR 3/2) to pale brown (10YR 6/3). It is single grain or massive; consistence ranges from loose to very friable.

The C horizon ranges from dark grayish brown (10YR 4/2) to pale yellow (5Y 7/4). Texture is sand or stratified sand and gravel. It is single grain or massive, and consistence ranges from loose to very friable.

Atsion soils are near Berryland soils. Atsion soils are similar to Berryland soils, except that they have a thinner organic surface horizon, and the water table is at a greater depth. These soils are also near Wareham and Walpole soils, both of which are similar in drainage to Atsion soils but they lack a B horizon that has an accumulation of humus, iron, and aluminum. In addition, Atsion soils are coarser textured than Walpole soils.

Atsion sand (At).—This is the only Atsion soil mapped in the county. This nearly level, somewhat poorly drained to poorly drained soil is near ponds and creeks and along the bottoms of deeply cut meltwater channels. Most areas are small and irregularly shaped. Areas on channel bottoms are narrow and long.

Included with this soil in mapping are areas of Berryland, Wareham, and Deerfield soils that are too small to map separately.

The hazard of erosion is slight on this Atsion soil. This soil has a high water table, and drained areas have very low available moisture capacity. Scarcity of good outlets makes this soil difficult to drain.

This soil is not well suited to crops commonly grown in the county. Very little of this soil has been cleared. Most areas that have been cleared have been allowed to revert to brush or woodland. In the western part of the county, some areas of this soil have been filled to provide sites for homes. The soil is better suited to woodland or to habitat for some types of wildlife than to other uses. Capability unit IVw–1; woodland suitability group 4wl.

Beaches

Beaches (Bc) are made up of sandy, gravelly, or cobbly areas between water at mean sea level and dunes or escarpments. Slope is nearly level in most areas but it is as much as 15 percent in some places on the Atlantic shore. All the beaches along Long Island Sound are very gravelly and cobbly. A few very large boulders that rolled down from the adjoining bluffs of the Harbor Hill Moraine are present. The Atlantic Ocean beaches are sandy except for a few small areas near Montauk Point. In most places beaches on the bays are sandy, but varying amounts of gravel are mixed with the sand.

These areas are not suited to farming. Measures should be taken to control erosion to keep the beach wide enough to protect the nearby dunes or uplands. Capability unit VIIIs–1; woodland suitability group not assigned.

Berryland Series

The Berryland series consists of deep, very poorly drained, coarse-textured soils. These nearly level soils formed in deep sandy outwash deposits on low-lying wet areas adjacent to ponds, tidal creeks, and low-gradient streams or between areas of tidal marsh and better drained uplands. This soil is mainly along the Peconic River. Native vegetation is red maple, blackgum, and highbush blueberry. Sphagnum moss is common.

In a representative profile a dark reddish-brown and black layer of organic matter, about 10 inches thick, is on the surface. The upper 2 or 3 inches of this organic

matter consists of partly decomposed plant fibers. The surface layer is black mucky sand 1 inch thick. It is underlain by a subsurface layer of grayish-brown, loose sand to a depth of 5 inches. The upper part of the subsoil, to a depth of about 10 inches, consists of very dark grayish-brown, friable sand that contains large accumulations of organic matter. The lower part of the subsoil consists of brown to dark-brown loose sand to a depth of about 20 inches and grayish-brown sand to a depth of about 30 inches. The substratum, to a depth of 52 inches, is light olive-gray loose sand.

Berryland soils have a high water table. The water table is at the surface or within 6 inches of the surface most of the year. Permeability is rapid. If the water table is lowered by drainage, these soils have very low available moisture capacity. These soils are strongly acid to very strongly acid throughout. Natural fertility is low. Rooting depth is limited mainly to the upper 6 to 12 inches.

Representative profile of Berryland mucky sand, in a wooded area, one-fourth mile east of the edge of the village of Sag Harbor on State Route 114; 200 yards north of highway:

O1—10 to 8 inches, dark reddish-brown (5YR 3/4) loose leaves and partly decomposed organic matter.

O2—8 inches to 0, black (5YR 2/1) decomposed organic material, heavily matted with roots; abrupt, smooth boundary.

A1—0 to 1 inch, black (10YR 2/1) mucky sand; massive; very friable; very strongly acid; abrupt, smooth boundary.

A2—1 to 5 inches, grayish-brown (10YR 5/2) sand; single grain; loose; a few roots; very strongly acid; clear, smooth boundary.

B21h—5 to 10 inches, very dark grayish-brown (10YR 3/2) sand; massive; friable; a few roots; very strongly acid; gradual, wavy boundary.

B22—10 to 20 inches, brown to dark-brown (10YR 4/3) sand; single grain; loose; a few roots; strongly acid; gradual, wavy boundary.

B3—20 to 30 inches, grayish-brown (2.5Y 5/2) sand; single grain; loose; very strongly acid; gradual, wavy boundary.

C—30 to 52 inches, light olive-gray (5Y 6/2) sand; single grain; loose; strongly acid.

The solum ranges from 28 to 40 inches in thickness. It is dominantly sand, but ranges to loamy sand in places. The solum generally is free of coarse fragments, but in old channel bottoms, the B horizon has as much as 15 percent coarse fragments. Reaction ranges from strongly acid to very strongly acid in the solum. The O horizon ranges from 6 to 16 inches in thickness.

The A1 horizon is dominantly black (10YR 2/1 or N 2/0). The A1 horizon is massive or the structure is weak granular. The A2 horizon ranges from very dark gray (10YR 3/1) to grayish brown (10YR 5/2). It is mainly sand, but ranges to loamy sand in places. The A2 horizon is dominantly single grain, but where the profile has a weakly expressed A2 horizon, it ranges to massive.

The B21h horizon ranges from dark reddish brown (5YR 3/2) to very dark brown (10YR 2/2). A chroma of 2 is dominant. Texture ranges from sand to loamy sand. Consistence is friable or firm. The B22 horizon ranges from dark reddish brown (5YR 3/2) to brown to dark brown (10YR 4/3). The B22 horizon is more strongly developed where the fluctuation of the ground water level is greater. The lower part of the B horizon ranges from pale brown (10YR 6/3) to grayish brown (2.5Y 5/2). Texture is sand or loamy sand. In places this horizon contains coarse mottles that have a chroma of more than 2.

The C horizon generally ranges from olive gray (5Y 5/2) to pale brown (10YR 6/3), but in a few places where organic staining has penetrated deep into the profile, value is as as 3. Texture ranges from sand to gravelly sand in this zon.

Berryland soils are near Atsion soils. Berryland soils similar to these soils, but they have a thicker organic face horizon and a higher perennial water table. They also near Walpole and Wareham soils, which are b drained and finer textured, but which lack a B horizon has an accumulation of humus.

Berryland mucky sand (Bd).—This is the only Be land soil mapped in the county. This wet soil is throu out the county along the margins of tidal mars ponds, creeks, and streams. Areas of this soil gener are small and round or long and narrow.

Included with this soil in mapping are small areas Muck and of Atsion and Wareham soils. Also inclu are a few small areas of finer textured soils that are v poorly drained. Some of these included soils, especi along Carmans River and Connetquot River, do have a well-defined gray subsurface layer and sub that have a large accumulation of humus. Also inclu along the Peconic River are very poorly drained cr berry bogs that are essentially Berryland soils that h had sand spread on the surface.

The hazard of erosion is slight on this Berryland s The very high water table in this soil severely limits it both farm and nonfarm uses. A lack of suitable outl makes this soil very difficult to drain. Most areas can used as habitat for some types of wildlife.

None of this soil has been cleared. Most areas are brush or trees, except along the shore in the southwe ern part of the county, where small areas have b filled to provide sites for homes. Only one commerc cranberry bog is in operation. The other bogs have b allowed to revert to their original condition and growing up in water-tolerant grasses and shrubs. Ca bility unit Vw–1; woodland suitability group 5w2.

Bridgehampton Series

The Bridgehampton series consists of deep, w drained to moderately well drained, medium-textu soils that formed in thick silty deposits over coarse sa and gravel. Bridgehampton soils are only on the sou fork of the county in an area extending eastward fr the village of Southampton to Amagansett. These so generally are nearly level to gently sloping and mainly on flat outwash plains, but a small area of th soils is near Montauk on uneven moraines, and slope as much as 12 percent.

In a representative profile the surface layer is da brown silt loam 11 inches thick. The upper part of t subsoil, to a depth of about 23 inches, is yellowish-bro and light olive-brown, friable silt loam. Below, to depth of about 34 inches, is friable, olive silt loam th contains grayish-brown and yellowish-brown mottl The lower part of the subsoil, to a depth of 56 inches, strong-brown, friable silt loam and very fine sandy lo that contains yellowish-brown and olive-gray strea The substratum is yellowish-red to yellowish-brown lo sand and gravel to a depth of 80 inches.

Bridgehampton soils have a high available moistu capacity. Natural fertility is low, but crops respond w to applications of lime and fertilizer. Reaction strongly acid to very strongly acid in the solum a

A2—0 to 6 inches, gray (10YR 5/1) sand; yellowish-brown (10YR 5/4) vertical streaks; single grain; loose; common roots; very strongly acid; abrupt, wavy boundary.

B21—6 to 8 inches, dark reddish-brown (5YR 3/4), strong-brown (7.5YR 5/6), and dark-brown to brown (7.5YR 4/4) sand; massive; friable; common roots; very strongly acid; abrupt, irregular boundary.

B22—8 to 15 inches, olive-yellow (2.5Y 6/6) sand; common, medium, distinct, dark-brown to brown mottles; massive; very friable; common roots; strongly acid; clear, wavy boundary.

B23—15 to 25 inches, light yellowish-brown (2.5Y 6/4) sand; massive; very friable; a few roots; strongly acid; diffuse boundary.

C—25 to 53 inches, light-gray (2.5Y 7/2) sand; single grain; loose; strongly acid.

The thickness of the solum ranges from 18 to 30 inches. Texture ranges from sand to loamy sand in the solum. In the finer textured part, the solum thickness corresponds with the upper boundary of the underlying coarse sand or stratified sand and gravel. Volume of coarse fragments in the solum is normally less than 5 percent. It ranges from 5 to 35 percent in the substratum. Reaction is very strongly acid to strongly acid throughout. The O horizons range from dark reddish brown (5YR 2/2) to black (10YR 2/1).

A thin, black (10YR 2/1) A1 horizon is present in some profiles. It is dotted with many, clean, white sand grains. The A2 horizon ranges from gray (10YR 5/1) to pinkish gray (5YR 7/2). Where present, the Ap horizon ranges from very dark brown (10YR 2/2) to very dark grayish brown (10YR 3/2). It ranges from 8 to 10 inches in thickness.

The B21 horizon ranges from dark reddish brown (5YR 3/3) to strong brown (7.5YR 5/6). There is no mottling in the B21 horizon. Consistence of this horizon is friable, but a few firm lumps are in places. It is massive or single grain. The B22 and B23 horizons are light olive brown (2.5Y 5/4) or brownish yellow (10YR 6/6). These horizons may have a few mottles that have chromas greater than 2. They are single grain or massive.

The C horizon ranges from olive gray (5Y 5/2) to very pale brown (10YR 7/4). In places texture is stratified sand and gravel below a depth of 40 inches.

Deerfield soils are mapped near Atsion and Carver soils, and they are similar to these soils. They are associated with soils of the Wareham series in many places. Deerfield soils have a more weakly formed B21 horizon, a thinner organic surface horizon, and greater depth to the water table than Atsion soils. They are similar to the Carver soils, but they generally have a thicker A2 horizon and a seasonal water table at a depth of 18 to 24 inches. Wareham soils lack horizons of iron and humus accumulations that are present in the Deerfield soils, and they are not as deep to the seasonal high water table.

Deerfield sand (De).—This is the only Deerfield soil mapped in the county. This soil is between areas of somewhat poorly drained soils and well drained or excessively drained soils at slightly higher elevations. Slopes are 0 percent or less and are slightly concave in places. Except for some areas along the south shore, most areas of this soil are small.

Included with this soil in mapping are moderately well drained loamy sand or sand soils that lack a thick, dark subsurface horizon and a horizon of iron and humus accumulation. Also included are small areas of Carver and Atsion soils. The Atsion soils are indicated on the detailed map by conventional symbols for wet spots. Areas of Carver soil that have a seasonal high water table at depths of 40 to 50 inches are included with this unit.

The hazard of erosion is slight. This soil is fairly well suited to crops commonly grown in the country. It is usually too wet or too dry in the root zone. Natural fertility is low. Small areas of Deerfield sand have been cleared for farming. Generally this soil has been left in woodland with adjoining areas of wetter soils; however, many areas in the southwestern part of the county have been filled and are used as sites for housing developments. In some places slab-type construction has been used without filling. Capability unit IIIw-3; woodland suitability group 4o1.

Dune Land

Dune land (Du) is made up of mounds or small hills of sand that have been piled up by wind. No soil horizons have formed in this sandy material. This land type is mainly along the barrier beach and the large area of dunes in the vicinity of Napeague and Hither Hills State Park. Smaller areas are along Long Island Sound and the bays at the east end of the Sound. Slope ranges from 1 to 35 percent. Vegetation is sparse in some areas, but other areas have a thick cover of pine.

Included with this land type in mapping are low-lying, nearly level areas between dunes where ground water is at a depth of 18 to 30 inches in places. Also included are a few small, blown-out areas along the north shore. In these places sand dunes have migrated into the woodland surrounding the blowout.

Dune land is suitable only for use as wildlife habitat or recreation. It should be stabilized and left undisturbed to provide protection from storms and high tides. Structures on sand dunes are subject to damage from coastal storms. Capability unit VIIIs-1; woodland suitability group not assigned.

Escarpments

Escarpments (Es) are made up of bluffs that have slopes greater than 35 percent. Most areas are along the north shore, but a few are near Peconic Bay and along the Atlantic coastline near Montauk Point (fig. 12). Areas are also along the coastline of offshore islands.

The soil horizons have not formed in this actively eroding material. Except for a few scattered areas, this unit is devoid of vegetation. Generally the slopes are uniform with very little dissection except on the more resistant material around Montauk Point and on parts of Gardiners Island. Height of the escarpments ranges from about 20 feet to more than 100 feet.

The material in the escarpments is sand along the north shore and sandy loam or loamy sand at Montauk Point. In the northeast and western parts of Gardiners Island, the material contains a fairly high proportion of reddish clay. Many escarpments have large boulders embedded in the soil, which roll to the beach as the escarpment erodes.

Escarpments are used by some species of songbirds. Where possible, slopes should be stabilized to reduce erosion. Capability unit VIIIs-2; woodland suitability group not assigned.

Fill Land, Dredged Material

Fill land, dredged material (Fd), is made up of areas that have been filled with material from hydraulic or mechanical dredging operations. These operations are

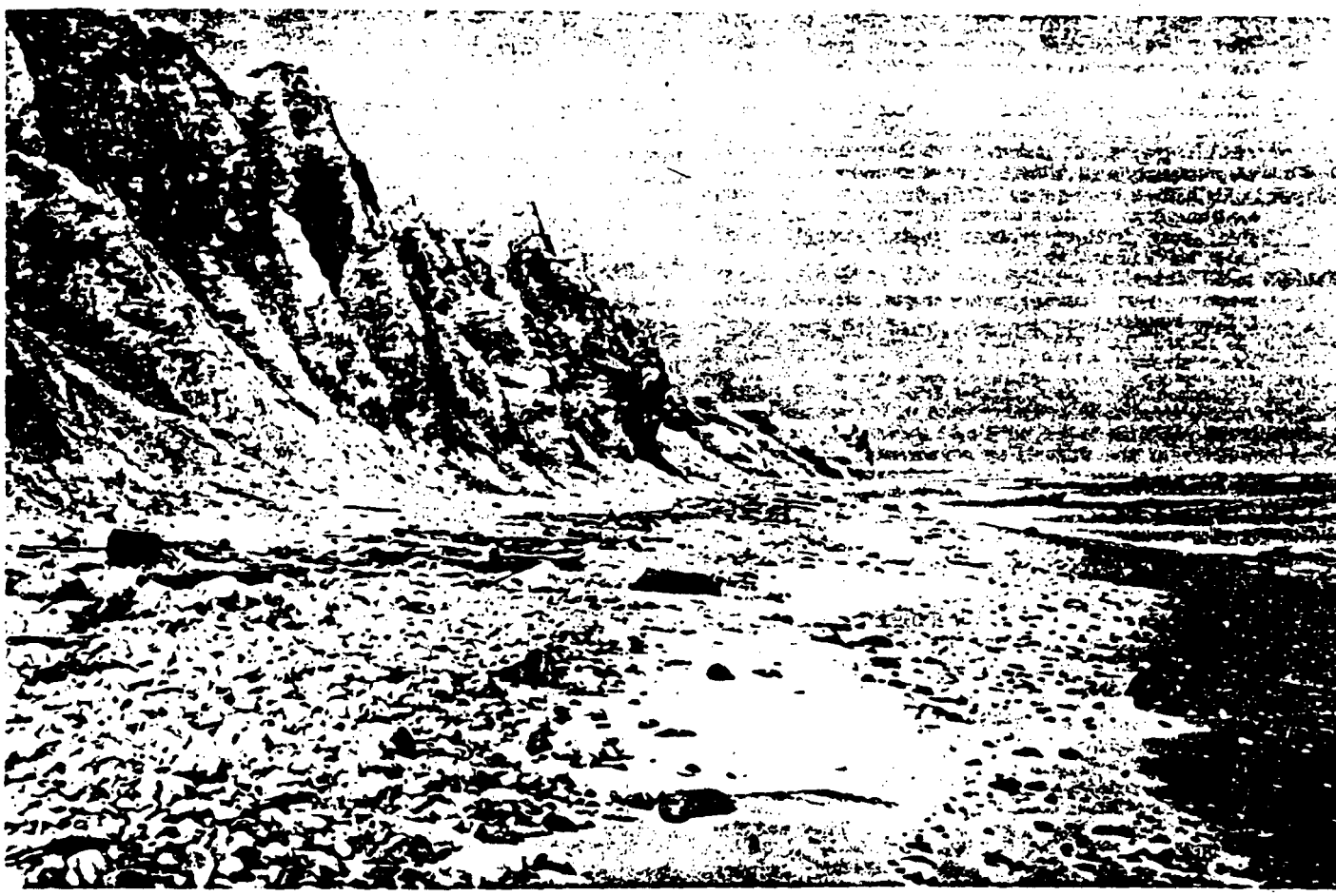


Figure 12.—**Escarpments, nearly vertical and actively eroding, near Montauk Point. The soil material is firm glacial till, such underlies most soils of the Montauk Point area.**

used mainly to widen or deepen boat channels in salt water; however, some dredged material has been obtained from new channels cut into tidal marshes. Most of the dredged material is pumped onto tidal marshes. Smaller amounts are placed on beaches and dunes and on nearby mineral soils in a few places.

The practice generally is to dike an area by using onsite material. The dredgings are then pumped into the diked area and allowed to settle. Excess water drains back into the bay. After the water drains off, heterogeneous deposits of sand, gravel, and sea shells remain. In many places a dark-gray silty mud remains. Protective dunes have been built with clean sand and gravel dredgings in some places, and in such places a few naturally formed dunes are included in mapping.

Fill land, dredged material, is not suited to farming. Areas are satisfactory for building sites where the fill is adequate and if the highly compressible organic layers in the tidal marshes are removed prior to filling. Areas where the fill is placed on marshes containing thick organic layers are likely to be unstable and need onsite investigation before building on them.

Droughtiness, low fertility, and high salt content severely limit the establishment of lawns and other landscape plantings. Cesspools do not function properly where the ground water is at a shallow depth. Capability unit not assigned; woodland suitability group assigned.

Fill Land, Sandy

Fill land, sandy (Fs) is made up of areas where sa fill material has been placed on somewhat poo drained, poorly drained, or very poorly drained soil provide building sites. In places thin layers of loam silt loam soil material are in the sandy fill. The thickn of the fill ranges from about 1½ feet to 20 feet; h ever, thickness generally is about 4 to 10 feet. Slopes mostly nearly level, but range to 8 percent where a are graded around buildings.

The sources of fill material used in this unit are va ble; consequently, the fills are a heterogeneous mixtur sand and gravel that contain varying amounts of f soil material. In places portions of fills have been m by using nonsoil materials.

Included with this land type in mapping are sm areas of Atsion, Berryland, Walpole, and Wareham s and mucks that were not covered in filling operati Also included are a few areas where this type of has been placed on Tidal marshes along the south sh in the towns of Babylon and Islip. The buried orga

itly undulating moraines. Areas are narrow and long short side slopes along drainage channels. Areas that re complex slopes make up the larger acreages.

Included with this soil in mapping are areas of soils at have a weak fragipan. These soils are similar to ymouth soils, except that they have firm bands in the stratum. Also included are areas that have a fragipan depth of more than 40 inches and areas that contain much as 25 percent gravel and cobblestones. Very stony stony areas are indicated on the detailed map by the ventional symbol for stoniness.

The hazard of erosion is slight on this Montauk sandy riant. This soil is moderately well suited to the crops mmonly grown in the county. The main concerns of nagement are droughtiness and low fertility. Most of soil is wooded, but a few areas are cleared and are for pasture or homesites. Capability unit IIIs–1; odland suitability group 4s1.

Montauk loamy sand, sandy variant, 8 to 15 percent pes (MnC).—This unit is on moraines along drainage nnels and on large areas of complex, undulating to ng topography where the dominant slope is 8 to 15 ent.

he profile of this soil is similar to the one described epresentative for the series, except that it has more el in the upper 2 feet in some areas.

cluded with this soil in mapping are areas that have ak fragipan that intergrade to soils of the Plymouth s. Also included are sandy soils without stones that nderlain by till. These small included areas appear aeolian in nature and are scattered throughout the Also included on complex slopes are a few areas of tauk loamy sand, sandy variant, 3 to 8 percent s.

e hazard of erosion is moderate to severe in areas are cleared for cultivation. This soil is not well d to most crops commonly grown in the county, se slopes are steep, available moisture capacity is r very low, and fertility is low. Growing crops in r rotations helps to control runoff and erosion. Al- all of this soil is in woodland. A few areas are used es for summer homes. Capability unit IVs–1; wood- suitability group 4s1.

ntauk loamy sand, sandy variant, 15 to 35 percent s (MnE).—This soil is on the complex topography of oraine on the eastern end of the south fork. Most of this soil are large. Only a few small areas have e slopes. Deep kettle holes and low steep-sided s and mounds are characteristic in areas of this soil. profile of this soil is similar to the profile of the described as representative of the series, except sion of the fragipan is variable. Also, more areas s soil contain as much as 15 percent coarse frag- and more boulders are on the surface of this soil, ally east of Montauk.

uded with this soil in mapping are Montauk and ehampton, till substratum soils that have slopes of than 15 percent. These soils are underlain by till, ey make up less than 5 percent of the unit. Also ed are many small areas of Carver, Plymouth, and head soils that are too small to map separately. In these soils have till below a depth of 4 feet. Small knobs, ridges, and hogbacks included with this unit contain from 15 to 30 percent gravel and cobblestones. These gravelly areas generally are small, and they are in a complex pattern with nongravelly soil. Small areas of gently sloping and moderately sloping Montauk sandy variant soils are also included.

The hazard of erosion is moderate to severe on this Montauk sandy variant. This soil is not suited to crops commonly grown in the county, because of steepness of slope and droughtiness. This soil is suited to woodland, and most of it is used for that purpose. A few less sloping areas are used as sites for homes. Capability unit VIIs–1; woodland suitability group 4s2.

Muck

Muck (Mu) is made up of very poorly drained organic soils that formed in partly decomposed or almost completely decomposed woody or herbaceous plants. The areas generally are nearly level and occur in the bottom of closed depressions or kettle holes and along a few of the larger streams. Most areas are along the Peconic River and near Montauk in many depressions that are irregular in shape. A few areas, however, are between tidal marshes and areas of better drained upland soils.

Muck is made up of 16 to 48 inches of spongy, black or dark-reddish organic material over loose sand and gravel. The amount of partly decayed plants in the organic layer varies. The water table is at or near the surface most of the year. Several inches of water are on the surface late in winter and in spring.

Included with this land type in mapping are small areas that are muck to a depth of more then 48 inches and a few areas of fresh-water marsh along the Peconic River that are under water throughout the year.

Muck is suited to cranberries in some places; however, most areas are small, and it is not economically feasible to develop them. Almost all of this land type is in woodland or marsh grass. It is better suited to habitat for wetland wildlife than to other uses. Capability unit VIIw–1; woodland suitability group not assigned.

Plymouth Series

The Plymouth series consists of deep, excessively drained, coarse-textured soils that formed in a mantle of loamy sand or sand over thick layers of stratified coarse sand and gravel. These nearly level to steep soils are throughout the county on broad, gently sloping to level outwash plains and on undulating to steep moraines. Native vegetation consists of white oak, black oak, pitch pine, and scrub oak.

In a representative profile the surface layer is very dark grayish-brown loamy sand, about 4 inches thick, in wooded areas. In cultivated areas the surface layer is mixed with material formerly in the upper part of the subsoil, and there is a brown to dark-brown plow layer of loam about 10 inches thick. The subsoil is yellowish-brown and brown, very friable and loose loamy sand to a depth of about 27 inches. The substratum, to a depth of about 58 inches, is yellowish-brown, loose gravelly coarse sand.

Plymouth soils have low to very low available moisture capacity. Natural fertility is low. The response of

SUFFOLK COUNTY, NEW YORK — SHEET NUMBER 19

REFERENCE NO. 16

SAG HARBOR-BRIDGE STREET

Lat: 41°00'02"N Long: 72°17'56"W

List of Dataset: NYFT Number of Records = 6 Group = 1

REC #	POP	HOUSE	DISTANCE	SECTOR
1	0	0	0.400000	1
2	1686	748	0.810000	1
3	0	0	1.60000	1
4	1662	688	3.20000	1
5	2025	834	4.80000	1
6	1776	671	6.40000	1

SAG HARBOR

Lat: 41°00'02"N Long: 72°17'56"W

List of Dataset: NYFT Number of Records = 8 Group = 1

REC #	POP	HOUSE	DISTANCE	SECTOR
1	10324	4206	8.10000	1
2	30507	12338	16.1000	1
3	37765	14213	32.2000	1
4	769640	263085	64.4000	1
5	2803412	932207	96.6000	1
6	4384069	1489876	128.800	1
7	10966814	4165475	160.900	1
8	6953398	2409907	201.200	1

REFERENCE NO. 17

[6560-01]

[FRL 910-3]

AQUIFERS UNDERLYING NASSAU AND SUFFOLK COUNTIES, NEW YORK

Determination

Notice is hereby given that pursuant to Section 1424(e) of the Safe Drinking Water Act (42 U.S.C. 300f, 300h-3(e); 88 Stat. 1660 et seq.; Pub. L. 93-523) the Administrator of the Environmental Protection Agency has determined that the aquifer system underlying Nassau and Suffolk Counties, Long Island, New York, is the principal source of drinking water for these counties and that, if the aquifer system were contaminated, it would create a significant hazard to public health.

Background

The Safe Drinking Water Act was enacted on December 16, 1974. Section 1424(e) of the Act states: "If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the FEDERAL REGISTER. After the publication of any such notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer."

On January 21, 1975, the Environmental Defense Fund petitioned the Administrator to designate the aquifers underlying Nassau and Suffolk Counties, Long Island, New York, as a sole source aquifer under the provisions of the Act. A notice of receipt of this petition, together with a request for comments, was published in the FEDERAL REGISTER, Thursday, June 12, 1975. Written comments were submitted by the Environmental Defense Fund (EDF) on August 7, 1975, supporting their petition. A letter from the Director of the Nassau-Suffolk Regional Planning Board, dated October 1, 1976, requested that designation be delayed until after the completion of the areawide waste management (208) planning process for Long Island.

Because of the limited response to the FEDERAL REGISTER notice, EPA issued a press release and mailed an information sheet to elected officials and environmental groups on Long Island in March 1977. In addition, a presentation was made to the Citizens Advisory Committee (CAC) of the 208 planning agency and to the executive committee of the Long Island Water Conference. In response to these activities EPA received three comments: a letter from EDF questioning why project review would exclude direct Federal projects, a letter from a member of the East Hampton Planning Board expressing support for the designation, and a letter from the CAC requesting that designation be delayed until after the completion and approval of the Long Island 208 plan.

In considering the comments received, we could not agree with the letters requesting further delay since we do not believe that the review process under Section 1424(e) will constrain the options of 208 planning.

On the basis of the information which is available to this Agency, the Administrator has made the following findings, which are the basis for the determination noted above:

(1) The aquifers underlying Nassau and Suffolk Counties are the sole or principal drinking water source for the area. They supply good quality water for about 2.5 million people. Current water supply treatment practice for public supplies is generally limited to disinfection for drinking purposes, with some plants capable of nitrate removal. There are also numerous private sources. There is no alternative source of drinking water supply which could economically replace this aquifer system.

(2) The aquifer system is vulnerable to contamination through its recharge zone. Since contamination of a ground-water aquifer can be difficult or impossible to reverse, contamination of the the aquifer system underlying Nassau and Suffolk Counties, New York, would pose a significant hazard to those people dependent on the aquifer system for drinking purposes.

Among the determinations which the Administrator must make in connection with the designation of an area under Section 1424(e) is that the area's sole or principal source aquifer or aquifers, "if contaminated, would create a significant hazard to public health • • •" Obviously, threats to the quality of the drinking water supply for such a large population could create a significant hazard to public health. The EPA does not construe this provision to require a determination that projects planned or likely to be constructed will in fact create such a hazard: it is sufficient to demonstrate that approximately 2.5 million people depend on the aquifer system underlying Nassau and Suffolk Counties as their principal source of drinking water, and that the aquifer system is vulnerable to contamination through its recharge zone.

Section 1424(e) of the Act requires that a Federal agency may not commit funds to a project which may contaminate the aquifer system through a recharge zone so as to create a significant hazard to public health. The recharge zone is that area through which water enters into the aquifer system. Because of groundwater movement within these aquifers, the recharge zone is considered to be the entire area of Nassau and Suffolk Counties. However, both horizontal and vertical boundaries of the recharge zone are discussed in the background document under the section entitled "Area of Consideration."

The data upon which these findings are based are available to the public and may be inspected during normal business hours at the office of the Environmental Protection Agency, Region II, 26 Federal Plaza, New York, New York 10007. It includes a support document for designation of the aquifers underlying Nassau and Suffolk Counties, New York, and maps of the area within which projects will be subject to review.

A copy of the above documentation is also available at the U.S. Waterside Mall, Environmental Protection Agency, Public Information and Reference Unit, Room 2922, 401 M Street S.W., Washington, D.C. 20460.

The EPA has issued proposed regulations for the selective review of Federal financially assisted projects which may contaminate the aquifer system underlying Nassau and Suffolk Counties, New York, through the recharge zone so as to create a significant hazard to public health. These proposed regulations were published in the FEDERAL REGISTER issue of September 29, 1977, and public comments were requested. They will be used as interim guidance for project review until their promulgation during 1978.

EPA, Region II, is working with the Federal agencies which may in the near future fund projects in the area of concern to EPA to develop interagency procedures whereby EPA will be notified of proposed commitments for projects which could contaminate the bicounty area's sole source aquifer system. Although the project review process cannot be delegated, the Regional Administrator in Region II will rely to the maximum extent possible upon any existing or future State and local control mechanisms in protecting the ground-water quality of the aquifer system underlying Nassau and Suffolk Counties, New York. Included in the review of any Federal financially assisted project will be coordination with the State and local agencies. Their determinations will be given full consideration and the Federal review process will function so as to complement and support State and local mechanisms.

Dated: June 12, 1978.

DOUGLAS M. COSTLE,
Administrator.

[FR Doc. 78-17067 Filed 6-20-78; 8:45 am]

REFERENCE NO. 18

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

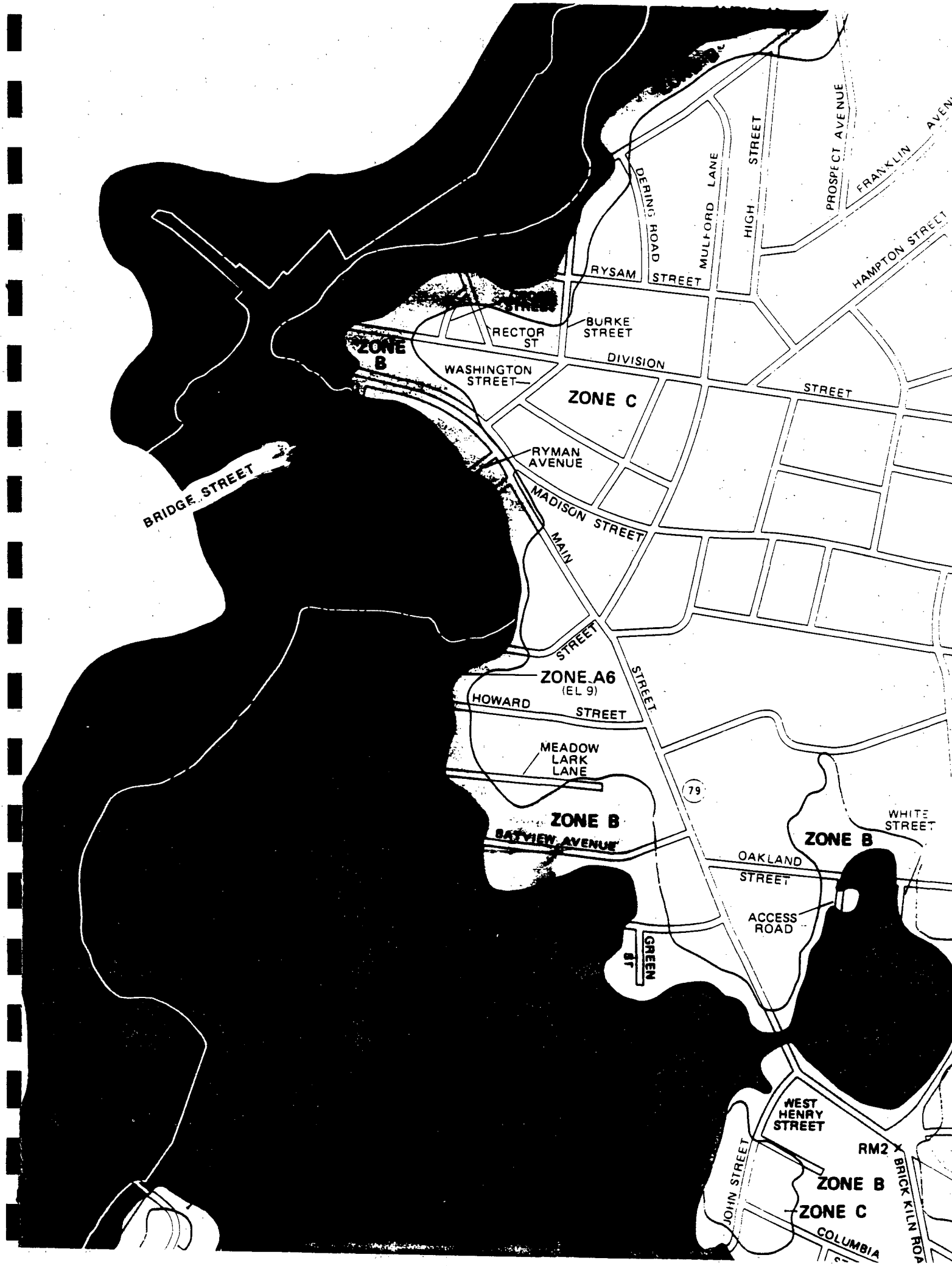
VILLAGE OF
SAG HARBOR,
NEW YORK
SUFFOLK COUNTY

ONLY PANEL PRINTED

COMMUNITY-PANEL NUMBER
360807 0001 C

MAP REVISED:
NOVEMBER 17, 1982

Federal Emergency Management Agency

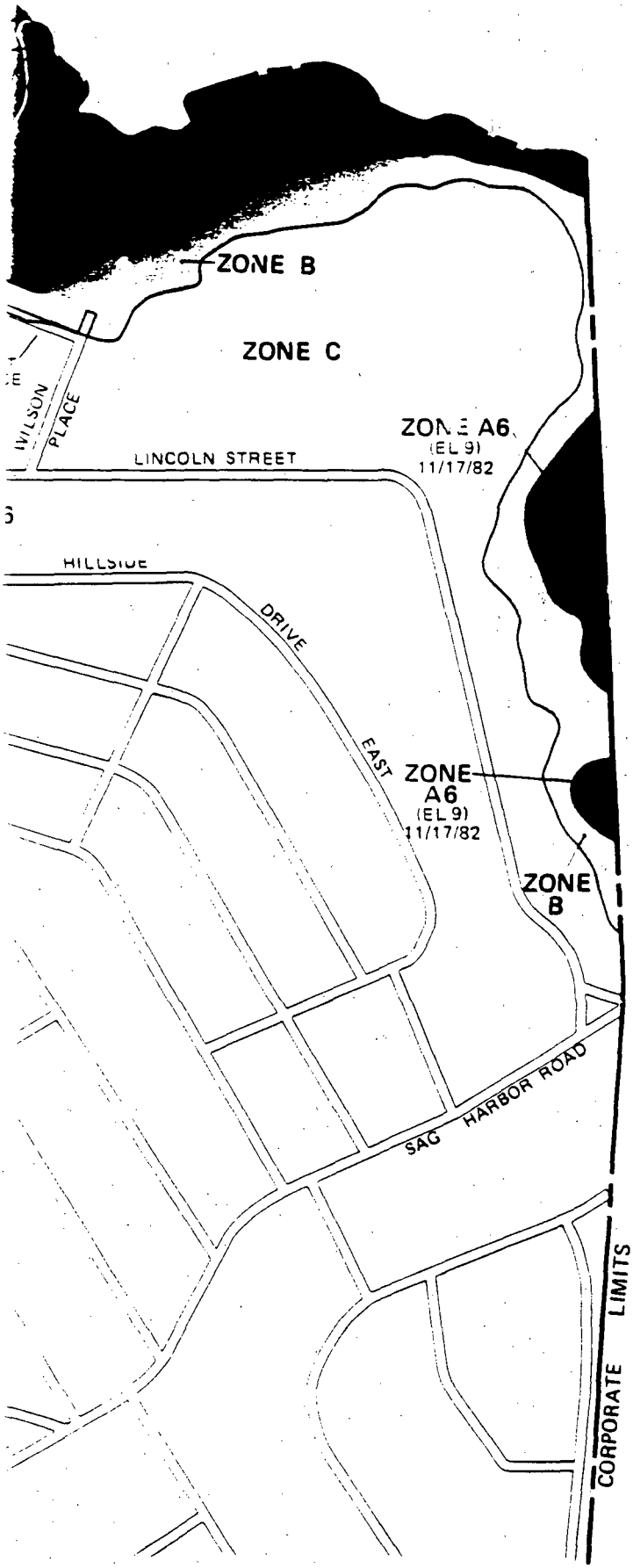

PROSPECT AVENUE
FRANKLIN
HIGH STREET
MULFORD LANE
DERING ROAD
HAMPTON STREET
RYSAM STREET
BURKE STREET
RECTOR ST
ZONE B
WASHINGTON STREET
DIVISION
STREET
ZONE C
RYMAN AVENUE
BRIDGE STREET
MADISON STREET
MAIN
STREET
ZONE A6
(EL 9)
HOWARD STREET
STREET
MEADOW LARK LANE
79
ZONE B
BAYVIEW AVENUE
WHITE STREET
ZONE B
OAKLAND STREET
ACCESS ROAD
GREEN
WEST HENRY STREET
RM2
BRICK KILN ROA
JOHN STREET
ZONE B
ZONE C
COLUMBIA

ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION IN FT. (NGVD)[1]	DESCRIPTION OF LOCATION
RM 1	9.016	Bench mark set in the top of the south point of the triangular concrete wall around the flag pole at the end of Main Street in Sag Harbor, about 1 5 feet above the level of the road
RM 2	14 495	Bench mark is located at the northwest corner of the intersection of Main Street, Jermain Avenue and Brick Kiln Road in Sag Harbor. Bench mark is set in top of a concrete post flush with the ground between the curb and walkway, 1 5 feet south of a white witness post

[1]National Geodetic Vertical Datum of 1929

CORPS
W



KEY TO MAP

500-Year Flood Boundary

100-Year Flood Boundary

Zone Designations* With Date of Identification e.g., 12/2/74

100-Year Flood Boundary

500-Year Flood Boundary

Base Flood Elevation Line With Elevation In Feet**

513

Base Flood Elevation in Feet Where Uniform Within Zone**

(EL 987)

Elevation Reference Mark

RM7×

Zone D Boundary

River Mile

•M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

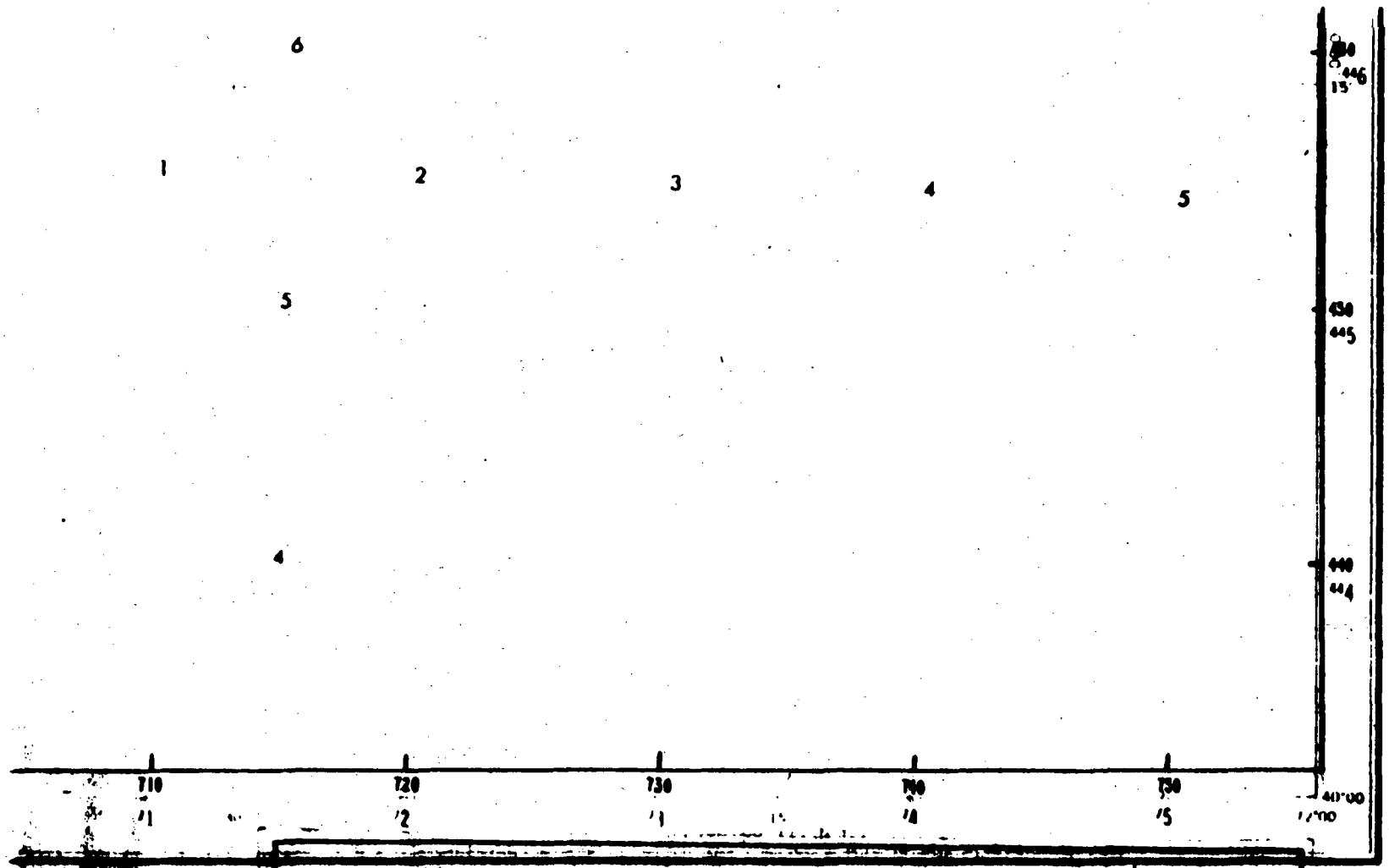
NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

Coastal base flood elevations shown on this map include the effects of wave action.

REFERENCE NO. 19



SIGNIFICANT HABITAT OVERLAY NO. [redacted]

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF FISH AND WILDLIFE
BUREAU OF WILDLIFE

PREPARED FOR: SIGNIFICANT HABITAT UNIT
WILDLIFE RESOURCES CENTER
DELMAR, NEW YORK 12054
(518) 457-5792

PREPARED BY: HABITAT INVENTORY UNIT

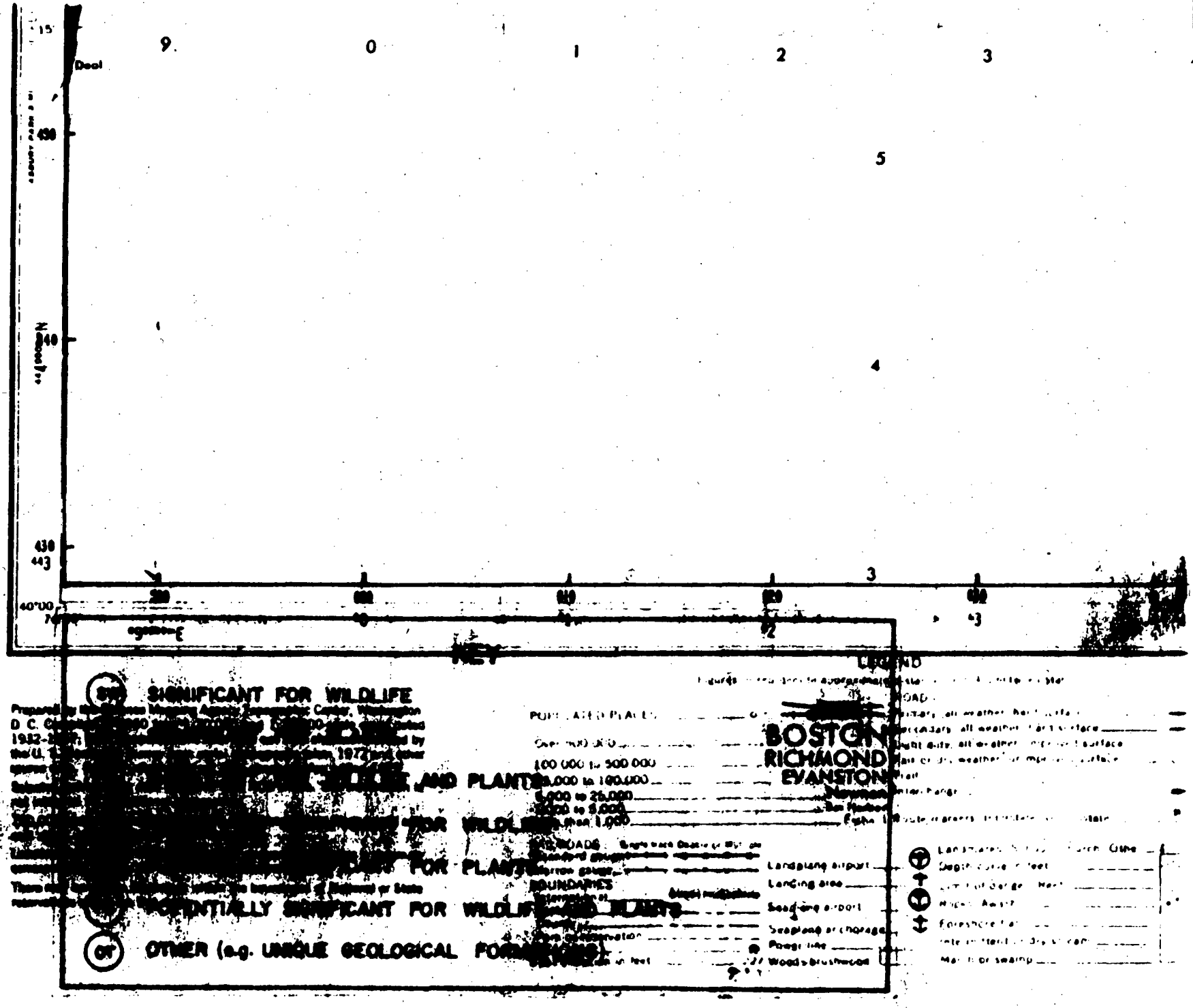
LOCATION DIAGRAM

XA YA
XV YV

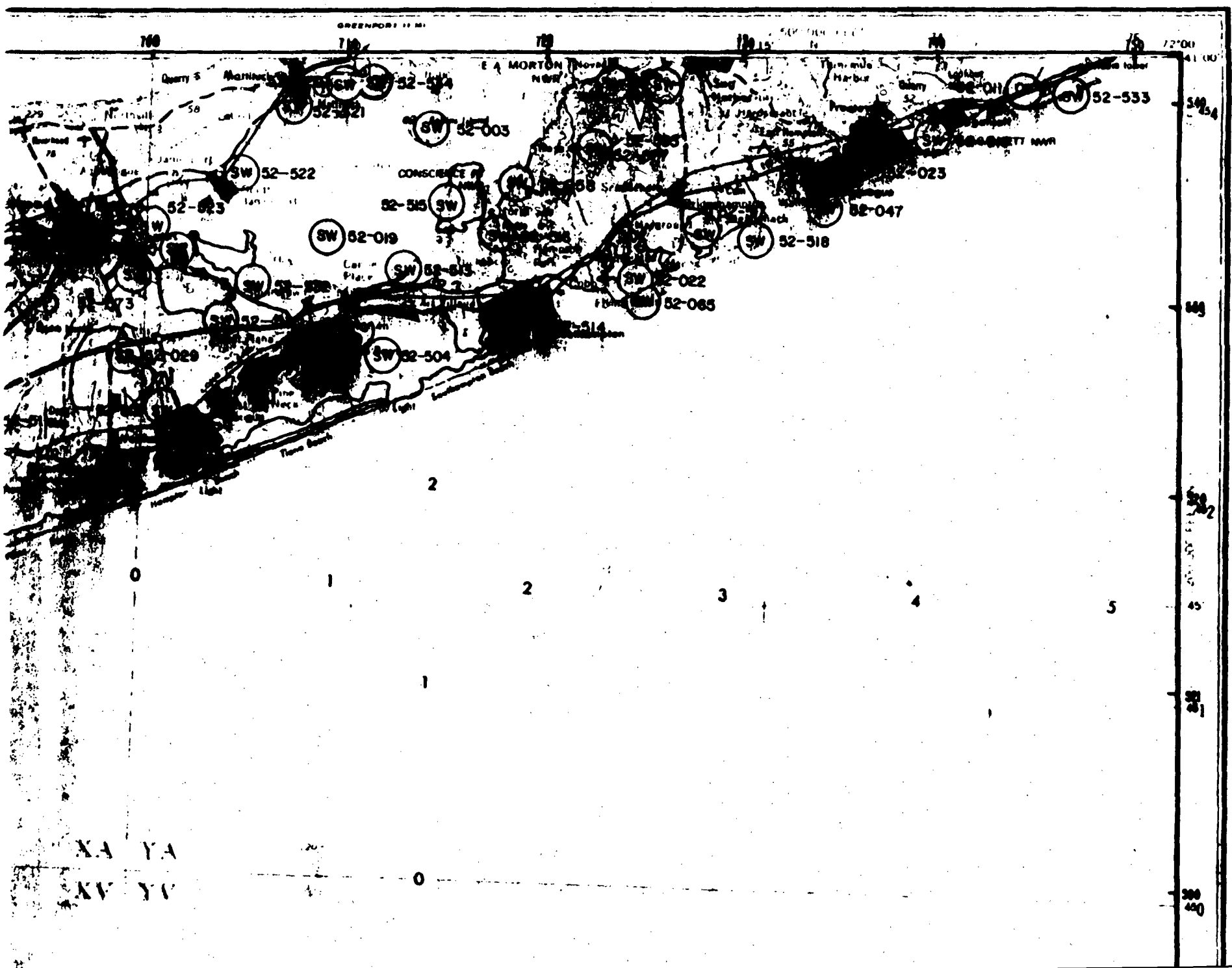
MARCH 1981

NEW YORK NY N.J CONN

REVISED: 4-20-87 mp



9
0
1
2
3
5
4
3
Deal
430
440
430
443
40°00
KEY
SIGNIFICANT FOR WILDLIFE
AND PLANTS
FOR WILDLIFE
FOR PLANTS
POTENTIALLY SIGNIFICANT FOR WILDLIFE AND PLANTS
OTHER (e.g. UNIQUE GEOLOGICAL FORMATIONS)
LEGEND
POPULATED PLACES
100 000 to 500 000
5,000 to 100,000
5,000 to 25,000
5,000 to 5,000
Landplane airport
Landing area
Seaplane airport
Seaplane anchorage
Power line
Woods brushwood
BOSTON
RICHMOND
EVANSTON
Newman
Fishk



GREENPORT
E A MORTON
CONSCIENCE
SW 52-003
SW 52-522
SW 52-019
SW 52-515
SW 52-504
SW 52-518
SW 52-022
SW 52-065
SW 52-533
52-047
52-023
52-029
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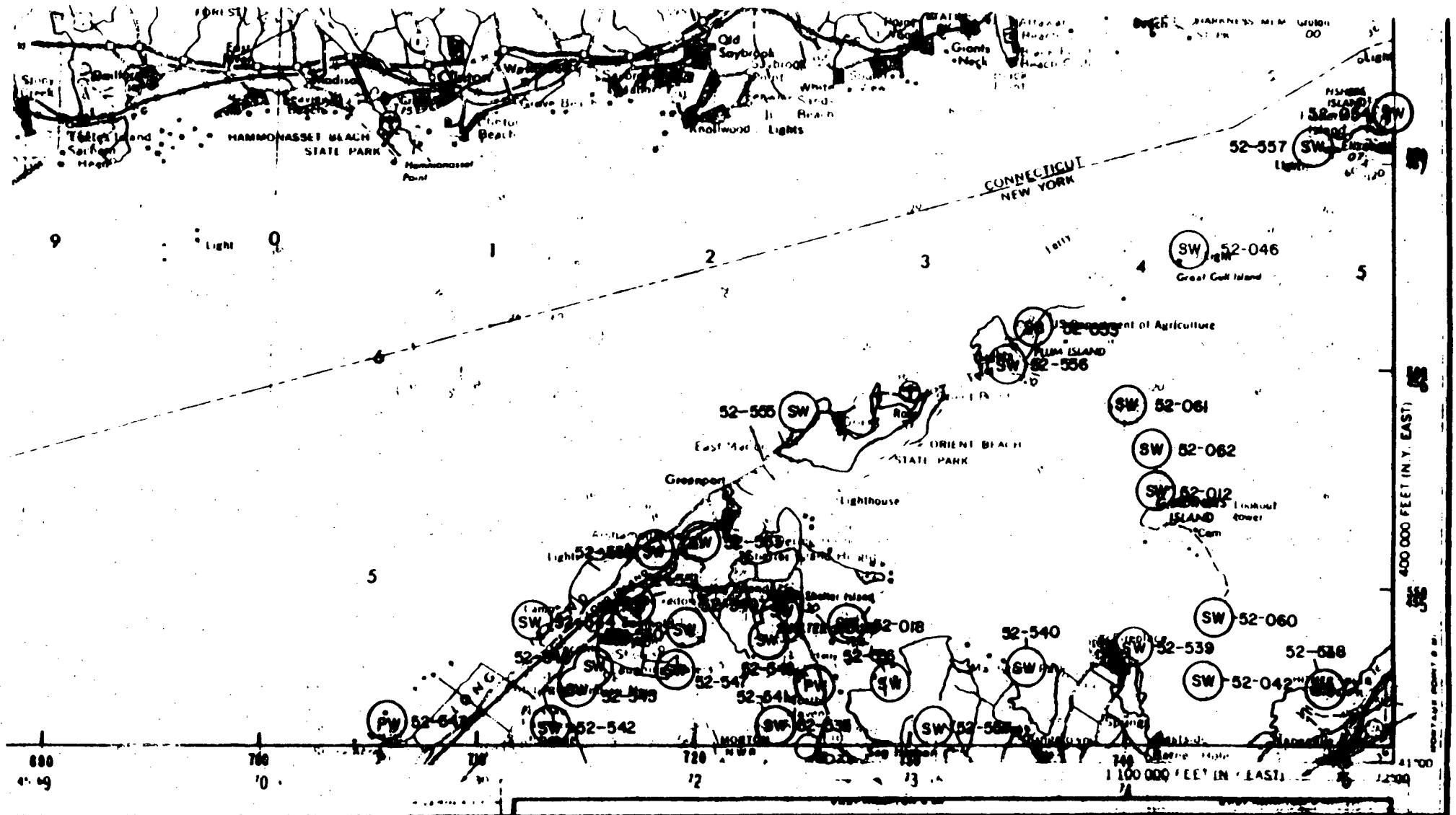


SIGNIFICANT HABITAT OVERLAY NO. 1 OF 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF FISH AND WILDLIFE
BUREAU OF WILDLIFE

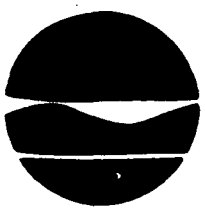
PREPARED FOR: SIGNIFICANT HABITAT UNIT
WILDLIFE RESOURCES CENTER
DELMAR, NEW YORK 12054
(518) 457-5782

QUAD: [redacted]

SCALE: 1:250,000

REFERENCE NO. 20

New York State Department of Environmental Conservation
Wildlife Resources Center
Delmar, New York 12054-9767



Thomas C. Jorling
Commissioner

July 25, 1988

RECEIVED

JUL 28 REC'D

NUS CORPORATION
REGION II
SENT TO _____

Mr. Gregory R. Pollack
NUS Corporation
1090 King Georges Post Road
Suite 1103
Edison, NJ 08837

Dear Mr. Pollack:

The information you requested regarding the four significant habitats located near the Village of Sag Harbor is provided below.

In addition, I have enclosed a printout and key for interpreting information contained in the Natural Heritage Program files covering the Town of Southampton areas which are located on the Sag Harbor quadrangle. I am not sure whether you have used this data previously or not, but thought I should point out that the Significant Habitats database will be phased out shortly and replaced by the Natural Heritage database. During the interim, however, we are using both databases to respond to requests such as this.

The areas found on the printout can be plotted using the Latitude-Longitude coordinates provided. The enclosed key will help determine the precision of each location.

* Significant Habitats *

PW 52-541. North Haven Woodlands. This is a relatively large, undeveloped tract of mature deciduous forestland which is rare in Suffolk County. The area is potentially significant for wildlife.

The following three areas have been designated as 'Significant Coastal Fish and Wildlife Habitats' by the Department of State under the Waterfront Revitalization and Coastal Resources Act. To obtain additional information regarding this designation and for copies of each report, please contact:

Mr. Thomas F. Hart
N.Y.S. Department of State
Coastal Management Program
162 Washington Avenue
Albany, NY 12231
(518) 474-3642

SW 52-535 Noyack Bay Beaches
SW 52-536 Cedar Point County Park
SW 52-537 Northwest Creek

If we can be of further assistance, please do not hesitate to contact us.

Sincerely,

John W. Ozard

John W. Ozard
Senior Wildlife Biologist
Significant Habitat Unit

JWO:meb

Enclosures

cc: H. Knoch

07/19/88

NEW YORK NATURAL HERITAGE PROGRAM
RARE PLANTS, ANIMALS, AND NATURAL COMMUNITIES
*****CONFIDENTIAL INFORMATION*****
(office use: county.ndx/IR1.frm)

** = county * = town	USGS 7 1/2' TOPOGRAPHIC MAP NAME	LATITUDE	LONGITUDE	A/I=animal C=community N/P=plant O=other	PRECISION: S=seconds SC=confirmed M=minutes G=general	DATE LAST OBSERVED	O F F I C E U S E NHP OCC#	HERITAGE QUADCODE	MAP DOT#
**	NYSUFF								
*	EAST HAMPTON,SOUTHAMPTON								
	SAG HARBOR,GREENPORT	405917	721703	P	M	1928	.003	4007283	173
*	SOUTHAMPTON								
	SAG HARBOR	405903	721724	P	M	1927	.006	4007283	12
	SAG HARBOR	405852	721731	P	M		.017	4007283	11
*	SOUTHAMPTON,EAST HAMPTON								
	SAG HARBOR	405828	721651	P	G	1961	.012	4007283	15
*	SOUTHAMPTON								
	SAG HARBOR	405636	721756	P	M	1928	.006	4007283	16
	SAG HARBOR,GREENPORT	405947	721605	P	M	1928	.017	4007283	18
	SAG HARBOR	405834	721734	P	M		.003	4007283	1
	SAG HARBOR	405641	721721	P	M	1932	.004	4007283	4
	SAG HARBOR	405439	722124	P	M		.019	4007283	13
	SAG HARBOR	405438	722216	P	M		.018	4007283	10
	SAG HARBOR	405435	721815	P	M		.016	4007283	9
	SAG HARBOR	405755	721739	P	SC	1985	.014	4007283	2
	SAG HARBOR	405829	721748	P	M		.013	4007283	7
	SAG HARBOR	405923	721935	P	M	1928	.006	4007283	14
	SAG HARBOR	405528	721853	P	M	1929	.005	4007283	5
	SAG HARBOR	405826	721738	P	M	1925	.007	4007283	6
	SAG HARBOR	405846	721801	C	SC	1985	.006	4007283	28
	SAG HARBOR	405857	721724	C	SC	1985	.003	4007283	25
	SAG HARBOR	405703	721747	C	SC	1985	.005	4007283	27
	SAG HARBOR	405837	721747	C	SC	1985	.007	4007283	29
	SAG HARBOR	405858	721754	C	SC	1985	.004	4007283	26

KEY TO HERITAGE PRECISION

PRECISION CODE	DEFINITION
SC	SECONDS CONFIRMED. Accuracy of mapping is within a three-second radius of the dot. Location precisely mappable and confirmed at location.
S	SECONDS. The location of the EO is precisely mappable but has not been confirmed. May need field work to confirm presence.
SO	SECONDS OBSCURE. EO and/or habitat NOT found in indicated area (of Seconds radius) despite reasonably intensive field search by qualified researchers at the appropriate time of year.
M	MINUTE. Location within a one-minute radius (approximately 1.5 miles or 2 km) from the center point of the dot. Roughly 4" on a 1:24000 scale USGS map.
MO	MINUTE OBSCURE. EO and/or habitat not found in indicated area (of Minute radius) despite reasonably intensive field search(es) by qualified researchers at appropriate time of year.
G	GENERAL. Accuracy of mapping within a 5-mile radius on a 1:24000 scale USGS map). (to quad or placename only). Usually an historical occurrence.
X	DESTROYED. EO has been destroyed or its habitat has been permanently altered so it can no longer exist at this location.
U	UNMAPPABLE. Location not specific enough to be placed on a map.

NEW YORK NATURAL HERITAGE PROGRAM
RARE PLANTS, ANIMALS, AND NATURAL COMMUNITIES
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	SAG HARBOR	405906	721731	C	SC	1985	.002	4007283	19
	SAG HARBOR	405445	721719	P	M		.015	4007283	21
	SAG HARBOR	405425	721717	A	SC	1985	.020	4007283	32
	SAG HARBOR	405333	721939	A	SC	1985	.018	4007283	31
	SAG HARBOR	405655	721801	A	SC	1984	.001	4007283	33
	SAG HARBOR	405614	721708	I	S	1984	.004	4007283	24
	SAG HARBOR	405908	721739	C	SC	1985	.046	4007283	39
	SAG HARBOR	405831	721729	C	SC	1985	.045	4007283	38
	SAG HARBOR	405744	721732	C	SC	1985	.032	4007283	34
	SAG HARBOR	405655	721801	C	SC	1985	.031	4007283	33
	SAG HARBOR	405755	721738	C	SC	1987	.030	4007283	2
	SAG HARBOR	405647	721726	C	SC	1985	.034	4007283	36
	SAG HARBOR	405808	721716	C	SC	1985	.033	4007283	35
	SAG HARBOR	405504	721538	A	SC	1986	.021	4007283	51
	SAG HARBOR	405403	721825	A	SC	1987	.019	4007283	50
	SAG HARBOR	405817	721754	A	SC	1986	.001	4007283	49
	SAG HARBOR	405548	721733	P	M	1925	.003	4007283	37
	SOUTHAMPTON,SAG HARBOR	0	0	P	U	1899	.014	4007284	0
	SAG HARBOR	405836	721729	P	M	1927	.004	4007283	52
	SAG HARBOR	405901	721731	P	M	1927	.005	4007283	53
	SAG HARBOR	405755	721738	P	SC	1984	.002	4007283	2
	SAG HARBOR	405755	721738	P	SC	1985	.003	4007283	2
	SAG HARBOR	405755	721738	P	SC	1985	.003	4007283	2
	SAG HARBOR	405852	721747	P	M	1925	.016	4007283	17
	SAG HARBOR	405755	721738	P	SC	1985	.002	4007283	2
	SAG HARBOR	405906	721731	P	SC	1984	.006	4007283	19
	SAG HARBOR	405857	721724	P	SC	1984	.007	4007283	25
	SAG HARBOR	405830	721729	P	SC	1985	.008	4007283	38
	SAG HARBOR	405837	721747	P	SC	1985	.009	4007283	29
	SAG HARBOR	405930	722059	P	SC	1985	.001	4007283	87

NEW YORK NATURAL HERITAGE PROGRAM
RARE PLANTS, ANIMALS, AND NATURAL COMMUNITIES
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	SAG HARBOR	405744	721731	P	SC	1985	.011	4007283	34
	SAG HARBOR	405647	721726	P	SC	1985	.018	4007283	36
	SAG HARBOR	405647	721726	P	SC	1984	.025	4007283	36
	SAG HARBOR	405647	721726	P	SC	1985	.016	4007283	36
	SAG HARBOR	405647	721726	P	SC	1985	.015	4007283	36
	SAG HARBOR	405647	721726	P	SC	1985	.010	4007283	36
	SAG HARBOR	405655	721801	P	SC	1984	.027	4007283	33
	SAG HARBOR	405755	721738	P	SC	1985	.002	4007283	2
	SAG HARBOR	405755	721738	P	SC	1985	.001	4007283	2
	SAG HARBOR	405755	721738	P	SC	1985	.001	4007283	2
	SAG HARBOR	405755	721738	P	SC	1985	.001	4007283	2
	SAG HARBOR	405703	721747	P	SC	1985	.001	4007283	27
	SAG HARBOR	405703	721747	P	SC	1985	.026	4007283	27
	SAG HARBOR	405830	721729	P	SC	1985	.019	4007283	38
	SAG HARBOR	405858	721754	P	SC	1985	.020	4007283	26
	SAG HARBOR	405703	721747	P	SC	1985	.021	4007283	27
	SAG HARBOR	405837	721747	P	SC	1984	.003	4007283	29
	SAG HARBOR	405905	721731	P	SC	1984	.004	4007283	19
	SAG HARBOR	405830	721729	P	SC	1984	.007	4007283	38
	SAG HARBOR	405905	721730	P	SC	1985	.007	4007283	19
	SAG HARBOR	405830	721729	P	SC	1985	.008	4007283	38
	SAG HARBOR	405837	721747	P	SC	1985	.013	4007283	29
	SAG HARBOR	405830	721729	P	SC	1985	.020	4007283	38
	SAG HARBOR	405858	721754	P	SC	1985	.010	4007283	26
	SAG HARBOR	405905	721731	P	SC	1985	.029	4007283	19
	SAG HARBOR	405905	721731	P	SC	1985	.014	4007283	19
	SAG HARBOR	405703	721747	P	SC	1985	.021	4007283	27
	SAG HARBOR	405806	721736	P	SC	1985	.003	4007283	35
	SAG HARBOR	405858	721723	P	SC	1985	.001	4007283	25
	SAG HARBOR	405905	721731	P	SC	1985	.024	4007283	19

NEW YORK NATURAL HERITAGE PROGRAM
RARE PLANTS, ANIMALS, AND NATURAL COMMUNITIES
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	SAG HARBOR	405905	721731	P	SC	1985	.002	4007283	19
	SAG HARBOR	405858	721724	P	SC	1984	.028	4007283	25
	SAG HARBOR	405837	721747	P	SC	1984	.023	4007283	29
	SAG HARBOR	405830	721729	P	SC	1985	.001	4007283	38
	SAG HARBOR	405845	721801	P	SC	1985	.011	4007283	28
	SAG HARBOR	405808	721736	P	SC	1985	.012	4007283	35
	SAG HARBOR	405745	721732	P	SC	1985	.006	4007283	34
	SAG HARBOR	405745	721732	P	SC	1985	.013	4007283	34
	SAG HARBOR	405837	721747	P	SC	1985	.017	4007283	29
	SAG HARBOR	405837	721747	P	SC	1985	.007	4007283	29
	SAG HARBOR	405845	721801	P	SC	1985	.008	4007283	28
	SAG HARBOR	405910	721739	P	SC	1985	.022	4007283	39
	SAG HARBOR	405545	721910	P	SC	1986	.005	4007283	184
	SAG HARBOR	405333	721939	A	SC	1984	.019	4007283	31
	SAG HARBOR	405425	721717	A	SC	1985	.020	4007283	32
	SAG HARBOR	405504	721538	A	SC	1987	.021	4007283	51
	SAG HARBOR	405403	721825	A	SC	1987	.064	4007283	50
	SAG HARBOR	405943	721933	A	SC	1983	.065	4007283	80
	SAG HARBOR	405702	721747	P	SC	1985	.013	4007283	27
	SAG HARBOR	405745	721749	P	M	1927	.006	4007283	172
	SAG HARBOR	405847	721732	P	M	1938	.007	4007283	171
	SAG HARBOR	405858	721724	P	SC	1985	.014	4007283	25
	SAG HARBOR	405909	721739	P	SC	1985	.006	4007283	39
	SAG HARBOR	405745	721732	P	SC	1985	.016	4007283	34
	SAG HARBOR	405655	721801	P	SC	1985	.005	4007283	33
	SHINNECOCK INLET,SAG HARBOR	405037	722806	P	G	1946	.005	4007274	14
	SAG HARBOR	405814	721743	P	M	1955	.006	4007283	170
	SAG HARBOR	405633	721714	P	M	1941	.013	4007283	178
	SAG HARBOR	405635	721720	P	M	1927	.026	4007283	179
	SAG HARBOR	405838	721719	P	M	1925	.015	4007283	166

NEW YORK NATURAL HERITAGE PROGRAM
RARE PLANTS, ANIMALS, AND NATURAL COMMUNITIES
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** = county * = town	USGS 7 1/2' TOPOGRAPHIC MAP NAME	LATITUDE	LONGITUDE	A/I=animal C=community N/P=plant O=other	PRECISION: S=seconds SC=confirmed M=minutes	DATE LAST OBSERVED	OFFICE USE NHP. OCC#	HERITAGE QUADCODE	MAP DOT#
	SAG HARBOR	405913	721736	P	M	1927	.016	4007283	167
*	SOUTHAMPTON,EAST HAMPTON								
	SAG HARBOR,GREENPORT	405923	721655	P	M	1945	.002	4007283	168
*	SOUTHAMPTON								
	SAG HARBOR	405827	721721	P	M	1955	.009	4007283	180
	SAG HARBOR	405820	721723	P	M	1925	.012	4007283	177
	SAG HARBOR	405853	721759	P	M	1933	.004	4007283	176
	SAG HARBOR	405917	721729	P	M	1945	.003	4007283	175
	SAG HARBOR	405843	721724	P	M	1920	.004	4007283	174
	SAG HARBOR	405838	721803	P	M	1929	.005	4007283	185
*	SOUTHAMPTON,EAST HAMPTON								
	SAG HARBOR,GREENPORT	405923	721706	P	M	1928	.007	4007283	169
*	SOUTHAMPTON								
	SAG HARBOR	405735	722134	A	SC	1978	.062	4007283	182
	SAG HARBOR	405830	721850	A	SC	1987	.069	4007283	188
	SAG HARBOR	405647	721724	P	SC	1984	.010	4007283	36
	SAG HARBOR	405751	721907	A	SC	1987	.070	4007283	189
	SAG HARBOR	405756	721938	A	SC	1987	.071	4007283	190
	SAG HARBOR	405639	721657	P	SC	1987	.002	4007283	22
	SAG HARBOR	405859	721753	P	SC	1985	.005	4007283	26
	SAG HARBOR	405917	722208	P	M	1987	.003	4007283	8
	SAG HARBOR	405257	722115	A	SC	1986	.078	4007283	30
	SAG HARBOR	405257	722115	A	SC	1985	.070	4007283	30
	SAG HARBOR	405239	722207	A	SC	1987	.077	4007283	20
	SAG HARBOR	405447	722212	P	SC	1986	.009	4007283	40
	SAG HARBOR	405755	721738	P	SC	1987	.016	4007283	2

REFERENCE NO. 21

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#S942; #01226  *  JOHN, MGR NATREG
#S942; #01226  *  JOHN, MGR NATREG
#S942; #01226  *  JOHN, MGR NAT EG
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#S942; #01226  *  JOHN, MGR NATREG; LOCPRNT  *  WED,
#S942; #01226  *  JOHN, MGR NATREG; LOCPRNT  *  W D,
#S942; #01226  *  JOHN, MGR NATREG; LOCPRNT  *  WED,
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#S942; #01226  *  JOHN, MGR NATREG; LOCPRNT  *  WED, FEB  4, 1987,  1
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#S942; #01226  *  JOHN, MGR NATREG; LOCPRNT  *  WED, FEB  4, 1987,  1:10 PM
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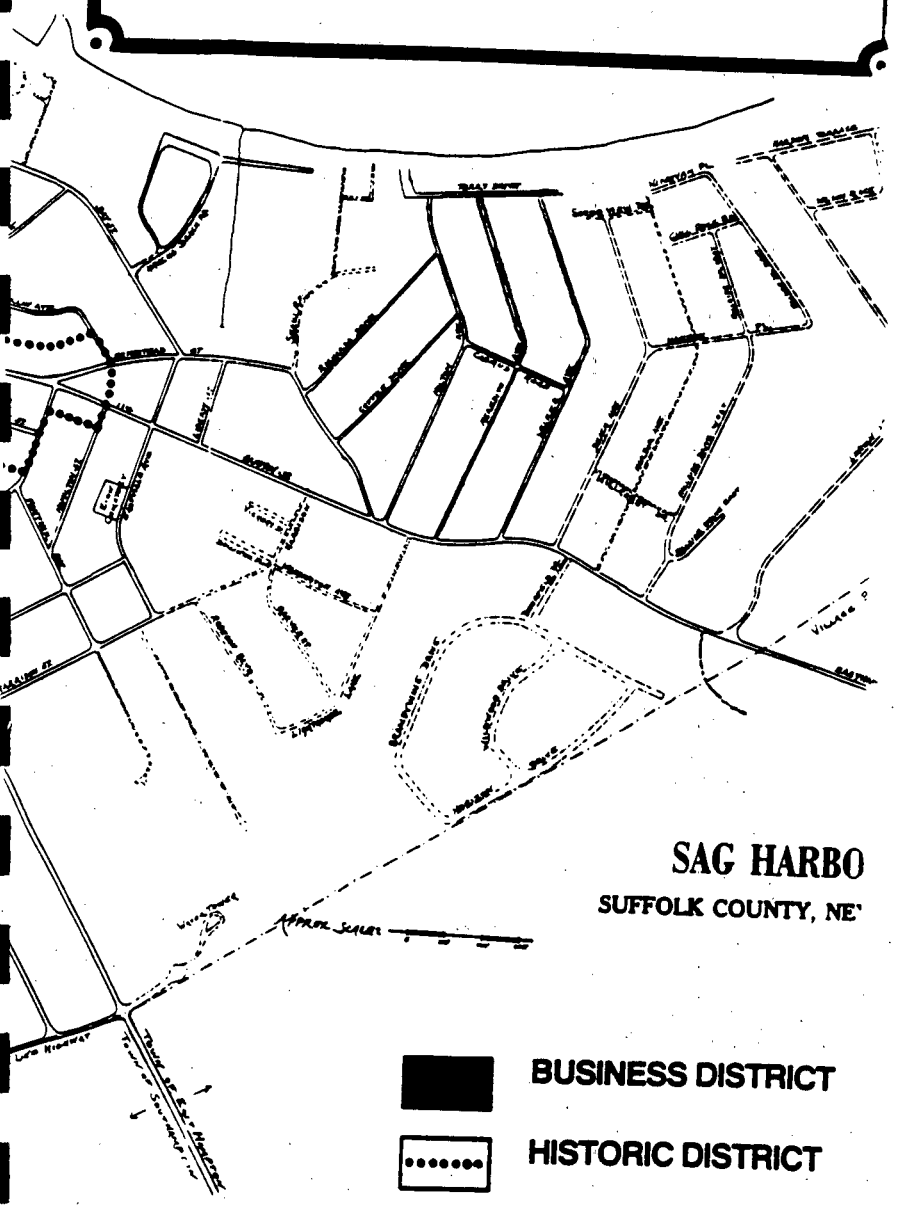
NEW YORK REGISTRY OF NATIONAL HISTORIC SITES + LANDMARKS As of 2/4/87. From the US Dept of The INTERIOR

NY 25		
Reference No. 84003003		
Patchogue		
United Methodist Church		Listed
S. Ocean Ave. and Church St		04/19/84
Reference No. 84003006		
Riverhead		
Vail-Leavitt Music Hall		Listed
Peconic Ave		09/25/83
Reference No. 83001809		
Rocky Point Vicinity		
Radio Central Complex		Listed
S of Rocky Point on Rocky Point-Yaphank Rd		06/[illegible]/80
Reference No. 80002777		
Sag Harbor		
Sag Harbor Village District		Listed
Reference No. 73001274		07/20/73
Saint James		
Saint James District		Listed
On NY 25A		07/20/73
Reference No. 73001275		
Shelter Island		
Havens, James, Homestead		Listed
NY 114		04/10/86
Reference No. 86000701		
Shelter Island Windmill		Listed
[Long Island Wind and Tide Mills TR]		12/27/78
N of Manwaring Rd		
Reference No. 78001917		
Shelter Island Heights		
Union Chapel		Listed
The Grove		11/23/84
Reference No. 84000296		
Smithtown		
Blydenburgh Park Historic District		Listed
Blydenburgh County Park		08/11/83
Reference No. 83001807		
First Presbyterian Church		Listed
175 E. Main St		12/23/77
Reference No. 77000983		
Halliock Inn		Listed
263 E. Main St		08/07/74
Reference No. 74001310		
Southampton		
Balcastle		Listed
[Southampton Village MRA]		10/02/80
NW corner of Herrick and Little Plains Rds		
Reference No. 86002722		
Beach Road Historic District		Listed
[Southampton Village MRA]		10/02/80
Between Shinnecock and Halsey Neck Rds. on Beach Rd. a		
t Barrier Beach		
Reference No. 86002723		
Beebe Windmill		Listed
[Long Island Wind and Tide Mills TR]		12/27/78
Se corner of Ocean Rd. and Hildreth Ave		
Reference No. 78001918		
Bowers, Dr. Wesley, House		Listed
[Southampton Village MRA]		10/02/80
Beach Rd		
Reference No. 86002699		
Breese, James L., House		Listed
155 Hill St		04/10/80
Reference No. 80002778		
Chase, William Merritt, [illegible]		

REFERENCE NO. 22

SAG HARBOR'S HISTORIC PRESERVATION PROGRAM

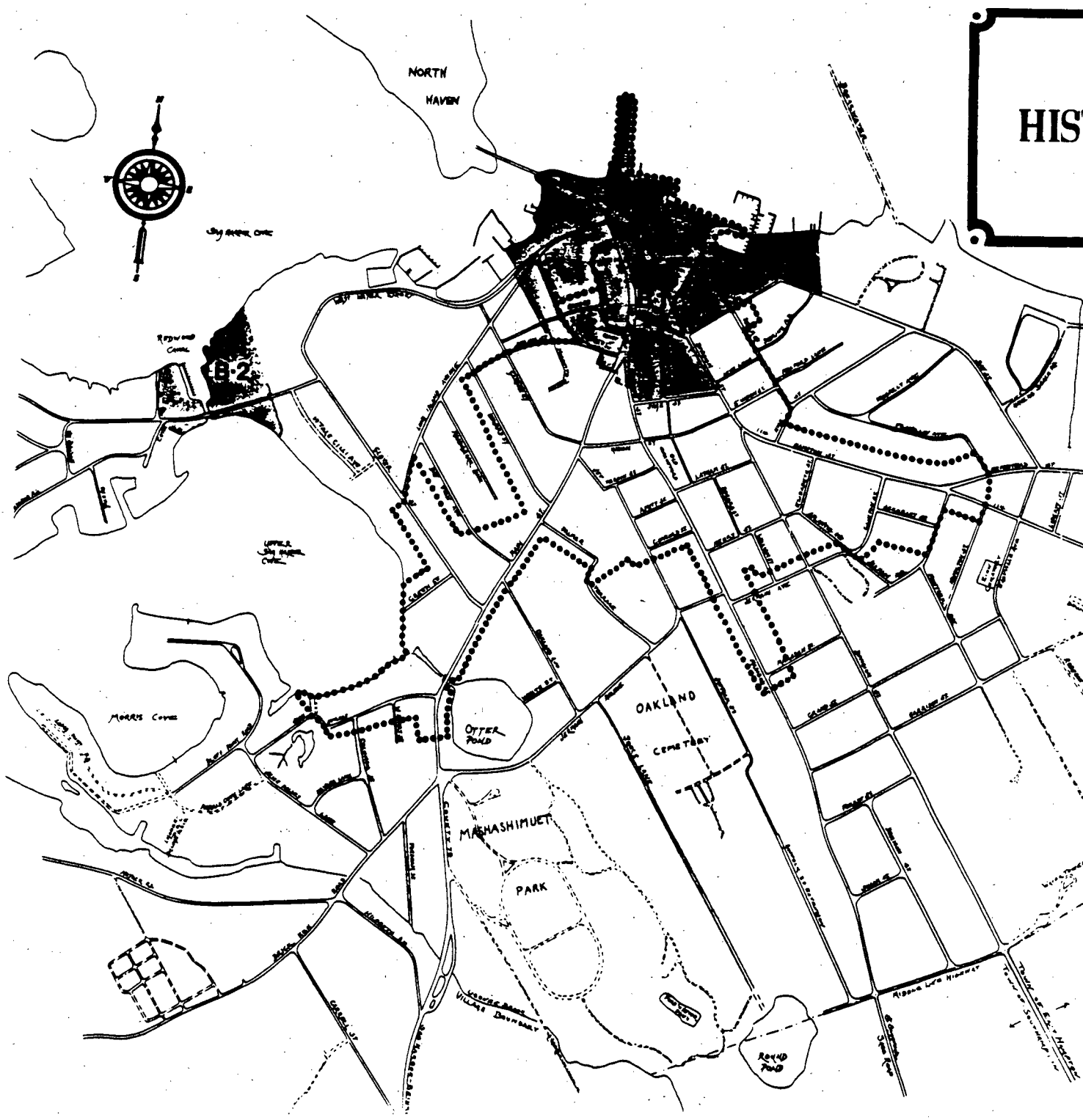


SAG HARBO

SUFFOLK COUNTY, NE'

BUSINESS DISTRICT

HISTORIC DISTRICT


HIS
NORTH
HAVEN
B-2
MORRIS COVE
OTTER POND
OAKLAND
CEMETERY
MAHASHIMUET
PARK
ROUND POND

REFERENCE NO. 23

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

HYDROGEOLOGY OF SUFFOLK COUNTY, LONG ISLAND, NEW YORK

By H.M. Jensen and Julian Soren

Prepared in cooperation with the
SUFFOLK COUNTY WATER AUTHORITY
SUFFOLK COUNTY DEPARTMENT OF ENVIRONMENTAL CONTROL

HYDROLOGIC INVESTIGATIONS ATLAS
Published by the U.S. Geological Survey, 1974
Washington, D.C. 20244

JENSEN AND SOREN-HYDROGEOLOGY, SUFFOLK CO., LONG ISLAND, N.Y. 1:250,000 HA-501

RECHARGE AND DISCHARGE OF FRESH GROUND WATER

Precipitation is the sole source of fresh-water recharge in the county. Average annual precipitation is about 45 inches; it generally ranges from 40 inches at the eastern end of the county to 50 inches in the middle and is nearly evenly distributed over the year (Miller and Frederick, 1969, plate 1). About half the precipitation seeps into the ground and percolates downward to the water table to become ground water; nearly half the precipitation is returned to the atmosphere by evaporation and plant transpiration; and a small amount of the precipitation, about 5 percent, enters streams by direct runoff (Cohen and others, 1968, p. 36–40, and Cohen and others, 1970, p. 11 and 14).

Ground water moves to discharge seaward mainly by subsurface outflow to salty ground water that is hydraulically connected with the sea and by seepage into streams that discharge into tidewater.

More than 50 streams discharge fresh water into the bordering bays, Long Island Sound, and the ocean. Most of the surface divide for the streams that drain the county lies in the northern half and extends from Melville, on the west, eastward through the Centereach area to the vicinity of the Brookhaven National Laboratory. From the area of the Brookhaven National Laboratory, the divide bifurcates into branches that approximately traverse the central lengths of the county's north and south forks. Streams flow to tidewater north and south of the divides, except for the Peconic River, which flows eastward to tidewater from the branching of the divides.

The total annual streamflow discharging into tidewater from about 1945 to 1971 averaged 390 cfs (cubic feet per second), or 253 mgd, distributed as follows (D.E. Vaupel, written commun., January 1969, and A.G. Spinello, oral commun., August 1971): most of the discharge, 280 cfs, from the southern part of the county into Great South Bay and, to a lesser extent, into the ocean; 60 cfs into Peconic Bay and other bays, between the north and south forks; and 50 cfs from the northern part of the county into Long Island Sound. Ground-water seepage constitutes about 95 percent of stream outflow.

MAN-MADE CONDITIONS

The effects of man's development on the ground water of Suffolk County has primarily been the diversion of part of it by wells and a return of the used, and generally chemically altered, ground water to the soil and ground-water reservoir. Used ground water is currently returned to the ground-water reservoir principally through cesspools. Some waste water from industrial processes returns to the ground through seepage pits; and ground water pumped for air conditioning and industrial cooling is returned, with higher temperatures, through recharge wells to the ground-water reservoir. Ground water pumped for crop irrigation and lawn sprinkling mostly represents a net loss from the system by evapotranspiration. Artificial filling of marshy shore areas has probably reduced evapotranspiration.

In 1970, gross ground-water pumpage in Suffolk County was 155 mgd (New York State Department of Environmental Conservation, written commun., June 1, 1971). An unknown amount of the pumpage was consumed by evapotranspiration, and virtually all the remainder (probably more than 75 percent) was returned to the ground through local waste-disposal facilities.

MOVEMENT OF GROUND WATER

Ground water moves from three major drainage subareas toward discharge at or near the shore. These subareas are (1) the main land area of the county from the Nassau County boundary to a point near the Brookhaven National Laboratory, (2) the north fork, from the Brookhaven National Laboratory to Orient Point, and (3) the south fork, from the Brookhaven National Laboratory to Montauk Point. The ground-water divides of these subareas form a "Y"-shaped pattern that approximately coincides with the major surface-water drainage divides. The arms of the Y radiate from the general area of the Brookhaven National Laboratory through the centers of the north and the south forks. Ground water moves northward toward Long Island Sound and southward toward Great South Bay [illegible]

amounts in the Brookhaven National Laboratory and Riverhead areas percolate eastward toward Peconic Bay. Groundwater drainage from the north-fork area moves northward to Long Island Sound and southward into Peconic and Gardiners Bays and Block Island Sound; in the southfork area, ground water moves northward to Peconic and Gardiners Bays and Block Island Sound and southward into Moriches and Shinnecock Bays and the ocean.

Movement of water in the aquifers of Suffolk County is more rapid horizontally than vertically. This partly reflects the low vertical hydraulic conductivity of the near-horizontal interbedded clay and silt lenses and beds. The estimated average rates of horizontal movement in the upper glacial, the Magothy, and the Lloyd aquifers are 0.5, 0.2, and 0.1 foot per day, respectively, in areas remote from pumping wells, and hundreds of feet per day near the screens of pumping wells (Soren, 1971a, p. 16). Vertical rates of movement are described in the following section.

HYDRAULIC INTERCONNECTION OF AQUIFERS

The aquifers of Long Island are hydraulically interconnected. Layers of clay and silt within an aquifer, or clayey and silty units between aquifers, confine the ground water; but these units do not completely prevent the vertical movement of water through them.

On the average, the vertical hydraulic conductivity of and rates of vertical flow through the upper glacial aquifer are greater than those of all other hydrogeologic units in Suffolk County. The vertical movement of water through the Magothy aquifer is impeded by intercalated lenses and beds of clay and silt; but, locally, vertical movement through the aquifer is facilitated by the lateral discontinuity of clay and silt beds. Vertical movement of water through clay and silt beds of the Magothy aquifer is very slow. The Raritan clay effectively confines water in the underlying Lloyd aquifer because the Raritan clay is thick, is areally persistent, and is of very low hydraulic conductivity. Movement through the bedrock is negligible.

The contact between the upper glacial and the Magothy aquifers is not a smooth plane. Glacial deposits fill buried valleys that were cut in the Magothy aquifer, and these deposits are in lateral contact with truncated beds in the Magothy aquifer. In the buried valleys, water enters the Magothy aquifer at depths of hundreds of feet directly from the upper glacial aquifer. Near Huntington, a buried valley cuts completely through the Magothy aquifer and extends into the Raritan clay; in the Ronkonkoma basin, the Magothy aquifer seems to be nearly completely cut through; and along the north shore, where locally all the pre-Pleistocene deposits were completely eroded, the upper glacial aquifer is in contact with the full thickness of the Magothy aquifer. (See map showing altitude of top of Magothy aquifer and hydrogeologic sections, sheet 1.)

Where the upper glacial aquifer lies directly on sandy beds of the Magothy aquifer, good vertical hydraulic continuity exists between the two aquifers. Head losses between the water table in the upper glacial aquifer and the base of the Magothy aquifer in the area of the main ground-water divide in western Suffolk County (a vertical distance of as much as 900 feet) in 1968 generally were less than 2 feet (Soren, 1971a, p. 17–19). Furthermore, in areas of Long Island where ground-water withdrawals from both the upper glacial and the Magothy aquifers are large, the cones of depression in their water-level surfaces caused by pumping are similar in areal extent and configuration (Soren, 1971b, p. 15; and Kimmel, 1971, p. B227–B228). These observations confirm the high degree of hydraulic continuity between the two aquifers in many parts of the county.

In the south shore area, the Gardiners Clay and the Monmouth greensand effectively confine water in the Magothy aquifer; and the high degree of confinement helps to prevent the downward movement of salty ground water into the Magothy aquifer. Wells that tap the Magothy aquifer on the barrier bars yield fresh water and commonly flow at land surface.

Recharge to the Lloyd aquifer results from downward movement of water from the Magothy aquifer and from the upper glacial aquifer through the Raritan clay. The main recharge area of the Lloyd aquifer seems to be in the Ronkonkoma area. Head losses across a thickness of 150 to 180 feet of Raritan clay in the county generally ranged from

THE WATER TABLE

The water table on Long Island was first mapped in 1903 (Veatch and others, 1906, pl. 12). At that time its highest point in Suffolk County was 100 feet above sea level, near Melville on the main ground-water divide near the Nassau County border, and was 70 feet above sea level at another high point on the divide in the Lake Ronkonkoma-Selden area. Subsequent maps show that water-table altitudes have continued to be highest in these two areas but had declined to 80 and 65 feet respectively in both 1943 and 1951 (Jacob, 1945, pl. 1; and Lusczynski and Johnson, 1951, pls. 1–2); recovered to 90 and 70 feet by 1958 (Lubke, 1964, pl. 5); and had reached new lows of 70 and 65 feet by 1968 (Soren, 1971a, p. 20). This latest significant decline probably resulted mainly from a regional drought from 1962 to 1966 (Cohen, Franke, and McClymonds, 1969, p. 1).

The water-table map shows the altitude of the water table in early 1971. At that time, in the Melville area it was about 5 feet higher than in 1968, and in the Lake Ronkonkoma-Selden area it was about 5 feet lower. The water table still has not recovered from the apparent effects of the 1962–66 drought in areas of significant pumping, partly because of increased net withdrawals since 1966.

PERCHED GROUND WATER

Locally, layers of clay above the water table retard the downward movement of water and create ground-water bodies that are perched above the water table. Many lakes in the inter-terminal-moraine area lie above the water table. These lakes are in hydraulic continuity with surrounding small perched ground-water bodies.

According to Lubke (1964, p. 28), bodies of perched ground water are found in the deposits of the Harbor Hill Terminal Moraine in the vicinity of Huntington and in localities in Northport, the northern Smithtown area, the northern Deer Park area, and the Lloyd Harbor area. Perched ground-water levels as much as 250 feet above the water table are reported in the Huntington area by Veatch and others (1906, pl. 12). In the northern half of Suffolk County, in areas where shallow observation wells are few, data from wells tapping unrecognized bodies of perched ground water can lead to erroneous mapping of the regional water table. Perched ground water is not known to occur in the county south of the Ronkonkoma Terminal Moraine.

Most perched ground-water bodies on Long Island are too small to support large-scale sustained pumpage for public supply, and many of the perched bodies are probably too small to support even small-scale pumpage for more than a few houses.

POTENTIOMETRIC SURFACES

MAGOTHY AQUIFER

Because of the tendency for water to be increasingly confined with increasing depth in the Magothy aquifer and because of the irregular geometry and recharge pattern of this aquifer, its most readily mappable water-level surface is the potentiometric surface in the lower to basal part. (A potentiometric surface of a confined aquifer is the imaginary surface to which water rises in wells that tap the aquifer.) The potentiometric surface of the lower Magothy aquifer in Suffolk County in early 1971 is depicted.

Hydraulic gradients deduced from comparison of the water table (water-table map) and the potentiometric surface of the lower Magothy aquifer (potentiometric-surface map) indicate that the Magothy aquifer is almost entirely recharged by downward leakage from the upper glacial aquifer along the area of the main ground-water divide. In the shoreline areas of the county, hydraulic heads in the Magothy aquifer are higher than those in the upper glacial aquifer; and in these areas, some water in the Magothy discharges by upward leakage into the upper glacial aquifer.

LLOYD AQUIFER

Few wells are screened in the Lloyd aquifer in Suffolk County; consequently, little information on the potentiometric surface of this unit is available. In early 1971, only four observation wells screened in the Lloyd aquifer provided reliable head data for the central to western parts of the county. The wells are located at the Brookhaven National Laboratory; in the Lake Ronkonkoma Village area; at the cent to the Melville area. The highest potentiometric head measured in 1971, 36 feet above sea level, was in the Lake Ronkonkoma area.

IMPLICATIONS OF WATER-LEVEL CHANGES

In undeveloped areas of Suffolk County, where hydrologic conditions are natural or nearly so, water levels in the aquifers fluctuate several feet during a year. In such areas, ground-water levels are generally highest in early spring and lowest in late autumn. These conditions reflect greater recharge, resulting from low evapotranspiration or precipitation from late autumn to early spring, and lesser recharge, resulting from high evapotranspiration from early spring to late autumn. Under natural conditions, long-term average annual ground-water discharge was balanced by recharge, and the hydrologic system was in equilibrium.

When water is withdrawn from an aquifer, hydraulic heads in wells tapping the aquifer decline to form a conical depression whose apex commonly is centered at or near the pumping wells. The cone will continue to expand unless or until sufficient additional recharge is induced or sufficient natural discharge is salvaged. On Long Island, a decline in ground-water levels represents mainly a loss of ground water from storage and a reduction of ground-water discharge to streams. Subsurface outflow of ground water to the sea also may be reduced where a part of the outflow is salvaged by pumping; but where fresh ground water is contiguous with salty ground water, such a decrease in subsurface fresh-water outflow allows salty ground water to move landward in the aquifers.

QUALITY OF THE GROUND WATER

The concentrations of chemical constituents in the ground water in most of Suffolk County are generally below the recommended maximum limits of the U.S. Public Health Service (1962, p. 7). However, some local water-quality problems exist, both natural and man-made.

ACIDITY

The pH of ground water ranges from 5.5 to 7.2 but is generally less than 7.0. The water commonly is sufficiently acidic to be corrosive. The Public Health Service has set no standards on acidity of drinking water other than that it should not be excessively corrosive to the supply system (1962, p. 7). Accordingly, water from many public-supply systems is treated with alkaline compounds to reduce acidity before distribution.

DISSOLVED IRON

According to the U.S. Public Health Service (1962, p. 7), dissolved iron concentrations in drinking and culinary water should not exceed 0.3 mg/l (milligram per liter). Excessive iron impairs the taste of water and of food and beverages prepared with the water; it also stains laundry and stains and clogs plumbing fixtures. High iron concentrations, locally more than 1 mg/l, are common in water from the Magothy and the Lloyd aquifers. As a result, many public-water suppliers remove excessive iron.

CHLORIDE

Along the seaward margins of the county, the fresh ground water is underlain and bordered by salty ground water that is hydraulically connected to the ocean, the bays, or Long Island Sound. Zones of mixed water, called zones of diffusion, separate the fresh and the salty ground water. The thickness of these zones probably ranges from a few feet in the upper glacial aquifer to as much as 500 feet in the Magothy aquifer (Lusczynski and Swarzenski, 1966, p. 23). The chloride content of the ground water in the zone of diffusion ranges from less than 10 mg/l to that of sea water—about 18,000 mg/l.

Contamination of the fresh ground water with salty ground water associated with the upward and landward movement of the zones of diffusion has not resulted in the abandonment of many wells in Suffolk County. However, the long-term potential threat of increased contamination of this type is of concern to numerous agencies and individuals in the county. A detailed discussion of this potential problem is beyond the scope of this report; however, considerable insight to the problem can be obtained from reports by Crandell (1962, p. 17–19, and 1963, p. G28–G31), Perlmutter and DeLuca (1963, p. B31–B34), Lusczynski and Swarzenski (1966, p. F66–F69), Holzmacher, McLendon, and Murrell (1970, p. 247–271), Collins and Gelhar (1970, p. 144–150), and Soren (1971b, p. A31–A34).

DETERGENT CONSTITUENTS (MBAS)

More than 95 percent of the ground water used for domestic supply in Suffolk County is returned to the ground through cesspools, septic tanks, and similar structures. As a result, the ground water and the ground-water-fed streams locally contain measurable amounts of certain substances of sewage origin, including foaming agents derived from synthetic detergents, commonly referred to as MBAS or methylene blue active substance. MBAS has been noted mainly in water from the upper glacial aquifer (Perlmutter and Guerrera, 1970, p. B14) and in the streams (Cohen, Vaupel, and McClymonds, 1971). Apparently, little or no MBAS had been found in water in the Magothy and the Lloyd aquifers. Where MBAS has been found in the water, the content is commonly less than 0.5 mg/l, the maximum limit in public-supply water recommended by the U.S. Public Health Service (1962, p. 24). However, locally, as much as 5 mg/l has been found in the ground water; and in some areas the MBAS content of the water seems to be increasing. As a result, the Suffolk County Legislature recently (1971) passed a law banning the sale of certain detergents in the county. In addition, plans have been developed for the construction of widespread sanitary-sewer systems that will discharge treated waste water into the sea.

NITRATE

The amount of nitrate in the ground water of Suffolk County is of concern of water managers and health officials. According to the U.S. Public Health Service (1962, p. 7) more than 45 mg/l nitrate (10 mg/l NO_3-N) in water supplies may be harmful, especially to infants. Perlmutter and Koch (1972, p. B230) estimated that the average natural background level of nitrate in ground water of Nassau and Suffolk Counties was less than 1 mg/l (less than 0.2 mg/l NO_3-N).

Numerous wells in Kings County (G.E. Kimmel, written commun., August 1971), Queens County (Soren, 1971b, p. A30–A31), Nassau County (Perlmutter and Koch, 1972), and Suffolk County (Harr, 1971) yield water containing more than 0.2 mg/l NO_3-N. Moreover, at least 50 wells on Long Island yield water containing more than 10 mg/l NO_3-N.

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The amount of water having more than 0.2 mg/l NO_3-N, its rate of increase, and the depth at which it is found seem to increase westward on Long Island as a whole, as well as in Suffolk County. These relations probably largely reflect the westward increase in population density, the westward increase in the age of the communities, and the associated degree of contamination of the ground water related to man's activities.

In Suffolk County, the two major sources of nitrate nitrogen in the ground water are (1) disposal of waste water into the ground and (2) agricultural activities, especially those involving the use of fertilizers. A planned countywide sanitary-sewer system is intended to reduce sewage as a source of nitrate nitrogen in the ground water of Suffolk County.

GROUND-WATER PUMPAGE

Pumpage from Suffolk County's aquifers increased from about 40 mgd in 1950 to about 155 mgd in 1970, to supply a population that has been increasing rapidly since the end of World War II. The greatest increases in population and ground-water pumpage have been in the western part of the county. Before about 1960, wells tapping the upper glacial aquifer supplied nearly all the water used in Suffolk County. Since then, pumpage from the Magothy aquifer has increased, and in 1970, the wells tapping the Magothy aquifer supplied about one-third the water used. (See map showing areal distribution of major pumpage by aquifer 1970.)

CHANGES OF GROUND WATER IN STORAGE

An area of about 140 square miles in west-central Suffolk County is underlain by about 4.5 trillion gallons of fresh water (Soren, 1971a, p. 20). By extrapolation, the total fresh ground water beneath all the county is probably 4 to 5 times this volume.

Withdrawals of ground water have caused the water table in some parts of the county to decline as much as 25 feet from earliest known levels in 1903 (map showing net change in the position of the water table) and have probably caused a small regional but generally undetected landward advance of salty ground water. The decline of the water table reflects a loss of 60 to 80 billion gallons of fresh water from the ground-water reservoir between 1903 and 1971. However, this loss of ground water from storage is less than 1 percent of the total ground water in storage in Suffolk County.

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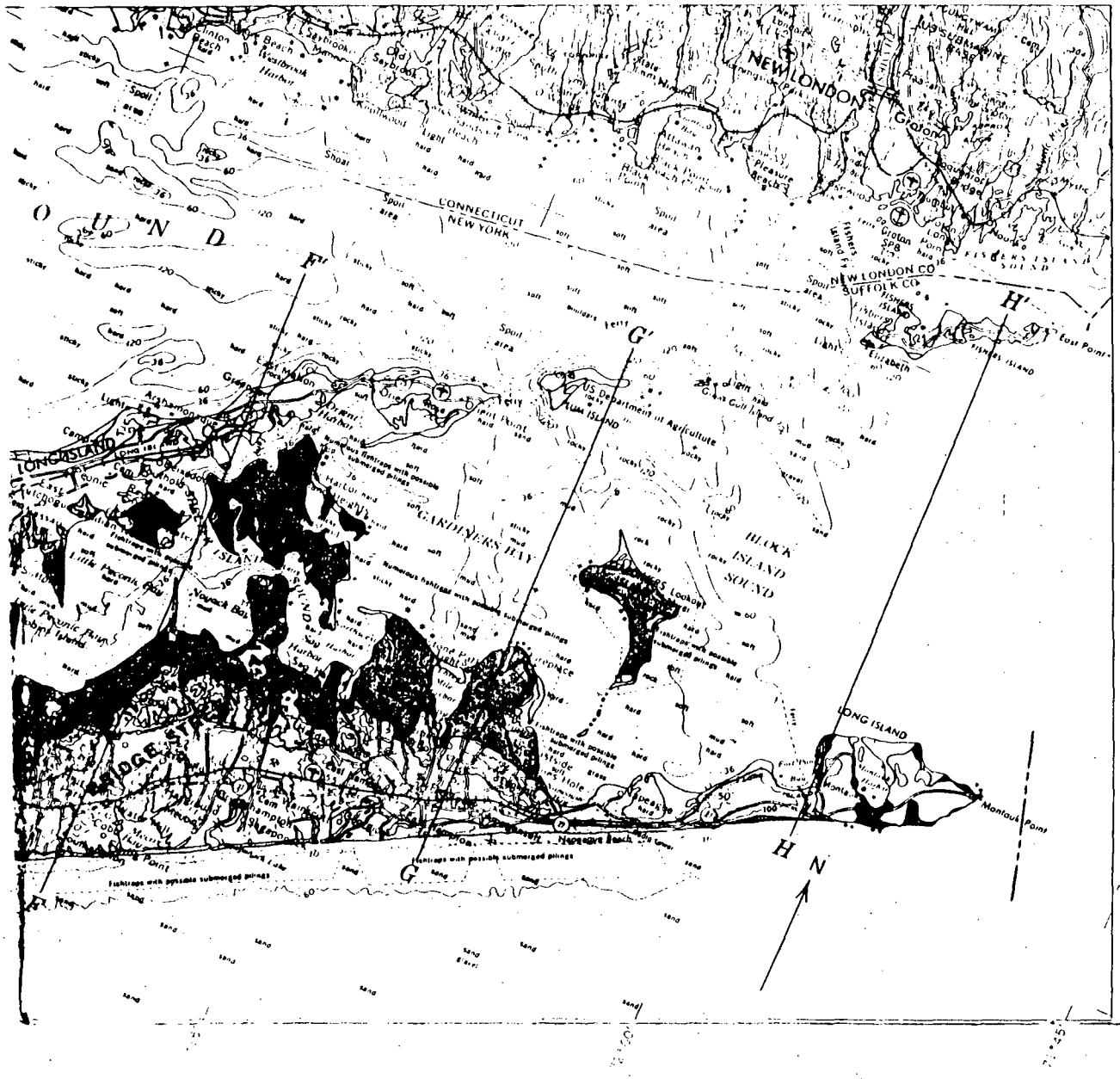
[1]Publishing agency is presently known as "New York State Department of Environmental Conservation."



CORRELATION OF MAP UNITS

Holocene	QUATERNARY	
Pleistocene	QUATERNARY	
Pliocene(?)	TERTIARY(?)	

DESCRIPTION OF MAP UNITS

- SHORE, BEACH, AND SALT-MARSH DEPOSITS AND ARTIFICIAL FILL, UNDIFFERENTIATED
- HARBOR HILL GROUND MORAINE
- HARBOR HILL TERMINAL MORAINE
- RONKONKOMA GROUND MORAINE
- RONKONKOMA TERMINAL MORAINE
- OUTWASH DEPOSITS, UNDIFFERENTIATED
- TILL DEPOSITS, UNDIFFERENTIATED
- MANNETTO GRAVEL

Contact

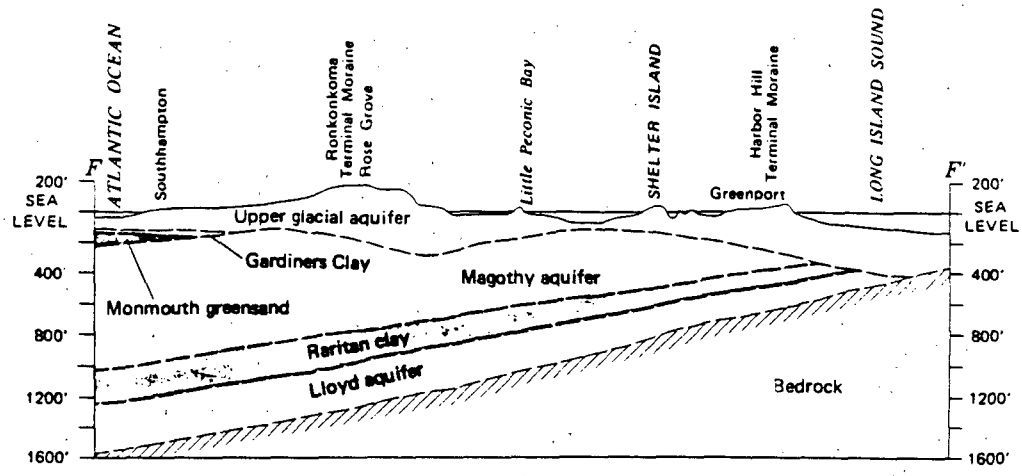
(Adapted largely from Fuller, 1914, Plate 1)

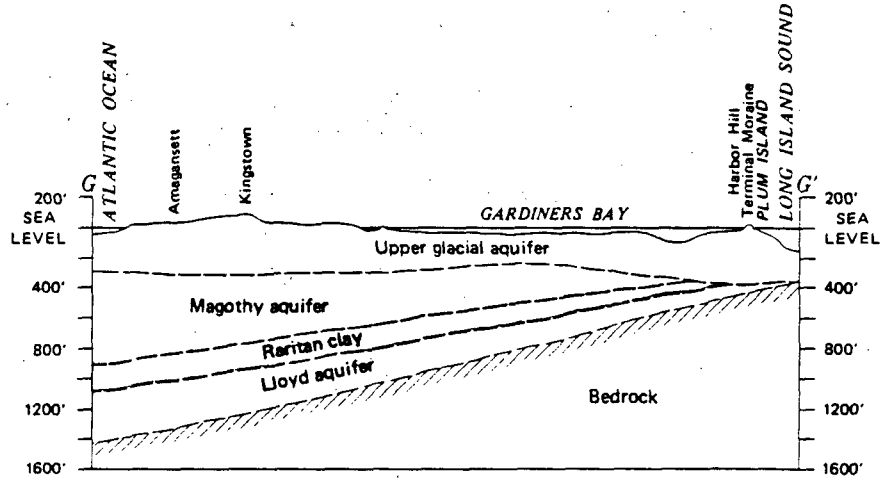
MAP SHOWING SURFICIAL GEOLOGY

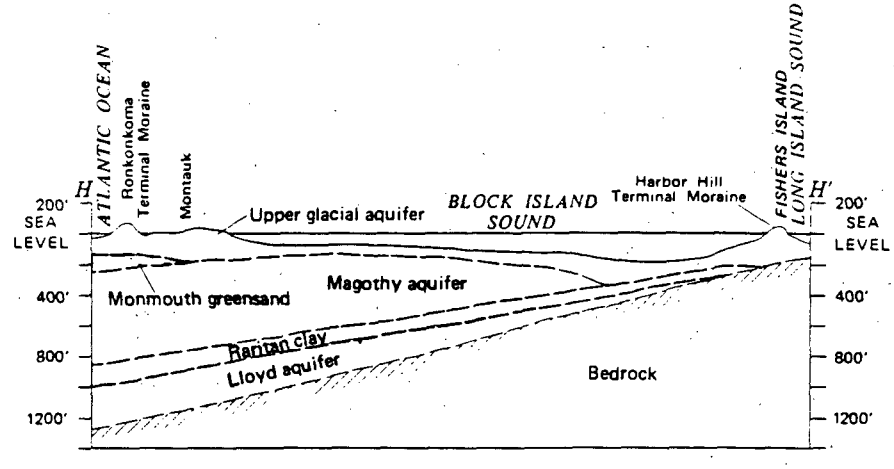
SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 30 35 KILOMETERS







EXPLANATION

——— GEOLOGIC CONTACT – Solid line where approximately known; dashed line where inferred

VERTICAL EXAGGERATION ABOUT X 20

HYDROGEOLOGIC SECTIONS

MAP SHOWING CONFIGURATION OF THE BEDROCK SURFACE

SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 30 35 KILOMETERS

CONTOUR INTERVALS 25, 50, AND 100 FEET
DATUM IS MEAN SEA LEVEL

MAP SHOWING ALTITUDE OF TOP OF LLOYD AQUIFER

SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 30 35 KILOMETERS

CONTOUR INTERVALS 25, 50, AND 100 FEET
DATUM IS MEAN SEA LEVEL

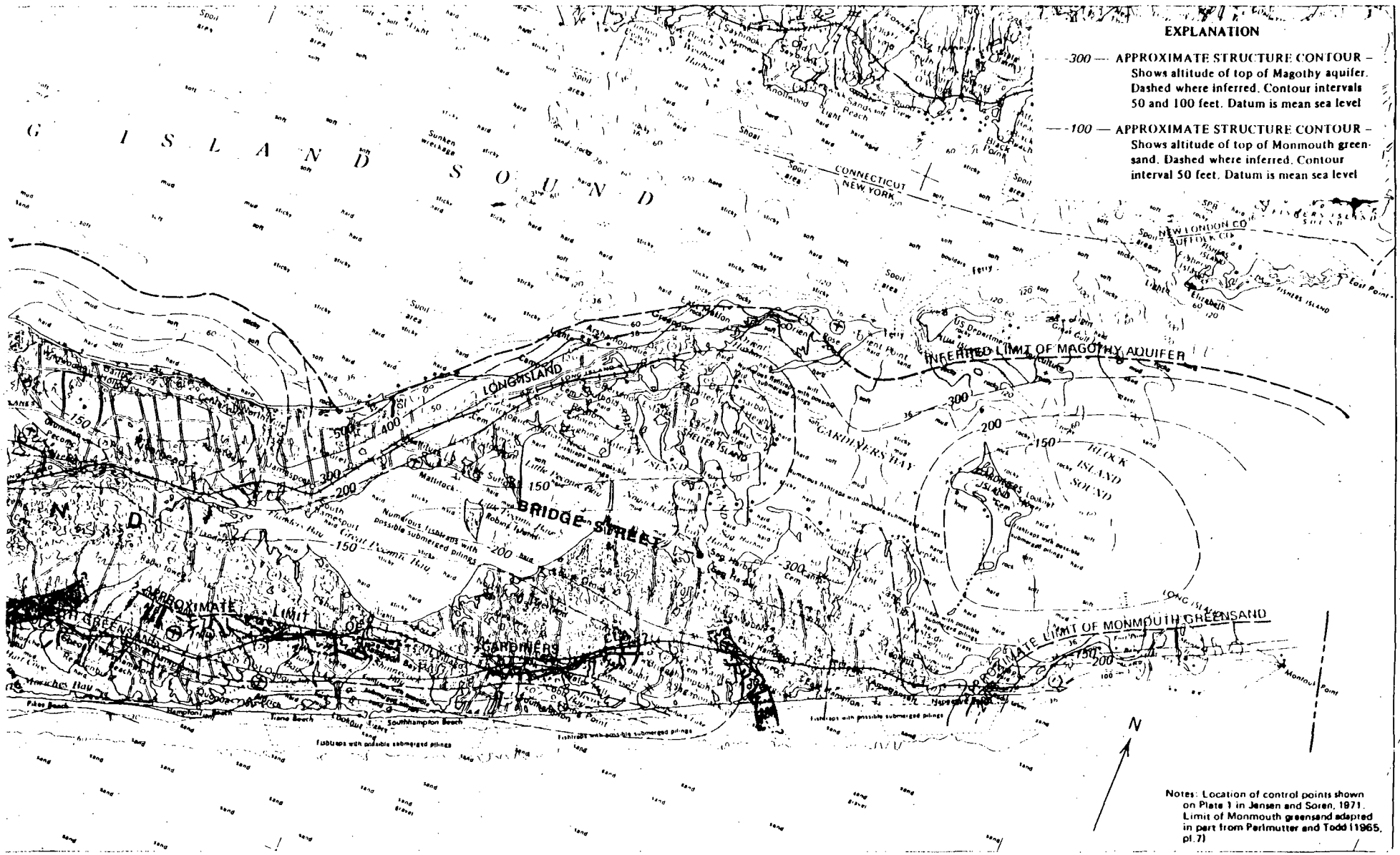
MAP SHOWING ALTITUDE OF TOP OF RARITAN CLAY

SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 30 35 KILOMETERS

CONTOUR INTERVALS 25, 50, AND 100 FEET
DATUM IS MEAN SEA LEVEL



MAP SHOWING ALTITUDE OF TOP OF MAGOTHY AQUIFER AND MONMOUTH GREENSAND AND APPROXIMATE LIMIT OF THE GARDINERS CLAY

SCALE 1:250 000

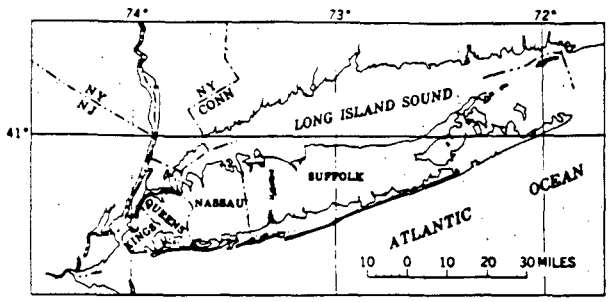
5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 30 35 KILOMETERS

INTRODUCTION

WATER NEEDS OF SUFFOLK COUNTY

Water pumped from aquifers underlying Suffolk County (index map) is the sole source of water used for public supply, agriculture, and industry. The county's population grew from less than 200,000 in 1940 to 1.1 million in 1970. Most of the growth occurred after 1950. Ground-water pumpage increased from 40 mgd (million gallons per day) in 1950 to 155 mgd in 1970 (New York State Department of Environmental Conservation, written commun., June 1, 1971). The projected ground-water use for an anticipated population of 2 million in the county by 1990 is 300 mgd (New York State Conservation Department, 1970, p. 26–27).



INDEX MAP SHOWING LOCATION (SHADED) OF SUFFOLK COUNTY

PURPOSE AND SCOPE

The large and growing demand for ground water in Suffolk County has created a need for a detailed knowledge of the geometry and the hydrologic characteristics of the ground-water reservoir. Mapping of subsurface geology and hydraulic heads in the aquifers are important prerequisites to obtaining this information. Maps of the subsurface geologic units of Long Island were first shown in a report by Suter and others (1949, pls. VIII to XXI). But those maps were highly generalized, because there were few data on deep borings and wells in the county when the report was prepared. Since 1949, additional data from many deep borings and wells in the county have been collected.

In 1968, as part of a continuing cooperative program of water-resources studies with the Suffolk County Water Authority and Suffolk County Department of Environmental Control, the U.S. Geological Survey began an updating of the hydrogeologic and hydrologic maps of all the county. The basic data in Jensen and Soren (1971), the first product of the program, are the basis for the hydrologic maps in this report.

ACKNOWLEDGMENTS

The authors appreciate the cooperation of well-drilling companies, their employees, and the many officials of public and private water companies who furnished geologic and hydrologic data for use in this report.

GEOLOGIC AND HYDROGEOLOGIC UNITS

Pleistocene glacial drift generally mantles the county's surface. Pleistocene deposits overlie unconsolidated deposits of Late Cretaceous age. The Cretaceous strata lie on a peneplain that was developed on Precambrian(?) crystalline rocks.

Major landforms include ridges, valleys, and plains. These landforms are roughly oriented in belts parallel to the county's length. The northern and the central parts are traversed by irregular sandy and gravelly ridges of terminal moraine. The crest of the northern ridge ranges in height from 100 to 300 feet above sea level and the crest of the central ridge from 150 to 400 feet. The highest altitudes in the inter-ridge area range from 100 to 200 feet. Irregular plains and rolling hills, formed from sandy and gravelly ground moraine and outwash deposits of sand and gravel lie in the area between the ridges. An outwash plain slopes at a near-uniform gradient from the southern base of the central ridge, which is about 100 feet above sea level, southward to Great South Bay and the ocean. Along the north shore, steep bluffs as high as 100 feet and generally narrow sandy and gravelly beaches face Long Island Sound. The barrier-bar system at the southernmost side of the county is composed of sandy beach and dune deposits. The highest altitudes of the barrier bars generally range from 10 to 45 feet.

The ground-water reservoir system of Suffolk County is composed of hydrogeologic units that include lenses and layers of clay, silt, clayey and silty sand, sand, and gravel. A hydrogeologic unit consists of a geologic unit or a group of contiguous geologic units classified by hydraulic characteristics. These units include aquifers, which are principal water sources, and confining layers, which separate the aquifers. The aquifers are, from the land surface downward, the upper glacial aquifer, the Magothy aquifer, and the Lloyd aquifer. The major areal confining layers are, in descending order, the Gardiners Clay, the Monmouth greensand, and the Raritan clay. The base of the ground-water reservoir is the crystalline bedrock. Characteristics of the geologic and the hydrogeologic units are summarized in the table, and the following data of hydrologic significance are shown on the maps: base of ground-water reservoir, altitudes of aquifers, altitudes and limits of confining layers, and distribution of surficial deposits. The hydrogeologic sections show the vertical relations of the units to each other.

The sharp angular shapes of some of the contours reflect the fact that in places the contours are drawn on stratigraphic tops of the hydrogeologic units and in places the contours are drawn on erosional surfaces. The sharp angles result from the juncture of a stratigraphic top and an eroded surface.

HYDROGEOLOGIC UNITS AND STRATIGRAPHY

(Major water-bearing units are indicated by blue shading)

Stratigraphy				Hydrogeologic unit[1]	Approximate thickness (feet)	Description and water-bearing properties
Geologic age		Geologic unit				
System	Series					
QUATERNARY	Holocene	Undifferentiated	Shore, beach, salt marsh deposits, and artificial fill	Upper glacial aquifer	0-60	Beach sand and gravel and dune sand, tan, brown, and white and black, brown, and gray bay bottom deposits of clay and silt. Beach and dune deposits in shore areas contain thin lenses of fresh water underlain by salty ground water. Clay and silt in bay bottoms tend to confine water in underlying strata.
	Pleistocene	Wisconsin Glaciation; Upper Pleistocene deposits[2]	Till; includes terminal-, ground-, and ablation-moraine deposits		0-150	Clay, silt, sand, gravel, and boulders, tan, brown, and brownish gray. Deposits are commonly unsorted and unstratified but can also include crudely to well sorted and stratified glacial drift. Deposits lie chiefly above water table and are not an important source of ground water. Hydraulic conductivity is very low to moderate. Clayey till causes local perched ground-water bodies.
			Lacustrine and marine deposits		0-300	Lacustrine deposits consist chiefly of clay and silt, brown, brownish gray, and gray. These beds occur at many places in the northern part of the county, chiefly in the Smithtown area where they have been referred to as the "Smithtown clay." Marine beds of gray green clay and silt occur at shallow depths in shoreline areas. Hydraulic conductivity is generally very low. Not a source of ground water. Deposits serve chiefly to confine water in underlying strata.
			Outwash deposits		0-350	Stratified fine to coarse sand and gravel, light- to dark-brown, tan, and yellowish brown. Hydraulic conductivity of outwash is usually high, estimated to be as much as 200 feet per day. Wells screened in outwash deposits yield as much as 2,000 gallons per minute and have specific capacities that are usually more than 50 gallons per minute per foot of drawdown in the well. Deposits generally contain water under water-table conditions. The Mannetto Gravel of Pliocene(?) age (below) is included with these deposits because of lithologic resemblance and physical continuity. Mannetto beds lie above the water table and are not a source of water.
			UNCONFORMITY			
		Sangamon interglaciation	Gardiners Clay	Gardiners Clay	0-75	Marine deposits of clay and silt with some interbedded sand and gravel, greenish gray and gray. Deposits have low hydraulic conductivity and confine water in underlying strata. Unit occurs mainly along southshore area.
		UNCONFORMITY				
TERTIARY(?)	PLIOCENE(?)	Mannetto Gravel		See "upper glacial aquifer, outwash deposits," above	0-125	See "outwash deposits," above.
		UNCONFORMITY				
CRETACEOUS	Upper Cretaceous	Monmouth Group		Monmouth greensand[3]	0-200	Interbedded marine deposits of clay, silt, and sand, dark greenish gray, greenish black, greenish, dark-gray, and black, containing much glauconite and lignite. Unit has low hydraulic conductivity and confines water in underlying Magothy aquifer in southshore area.
		UNCONFORMITY				
		Matawan Group-Magothy Formation undifferentiated		Magothy aquifer	0-1,000	Deposits consist of gray to white fine to coarse sand with interstitial clay, silt, and lignite, interbedded with lenses and thin to thick beds of light- to dark-gray clay, silt, and clayey and silty sand, and laminae and thin beds of lignite and pyrite. Basal 100 to 200 feet is generally composed of coarse sand and gravel beds. Commonly with much interstitial clay and silt, interbedded with strata similar to those in upper part. Hydraulic conductivity of unit varies widely but is estimated to average about 70 feet per day. Wells screened in the Magothy aquifer yield as much as 1,500 gallons per minute, and they have specific capacities that are usually less than 50 gallons per minute per foot of drawdown in the well. Water in the aquifer is poorly to well confined; confinement is greatest near south shore where unit is overlain by Monmouth greensand and Gardiners Clay.
		UNCONFORMITY				
		Raritan Formation	Clay member[4]	Raritan clay	0-250	Unit consists chiefly of clay, silty clay, and clayey and silty fine sand, light- to dark gray, brownish red, red, pink, and grayish white. Beds and lenses of lignite, pyrite, and sand are common, and thin beds of gravel occur locally. Unit has low hydraulic conductivity and confines water in underlying Lloyd aquifer.
			Lloyd Sand Member	Lloyd aquifer	0-550	Deposits of fine to coarse sand and gravel, grayish white, light- to medium gray and yellowish gray, with intercalated beds and lenses of light- to dark gray clay, silt, clayey and silty sand, and some lignite and pyrite. Unit is of moderate hydraulic conductivity, estimated to range from 20 to 70 feet per day. Wells screened in the Lloyd aquifer yield as much as 1,500 gallons per minute and have specific capacities that are usually less than 40 gallons per minute per foot of drawdown in the well. Aquifer is not significantly developed in county because of its depth and the availability of shallower aquifers.
		UNCONFORMITY				
PRECAMBRIAN(?)		Undifferentiated	Crystalline rocks	Bedrock	Not known	Mainly gneiss and schist of low hydraulic conductivity. Surface of the bedrock is commonly highly weathered to a greenish white residual clay. Bedrock surface is considered to be the bottom of the ground-water reservoir.

[1] Unit names partly from Cohen and others (1968, p. 18).
[2] Unit name from deLaguna (1948, p. 8 and 16).
[3] Unit name from Jensen and Soren (1971).
[4] Unit name from deLaguna (1948, p. 7, 8, and 12).

REFERENCE NO. 24

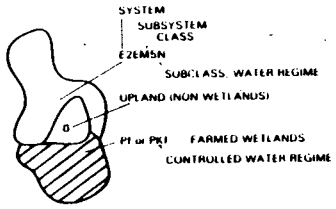
EAST HAMPTON,NY

SPECIAL NOTE

This document was prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography in accordance with **Classification of Wetlands and Deep-Water Habitats of the United States** (An Operational Draft), Cowardin, et al, 1977. The aerial photographs typically reflect conditions during the specific year and season when they were taken. In addition, there is a margin of error inherent in the use of the aerial photographs. Thus, a detailed on the ground and historical analysis of a single site may result in a revision of the wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included on the document.

Federal, State and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, State or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

SYMBOLOGY EXAMPLE



NOTES TO THE USER

- Wetlands which have been field examined are indicated on the map by an asterisk (*).
- Dominance type (either vegetative or sedentary animal) can be added to the map by the interested user.
- Additions or corrections to the wetlands information displayed on this map are solicited. Please forward such information to the address indicated.
- Some areas designated R4SB, R4SBW, or R4SBJ (intermittent streams) may not meet the definition of wetlands.

AERIAL PHOTOGRAPHY

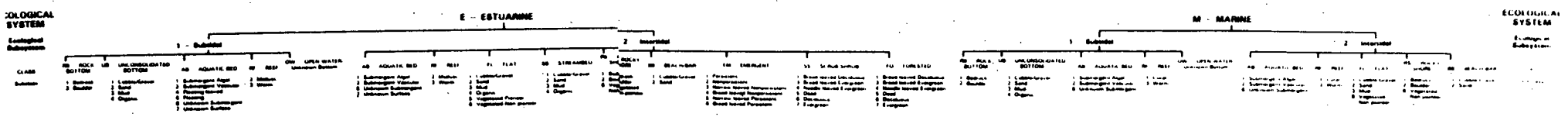
DATE	3/	/80	
SCALE	1:80 000		
TYPE	BW		
DATE	/	/	
SCALE			
TYPE			
DATE	/	/	
SCALE			
TYPE			

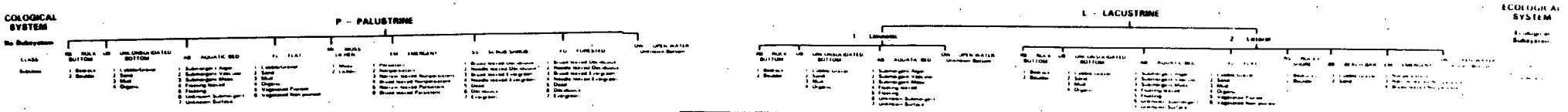
U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

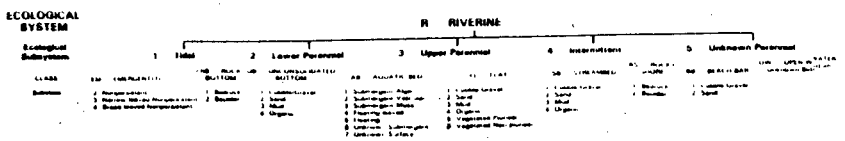
Prepared by Office of Biological Services
for the National Wetlands Inventory

WETLAND LEGEND

0 - Primarily represents upland areas, but may include unclassified wetlands such as man modified areas, non photo identifiable areas and/or unintentional omissions







MODIFYING TERMS

In order to more adequately describe wetland and aquatic habitats one or more of the water regime modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME (1)				WATER CHEMISTRY			SOIL	SPECIAL MODIFIERS
Non Tidal		Tidal		Coastal Salinity	Inland Salinity	pH Modifiers for all Fresh Water		
A Temporarily Flooded	G Intermittently Exposed	L Subtidal	U Irregularly Exposed	1 Hypersaline	5 Hypersaline	6 Acid	b Beaver	h Diked/Impounded
B Saturated	H Permanently Flooded	M Irregularly Flooded		2 Euhaline	6 Eusaline	7 Circumneutral	d Partially Drained/Ditched	f Farmed
C Seasonally Flooded	J Intermittently Flooded/Saturated	N Regularly Flooded		3 Mixohaline (Brackish)	7 Mixosaline	8 Alkaline	x Excavated	
E Seasonally Flooded/Saturated	K Artificially Flooded	P Permanently Flooded		4 Polyhaline	8 Polysaline			
F Semipermanently Flooded								

(1) Intermediate water regimes between the above may be identified by combining two symbols; the first symbol should be used to identify the more frequent water regime.

NUS CORPORATION

TITLE: 4 MILE WETLANDS MAP

SITE: SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

DATE: 2/13/89

TDD: 02-8810-73

QUAD: SAG HARBOR, N.Y.

FIGURE NUMBER:

SCALE: 1"=2000'

REFERENCE NO. 25

New York State Department of Environmental Conservation

MEMORANDUM

TO: Bob Clazagasti
FROM: Rob Schneck
SUBJECT: Investigation of Possible PCB Site

DATE: November 8, 1984

As we discussed via phone recently, we have become aware of a suspected PCB contamination site, located in Sag Harbor, Suffolk County. DOT sampling associated with an oil spill indicated the possible presence of PCB's from a sample of standing water.

The attached memo from John Licata of the Region I Water Program summarizes the situation. Apparently, the oil spill fund cannot be utilized for additional sampling, due to the non-petroleum nature of the contaminants. Therefore, we request that a site investigation, including soil and water sampling, be conducted at the site. Note that the site is also occupied by a LILCO facility, and electrical transformers are located here. This raises the possibility of past discharges of related fluids.

If you can fit a site investigation/sampling trip into your schedule, let me know. John Licata is available to accompany you to the site.

RS:dm
Attachment
cc: J. Licata
P. Barbato

REFERENCE NO. 26

LONG ISLAND LIGHTING COMPANY
175 EAST OLD COUNTRY ROAD · HICKSVILLE, NEW YORK 11801

Direct Dial Number

November 1, 1984

Mr. John Licata, P.E.
Sr. Sanitary Engineer
New York State Department of
Environmental Conservation
Building 40 - S.U.N.Y.
Stony Brook, NY 11794

Re: Sag Harbor Gas Storage Property

Dear Mr. Licata:

As requested in your October 22 letter, the following will summarize what I have been able to find out about the history of the above property.

The property was purchased by a Captain David Cogden in 1859 and was utilized to manufacture gas from either coal or rosin. Gas continued to be manufactured either intermittently or continuously on the site by successor companies (e.g. Sag Harbor Gas Light Co., 1862; UGI of Philadelphia Co., 1885; Sag Harbor Light Co., 1902; L.I. Gas Corp., 1914) until the site was purchased by LILCO in 1929. LILCO extended its mains from the west and installed a pressurized gas holder on the site during 1929-31 and no gas manufacturing was conducted after that time. The property has been used strictly to store and regulate gas supplies since that time.

If you have any questions, please call.

Very truly yours,

Steven V. Dalton

Steve V. Dalton, Manager
Environmental Science Division

SVD/li

REFERENCE NO. 27

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTE

TO: FILE

DATE: 11/23/88

FROM: D. COHEN

COPIES:

SUBJECT: HOUSE COUNT WITHIN 1/2 MILE RADIUS OF BRIDGE STREET

REFERENCE:

A DRIVE BY SURVEY WAS CONDUCTED ON ~~DECEMBER~~ NOVEMBER 10, 1988 OSC

1/4 mile:	# PEOPLE
151 HOUSES	353.34
1 Condo on W. Water Street: 8 units	18.72
Harbor Close Condos	64.00
Oswell/Greenberg House	5.0
Casman House	7.0
	448.06

1/4 - 1/2 mile:		
316 HOUSES	739.44	
Villa Condo on W. Water St & Glover St: ~50 units	117.00	estimated #
	856.44	

REFERENCES:

1. Telecon Between Suffolk County Planning Dept, and D. Cohen 8/25/88: Census avg people/unit is 2.34
2. Telecon between Dennis Early, and D. Cohen 11/14/88: Condo on W. Water St has 8 units
3. Telecon between C. Casman, and D. Cohen 11/23/88: 7 people live on property
4. NUS Field Notebook, 0321 Oswell/Greenberg 3 adults ~~Have~~ OSC and 2 children under 7 yrs old and Harbor Close Condos has 32 units with 2 people/unit

[signature]
11/23/88

NUS 443A 58 1182

REFERENCE NO. 28

NUS CORPORATION TELECON NOT

CONTROL NO:	DATE:	TIME:
02-7310-73	11/2/88	12:45

DISTRIBUTION:

Sag Harbor - Bridge Street

BETWEEN:	OF:	PHONE:
Mrs Trunzo	Rose Street, Sag Harbor	(516) 725-2374

AND:

Deborah Cohen (NUS

DISCUSSION:

RE: INFO ON THEIR PRIVATE WELL

THEY ARE NOW ON PUBLIC WATER. EVERYONE IN THE AREA IS INCLUDING THE MAYERS AND THE HOWES. I ASKED IF I'D BE ABLE SAMPLE HERS WELL AND SHE SAID THE WELL IS NO LONGER HOOKED UP AND CANNOT BE ~~IS~~ SAMPLED. I ASKED ABOUT HER NEIGHBOR'S WELLS. SHE DIDN'T KNOW. SOMETIMES SHE SEES THE HOWES WHEN THEY ARE VISITING SAG HARBOR (THEY DON'T LIVE THERE) AND WOULD GIVE MY NAME AND PHONE NUMBER TO THE HOWES IF SHE SEES THEM

Deborah Cohen
11/2/88

ACTION ITEMS:

NUS 067 REVISED 0681

REFERENCE NO. 29

NUS CORPORATION TELECON NOT

CONTROL NO:	DATE:	TIME:
02-8810-73	11/14/88	10:00

DISTRIBUTION:
Sag Harbor - Bridge Street

BETWEEN:	OF:	PHONE:
Dennis Early	Harbor Cove Realty	(516) 725-4333

AND:
Deborah Cohen (NUS)

DISCUSSION:
Re: # of people in the condo near Bridge Street on W. Water Street and history of the realty's building.

He thinks there are 8 units on the top floor, 4 may be occupied and the bottom units are used as offices.

I asked about the condos on Glover/W. Water Street. He said they are called the Villas. Beatrice Favino may have information on the number of people living there. ~~She may b~~ DJC

In reference to the history of the Harbor Cove Realty Building, It was a gas station. He thinks they bought it about 10 years ago. They were the 1st owners since the gas station. He's not sure but he thinks any underground tanks were removed when the put in the parking lot. The building owner is on vacation until next week. Call Carl Morino.

He said the waterfront area was developed in the early to mid 50's. Thats when they started putting in the marina

ACTION ITEMS:

Deborah Cohen
11/14/88

Call Beatrice Favino - 516-725-1509
Call Carl Morino - 516-725-4333 next week

NUS 067 REVISED 0681

REFERENCE NO. 30

NUS CORPORATION TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-8810-73	11-15-88	0845

DISTRIBUTION:

Sag Harbor

BETWEEN:	OF:	PHONE:
Ms Debbie Bohn (Hydrogeologist)	USGS Long Island	(516) 938 8830

AND:

Richard Pagano (NUS)

DISCUSSION:

Ms Bohn informed me that groundwater in the Town of Sag Harbor is tidal.

Richard Pagano
11/15/88

ACTION ITEMS:

NUS 067 REVISED 0581

REFERENCE NO. 31

NUS CORPORATION TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-7810-73	11/16/87	9:50

DISTRIBUTION:

Sag Harbor

BETWEEN:	OF:	PHONE:
Manager	Suffolk Electric Motors	(516) 725-0156

AND: Deborah Cohen (NUS)

DISCUSSION:

RE: Ownership and History of Suffolk Electric Motors on Bridge Street

He said he had moved from that building 3 years ago. He rented it from Judith Paris, who sold the building in 1986. Judith Paris' father ran the business before Suffolk Electric Motors. It's been a motor repair shop since the 1970's.

Deborah Cohen
11/16/87

ACTION ITEMS:

REFERENCE NO. 32

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTE

TO: File

DATE: 12/1/88

FROM: D. COHEN

COPIES:

SUBJECT: GROUNDWATER USE IN SAG HARBOR AND NORTH HAVEN

REFERENCE:

CONDUCTED A DRIVE BY SURVEY FOR STREETS WITHIN ½ MILE TO BRIDGE STREET THAT DO NOT HAVE SCWA WATER MAINS. FOR STREETS ½ mile to 1 miles from BRIDGE STREET ~~NOT DSC TO~~ THAT DO NOT HAVE WATER MAINS USED THE TOPOGRAPHIC MAP FOR THE SAG HARBOR AREA TO DO APPROXIMATE HOUSE COUNT. THE SCWA WELL IS 1 MILE FROM BRIDGE STREET. ALL OF NORTH HAVEN ~~ARE~~ IS NOT SERVICED BY SCWA AND IS ONE PRIVATE WELL SUPPLY.

		# HOUSES
0-¼	Sagharbor: Meadowlark Lane	- 1 (See NUS Field NOTE BOOK 0321)
	SAGE BETWEEN CHURCH AND DIVISION	0
	CHURCH BETWEEN SAGE AND BURKE	1
	RELTOR STREET	7
	CROSS STREET	3
		12 houses
¼-½	Sagharbor: LOVE LANE	3
	RYSAM STREET	16
		19
½-1 mile	Sagharbor:	(15)
	Marsden St	0
	Harrison St	14
	Susan St	0
	Mountauk	1
	North Haven:	42
		57

1 - 2 miles Sag Harbor: (453)

SCW Atwell	1300 accounts
Madison St	3
Sag Harbor Tpk	14
Laurie Lane	13
Brooks Kill Rd	8
Nayak Rd	24
Stoney Hill Rd	42
Wickatuck Dr, Long Beach Lane, Valley Dr, Bayview Dr, Ridge Rd, North Valley Rd.	49
North Haven:	117
	1570

2 - 3 Sag Harbor: (12)

Sag Harbor Tpk	12
Madison	0
North Haven	45
	57

3 - 4 miles Sag Harbor:

Sag Harbor Tpk	30
Madison	3
	133

REFERENCE NO. 33

VOS CORPORATION

CONTROL NO	DATE	TIME
02-8810-73	11/23/88	11:15

DISTRIBUTION:

BETWEEN	OF	PHONE
Carl Casman		(212) 355-VPS

AND: Deborah Cohen

VO

DISCUSSION:

Re: Confirm time of sampling

He said he thought John O'Donald called to arrange that. John lives in Sag Harbor — 516-725-3336 office
516-725-3873 home

He said there are 4 people in the downstairs apartment and 2 people in the upstairs apartment. 1 person is in the cottage at the back of the house

Deb J C
11/23/88

ACTION ITEMS:

REFERENCE NO. 34

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTE

TO: FILE

DATE: 12/1/88

FROM: D. COHEN

COPIES:

SUBJECT: SAG HARBOR - BRIDGE STREET

REFERENCE:

CONDUCTED A VISUAL INSPECTION OF SAG HARBOR COVE AND BAY, LOCATED ABOUT 100 FT FROM THE NORTH END OF BRIDGE STREET

- THE OUTFALL PIPE FOR WATER DRAINAGE FROM THE CATCH BASINS ON BRIDGE STREET IS BELOW THE SURFACE WATER LEVEL DURING TIMES OF HIGH TIDE AND WATER APPEARED TO BE WASHING IN AND OUT OF THE PIPE WITH THE TIDAL MOVEMENT OF THE WATER. THE OUTFALL PIPE IS NEAR A BOAT DOCK WITH DOCKS FOR APPROXIMATELY 200-300 BOATS. AN OILY TYPE MATERIAL WAS FLOATING ON THE WATER IN THE VICINITY OF THE OUTFALL PIPE

- ABOUT ¼ MILE EAST OF THE OUTFALL PIPE, NEAR THE YACHT CLUB WERE MORE BOAT DOCKS

- NEXT TO THE YACHT CLUB IS THE SEWAGE TREATMENT PLANT

NUS 443A 88 1182

REFERENCE NO. 35

NUS CORPORATION TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-5807-05	9/16/83	9:40

DISTRIBUTION:

Sag Harbor = Bridge Street

BETWEEN:	OF:	PHONE:
Fred Blossom	National Marine Fishery Service	(516) 725-6788

AND:

Deborah Cohen (NUS)

DISCUSSION:

Re: Productivity of Fisheries in Gardiners Bay and Peconic Bay

To get the information he said I'd have to come in or he suggests I call their Washington office – 202-673-5343 or 202-673-5340 ask for Dick Schween. He might be able to send the information.

They get their data by asking local dealers and fisherman what and how much they catch. They do this monthly.

Sag Harbor Bay, Noyack Bay and all the waters bodies in the vicinity are used for fishing – recreational and commercial though he doesn't have specific information about the fisheries.

Deborah Cohen 9/16/83

ACTION ITEMS: If productivity information is needed for Gardiners Bay or Peconic Bay call the Washington Office – 202-673-5343 (5340) ask for Rose Dick Schween. Give the number of years of data needed. Possibly he can send the info.

NUS 067 REVISED 0581

REFERENCE NO. 36

Sample Numbers For Sag Harbor-Bridge Street

NUS Sample Number	CLP Organic Traffic Report Number	CLP Inorganic Traffic Report Number
NYFT-S1	BW874	MBT298
NYFT-S2	BW875	MBT299
NYFT-S3	BW876	MBT300
NYFT-S4	BW877	MBT301
NYFT-S6	BW879	MBT303
NYFT-S7	BW880	MBT304
NYFT-S8	BW881	MBT305
NYFT-S9	BW882	MBT306
NYFT-S10	BW883	MBT307
NYFT-S11	BW884	MBT308
NYFT-S12	BW885	MBT309
NYFT-TRBK1	BW886	------
NYFT-RIN1	BW887	MBT311
NYFT-RIN2	BW888	MBT312
NYFT-RIN3	BW889	MBT313

...xage has Reextraction, Reanalysis or dilution. After ...ng the QA results, the following Form 1's are ...fied to be use.

QA

BW 886 DL	and BW 886	use	BW 886
BW 888 DL	and BW 888	use	BW 888
BW 889 DL	and BW 889	use	BW 889

In the BN/A

BW 874 DL	and BW 874	use	BW 874
BW 875 DL	and BW 875	use	BW 875

System performances and Contract problems:

In the BN/A and pest/PCB's Analysis, the field duplicates did not yield a comparable results. The results in both fractions were far apart. Since these are soil Samples and it is very difficult to Collect a similar soil Samples. No action was taken

In the BN/A and pest/PCB's Analysis, %D fa many analytes were out of QC limits.

In the pesticide/PCB fraction, The Lab used only one peak to identify and Calculate PCB's.

MENT

ix spike/matrix spike duplicate data are generated to ermine long-term precision and accuracy of the analytical thod on various matrices. The matrix spike/matrix spike uplicate may be used in conjunction with other QC criteria for some qualification of data.

MS/MSD for BN/A and pest/PCB's Analysis: Several spiked analytes yielded recoveries outside QC limits, also RPD for both fractions was outside QC limits. No action was taken.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BW874

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5. (g/mL) G Lab File ID: 30558

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 20. Date Analyzed: 12/ 7/88

Column: (pack/cap) PACK Dilution Factor: .99

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12.	U
74-83-9	Bromomethane	12.	U
75-01-4	Vinyl Chloride	12.	U
75-00-3	Chloroethane	12.	U
75-09-2	Methylene Chloride	6.	U
67-64-1	Acetone	78.	BU
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	12.	J
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	12.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	2.	J
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
591-78-6	2-Hexanone	12.	U
108-10-1	4-Methyl 2 Pentanone	12.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	2.	J
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

00032

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW875

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW87

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5. (g/mL) G Lab File ID: 30728

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 23. Date Analyzed: 12/ 9/88

Column: (pack/cap) PACK Dilution Factor: .99

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	6.	BU
67-64-1	Acetone	13	B
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	13.	AR
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
591-78-6	2-Hexanone	13.	U
108-10-1	4-Methyl-2 Pentanone	13.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

00039

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

80874

Lab Name: EMSMO Contract: 68-W8-0018

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: 80874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5. (g/mL) G Lab File ID: 30508

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 21. Date Analyzed: 12/ 7/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	6 5.	BU
67-64-1	Acetone	21.	BU
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	5	J
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
591-78-6	2-Hexanone	13.	U
108-10-1	4-Methyl-2-Pentanone	13.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

00055

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW877

Lab Name: EMSMO Contract: 68-W8-0047

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5. (g/mL) G Lab File ID: 3023B

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 45. Date Analyzed: 12/ 5/88

Column: (pack/cap) PACK Dilution Factor: .98

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	18.	U
74-83-9	Bromomethane	18.	U
75-01-4	Vinyl Chloride	18.	U
75-00-3	Chloroethane	18.	U
75-09-2	Methylene Chloride	9.	U
67-64-1	Acetone	32.	~~U~~
75-15-0	Carbon Disulfide	9.	U
75-35-4	1,1-Dichloroethene	9.	U
75-34-3	1,1-Dichloroethane	9.	U
540-59-0	1,2-Dichloroethene (total)	9.	U
67-66-3	Chloroform	9.	U
107-06-2	1,2-Dichloroethane	9.	U
78-93-3	2-Butanone	16	~~U~~ J 12/13/88
71-55-6	1,1,1-Trichloroethane	9.	U
56-23-5	Carbon Tetrachloride	9.	U
108-05-4	Vinyl Acetate	18.	U
75-27-4	Bromodichloromethane	9.	U
78-87-5	1,2-Dichloropropane	9.	U
10061-01-5	cis-1,3-Dichloropropene	9.	U
79-01-6	Trichloroethene	9.	U
124-48-1	Dibromochloromethane	9.	U
79-00-5	1,1,2-Trichloroethane	9.	U
71-43-2	Benzene	9.	U
10061-02-6	trans-1,3-Dichloropropene	9.	U
75-25-2	Bromoform	9.	U
591-78-6	2-Hexanone	18.	U
108-10-1	4-Methyl-2-Pentanone	18.	U
127-18-4	Tetrachloroethene	9.	U
79-34-5	1,1,2,2-Tetrachloroethane	9.	U
108-88-3	Toluene	9.	U
108-90-7	Chlorobenzene	9.	U
100-41-4	Ethylbenzene	9.	U
100-42-5	Styrene	9.	U
1330-20-7	Xylene (total)	9.	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: EMCHO Contract: 68 W8 0043

Lab Code: EMCHO Case No.: 13018 SAS No.: 17048 SDG No.: EW011

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5. (g/mL) G Lab File ID: 30313

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 32. Date Analyzed: 12/ 6/88

Column: (pack/cap) PACK Dilution Factor: .98

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14.	U
74-83-9	Bromomethane	14.	U
75-01-4	Vinyl Chloride	14.	U
75-00-3	Chloroethane	14.	U
75-09-2	Methylene Chloride	7.	U
67-64-1	Acetone	17.	U
75-15-0	Carbon Disulfide	7.	U
75-35-4	1,1-Dichloroethene	7.	U
75-34-3	1,1-Dichloroethane	7.	U
540-59-0	1,2-Dichloroethene (total)	7.	U
67-66-3	Chloroform	7.	U
107-06-2	1,2-Dichloroethane	7.	U
78-93-3	2-Butanone	6	J
71-55-6	1,1,1-Trichloroethane	7.	U
56-23-5	Carbon Tetrachloride	7.	U
108-05-4	Vinyl Acetate	14.	U
75-27-4	Bromodichloromethane	7.	U
78-87-5	1,2-Dichloropropane	7.	U
10061-01-5	cis-1,3-Dichloropropene	7.	U
79-01-6	Trichloroethene	7.	U
124-48-1	Dibromochloromethane	7.	U
79-00-5	1,1,2-Trichloroethane	7.	U
71-43-2	Benzene	7.	U
10061-02-6	trans-1,3-Dichloropropene	7.	U
75-25-2	Bromoform	7.	U
591-78-6	2-Hexanone	14.	U
108-10-1	4-Methyl-2-Pentanone	14.	U
127-18-4	Tetrachloroethene	7.	U
79-34-5	1,1,2,2-Tetrachloroethane	7.	U
108-88-3	Toluene	2.	J
108-90-7	Chlorobenzene	7.	U
100-41-4	Ethylbenzene	7.	U
100-42-5	Styrene	7.	U
1330-20-7	Xylene (total)	7.	U

00070

1D

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

BW830

Lab Name: EMCMO Contract: 68-W8-0043

Lab Code: EMCMO Case No.: 13048 SAS No.: 13018 SDG No.: BW83

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5. (g/mL) G Lab File ID: 30338

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 47. Date Analyzed: 12/ 6/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	19.	U
74-83-9	Bromomethane	19.	U
75-01-4	Vinyl Chloride	19.	U
75-00-3	Chloroethane	19.	U
75-09-2	Methylene Chloride	43.	BU
67-64-1	Acetone	45.	B
75-15-0	Carbon Disulfide	9.	U
75-35-4	1,1-Dichloroethene	9.	U
75-34-3	1,1-Dichloroethane	9.	U
540-59-0	1,2-Dichloroethene (total)	9.	U
67-66-3	Chloroform	9.	U
107-06-2	1,2-Dichloroethane	9.	U
78-93-3	2-Butanone	9	U 12/13/88
71-55-6	1,1,1-Trichloroethane	9.	U
56-23-5	Carbon Tetrachloride	9.	U
108-05-4	Vinyl Acetate	19.	U
75-27-4	Bromodichloromethane	9.	U
78-87-5	1,2-Dichloropropane	9.	U
10061-01-5	cis-1,3-Dichloropropene	9.	U
79-01-6	Trichloroethene	9.	U
124-48-1	Dibromochloromethane	9.	U
79-00-5	1,1,2-Trichloroethane	9.	U
71-43-2	Benzene	9.	U
10061-02-6	trans-1,3-Dichloropropene	9.	U
75-25-2	Bromoform	9.	U
591-78-6	2-Hexanone	19.	U
108-10-1	4-Methyl-2-Pentanone	19.	U
127-18-4	Tetrachloroethene	9.	U
79-34-5	1,1,2,2-Tetrachloroethane	9.	U
108-88-3	Toluene	7.	J
108-90-7	Chlorobenzene	9.	U
100-41-4	Ethylbenzene	9.	U
100-42-5	Styrene	9.	U
1330-20-7	Xylene (total)	2.	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BWSB1

Lab Name: EMSMO Contract: 68-W8-0013

Lab Code: EMSMO Case No.: 13048 SAS No.: 13048 SDG No.: BWSB1

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5. (g/mL) G Lab File ID: 30548

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 22. Date Analyzed: 12/ 7/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	54.	LC
67-64-1	Acetone	10.	BJ LC
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	17.	LC
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
591-78-6	2-Hexanone	13.	U
108-10-1	4-Methyl-2-Pentanone	13.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	1.	J
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW380

Lab Name: EMSMO Contract: 68-W8-0047

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW380

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5. (g/mL) G Lab File ID: 30348

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 14. Date Analyzed: 12/ 6/88

Column: (pack/cap) PACK Dilution Factor: .98

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	10.	B
67-64-1	Acetone	11.	U
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	11.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	11.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
591-78-6	2-Hexanone	11.	U
108-10-1	4-Methyl-2-Pentanone	11.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	3.	J
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW803

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW803

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5. (g/mL) G Lab File ID: 3035B

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 7. Date Analyzed: 12/ 6/88

Column: (pack/cap) PACK Dilution Factor: .99

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG		Q
74-87-3	Chloromethane		11.	U
74-83-9	Bromomethane		11.	U
75-01-4	Vinyl Chloride		11.	U
75-00-3	Chloroethane		11.	U
75-09-2	Methylene Chloride		6.	BU
67-64-1	Acetone		11 10.	BW
75-15-0	Carbon Disulfide		5.	U
75-35-4	1,1-Dichloroethene		5.	U
75-34-3	1,1-Dichloroethane		5.	U
540-59-0	1,2-Dichloroethene (total)		5.	U
67-66-3	Chloroform		5.	U
107-06-2	1,2-Dichloroethane		5.	U
78-93-3	2-Butanone		11.	BR
71-55-6	1,1,1-Trichloroethane		5.	U
56-23-5	Carbon Tetrachloride		5.	U
108-05-4	Vinyl Acetate		11.	U
75-27-4	Bromodichloromethane		5.	U
78-87-5	1,2-Dichloropropane		5.	U
10061-01-5	cis-1,3-Dichloropropene		5.	U
79-01-6	Trichloroethene		5.	U
124-48-1	Dibromochloromethane		5.	U
79-00-5	1,1,2-Trichloroethane		5.	U
71-43-2	Benzene		5.	U
10061-02-6	trans-1,3-Dichloropropene		5.	U
75-25-2	Bromoform		5.	U
591-78-6	2-Hexanone		11.	U
108-10-1	4-Methyl-2-Pentanone		11.	U
127-18-4	Tetrachloroethene		5.	U
79-34-5	1,1,2,2-Tetrachloroethane		5.	U
108-88-3	Toluene		7.	
108-90-7	Chlorobenzene		5.	U
100-41-4	Ethylbenzene		5.	U
100-42-5	Styrene		5.	U
1330-20-7	Xylene (total)		2.	J

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

BW884

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID.

Sample wt/vol: 5. (g/mL) G Lab File ID: 30368

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 6. Date Analyzed: 12/ 6/88

Column: (pack/cap) PACK Dilution Factor: .98

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5 R.	B U
67-64-1	Acetone	10 R.	B U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U R
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
591-78-6	2-Hexanone	10.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	2.	J
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1D

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW985

Lab Name: EMSMO Contract: 68-W8-0047

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5. (g/mL) G Lab File ID: 30338

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 14. Date Analyzed: 12/ 6/88

Column: (pack/cap) PACK Dilution Factor: .98

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	10.	BU
67-64-1	Acetone	117.	BU
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2 Dichloroethane	6.	U
78-93-3	2 Butanone	11.	UR
71-55-6	1,1,1 Trichloroethane	1.	J
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	11.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
591-78-6	2-Hexanone	11.	U
108-10-1	4-Methyl 2 Pentanone	11.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BW887

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 5. (g/mL) ML Lab File ID: 30458

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec.100. Date Analyzed: 12/ 6/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	3.	J
67-64-1	Acetone	26.	B
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	10.	
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	UR
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
591-78-6	2-Hexanone	10.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW889

Lab Name: EMSMO Contract: 68-W8-0042

Lab Code: EMSMO Case No.: 43048 SAS No.: 43043 SDG No.: BW814

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 5. (g/mL) ML Lab File ID: 30448

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec.100. Date Analyzed: 12/ 6/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	4.	J
67-64-1	Acetone	1300 ~~630.~~	~~B E~~ D
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	10.	
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	UR
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
591-78-6	2-Hexanone	10.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BW889

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4/3x/B SDG No.: BW874

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 5. (g/mL) ML Lab File ID: 30438

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec.100. Date Analyzed: 12/ 6/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	2.	J
67-64-1	Acetone	~~620~~ 240	~~E D~~
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	9.	
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
591-78-6	2-Hexanone	10.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BW886

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 4304B SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 5. (g/mL) ML Lab File ID: 3042B

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec.100. Date Analyzed: 12/ 6/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	3.	J
67-64-1	Acetone	740 ~~340~~.	~~B~~ D
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	10.	
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
591-78-6	2-Hexanone	10.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1B

EPA SAMPLE NO.

SW874

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43043 SDG No.: SW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 30. (g/mL) G Lab File ID: 2403A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 20. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410.	U
111-44-4	bis(2-Chloroethyl)ether	410.	U
95-57-8	2-Chlorophenol	410.	U
541-73-1	1,3-Dichlorobenzene	410.	U
106-46-7	1,4-Dichlorobenzene	410.	U
100-51-6	Benzyl alcohol	410.	U
95-50-1	1,2-Dichlorobenzene	410.	U
95-48-7	2-Methylphenol	410.	U
108-60-1	bis(2-Chloroisopropyl)ether	410.	U
106-44-5	4-Methylphenol	410.	U
621-64-7	N-Nitroso-di-n-propylamine	410.	U
67-72-1	Hexachloroethane	410.	U
98-95-3	Nitrobenzene	410.	U
78-59-1	Isophorone	410.	U
88-75-5	2-Nitrophenol	410.	U
105-67-9	2,4-Dimethylphenol	410.	U
65-85-0	Benzoic acid	270.	J
111-91-1	bis(2-Chloroethoxy)methane	410.	U
120-83-2	2,4-Dichlorophenol	410.	U
120-82-1	1,2,4-Trichlorobenzene	410.	U
91-20-3	Naphthalene	440.	
106-47-8	4-Chloroaniline	410.	U
87-68-3	Hexachlorobutadiene	410.	U
59-50-7	4-Chloro-3-methylphenol	410.	U
91-57-6	2-Methylnaphthalene	330.	J
77-47-4	Hexachlorocyclopentadiene	410.	U
88-06-2	2,4,6-Trichlorophenol	410.	U
95-95-4	2,4,5-Trichlorophenol	2100.	U
91-58-7	2-Chloronaphthalene	410.	U
88-74-4	2-Nitroaniline	2100.	U
131-11-3	Dimethylphthalate	410.	U
208-96-8	Acenaphthylene	3900.	
606-20-2	2,6-Dinitrotoluene	410.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW874

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 30. (g/mL) G Lab File ID: 2403A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 20. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100.	U
83-32-9	Acenaphthene	250.	J
51-28-5	2,4-Dinitrophenol	2100.	U
100-02-7	4-Nitrophenol	2100.	U
132-64-9	Dibenzofuran	390.	J
121-14-2	2,4-Dinitrotoluene	410.	U
84-66-2	Diethylphthalate	410.	U
7005-72-3	4-Chlorophenyl-phenylether	410.	U
86-73-7	Fluorene	1000.	
100-01-6	4-Nitroaniline	2100.	U R
534-52-1	4,6-Dinitro-2-methylphenol	2100.	U
86-30-6	N-Nitrosodiphenylamine	410.	U
101-55-3	4-Bromophenyl-phenylether	410.	U
118-74-1	Hexachlorobenzene	410.	U
87-86-5	Pentachlorophenol	2100.	U
85-01-8	Phenanthrene	5700.	
120-12-7	Anthracene	1900.	
84-74-2	Di-n-butylphthalate	410 ~~76.~~	B U
206-44-0	Fluoranthene	12000 ~~7400~~.	E D
129-00-0	Pyrene	21000 ~~17000~~.	E D
85-68-7	Butylbenzylphthalate	410.	U
91-94-1	3,3'-Dichlorobenzidine	830.	U
56-55-3	Benzo(a)anthracene	11000.	E D
218-01-9	Chrysene	11000.	E D
117-81-7	bis(2-Ethylhexyl)phthalate	~~410.~~	B U
117-84-0	Di-n-octylphthalate	410.	U
205-99-2	Benzo(b)fluoranthene	12000 ~~11000~~.	E D
207-08-9	Benzo(k)fluoranthene	12000 ~~8200~~.	E D
50-32-8	Benzo(a)pyrene	13000 ~~11000~~.	E D
193-39-5	Indeno(1,2,3-cd)pyrene	12000 ~~11000~~.	E D
53-70-3	Dibenz(a,h)anthracene	3100.	
191-24-2	Benzo(g,h,i)perylene	18000 ~~16000~~.	E D

(1) - Cannot be separated from diphenylamine

00321
EPA SAMPLE NO.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BW874

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 30. (g/mL) G Lab File ID: 2403A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 20. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.00

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN AROMATIC	21.97	1000.	J
2.	- -	UNKNOWN AROMATIC	22.05	2000.	J
3.	- -	UNKNOWN AROMATIC	22.28	2000.	J
4.	- -	UNKNOWN AROMATIC	22.34	2000.	J
5.	- -	UNKNOWN AROMATIC	23.54	1000.	J
6.	- -	UNKNOWN AROMATIC	23.66	2000.	J
7.	- -	UNKNOWN AROMATIC	24.08	2000.	J
8.	- -	UNKNOWN AROMATIC	24.22	700.	J
9.	- -	UNKNOWN AROMATIC	24.68	500.	J
10.	- -	UNKNOWN AROMATIC	25.05	700.	J
11.	- -	UNKNOWN AROMATIC	25.28	1000.	J
12.	- -	UNKNOWN AROMATIC	25.59	800.	J
13.	- -	UNKNOWN AROMATIC	25.81	600.	J
14.	- -	UNKNOWN AROMATIC	25.90	700.	J
15.	- -	UNKNOWN AROMATIC	26.64	500.	J
16.	82-05-3	7H-Benz[de]anthracen-7-one (	27.95	500.	J
17.	- -	UNKNOWN AROMATIC	28.63	800.	J
18.	- -	UNKNOWN AROMATIC	29.02	800.	J
19.	- -	UNKNOWN AROMATIC	31.01	4000.	J
20.	- -	UNKNOWN AROMATIC	31.64	10000.	J
21.					
22.					
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18

EPA SAMPLE NO. 0C418

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BW875

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 31. (g/mL) G Lab File ID: 2417A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 23. dec. 0. Date Extracted: 12/11/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/12/88

GPC Cleanup: (Y/N) N pH: 6.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430.	U
111-44-4	bis(2-Chlorcethyl)ether	430.	U
95-57-8	2-Chlorophenol	430.	U
541-73-1	1,3-Dichlorobenzene	430.	U
106-46-7	1,4-Dichlorobenzene	430.	U
100-51-6	Benzyl alcohol	430.	~~U~~ J
95-50-1	1,2-Dichlorobenzene	430.	U
95-48-7	2-Methylphenol	430.	U
108-60-1	bis(2-Chloroisopropyl)ether	430.	U
106-44-5	4-Methylphenol	430.	U
621-64-7	N-Nitroso-di-n-propylamine	430.	U
67-72-1	Hexachloroethane	430.	U
98-95-3	Nitrobenzene	430.	U
78-59-1	Isophorone	430.	U
88-75-5	2-Nitrophenol	430.	U
105-67-9	2,4-Dimethylphenol	430.	U
65-85-0	Benzoic acid	160.	J
111-91-1	bis(2-Chloroethoxy)methane	430.	U
120-83-2	2,4-Dichlorophenol	430.	U
120-82-1	1,2,4-Trichlorobenzene	430.	U
91-20-3	Naphthalene	460.	
106-47-8	4-Chloroaniline	430.	~~U~~ R
87-68-3	Hexachlorobutadiene	430.	U
59-50-7	4-Chloro-3-methylphenol	430.	U
91-57-6	2-Methylnaphthalene	270.	J
77-47-4	Hexachlorocyclopentadiene	430.	U
88-06-2	2,4,6-Trichlorophenol	430.	U
95-95-4	2,4,5-Trichlorophenol	2100.	U
91-58-7	2-Chloronaphthalene	430.	U
88-74-4	2-Nitroaniline	2100.	U
131-11-3	Dimethylphthalate	430.	U
208-96-8	Acenaphthylene	3300.	
606-20-2	2,6-Dinitrotoluene	430.	U

00419

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW875

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 4304B SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 31. (g/mL) G Lab File ID: 2417A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 23. dec. 0. Date Extracted: 12/11/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/12/88

GPC Cleanup: (Y/N) N pH: 6.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100.	U
83-32-9	Acenaphthene	59.	J
51-28-5	2,4-Dinitrophenol	2100.	U
100-02-7	4-Nitrophenol	2100.	U
132-64-9	Dibenzofuran	430.	U
121-14-2	2,4-Dinitrotoluene	430.	U
84-66-2	Diethylphthalate	430 ~~9~~.	~~BJ~~ U
7005-72-3	4-Chlorophenyl-phenylether	430.	U
86-73-7	Fluorene	590.	
100-01-6	4-Nitroaniline	2100.	~~U~~ R
534-52-1	4,6-Dinitro-2-methylphenol	2100.	U
86-30-6	N-Nitrosodiphenylamine	430.	U
101-55-3	4-Bromophenyl-phenylether	430.	U
118-74-1	Hexachlorobenzene	430.	U
87-86-5	Pentachlorophenol	2100.	U
85-01-8	Phenanthrene	790.	
120-12-7	Anthracene	1800.	
84-74-2	Di-n-butylphthalate	430 ~~19~~.	~~BJ~~ U
206-44-0	Fluoranthene	3900.	
129-00-0	Pyrene	8100 ~~7300~~.	~~E~~ D
85-68-7	Butylbenzylphthalate	430.	U
91-94-1	3,3'-Dichlorobenzidine	850.	U
56-55-3	Benzo(a)anthracene	4200.	
218-01-9	Chrysene	6000.	
117-81-7	bis(2-Ethylhexyl)phthalate	430 ~~28~~.	~~BJ~~ U
117-84-0	Di-n-octylphthalate	430.	U
205-99-2	Benzo(b)fluoranthene	6700.	
207-08-9	Benzo(k)fluoranthene	4100.	
50-32-8	Benzo(a)pyrene	8100 ~~7600~~.	~~E~~ D
193-39-5	Indeno(1,2,3-cd)pyrene	7100 ~~6900~~.	~~E~~ D
53-70-3	Dibenz(a,h)anthracene	1800.	
191-24-2	Benzo(g,h,i)perylene	11000 ~~9900~~.	~~E~~ D

(1) - Cannot be separated from diphenylamine

OC420
EPA SAMPLE NO.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BW875

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 4304B SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 31. (g/mL) G Lab File ID: 2417A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 23. dec. 0. Date Extracted: 12/11/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/12/88

GPC Cleanup: (Y/N) N pH: 6.2 Dilution Factor: 1.00

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN AROMATIC	23.97	1000.	J
2.	- -	UNKNOWN AROMATIC	24.15	500.	J
3.	- -	UNKNOWN AROMATIC	24.94	400.	J
4.	- -	UNKNOWN AROMATIC	25.19	800.	J
5.	- -	UNKNOWN AROMATIC	25.48	400.	J
6.	- -	UNKNOWN AROMATIC	25.73	400.	J
7.	- -	UNKNOWN AROMATIC	25.79	400.	J
8.	- -	UNKNOWN AROMATIC	26.91	300.	J
9.	- -	UNKNOWN AROMATIC	26.95	300.	J
10.	82-05-3	7H-Benz[de]anthracen-7-one (	27.84	400.	J
11.	- -	UNKNOWN AROMATIC	28.52	700.	J
12.	- -	UNKNOWN AROMATIC	28.63	400.	J
13.	- -	UNKNOWN AROMATIC	28.75	500.	J
14.	- -	UNKNOWN AROMATIC	28.90	900.	J
15.	- -	UNKNOWN AROMATIC	30.86	3000.	J
16.	- -	UNKNOWN AROMATIC	31.46	7000.	J
17.	- -	UNKNOWN AROMATIC	32.52	900.	J
18.	- -	UNKNOWN AROMATIC	36.39	4000.	J
19.	- -	UNKNOWN AROMATIC	37.48	1000.	J
20.	- -	UNKNOWN AROMATIC	39.16	900.	J
21.					
22.					
23.					
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27.					
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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 0C520

BW876

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 4304B SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 33. (g/mL) G Lab File ID: 2405A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 21. dec. 0. Date Extracted: 12/ 6/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1900.	U
83-32-9	Acenaphthene	380.	U
51-28-5	2,4-Dinitrophenol	1900.	U
100-02-7	4-Nitrophenol	1900.	U
132-64-9	Dibenzofuran	380.	U
121-14-2	2,4-Dinitrotoluene	380.	U
84-66-2	Diethylphthalate	380.	U
7005-72-3	4-Chlorophenyl-phenylether	380.	U
86-73-7	Fluorene	14.	J
100-01-6	4-Nitroaniline	1900.	UR
534-52-1	4,6-Dinitro-2-methylphenol	1900.	U
86-30-6	N-Nitrosodiphenylamine	380.	U
101-55-3	4-Bromophenyl-phenylether	380.	U
118-74-1	Hexachlorobenzene	380.	U
87-86-5	Pentachlorophenol	1900.	U
85-01-8	Phenanthrene	54.	J
120-12-7	Anthracene	34.	J
84-74-2	Di-n-butylphthalate	380.	U
206-44-0	Fluoranthene	180.	J
129-00-0	Pyrene	430.	
85-68-7	Butylbenzylphthalate	7.	J
91-94-1	3,3'-Dichlorobenzidine	770.	U
56-55-3	Benzo(a)anthracene	180.	J
218-01-9	Chrysene	240.	J
117-81-7	bis(2-Ethylhexyl)phthalate	550.	
117-84-0	Di-n-octylphthalate	4.	J
205-99-2	Benzo(b)fluoranthene	270.	J
207-08-9	Benzo(k)fluoranthene	210.	J
50-32-8	Benzo(a)pyrene	360.	J
193-39-5	Indeno(1,2,3-cd)pyrene	290.	J
53-70-3	Dibenz(a,h)anthracene	64.	J
191-24-2	Benzo(g,h,i)perylene	460.	

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 00521

BW876

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 33. (g/mL) G Lab File ID: 2405A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 21. dec. 0. Date Extracted: 12/ 6/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	6.09	200.	J
2.	- -	UNKNOWN	6.28	200.	J
3.	- -	UNKNOWN HYDROCARBON	9.61	300.	J
4.	75112-79-7	Benzenepropanoic acid, silve	14.51	200.	J
5.	- -	UNKNOWN	26.62	300.	J
6.	- -	UNKNOWN AROMATIC	28.63	200.	J
7.	- -	UNKNOWN HYDROCARBON	28.96	400.	J
8.	- -	UNKNOWN	30.39	400.	J
9.	- -	UNKNOWN HYDROCARBON	31.05	800.	J
10.	- -	UNKNOWN AROMATIC	31.59	500.	J
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12.					
13.					
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

00561

BW877

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW374

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 31. (g/mL) G Lab File ID: 2418A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 45. dec. 0. Date Extracted: 12/11/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/12/88

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	590.	U
111-44-4	bis(2-Chloroethyl)ether	590.	U
95-57-8	2-Chlorophenol	590.	U
541-73-1	1,3-Dichlorobenzene	590.	U
106-46-7	1,4-Dichlorobenzene	590.	U
100-51-6	Benzyl alcohol	590.	U
95-50-1	1,2-Dichlorobenzene	590.	U
95-48-7	2-Methylphenol	590.	U
108-60-1	bis(2-Chloroisopropyl)ether	590.	U
106-44-5	4-Methylphenol	590.	U
621-64-7	N-Nitroso-di-n-propylamine	590.	U
67-72-1	Hexachloroethane	590.	U
98-95-3	Nitrobenzene	590.	U
78-59-1	Isophorone	590.	U
88-75-5	2-Nitrophenol	590.	U
105-67-9	2,4-Dimethylphenol	590.	U
65-85-0	Benzoic acid	450.	J
111-91-1	bis(2-Chloroethoxy)methane	590.	U
120-83-2	2,4-Dichlorophenol	590.	U
120-82-1	1,2,4-Trichlorobenzene	590.	U
91-20-3	Naphthalene	28.	J
106-47-8	4-Chloroaniline	590.	U
87-68-3	Hexachlorobutadiene	590.	U
59-50-7	4-Chloro-3-methylphenol	590.	U
91-57-6	2-Methylnaphthalene	24.	J
77-47-4	Hexachlorocyclopentadiene	590.	U
88-06-2	2,4,6-Trichlorophenol	590.	U
95-95-4	2,4,5-Trichlorophenol	2900.	U
91-58-7	2-Chloronaphthalene	590.	U
88-74-4	2-Nitroaniline	2900.	U
131-11-3	Dimethylphthalate	590.	U
208-96-8	Acenaphthylene	260.	J
606-20-2	2,6-Dinitrotoluene	590.	U

SEMIVOLATILE ORGANICS 1C ANALYSIS DATA SHEET

EPA SAMPLE NO. 00562

BW877

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 31. (g/mL) G Lab File ID: 2413A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 45. dec. 0. Date Extracted: 12/11/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/12/88

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2900.	U
83-32-9	Acenaphthene	24.	J
51-28-5	2,4-Dinitrophenol	2900.	U
100-02-7	4-Nitrophenol	2900.	U
132-64-9	Dibenzofuran	590.	U
121-14-2	2,4-Dinitrotoluene	590.	U
84-66-2	Diethylphthalate	590 ~~15.~~	~~BJ~~ U
7005-72-3	4-Chlorophenyl-phenylether	590.	U
86-73-7	Fluorene	29.	J
100-01-6	4-Nitroaniline	2900.	UR
534-52-1	4,6-Dinitro-2-methylphenol	2900.	U
86-30-6	N-Nitrosodiphenylamine	590.	U
101-55-3	4-Bromophenyl-phenylether	590.	U
118-74-1	Hexachlorobenzene	590.	U
87-86-5	Pentachlorophenol	2900.	U
85-01-8	Phenanthrene	67.	J
120-12-7	Anthracene	120.	J
84-74-2	Di-n-butylphthalate	590 ~~54.~~	~~BJ~~ U
206-44-0	Fluoranthene	500.	J
129-00-0	Pyrene	900.	
85-68-7	Butylbenzylphthalate	590 ~~78.~~	~~BJ~~ U
91-94-1	3,3'-Dichlorobenzidine	1200.	U
56-55-3	Benzo(a)anthracene	570.	J
218-01-9	Chrysene	820.	
117-81-7	bis(2-Ethylhexyl)phthalate	1700.	
117-84-0	Di-n-octylphthalate	18.	J
205-99-2	Benzo(b)fluoranthene	550.	J
207-08-9	Benzo(k)fluoranthene	470.	J
50-32-8	Benzo(a)pyrene	530.	J
193-39-5	Indeno(1,2,3-cd)pyrene	520.	J
53-70-3	Dibenz(a,h)anthracene	110.	J
191-24-2	Benzo(g,h,i)perylene	770.	

(1) - Cannot be separated from diphenylamine

1F

EPA 06563

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BW877

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 4304B SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 31. (g/mL) G Lab File ID: 2418A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 45. dec. 0. Date Extracted: 12/11/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/12/88

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

Number TICs found: 17 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	C
1.	- -	UNKNOWN C2-ALKYL BENZENE	6.47	~~200.~~	
2.	- -	UNKNOWN	7.43	~~600.~~	
3.	- -	UNKNOWN	7.98	~~400.~~	
4.	- -	UNKNOWN HYDROCARBON	16.96	100	
5.	- -	UNKNOWN HYDROCARBON	19.33	40	
6.	- -	UNKNOWN	20.88	7	
7.	- -	UNKNOWN ACID	22.11		
8.	- -	UNKNOWN AROMATIC	25.46		
9.	- -	UNKNOWN HYDROCARBON	27.20		
10.	- -	UNKNOWN	28.32		
11.	- -	UNKNOWN HYDROCARBON	28.88		
12.	- -	UNKNOWN ALDEHYDE	30.27		
13.	- -	UNKNOWN HYDROCARBON	30.93		
14.	- -	UNKNOWN ALDEHYDE	32.9		
15.	- -	UNKNOWN HYDROCARBON	33.		
16.	- -	UNKNOWN	3		
17.	1058-61-3	Stigmast-4-en-3-one (8CI9CI)			
18.					
19.					
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23.					
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OC610

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW879

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 4304B SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 32. (g/mL) G Lab File ID: 2406A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 32. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	460.	U
111-44-4	bis(2-Chloroethyl)ether	460.	U
95-57-8	2-Chlorophenol	460.	U
541-73-1	1,3-Dichlorobenzene	460.	U
106-46-7	1,4-Dichlorobenzene	460.	U
100-51-6	Benzyl alcohol	460.	UK
95-50-1	1,2-Dichlorobenzene	460.	U
95-48-7	2-Methylphenol	460.	U
108-60-1	bis(2-Chloroisopropyl)ether	460.	U
106-44-5	4-Methylphenol	460.	U
621-64-7	N-Nitroso-di-n-propylamine	460.	U
67-72-1	Hexachloroethane	460.	U
98-95-3	Nitrobenzene	460.	U
78-59-1	Isophorone	460.	U
88-75-5	2-Nitrophenol	460.	U
105-67-9	2,4-Dimethylphenol	460.	U
65-85-0	Benzoic acid	170.	J
111-91-1	bis(2-Chloroethoxy)methane	460.	U
120-83-2	2,4-Dichlorophenol	460.	U
120-82-1	1,2,4-Trichlorobenzene	460.	U
91-20-3	Naphthalene	460.	U
106-47-8	4-Chloroaniline	460.	UR
87-68-3	Hexachlorobutadiene	460.	U
59-50-7	4-Chloro-3-methylphenol	460.	U
91-57-6	2-Methylnaphthalene	460.	U
77-47-4	Hexachlorocyclopentadiene	460.	U
88-06-2	2,4,6-Trichlorophenol	460.	U
95-95-4	2,4,5-Trichlorophenol	2300.	U
91-58-7	2-Chloronaphthalene	460.	U
88-74-4	2-Nitroaniline	2300.	U
131-11-3	Dimethylphthalate	460.	U
208-96-8	Acenaphthylene	61.	J
606-20-2	2,6-Dinitrotoluene	460.	U

00611

EPA SAMPLE NO.

BW879

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 32. (g/mL) G Lab File ID: 2406A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 32. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2300.	U
83-32-9	Acenaphthene	460.	U
51-28-5	2,4-Dinitrophenol	2300.	U
100-02-7	4-Nitrophenol	2300.	U
132-64-9	Dibenzofuran	460.	U
121-14-2	2,4-Dinitrotoluene	460.	U
84-66-2	Diethylphthalate	460.	U
7005-72-3	4-Chlorophenyl-phenylether	460.	U
86-73-7	Fluorene	460.	U
100-01-6	4-Nitroaniline	2300.	U
534-52-1	4,6-Dinitro-2-methylphenol	2300.	U
86-30-6	N-Nitrosodiphenylamine	460.	U
101-55-3	4-Bromophenyl-phenylether	460.	U
118-74-1	Hexachlorobenzene	460.	U
87-86-5	Pentachlorophenol	2300.	U
85-01-8	Phenanthrene	81.	J
120-12-7	Anthracene	460 ~~22.~~	J (1)
84-74-2	Di-n-butylphthalate	340.	~~B~~ J
206-44-0	Fluoranthene	210.	J
129-00-0	Pyrene	300.	J
85-68-7	Butylbenzylphthalate	870.	
91-94-1	3,3'-Dichlorobenzidine	930.	U
56-55-3	Benzo(a)anthracene	460 ~~150.~~	~~J~~ (1)
218-01-9	Chrysene	180.	J
117-81-7	bis(2-Ethylhexyl)phthalate	460 ~~200.~~	~~BJ~~ (1)
117-84-0	Di-n-octylphthalate	460.	U
205-99-2	Benzo(b)fluoranthene	160.	J
207-08-9	Benzo(k)fluoranthene	150.	J
50-32-8	Benzo(a)pyrene	200.	J
193-39-5	Indeno(1,2,3-cd)pyrene	130.	J
53-70-3	Dibenz(a,h)anthracene	35.	J
191-24-2	Benzo(g,h,i)perylene	180.	J

(1) - Cannot be separated from diphenylamine

0C612

EPA SAMPLE NO.

BW879

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Contract: 68-W8-0043

Lab Name: EMSMO

Lab Code: EMSMO Case No.: 4304B SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 32. (g/mL) G Lab File ID: 2406A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 32. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

Number TICs found: 12 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	7.50	~~700.~~ 81	~~J~~
2.	- -	UNKNOWN	7.73	~~300.~~	~~J~~
3.	- -	UNKNOWN	8.03	~~400.~~ 83	~~J~~
4.	- -	UNKNOWN HYDROCARBON	8.09	~~300.~~ 83	~~J~~
5.	- -	UNKNOWN TRICHLOROBIPHENYL	21.64	90.	J
6.	- -	UNKNOWN TRICHLOROBIPHENYL	22.03	300.	J
7.	- -	UNKNOWN ACID	22.20	100.	J
8.	- -	UNKNOWN AROMATIC	24.67	100.	J
9.	- -	UNKNOWN HYDROCARBON	27.28	100.	J
10.	- -	UNKNOWN HYDROCARBON	28.96	900.	J
11.	- -	UNKNOWN	30.39	500.	J
12.	- -	UNKNOWN HYDROCARBON	31.07	3000.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 0C648

BW880

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 35. (g/mL) G Lab File ID: 2407A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 47. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	530.	U
111-44-4	bis(2-Chloroethyl)ether	530.	U
95-57-8	2-Chlorophenol	530.	U
541-73-1	1,3-Dichlorobenzene	530.	U
106-46-7	1,4-Dichlorobenzene	530.	U
100-51-6	Benzyl alcohol	530.	U R
95-50-1	1,2-Dichlorobenzene	530.	U
95-48-7	2-Methylphenol	530.	U
108-60-1	bis(2-Chloroisopropyl)ether	530.	U
106-44-5	4-Methylphenol	530.	U
621-64-7	N-Nitroso-di-n-propylamine	530.	U
67-72-1	Hexachloroethane	530.	U
98-95-3	Nitrobenzene	530.	U
78-59-1	Isophorone	530.	U
88-75-5	2-Nitrophenol	530.	U
105-67-9	2,4-Dimethylphenol	530.	U
65-85-0	Benzoic acid	210.	J
111-91-1	bis(2-Chloroethoxy)methane	530.	U
120-83-2	2,4-Dichlorophenol	530.	U
120-82-1	1,2,4-Trichlorobenzene	530.	U
91-20-3	Naphthalene	530.	U
106-47-8	4-Chloroaniline	530.	U R
87-68-3	Hexachlorobutadiene	530.	U
59-50-7	4-Chloro-3-methylphenol	530.	U
91-57-6	2-Methylnaphthalene	16.	J
77-47-4	Hexachlorocyclopentadiene	530.	U
88-06-2	2,4,6-Trichlorophenol	530.	U
95-95-4	2,4,5-Trichlorophenol	2600.	U
91-58-7	2-Chloronaphthalene	530.	U
88-74-4	2-Nitroaniline	2600.	U
131-11-3	Dimethylphthalate	530.	U
208-96-8	Acenaphthylene	79.	J
606-20-2	2,6-Dinitrotoluene	530.	U

00643

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW880

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 35. (g/mL) G Lab File ID: 2407A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 47. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2600.	U
83-32-9	Acenaphthene	530.	U
51-28-5	2,4-Dinitrophenol	2600.	U
100-02-7	4-Nitrophenol	2600.	U
132-64-9	Dibenzofuran	16.	J
121-14-2	2,4-Dinitrotoluene	530.	U
84-66-2	Diethylphthalate	530.	U
7005-72-3	4-Chlorophenyl-phenylether	530.	U
86-73-7	Fluorene	25.	J
100-01-6	4-Nitroaniline	2600.	~~U~~ R
534-52-1	4,6-Dinitro-2-methylphenol	2600.	U
86-30-6	N-Nitrosodiphenylamine	530.	U
101-55-3	4-Bromophenyl-phenylether	530.	U
118-74-1	Hexachlorobenzene	530.	U
87-86-5	Pentachlorophenol	2600.	U
85-01-8	Phenanthrene	340.	J
120-12-7	Anthracene	73.	J
84-74-2	Di-n-butylphthalate	530 ~~120~~.	~~B~~ U (1)
206-44-0	Fluoranthene	620.	
129-00-0	Pyrene	940.	
85-68-7	Butylbenzylphthalate	14.	J
91-94-1	3,3'-Dichlorobenzidine	1100.	U
56-55-3	Benzo(a)anthracene	380.	J
218-01-9	Chrysene	430.	J
117-81-7	bis(2-Ethylhexyl)phthalate	530 ~~74~~.	~~B~~ U
117-84-0	Di-n-octylphthalate	530.	U
205-99-2	Benzo(b)fluoranthene	420.	J
207-08-9	Benzo(k)fluoranthene	390.	J
50-32-8	Benzo(a)pyrene	430.	J
193-39-5	Indeno(1,2,3-cd)pyrene	330.	J
53-70-3	Dibenz(a,h)anthracene	80.	J
191-24-2	Benzo(g,h,i)perylene	460.	J

(1) - Cannot be separated from diphenylamine

00650

EPA SAMPLE NO.

BW880

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43043 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 35. (g/mL) G Lab File ID: 2407A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 47. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

Number TICs found: 16 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	7.50	~~700.~~	~~BJ~~ R
2.	- -	UNKNOWN	7.73	~~300.~~	~~J~~
3.	- -	UNKNOWN HYDROCARBON	8.03	~~400.~~	~~BJ~~
4.	- -	UNKNOWN HYDROCARBON	8.10	~~300.~~	~~BJ~~
5.	- -	UNKNOWN	21.21	50.	J M
6.	- -	UNKNOWN	24.74	200.	J
7.	- -	UNKNOWN AROMATIC	25.55	100.	J
8.	- -	UNKNOWN HYDROCARBON	27.28	200.	J
9.	- -	UNKNOWN HYDROCARBON	28.09	300.	J
10.	- -	UNKNOWN	28.42	200.	J
11.	- -	UNKNOWN HYDROCARBON	28.96	1000.	J
12.	- -	UNKNOWN ALDEHYDE	30.39	2000.	J
13.	- -	UNKNOWN HYDROCARBON	31.07	4000.	J
14.	- -	UNKNOWN AROMATIC	31.61	600.	J
15.	- -	UNKNOWN ALDEHYDE	33.08	1000.	J
16.	- -	UNKNOWN HYDROCARBON	33.97	700.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0C693

BW891

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 34. (g/mL) G Lab File ID: 2408A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 22. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	380.	U
111-44-4	bis(2-Chloroethyl)ether	380.	U
95-57-8	2-Chlorophenol	380.	U
541-73-1	1,3-Dichlorobenzene	380.	U
106-46-7	1,4-Dichlorobenzene	380.	U
100-51-6	Benzyl alcohol	380.	UR
95-50-1	1,2-Dichlorobenzene	380.	U
95-48-7	2-Methylphenol	380.	U
108-60-1	bis(2-Chloroisopropyl)ether	380.	U
106-44-5	4-Methylphenol	380.	U
621-64-7	N-Nitroso-di-n-propylamine	380.	U
67-72-1	Hexachloroethane	380.	U
98-95-3	Nitrobenzene	380.	U
78-59-1	Isophorone	380.	U
88-75-5	2-Nitrophenol	380.	U
105-67-9	2,4-Dimethylphenol	380.	U
65-85-0	Benzoic acid	1900.	U
111-91-1	bis(2-Chloroethoxy)methane	380.	U
120-83-2	2,4-Dichlorophenol	380.	U
120-82-1	1,2,4-Trichlorobenzene	380.	U
91-20-3	Naphthalene	380.	U
106-47-8	4-Chloroaniline	380.	UR
87-68-3	Hexachlorobutadiene	380.	U
59-50-7	4-Chloro-3-methylphenol	380.	U
91-57-6	2-Methylnaphthalene	380.	U
77-47-4	Hexachlorocyclopentadiene	380.	U
88-06-2	2,4,6-Trichlorophenol	380.	U
95-95-4	2,4,5-Trichlorophenol	1900.	U
91-58-7	2-Chloronaphthalene	380.	U
88-74-4	2-Nitroaniline	1900.	U
131-11-3	Dimethylphthalate	380.	U
208-96-8	Acenaphthylene	26.	J
606-20-2	2,6-Dinitrotoluene	380.	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: 00694

BW881

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 34. (g/mL) G Lab File ID: 2408A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 22. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1900.	U
83-32-9	Acenaphthene	380.	U
51-28-5	2,4-Dinitrophenol	1900.	U
100-02-7	4-Nitrophenol	1900.	U
132-64-9	Dibenzofuran	380.	U
121-14-2	2,4-Dinitrotoluene	380.	U
84-66-2	Diethylphthalate	380.	U
7005-72-3	4-Chlorophenyl-phenylether	380.	U
86-73-7	Fluorene	380.	U
100-01-6	4-Nitroaniline	1900.	U K
534-52-1	4,6-Dinitro-2-methylphenol	1900.	U
86-30-6	N-Nitrosodiphenylamine	380.	U
101-55-3	4-Bromophenyl-phenylether	380.	U
118-74-1	Hexachlorobenzene	380.	U
87-86-5	Pentachlorophenol	1900.	U
85-01-8	Phenanthrene	380 ~~38.~~	J U
120-12-7	Anthracene	380 ~~12.~~	J U
84-74-2	Di-n-butylphthalate	38[illegible] ~~110.~~	~~U~~ U
206-44-0	Fluoranthene	110.	J
129-00-0	Pyrene	140.	J
85-68-7	Butylbenzylphthalate	10.	J
91-94-1	3,3'-Dichlorobenzidine	750.	U
56-55-3	Benzo(a)anthracene	380 ~~67.~~	J U
218-01-9	Chrysene	380 ~~98.~~	J U
117-81-7	bis(2-Ethylhexyl)phthalate	380 ~~46.~~	~~U~~ U
117-84-0	Di-n-octylphthalate	380.	U
205-99-2	Benzo(b)fluoranthene	120.	J
207-08-9	Benzo(k)fluoranthene	98.	J
50-32-8	Benzo(a)pyrene	110.	J
193-39-5	Indeno(1,2,3-cd)pyrene	69.	J
53-70-3	Dibenz(a,h)anthracene	380.	U
191-24-2	Benzo(g,h,i)perylene	97.	J

(1) - Cannot be separated from diphenylamine

00695

1F

EPA SAMPLE NO.

BW881

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 4304B SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 34. (g/mL) G Lab File ID: 2408A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 22. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

Number TICs found: 9 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	6.81	~~200.~~	~~J~~
2.	- -	UNKNOWN	7.51	~~500.~~	~~BJ~~
3.	- -	UNKNOWN	7.73	~~200.~~	~~J~~
4.	- -	UNKNOWN	8.04	~~300.~~	~~BJ~~
5.	- -	UNKNOWN HYDROCARBON	8.10	~~200.~~	~~BJ~~
6.	- -	UNKNOWN DDD OR ISOMER	26.39	100.	J
7.	- -	UNKNOWN	30.38	300.	J
8.	- -	UNKNOWN HYDROCARBON	31.06	300.	J
9.	- -	UNKNOWN HYDROCARBON	33.98	400.	J
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11.					
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 00726

BW882

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 35. (g/mL) G Lab File ID: 2409A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 13. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330.	U
111-44-4	bis(2-Chloroethyl)ether	330.	U
95-57-8	2-Chlorophenol	330.	U
541-73-1	1,3-Dichlorobenzene	330.	U
106-46-7	1,4-Dichlorobenzene	330.	U
100-51-6	Benzyl alcohol	330.	UR
95-50-1	1,2-Dichlorobenzene	330.	U
95-48-7	2-Methylphenol	330.	U
108-60-1	bis(2-Chloroisopropyl)ether	330.	U
106-44-5	4-Methylphenol	330.	U
621-64-7	N-Nitroso-di-n-propylamine	330.	U
67-72-1	Hexachloroethane	330.	U
98-95-3	Nitrobenzene	330.	U
78-59-1	Isophorone	330.	U
88-75-5	2-Nitrophenol	330.	U
105-67-9	2,4-Dimethylphenol	330.	U
65-85-0	Benzoic acid	1700.	U
111-91-1	bis(2-Chloroethoxy)methane	330.	U
120-83-2	2,4-Dichlorophenol	330.	U
120-82-1	1,2,4-Trichlorobenzene	330.	U
91-20-3	Naphthalene	330.	U
106-47-8	4-Chloroaniline	330.	UR
87-68-3	Hexachlorobutadiene	330.	U
59-50-7	4-Chloro-3-methylphenol	330.	U
91-57-6	2-Methylnaphthalene	330.	U
77-47-4	Hexachlorocyclopentadiene	330.	U
88-06-2	2,4,6-Trichlorophenol	330.	U
95-95-4	2,4,5-Trichlorophenol	1700.	U
91-58-7	2-Chloronaphthalene	330.	U
88-74-4	2-Nitroaniline	1700.	U
131-11-3	Dimethylphthalate	330.	U
208-96-8	Acenaphthylene	8.	J
606-20-2	2,6-Dinitrotoluene	330.	U

1C

EPA: 06727

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BW882

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 35. (g/mL) G Lab File ID: 2409A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 13. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1700.	U
83-32-9	Acenaphthene	330.	U
51-28-5	2,4-Dinitrophenol	1700.	U
100-02-7	4-Nitrophenol	1700.	U
132-64-9	Dibenzofuran	330.	U
121-14-2	2,4-Dinitrotoluene	330.	U
84-66-2	Diethylphthalate	~~330.~~	~~U~~
7005-72-3	4-Chlorophenyl-phenylether	330.	U
86-73-7	Fluorene	330.	U
100-01-6	4-Nitroaniline	1700.	U
534-52-1	4,6-Dinitro-2-methylphenol	1700.	U
86-30-6	N-Nitrosodiphenylamine	330.	U
101-55-3	4-Bromophenyl-phenylether	330.	U
118-74-1	Hexachlorobenzene	330.	U
87-86-5	Pentachlorophenol	1700.	U
85-01-8	Phenanthrene	~~330.~~	~~U~~
120-12-7	Anthracene	~~330.~~	~~U~~
84-74-2	Di-n-butylphthalate	~~330.~~	~~U~~
206-44-0	Fluoranthene	45.	J
129-00-0	Pyrene	55.	J
85-68-7	Butylbenzylphthalate	330.	U
91-94-1	3,3'-Dichlorobenzidine	670.	U
56-55-3	Benzo(a)anthracene	~~330.~~ 28.	J
218-01-9	Chrysene	~~330.~~ 43.	J
117-81-7	bis(2-Ethylhexyl)phthalate	~~330.~~ 54.	~~U~~
117-84-0	Di-n-octylphthalate	3.	J
205-99-2	Benzo(b)fluoranthene	46.	J
207-08-9	Benzo(k)fluoranthene	34.	J
50-32-8	Benzo(a)pyrene	26.	J
193-39-5	Indeno(1,2,3-cd)pyrene	31.	J
53-70-3	Dibenz(a,h)anthracene	330.	U
191-24-2	Benzo(g,h,i)perylene	38.	J

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. UL728

BW832

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 4304B SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 35. (g/mL) G Lab File ID: 2409A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 13. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

Number TICs found: 12 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	6.82	~~400.~~	~~J~~ R
2.	- -	UNKNOWN	7.49	~~700.~~	~~BJ~~
3.	- -	UNKNOWN	7.74	~~300.~~	J
4.	- -	UNKNOWN	8.04	~~400.~~	~~BJ~~
5.	- -	UNKNOWN HYDROCARBON	8.10	~~400.~~	BJ
6.	- -	UNKNOWN	28.25	100.	J
7.	- -	UNKNOWN HYDROCARBON	28.95	100.	J
8.	- -	UNKNOWN	30.38	400.	J
9.	- -	UNKNOWN HYDROCARBON	31.06	300.	J
10.	- -	UNKNOWN HYDROCARBON	33.97	500.	J
11.	- -	UNKNOWN	38.83	200.	J
12.	- -	UNKNOWN	38.97	900.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 00763

BW883

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 31. (g/mL) G Lab File ID: 2410A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 6. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 5.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	350.	U
111-44-4	bis(2-Chloroethyl)ether	350.	U
95-57-8	2-Chlorophenol	60.	J
541-73-1	1,3-Dichlorobenzene	350.	U
106-46-7	1,4-Dichlorobenzene	350 ~~50.~~	~~U~~ U
100-51-6	Benzyl alcohol	350.	U R
95-50-1	1,2-Dichlorobenzene	350.	U
95-48-7	2-Methylphenol	350.	U
108-60-1	bis(2-Chloroisopropyl)ether	350.	U
106-44-5	4-Methylphenol	350.	U
621-64-7	N-Nitroso-di-n-propylamine	350.	U
67-72-1	Hexachloroethane	350.	U
98-95-3	Nitrobenzene	350.	U
78-59-1	Isophorone	350.	U
88-75-5	2-Nitrophenol	350.	U
105-67-9	2,4-Dimethylphenol	350.	U
65-85-0	Benzoic acid	1700.	U
111-91-1	bis(2-Chloroethoxy)methane	350.	U
120-83-2	2,4-Dichlorophenol	350.	U
120-82-1	1,2,4-Trichlorobenzene	35.	J
91-20-3	Naphthalene	350 ~~8.~~	J U
106-47-8	4-Chloroaniline	350.	U R
87-68-3	Hexachlorobutadiene	350.	U
59-50-7	4-Chloro-3-methylphenol	15.	J
91-57-6	2-Methylnaphthalene	5.	J
77-47-4	Hexachlorocyclopentadiene	350.	U
88-06-2	2,4,6-Trichlorophenol	350.	U
95-95-4	2,4,5-Trichlorophenol	1700.	U
91-58-7	2-Chloronaphthalene	350.	U
88-74-4	2-Nitroaniline	1700.	U
131-11-3	Dimethylphthalate	350.	U
208-96-8	Acenaphthylene	36.	J
606-20-2	2,6-Dinitrotoluene	350.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

06764
EPA SAMPLE NO.

BW883

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 31. (g/mL) G Lab File ID: 2410A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 6. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 5.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1700.	U
83-32-9	Acenaphthene	48.	J
51-28-5	2,4-Dinitrophenol	1700.	U
100-02-7	4-Nitrophenol	1700.	U
132-64-9	Dibenzofuran	350.	U
121-14-2	2,4-Dinitrotoluene	350.	U
84-66-2	Diethylphthalate	350 ~~5.~~	~~BJ~~ U
7005-72-3	4-Chlorophenyl-phenylether	350.	U
86-73-7	Fluorene	5.	J
100-01-6	4-Nitroaniline	1700.	~~U~~ A
534-52-1	4,6-Dinitro-2-methylphenol	1700.	U
86-30-6	N-Nitrosodiphenylamine	350.	U
101-55-3	4-Bromophenyl-phenylether	350.	U
118-74-1	Hexachlorobenzene	350.	U
87-86-5	Pentachlorophenol	1700.	U
85-01-8	Phenanthrene	350 ~~31.~~	~~J~~ U
120-12-7	Anthracene	350 ~~19.~~	~~J~~ U
84-74-2	Di-n-butylphthalate	350 ~~140.~~	~~BJ~~ U
206-44-0	Fluoranthene	150.	J
129-00-0	Pyrene	250.	J
85-68-7	Butylbenzylphthalate	350.	U
91-94-1	3,3'-Dichlorobenzidine	700.	U
56-55-3	Benzo(a)anthracene	350 ~~130.~~	~~J~~ U
218-01-9	Chrysene	180.	J
117-81-7	bis(2-Ethylhexyl)phthalate	350 ~~26.~~	~~BJ~~ U
117-84-0	Di-n-octylphthalate	350.	U
205-99-2	Benzo(b)fluoranthene	160.	J
207-08-9	Benzo(k)fluoranthene	160.	J
50-32-8	Benzo(a)pyrene	130.	J
193-39-5	Indeno(1,2,3-cd)pyrene	100.	J
53-70-3	Dibenz(a,h)anthracene	28.	J
191-24-2	Benzo(g,h,i)perylene	150.	J

(1) - Cannot be separated from diphenylamine

00765
EPA SAMPLE NO.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BW833

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 31. (g/mL) G Lab File ID: 2410A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 6. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 5.2 Dilution Factor: 1.00

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	6.12	~~300.~~	~~J~~
2.	- -	UNKNOWN	7.51	~~400~~	~~BJ~~
3.	- -	UNKNOWN	7.73	~~200.~~	~~J~~
4.	- -	UNKNOWN	8.04	~~200.~~	~~BJ~~
5.	- -	UNKNOWN HYDROCARBON	8.10	~~200.~~	~~BJ~~
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0C801

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BW884

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 32. (g/mL) G Lab File ID: 2411A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 6. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 5.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330.	U
111-44-4	bis(2-Chloroethyl)ether	330.	U
95-57-8	2-Chlorophenol	330.	U
541-73-1	1,3-Dichlorobenzene	330.	U
106-46-7	1,4-Dichlorobenzene	330.	U
100-51-6	Benzyl alcohol	330.	U
95-50-1	1,2-Dichlorobenzene	330.	U
95-48-7	2-Methylphenol	330.	U
108-60-1	bis(2-Chloroisopropyl)ether	330.	U
106-44-5	4-Methylphenol	330.	U
621-64-7	N-Nitroso-di-n-propylamine	330.	U
67-72-1	Hexachloroethane	330.	U
98-95-3	Nitrobenzene	330.	U
78-59-1	Isophorone	330.	U
88-75-5	2-Nitrophenol	330.	U
105-67-9	2,4-Dimethylphenol	330.	U
65-85-0	Benzoic acid	1700.	U
111-91-1	bis(2-Chloroethoxy)methane	330.	U
120-83-2	2,4-Dichlorophenol	330.	U
120-82-1	1,2,4-Trichlorobenzene	330.	U
91-20-3	Naphthalene	330.	U
106-47-8	4-Chloroaniline	330.	U
87-68-3	Hexachlorobutadiene	330.	U
59-50-7	4-Chloro-3-methylphenol	330.	U
91-57-6	2-Methylnaphthalene	330.	U
77-47-4	Hexachlorocyclopentadiene	330.	U
88-06-2	2,4,6-Trichlorophenol	330.	U
95-95-4	2,4,5-Trichlorophenol	1700.	U
91-58-7	2-Chloronaphthalene	330.	U
88-74-4	2-Nitroaniline	1700.	U
131-11-3	Dimethylphthalate	330.	U
208-96-8	Acenaphthylene	23.	J
606-20-2	2,6-Dinitrotoluene	330.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

OC8[illegible]2 SAMPLE NO.

BW884

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 32. (g/mL) G Lab File ID: 2411A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 6. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 5.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1700.	U
83-32-9	Acenaphthene	5.	J
51-28-5	2,4-Dinitrophenol	1700.	U
100-02-7	4-Nitrophenol	1700.	U
132-64-9	Dibenzofuran	330.	U
121-14-2	2,4-Dinitrotoluene	330.	U
84-66-2	Diethylphthalate	330 ~~5.~~	~~B~~ U
7005-72-3	4-Chlorophenyl-phenylether	330.	U
86-73-7	Fluorene	6.	J
100-01-6	4-Nitroaniline	1700.	U
534-52-1	4,6-Dinitro-2-methylphenol	1700.	U
86-30-6	N-Nitrosodiphenylamine	330.	U
101-55-3	4-Bromophenyl-phenylether	330.	U
118-74-1	Hexachlorobenzene	330.	U
87-86-5	Pentachlorophenol	1700.	U
85-01-8	Phenanthrene	36.	J
120-12-7	Anthracene	330 ~~19.~~	~~J~~ U
84-74-2	Di-n-butylphthalate	[illegible] ~~84.~~	~~B~~ U
206-44-0	Fluoranthene	120.	J
129-00-0	Pyrene	160.	J
85-68-7	Butylbenzylphthalate	330.	U
91-94-1	3,3'-Dichlorobenzidine	670.	U
56-55-3	Benzo(a)anthracene	[illegible] ~~87.~~	~~J~~ U
218-01-9	Chrysene	120.	J
117-81-7	bis(2-Ethylhexyl)phthalate	330 ~~20.~~	~~B~~ U
117-84-0	Di-n-octylphthalate	330.	U
205-99-2	Benzo(b)fluoranthene	95.	J
207-08-9	Benzo(k)fluoranthene	110.	J
50-32-8	Benzo(a)pyrene	89.	J
193-39-5	Indeno(1,2,3-cd)pyrene	73.	J
53-70-3	Dibenz(a,h)anthracene	27.	J
191-24-2	Benzo(g,h,i)perylene	87.	J

(1) - Cannot be separated from diphenylamine

00803

EPA SAMPLE NO.

BW884

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Contract: 68-W8-0043

Lab Name: EMSMO

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 32. (g/mL) G Lab File ID: 2411A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 6. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/ 9/88

GPC Cleanup: (Y/N) N pH: 5.3 Dilution Factor: 1.00

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	6.13	~~300.~~	~~J~~
2.	- -	UNKNOWN	7.50	~~400.~~	~~BJ~~
3.	- -	UNKNOWN	7.72	~~300.~~	~~J~~
4.	- -	UNKNOWN	8.05	~~300.~~	~~BJ~~
5.	- -	UNKNOWN HYDROCARBON	8.11	~~300.~~	~~BJ~~
6.	- -	UNKNOWN	9.03	100.	J
7.					
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18

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW885

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 4304B SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 32. (g/mL) G Lab File ID: 2426A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 14. dec. 0. Date Extracted: 12/11/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/14/88

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 2.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	740.	U
111-44-4	bis(2-Chloroethyl)ether	740.	U
95-57-8	2-Chlorophenol	740.	U
541-73-1	1,3-Dichlorobenzene	740.	U
106-46-7	1,4-Dichlorobenzene	740.	U
100-51-6	Benzyl alcohol	740.	UR
95-50-1	1,2-Dichlorobenzene	740.	U
95-48-7	2-Methylphenol	740.	U
108-60-1	bis(2-Chloroisopropyl)ether	740.	U
106-44-5	4-Methylphenol	740.	U
621-64-7	N-Nitroso-di-n-propylamine	740.	U
67-72-1	Hexachloroethane	740.	U
98-95-3	Nitrobenzene	740.	U
78-59-1	Isophorone	740.	U
88-75-5	2-Nitrophenol	740.	U
105-67-9	2,4-Dimethylphenol	740.	U
65-85-0	Benzoic acid	46.	J
111-91-1	bis(2-Chloroethoxy)methane	740.	U
120-83-2	2,4-Dichlorophenol	740.	U
120-82-1	1,2,4-Trichlorobenzene	740.	U
91-20-3	Naphthalene	11.	J
106-47-8	4-Chloroaniline	740.	UR
87-68-3	Hexachlorobutadiene	740.	U
59-50-7	4-Chloro-3-methylphenol	740.	U
91-57-6	2-Methylnaphthalene	9.	J
77-47-4	Hexachlorocyclopentadiene	740.	U
88-06-2	2,4,6-Trichlorophenol	740.	U
95-95-4	2,4,5-Trichlorophenol	3700.	U
91-58-7	2-Chloronaphthalene	740.	U
88-74-4	2-Nitroaniline	3700.	U
131-11-3	Dimethylphthalate	740.	U
208-96-8	Acenaphthylene	62.	J
606-20-2	2,6-Dinitrotoluene	740.	U

00836

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BW885

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 32. (g/mL) G Lab File ID: 2426A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 14. dec. 0. Date Extracted: 12/11/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/14/88

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 2.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3700.	U
83-32-9	Acenaphthene	740.	U
51-28-5	2,4-Dinitrophenol	3700.	U
100-02-7	4-Nitrophenol	3700.	U
132-64-9	Dibenzofuran	740.	U
121-14-2	2,4-Dinitrotoluene	740.	U
84-66-2	Diethylphthalate	~~740~~ 9.	~~U~~ U
7005-72-3	4-Chlorophenyl-phenylether	740.	U
86-73-7	Fluorene	740.	U
100-01-6	4-Nitroaniline	3700.	U
534-52-1	4,6-Dinitro-2-methylphenol	3700.	U
86-30-6	N-Nitrosodiphenylamine	740.	U
101-55-3	4-Bromophenyl-phenylether	740.	U
118-74-1	Hexachlorobenzene	740.	U
87-86-5	Pentachlorophenol	3700.	U
85-01-8	Phenanthrene	60.	J
120-12-7	Anthracene	33.	J
84-74-2	Di-n-butylphthalate	~~740~~ 30.	~~U~~ U
206-44-0	Fluoranthene	200.	J
129-00-0	Pyrene	260.	J
85-68-7	Butylbenzylphthalate	46.	~~U~~ U
91-94-1	3,3'-Dichlorobenzidine	1500.	U
56-55-3	Benzo(a)anthracene	~~740~~ 130.	~~U~~ J
218-01-9	Chrysene	180.	J
117-81-7	bis(2-Ethylhexyl)phthalate	~~740~~ 200.	~~U~~ U
117-84-0	Di-n-octylphthalate	6.	J
205-99-2	Benzo(b)fluoranthene	280.	J
207-08-9	Benzo(k)fluoranthene	150.	J
50-32-8	Benzo(a)pyrene	200.	J
193-39-5	Indeno(1,2,3-cd)pyrene	160.	J
53-70-3	Dibenz(a,h)anthracene	30.	J
191-24-2	Benzo(g,h,i)perylene	250.	J

(1) - Cannot be separated from diphenylamine

0C837

EPA SAMPLE NO.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

8W835

Contract: 68-W8-0043

Lab Name: EMSMO

Lab Code: EMSMO Case No.: 43048 SAS No.: 43046 SDG No.: 8W874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 32. (g/mL) G Lab File ID: 2426A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 14. dec. 0. Date Extracted: 12/11/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/14/88

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 2.00

Number TICs found: 11 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	20.94	100.	J
2.	2917-73-9	Nonanedioic acid, dibutyl es	23.25	200.	J
3.	- -	UNKNOWN HYDROCARBON	25.47	100.	J
4.	- -	UNKNOWN DDD OR ISOMER	25.56	100.	J
5.	- -	UNKNOWN HYDROCARBON	27.21	300.	J
6.	- -	UNKNOWN ALDEHYDE	28.33	300.	J
7.	- -	UNKNOWN HYDROCARBON	28.87	2000.	J
8.	- -	UNKNOWN ALDEHYDE	30.27	1000.	J
9.	- -	UNKNOWN HYDROCARBON	30.96	5000.	J
10.	- -	UNKNOWN ALDEHYDE	32.93	700.	J
11.	- -	UNKNOWN HYDROCARBON	33.82	2000.	J
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1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BW887

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 1000. (g/mL) ML Lab File ID: 2387A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec.100. dec. 0. Date Extracted: 12/ 5/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/ 8/88

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
108-60-1	bis(2-Chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 00877

BW887

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 1000. (g/mL) ML Lab File ID: 2387A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec.100. dec. 0. Date Extracted: 12/ 5/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/ 8/88

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50.	U
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrosodiphenylamine	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-butylphthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)anthracene	10.	U
218-01-9	Chrysene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	.4	BJ
117-84-0	Di-n-octylphthalate	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U
50-32-8	Benzo(a)pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3	Dibenz(a,h)anthracene	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U

(1) - Cannot be separated from diphenylamine

00878

EPA SAMPLE NO.

BW387

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 4304B SAS No.: 4304B SDG No.: BW374

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 1000. (g/mL) ML Lab File ID: 2387A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec.100. dec. 0. Date Extracted: 12/ 5/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/ 8/88

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. - -	UNKNOWN HYDROCARBON	6.79	10.	BJ
2. - -	UNKNOWN	7.48	60.	BJ
3. - -	UNKNOWN	7.71	20.	BJ
4. - -	UNKNOWN	8.01	40.	BJ
5. - -	UNKNOWN HYDROCARBON	8.07	20.	BJ
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00891

13

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW888

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 1000. (g/mL) ML Lab File ID: 2338A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec.100. dec. 0. Date Extracted: 12/ 5/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/ 8/88

GPC Cleanup: (Y/N) N pH: 5.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
108-60-1	bis(2-Chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U

SEMIVOLATILE ORGANICS 1C ANALYSIS DATA SHEET

EPA SAMPLE NO. 0C892

BW883

Contract: 68-W8-0043

Lab Name: EMSMO

Lab Code: EMSMO Case No.: 4304B SAS No.: 43043 SDG No.: BW874

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 1000. (g/mL) ML Lab File ID: 2388A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec.100. dec. 0. Date Extracted: 12/ 5/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/ 8/88

GPC Cleanup: (Y/N) N pH: 5.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50.	U
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrosodiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-butylphthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)anthracene	10.	U
218-01-9	Chrysene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
117-84-0	Di-n-octylphthalate	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U
50-32-8	Benzo(a)pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3	Dibenz(a,h)anthracene	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U

(1) - Cannot be separated from diphenylamine

0C893

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE No.

BW383

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 4304B SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 1000. (g/mL) ML Lab File ID: 2388A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec.100. dec. 0. Date Extracted: 12/ 5/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/ 8/88

GPC Cleanup: (Y/N) N pH: 5.5 Dilution Factor: 1.00

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. - -	UNKNOWN HYDROCARBON	6.73	10.	BJ
2. - -	UNKNOWN	7.47	60.	BJ
3. - -	UNKNOWN	7.70	20.	BJ
4. - -	UNKNOWN	8.00	30.	BJ
5. - -	UNKNOWN HYDROCARBON	8.07	20.	BJ
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW889

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 4304B SDG No.: BW874

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 1000. (g/mL) ML Lab File ID: 2414A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec.100. dec. 0. Date Extracted: 12/ 9/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/12/88

GPC Cleanup: (Y/N) N pH: 5.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
108-60-1	bis(2-Chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U

00906
EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BW880

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43043 SDG No.: BW874

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 1000. (g/mL) ML Lab File ID: 2414A

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec.100. dec. 0. Date Extracted: 12/ 9/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/12/88

GPC Cleanup: (Y/N) N pH: 5.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50.	U
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	.3	BJ
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrosodiphenylamine	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-butylphthalate	.3	BJ
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)anthracene	10.	U
218-01-9	Chrysene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	.4	BJ
117-84-0	Di-n-octylphthalate	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U
50-32-8	Benzo(a)pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3	Dibenz(a,h)anthracene	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U

(1) - Cannot be separated from diphenylamine

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW874

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 30. (G/ML) G Lab File ID: E0383

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 20. dec. 0. Date Extracted: 12/ 3/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/10/88

GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10.	U
319-85-7	beta-BHC	10.	U
319-86-8	delta-BHC	10.	U
58-89-9	gamma-BHC (Lindane)	10.	U
76-44-8	Heptachlor	10.	U
309-00-2	Aldrin	10.	U
1024-57-3	Heptachlor epoxide	10.	U
959-98-8	Endosulfan I	10.	U
60-57-1	Dieldrin	10.	U
72-55-9	4,4'-DDE	10.	U
72-20-8	Endrin	20.	U
33213-65-9	Endosulfan II	10.	U
72-54-8	4,4'-DDD	20.	U
1031-07-8	Endosulfan sulfate	20.	U
50-29-3	4,4'-DDT	20.	U
72-43-5	Methoxychlor	20.	U
53494-70-5	Endrin ketone	99.	U
5103-71-9	alpha-Chlordane	20.	U
5103-74-2	gamma-Chlordane	99.	U
8001-35-2	Toxaphene	99.	U
12674-11-2	Aroclor-1016	200.	U
11104-28-2	Aroclor-1221	99.	U
11141-16-5	Aroclor-1232	99.	U
53469-21-9	Aroclor-1242	99.	U
12672-29-6	Aroclor-1248	19 ~~250~~.	J
11097-69-1	Aroclor-1254	99.	U
11096-82-5	Aroclor-1260	200	U
		CO ~~2500~~.	J

01101

PESTICIDE ORGANICS ANALYSIS DATA SHEET

BW87

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW87A

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 31. (g/mL) G Lab File ID: E0387

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 23. dec. 0. Date Extracted: 12/11/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/11/88

GPC Cleanup: (Y/N) N pH: 5.2 Dilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO.	EMSMO NO.	(ug/L or ug/kg) UG/KG	Q
319-84-6	alpha-BHC	10.	U
319-85-7	beta-BHC	10.	U
319-86-8	delta-BHC	10.	U
58-89-9	gamma-BHC (Lindane)	10.	U
76-44-8	Heptachlor	10.	U
309-00-2	Aldrin	10.	U
1024-57-3	Heptachlor epoxide	10.	U
959-98-8	Endosulfan I	10.	U
60-57-1	Dieldrin	70.	J
72-55-9	4,4'-DDE	260.	J
72-20-8	Endrin	10.	U
33213-65-9	Endosulfan II	20.	U
72-54-8	4,4'-DDD	240.	J
1031-07-8	Endosulfan sulfate	20.	U
50-29-3	4,4'-DDT	720.	J
72-43-5	Methoxychlor	100.	U
53494-70-5	Endrin ketone	20.	U
5103-71-9	alpha-Chlordane	100.	U
5103-74-2	gamma-Chlordane	100.	U
8001-35-2	Toxaphene	200.	U
12674-11-2	Aroclor-1016	100.	U
11104-28-2	Aroclor-1221	100.	U
11141-16-5	Aroclor-1232	100.	U
53469-21-9	Aroclor-1242	100.	U
12672-29-6	Aroclor-1248	100.	U
11097-69-1	Aroclor-1254	200.	U
11096-82-5	Aroclor-1260	200.	U

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SW87a

Lab Name: EMSMO Contract: 68-W9-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: SW87a

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 33. (g/mL) G Lab File ID: E0379

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 21. dec. 0. Date Extracted: 12/ 6/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/10/88

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.2	U
319-85-7	beta-BHC	9.2	U
319-86-8	delta-BHC	9.2	U
58-89-9	gamma-BHC (Lindane)	9.2	U
76-44-8	Heptachlor	9.2	U
309-00-2	Aldrin	9.2	U
1024-57-3	Heptachlor epoxide	9.2	U
959-98-8	Endosulfan I	9.2	U
60-57-1	Dieldrin	9.2	U
72-55-9	4,4'-DDE	14.	J
72-20-8	Endrin	9.2	U
33213-65-9	Endosulfan II	18.	U
72-54-8	4,4'-DDD	120.	
1031-07-8	Endosulfan sulfate	18.	U
50-29-3	4,4'-DDT	28.	J
72-43-5	Methoxychlor	92.	U
53494-70-5	Endrin ketone	18.	U
5103-71-9	alpha-Chlordane	92.	U
5103-74-2	gamma-Chlordane	92.	U
8001-35-2	Toxaphene	180.	U
12674-11-2	Aroclor-1016	92.	U
11104-28-2	Aroclor-1221	92.	U
11141-16-5	Aroclor-1232	92.	U
53469-21-9	Aroclor-1242	92.	U
12672-29-6	Aroclor-1248	92.	U
11097-69-1	Aroclor-1254	180.	U
11096-82-5	Aroclor-1260	180.	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SW977

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43043 SAS No.: 43043 SDG No.: SW974

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 37. (g/mL) G Lab File ID: E0378

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 45. dec. 7. Date Extracted: 12/ 2/88

Extraction: (SepF Cont Sonc) SONC Date Analyzed: 12/10/

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	12.	U
319-85-7	beta-BHC	12.	U
319-86-8	delta-BHC	12.	U
58-89-9	gamma-BHC (Lindane)	12.	U
76-44-8	Heptachlor	12.	U
309-00-2	Aldrin	12.	U
1024-57-3	Heptachlor epoxide	12.	U
959-98-8	Endosulfan I	12.	U
60-57-1	Dieldrin	47.	J
72-55-9	4,4'-DDE	190.	J
72-20-8	Endrin	12.	U
33213-65-9	Endosulfan II	23.	U
72-54-8	4,4'-DDD	180.	J
1031-07-8	Endosulfan sulfate	7.9	J
50-29-3	4,4'-DDT	520.	
72-43-5	Methoxychlor	120.	U
53494-70-5	Endrin ketone	23.	U
5103-71-9	alpha-Chlordane	120.	U
5103-74-2	gamma-Chlordane	120.	U
8001-35-2	Toxaphene	230.	U
12674-11-2	Aroclor-1016	120.	U
11104-28-2	Aroclor-1221	120.	U
11141-16-5	Aroclor-1232	120.	U
53469-21-9	Aroclor-1242	120.	U
12672-29-6	Aroclor-1248	120.	U
11097-69-1	Aroclor-1254	230.	U
11096-82-5	Aroclor-1260	230.	U

01128

[illegible] ANALYSIS DATA SHEET

BW879

Lab Name: EMCMC Contract: 68-W8-0043

Lab Code: EMCMC Case No.: 43048 SAS No.: SDG No.: [illegible]

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 32. (g/mL) G Lab File ID: EU382

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 32. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/10/88

GPC Cleanup: (Y/N) N pH: [illegible] Dilution Factor: [illegible]

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11.	U J
319-85-7	beta-BHC	11.	U
319-86-8	delta-BHC	11.	U
58-89-9	gamma-BHC (Lindane)	11.	U
76-44-8	Heptachlor	11.	U
309-00-2	Aldrin	11.	U R
1024-57-3	Heptachlor epoxide	11.	U
959-98-8	Endosulfan I	11.	U
60-57-1	Dieldrin	11.	U
72-55-9	4,4'-DDE	22.	U
72-20-8	Endrin	11.	U
33213-65-9	Endosulfan II	22.	U
72-54-8	4,4'-DDD	22.	U
1031-07-8	Endosulfan sulfate	22.	U
50-29-3	4,4'-DDT	22.	U
72-43-5	Methoxychlor	110.	U
53494-70-5	Endrin ketone	22.	U
5103-71-9	alpha-Chlordane	110.	U
5103-74-2	gamma-Chlordane	110.	U
8001-35-2	Toxaphene	220.	U
12674-11-2	Aroclor-1016	110.	U
11104-28-2	Aroclor-1221	110.	U
11141-16-5	Aroclor-1232	110.	U
53469-21-9	Aroclor-1242	110.	U ✓
12672-29-6	Aroclor-1248	1000.	J
11097-69-1	Aroclor-1254	600.	J
11096-82-5	Aroclor-1260	220.	U J

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW880

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 35. (g/mL) G Lab File ID: E0371

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 47. dec. 0. Date Extracted: 12/ 2/88

Extraction: (Sep/Cont/Sonc) SONC Date Analyzed: 12/ 1/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/kg) UG/KG	Q
319-84-6	alpha-BHC	13.	U
319-85-7	beta-BHC	13.	U
319-86-8	delta-BHC	13.	U
58-89-9	gamma-BHC (Lindane)	13.	U
76-44-8	Heptachlor	13.	U
309-00-2	Aldrin	13.	U
1024-57-3	Heptachlor epoxide	13.	U
959-98-8	Endosulfan I	13.	U
60-57-1	Dieldrin	13.	U
72-55-9	4,4'-DDE	34.	
72-20-8	Endrin	13.	U
33213-65-9	Endosulfan II	25.	U
72-54-8	4,4'-DDD	13.	J
1031-07-8	Endosulfan sulfate	25.	U
50-29-3	4,4'-DDT	31.	J
72-43-5	Methoxychlor	130.	U
53494-70-5	Endrin ketone	25.	U
5103-71-9	alpha-Chlordane	130.	U
5103-74-2	gamma-Chlordane	130.	U
8001-35-2	Toxaphene	250.	U
12674-11-2	Aroclor-1016	130.	U
11104-28-2	Aroclor-1221	130.	U
11141-16-5	Aroclor-1232	130.	U
53469-21-9	Aroclor-1242	130.	U
12672-29-6	Aroclor-1248	130.	U
11097-69-1	Aroclor-1254	250.	U
11096-82-5	Aroclor-1260	250.	U

PESTICIDE ORGANICS ANALYSIS DATA SHEET

E 01145

DWSC

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: 84[illegible]

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 34. (g/mL) G Lab File ID: E0373

Level: (low/med) LOW Date Received: 12 [illegible]

% Moisture: not dec. 22. dec. 0. Date Extracted: 12/ 2/89

Extraction: (SepF/Cont Sonc) SONC Date Analyzed: 12 [illegible]

GPC Cleanup: Y N N pH: [illegible] Dilution Factor: [illegible]

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.0	U
319-85-7	beta-BHC	9.0	U
319-86-8	delta-BHC	9.0	U
58-89-9	gamma-BHC (Lindane)	9.0	U
76-44-8	Heptachlor	9.0	U
309-00-2	Aldrin	9.0	U
1024-57-3	Heptachlor epoxide	9.0	U
959-98-8	Endosulfan I	9.0	U
60-57-1	Dieldrin	14.	
72-55-9	4,4'-DDE	140.	
72-20-8	Endrin	9.0	U
33213-65-9	Endosulfan II	18.	U
72-54-8	4,4'-DDD	130.	
1031-07-8	Endosulfan sulfate	18.	U
50-29-3	4,4'-DDT	360.	
72-43-5	Methoxychlor	90.	U
53494-70-5	Endrin ketone	18.	U
5103-71-9	alpha-Chlordane	90.	U
5103-74-2	gamma-Chlordane	90.	U
8001-35-2	Toxaphene	180.	U
12674-11-2	Aroclor-1016	90.	U
11104-28-2	Aroclor-1221	90.	U
11141-16-5	Aroclor-1232	90.	U
53469-21-9	Aroclor-1242	90.	U
12672-29-6	Aroclor-1248	90.	U
11097-69-1	Aroclor-1254	180.	U
11096-82-5	Aroclor-1260	180.	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE N

BW882

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW87

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 35. (g/mL) G Lab File ID: E0372

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 14. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12 10/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.0	U
319-85-7	beta-BHC	8.0	U
319-86-8	delta-BHC	8.0	U
58-89-9	gamma-BHC (Lindane)	8.0	U
76-44-8	Heptachlor	8.0	U
309-00-2	Aldrin	8.0	U
1024-57-3	Heptachlor epoxide	8.0	U
959-98-8	Endosulfan I	8.0	U
60-57-1	Dieldrin	11.	J
72-55-9	4,4'-DDE	49.	
72-20-8	Endrin	8.0	U
33213-65-9	Endosulfan II	16.	U
72-54-8	4,4'-DDD	49.	
1031-07-8	Endosulfan sulfate	16.	U
50-29-3	4,4'-DDT	130.	U
72-43-5	Methoxychlor	80.	U
53494-70-5	Endrin ketone	16.	U
5103-71-9	alpha-Chlordane	80.	U
5103-74-2	gamma-Chlordane	80.	U
8001-35-2	Toxaphene	160.	U
12674-11-2	Aroclor-1016	80.	U
11104-28-2	Aroclor-1221	80.	U
11141-16-5	Aroclor-1232	80.	U
53469-21-9	Aroclor-1242	80.	U
12672-29-6	Aroclor-1248	80.	U
11097-69-1	Aroclor-1254	160.	U
11096-82-5	Aroclor-1260	160.	U

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW882

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 31. (g/mL) G Lab File ID: E0374

Level: (low/med) LOW Date Received: 12/ 2.88

% Moisture: not dec. 6. dec. 0. Date Extracted: 12/ 3/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/10/87

GPC Cleanup: (Y/N) N pH: 5.2 Dilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.4	U
319-85-7	beta-BHC	8.4	U
319-86-8	delta-BHC	8.4	U
58-89-9	gamma-BHC (Lindane)	8.4	U
76-44-8	Heptachlor	8.4	U
309-00-2	Aldrin	8.4	U
1024-57-3	Heptachlor epoxide	8.4	U
959-98-8	Endosulfan I	8.4	U
60-57-1	Dieldrin	2.7	J
72-55-9	4,4'-DDE	14.	J
72-20-8	Endrin	8.4	U
33213-65-9	Endosulfan II	17.	U
72-54-8	4,4'-DDD	74.	
1031-07-8	Endosulfan sulfate	17.	U
50-29-3	4,4'-DDT	18.	U
72-43-5	Methoxychlor	84.	U
53494-70-5	Endrin ketone	17.	U
5103-71-9	alpha-Chlordane	84.	U
5103-74-2	gamma-Chlordane	84.	U
8001-35-2	Toxaphene	170.	U
12674-11-2	Aroclor-1016	84.	U
11104-28-2	Aroclor-1221	84.	U
11141-16-5	Aroclor-1232	84.	U
53469-21-9	Aroclor-1242	84.	U
12672-29-6	Aroclor-1248	84.	U
11097-69-1	Aroclor-1254	170.	U
11096-82-5	Aroclor-1260	170.	U

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW834

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW834

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 32. (g/mL) G Lab File ID: E0378

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 6. dec. 0. Date Extracted: 12/ 2/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/10/88

GPC Cleanup: (Y/N) N pH: 5.3 Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION	Q
319-84-6	alpha-BHC	8.0	U
319-85-7	beta-BHC	8.0	U
319-86-8	delta-BHC	8.0	U
58-89-9	gamma-BHC (Lindane)	8.0	U
76-44-8	Heptachlor	8.0	U
309-00-2	Aldrin	8.0	U
1024-57-3	Heptachlor epoxide	8.0	U
959-98-8	Endosulfan I	8.0	U
60-57-1	Dieldrin	8.0	U
72-55-9	4,4'-DDE	6.8	I
72-20-8	Endrin	8.0	U
33213-65-9	Endosulfan II	16.	U
72-54-8	4,4'-DDD	27.	
1031-07-8	Endosulfan sulfate	16.	U
50-29-3	4,4'-DDT	12.	J
72-43-5	Methoxychlor	80.	U
53494-70-5	Endrin ketone	16.	U
5103-71-9	alpha-Chlordane	80.	U
5103-74-2	gamma-Chlordane	80.	U
8001-35-2	Toxaphene	160.	U
12674-11-2	Aroclor-1016	80.	U
11104-28-2	Aroclor-1221	80.	U
11141-16-5	Aroclor-1232	80.	U
53469-21-9	Aroclor-1242	80.	U
12672-29-6	Aroclor-1248	80.	U
11097-69-1	Aroclor-1254	160.	U
11096-82-5	Aroclor-1260	160.	U

01185

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW833

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW87

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 32. (g/mL) G Lab File ID: E0388

Level: (low/med) LOW Date Received: 12/ 2/88

% Moisture: not dec. 14. dec. 0. Date Extracted: 12/11/88

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 12/11/88

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.8	U
319-85-7	beta-BHC	8.8	U
319-86-8	delta-BHC	8.8	U
58-89-9	gamma-BHC (Lindane)	8.8	U
76-44-8	Heptachlor	8.8	U
309-00-2	Aldrin	8.8	U
1024-57-3	Heptachlor epoxide	8.8	U
959-98-8	Endosulfan I	8.8	U
60-57-1	Dieldrin	6.0	J
72-55-9	4,4'-DDE	26.	
72-20-8	Endrin	8.8	U
33213-65-9	Endosulfan II	18.	U
72-54-8	4,4'-DDD	420.	
1031-07-8	Endosulfan sulfate	18.	U
50-29-3	4,4'-DDT	45.	
72-43-5	Methoxychlor	88.	U
53494-70-5	Endrin ketone	18.	U
5103-71-9	alpha-Chlordane	88.	U
5103-74-2	gamma-Chlordane	88.	U
8001-35-2	Toxaphene	180.	U
12674-11-2	Aroclor-1016	88.	U
11104-28-2	Aroclor-1221	88.	U
11141-16-5	Aroclor-1232	88.	U
53469-21-9	Aroclor-1242	88.	U
12672-29-6	Aroclor-1248	88.	U
11097-69-1	Aroclor-1254	180.	U
11096-82-5	Aroclor-1260	180.	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BW807

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43048 SAS No.: 43048 SDG No.: BW874

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 1000. (g/mL) ML Lab File ID: E0328

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec.100. dec. 0. Date Extracted: 12/ 7/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/ 8/88

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.050	U
319-85-7	beta-BHC	.050	U
319-86-8	delta-BHC	.050	U
58-89-9	gamma-BHC (Lindane)	.050	U
76-44-8	Heptachlor	.050	U
309-00-2	Aldrin	.050	U
1024-57-3	Heptachlor epoxide	.050	U
959-98-8	Endosulfan I	.050	U
60-57-1	Dieldrin	.050	U
72-55-9	4,4'-DDE	.10	U
72-20-8	Endrin	.050	U
33213-65-9	Endosulfan II	.10	U
72-54-8	4,4'-DDD	.10	U
1031-07-8	Endosulfan sulfate	.10	U
50-29-3	4,4'-DDT	.10	U
72-43-5	Methoxychlor	.50	U
53494-70-5	Endrin ketone	.10	U
5103-71-9	alpha-Chlordane	.50	U
5103-74-2	gamma-Chlordane	.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	.50	U
11104-28-2	Aroclor-1221	.50	U
11141-16-5	Aroclor-1232	.50	U
53469-21-9	Aroclor-1242	.50	U
12672-29-6	Aroclor-1248	.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EW819

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 43043 SAS No.: 43043 SDG No.: EW874

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 1000. (g/mL) ML Lab File ID: 80337

Level: (low/med) LOW Date Received: 12/ /89

% Moisture: not dec.100. dec. 0. Date Extracted: 12/ 7/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/ 8/89

GPC Cleanup: (Y/N) N pH: 5.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.050	U
319-85-7	beta-BHC	.050	U
319-86-8	delta-BHC	.050	U
58-89-9	gamma-BHC (Lindane)	.050	U
76-44-8	Heptachlor	.050	U
309-00-2	Aldrin	.050	U
1024-57-3	Heptachlor epoxide	.050	U
959-98-8	Endosulfan I	.050	U
60-57-1	Dieldrin	.050	U
72-55-9	4,4'-DDE	.10	U
72-20-8	Endrin	.050	U
33213-65-9	Endosulfan II	.10	U
72-54-8	4,4'-DDD	.10	U
1031-07-8	Endosulfan sulfate	.10	U
50-29-3	4,4'-DDT	.10	U
72-43-5	Methoxychlor	.50	U
53494-70-5	Endrin ketone	.10	U
5103-71-9	alpha-Chlordane	.50	U
5103-74-2	gamma-Chlordane	.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	.50	U
11104-28-2	Aroclor-1221	.50	U
11141-16-5	Aroclor-1232	.50	U
53469-21-9	Aroclor-1242	.50	U
12672-29-6	Aroclor-1248	.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

PESTICIDE [illegible] ANALYSIS DATA SHEET

EW-8

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 21048 SAS No.: SDG No.: EW87

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 1000. (g/mL) ML Lab File ID: E0318

Level: (low/med) LOW Date Received: 12/ 2.88

% Moisture: not dec.100. dec. 0. Date Extracted: 12 7 88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/ 8.88

GPC Cleanup: (Y/N) N pH: 5.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.050	U
319-85-7	beta-BHC	.050	U
319-86-8	delta-BHC	.050	U
58-89-9	gamma-BHC (Lindane)	.050	U
76-44-8	Heptachlor	.050	U
309-00-2	Aldrin	.050	U
1024-57-3	Heptachlor epoxide	.050	U
959-98-8	Endosulfan I	.050	U
60-57-1	Dieldrin	.050	U
72-55-9	4,4'-DDE	.10	U
72-20-8	Endrin	.050	U
33213-65-9	Endosulfan II	.10	U
72-54-8	4,4'-DDD	.10	U
1031-07-8	Endosulfan sulfate	.10	U
50-29-3	4,4'-DDT	.10	U
72-43-5	Methoxychlor	.50	U
53494-70-5	Endrin ketone	.10	U
5103-71-9	alpha-Chlordane	.50	U
5103-74-2	gamma-Chlordane	.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	.50	U
11104-28-2	Aroclor-1221	.50	U
11141-16-5	Aroclor-1232	.50	U
53469-21-9	Aroclor-1242	.50	U
12672-29-6	Aroclor-1248	.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

Title: Evaluation of Metals Data for the Contract Laboratory Program
Appendix A.2: Data Acceptability Narrative

Date: Feb. 1988
Number: HW-2
Revision: 7

Case# 4304D Site SAG HARBOR Matrix: Soil 11
Lab CHEMTECH Water 3
Other

A.2.1 Are all data of acceptable quality? Yes ____ No X

If no, list exceptions with reason(s) for rejection or qualification as estimated value (J).

1) RB Values >2X IDL for Cr, Cu, Hg, Fe. The following DATA WAS rejected because of these High blank values. Cr on MBT 298-301, 303-305, 307-309; Cu on MBT 299-301, 303-304, 307-309; Hg on MBT 298-301, 303-309. Fe DATA WAS NOT rejected BASED upon this criterion because sample concentrations >5X RB concentrations.

2) Zn rejected on the Field Dup. pair (MBT 308-~~309~~ 307) because conc. Differ. >2XCRDL where 1 value >5XCRDL AND both values >CRDL. Hg ALSO would have ~~Also would have been rejected on the Field Dup. pair because RPD >100% but was already rejected in 1) above~~ been rejected for this pair based upon this criterion but was rejected in 1) above

3) Pb DATA rejected on MBT 311-313 because LCS % R was 21%. Se DATA flagged with "J" on MBT 311-313 because there is no data for the aqueous LCS for Se.

4) ICP Ser. Dil ANALYSIS WAS NOT CARRIED OUT. Therefore the following ICP parameters AT >10X IDL concentrations are flagged with "J" for estimated results. Al on 298-301, 303-309; Ba on 298, 301, 303-304; Ca on 298, 300, 301, 303-304, 307; Cr on 298, 301, 306-306, 309; Cu on 298-301, 303-306, 309; Fe on 298-301, 303-305; Mg on 298-299, 301, 303-305; Mg on 298, 305-306; Mn on 298-301, 303-309; K on 298, 305; Zn on 298-301, 303-307, 309; Hg on 301; Cr on MBT 313.

5) The lab did not analyze for Pb by graphite furnace on the soil samples (MBT 298-309). Therefore Pb results on MBT 300, 306-309 are flagged with "J"

Title: Evaluation of Metals Data for the Contract Laboratory Program
Appendix A.2: Data Acceptability Narrative

Date: Feb. 198
Number: HW-2
Revision: 7

A.2.1 (continuation)

6) MATRIX SPIKE recovery was 446% for Se on the soil matrix sample MBT 299S. Se values were flagged as "J" on MBT 299. ~~AT~~ Sb A 205% recovery on this spiked sample. Sb DATA ON MBT 304-306 were flagged with "J" ~~[illegible] was previously flagged for reason listed in 1) ABO~~

7) Pb ANALYZED BY GRAPHITE FURN. HAD NO LAB DUPLICATE ANALYZED - the soil MATRIX LAB DUP. (MBT 299D) positive. Pb (F) DATA would have been flagged with "J" for this reason but DATA is already flagged with "J" because of the reason listed in 5) ABOVE.

CONTRACT PROBLEMS/NON-COMPLIANCE

1) All K DATA ANALYZED by FLAME AA ON Soils was calculated incorrectly. LAB was notified and will resubmit corrected FORM I'S

2) All CN DATA on Soils were computed incorrectly. The LAB was notified and will resubmit corrected FORM I'S. CN DATA off BY 1000% - K DATA off BY 250%.

~~A.2.2~~ Contract Problems/Non-compliance

3) No IDL log for K (A) is present.

4) THE IDL for As = 5.0 ug/l. Yet the LAB reports DATA 3.0 U

5) THE DATA PACKAGE WAS NOT PAGINATED

6) THE PREP BLK for soils indicates DATA is reported in mg/kg. Actual LAB reported ug/l

7) The LAB uses NOTATIONS "U" & "B" incorrectly on the soil SAMP

8) The LAB reported incorrect EPA sample numbers on the FORM I for seven of the 11 soil samples.

MMB Reviewer: _____ Date: _____
Signature

Contractor Reviewer: [signature] Date: 1/26/89
Signature

Verified by: [signature] Date: 2-7-89

1) LAB does not list CASE # on FORMS 1-13.

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBT298

SOW No.: 7/87

EPA Sample No.	Lab Sample ID.
MBT298	90040-01S
MBT299	90040-02S
MBT299D	90040-02S2
MBT299S	90040-02DS
MBT300	90040-03S
MBT301	90040-04S
MBT303	90040-05S
MBT304	90040-06S
MBT305	90040-07S
MBT306	90040-08S
MBT307	90040-09S
MBT308	90040-10S
MBT309	90040-11S
MBT311	90040-12S
MBT311D	90040-12S2
MBT311S	90040-12DS
MBT312	90040-13S
MBT313	90040-14S

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

These forms are resubmitted to Region II as per request.

T

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Lab Manager: J. Kriesly

Date: 1/26/89

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBT298

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBT298

Matrix (soil/water): SOIL Lab Sample ID: 90040-01S

Level (low/med): LOW Date Received: 12/01/88

% Solids: 79.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3450.00		J	P
7440-36-0	Antimony	10.10	U	N	P
7440-38-2	Arsenic	15.90			F
7440-39-3	Barium	117.00		J	P
7440-41-7	Beryllium	0.50	U		P
7440-41-7	Cadmium	4.20			P
7440-70-2	Calcium	5150.00			P
7440-47-3	Chromium	~~20.30~~			P
7440-48-4	Cobalt	3.00	B		P
7440-50-8	Copper	125.00			P
7439-89-6	Iron	13800.00			P
7439-92-1	Lead	314.00		*	P
7439-95-4	Magnesium	2010.00			P
7439-96-5	Manganese	138.00			P
7439-97-6	Mercury	~~1.70~~			CV
7440-02-0	Nickel	4.80	B		P
7440-09-7	Potassium	578.00	B		A
7782-49-2	Selenium	0.52	B	WNW	F
7440-22-4	Silver	1.80	U		P
7440-23-5	Sodium	450.00	B		P
7440-28-0	Thallium	1.30	U		F
7440-62-2	Vanadium	10.50	B		P
7440-66-6	Zinc	666.00		J	P
	Cyanide	~~0.63~~	U		C

Color Before: BLACK Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBT299

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBT299

Matrix (soil/water): SOIL Lab Sample ID: 90040-02S

Level (low/med): LOW Date Received: 12/01/88

% Solids: 84.7

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2000.00			P
7440-36-0	Antimony	9.40	U	N	P
7440-38-2	Arsenic	5.70			F
7440-39-3	Barium	23.60	B		P
7440-41-7	Beryllium	0.47	U		P
7440-41-7	Cadmium	1.20	U		P
7440-70-2	Calcium	690.00	B		P
7440-47-3	Chromium	~~3.10~~			P
7440-43-4	Cobalt	0.96	B		P
7440-50-8	Copper	~~22.70~~			P
7439-89-6	Iron	4650.00			P
7439-92-1	Lead	23.90		*	P
7439-95-4	Magnesium	327.00	B		P
7439-96-5	Manganese	26.30			P
7439-97-6	Mercury	~~1.10~~			CV
7440-02-0	Nickel	1.90	U		P
7440-09-7	Potassium	213.00	B		A
7782-49-2	Selenium	0.47	U	NW	F
7440-22-4	Silver	1.70	U		P
7440-23-5	Sodium	437.00	B		P
7440-28-0	Thallium	1.20	U	W	F
7440-62-2	Vanadium	4.70	B		P
7440-66-6	Zinc	64.40			P
	Cyanide	1.20	U		C

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: ___

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBT300

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBT298

Matrix (soil/water): SOIL Lab Sample ID: 90040-03S

Level (low/med): LOW Date Received: 12/01/88

% Solids: 84.8

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2810.00		J	P
7440-36-0	Antimony	9.40	U	N	P
7440-38-2	Arsenic	1.80	B		F
7440-39-3	Barium	23.10	B		P
7440-41-7	Beryllium	0.47	U		P
7440-41-7	Cadmium	1.20	U		P
7440-70-2	Calcium	2040.00		J	P
7440-47-3	Chromium	~~9.00~~			P
7440-48-4	Cobalt	0.94	U		P
7440-50-8	Copper	~~16.40~~		J	P
7439-89-6	Iron	5250.00		J	P
7439-92-1	Lead	11.00		J*	F
7439-95-4	Magnesium	893.00	B		P
7439-96-5	Manganese	85.20		J	P
7439-97-6	Mercury	~~1.90~~			CV
7440-02-0	Nickel	1.90	U		P
7440-09-7	Potassium	259.00	B		A
7782-49-2	Selenium	0.47	U	NW	F
7440-22-4	Silver	1.70	U		P
7440-23-5	Sodium	401.00	B		P
7440-28-0	Thallium	1.20	U		F
7440-62-2	Vanadium	5.50	B		P
7440-66-6	Zinc	50.50			P
	Cyanide	1.20	U		C

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: ___

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBT301

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: SDG No.: MBT293

Matrix (soil/water): SOIL Lab Sample ID: 90040-04S

Level (low/med): LOW Date Received: 12/01/88

% Solids: 47.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3930.00			P
7440-36-0	Antimony	16.80	U	N	P
7440-38-2	Arsenic	5.30			F
7440-39-3	Barium	235.00			P
7440-41-7	Beryllium	0.84	U		P
7440-41-7	Cadmium	4.60			P
7440-70-2	Calcium	3730.00			P
7440-47-3	Chromium	~~18.30~~			P
7440-48-4	Cobalt	1.70	U		P
7440-50-8	Copper	~~38.60~~			P
7439-89-6	Iron	14300.00			P
7439-92-1	Lead	72.20		*	P
7439-95-4	Magnesium	1010.00	B		P
7439-96-5	Manganese	82.70			P
7439-97-6	Mercury	~~2.50~~			CV
7440-02-0	Nickel	3.40	U		P
7440-09-7	Potassium	735.00	B		A
7782-49-2	Selenium	0.84	U	NW	F
7440-22-4	Silver	24.90			P
7440-23-5	Sodium	765.00	B		P
7440-28-0	Thallium	2.10	U		F
7440-62-2	Vanadium	9.10	B		P
7440-66-6	Zinc	123.00			P
	Cyanide	10.50	U		C

Color Before: BROWN Clarity Before: ____ Texture: MEDIUM

Color After: BROWN Clarity After: ____ Artifacts: ___

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MBT303

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBT303

Matrix (soil/water): SOIL Lab Sample ID: 90040-05S

Level (low/med): LOW Date Received: 12/01/88

% Solids: 75.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1760.00			P
7440-36-0	Antimony	10.60	U	N	P
7440-38-2	Arsenic	2.40	B		F
7440-39-3	Barium	730.00		J	P
7440-41-7	Beryllium	0.53	U		P
7440-41-7	Cadmium	2.30			P
7440-70-2	Calcium	13100.00		J	P
7440-47-3	Chromium	~~24.30~~		J	P
7440-48-4	Cobalt	1.10	U		P
7440-50-8	Copper	~~33.00~~		J	P
7439-89-6	Iron	7530.00			P
7439-92-1	Lead	325.00		J*	P
7439-95-4	Magnesium	1210.00	B		P
7439-96-5	Manganese	79.20		J	P
7439-97-6	Mercury	~~2.70~~			CV
7440-02-0	Nickel	3.10	B		P
7440-09-7	Potassium	213.00	B		A
7782-49-2	Selenium	0.53	U	NW	F
7440-22-4	Silver	2.50	B		P
7440-23-5	Sodium	674.00	B		P
7440-28-0	Thallium	1.30	U		F
7440-62-2	Vanadium	4.00	B		P
7440-66-6	Zinc	485.00		J	P
_____	Cyanide	1.30	U		C

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBT004

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBT003

Matrix (soil/water): SOIL Lab Sample ID: 90040-06S

Level (low/med): LOW Date Received: 12/01/88

% Solids: 58.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4510.00		J	P
7440-36-0	Antimony	16.50	B	N J	P
7440-38-2	Arsenic	5.80		S	F
7440-39-3	Barium	195.00		J	P
7440-41-7	Beryllium	0.68	U		P
7440-41-7	Cadmium	4.10		J	P
7440-70-2	Calcium	6500.00		J	P
7440-47-3	Chromium	~~16.30~~		J	P
7440-48-4	Cobalt	3.00	B		P
7440-50-8	Copper	~~57.70~~		J	P
7439-89-6	Iron	13000.00		J	P
7439-92-1	Lead	394.00		J*	P
7439-95-4	Magnesium	702.00	B		P
7439-96-5	Manganese	331.00		J	P
7439-97-6	Mercury	~~0.86~~			CV
7440-02-0	Nickel	6.30	B		P
7440-09-7	Potassium	411.00	B		A
7782-49-2	Selenium	0.68	U	NW	F
7440-22-4	Silver	2.40	U		P
7440-23-5	Sodium	872.00	B		P
7440-28-0	Thallium	1.70	U	W	F
7440-62-2	Vanadium	13.40	B		P
7440-66-6	Zinc	460.00		J	P
	Cyanide	1.70	U		C

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBT305

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBT306

Matrix (soil/water): SOIL Lab Sample ID: 90040-07S

Level (low/med): LOW Date Received: 12/01/88

% Solids: 81.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11100.00			P
7440-36-0	Antimony	24.60		N	P
7440-38-2	Arsenic	63.90			F
7440-39-3	Barium	59.30			P
7440-41-7	Beryllium	0.49	U		P
7440-41-7	Cadmium	3.80			P
7440-70-2	Calcium	4040.00			P
7440-47-3	Chromium	~~48.20~~			P
7440-48-4	Cobalt	2.60	B		P
7440-50-8	Copper	69.40			P
7439-89-6	Iron	11400.00			P
7439-92-1	Lead	55.90		*	P
7439-95-4	Magnesium	2190.00			P
7439-96-5	Manganese	90.90			P
7439-97-6	Mercury	~~1.50~~			CV
7440-02-0	Nickel	7.70	B		P
7440-09-7	Potassium	1080.00	B		A
7782-49-2	Selenium	0.49	U	NW	F
7440-22-4	Silver	1.70	U		P
7440-23-5	Sodium	514.00	B		P
7440-28-0	Thallium	1.20	U	W	F
7440-62-2	Vanadium	18.80			P
7440-66-6	Zinc	58.00			P
_____	Cyanide	1.20	U		C

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBT306

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBT306

Matrix (soil/water): SOIL Lab Sample ID: 90040-08S

Level (low/med): LOW Date Received: 12/01/88

% Solids: 89.0

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6890.00			P
7440-36-0	Antimony	17.40		N	P
7440-38-2	Arsenic	19.10			F
7440-39-3	Barium	43.20	B		P
7440-41-7	Beryllium	0.45	U		P
7440-41-7	Cadmium	3.30			P
7440-70-2	Calcium	5170.00			P
7440-47-3	Chromium	94.60			P
7440-48-4	Cobalt	2.10	B		P
7440-50-8	Copper	43.70			P
7439-89-6	Iron	8820.00			P
7439-92-1	Lead	12.40		*	F
7439-95-4	Magnesium	2330.00			P
7439-96-5	Manganese	113.00			P
7439-97-6	Mercury	~~2.10~~			CV
7440-02-0	Nickel	6.00	B		P
7440-09-7	Potassium	427.00	B		A
7782-49-2	Selenium	0.45	U	NW	F
7440-22-4	Silver	1.60	U		P
7440-23-5	Sodium	391.00	B		P
7440-28-0	Thallium	1.10	U		F
7440-62-2	Vanadium	13.10			P
7440-66-6	Zinc	70.30			P
_____	Cyanide	1.10	U		C

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBT307

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBT309

Matrix (soil/water): SOIL Lab Sample ID: 90043-093

Level (low/med): LOW Date Received: 12/01/88

% Solids: 96.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3430.00			P
7440-36-0	Antimony	8.30	U	N	P
7440-38-2	Arsenic	2.50			F
7440-39-3	Barium	20.20	B		P
7440-41-7	Beryllium	0.41	U		P
7440-41-7	Cadmium	1.00	U		P
7440-70-2	Calcium	571.00	B		P
7440-47-3	Chromium	~~4.20~~			P
7440-48-4	Cobalt	0.83	U		P
7440-50-8	Copper	~~14.70~~			P
7439-89-6	Iron	4870.00			P
7439-92-1	Lead	9.20		*	F
7439-95-4	Magnesium	625.00	B		P
7439-96-5	Manganese	93.40			P
7439-97-6	Mercury	~~1.90~~			CV
7440-02-0	Nickel	2.10	B		P
7440-09-7	Potassium	352.00	B		A
7782-49-2	Selenium	0.41	U	NW	F
7440-22-4	Silver	1.40	U		P
7440-23-5	Sodium	384.00	B		P
7440-28-0	Thallium	1.00	U	W	F
7440-62-2	Vanadium	5.40	B		P
7440-66-6	Zinc	~~25.90~~			P
_____	Cyanide	1.00	U		C

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBT[illegible]

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBT[illegible]

Matrix (soil/water): SOIL Lab Sample ID: 90040-10[illegible]

Level (low/med): LOW Date Received: 12/01/88

% Solids: 97.8

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2230.00			P
7440-36-0	Antimony	8.20	U	N	P
7440-38-2	Arsenic	2.00	B		F
7440-39-3	Barium	12.50	B		P
7440-41-7	Beryllium	0.41	U		P
7440-41-7	Cadmium	1.00	U		P
7440-70-2	Calcium	434.00	B		P
7440-47-3	Chromium	~~6.00~~			P
7440-48-4	Cobalt	0.82	U		P
7440-50-8	Copper	~~13.00~~			P
7439-89-6	Iron	3070.00		J	P
7439-92-1	Lead	11.80		J*S	F
7439-95-4	Magnesium	444.00	B		P
7439-96-5	Manganese	58.60		J	P
7439-97-6	Mercury	~~0.61~~			CV
7440-02-0	Nickel	2.30	B		P
7440-09-7	Potassium	245.00	B		A
7782-49-2	Selenium	0.41	U	NW	F
7440-22-4	Silver	1.40	U		P
7440-23-5	Sodium	337.00	B		P
7440-28-0	Thallium	1.00	U	W	F
7440-62-2	Vanadium	4.30	B		P
7440-66-6	Zinc	~~14.00~~			P
_____	Cyanide	1.00	U		C

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBT009

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4004B SDG No.: MBT008

Matrix (soil/water): SOIL Lab Sample ID: 90040-11S

Level (low/med): LOW Date Received: 12/01/88

% Solids: 78.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1950.00			P
7440-36-0	Antimony	10.20	U	N	P
7440-38-2	Arsenic	1.90	B		F
7440-39-3	Barium	19.60	B		P
7440-41-7	Beryllium	0.51	U		P
7440-41-7	Cadmium	1.40			P
7440-70-2	Calcium	1530.00			P
7440-47-3	Chromium	~~20.10~~			P
7440-48-4	Cobalt	1.00	U		P
7440-50-8	Copper	~~22.70~~			P
7439-89-6	Iron	4120.00			P
7439-92-1	Lead	7.00		*	F
7439-95-4	Magnesium	526.00	B		P
7439-96-5	Manganese	62.00			P
7439-97-6	Mercury	~~0.64~~			CV
7440-02-0	Nickel	2.00	U		P
7440-09-7	Potassium	331.00	B		A
7782-49-2	Selenium	0.51	U	NW	F
7440-22-4	Silver	1.80	U		P
7440-23-5	Sodium	356.00	B		P
7440-28-0	Thallium	1.30	U	W	F
7440-62-2	Vanadium	9.10	B		P
7440-66-6	Zinc	51.30			P
	Cyanide	1.30	U		C

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBT011

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBT009

Matrix (soil/water): WATER Lab Sample ID: 90040-10S

Level (low/med): LOW Date Received: 12/01/88

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	169.00	B		P
7440-36-0	Antimony	40.00	U		P
7440-38-2	Arsenic	3.00	U	W	F
7440-39-3	Barium	40.00	U		P
7440-41-7	Beryllium	2.00	U		P
7440-41-7	Cadmium	5.00	U		P
7440-70-2	Calcium	1300.00	B		P
7440-47-3	Chromium	38.80			P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	37.80			P
7439-89-6	Iron	635.00			P
7439-92-1	Lead	~~4.50~~	~~B~~	~~W~~	F
7439-95-4	Magnesium	600.00	U		P
7439-96-5	Manganese	9.00	U		P
7439-97-6	Mercury	4.80			CV
7440-02-0	Nickel	8.00	U		P
7440-09-7	Potassium	1000.00	U		A
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	8.80	B		P
7440-23-5	Sodium	600.00	U		P
7440-28-0	Thallium	5.00	U		F
7440-62-2	Vanadium	12.00	U		P
7440-66-6	Zinc	17.10	B		P
	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBLJ12

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBTJ00

Matrix (soil/water): WATER Lab Sample ID: 90040-10S

Level (low/med): LOW Date Received: 12/01/88

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	100.00	U		P
7440-36-0	Antimony	40.00	U		P
7440-38-2	Arsenic	3.00	U		F
7440-39-3	Barium	40.00	U		P
7440-41-7	Beryllium	2.00	U		P
7440-41-7	Cadmium	5.00	U		P
7440-70-2	Calcium	1140.00	B		P
7440-47-3	Chromium	14.40			P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	24.40	B		P
7439-89-6	Iron	178.00			P
7439-92-1	Lead	~~2.00~~	~~B~~		F
7439-95-4	Magnesium	600.00	U		P
7439-96-5	Manganese	9.00	U		P
7439-97-6	Mercury	0.50			CV
7440-02-0	Nickel	8.00	U		P
7440-09-7	Potassium	500.00	U		A
7782-49-2	Selenium	2.00	U	W	F
7440-22-4	Silver	7.00	U		P
7440-23-5	Sodium	646.00	B		P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	12.00	U		P
7440-66-6	Zinc	14.60	B		P
_____	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBT013

Lab Name: Chemtech Consulting Group Contract: 68-W8-0061

Lab Code: CHEM Case No.: SAS No.: 4304B SDG No.: MBT013

Matrix (soil/water): WATER Lab Sample ID: 90643-11S

Level (low/med): LOW Date Received: 12/01/93

% Solids: 0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	105.00	B		P
7440-36-0	Antimony	40.00	U		P
7440-38-2	Arsenic	3.00	U	W	F
7440-39-3	Barium	40.00	U		P
7440-41-7	Beryllium	2.00	U		P
7440-41-7	Cadmium	5.00	U		P
7440-70-2	Calcium	1650.00	B		P
7440-47-3	Chromium	64.40			P
7440-48-4	Cobalt	4.00	U		P
7440-50-8	Copper	25.40			P
7439-89-6	Iron	272.00			P
7439-92-1	Lead	~~1.00~~	U		F
7439-95-4	Magnesium	600.00	U		P
7439-96-5	Manganese	9.00	U		P
7439-97-6	Mercury	2.30			CV
7440-02-0	Nickel	8.00	U		P
7440-09-7	Potassium	500.00	U		A
7782-49-2	Selenium	2.00	U		F
7440-22-4	Silver	11.30			P
7440-23-5	Sodium	728.00	B		P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	12.00	U		P
7440-66-6	Zinc	29.40			P
_____	Cyanide	5.00	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: ___

Comments:

REFERENCE NO. 37

LILCO
LONG ISLAND LIGHTING

LONG ISLAND LIGHTING COMPANY

175 EAST OLD COUNTRY ROAD · HICKSVILLE, NEW YORK 11801

Direct Dial Number

February 6, 1989

Ms. Debra Cohen
NUS Corp.
1090 King Georges Post Road
Suite 1103
Edison, New Jersey 08837

Dear Ms. Cohen:

Attached as you requested, is a historical print of the former gas manufacturing facility at the Sag Harbor site. This is the most complete print that LILCO has available.

If you have any questions, please feel free to call me at (516) 420-6132 or Mr. Richard J. Schmitz of my staff at (516) 420-6143.

Very truly yours,

Steven V. Dalton
Manager
Environmental Sciences Division

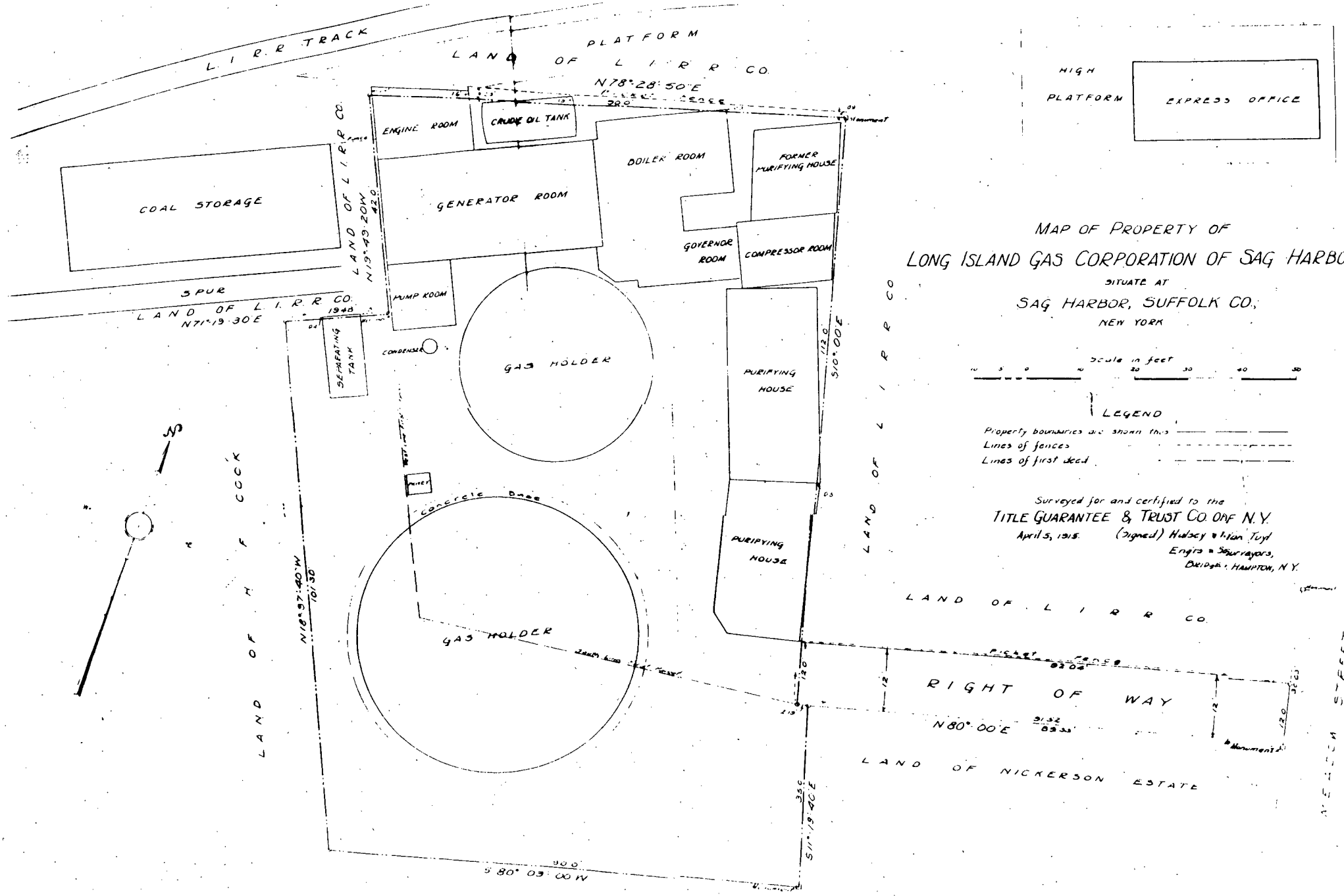
SVD/cad

Attachment

RECEIVED
REGION II
SENT TO

NUS CORPORATION	TITLE: FOUR MILE VICINITY MAP
	SITE: SAG HARBOR–BRIDGE STREET, SAG HARBOR, N.Y.
DATE: 07/25/88	
TDD: 02-8807-05	
QUAD: SAG HARBOR/ GREENPORT, N.Y.	FIGURE NUMBER:
	SCALE: 1"= 2000'

REFERENCE NO. 38



MAP OF PROPERTY OF
LONG ISLAND GAS CORPORATION OF SAG HARBOR
SITUATE AT
SAG HARBOR, SUFFOLK CO.,
NEW YORK
Scale in feet
LEGEND
Property boundaries are shown thus
Lines of fences
Lines of first deed
Surveyed for and certified to the
TITLE GUARANTEE & TRUST CO. OF N.Y.
April 5, 1915.
(Signed) Halsey & Van Tuyl
Engrs & Surveyors,
Bridge, HAMPTON, N.Y.
L. I. R. R. TRACK
LAND OF L. I. R. R. CO.
PLATFORM
N78°28'50"E
HIGH PLATFORM
EXPRESS OFFICE
COAL STORAGE
ENGINE ROOM
CRUDE OIL TANK
GENERATOR ROOM
BOILER ROOM
FORMER PURIFYING HOUSE
GOVERNOR ROOM
COMPRESSOR ROOM
PUMP ROOM
SEPARATING TANK
CONDENSER
GAS HOLDER
PURIFYING HOUSE
PURIFYING HOUSE
GAS HOLDER
Concrete Base
SPUR
LAND OF L. I. R. R. CO.
N71°19'30"E
LAND OF L. I. R. R. CO.
N19°49'20"W
LAND OF L. I. R. R. CO.
S10°00'E
LAND OF H. F. COCK
N18°37'40"W
101.30
S80°03'00"W
S11°19'40"E
LAND OF L. I. R. R. CO.
RIGHT OF WAY
N80°00'E
LAND OF NICKERSON ESTATE
MEADOW STREET

NOTE

THIS DRAWING COVERS A PORTION OF THIS PROPERTY. BEARINGS ARE FOR THIS PORTION ONLY. SEE DWG. F-404 REV 4 & F-15460 REV 2 FOR STRUCTURES & EQUIPMENT ON THIS PROPERTY. STRUCTURES AS SHOWN IN THIS DWG. ARE INCORRECT.

ADDED NOTE (NOT ISSUED)

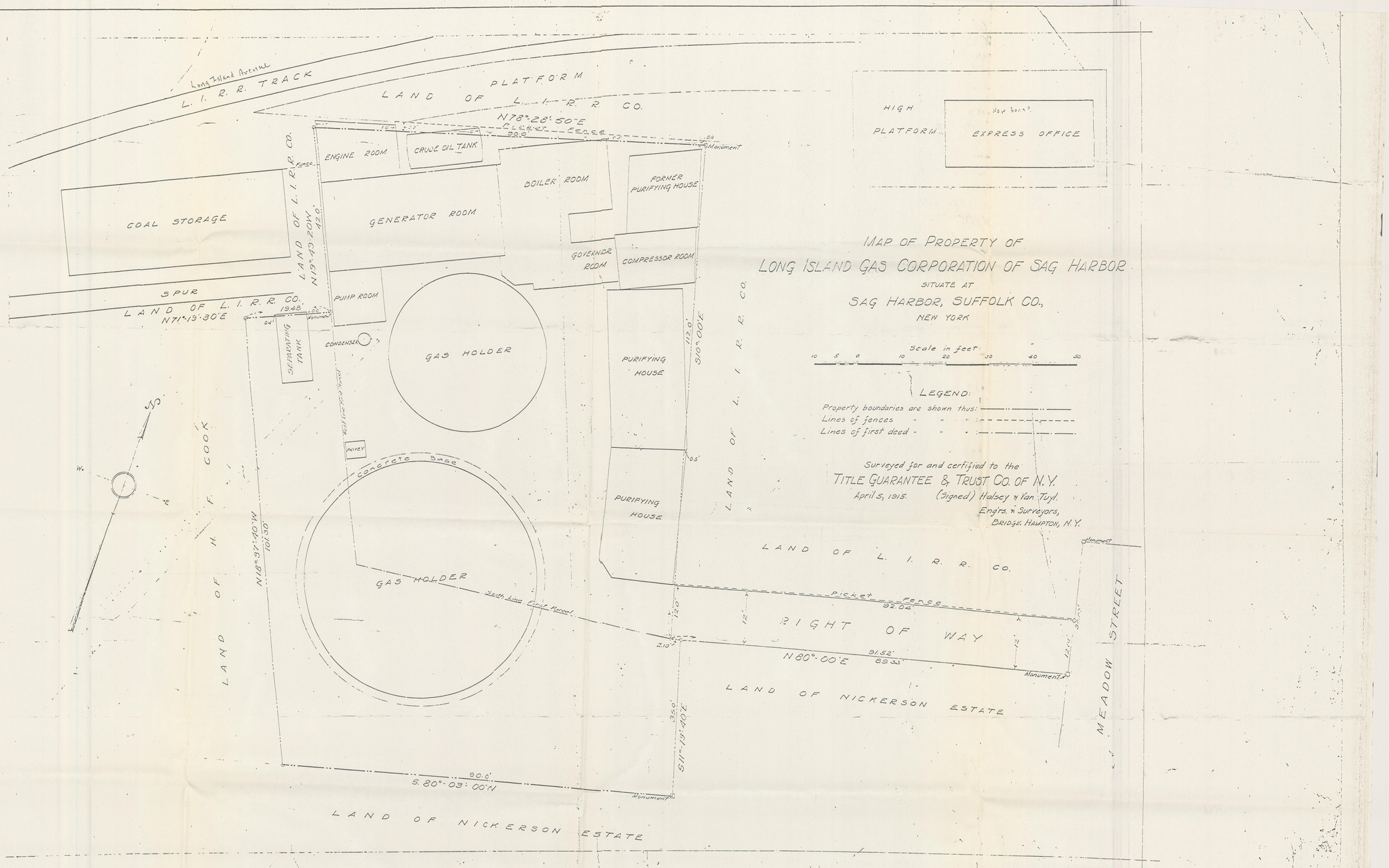
10/15/30 Bearings Added C.R.L.

E.G. 4-22-75

229

Bdg Plan

6/22



MAP OF PROPERTY OF
LONG ISLAND GAS CORPORATION OF SAG HARBOR
SITUATE AT
SAG HARBOR, SUFFOLK CO.,
NEW YORK

Scale in feet:
10 5 0 10 20 30 40 50

LEGEND:
Property boundaries are shown thus:
Lines of fences " " "
Lines of first deed " " "

Surveyed for and certified to the
TITLE GUARANTEE & TRUST CO. OF N.Y.
April 5, 1915. (Signed) Halsey & Van Tuyl.
Engrs. & Surveyors,
BRIDGE HAMPTON, N.Y.

NOTE
THIS DRAWING COVERS A PORTION OF THIS PROPERTY
BEARINGS ARE FOR THIS PORTION ONLY. SEE DWG. F-404 REV. 4
& F-16460 REV. 2 FOR STRUCTURES & EQUIPMENT ON THIS PROPERTY.
STRUCTURES AS SHOWN ON THIS DWG. ARE INCORRECT.

ADDED NOTE (NOT ISSUED)
10/15/30 Bearings Added C.R.L.

2290-1

PEDNEAULT ASSOCIATES, INC. TESTING LABORATORIES
1615 NINTH AVENUE P.O. BOX 205 BOHEMIA, N.Y. 11716 (516) 467-8477
AFTER 5 P.M. (516) 567-5579

Nov 7

November 5, 1984

To: New York State Department of Environmental Conservation
Building 40
SUNY at Stony Brook
Stony Brook, New York 11790

Re: Long Island Fisherman
Bridge Street
Sag Harbor, New York

As per your request, we have analyzed the soil sample marked "Soil Sample from North side of Building," and we find as follows:

Gas chromatography scans reveal the presence of several arochlors most notably 1248 and 1254. Further, there was a small amount of the pesticide Chlordane. Neither the chlordane nor the arochlors could be accurately measured, because several important peaks were either missing or masked.

Sincerely,

John Pednault
Laboratory Director

REFERENCE NO. 39

THE 7TH NATIONAL CONFERENCE ON

MANAGEMENT OF UNCONTROLLED HAZARDOUS WASTE SITES

DECEMBER 1-3, 1986 • WASHINGTON, DC

AFFILIATES

Hazardous Materials Control Research Institute
U.S. Environmental Protection Agency
U.S. Army Corps of Engineers
U.S. Geological Survey
Agency for Toxic Substances & Disease Registry
American Society of Civil Engineers
Association of Engineering Geologists
Department of Defense
National Environmental Health Association
National Lime Association
National Solid Waste Management Association

Town Gas Plants—History, Problems And Approaches to Study

G.J. Anastos, Ph.D., P.E.
G.M. Johnson, P.E.
R.M. Schapot
V.G. Velez

Roy F. Weston, Inc.
West Chester, Pennsylvania

ABSTRACT

Town gas plant sites are receiving increasing attention from the utility industry and regulatory communities. This attention has been prompted by greater environmental awareness of impacts due to past disposal practices and the understanding that gas plant wastes contain a wide range of chemical constituents that have persisted in the environment.

This paper discusses the history of the town gas plant industry, the various processes utilized and the resultant by-products and wastes. Potential problem areas relating to these sites as well as potential approaches to site characterization are addressed. Included are recommendations for the phasing of site investigations and the use of relatively inexpensive and rapid field screening techniques to identify contamination.

INTRODUCTION

Town gas plants, utilized throughout the United States in the late 1800s and early 1900s to manufacture gas for illumination, cooking and heating purposes, are of growing concern to the utility industry and regulatory communities. These plants (well over 1,000 across the country), as well as gas storage holders, gas cleanup areas and waste and by-product disposal areas, are undergoing scrutiny because of the array of wastes that were generated and/or disposed of at many of these sites. The wastes commonly found at these sites can contain heavy metals, cyanides, phenolics, polynuclear aromatics and volatile compounds. Some of these chemical constituents can be characterized as mobile, while others are persistent in the environment.

This paper discusses the history of town gas plants, the potential problems posed by town gas plant sites and site characterization procedures to evaluate these sites. Cost-saving field screening techniques developed to identify volatiles and polynuclear aromatic compounds will be discussed.

This paper also will discuss a ranking system that has been implemented successfully to prioritize site characterization at multiple sites. This system will interest utilities confronted with multiple site evaluations. In some cases, this ranking system has been used as a basis for selecting the no action alternative.

HISTORY OF TOWN GAS PLANTS

Town gas plants had their roots in the 1700s with the discovery that coal carbonization was a major means of producing coal gas, coal tar, light oils, coke and ammonia liquor. These by-products were utilized as source materials for the production of various materials used in diverse industries. Manufactured gas was initially a major source of fuel for illumination in many cities in England, Germany and the United States. The uses of manufactured gas expanded to include those which utilize natural gas today.

In addition to manufactured gas, the use of coal tars and light oils grew to major importance in the chemical manufacturing industry. The tars and oils were used as base materials for the formulation of a variety of products, including paints and coatings, road tars, roofing and water-proofing materials, pipeline enamels, fiber conduit and fiber pipe saturants, carbon electrode binders, foundry compounds, industrial fuels and wood preserving oils and chemicals. The refined chemicals from coal tar and light oil were the starting materials for synthetic organic chemicals of the day, including dyestuffs, drugs, disinfectants, insecticides, antiseptics, flavoring components, vitamins, food preservatives, perfumes, photographic materials, plastics and elastomers. Coke and tars were used as heating materials in both the domestic (coke only) and industrial sectors.

The manufactured gas industry in the United States became prominent during the two world wars. Peak production of coal tar products in the U.S. occurred in the years prior to World War II. This era was a period of marked changes in coal tar product patterns. Petroleum asphalts became favored over road tars produced from coal and demand decreased dramatically. Creosote production fell mainly because of the reduced demand for creosoted crossties by American railroad lines. Light-oil recovery decreased due to foreign imports and the growing use of petroleum-derived products. Finally, as natural gas became available by pipeline in the northeast, it was no longer economically feasible to maintain aging facilities which produced manufactured gas for domestic use.

MANUFACTURED GAS PROCESSES

The manufactured gas processes changed significantly over the years that the industry operated. However, the basic process consisted of the following three general operations:

- *Distillation*—heating coal, coke or oil to drive off or crack organic carbon-based materials (in the presence of steam, in some cases)
- *Condensation*—cooling the manufactured gas to remove the condensible fraction (tars)
- *Purification*—washing and/or making contact with iron oxide-soaked chips and other materials to remove toxic materials from the gas

In addition to these three processes, enrichment processes were utilized in some cases. For example, carburetion was one of the earliest enrichment processes in which a petroleum distillate was mixed with the hot gases and cracked in a brick chamber. Later enrichment processes utilized catalysts to modify the chemical makeup of the gas constituents.

Manufactured gas was generated from many different processes; however, there are five basic types into which all of these processes generally fell: blue gas, carbureted water gas, coke oven gas, catalytically cracked gas and oil gas.

Blue gas (or water gas) was a mixture of carbon monoxide and hydrogen with a heating value of approximately 300 Btu/ft^3. The blue gas was produced by passing steam over coal or incandescent coke with a resultant endothermic reaction. A cyclic process of air blasts was used to control the temperature and thereby minimize the production of excess nitrogen and carbon monoxide. Figure 1

a flow diagram of a typical blue gas producer.

Carbureted water gas was basically an enriched blue gas. Hot blue gas was enriched in a carburetor with a petroleum distillate (e.g., Bunker C) and then passed through a superheater (e.g., a preheated brick chamber) to crack the distillate. Figure 2 is a flow diagram of a typical water gas producer. The process was cyclical to control excessive nitrogen and carbon dioxide contamination of the gas and reduce the overheating of the carburetor and superheater.

Coke oven gas was a mixture of hydrogen, methane, carbon monoxide and illuminants (e.g., ethylene) with a heating value of approximately 500 Btu/ft³. The gas was produced in steel coke ovens and normally was cleaned at the steel manufacturing plant to remove tars, ammonia, light oils, naphthalene and some sulfuric compounds which were sold as separate by-products. Figure 3 is a flow diagram of a typical coke oven gas process.

Catalytically cracked gas was a mixture of carbon monoxide and hydrogen with a heating value of approximately 300–400 Btu/ft³. This process was similar to carbureted water gas in that a low Btu was enriched by cracking a petroleum distillate over a nickel oxide catalyst with regulated amounts of steam.

BLUE GAS PRODUCER
GAS PROCESS FLOW

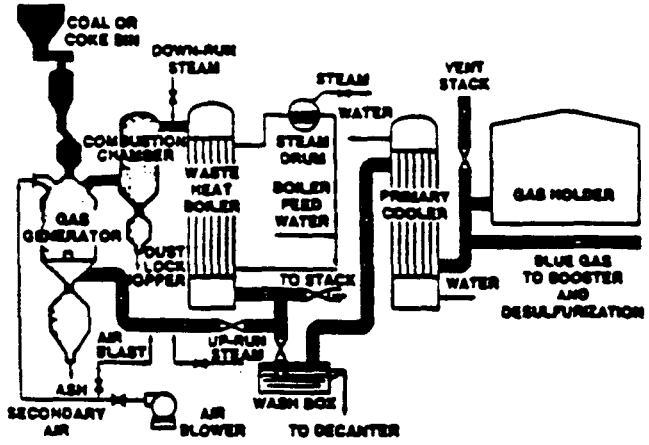


Figure 1

CARBURETED WATER GAS PRODUCER
GAS PROCESS FLOW

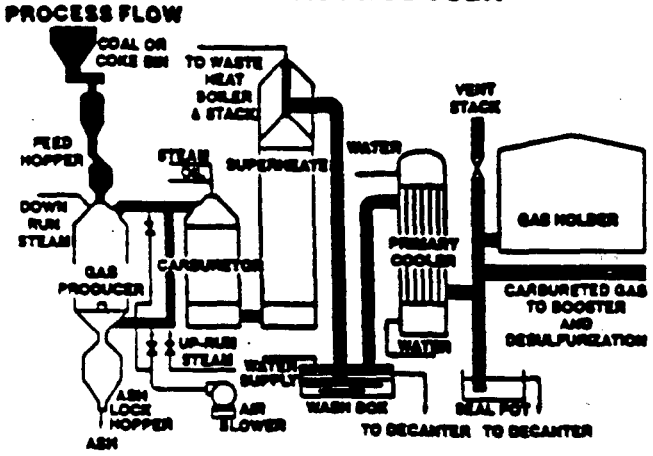


Figure 2

Oil gas was basically a cracked petroleum distillate (i.e., ranging from kerosene to Bunker C fuel oil). The oil gas was rich in methane, ethane, hydrogen and light hydrocarbons with a heating value of approximately 1,000 Btu/ft³. The thermal cracking of the petroleum distillate was achieved by spraying it onto hot brickwork (e.g., a superheater similar to that utilized in the production of carbureted water gas) or a bed of hot catalyst.

COKE OVEN
GAS PROCESS FLOW

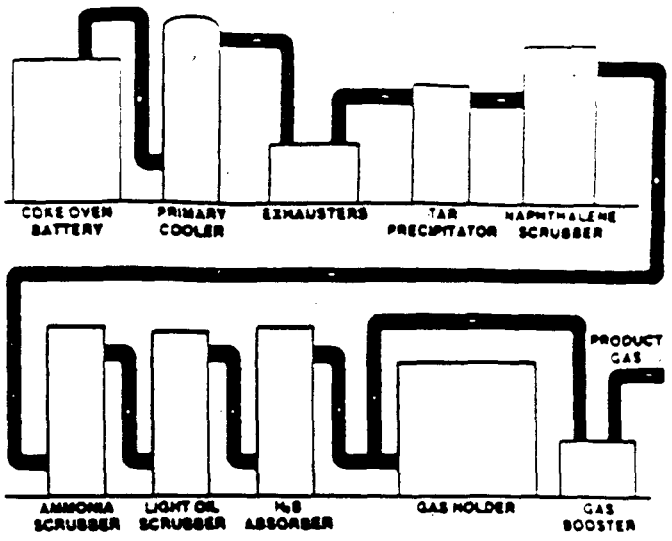


Figure 3

BY-PRODUCT/WASTE GENERATION

By-products and wastes generated by the processes of coal/coke gasification, gas cooling and gas cleaning are linked below:

Process	By-products	Wastes
Coal/Coke Gasification	Gas	Ash, slag and clinkers
Gas Cooling	Tar	Wastewater and sludges
Gas Cleaning	Clean Gas – Ammonium Sulfate	Spent iron oxide

Gas cooling resulted in the condensation of organic material that was removed as tar. Gas cleaning was performed to remove ammonia and toxic compounds. Ammonia scrubbing occurred primarily at coke oven gas facilities. Other facilities which produced carbureted water gas and catalytically cracked gas did not typically include ammonia scrubbing. The removal of ammonia occurred by simply passing the gas stream through a sulfuric acid solution with the resultant formation of ammonium sulfate that was normally sold for the production of fertilizer.

Subsequent to tar removal, toxic compounds (i.e., hydrogen sulfide and cyanide) were removed. The most common process for the removal of these compounds utilized fixed bed purifier boxes. The purifier boxes contained wooden chips that were treated with iron oxide which was used as a scavenger for hydrogen sulfide in the gases. The iron oxide was regenerated by cycling the purifier boxes (i.e., blowing air through the beds, thereby releasing sulfur dioxide into the atmosphere). Over time, the iron oxide/wood chip beds lost their usefulness because of the formation of extremely stable ferric/ferrous cyanide complexes on the wood chips.

ENVIRONMENTAL CONCERNS

In the evaluation of manufactured gas plant sites, the areas of potential concern result primarily from the following past practices:

- Spills and leaks of products/by-products during normal operation and closure of facilities
- Products/by-products that may not have been utilized or were left in place during closure (e.g., left in process pipes and tanks)
- Wastes that were deposited on-site or off-site
- Wastewaters that were discharged on-site and off-site

The specific environmental concerns relative to these operations and/or practices include

- Leaching of metals from ash, slag and clinkers land-filled on-site
- Contamination of soils, groundwater, or surface water by spent iron oxide which contains high concentrations of sulfur and significant concentrations of various cyanides. Table 1 summarizes compounds that may be identified in spent oxide waste
- Contamination of soils, groundwater or surface water by tars and light oils. These wastes typically are a complex mixture of polynuclear aromatic (PNA) compounds and phenols as shown in Table 2. Environmental concerns stem from the fact that some of these compounds are known or suspected carcinogens

Table 1
Typical Analysis of Spent Oxide[2]

Compound	Concentration (%)
Free sulfur	44.70
Moisture	18.88
Ferric monohydrate	5.26
Ferrous monohydrate	6.25
Basic ferric sulfate	1.25
Ferric ammonium ferrocyanide	3.80
Ferrocoferric ammonium ferrocyanide	2.50
Ferric pyridic ferrocyanide	1.20
Organic matter peat fiber	4.68
Tar	1.21
Silica	1.05
Naphthalene	0.72
Pyridine sulfate	0.77
Ammonium sulfate	2.06
Calcium sulfate	0.12
Ferrous sulfate	0.02
Ammonium thiocyanate	1.30
Sulfur otherwise combined	1.33
Organic matter soluble in alkalies (humus)	1.54
Combined water and loss (by difference)	2.36
	100.0

Table 2
Characteristic Compounds Found in Manufactured Gas Plant Tars[1]

Benzene
Toluene
Xylenes
Phenol
Cresols
Xylenols
Pyridine
Naphthalene
Methylnaphthalenes
Dimethylnaphthalenes
Acenaphthene
Carbazole
Fluoranthene
Anthracene
Phenanthrene
Fluoranthene
Pyrene
Chrysene
Benz(a)anthracene
Benzo(k)fluoranthene
Benzo(a)pyrene
Perylene
Benzo(g,h,i)perylene
Benzo(b)chrysene
Dibenz(a,h)anthracene

Reference: ERT/Koppers,[2]

SITE INVESTIGATIONS

The major steps in conducting site investigations and remedial studies at town gas plants are as follows

- Site Identification/Preliminary Assessment
- Site Ranking
- Phased Site Investigations
- Identification of Problem (Risk Assessment)
- Evaluation and Selection of Remedial Measures

The balance of this paper overviews each of the first three steps of the preceding paragraphs.

Site Identification/Preliminary Assessment

Identification by a utility of town gas plant sites for which it is responsible can be prompted by:

- Complaints of visible contamination either at the site or as a result of a discharge to surface water
- Interaction with other utilities due to current and/or prior ownership of a town gas plant site
- Follow-up Superfund 103CC filings on these sites
- Regulatory inquiries
- Internal concerns relative to the potential existence of these sites

Once identified, a preliminary assessment of the site to gather site-related information is advisable. This assessment should identify the potential for on-site by-product deposits, site features that would indicate potential exposure pathways and available information on site stratigraphy, geohydrology and community attitudes that would be used to design the site investigation program.

Examples of potential sources of information that can be used for the preliminary assessment are identified in Table 3. The overall objective of Site Identification/Preliminary Assessment is to develop a data base from which sites can be evaluated as to the need for future action. In such cases where a utility may have responsibilities at multiple sites, site ranking typically is utilized to prioritize the subsequent evaluations. Our firm has found cases where no further investigation was deemed necessary based upon preliminary assessments.

Table 3
Potential Sources of Information For The Preliminary Assessment

Source	Information/Remarks
Interviews with Former Employees	• Plant practices and operation • Waste disposal areas • Plant closure
Water Resources Departments (or equivalent)	• Location of wells (domestic and industrial) in site vicinity • Well boring logs (site stratigraphy) • Water quality
Utility Records	• Past plant practices and operations • Aerial photographs • Title searches • Former plant layouts
State/Local Agencies	• Regulatory requirements • Study objectives • Results from prior studies
US FEMA	• Location in 100-year flood plain
US Soil Conservation Service	• Classification of soils in site vicinity
USGS	• Location of wells • Topographical maps
Site Visit	• Evaluate site conditions • Evidence of contamination • Impediments to site investigations • Adjacent land use

Site Ranking

For utilities faced with multiple site evaluations, site prioritization may be appropriate and desirable to allocate resources in a cost-effective manner. Advantages include:

- Dedication of utility resources to those sites that are considered the most important and require additional site investigations
- A sound basis for developing site investigation schedules for multiple sites
- Prioritization of sites in response to regulatory agency inquiries

WESTON uses a modification of the Edison Electric Institute Ranking System in its approach to ranking town gas plants[2]. The system results in a relative ranking of site importance based on the following factors:

- Site Characteristics
  - Size
  - Location
  - Current Use
  - Planned Use
- Waste Characteristics
  - Operating Period
  - Visible Surface Waste Deposits
  - Odor Problems
  - Water Problems
- Resource Characteristics
  - Surface Water Proximity
  - Surface Water Use
  - Groundwater Proximity
  - Groundwater Use
- Process Type

For each subcategory under Site, Waste and Resource Characteristics, and for the category of Process Type, a site is ranked on a scale of 1 to 5. A score of 1 indicates little importance, while a score of 5 indicates high importance. The site score is the sum of the individual scores and the site with the highest score is ranked the most important (i.e., recommended for additional site investigations).

Phased Site Investigations

Site investigations are conducted to achieve the following objectives:

- Confirm the presence of plant by-products and wastes at a site due to former town gas plant operations as well as determine the lateral and vertical extent of the source material
- Determine the direction, rate and concentrations of constituents-of-concern moving off-site
- Gather adequate site information to assess potential site problems and, if necessary, develop and select remedial measures
- Determine if any immediate remedial measures should be implemented to mitigate environmental concerns

A phased approach is strongly recommended to cost-effectively achieve the above-listed objectives. In addition, phasing allows utilization of information from a previous phase to guide subsequent phases of potential activity.

An example of a phased field investigation program for a gas plant site is summarized below.

Phased Field Investigation Program

Phase 1—Shallow soil and sediment samples are collected on-site for full priority pollutant analysis. Based on the results, "indicator" parameters are selected for analysis in subsequent phases. The results of the shallow soil sampling will indicate if the site poses any immediate threats and whether site access should be restricted. During sample collection, volatile aromatic and PNA field screening techniques are applied. Correlations can be identified between field and laboratory results and used in subsequent investigation phases.

Phase 2—Test pits are subsequently excavated to locate the source material on-site. Additional soil samples are collected and analyzed for the "indicator" parameters. During backfilling, piezometers are placed down to the groundwater table in selected test pits. These piezometers are surveyed and used to measure groundwater levels to determine groundwater direction.

Phase 3—Upgradient, downgradient and on-site wells are installed based on the groundwater flow direction identified. After well development, groundwater samples are collected for chemical analysis. Permeability testing is performed to derive soil permeability data and calculate groundwater flowrates.

Field screening methods are expedient, effective and inexpensive ways to locate the lateral and vertical extent of contamination. Even during intense soil sampling efforts at a site, field screening can be used to increase knowledge of the site. Relevant to town gas plant sites, our firm has developed and had the U.S. EPA validated field screening methods for the determination of total polynuclear aromatics (PNAs) and volatile aromatics in both soils and water.

The PNA screening method, which is being implemented at two Superfund sites, consists of rapid extraction and analysis using UV flourescence spectrophotometry. The volatile aromatic screening technique entails collection of a headspace sample from a field sample in a closed container. The gaseous sample then is injected into a portable gas chromatograph (Photovac model 10A10).

CONCLUSIONS

Gas plant wastes contain a wide range of chemical constituents that have persisted in the environment. The approach to site characterization should consist of site identification/preliminary assessment, site ranking and phased site investigations. Site ranking can be used to prioritize multiple sites for further investigations. In some cases, this ranking system has been used as a basis for selecting the No Action alternative.

The phasing of site investigations results in cost savings through the use of field screening techniques, "indicator" parameters for analysis and the collection of on-site data prior to investigating off-site locations. Finally, WESTON has developed field screening techniques for volatile aromatics and PNAs, two classes of compounds typically found in town gas plant wastes. Advantages in using these methods include reductions in laboratory costs, quicker turnaround times and greater knowledge of site contamination.

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2. Hill, W.H., Recovery of Ammonia, Cyanogen, Pyridine, and Other Nitrogenous Compounds from Industrial Gases," 1945.
3. Wilson, D.C. and Stevens, C., "Problems Arising from the Redevelopment of Gas Works and Similar Sites," Prepared for Department of the Environment, U.K., 1981, p. 175.

REFERENCE NO. 40

THE SOIL CHEMISTRY OF HAZARDOUS MATERIALS

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1988

TABLE 9.16 Organic Chemicals Identified in Various Petroleum Hydrocarbons[a]

Chemical	*Source*[b]
acenaphthalene	fo
acenaphthene	fo
acetic acid	co
adamantane	co
alkanes	fo
aniline	fo
anthracene	fo
benzene	co, fo, g, hog, ug
1,2 benzofluorene	co
benzoic acid	fo
benzothiophenes	fo
bicyclic sesquiterpanes	co
bicyclo [3.2.1] octane	co
cis bicyclo [3.3.0] octane	co
biphenyl	co, fo, k
1,3 butadiene	g
n-butane	co, g, hog, ug
1-butanethiol	co
2-butanethiol	co
butanoic acid	co
trans 2-butene	g, hog
1-butene	g
cis 2-butene	g
trans 2-butene	g
t-butyl alcohol	g
n-butylbenzene	co, g
sec-butylbenzene	co, g
t-butylbenzene	co, g
sec-butylcyclohexane	g
t-butylcyclohexane	g
dl-2 sec-butyl-4,5 dimethylpyridine	co
butylthiophane	co
carbazole	co
m-cresol	co
o-cresol	co
p-cresol	co
cycloalkanes	fo
cyclobutane	co
cycloheptane	co, g
cyclohexane	co, g, hog
cyclohexanecarboxylic acid	co
cyclohexanethiol	co
cyclohexene	g
cyclopentane	co, g

TABLE 9.16 Organic Chemicals Identified in Various Petroleum Hydrocarbons[a] (cont.)

cyclopentaneacetic acid	co
cyclopentanecarboxylic acid	co
cyclopentanethiol	co
cyclopentene	g
3-cyclopentylpyridine	co
4-cyclopentylpyridine	co
m-cymene	fo, g
o-cymene	fo, g
p-cymene	fo, g
trans decahydronaphthalene	co
n-decane	co, g, k
decanoic acid	fo
1-decene	g
cis-2-decene	g
trans-2-decene	g
decylthiophane	co
diasteranes	co
1,2-dibromoethane	g
1,2-dichloroethane	g
1,2-diethylbenzene	co, fo, g
1,3-diethylbenzene	g
1,4-diethylbenzene	co, g
diethylphenol	co
2,6-dimethylanthracene	co
2,7-dimethylanthracene	co
2,3-dimethylbenzo [h] quinoline	co
2,4-dimethylbenzo [h] quinoline	co
2,2-dimethylbutane	co, g, hog
2,3-dimethylbutane	co, g, hog, ug
2,3-dimethyl-1-butene	g
2,3-dimethyl-2-butene	g
3,3-dimethyl-1-butene	g
2,3-dimethyl-2-butenedioic acid	co
1,3-dimethyl-5-t-butylbenzene	g
2,4-dimethyl-8-sec-butylquinoline	co
1,1-dimethylcyclohexane	co, g
cis-1,2-dimethylcyclohexane	co, g, hog
cis-1,3-dimethylcyclohexane	co, hog
cis-1,4-dimethylcyclohexane	co, hog
trans-1,2-dimethylcyclohexane	co, g, hog
trans-1,3-dimethylcyclohexane	co, hog
trans-1,4-dimethylcyclohexane	co, hog
1,1-dimethylcyclopentane	co, g, hog
cis-1,2-dimethylcyclopentane	co, g
trans-1,2-dimethylcyclopentane	co, g
cis-1,3-dimethylcyclopentane	co, g, hog, ug
trans-1,3-dimethylcyclopentane	co, g, hog, ug

TABLE 9.16 Organic Chemicals Identified in Various Petroleum Hydrocarbons[a] (cont.)

2,3-dimethylcyclopentanecarboxylic acid	co
2,3-dimethylcyclopentylacetic acid	co
dimethylcyclopropane	g
1,8-dimethyldibenzothiophene	co
2,3-dimethyl-4,8-diethylquinoline	co
1,2-dimethyl-3-ethylbenzene	co, g, k
1,2-dimethyl-4-ethylbenzene	co, fo, g, k
1,3-dimethyl-2-ethylbenzene	co, g, k
1,3-dimethyl-4-ethylbenzene	co, g, k
1,3-dimethyl-5-ethylbenzene	co, fo, g, k
1,4-dimethyl-2-ethylbenzene	co, g
2,2-dimethyl-3-ethylpentane	g
2,4-dimethyl-3-ethylpentane	g
2,3-dimethyl-4-ethyl-8-n-propylquinoline	co
2,3-dimethyl-8-ethylquinoline	co
2,4-dimethyl-8-ethylquinoline	co
2,3-dimethyl-4-ethylthiophene	co
2,4-dimethyl-3-ethylthiophene	co
3,4-dimethyl-2-ethylthiophene	co
2,2-dimethylheptane	g, hog
2,3-dimethylheptane	co, g
2,4-dimethylheptane	g
2,5-dimethylheptane	g
2,6-dimethylheptane	co, g
3,3-dimethylheptane	g
3,4-dimethylheptane	g
3,5-dimethylheptane	g
2,2-dimethylhexane	co, g, hog
2,3-dimethylhexane	co, g, hog
2,4-dimethylhexane	co, g, hog
2,5-dimethylhexane	co, g, hog
3,3-dimethylhexane	co, g
3,4-dimethylhexane	co, g, hog
2,2-dimethyl-trans-3-hexene	g
2,3-dimethyl-1-hexene	g
2,3-dimethyl-2-hexene	g
2,3-dimethyl-trans-3-hexene	g
2,5-dimethyl-trans-3-hexene	g
1,2-dimethyl-4-hydroxybenzene	fo
1,3-dimethyl-5-hydroxybenzene	fo
2,4-dimethyl-1-hydroxybenzene	fo
1,1-dimethylindan	g
1,6-dimethylindan	g
1,2-dimethyl-3-isopropylbenzene	g
2,3-dimethyl-6-isopropylpyridine	co
dimethylmaleic anhydride	co
1,2-dimethylnaphthalene	co, fo, k
1,3-dimethylnaphthalene	fo
1,4-dimethylnaphthalene	fo
1,6-dimethylnaphthalene	co, k
1,7-dimethylnaphthalene	fo
2,6-dimethylnaphthalene	co, fo, k
2,6-dimethyloctane	g
2,2-dimethylpentane	co, g, hog
2,3-dimethylpentane	co, g, hog, ug
2,4-dimethylpentane	co, g, hog, ug
3,3-dimethylpentane	co, g, hog
2,3-dimethyl-1-pentene	g
2,3-dimethyl-2-pentene	g
2,4-dimethyl-1-pentene	g
2,4-dimethyl-2-pentene	g
3,3-dimethyl-1-pentene	g
cis-3,4-dimethyl-2-pentene	g
trans-3,4-dimethyl-2-pentene	g
4,4-dimethyl-1-pentene	g
cis-4,4-dimethyl-2-pentene	g
trans-4,4-dimethyl-2-pentene	g
1,8-dimethylphenanthrene	co
2,6-dimethylphenol	fo
2,2-dimethylpropane	co, g
2,2-dimethyl-1-propanethiol	co
1,2-dimethyl-3-propylbenzene	g
1,2-dimethyl-4-propylbenzene	co, g, k
1,3-dimethyl-4-propylbenzene	co, g, k
1,3-dimethyl-5-n-propylbenzene	g
1,4-dimethyl-2-n-propylbenzene	g
2,3-dimethyl-8-n-propylquinoline	co
2,4-dimethyl-8-n-propylquinoline	co
2,3-dimethylpyridine	co
2,3-dimethylquinoline	co
2,4-dimethylquinoline	co
2,8-dimethylquinoline	co
2,6-dimethylstyrene	g
3,3-dimethyl-2-thiabutane	co
2,3-dimethylthiacyclopentane	co
2,4-dimethylthiacyclopentane	co
cis-2,5-dimethylthiacyclopentane	co
trans-2,5-dimethylthiacyclopentane	co
2,6-dimethyl-4-thiaheptane	co
2,2-dimethyl-3-thiapentane	co
2,4-dimethyl-3-thiapentane	co
2,6-dimethylundecane	g
dinaphthenebenzenes	fo
diterpanes	co
n-docosane	co, fo
n-dodecane	co, fo, g, k

TABLE 9.16 Organic Chemicals Identified in Various Petroleum Hydrocarbons (cont.)

n-hentriacontane	co
n-hexacosane	co, fo
n-hexadecane	co, fo
hexadecanoic acid	co
hexadecylthiophane	co
n-hexane	co, g, hop, up
2-hexanethiol	co
3-hexanethiol	co
n-hexanoic acid	co
1-hexene	g, hop
cis-2-hexene	g
cis-3-hexene	g
trans-2-hexene	g
trans-3-hexene	g
hexylthiophane	co
hopanes	co
indan	co, g
indans	fo
indanol	fo
indene	g
isobutane	co, g
isobutylbenzene	co, g
isobutylcyclohexane	g
isobutylcyclopentane	g
isooctylthiophane	co
isopentylbenzene	g
isoprenoids	co
isopropyl alcohol	g
isopropylbenzene	co, fo, g
isopropylcyclohexane	g
isopropylcyclopentane	co, g
isoquinoline	fo
2-isopropylphenol	fo
methane	co
methanethiol	co
methanol	fo
8-methyl-1,2-benzofluorene	co
methylbicyclo [2.2.1] heptane	co
3-methylbiphenyl	co
2-methyl-1,3-butadiene	g
2-methylbutane	co, g
3-methylbutanoic acid	co
2-methyl-1-butanethiol	co
2-methyl-2-butanethiol	co
3-methyl-1-butanethiol	co
3-methyl-2-butanethiol	co
2-methyl-1-butene	g
2-methyl-2-butene	g

TABLE 9.16 Organic Chemicals Identified in Various Petroleum Hydrocarbons (cont.)

n-hexadecane	co, fo, k
hexadecanoic acid	co
hexadecylthiophane	co
n-hexane	co, g, hop, up
2-hexanethiol	co
3-hexanethiol	co
n-hexanoic acid	co
1-hexene	g, hop
cis-2-hexene	g
cis-3-hexene	g
trans-2-hexene	g
trans-3-hexene	g
hexylthiophane	co
hopanes	co
indan	co, g
indans	fo
indanol	fo
indene	g
isobutane	co, g
isobutylbenzene	co, g
isobutylcyclohexane	g
isobutylcyclopentane	g
isooctylthiophane	co
isopentylbenzene	g
isoprenoids	co
isopropyl alcohol	g
isopropylbenzene	co, fo, g
isopropylcyclohexane	g
isopropylcyclopentane	co, g
isoquinoline	fo
2-isopropylphenol	fo
methane	co
methanethiol	co
methanol	fo
8-methyl-1,2-benzofluorene	co
methylbicyclo [2.2.1] heptane	co
3-methylbiphenyl	co
2-methyl-1,3-butadiene	g
2-methylbutane	co, g
3-methylbutanoic acid	co
2-methyl-1-butanethiol	co
2-methyl-2-butanethiol	co
3-methyl-1-butanethiol	co
3-methyl-2-butanethiol	co
2-methyl-1-butene	g
2-methyl-2-butene	g

TABLE 9.46 Organic Chemicals Identified in Various Petroleum Hydrocarbons[a] (cont.)

3 methyl 1 butene	g
1 methyl 3 n butylbenzene	co
1 methyl 3 t butylbenzene	g
1 methyl 4 t butylbenzene	g
methyl t butyl ether	g
1 methylcyclohexene	co
methylcyclohexane	co, g, hog, ug
3 methylcyclohexanecarboxylic acid	co
1 methylcyclohexene	g
4 methylcyclohexene	g
methylcyclopentane	co, g, hog, ug
2 methylcyclopentanecarboxylic acid	co
3 methylcyclopentanecarboxylic acid	co
cis 2 methylcyclopentanethiol	co
1 methylcyclopentene	g
3 methylcyclopentene	g
3 methylcyclopentylacetic acid	co
2 methylcyclopentylpropanoic acid	co
4 methyldecane	g
1 methyl 2 ethylbenzene	co, g, k
1 methyl 3 ethylbenzene	co, g, k, ug
1 methyl 4 ethylbenzene	co, g, k, ug
1 methyl 1 ethylcyclopentane	co, g
1 methyl cis 2 ethylcyclopentane	co, g
1 methyl trans 2 ethylcyclopentane	co, g
1 methyl cis 3 ethylcyclopentane	co, g
1 methyl trans 3 ethylcyclopentane	co, g
2 methyl 3 ethylhexane	g
2 methyl 4 ethylhexane	g
2 methyl 3 ethylpentane	co, g
3 methyl 3 ethylpentane	co, g
3 methyl 5 ethylpyridine	co
2 methyl 8 ethylquinoline	co
2 methylheptane	co, g, hog
3 methylheptane	co, g, hog
4 methylheptane	co, g, hog
2 methyl 1 heptene	g
2 methyl 2 heptene	g
6 methyl 1 heptene	g
2 methylhexane	co, g, hog
3 methylhexane	co, g, hog, ug
2 methylhexanoic acid	co
3 methylhexanoic acid	co
4 methylhexanoic acid	co
5 methylhexanoic acid	co
2 methyl 1 hexene	g
2 methyl 2 hexene	g
2 methyl cis 3 hexene	g

TABLE 9.46 Organic Chemicals Identified in Various Petroleum Hydrocarbons[a] (cont.)

2 methyl trans 3 hexene	g
3 methyl 1 hexene	g
3 methyl cis 2 hexene	g
3 methyl trans 2 hexene	g
3 methyl cis 3 hexene	g
3 methyl trans 3 hexene	g
4 methyl 1 hexene	g
4 methyl cis 2 hexene	g
4 methyl trans-2-hexene	g
5 methyl 1 hexene	g
5 methyl cis 2 hexene	g
1 methyl 2 isopropylbenzene	co, g
1 methyl 3 isopropylbenzene	co, g
1 methyl 4 isopropylbenzene	co, g
1 methyl cis-4 isopropylcyclohexane	g
1 methyl trans 4 isopropylcyclohexane	g
1 methylindan	co, g, k
2 methylindan	co, g, k
4 methylindan	co, g, k
5 methylindan	g
1 methylnaphthalene	co, fo, k
2 methylnaphthalene	co, fo, g, k
methylnaphthalenes	fo
2 methylnonane	co, g
3 methylnonane	co, g
4 methylnonane	co, g
5 methylnonane	co, g
2 methyl 1 nonene	g
2 methyloctane	co, g, ug
3 methyloctane	co, g, ug
4 methyloctane	co, g, ug
2 methyl 1 octene	g
2 methyl 2 octene	g
2 methylpentane	co, g, hog, ug
3 methylpentane	co, g, hog, ug
2 methylpentanoic acid	co
3 methylpentanoic acid	co
4 methylpentanoic acid	co
2 methyl 2 pentanethiol	co
2 methyl 3 pentanethiol	co
3 methyl 3 pentanethiol	co
4 methyl 2 pentanethiol	co
2 methyl 1 pentene	g, ug
2 methyl 2 pentene	g, ug
3 methyl 1 pentene	g
3 methyl 2 pentene	g
cis 3 methyl 2 pentene	g
trans 3 methyl 2 pentene	g

TABLE 9.46 Organic Chemicals Identified in Various Petroleum Hydrocarbons[a] (cont.)

4-methyl-1-pentene	g
4-methyl-cis-2-pentene	g
4-methyl-trans-2-pentene	g
2-methylpropane	g, hog
2-methyl-1-propanethiol	co
2-methyl-2-propanethiol	co
2-methylpropanoic acid	co
2-methylpropene	g
1-methyl-2-n-propylbenzene	co, g, k
1-methyl-3-n-propylbenzene	g
1-methyl-4-n-propylbenzene	co, g, k
1-methylpyrene	co
3-methylpyridine	co
2-methylquinoline	co
2-methylstyrene	g
2-methyl-1,2,3,4-tetrahydronaphthalene	co
5-methyl-1,2,3,4-tetrahydronaphthalene	co
6-methyl-1,2,3,4-tetrahydronaphthalene	co
1-methyltetralin	k
2-methyltetralin	k
4-methyl-2-thia[0.3.3]bicyclononane	co
3-methyl-2-thia[0.3.3]bicyclooctane	co
methyl-8-thia[3.2.1]bicyclooctane	co
3-methyl-2-thiabutane	co
2-methylthiacyclopentane	co
3-methylthiacyclopentane	co
4-methylthiacyclopentane	co
2-methyl-3-thiahexane	co
4-methyl-3-thiahexane	co
2-methyl-3-thiapentane	co
2-methylthiophene	co
3-methylthiophene	co
naphthalene	co, fo, g, k
naphthalene	fo
2-naphthol	co
n-nonacosane	co
n-nonadecane	co, fo
n-nonane	co, fo, g, k
nonanoic acid	co, fo
nonanol	g
1-nonene	g
nonhopanes	co
nonylthiophane	co
n-octacosane	co
n-octadecane	co, fo
octadecanoic acid	co
octadecylthiophane	co
n-octane	co, fo, g, hog, k
n-octanoic acid	co
2-octanethiol	co
octanoic acid	fo
1-octene	g
cis-2-octene	g
trans-2-octene	g
trans-4-octene	g
octylthiophene	co
pentacosane	co, fo
n-pentadecane	co, fo, k
1,4-pentadiene	g
pentamethylbenzene	g
n-pentane	co, fo, g, hog, ug
1-pentanethiol	co
2-pentanethiol	co
3-pentanethiol	co
pentanoic acid	co
1-pentene	g, hog, ug
cis-2-pentene	g, hog, ug
trans-2-pentene	g, hog, ug
n-pentylbenzene	g
n-pentylcyclohexane	g
n-pentylcyclopentane	g
pentylthiophane	co
perylene	co
phenanthrene	fo
phenol	co, fo
polynaphthenes	fo
porphyrins	co
propane	co, g, hog
1-propanethiol	co
2-propanethiol	co
propanoic acid	co
n-propylbenzene	co, g
propylcyclohexane	g
n-propylcyclopentane	co, g
4-n-propylheptane	g
quinoline	fo
steranes	co
n-tetracosane	co, fo
n-tetradecane	co, fo, k
tetradecanoic acid	co
tetradecylthiophane	co
1,2,3,4-tetrahydronaphthalene	co, g
5,6,7,8-tetrahydroquinoline	co
tetralin	g, k

TABLE 9.16 Organic Chemicals Identified in Various Petroleum Hydrocarbons[1] (cont.)

tetralin	fo
1,3,5,7 tetramethylanthracene	co
1,3,6,7 tetramethylanthracene	co
2,3,6,7 tetramethylanthracene	co
1,2,3,4 tetramethylbenzene	co, g, k
1,2,3,5 tetramethylbenzene	co, fo, g, k
1,2,4,5 tetramethylbenzene	co, fo, g, k
2,2,3,3 tetramethylbutane	co
1,1,3,3 tetramethylcyclopentane	co
1,1 cis 2 cis 3 tetramethylcyclopentane	co
1,1 cis 2 trans 3 tetramethylcyclopentane	co
1,1 cis 2 trans 4 tetramethylcyclopentane	co, g
1,1 cis 3 trans 4 tetramethylcyclopentane	co
1 cis 2 trans 3 cis 4 tetramethylcyclopentane	co
1 trans 2 cis 3 trans 4 tetramethylcyclopentane	co
1 trans 2 trans 3 cis 4 tetramethylcyclopentane	co
2,2,3,3 tetramethylhexane	g
2,6,10,14 tetramethylhexadecane	fo
1,4,5,7 tetramethylnaphthalene	co
2,3,6,7 tetramethylnaphthalene	co
2,6,10,14 tetramethylpentadecane	fo
2,2,3,4 tetramethylpentane	g
2,2,4,4 tetramethylpentane	co
2,3,4,8 tetramethylquinoline	co
2,3,4,5 tetramethylthiophene	co
thiaadamantane	co
6 thia[0 3 4]bicyclononane	co
9 thia[3 3 1]bicyclononane	co
2 thia[2 2 2]bicyclooctane	co
2 thia[3 3 0]bicyclooctane	co
cis 3 thia[3 3 0]bicyclooctane	co
2 thia[3 2 1]bicyclooctane	co
3 thia[3 2 1]bicyclooctane	co
6 thia[3 2 1]bicyclooctane	co
8 thia[3 2 1]bicyclooctane	co
2 thiabutane	co
thiacyclohexane	co
thiacyclopentane	co
5 thiadecane	co
3 thiaheptane	co
2 thiahexane	co
3 thiahexane	co
cis 1 thiahydrindane	co
trans 1 thiahydrindane	co
thianaphthene	co
5 thianonane	co
3 thiaoctane	co
2 thiapentane	co

TABLE 9.16 Organic Chemicals Identified in Various Petroleum Hydrocarbons[1] (cont.)

3 thiapentane	co
2 thiapropane	co
7 thiatridecane	co
6 thiaundecane	co
thiophene	co
toluene	co, fo, g, hog, ug
n triacontane	co
n tricosane	co, fo
tricyclic terpanes	co
n tridecane	co, fo, k
triethylphenol	co
2,3,6 trimethylanthracene	co
1,2,3 trimethylbenzene	co, g, k
1,2,4 trimethylbenzene	co, g, k, ug
1,3,5 trimethylbenzene	co, g, k
2,2,3 trimethylbutane	co, g, hog
2,3,3 trimethyl 1 butene	g
1,1,2 trimethylcyclohexane	g
1,1,3 trimethylcyclohexane	co, g
1,1,4 trimethylcyclohexane	g
1 cis 2 trans 3 trimethylcyclohexane	g
1 trans 2 cis 3 trimethylcyclohexane	g
1 trans 2 cis 4 trimethylcyclohexane	co, g
1 trans 2 trans-4 trimethylcyclohexane	co, g
1 cis 3 cis 5 trimethylcyclohexane	g
1 cis 3 trans 5 trimethylcyclohexane	g
cis 2,2,6 trimethylcyclohexanecarboxylic acid	co
trans 2,2,6 trimethylcyclohexanecarboxylic acid	co
2 (2,2,6-trimethylcyclohexyl) 4,6 dimethylpyridine	co
1,1,2 trimethylcyclopentane	co, g
1,1,3 trimethylcyclopentane	co, g
1 cis 2 cis 3 trimethylcyclopentane	co, g
1 cis 2 cis-4 trimethylcyclopentane	co, g
1 cis 2 trans 3 trimethylcyclopentane	co, g
1 cis 2 trans 4 trimethylcyclopentane	co, g
1 trans 2 cis 3 trimethylcyclopentane	co, g
1 trans 2 cis 4 trimethylcyclopentane	co, g
1,1,2 trimethylcyclopentanecarboxylic acid	co
1,2,2 trimethylcyclopentane 1,3 dicarboxylic acid	co
3,3,4 trimethylcyclopentylacetic acid	co
2,6,10 trimethyldodecane	fo
1,2,3 trimethyl 4 ethylbenzene	g
1,2,3 trimethyl 5 ethylbenzene	g
1,2,4 trimethyl 3 ethylbenzene	g
1,2,4 trimethyl 5 ethylbenzene	g
1,2,5 trimethyl 3 ethylbenzene	g
1,3,5 trimethyl 2 ethylbenzene	g
2,3,8 trimethyl 4 ethylquinoline	co

TABLE 9.16 Organic Chemicals Identified in Various Petroleum Hydrocarbons[a] (cont.)

2,3,4 trimethyl 8 ethylquinoline	co
2,3,4 trimethyl 5 ethylthiophene	co
2,2,3 trimethylheptane	g
2,2,5 trimethylheptane	g
2,2,5 trimethylheptane	g
2,2,6 trimethylheptane	g
2,4,4 trimethylheptane	g
2,4,5 trimethylheptane	g
2,5,5 trimethylheptane	g
3,3,4 trimethylheptane	g
3,3,5 trimethylheptane	g
3,4,4 trimethylheptane	g
3,4,5 trimethylheptane	g
2,2,3 trimethylhexane	g
2,2,4 trimethylhexane	co, g
2,2,5 trimethylhexane	co, g
2,3,3 trimethylhexane	g
2,3,5 trimethylhexane	co, g
2,4,4 trimethylhexane	g
3,4,4 trimethyl 2 hexene	g
2,3,4 trimethyl 8 isopropylquinoline	co
1,2,5 trimethylnaphthalene	co
1,2,6 trimethylnaphthalene	co
1,2,7 trimethylnaphthalene	co
1,2,8 trimethylnaphthalene	co
1,3,5 trimethylnaphthalene	co
1,3,7 trimethylnaphthalene	co
1,3,8 trimethylnaphthalene	co
1,6,7 trimethylnaphthalene	co
2,3,6 trimethylnaphthalene	co
2,2,3 trimethylpentane	g, hog, ug
2,2,4 trimethylpentane	co, g, hog, ug
2,2,5 trimethylpentane	g, hog, ug
2,3,3 trimethylpentane	co, g, hog, ug
2,3,4 trimethylpentane	co, g, hog, ug
2,3,6 trimethylphenol	fo
2,4,6 trimethylphenol	fo
2,4,4 trimethyl 1 pentene	g
2,4,4 trimethyl 2 pentene	g
1,2,8 trimethylphenanthrene	co

TABLE 9.16 Organic Chemicals Identified in Various Petroleum Hydrocarbons[a] (cont.)

2,3,4 trimethyl 8 n propylquinoline	co
2,3,4 trimethylpyridine	co
2,3,5 trimethylpyridine	co
2,3,8 trimethylquinoline	co
2,4,8 trimethylquinoline	co
2,3,5 trimethylthiacyclopentane	co
2,3,4 trimethylthiophene	co
triterpanes	co
n undecane	co, fo, g, k
undecylthiophane	co
vinyl 2-ethylhexylether	g
m xylene	co, fo, g, hog, ug
o xylene	co, fo, g, hog, ug
p xylene	co, fo, g, hog, ug
1,2,3-xylenol	co
1,2,4 xylenol	co
1,3,4 xylenol	co
1,3,5 xylenol	co

a compiled from information in references 104, 105, 106, 107, & 108

b abbreviations: co = crude oil
fo = fuel oil
g = gasoline
hog = high octane gasoline
k = kerosene
ug = unleaded gasoline

REFERENCE NO. 41

02-8907-29-LI
REV. NO. 0

FINAL DRAFT LISTING SITE INSPECTION REPORT
SAG HARBOR - BRIDGE STREET
SAG HARBOR, NEW YORK
VOLUME III

PREPARED UNDER
TECHNICAL DIRECTIVE DOCUMENT NO. 02-8907-29
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

DECEMBER 22, 1989

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:

Joseph Mayo

JOSEPH MAYO
PROJECT MANAGER

REVIEWED/APPROVED BY:

Ronald M Naman

RONALD M. NAMAN
FIT OFFICE MANAGER

REFERENCE NO. 42

ATTACHMENT 1
SOP NO. HW-6

TOTAL REVIEW

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organics Analysis

Case No. 12241 SDG No. BBA01 LABORATORY Compuchem STATE Sag Harb

DATA ASSESSMENT:

The current functional guidelines (1988) for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "R" (unusable),or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Reviewer's Signature: Valerie A. Smith Date: 10/10/1989

Verified By: Pamela D. Greenlaw Date: 10/15/1989

DATA ASSESSMENT:

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

DATA ASSESSMENT:

2. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip field, rinse and water blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross- contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for the common contaminants), the analytes are qualified as non- detects, "U". The following analytes in the samples shown were qualified with "U" for these reasons:

A) Method blank contamination

VOA - methylene chloride was flagged ~~non-detect~~ @ in BBA01, 02, 03, 04, 05, 06, 07, 08, 09, 11, 12, 13, 14, 15, 16, 17, 18, 19, & 20.

- Acetone was flagged nondetect @ in BBA01, 03, 04, 05, 06, 07, 08, 10, 12, 13, 14, 15, 16, 17, 18, 19 & 20.
- Chloroform was flagged nondetect @ in BBA03, 04, 07, 08, 09, 10, 11, 13, 14, 17, 18 & 20.

B) Field or rinse blank contamination ("water blanks" or "distilled water blanks" are validated like any other sample)

- Chloroform was flagged nondetect @ in BBA06, 12 & 19.

C) Trip blank contamination

ATTACHMENT 1
SOP NO. HW-6

DATA ASSESSMENT:

3. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is bromofluorobenzene (BFB) and for semi-volatiles is decafluorotriphenyl- phosphine (DFTPP).

If the mass calibration is in error, all associated data will be classified as unusable, "R".

DATA ASSESSMENT:

4. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) RESPONSE FACTOR:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be $\geq$ 0.05 in both the initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected ("R").

~~VOA 2-butanone was rejected (R) in BBA01, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 & 20.~~ 9/19/89

-2-Butanone was flagged estimated (J) in BBA02.

DATA ASSESSMENT:

5. CALIBRATION:

A) PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ" (if %D or RSD >50%). If there is a gross deviation of %RSD and %D, the non-detects may be rejected ("R").

For the PCB/PESTICIDE fraction, %RSD for aldrin, endrin, DDT, and dibutylchlorendate must not exceed 10%. Percent D must be within 15% on the quantitation column and 20% on the confirmation column.

VOA - Acetone was flagged estimated (J) in all samples BBA01 thru 2 due to %RSD 750.
- Methylene Chloride was flagged estimated (J) in BBA10 due to %RSD 730.
- 4methyl 2 pentanone & 2-hexanone were flagged estimated (J) in BBA01, 02, 05, 12, 15, 16, 17 & 18 due to %D 750.

BN - Bis(2chloroisopropyl)ether was flagged rejected(R) in BBA09, 12, & 13 and flagged estimate (J) due to %D 750 in BBA01+14
- 3,3'Dichlorobenzidine was flagged estimated (J) in BBA01, 09, 12, 13, 10, 11, 15, 16, 17, 18, 19 & 20 due to %D 750
- bis(2ethylhexyl)phthalate was flagged estimated (J) in BBA15, 16, 17, 19 & 20 due to %D 750.
- benzo(k)fluoranthene was flagged estimated (J) in BBA11 due to %D 750.

A - 4nitrophenol was flagged estimated (J) in BBA14 due to %D 75

DATA ASSESSMENT:

6. SURROGATES:

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

- PEST BBA14 had no surrogate recovery due to interference from the sample matrix, no action taken.

DATA ASSESSMENT:

7. INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

DATA ASSESSMENT:

8. COMPOUND IDENTIFICATION:

A) VOLATILE AND SEMI-VOLATILE FRACTIONS:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

B) PESTICIDE FRACTION:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10 ng/ml in the final sample extract.

PEST- Beta BHC & aldrin were rejected(R) in BBA08 ~~the~~ the lab reported those compounds on the 2250/2401 column, but there was interference on the OV101 column so these analytes could not be confirmed.

BNA- Benzo(b)&benzo(k)fluoranthene were flagged estimated/presumptive evidence EN due to coeluting in samples BBA02, 03, 04, 05, 06, 07, 08, 10, 11, 13, 14, 15, 16, 17, ~~18~~ 19, 20

DATA ASSESSMENT:

9. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for some additional qualification of the data.

ATTACHMENT 1
SOP NO. HW-6

PAGE__OF__

DATA ASSESSMENT:

10. OTHER QC DATA OUT OF SPECIFICATION:

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued on next page if necessary):

~~All 2-Butanone init. & cont. calibration calculations were incorrect, recalculated them by hand & called the lab for resubmittals.~~ B 9/19/89

~~Missing RAW QC data for SV DFTPP 4/24 0056~~ 9/10/17/8

12. CONTRACT PROBLEMS____NON-COMPLIANCE:

13. This package contains re-extraction, re-analysis or dilution. Upon reviewing the QA results, the following form I(s) are identified to be used.

Samples BBA01, 02, 05, 06, 07, 08, 10, 15, 17, 19 & 20 were diluted the diluted values were transferred to the original data & the original data will be used.

DATA ASSESSMENT:

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued):

Type of Review: total Date: 10/10/89 Case #: 12241

Project: Sag Harbor Lab Name: Compuchem

Reviewer's Initials: ✱ Number of Samples: 20

Analytes Rejected Due to Exceeding Review Criteria:

	Surrogates	Holding Time	Calibration	Contamination	ID	Other	Total # Samples	Total # Rejected/ Total # in all Samples
Acids (15)							20	0/300
B/N (50)			3/3				20	3/1000
VOA (35)				48/20			20	48/700
PEST (20)							20	0/400
PCB (7)					2/2		20	2~~5~~/140
TCDD (1)							0	0/0

Analytes Estimated Due to Exceeding Review Criteria for:

Acids (15)			1/1				20	1/300
B/N (50)			18/12				20	18/1000
VOA (35)			38/20				20	38/700
PEST (20)					~~2~~		20	0/400
PCB (7)							20	0/140
TCDD (1)							0	0/0

DPO: [ ] ACTION [ ] FYI Region 2

ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE NO. 12241 LABORATORY Compuchem

SDG NO. 3BA01 DATA USER FIT2

SOW _____ REVIEW COMPLETION DATE 10/10/89

NO. OF SAMPLES _____ WATER 20 SOIL _____ OTHER

REVIEWER [ ] ESD [ ] ESAT [X] OTHER, CONTRACT/CONTRACTOR FIT2

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES	O	O	O	
2. GC-MS TUNE/ GC PERFORMANCE	O	O	O	
3. INITIAL CALIBRATIONS	~~M~~ O	O	O	
4. CONTINUING CALIBRATIONS	M	X	O	
5. FIELD BLANKS ("F" = not applicable)	X	O	O	
6. LABORATORY BLANKS	M	O	O	
7. SURROGATES	O	O	O	
8. MATRIX SPIKE/DUPLICATES	O	O	O	
9. REGIONAL QC ("F" = not applicable)	F	F	F	
10. INTERNAL STANDARDS	O	O		
11. COMPOUND IDENTIFICATION	O	O	O	
12. COMPOUND QUANTITATION	O	O	O	
13. SYSTEM PERFORMANCE	O	O	O	
14. OVERALL ASSESSMENT	M	X	O	

O = No problems or minor problems that do not affect data usability.
X = No more than *about* 5% of the data points are qualified as either estimated or unusable.
M = More than *about* 5% of the data points are qualified as estimated.
Z = More than *about* 5% of the data points are qualified as unusable.

DPO ACTION ITEMS: _____

AREAS OF CONCERN: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA01

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270395

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070395C19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 27 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	13	~~B~~ U
67-64-1	Acetone	14	~~B~~ U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA01

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270395

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070395C19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 27 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA02

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270405

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070405C19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 27 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	34	B
67-64-1	Acetone	220	
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	61	
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	4	J
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	250	
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	320	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA02

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270405

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070405C19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 27 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 5

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	111-84-2	NONANE	14.60	8.2	J
2.	98-82-8	BENZENE,(1-METHYLETHYL)-	15.77	51	J
3.		UNKNOWN HYDROCARBON	16.25	22	J
4.	103-65-1	BENZENE,PROPYL-	16.55	18	J
5.	41898-89-9	2,3-HEPTADIEN-5-YNE,2,4-DIME	16.79	600	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA03

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270406

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GR070406B19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 12 Date Analyzed: 07/03/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	17	~~B~~ U
67-64-1	Acetone	11	~~BJ~~ U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~2~~	~~BJ~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA03

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270406

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GR070406B19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 12 Date Analyzed: 07/03/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA04

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270407

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GR070407B19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 12 Date Analyzed: 07/03/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	14	~~B~~ U
67-64-1	Acetone	11 ~~10~~	~~B~~ U J
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~3~~	~~J~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA04

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270407

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GR070407B19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 12 Date Analyzed: 07/03/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA05

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270408

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070408C19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 18 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	21	~~B~~ U
67-64-1	Acetone	71	~~B~~ U J
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	~~U~~
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U J
591-78-6	2-Hexanone	12	U J
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	10	
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	46	
100-42-5	Styrene	~~6~~	~~U~~
1330-20-7	Total Xylenes	460	~~U~~

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BBA05

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270408

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070408C19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 18 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	111-65-9	OCTANE	11.79	11	J N
2.		UNKNOWN	12.65	17	J
3.	3074-78-0	1-HEPTENE,2,6-DIMETHYL-	13.37	13	J
4.		UNKNOWN HYDROCARBON	14.60	33	J
5.		UNKNOWN HYDROCARBON	14.60	150	J
6.		UNKNOWN	15.54	95	J
7.	98-82-8	BENZENE,(1-METHYLETHYL)-	15.77	57	J
8.	17301-94-9	NONANE,4-METHYL-	16.29	200	J
9.		UNKNOWN HYDROCARBON	16.52	56	J
10.		UNKNOWN	16.80	780	J N

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA06

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270409

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GR070409C19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 23 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	130	~~B~~ U
67-64-1	Acetone	92	~~B~~ U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	~~2~~ 6	~~J~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	2	J
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	2	J
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	4	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA06

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270409

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GR070409C19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 23 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 96-14-0	PENTANE,3-METHYL-	5.55	16	J N

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA07

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270410

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070410B18

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 25 Date Analyzed: 06/30/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	16	~~B~~ U
67-64-1	Acetone	14	~~B~~ U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7 ~~3~~	~~BJ~~ U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	13	~~U~~
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	11	
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	8	
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	16	
100-42-5	Styrene	4	J
1330-20-7	Total Xylenes	47	

FORM I VOA 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA07

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270410

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070410B18

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 25 Date Analyzed: 06/30/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 3

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	98-82-8	BENZENE,(1-METHYLETHYL)-	14.20	88	J N
2.		UNKNOWN	14.39	6.7	J N
3.	611-14-3	BENZENE,1-ETHYL-2-METHYL-	14.70	17	J N

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA08

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270411

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GR070411B19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 16 Date Analyzed: 07/03/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	30	~~B~~ U
67-64-1	Acetone	12 ~~10~~	~~BJ~~ U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~2~~	~~BJ~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	~~U~~
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA08

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270411

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GR070411B19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 16 Date Analyzed: 07/03/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA09

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270412

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070412B18

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 14 Date Analyzed: 06/29/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	~~B~~ U
67-64-1	Acetone	12	~~U~~ J
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	~~2~~ 6	~~BJ~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA09

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270412

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070412B18

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 14 Date Analyzed: 06/29/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA10

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270413

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GR070413B19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 11 Date Analyzed: 07/03/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	78	~~BJ~~
67-64-1	Acetone	11 ~~8~~	~~BJ~~ UJ
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~2~~	~~BJ~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	~~U~~
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA10

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270413

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GR070413B19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 11 Date Analyzed: 07/03/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA11

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270414

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070414B18

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 17 Date Analyzed: 06/29/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	26	~~B~~ U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~4~~	~~B~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA11

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270414

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070414B18

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 17 Date Analyzed: 06/29/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA12

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270415

Sample wt/vol: 1.0 (g/mL) G Lab File ID: GR070415A19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 30 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: ~~1.0~~ 5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	71	U
74-83-9	Bromomethane	71	U
75-01-4	Vinyl Chloride	71	U
75-00-3	Chloroethane	71	U
75-09-2	Methylene Chloride	170	~~B~~ U
67-64-1	Acetone	1300	~~B~~ U
75-15-0	Carbon Disulfide	36	U
75-35-4	1,1-Dichloroethene	36	U
75-34-3	1,1-Dichloroethane	36	U
540-59-0	1,2-Dichloroethene (total)	36	U
67-66-3	Chloroform	36 ~~11~~	~~J~~ U
107-06-2	1,2-Dichloroethane	36	U
78-93-3	2-Butanone	71	~~J~~
71-55-6	1,1,1-Trichloroethane	36	U
56-23-5	Carbon Tetrachloride	36	U
108-05-4	Vinyl Acetate	71	U
75-27-4	Bromodichloromethane	36	U
78-87-5	1,2-Dichloropropane	36	U
10061-01-5	cis-1,3-Dichloropropene	36	U
79-01-6	Trichloroethene	36	U
124-48-1	Dibromochloromethane	36	U
79-00-5	1,1,2-Trichloroethane	36	U
71-43-2	Benzene	36	U
10061-02-6	Trans-1,3-Dichloropropene	36	U
75-25-2	Bromoform	36	U
108-10-1	4-Methyl-2-Pentanone	71	UJ
591-78-6	2-Hexanone	71	UJ
127-18-4	Tetrachloroethene	36	U
79-34-5	1,1,2,2-Tetrachloroethane	36	U
108-88-3	Toluene	36	U
108-90-7	Chlorobenzene	36	U
100-41-4	Ethylbenzene	280	
100-42-5	Styrene	36	U
1330-20-7	Total Xylenes	270	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA12

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270415

Sample wt/vol: 1.0 (g/mL) G Lab File ID: GR070415A19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 30 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 98-82-8	BENZENE,(1-METHYLETHYL)-	15.69	43	J
2. 611-14-3	BENZENE,1-ETHYL-2-METHYL-	16.72	390	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA13

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270416

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070416B18

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 11 Date Analyzed: 06/29/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	130	~~B~~ U
67-64-1	Acetone	29	~~B~~ U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	~~B~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	~~U~~
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA13

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270416

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070416B18

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 11 Date Analyzed: 06/29/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA14

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270417

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GR070417B19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 16 Date Analyzed: 07/03/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	28	B
67-64-1	Acetone	8	B
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	2	B
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA14

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270417

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GR070417B19

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 16 Date Analyzed: 07/03/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA15

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270696

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070696A19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 22 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	23	B
67-64-1	Acetone	210	B
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	3	J
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	2	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA15

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270696

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070696A19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 22 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA16

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270697

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070697A19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 20 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	24	B
67-64-1	Acetone	160	B
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	2	J
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA16

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270697

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070697A19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 20 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA17

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270698

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070698A19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 17 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	24	B U
67-64-1	Acetone	150	B U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	B U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U J
591-78-6	2-Hexanone	12	U J
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA17

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270698

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070698A19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 17 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA18

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270700

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070700A19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 31 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	17	~~B~~
67-64-1	Acetone	170	~~B~~
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	~~2~~ 1	~~BJ~~ U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	~~U~~
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	8	
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	6	J
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	10	

DATA PACKAGE 3861

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA18

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270700

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070700A19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 31 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN CYCLIC HYDROCARBON	16.85	23	JN

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA19

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270701

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070701B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 24 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	29	~~B~~ U
67-64-1	Acetone	50	~~B~~ U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	~~1~~	~~J~~ U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	13	~~U~~
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA19

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270701

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070701B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 24 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA20

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270702

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2R70702A19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 20 Date Analyzed: 07/07/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	27	~~B~~ U
67-64-1	Acetone	56	~~B~~ U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	~~B~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA20

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270702

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2R70702A19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 20 Date Analyzed: 07/07/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA01

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270395

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070395B21

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 27 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/29/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	450	U
111-44-4	bis(2-Chloroethyl)Ether	450	U
95-57-8	2-Chlorophenol	450	U
541-73-1	1,3-Dichlorobenzene	450	U
106-46-7	1,4-Dichlorobenzene	450	U
100-51-6	Benzyl Alcohol	450	U
95-50-1	1,2-Dichlorobenzene	450	U
95-48-7	2-Methylphenol	450	U
39638-32-9	bis(2-Chloroisopropyl)Ether	450	UJ
106-44-5	4-Methylphenol	63	J
621-64-7	N-Nitroso-Di-n-Propylamine	450	U
67-72-1	Hexachloroethane	450	U
98-95-3	Nitrobenzene	450	U
78-59-1	Isophorone	450	U
88-75-5	2-Nitrophenol	450	U
105-67-9	2,4-Dimethylphenol	450	U
65-85-0	Benzoic Acid	690	J
111-91-1	bis(2-Chloroethoxy)Methane	450	U
120-83-2	2,4-Dichlorophenol	450	U
120-82-1	1,2,4-Trichlorobenzene	450	U
91-20-3	Naphthalene	1000	
106-47-8	4-Chloroaniline	450	U
87-68-3	Hexachlorobutadiene	450	U
59-50-7	4-Chloro-3-Methylphenol	450	U
91-57-6	2-Methylnaphthalene	620	
77-47-4	Hexachlorocyclopentadiene	450	U
88-06-2	2,4,6-Trichlorophenol	450	U
95-95-4	2,4,5-Trichlorophenol	2200	U
91-58-7	2-Chloronaphthalene	450	U
88-74-4	2-Nitroaniline	2200	U
131-11-3	Dimethyl Phthalate *	450	U
208-96-8	Acenaphthylene	~~6900~~	~~E~~
606-20-2	2,6-Dinitrotoluene	450	U

FORM I SV-1 1/87 Rev.

* taken from diluted analysis.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA01

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270395

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070395B21

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 27 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/29/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2200	U
83-32-9	Acenaphthene	160	J
51-28-5	2,4-Dinitrophenol	2200	U
100-02-7	4-Nitrophenol	2200	U
132-64-9	Dibenzofuran	710	
121-14-2	2,4-Dinitrotoluene	450	U
84-66-2	Diethylphthalate	450	U
7005-72-3	4-Chlorophenyl-phenylether	450	U
86-73-7	Fluorene	1100	
100-01-6	4-Nitroaniline	2200	U
534-52-1	4,6-Dinitro-2-Methylphenol	2200	U
86-30-6	N-Nitrosodiphenylamine (1)	450	U
101-55-3	4-Bromophenyl-phenylether	450	U
118-74-1	Hexachlorobenzene	450	U
87-86-5	Pentachlorophenol	2200	U
85-01-8	Phenanthrene	11000 D ~~9400~~	E
120-12-7	Anthracene	2300	
84-74-2	Di-n-Butylphthalate	450	U
206-44-0	Fluoranthene	42000 D ~~27000~~	E
129-00-0	Pyrene	53000 D ~~33000~~	E
85-68-7	Butylbenzylphthalate	450	U
91-94-1	3,3'-Dichlorobenzidine	900	U J
56-55-3	Benzo(a)Anthracene	19000 D ~~20000~~	E
218-01-9	Chrysene	16000 D ~~17000~~	E
117-81-7	bis(2-Ethylhexyl)Phthalate	450	U
117-84-0	Di-n-Octyl Phthalate	450	U
205-99-2	Benzo(b)Fluoranthene	25000 D ~~29000~~	EX
207-08-9	Benzo(k)Fluoranthene	23000 D ~~20000~~	EX
50-32-8	Benzo(a)Pyrene	9000 D ~~13000~~	E
193-39-5	Indeno(1,2,3-cd)Pyrene	14000 D ~~8100~~	E
53-70-3	Dibenzo(a,h)Anthracene	2300	
191-24-2	Benzo(g,h,i)Perylene	9000 D ~~10000~~	E

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BBA01

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270395

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070395B21

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 27 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/29/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 24 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		VOA TCL	5.33	6400	~~J~~ R
2.		ALDOL	5.92	3100	~~AJ~~ R
3.		ALDOL	6.02	2600	~~AJ~~ R
4.		ALDOL	6.35	2300	~~AJ~~ R
5.	873-49-4	BENZENE, CYCLOPROPYL-	6.45	6400	J N
6.		UNKNOWN PNA	13.27	6400	J
7.	610-48-0	ANTHRACENE, 1-METHYL-	13.44	9100	J
8.		UNKNOWN	13.72	3600	J
9.		UNKNOWN PNA	14.04	5000	J
10.		UNKNOWN	14.10	4300	J
11.		UNKNOWN	14.19	5500	J
12.		UNKNOWN PNA	14.85	4100	J
13.		UNKNOWN PNA	15.00	9100	J
14.		UNKNOWN PNA	15.15	5000	J
15.		METHYL PYRENE ISOMER	15.29	6400	J
16.		UNKNOWN PNA	15.32	3400	J
17.		UNKNOWN	15.60	3100	J
18.		UNKNOWN	15.72	5500	J
19.		UNKNOWN	15.85	5900	J
20.		UNKNOWN	15.94	3400	J
21.		UNKNOWN	16.47	5000	J
22.		UNKNOWN PNA	16.89	3700	J
23.		UNKNOWN PNA	17.14	3600	J
24.		UNKNOWN PNA	18.94	5500	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA02

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270405

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070405C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 27 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2300	U
111-44-4	bis(2-Chloroethyl)Ether	2300	U
95-57-8	2-Chlorophenol	2300	U
541-73-1	1,3-Dichlorobenzene	2300	U
106-46-7	1,4-Dichlorobenzene	2300	U
100-51-6	Benzyl Alcohol	2300	U
95-50-1	1,2-Dichlorobenzene	2300	U
95-48-7	2-Methylphenol	2300	U
39638-32-9	bis(2-Chloroisopropyl)Ether	2300	U
106-44-5	4-Methylphenol	2300	U
621-64-7	N-Nitroso-Di-n-Propylamine	2300	U
67-72-1	Hexachloroethane	2300	U
98-95-3	Nitrobenzene	2300	U
78-59-1	Isophorone	2300	U
88-75-5	2-Nitrophenol	2300	U
105-67-9	2,4-Dimethylphenol	2300	U
65-85-0	Benzoic Acid	11000	U
111-91-1	bis(2-Chloroethoxy)Methane	2300	U
120-83-2	2,4-Dichlorophenol	2300	U
120-82-1	1,2,4-Trichlorobenzene	2300	U
91-20-3	Naphthalene	26000	
106-47-8	4-Chloroaniline	2300	U
87-68-3	Hexachlorobutadiene	2300	U
59-50-7	4-Chloro-3-Methylphenol	2300	U
91-57-6	2-Methylnaphthalene	18000	
77-47-4	Hexachlorocyclopentadiene	2300	U
88-06-2	2,4,6-Trichlorophenol	2300	U
95-95-4	2,4,5-Trichlorophenol	11000	U
91-58-7	2-Chloronaphthalene	2300	U
88-74-4	2-Nitroaniline	11000	U
131-11-3	Dimethyl Phthalate	2300	U
208-96-8	Acenaphthylene	14000	
606-20-2	2,6-Dinitrotoluene	2300	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA02

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270405

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070405C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 27 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	11000	U
83-32-9	Acenaphthene	23000	
51-28-5	2,4-Dinitrophenol	11000	U
100-02-7	4-Nitrophenol	11000	U
132-64-9	Dibenzofuran	1800	J
121-14-2	2,4-Dinitrotoluene	2300	U
84-66-2	Diethylphthalate	2300	U
7005-72-3	4-Chlorophenyl-phenylether	2300	U
86-73-7	Fluorene	18000	
100-01-6	4-Nitroaniline	11000	U
534-52-1	4,6-Dinitro-2-Methylphenol	11000	U
86-30-6	N-Nitrosodiphenylamine (1)	2300	U
101-55-3	4-Bromophenyl-phenylether	2300	U
118-74-1	Hexachlorobenzene	2300	U
87-86-5	Pentachlorophenol	11000	U
85-01-8	Phenanthrene	* 38000 D ~~48000~~	~~E~~
120-12-7	Anthracene	20000	
84-74-2	Di-n-Butylphthalate	2300	U
206-44-0	Fluoranthene	29000	
129-00-0	Pyrene	32000	
85-68-7	Butylbenzylphthalate	2300	U
91-94-1	3,3'-Dichlorobenzidine	4500	U
56-55-3	Benzo(a)Anthracene	19000	
218-01-9	Chrysene	25000	
117-81-7	bis(2-Ethylhexyl)Phthalate	2300	U
117-84-0	Di-n-Octyl Phthalate	2300	U
205-99-2	Benzo(b)Fluoranthene	20000	~~X~~ JN
207-08-9	Benzo(k)Fluoranthene	20000	~~X~~ JN
50-32-8	Benzo(a)Pyrene	29000	
193-39-5	Indeno(1,2,3-cd)Pyrene	22000	
53-70-3	Dibenzo(a,h)Anthracene	8500	
191-24-2	Benzo(g,h,i)Perylene	31000	

(1) - Cannot be separated from Diphenylamine

* = [illegible] dilution

1F

EPA SAMPLE NO.

BBA02

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270405

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070405C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 27 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 5.0

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	4453-90-1	1,4-METHANONAPHTHALENE, 1,4-	11.24	25000	J N
2.	939-27-5	NAPHTHALENE, 2-ETHYL-	11.94	17000	J
3.	575-41-7	NAPHTHALENE, 1,3-DIMETHYL-	12.17	46000	J
4.		UNKNOWN	13.05	14000	J
5.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	13.22	15000	J
6.		UNKNOWN HYDROCARBON	13.70	20000	J
7.	54105-67-8	HEPTADECANE, 2,6-DIMETHYL-	14.10	23000	J
8.	54105-67-8	HEPTADECANE, 2,6-DIMETHYL-	14.84	18000	J
9.	610-48-0	ANTHRACENE, 1-METHYL-	15.80	37000	J
10.	610-48-0	ANTHRACENE, 1-METHYL-	15.87	32000	J
11.	613-12-7	ANTHRACENE, 2-METHYL-	15.92	22000	J
12.	610-48-0	ANTHRACENE, 1-METHYL-	16.00	66000	J
13.		UNKNOWN PAH	16.50	16000	J
14.	3674-66-6	PHENANTHRENE, 2,5-DIMETHYL-	16.67	23000	J
15.	781-17-9	PYRENE, 4,5,9,10-TETRAHYDRO-	16.74	27000	J
16.	238-84-6	11H-BENZO[A]FLUORENE	17.77	34000	J
17.	3353-12-6	PYRENE, 4-METHYL-	17.94	17000	J
18.	3353-12-6	PYRENE, 4-METHYL-	18.09	53000	J
19.		UNKNOWN	18.72	21000	J
20.	205-82-3	BENZO[J]FLUORANTHENE	22.02	25000	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA03

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270406

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070406C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
100-51-6	Benzyl Alcohol	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
39638-32-9	bis(2-Chloroisopropyl)Ether	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
65-85-0	Benzoic Acid	1800	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	75	J
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	54	J
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	1800	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	1800	U
131-11-3	Dimethyl Phthalate	370	U
208-96-8	Acenaphthylene	95	J
606-20-2	2,6-Dinitrotoluene	370	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA03

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270406

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070406C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	1800	U
132-64-9	Dibenzofuran	42	J
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	45	J
100-01-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-Methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	390	
120-12-7	Anthracene	99	J
84-74-2	Di-n-Butylphthalate	220	J
206-44-0	Fluoranthene	650	
129-00-0	Pyrene	480	
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	750	U
56-55-3	Benzo(a)Anthracene	380	
218-01-9	Chrysene	560	
117-81-7	bis(2-Ethylhexyl)Phthalate	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	1100	~~X~~JN
207-08-9	Benzo(k)Fluoranthene	1100	~~X~~JN
50-32-8	Benzo(a)Pyrene	410	
193-39-5	Indeno(1,2,3-cd)Pyrene	300	J
53-70-3	Dibenzo(a,h)Anthracene	220	J
191-24-2	Benzo(g,h,i)Perylene	350	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA03

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270406

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070406C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

Number TICs found: 24

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		BLANK CONTAMINANT	6.05	340	~~BJ~~ R
2.		UNKNOWN	6.88	3700	J N
3.		ALDOL	7.05	2600	~~AJ~~
4.		ALDOL	7.58	1900	~~AJ~~
5.		ALDOL	7.77	230	~~AJ~~
6.		UNKNOWN	7.82	230	J
7.		UNKNOWN	8.12	190	J
8.		UNKNOWN	8.30	1600	J
9.		UNKNOWN	14.04	110	J
10.		UNKNOWN	14.72	260	J
11.		UNKNOWN	15.37	190	J
12.		UNKNOWN	15.99	340	J
13.		UNKNOWN	17.12	190	J
14.		UNKNOWN	17.57	150	J
15.		UNKNOWN	17.74	150	J
16.		UNKNOWN	17.90	110	J
17.		UNKNOWN	18.52	230	J
18.		UNKNOWN	18.69	380	J
19.		UNKNOWN	18.80	190	J
20.		UNKNOWN	19.70	230	J
21.		UNKNOWN	19.80	230	J
22.		UNKNOWN	19.87	150	J
23.		UNKNOWN	20.00	230	J N
24.		BENZO FLUORANTHENE ISOMER	21.94	420	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA04

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270407

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070407C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
100-51-6	Benzyl Alcohol	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
39638-32-9	bis(2-Chloroisopropyl)Ether	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
65-85-0	Benzoic Acid	1800	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	1800	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	1800	U
131-11-3	Dimethyl Phthalate	370	U
208-96-8	Acenaphthylene	370	U
606-20-2	2,6-Dinitrotoluene	370	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA04

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270407

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070407C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	1800	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-Methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	73	J
120-12-7	Anthracene	370	U
84-74-2	Di-n-Butylphthalate	230	J
206-44-0	Fluoranthene	150	J
129-00-0	Pyrene	220	J
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	750	U
56-55-3	Benzo(a)Anthracene	110	J
218-01-9	Chrysene	160	J
117-81-7	bis(2-Ethylhexyl)Phthalate	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	290	JX N
207-08-9	Benzo(k)Fluoranthene	290	JX N
50-32-8	Benzo(a)Pyrene	130	J
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenzo(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

(1) - Cannot be separated from Diphenylamine

SOURCE DOCUMENT

3858

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA04

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270407

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070407C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 1.00

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		BLANK CONTAMINANT	6.00	260	~~BJ~~ NR
2.		UNKNOWN	6.83	2100	J N
3.		ALDOL	7.00	790	~~AJ~~ NR
4.		ALDOL	7.52	640	~~AJ~~ NR
5.		UNKNOWN	8.25	1200	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA05

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270408

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70408B20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	4000	U
111-44-4	bis(2-Chloroethyl)Ether	4000	U
95-57-8	2-Chlorophenol	4000	U
541-73-1	1,3-Dichlorobenzene	4000	U
106-46-7	1,4-Dichlorobenzene	4000	U
100-51-6	Benzyl Alcohol	4000	U
95-50-1	1,2-Dichlorobenzene	4000	U
95-48-7	2-Methylphenol	4000	U
39638-32-9	bis(2-Chloroisopropyl)Ether	4000	U
106-44-5	4-Methylphenol	4000	U
621-64-7	N-Nitroso-Di-n-Propylamine	4000	U
67-72-1	Hexachloroethane	4000	U
98-95-3	Nitrobenzene	4000	U
78-59-1	Isophorone	4000	U
88-75-5	2-Nitrophenol	4000	U
105-67-9	2,4-Dimethylphenol	4000	U
65-85-0	Benzoic Acid	20000	U
111-91-1	bis(2-Chloroethoxy)Methane	4000	U
120-83-2	2,4-Dichlorophenol	4000	U
120-82-1	1,2,4-Trichlorobenzene	4000	U
91-20-3	Naphthalene	54000 D ~~85000~~	~~E~~
106-47-8	4-Chloroaniline	4000	U
87-68-3	Hexachlorobutadiene	4000	U
59-50-7	4-Chloro-3-Methylphenol	4000	U
91-57-6	2-Methylnaphthalene	69000 D ~~82000~~	~~E~~
77-47-4	Hexachlorocyclopentadiene	4000	U
88-06-2	2,4,6-Trichlorophenol	4000	U
95-95-4	2,4,5-Trichlorophenol	20000	U
91-58-7	2-Chloronaphthalene	4000	U
88-74-4	2-Nitroaniline	20000	U
131-11-3	Dimethyl Phthalate	4000	U
208-96-8	Acenaphthylene	50000	
606-20-2	2,6-Dinitrotoluene	4000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA05

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270408

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70408B20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	20000	U
83-32-9	Acenaphthene	130000 D ~~60000~~	~~E~~
51-28-5	2,4-Dinitrophenol	20000	U
100-02-7	4-Nitrophenol	20000	U
132-64-9	Dibenzofuran	9100	
121-14-2	2,4-Dinitrotoluene	4000	U
84-66-2	Diethylphthalate	4000	U
7005-72-3	4-Chlorophenyl-phenylether	4000	U
86-73-7	Fluorene	110000 D ~~120000~~	~~E~~
100-01-6	4-Nitroaniline	20000	U
534-52-1	4,6-Dinitro-2-Methylphenol	20000	U
86-30-6	N-Nitrosodiphenylamine (1)	4000	U
101-55-3	4-Bromophenyl-phenylether	4000	U
118-74-1	Hexachlorobenzene	4000	U
87-86-5	Pentachlorophenol	20000	U
85-01-8	Phenanthrene	330000 D ~~100000~~	~~E~~
120-12-7	Anthracene	140000 D ~~100000~~	~~E~~
84-74-2	Di-n-Butylphthalate	4000	U
206-44-0	Fluoranthene	210000 D ~~200000~~	~~E~~
129-00-0	Pyrene	280000 D ~~140000~~	~~E~~
85-68-7	Butylbenzylphthalate	4000	U
91-94-1	3,3'-Dichlorobenzidine	8100	U
56-55-3	Benzo(a)Anthracene	98000 D ~~120000~~	~~E~~
218-01-9	Chrysene	78000 D ~~100000~~	~~E~~
117-81-7	bis(2-Ethylhexyl)Phthalate	4000	U
117-84-0	Di-n-Octyl Phthalate	4000	U
205-99-2	Benzo(b)Fluoranthene	73000 D ~~100000~~	~~E~~ X JN
207-08-9	Benzo(k)Fluoranthene	83000 D ~~100000~~	~~E~~ X JN
50-32-8	Benzo(a)Pyrene	65000 D ~~80000~~	~~E~~
193-39-5	Indeno(1,2,3-cd)Pyrene	22000	
53-70-3	Dibenzo(a,h)Anthracene	9900	
191-24-2	Benzo(g,h,i)Perylene	28000	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BBA05

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270408

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70408B20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 10.0

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	10.72	77000	J
2.	2471-83-2	1H-INDENE, 1-ETHYLIDENE-	11.09	130000	J
3.	629-59-4	TETRADECANE	11.59	140000	J
4.	939-27-5	NAPHTHALENE, 2-ETHYL-	11.80	130000	J
5.	575-41-7	NAPHTHALENE, 1,3-DIMETHYL-	11.90	97000	J
6.	939-27-5	NAPHTHALENE, 2-ETHYL-	12.04	290000	J
7.	939-27-5	NAPHTHALENE, 2-ETHYL-	12.22	93000	J
8.	2131-41-1	NAPHTHALENE, 1,4,5-TRIMETHYL	12.90	110000	J
9.	544-76-3	HEXADECANE	13.55	110000	J
10.	629-78-7	HEPTADECANE	13.92	97000	J
11.	54105-67-8	HEPTADECANE, 2,6-DIMETHYL-	13.95	85000	J
12.	1730-37-6	9H-FLUORENE, 1-METHYL-	14.25	140000	J
13.	2523-37-7	9H-FLUORENE, 9-METHYL-	14.34	77000	J
14.	593-45-3	OCTADECANE	14.60	81000	J
15.	610-48-0	ANTHRACENE, 1-METHYL-	15.67	120000	J
16.	610-48-0	ANTHRACENE, 1-METHYL-	15.72	93000	J
17.	610-48-0	ANTHRACENE, 1-METHYL-	15.77	73000	J
18.	610-48-0	ANTHRACENE, 1-METHYL-	15.89	160000	J
19.		ALKYL SUBSTITUTED BENZENE	17.14	140000	J
20.	238-84-6	11H-BENZO[A]FLUORENE	17.65	93000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA06

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270409

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070409A20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 23 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2100	U
111-44-4	bis(2-Chloroethyl)Ether	2100	U
95-57-8	2-Chlorophenol	2100	U
541-73-1	1,3-Dichlorobenzene	2100	U
106-46-7	1,4-Dichlorobenzene	2100	U
100-51-6	Benzyl Alcohol	2100	U
95-50-1	1,2-Dichlorobenzene	2100	U
95-48-7	2-Methylphenol	2100	U
39638-32-9	bis(2-Chloroisopropyl)Ether	2100	U
106-44-5	4-Methylphenol	2100	U
621-64-7	N-Nitroso-Di-n-Propylamine	2100	U
67-72-1	Hexachloroethane	2100	U
98-95-3	Nitrobenzene	2100	U
78-59-1	Isophorone	2100	U
88-75-5	2-Nitrophenol	2100	U
105-67-9	2,4-Dimethylphenol	2100	U
65-85-0	Benzoic Acid	10000	U
111-91-1	bis(2-Chloroethoxy)Methane	2100	U
120-83-2	2,4-Dichlorophenol	2100	U
120-82-1	1,2,4-Trichlorobenzene	2100	U
91-20-3	Naphthalene	620	J
106-47-8	4-Chloroaniline	2100	U
87-68-3	Hexachlorobutadiene	2100	U
59-50-7	4-Chloro-3-Methylphenol	2100	U
91-57-6	2-Methylnaphthalene	560	J
77-47-4	Hexachlorocyclopentadiene	2100	U
88-06-2	2,4,6-Trichlorophenol	2100	U
95-95-4	2,4,5-Trichlorophenol	10000	U
91-58-7	2-Chloronaphthalene	2100	U
88-74-4	2-Nitroaniline	10000	U
131-11-3	Dimethyl Phthalate	2100	U
208-96-8	Acenaphthylene	20000	
606-20-2	2,6-Dinitrotoluene	2100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA06

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270409

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070409A20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 23 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	10000	U
83-32-9	Acenaphthene	680	J
51-28-5	2,4-Dinitrophenol	10000	U
100-02-7	4-Nitrophenol	10000	U
132-64-9	Dibenzofuran	1400	J
121-14-2	2,4-Dinitrotoluene	2100	U
84-66-2	Diethylphthalate	2100	U
7005-72-3	4-Chlorophenyl-phenylether	2100	U
86-73-7	Fluorene	4400	
100-01-6	4-Nitroaniline	10000	U
534-52-1	4,6-Dinitro-2-Methylphenol	10000	U
86-30-6	N-Nitrosodiphenylamine (1)	2100	U
101-55-3	4-Bromophenyl-phenylether	2100	U
118-74-1	Hexachlorobenzene	2100	U
87-86-5	Pentachlorophenol	10000	U
85-01-8	Phenanthrene	14000	
120-12-7	Anthracene	10000	
84-74-2	Di-n-Butylphthalate	2100	U
206-44-0	Fluoranthene	* 100,000 D ~~59000~~	~~E~~
129-00-0	Pyrene	* 150,000 D ~~58000~~	~~E~~
85-68-7	Butylbenzylphthalate	2100	U
91-94-1	3,3'-Dichlorobenzidine	4300	U
56-55-3	Benzo(a)Anthracene	* 63000 D ~~61000~~	~~E~~
218-01-9	Chrysene	* 78000 D ~~51000~~	~~E~~
117-81-7	bis(2-Ethylhexyl)Phthalate	2100	U
117-84-0	Di-n-Octyl Phthalate	2100	U
205-99-2	Benzo(b)Fluoranthene	* 120000 D ~~86000~~	~~EX~~ JN
207-08-9	Benzo(k)Fluoranthene	* 120000 D ~~86000~~	~~EX~~ JN
50-32-8	Benzo(a)Pyrene	* 72000 D ~~52000~~	~~E~~
193-39-5	Indeno(1,2,3-cd)Pyrene	26000	
53-70-3	Dibenzo(a,h)Anthracene	7400	
191-24-2	Benzo(g,h,i)Perylene	* 49000 D ~~35000~~	~~E~~

(1) - Cannot be separated from Diphenylamine

* taken from [illegible]

FORM I SV-2 1/87 Rev.

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BBA06

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270409

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070409A20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 23 dec. _____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 5.0

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRE	15.82	26000	J N
2.	2381-21-7	PYRENE, 1-METHYL-	17.42	26000	J
3.	2381-21-7	PYRENE, 1-METHYL-	17.59	48000	J
4.	2381-21-7	PYRENE, 1-METHYL-	17.69	18000	J
5.	3353-12-6	PYRENE, 4-METHYL-	17.75	28000	J
6.	3353-12-6	PYRENE, 4-METHYL-	17.90	26000	J
7.	3353-12-6	PYRENE, 4-METHYL-	17.95	21000	J
8.	84-15-1	1,1':2',1''-TERPHENYL	18.22	18000	J
9.	64401-21-4	PYRENE, 1,3-DIMETHYL-	18.39	26000	J
10.	239-35-0	BENZO[B]NAPHTHO[2,1-D]THIOPH	18.54	41000	J
11.	195-19-7	BENZO[C]PHENANTHRENE	18.59	18000	J
12.	203-12-3	BENZO[GHI]FLUORANTHENE	18.62	39000	J
13.	82-05-3	7H-BENZ[DE]ANTHRACEN-7-ONE	19.19	46000	J
14.	1705-84-6	TRIPHENYLENE, 2-METHYL-	19.64	35000	J
15.	1705-84-6	TRIPHENYLENE, 2-METHYL-	19.72	16000	J
16.		UNKNOWN	19.87	20000	J
17.		UNKNOWN	19.95	33000	J
18.	205-82-3	BENZO[J]FLUORANTHENE	21.32	20000	J
19.	205-82-3	BENZO[J]FLUORANTHENE	21.79	61000	J
20.		BENZO FLUORANTHENE	21.99	100000	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA07

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270410

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070410B20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 25 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	880	U
111-44-4	bis(2-Chloroethyl)Ether	880	U
95-57-8	2-Chlorophenol	880	U
541-73-1	1,3-Dichlorobenzene	880	U
106-46-7	1,4-Dichlorobenzene	880	U
100-51-6	Benzyl Alcohol	880	U
95-50-1	1,2-Dichlorobenzene	880	U
95-48-7	2-Methylphenol	880	U
39638-32-9	bis(2-Chloroisopropyl)Ether	880	U
106-44-5	4-Methylphenol	880	U
621-64-7	N-Nitroso-Di-n-Propylamine	880	U
67-72-1	Hexachloroethane	880	U
98-95-3	Nitrobenzene	880	U
78-59-1	Isophorone	880	U
88-75-5	2-Nitrophenol	880	U
105-67-9	2,4-Dimethylphenol	130	J
65-85-0	Benzoic Acid	4300	U
111-91-1	bis(2-Chloroethoxy)Methane	880	U
120-83-2	2,4-Dichlorophenol	880	U
120-82-1	1,2,4-Trichlorobenzene	880	U
91-20-3	Naphthalene	3100	
106-47-8	4-Chloroaniline	880	U
87-68-3	Hexachlorobutadiene	880	U
59-50-7	4-Chloro-3-Methylphenol	880	U
91-57-6	2-Methylnaphthalene	770	J
77-47-4	Hexachlorocyclopentadiene	880	U
88-06-2	2,4,6-Trichlorophenol	880	U
95-95-4	2,4,5-Trichlorophenol	4300	U
91-58-7	2-Chloronaphthalene	880	U
88-74-4	2-Nitroaniline	4300	U
131-11-3	Dimethyl Phthalate	880	U
208-96-8	Acenaphthylene *	14000 D ~~27000~~	~~E~~
606-20-2	2,6-Dinitrotoluene	880	U

FORM I SV-1 1/87 Rev.

* [illegible]

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA07

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270410

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070410B20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 25 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4300	U
83-32-9	Acenaphthene	1200	
51-28-5	2,4-Dinitrophenol	4300	U
100-02-7	4-Nitrophenol	4300	U
132-64-9	Dibenzofuran	620	J
121-14-2	2,4-Dinitrotoluene	880	U
84-66-2	Diethylphthalate	880	U
7005-72-3	4-Chlorophenyl-phenylether	880	U
86-73-7	Fluorene	6300	
100-01-6	4-Nitroaniline	4300	U
534-52-1	4,6-Dinitro-2-Methylphenol	4300	U
86-30-6	N-Nitrosodiphenylamine (1)	880	U
101-55-3	4-Bromophenyl-phenylether	880	U
118-74-1	Hexachlorobenzene	880	U
87-86-5	Pentachlorophenol	4300	U
85-01-8	Phenanthrene	7500 D ~~15000~~	~~E~~
120-12-7	Anthracene	14000	
84-74-2	Di-n-Butylphthalate	880	U
206-44-0	Fluoranthene	16000 D ~~24000~~	~~E~~
129-00-0	Pyrene	34000 D ~~22000~~	~~E~~
85-68-7	Butylbenzylphthalate	880	U
91-94-1	3,3'-Dichlorobenzidine	1800	U
56-55-3	Benzo(a)Anthracene	19000 D ~~36000~~	~~E~~
218-01-9	Chrysene	18000 D ~~35000~~	~~E~~
117-81-7	bis(2-Ethylhexyl)Phthalate	880	U
117-84-0	Di-n-Octyl Phthalate	880	U
205-99-2	Benzo(b)Fluoranthene	42000 D ~~64000~~	~~E~~ X JN
207-08-9	Benzo(k)Fluoranthene	42000 D ~~64000~~	~~E~~ X JN
50-32-8	Benzo(a)Pyrene	32000 D ~~49000~~	~~E~~
193-39-5	Indeno(1,2,3-cd)Pyrene	21000 D ~~28000~~	~~E~~
53-70-3	Dibenzo(a,h)Anthracene	6400	
191-24-2	Benzo(g,h,i)Perylene	31000 D ~~35000~~	~~E~~

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BBA07

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270410

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070410B20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 25 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 2.0

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	827-54-3	NAPHTHALENE, 2-ETHENYL-	12.12	6600	J
2.	501-65-5	BENZENE, 1,1'-(1,2-ETHYNEDIY	14.54	6400	J
3.	610-48-0	ANTHRACENE, 1-METHYL-	15.89	13000	J
4.		ALKTL SUBST. BENZENE	17.09	7400	J
5.		UNKNOWN	17.15	9800	J
6.	238-84-6	11H-BENZO[A]FLUORENE	17.69	8900	J
7.	3353-12-6	PYRENE, 4-METHYL-	18.00	16000	J
8.	64401-21-4	PYRENE, 1,3-DIMETHYL-	18.47	11000	J
9.		UNKNOWN	18.64	11000	J
10.	203-12-3	BENZO[GHI]FLUORANTHENE	18.74	9800	J
11.	195-19-7	BENZO[C]PHENANTHRENE	19.07	17000	J
12.	82-05-3	7H-BENZ[DE]ANTHRACEN-7-ONE	19.30	11000	J
13.	1705-84-6	TRIPHENYLENE, 2-METHYL-	19.75	13000	J
14.	3697-24-3	CHRYSENE, 5-METHYL-	19.82	6400	J
15.	2422-79-9	BENZ[A]ANTHRACENE, 12-METHYL	20.04	7500	J
16.		UNKNOWN	20.09	9800	J
17.	192-97-2	BENZO[E]PYRENE	21.47	9800	J
18.		UNKNOWN	22.15	34000	J
19.	205-82-3	BENZO[J]FLUORANTHENE	22.30	11000	J
20.	214-17-5	BENZO[B]CHRYSENE	25.86	8500	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA08

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270411

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70411B20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 16 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2000	U
111-44-4	bis(2-Chloroethyl)Ether	2000	U
95-57-8	2-Chlorophenol	2000	U
541-73-1	1,3-Dichlorobenzene	2000	U
106-46-7	1,4-Dichlorobenzene	2000	U
100-51-6	Benzyl Alcohol	2000	U
95-50-1	1,2-Dichlorobenzene	2000	U
95-48-7	2-Methylphenol	2000	U
39638-32-9	bis(2-Chloroisopropyl)Ether	2000	U
106-44-5	4-Methylphenol	2000	U
621-64-7	N-Nitroso-Di-n-Propylamine	2000	U
67-72-1	Hexachloroethane	2000	U
98-95-3	Nitrobenzene	2000	U
78-59-1	Isophorone	2000	U
88-75-5	2-Nitrophenol	2000	U
105-67-9	2,4-Dimethylphenol	2000	U
65-85-0	Benzoic Acid	9500	U
111-91-1	bis(2-Chloroethoxy)Methane	2000	U
120-83-2	2,4-Dichlorophenol	2000	U
120-82-1	1,2,4-Trichlorobenzene	2000	U
91-20-3	Naphthalene	3100	
106-47-8	4-Chloroaniline	2000	U
87-68-3	Hexachlorobutadiene	2000	U
59-50-7	4-Chloro-3-Methylphenol	2000	U
91-57-6	2-Methylnaphthalene	2200	
77-47-4	Hexachlorocyclopentadiene	2000	U
88-06-2	2,4,6-Trichlorophenol	2000	U
95-95-4	2,4,5-Trichlorophenol	9500	U
91-58-7	2-Chloronaphthalene	2000	U
88-74-4	2-Nitroaniline	9500	U
131-11-3	Dimethyl Phthalate	2000	U
208-96-8	Acenaphthylene	* 14/000 D35000	E
606-20-2	2,6-Dinitrotoluene	2000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA08

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270411

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70411B20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 16 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	9500	U
83-32-9	Acenaphthene	2000	
51-28-5	2,4-Dinitrophenol	9500	U
100-02-7	4-Nitrophenol	9500	U
132-64-9	Dibenzofuran	2000	U
121-14-2	2,4-Dinitrotoluene	2000	U
84-66-2	Diethylphthalate	2000	U
7005-72-3	4-Chlorophenyl-phenylether	2000	U
86-73-7	Fluorene	6100	
100-01-6	4-Nitroaniline	9500	U
534-52-1	4,6-Dinitro-2-Methylphenol	9500	U
86-30-6	N-Nitrosodiphenylamine (1)	2000	U
101-55-3	4-Bromophenyl-phenylether	2000	U
118-74-1	Hexachlorobenzene	2000	U
87-86-5	Pentachlorophenol	* 40000 D ~~34000~~	~~E~~
85-01-8	Phenanthrene	15000	
120-12-7	Anthracene	2000	U
84-74-2	Di-n-Butylphthalate	* 110,000 D ~~45000~~	~~E~~
206-44-0	Fluoranthene	* 180,000 D ~~76000~~	~~E~~
129-00-0	Pyrene	2000	U
85-68-7	Butylbenzylphthalate	3900	U
91-94-1	3,3'-Dichlorobenzidine	* 110000 D ~~72000~~	~~E~~
56-55-3	Benzo(a)Anthracene	* 110000 D ~~71000~~	~~E~~
218-01-9	Chrysene	2000	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2000	U
117-84-0	Di-n-Octyl Phthalate	* 260000 D ~~170000~~	~~E~~
205-99-2	Benzo(b)Fluoranthene	* 260000 D ~~170000~~	~~E~~
207-08-9	Benzo(k)Fluoranthene	* 170000 D ~~110000~~	~~E~~
50-32-8	Benzo(a)Pyrene	* 58000 D ~~47000~~	~~E~~
193-39-5	Indeno(1,2,3-cd)Pyrene	14000	
53-70-3	Dibenzo(a,h)Anthracene	* 75000 D ~~70000~~	~~E~~
191-24-2	Benzo(g,h,i)Perylene		

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

BBA08

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270411

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70411B20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 16 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 5.0

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN HYDROCARBON	11.85	9300	J N
2.		UNKNOWN	12.15	8900	J
3.		UNKNOWN HYDROCARBON	12.45	11000	J
4.		UNKNOWN HYDROCARBON	13.05	11000	J
5.		UNKNOWN HDYROCARBON	14.12	22000	J
6.		UNKNOWN PNA	14.24	12000	J
7.		UNKNOWN PNA	14.79	7000	J
8.		UNKNOWN	14.94	8500	J N
9.		FLUORANTHENE ISOMER	15.15	8200	J N
10.		UNKNOWN	15.24	9900	J
11.		UNKNOWN	15.75	15000	J
12.		METHYL PYRENE ISOMER	15.90	85000	J
13.		METHYL PYRENE ISOMER	16.04	160000	J
14.		METHYL PYRENE ISOMER	16.07	44000	J
15.		UNKNOWN	16.47	74000	J
16.		UNKNOWN PNA	16.65	150000	J
17.	203-12-3	BENZO[GHI]FLUORANTHENE	16.74	78000	J
18.		UNKNOWN	17.30	97000	J
19.		UNKNOWN	17.74	110000	J
20.		UNKNOWN	17.84	50000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA09

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270412

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ070412B04

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 14 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/29/89

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)Ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
100-51-6	Benzyl Alcohol	380	U
95-50-1	1,2-Dichlorobenzene	380	U
95-48-7	2-Methylphenol	380	U
39638-32-9	bis(2-Chloroisopropyl)Ether	380	~~U~~
106-44-5	4-Methylphenol	380	U
621-64-7	N-Nitroso-Di-n-Propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	U
65-85-0	Benzoic Acid	1900	U
111-91-1	bis(2-Chloroethoxy)Methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	380	U
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-Methylphenol	380	U
91-57-6	2-Methylnaphthalene	380	U
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	380	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethyl Phthalate	380	U
208-96-8	Acenaphthylene	550	
606-20-2	2,6-Dinitrotoluene	380	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA09

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270412

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ070412B04

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 14 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/29/89

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	580	
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U J
132-64-9	Dibenzofuran	380	U
121-14-2	2,4-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
7005-72-3	4-Chlorophenyl-phenylether	380	U
86-73-7	Fluorene	390	
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-Methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	1200	
120-12-7	Anthracene	430	
84-74-2	Di-n-Butylphthalate	380	U
206-44-0	Fluoranthene	1300	
129-00-0	Pyrene	2400	
85-68-7	Butylbenzylphthalate	380	U
91-94-1	3,3'-Dichlorobenzidine	770	U J
56-55-3	Benzo(a)Anthracene	990	
218-01-9	Chrysene	1000	
117-81-7	bis(2-Ethylhexyl)Phthalate	380	U
117-84-0	Di-n-Octyl Phthalate	380	U
205-99-2	Benzo(b)Fluoranthene	630	
207-08-9	Benzo(k)Fluoranthene	690	
50-32-8	Benzo(a)Pyrene	1300	
193-39-5	Indeno(1,2,3-cd)Pyrene	610	
53-70-3	Dibenzo(a,h)Anthracene	220	J
191-24-2	Benzo(g,h,i)Perylene	1400	

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

BBA09

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270412

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ070412B04

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 14 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/29/89

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

Number TICs found: 24

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		BLANK CONTAMINANT	5.10	620	~~BJ~~
2.		BLANK CONTAMINANT	5.18	540	~~BJ~~
3.		UNKNOWN	5.85	3400	J
4.		ALDOL	6.03	2900	~~AJ~~
5.		ALDOL	6.48	2200	~~AJ~~
6.		UNKNOWN	7.15	930	J
7.		TETRAMETHYL BENZENE ISOMER	8.13	310	J
8.		UNKNOWN HYDROCARBON	8.55	620	J
9.		UNKNOWN HYDROCARBON	9.05	660	J
10.		UNKNOWN	9.24	270	J
11.		UNKNOWN	9.35	270	J
12.		NAPHTHALENE ISOMER	9.57	430	J
13.		UNKNOWN HYDROCARBON	9.69	350	J
14.		UNKNOWN HYDROCARBON	9.87	310	J
15.		UNKNOWN	10.07	270	J
16.		DIMETHYL NAPHTHALENE ISOMER	10.40	390	J
17.		UNKNOWN HYDROCARBON	10.50	580	J
18.		UNKNOWN HYDROCARBON	11.75	460	J
19.		UNKNOWN HYDROCARBON	12.12	540	J
20.		UNKNOWN HYDROCARBON	12.75	310	J
21.		PHENANTHRENE ISOMER	13.62	350	J
22.		PHENANTHRENE ISOMER	13.75	540	J
23.		FLOURANTHENE ISOMER	14.69	230	J
24.		METHYL PYRENE ISOMER	15.32	310	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA10

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270413

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ070413A15

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
100-51-6	Benzyl Alcohol	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
39638-32-9	bis(2-Chloroisopropyl)Ether	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
65-85-0	Benzoic Acid	1800	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	~~8300~~ 16000 D	~~E~~ J
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	~~11000~~ 12000 D	~~E~~ J
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	1800	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	1800	U
131-11-3	Dimethyl Phthalate	370	U
208-96-8	Acenaphthylene	~~13000~~ 38000 D	~~E~~
606-20-2	2,6-Dinitrotoluene	370	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA10

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270413

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ070413A15

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	2500	
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	1800	U
132-64-9	Dibenzofuran	1600	
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	14000 D ~~11000~~	~~E~~
100-01-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-Methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	98000 D ~~27000~~	~~E~~
120-12-7	Anthracene	30000 JD ~~8700~~	~~E~~
84-74-2	Di-n-Butylphthalate	370	U
206-44-0	Fluoranthene	150000 D ~~10000~~	~~E~~
129-00-0	Pyrene	220000 D ~~61000~~	~~E~~
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	740	U J
56-55-3	Benzo(a)Anthracene	74000 ~~49000~~	~~E~~
218-01-9	Chrysene	91000 ~~31000~~	~~E~~
117-81-7	bis(2-Ethylhexyl)Phthalate	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	120000 ~~65000~~	X
207-08-9	Benzo(k)Fluoranthene	120000 ~~65000~~	X
50-32-8	Benzo(a)Pyrene	83000 ~~49000~~	~~E~~
193-39-5	Indeno(1,2,3-cd)Pyrene	30000 JD ~~13000~~	~~E~~
53-70-3	Dibenzo(a,h)Anthracene	4800	
191-24-2	Benzo(g,h,i)Perylene	45000 D ~~20000~~	~~E~~

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA10

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270413

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ070413A15

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	2471-83-2	1H-INDENE, 1-ETHYLIDENE-	9.52	10000	J
2.	939-27-5	NAPHTHALENE, 2-ETHYL-	10.44	16000	J
3.	827-54-3	NAPHTHALENE, 2-ETHENYL-	10.50	5200	J
4.		UNKNOWN	11.59	9700	J
5.		UNKNOWN HYDROCARBON	11.94	8200	J
6.		UNKNOWN HYDROCARBON	12.30	6000	J
7.		METHYL FLOURENE ISOMER	12.59	7500	J
8.		UNKNOWN	12.99	9000	J
9.		UNKNOWN HYDROCARBON	13.62	15000	J
10.		METHYL PHENENTHRENE ISOMER	13.99	33000	J
11.		UNKNOWN PNA	14.14	34000	J
12.		UNKNOWN PNA	14.84	13000	J
13.		UNKNOWN PNA	15.72	7900	J
14.		UNKNOWN PNA	15.89	17000	J
15.		UNKNOWN PNA	15.99	6700	J
16.		UNKNOWN PNA	16.05	11000	J
17.		UNKNOWN PNA	16.22	19000	J
18.		UNKNOWN	16.84	14000	J
19.		UNKNOWN PNA	16.89	7100	J
20.		UNKNOWN	17.40	6700	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA11

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270414

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070414A15

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2000	U
111-44-4	bis(2-Chloroethyl)Ether	2000	U
95-57-8	2-Chlorophenol	2000	U
541-73-1	1,3-Dichlorobenzene	2000	U
106-46-7	1,4-Dichlorobenzene	2000	U
100-51-6	Benzyl Alcohol	2000	U
95-50-1	1,2-Dichlorobenzene	2000	U
95-48-7	2-Methylphenol	2000	U
39638-32-9	bis(2-Chloroisopropyl)Ether	2000	U
106-44-5	4-Methylphenol	2000	U
621-64-7	N-Nitroso-Di-n-Propylamine	2000	U
67-72-1	Hexachloroethane	2000	U
98-95-3	Nitrobenzene	2000	U
78-59-1	Isophorone	2000	U
88-75-5	2-Nitrophenol	2000	U
105-67-9	2,4-Dimethylphenol	2000	U
65-85-0	Benzoic Acid	9600	U
111-91-1	bis(2-Chloroethoxy)Methane	2000	U
120-83-2	2,4-Dichlorophenol	2000	U
120-82-1	1,2,4-Trichlorobenzene	2000	U
91-20-3	Naphthalene	1400	J
106-47-8	4-Chloroaniline	2000	U
87-68-3	Hexachlorobutadiene	2000	U
59-50-7	4-Chloro-3-Methylphenol	2000	U
91-57-6	2-Methylnaphthalene	650	J
77-47-4	Hexachlorocyclopentadiene	2000	U
88-06-2	2,4,6-Trichlorophenol	2000	U
95-95-4	2,4,5-Trichlorophenol	9600	U
91-58-7	2-Chloronaphthalene	2000	U
88-74-4	2-Nitroaniline	9600	U
131-11-3	Dimethyl Phthalate	2000	U
208-96-8	Acenaphthylene	17000	
606-20-2	2,6-Dinitrotoluene	2000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA11

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270414

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070414A15

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	9600	U
83-32-9	Acenaphthene	9000	
51-28-5	2,4-Dinitrophenol	9600	U
100-02-7	4-Nitrophenol	9600	U
132-64-9	Dibenzofuran	2000	
121-14-2	2,4-Dinitrotoluene	2000	U
84-66-2	Diethylphthalate	2000	U
7005-72-3	4-Chlorophenyl-phenylether	2000	U
86-73-7	Fluorene	6100	
100-01-6	4-Nitroaniline	9600	U
534-52-1	4,6-Dinitro-2-Methylphenol	9600	U
86-30-6	N-Nitrosodiphenylamine (1)	2000	U
101-55-3	4-Bromophenyl-phenylether	2000	U
118-74-1	Hexachlorobenzene	2000	U
87-86-5	Pentachlorophenol	9600	U
85-01-8	Phenanthrene	20000	
120-12-7	Anthracene	8900	
84-74-2	Di-n-Butylphthalate	2000	U
206-44-0	Fluoranthene	27000	
129-00-0	Pyrene	28000	
85-68-7	Butylbenzylphthalate	2000	U
91-94-1	3,3'-Dichlorobenzidine	4000	UJ
56-55-3	Benzo(a)Anthracene	20000	
218-01-9	Chrysene	22000	
117-81-7	bis(2-Ethylhexyl)Phthalate	2000	U
117-84-0	Di-n-Octyl Phthalate	2000	U
205-99-2	Benzo(b)Fluoranthene	54000	EX J
207-08-9	Benzo(k)Fluoranthene	54000	EX J
50-32-8	Benzo(a)Pyrene	34000	E
193-39-5	Indeno(1,2,3-cd)Pyrene	14000	
53-70-3	Dibenzo(a,h)Anthracene	4400	
191-24-2	Benzo(g,h,i)Perylene	21000	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA11

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270414

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070414A15

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 5.0

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	11.92	7000	J N
2.		UNKNOWN HYDROCARBON	13.04	4000	J
3.		UNKNOWN PNA	13.90	8200	J
4.		UNKNOWN PNA	13.95	6400	J
5.		UNKNOWN PNA	14.09	16000	J
6.		UNKNOWN PNA	14.64	5600	J
7.		UNKNOWN PNA	14.75	7800	J
8.		UNKNOWN PNA	14.80	6800	J
9.		UNKNOWN	14.87	6200	J
10.		UNKNOWN PNA	15.65	6000	J
11.		UNKNOWN PNA	15.82	12000	J
12.		UNKNOWN PNA	15.97	6600	J
13.		UNKNOWN PNA	16.12	7400	J
14.		UNKNOWN PNA	16.17	7400	J
15.		UNKNOWN PNA	16.75	6600	J
16.		UNKNOWN	16.80	7000	J
17.		UNKNOWN	17.35	6400	J
18.		UNKNOWN	17.70	8000	J
19.		UNKNOWN	17.84	2800	J
20.		UNKNOWN PNA	17.92	11000	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA12

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270415

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070415B04

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 30 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/29/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	940	U
111-44-4	bis(2-Chloroethyl)Ether	940	U
95-57-8	2-Chlorophenol	940	U
541-73-1	1,3-Dichlorobenzene	940	U
106-46-7	1,4-Dichlorobenzene	940	U
100-51-6	Benzyl Alcohol	940	U
95-50-1	1,2-Dichlorobenzene	940	U
95-48-7	2-Methylphenol	940	U
39638-32-9	bis(2-Chloroisopropyl)Ether	940	U
106-44-5	4-Methylphenol	940	U
621-64-7	N-Nitroso-Di-n-Propylamine	940	U
67-72-1	Hexachloroethane	940	U
98-95-3	Nitrobenzene	940	U
78-59-1	Isophorone	940	U
88-75-5	2-Nitrophenol	940	U
105-67-9	2,4-Dimethylphenol	940	U
65-85-0	Benzoic Acid	4600	U
111-91-1	bis(2-Chloroethoxy)Methane	940	U
120-83-2	2,4-Dichlorophenol	940	U
120-82-1	1,2,4-Trichlorobenzene	940	U
91-20-3	Naphthalene	13000	
106-47-8	4-Chloroaniline	940	U
87-68-3	Hexachlorobutadiene	940	U
59-50-7	4-Chloro-3-Methylphenol	940	U
91-57-6	2-Methylnaphthalene	550	J
77-47-4	Hexachlorocyclopentadiene	940	U
88-06-2	2,4,6-Trichlorophenol	940	U
95-95-4	2,4,5-Trichlorophenol	4600	U
91-58-7	2-Chloronaphthalene	940	U
88-74-4	2-Nitroaniline	4600	U
131-11-3	Dimethyl Phthalate	940	U
208-96-8	Acenaphthylene	1200	
606-20-2	2,6-Dinitrotoluene	940	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA12

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270415

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070415B04

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 30 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/29/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4600	U
83-32-9	Acenaphthene	940	U
51-28-5	2,4-Dinitrophenol	4600	U
100-02-7	4-Nitrophenol	4600	U
132-64-9	Dibenzofuran	940	U
121-14-2	2,4-Dinitrotoluene	940	U
84-66-2	Diethylphthalate	940	U
7005-72-3	4-Chlorophenyl-phenylether	940	U
86-73-7	Fluorene	140	J
100-01-6	4-Nitroaniline	4600	U
534-52-1	4,6-Dinitro-2-Methylphenol	4600	U
86-30-6	N-Nitrosodiphenylamine (1)	940	U
101-55-3	4-Bromophenyl-phenylether	940	U
118-74-1	Hexachlorobenzene	940	U
87-86-5	Pentachlorophenol	4600	U
85-01-8	Phenanthrene	510	J
120-12-7	Anthracene	400	J
84-74-2	Di-n-Butylphthalate	940	U
206-44-0	Fluoranthene	1300	
129-00-0	Pyrene	3200	
85-68-7	Butylbenzylphthalate	940	U
91-94-1	3,3'-Dichlorobenzidine	1900	U
56-55-3	Benzo(a)Anthracene	1800	
218-01-9	Chrysene	2800	
117-81-7	bis(2-Ethylhexyl)Phthalate	940	U
117-84-0	Di-n-Octyl Phthalate	940	U
205-99-2	Benzo(b)Fluoranthene	3200	
207-08-9	Benzo(k)Fluoranthene	3100	
50-32-8	Benzo(a)Pyrene	6800	
193-39-5	Indeno(1,2,3-cd)Pyrene	4400	
53-70-3	Dibenzo(a,h)Anthracene	1300	
191-24-2	Benzo(g,h,i)Perylene	5900	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA12

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270415

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070415B04

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 30 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/29/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 2.0

Number TICs found: 25

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		VOA TCL	5.00	1500	J
2.		VOA TCL	5.10	1100	J
3.		VOA TCL	5.38	1300	J
4.		UNKNOWN	5.75	1300	J
5.		ALDOL	5.93	4600	AJ
6.		ETHYL METHYL BENZENE ISOMER	6.15	760	J
7.		ETHYL METHYL BENZENE ISOMER	6.32	480	J
8.		ALDOL	6.38	1800	AJ
9.		TRIMETHYL BENZENE ISOMER	6.45	2100	J
10.		TRIMETHYL BENZENE ISOMER	6.77	570	J
11.	5363-63-3	PENTANE, 1-(ETHENYLOXY)-	6.87	760	J
12.	611-15-4	BENZENE, 1-ETHENYL-2-METHYL-	6.92	4600	J
13.		UNKNOWN	7.02	1100	J
14.		UNKNOWN	8.02	760	J
15.	65051-83-4	BENZENE, (1-METHYL-2-CYCLOPR	8.08	480	J
16.	4453-90-1	1,4-METHANONAPHTHALENE, 1,4-	9.45	480	J
17.	10544-50-0	SULFUR, MOL. (S8)	11.05	570	J
18.		UNKNOWN	13.47	480	J
19.		PHENANTHRENE ISOMER	13.64	760	J
20.		UNKNOWN	14.35	480	J
21.		FLOURANTHRENE ISOMER	14.57	570	J
22.		UNKNOWN	15.20	860	J
23.		METHYL PYRENE ISOMER	15.49	1000	J
24.	1705-84-6	TRIPHENYLENE, 2-METHYL-	17.19	570	J
25.		BENZO FLOURANTHRENE ISOMER	19.49	4100	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA13

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270416

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70416B04

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/29/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1900	U
111-44-4	bis(2-Chloroethyl)Ether	1900	U
95-57-8	2-Chlorophenol	1900	U
541-73-1	1,3-Dichlorobenzene	1900	U
106-46-7	1,4-Dichlorobenzene	1900	U
100-51-6	Benzyl Alcohol	1900	U
95-50-1	1,2-Dichlorobenzene	1900	U
95-48-7	2-Methylphenol	1900	U
39638-32-9	bis(2-Chloroisopropyl)Ether	1900	U
106-44-5	4-Methylphenol	1900	U
621-64-7	N-Nitroso-Di-n-Propylamine	1900	U
67-72-1	Hexachloroethane	1900	U
98-95-3	Nitrobenzene	1900	U
78-59-1	Isophorone	1900	U
88-75-5	2-Nitrophenol	1900	U
105-67-9	2,4-Dimethylphenol	1900	U
65-85-0	Benzoic Acid	9000	U
111-91-1	bis(2-Chloroethoxy)Methane	1900	U
120-83-2	2,4-Dichlorophenol	1900	U
120-82-1	1,2,4-Trichlorobenzene	1900	U
91-20-3	Naphthalene	300	J
106-47-8	4-Chloroaniline	1900	U
87-68-3	Hexachlorobutadiene	1900	U
59-50-7	4-Chloro-3-Methylphenol	1900	U
91-57-6	2-Methylnaphthalene	1900	U
77-47-4	Hexachlorocyclopentadiene	1900	U
88-06-2	2,4,6-Trichlorophenol	1900	U
95-95-4	2,4,5-Trichlorophenol	9000	U
91-58-7	2-Chloronaphthalene	1900	U
88-74-4	2-Nitroaniline	9000	U
131-11-3	Dimethyl Phthalate	1900	U
208-96-8	Acenaphthylene	2500	
606-20-2	2,6-Dinitrotoluene	1900	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA13

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270416

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70416B04

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/29/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	9000	U
83-32-9	Acenaphthene	1900	U
51-28-5	2,4-Dinitrophenol	9000	UJ
100-02-7	4-Nitrophenol	9000	UJ
132-64-9	Dibenzofuran	1900	U
121-14-2	2,4-Dinitrotoluene	1900	U
84-66-2	Diethylphthalate	1900	U
7005-72-3	4-Chlorophenyl-phenylether	1900	U
86-73-7	Fluorene	290	J
100-01-6	4-Nitroaniline	9000	U
534-52-1	4,6-Dinitro-2-Methylphenol	9000	U
86-30-6	N-Nitrosodiphenylamine (1)	1900	U
101-55-3	4-Bromophenyl-phenylether	1900	U
118-74-1	Hexachlorobenzene	1900	U
87-86-5	Pentachlorophenol	9000	U
85-01-8	Phenanthrene	2400	
120-12-7	Anthracene	1300	J
84-74-2	Di-n-Butylphthalate	190	J
206-44-0	Fluoranthene	8700	
129-00-0	Pyrene	14000	
85-68-7	Butylbenzylphthalate	1900	UJ
91-94-1	3,3'-Dichlorobenzidine	3700	UJ
56-55-3	Benzo(a)Anthracene	8900	
218-01-9	Chrysene	11000	
117-81-7	bis(2-Ethylhexyl)Phthalate	1900	U
117-84-0	Di-n-Octyl Phthalate	1900	U
205-99-2	Benzo(b)Fluoranthene	24000	JN
207-08-9	Benzo(k)Fluoranthene	24000	JN
50-32-8	Benzo(a)Pyrene	9200	
193-39-5	Indeno(1,2,3-cd)Pyrene	5700	
53-70-3	Dibenzo(a,h)Anthracene	1600	J
191-24-2	Benzo(g,h,i)Perylene	6700	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA13

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270416

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70416B04

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/29/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 5.0

Number TICs found: 22

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		VOA TCL	5.43	1500	~~J~~ R
2.		ALDOL	6.03	3400	~~AJ~~ R
3.		UNKNOWN HYDROCARBON	13.22	1100	J
4.	613-12-7	ANTHRACENE, 2-METHYL-	13.59	1700	J
5.		METHYLANTHRACENE ISOMER	13.72	2400	J
6.		UNKNOWN	13.99	1700	J
7.		ANTHRACENE ISOMER	14.32	3600	J
8.		UNKNOWN	14.44	1300	J
9.		FLUORANTHENE ISOMER	14.67	1300	J
10.		METHYL PYRENE ISOMER	15.15	1100	J
11.		UNKNOWN	15.30	2100	J
12.		METHYL PYRENE ISOMER	15.45	1500	J
13.		METHYL PYRENE ISOMER	15.59	1500	J
14.		METHYL PYRENE ISOMER	15.62	1100	J
15.		UNKNOWN	16.02	940	J
16.		UNKNOWN	16.19	1100	J
17.	203-12-3	BENZO[GHI]FLUORANTHENE	16.25	1900	J
18.		UNKNOWN	16.32	940	J
19.		UNKNOWN	16.82	1500	J
20.		UNKNOWN	17.27	1500	J
21.		UNKNOWN	17.55	1300	J
22.		BENZO FLUORANTHENE ISOMER	19.45	4700	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA14

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270417

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GDJ70417C04

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 16 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2000	U
111-44-4	bis(2-Chloroethyl)Ether	2000	U
95-57-8	2-Chlorophenol	2000	U
541-73-1	1,3-Dichlorobenzene	2000	U
106-46-7	1,4-Dichlorobenzene	2000	U
100-51-6	Benzyl Alcohol	2000	U
95-50-1	1,2-Dichlorobenzene	2000	U
95-48-7	2-Methylphenol	2000	U
39638-32-9	bis(2-Chloroisopropyl)Ether	2000	U
106-44-5	4-Methylphenol	2000	U
621-64-7	N-Nitroso-Di-n-Propylamine	2000	U
67-72-1	Hexachloroethane	2000	U
98-95-3	Nitrobenzene	2000	U
78-59-1	Isophorone	2000	U
88-75-5	2-Nitrophenol	2000	U
105-67-9	2,4-Dimethylphenol	2000	U
65-85-0	Benzoic Acid	9500	U
111-91-1	bis(2-Chloroethoxy)Methane	2000	U
120-83-2	2,4-Dichlorophenol	2000	U
120-82-1	1,2,4-Trichlorobenzene	2000	U
91-20-3	Naphthalene	330	J
106-47-8	4-Chloroaniline	2000	U
87-68-3	Hexachlorobutadiene	2000	U
59-50-7	4-Chloro-3-Methylphenol	2000	U
91-57-6	2-Methylnaphthalene	1400	J
77-47-4	Hexachlorocyclopentadiene	2000	U
88-06-2	2,4,6-Trichlorophenol	2000	U
95-95-4	2,4,5-Trichlorophenol	9500	U
91-58-7	2-Chloronaphthalene	2000	U
88-74-4	2-Nitroaniline	9500	U
131-11-3	Dimethyl Phthalate	2000	U
208-96-8	Acenaphthylene	6400	
606-20-2	2,6-Dinitrotoluene	2000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA14

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270417

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GDJ70417C04

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 16 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	9500	U
83-32-9	Acenaphthene	2000	U
51-28-5	2,4-Dinitrophenol	9500	U
100-02-7	4-Nitrophenol	9500	U
132-64-9	Dibenzofuran	2000	U
121-14-2	2,4-Dinitrotoluene	2000	U
84-66-2	Diethylphthalate	2000	U
7005-72-3	4-Chlorophenyl-phenylether	2000	U
86-73-7	Fluorene	270	J
100-01-6	4-Nitroaniline	9500	U
534-52-1	4,6-Dinitro-2-Methylphenol	9500	U
86-30-6	N-Nitrosodiphenylamine (1)	2000	U
101-55-3	4-Bromophenyl-phenylether	2000	U
118-74-1	Hexachlorobenzene	2000	U
87-86-5	Pentachlorophenol	9500	U
85-01-8	Phenanthrene	2800	
120-12-7	Anthracene	2900	
84-74-2	Di-n-Butylphthalate	2000	U
206-44-0	Fluoranthene	11000	
129-00-0	Pyrene	18000	
85-68-7	Butylbenzylphthalate	2000	U
91-94-1	3,3'-Dichlorobenzidine	3900	U
56-55-3	Benzo(a)Anthracene	11000	
218-01-9	Chrysene	13000	
117-81-7	bis(2-Ethylhexyl)Phthalate	2000	U
117-84-0	Di-n-Octyl Phthalate	2000	U
205-99-2	Benzo(b)Fluoranthene	23000	X
207-08-9	Benzo(k)Fluoranthene	23000	X
50-32-8	Benzo(a)Pyrene	19000	
193-39-5	Indeno(1,2,3-cd)Pyrene	9600	
53-70-3	Dibenzo(a,h)Anthracene	3900	
191-24-2	Benzo(g,h,i)Perylene	16000	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BBA14

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270417

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GDJ70417C04

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 16 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 5.0

Number TICs found: 21 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	5.98	2200	~~AJ~~ K
2.		UNKNOWN PNA	13.47	1600	J N
3.		UNKNOWN PNA	13.59	3400	J
4.		UNKNOWN PNA	14.19	3200	J
5.		UNKNOWN	14.25	2800	J
6.		UNKNOWN	14.30	2200	J
7.		UNKNOWN PNA	15.00	990	J
8.		UNKNOWN PNA	15.15	2000	J
9.		UNKNOWN PNA	15.30	1400	J
10.		UNKNOWN PNA	15.44	2800	J
11.		UNKNOWN PNA	15.47	1400	J
12.		UNKNOWN	15.74	2200	J
13.		UNKNOWN	16.02	2400	J
14.		UNKNOWN	16.15	990	J
15.		UNKNOWN PNA	16.65	1600	J
16.		UNKNOWN	17.07	2000	J
17.		UNKNOWN	17.34	1600	J
18.		UNKNOWN PNA	18.70	18000	J N
19.		UNKNOWN	18.77	14000	J N
20.		BENZO FLUORANTHENE ISOMER	19.14	22000	J N
21.		UNKNOWN PNA	19.47	9900	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA15

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270696

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ070696A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 22 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2100	U
111-44-4	bis(2-Chloroethyl)Ether	2100	U
95-57-8	2-Chlorophenol	2100	U
541-73-1	1,3-Dichlorobenzene	2100	U
106-46-7	1,4-Dichlorobenzene	2100	U
100-51-6	Benzyl Alcohol	2100	U
95-50-1	1,2-Dichlorobenzene	2100	U
95-48-7	2-Methylphenol	2100	U
39638-32-9	bis(2-Chloroisopropyl)Ether	2100	U
106-44-5	4-Methylphenol	2100	U
621-64-7	N-Nitroso-Di-n-Propylamine	2100	U
67-72-1	Hexachloroethane	2100	U
98-95-3	Nitrobenzene	330	J
78-59-1	Isophorone	2100	U
88-75-5	2-Nitrophenol	2100	U
105-67-9	2,4-Dimethylphenol	2100	U
65-85-0	Benzoic Acid	1600	J
111-91-1	bis(2-Chloroethoxy)Methane	2100	U
120-83-2	2,4-Dichlorophenol	2100	U
120-82-1	1,2,4-Trichlorobenzene	2100	U
91-20-3	Naphthalene	1900	J
106-47-8	4-Chloroaniline	2100	U
87-68-3	Hexachlorobutadiene	2100	U
59-50-7	4-Chloro-3-Methylphenol	2100	U
91-57-6	2-Methylnaphthalene	1800	J
77-47-4	Hexachlorocyclopentadiene	2100	U
88-06-2	2,4,6-Trichlorophenol	2100	U
95-95-4	2,4,5-Trichlorophenol	10000	U
91-58-7	2-Chloronaphthalene	2100	U
88-74-4	2-Nitroaniline	10000	U
131-11-3	Dimethyl Phthalate	2100	U
208-96-8	Acenaphthylene	~~39000~~ 18000 JD	~~E~~
606-20-2	2,6-Dinitrotoluene	2100	U

1994

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA15

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270696

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ070696A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 22 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG		Q
99-09-2	3-Nitroaniline		10000	U
83-32-9	Acenaphthene		1100	J
51-28-5	2,4-Dinitrophenol		10000	U
100-02-7	4-Nitrophenol		10000	U
132-64-9	Dibenzofuran		940	J
121-14-2	2,4-Dinitrotoluene		2100	U
84-66-2	Diethylphthalate		2100	U
7005-72-3	4-Chlorophenyl-phenylether		2100	U
86-73-7	Fluorene		12000	
100-01-6	4-Nitroaniline		10000	U
534-52-1	4,6-Dinitro-2-Methylphenol		10000	U
86-30-6	N-Nitrosodiphenylamine (1)		2100	U
101-55-3	4-Bromophenyl-phenylether		2100	U
118-74-1	Hexachlorobenzene		2100	U
87-86-5	Pentachlorophenol		10000	U
85-01-8	Phenanthrene	* 49000 D	~~90000~~	~~E~~
120-12-7	Anthracene		16000	
84-74-2	Di-n-Butylphthalate		2100	U
206-44-0	Fluoranthene	* 130000 D	~~140000~~	~~E~~
129-00-0	Pyrene	* 160000 D	~~200000~~	~~E~~
85-68-7	Butylbenzylphthalate		2100	U
91-94-1	3,3'-Dichlorobenzidine		4200	U J
56-55-3	Benzo(a)Anthracene	* 67000 D	~~80000~~	~~E~~
218-01-9	Chrysene	* 80000 D	~~120000~~	~~E~~
117-81-7	bis(2-Ethylhexyl)Phthalate		2100	U J
117-84-0	Di-n-Octyl Phthalate		2100	U
205-99-2	Benzo(b)Fluoranthene	* 110000 D	~~170000~~	~~E~~ J
207-08-9	Benzo(k)Fluoranthene	* 110000 D	~~170000~~	~~E~~ J
50-32-8	Benzo(a)Pyrene	* 57000 D	~~82000~~	~~E~~
193-39-5	Indeno(1,2,3-cd)Pyrene		30000	
53-70-3	Dibenzo(a,h)Anthracene		11000	
191-24-2	Benzo(g,h,i)Perylene	* 31000 D	~~35000~~	~~E~~

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA15

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270696

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ070696A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 22 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 5.0

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	610-48-0	ANTHRACENE, 1-METHYL-	13.95	43000	J
2.	610-48-0	ANTHRACENE, 1-METHYL-	14.10	60000	J
3.	52251-71-5	ANTHRACENE, 2-ETHYL-	14.74	20000	J
4.		FLUORANTHENE ISOMER	15.10	21000	J
5.		UNKNOWN	15.19	21000	J
6.	3442-78-2	PYRENE, 2-METHYL-	15.60	83000	J
7.	243-17-4	11H-BENZO[B]FLUORENE	15.77	180000	J
8.	2381-21-7	PYRENE, 1-METHYL-	15.87	75000	J
9.	3353-12-6	PYRENE, 4-METHYL-	15.92	98000	J
10.	3353-12-6	PYRENE, 4-METHYL-	16.10	140000	J
11.	64401-21-4	PYRENE, 1,3-DIMETHYL-	16.37	51000	J
12.	84-15-1	1,1':2',1''-TERPHENYL	16.52	73000	J
13.	239-35-0	BENZO[B]NAPHTHO[2,1-D]THIOPH	16.67	110000	J
14.		CHRYSENE ISOMER	16.72	160000	J
15.	239-35-0	BENZO[B]NAPHTHO[2,1-D]THIOPH	16.90	24000	J
16.	82-05-3	7H-BENZ[DE]ANTHRACEN-7-ONE	17.30	110000	J
17.	6111-78-0	BENZ[A]ANTHRACENE,11-METHYL-	17.72	73000	J
18.	1705-84-6	TRIPHENYLENE, 2-METHYL-	17.80	34000	J
19.		UNKNOWN PAH	17.99	94000	J
20.	205-82-3	BENNZO[J]FLUORANTHENE	19.72	75000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA16

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270697

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070697A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2100	U
111-44-4	bis(2-Chloroethyl)Ether	2100	U
95-57-8	2-Chlorophenol	2100	U
541-73-1	1,3-Dichlorobenzene	2100	U
106-46-7	1,4-Dichlorobenzene	2100	U
100-51-6	Benzyl Alcohol	2100	U
95-50-1	1,2-Dichlorobenzene	2100	U
95-48-7	2-Methylphenol	2100	U
39638-32-9	bis(2-Chloroisopropyl)Ether	2100	U
106-44-5	4-Methylphenol	2100	U
621-64-7	N-Nitroso-Di-n-Propylamine	2100	U
67-72-1	Hexachloroethane	2100	U
98-95-3	Nitrobenzene	2100	U
78-59-1	Isophorone	2100	U
88-75-5	2-Nitrophenol	2100	U
105-67-9	2,4-Dimethylphenol	2100	U
65-85-0	Benzoic Acid	10000	U
111-91-1	bis(2-Chloroethoxy)Methane	2100	U
120-83-2	2,4-Dichlorophenol	2100	U
120-82-1	1,2,4-Trichlorobenzene	2100	U
91-20-3	Naphthalene	520	J
106-47-8	4-Chloroaniline	2100	U
87-68-3	Hexachlorobutadiene	2100	U
59-50-7	4-Chloro-3-Methylphenol	2100	U
91-57-6	2-Methylnaphthalene	330	J
77-47-4	Hexachlorocyclopentadiene	2100	U
88-06-2	2,4,6-Trichlorophenol	2100	U
95-95-4	2,4,5-Trichlorophenol	10000	U
91-58-7	2-Chloronaphthalene	2100	U
88-74-4	2-Nitroaniline	10000	U
131-11-3	Dimethyl Phthalate	2100	U
208-96-8	Acenaphthylene	4600	
606-20-2	2,6-Dinitrotoluene	2100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA16

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270697

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070697A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	10000	U
83-32-9	Acenaphthene	2100	U
51-28-5	2,4-Dinitrophenol	10000	U
100-02-7	4-Nitrophenol	10000	U
132-64-9	Dibenzofuran	2100	U
121-14-2	2,4-Dinitrotoluene	2100	U
84-66-2	Diethylphthalate	2100	U
7005-72-3	4-Chlorophenyl-phenylether	2100	U
86-73-7	Fluorene	820	J
100-01-6	4-Nitroaniline	10000	U
534-52-1	4,6-Dinitro-2-Methylphenol	10000	U
86-30-6	N-Nitrosodiphenylamine (1)	2100	U
101-55-3	4-Bromophenyl-phenylether	2100	U
118-74-1	Hexachlorobenzene	2100	U
87-86-5	Pentachlorophenol	10000	U
85-01-8	Phenanthrene	3500	
120-12-7	Anthracene	1800	J
84-74-2	Di-n-Butylphthalate	2100	U
206-44-0	Fluoranthene	11000	
129-00-0	Pyrene	21000	
85-68-7	Butylbenzylphthalate	2100	U J
91-94-1	3,3'-Dichlorobenzidine	4100	U J
56-55-3	Benzo(a)Anthracene	12000	
218-01-9	Chrysene	13000	
117-81-7	bis(2-Ethylhexyl)Phthalate	2100	U J
117-84-0	Di-n-Octyl Phthalate	2100	U J
205-99-2	Benzo(b)Fluoranthene	24000	~~X~~ JN
207-08-9	Benzo(k)Fluoranthene	24000	~~X~~ JN
50-32-8	Benzo(a)Pyrene	13000	
193-39-5	Indeno(1,2,3-cd)Pyrene	6600	
53-70-3	Dibenzo(a,h)Anthracene	2500	
191-24-2	Benzo(g,h,i)Perylene	8300	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BBA16

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270697

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070697A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 5.0

Number TICs found: 22

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	6.03	2900	~~ABJ~~
2.		ALDOL	6.48	1000	~~AJ~~
3.	203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRE	14.05	4000	J N
4.	52251-71-5	ANTHRACENE,5-ETHYL-*	14.69	1700	J
5.		UNKNOWN PAH	14.74	1700	J
6.		UNKNOWN	14.82	2500	J
7.		FLUORANTHENE ISOMER	15.04	2100	J N
8.		FLUORANTHENE ISOMER	15.15	1900	J N
9.	3442-78-2	PYRENE,2-METHYL-*	15.55	1500	J
10.	243-17-4	11H-BENZO[B]FLUORENE*	15.70	2900	J
11.	3442-78-2	PYRENE,2-METHYL-*	15.85	2100	J
12.	3353-12-6	PYRENE,4-METHYL-*	16.00	1700	J
13.	64401-21-4	PYRENE,1,3-DIMETHYL-	16.30	1500	J
14.	84-15-1	1,1':2'1"-TERPHENYL	16.45	2100	J
15.	239-35-0	BENZO[B]NAPHTHO[2,1-D]THIOPH	16.60	2500	J
16.	18930-78-4	3,6-PHENANTHRENEDICARBONITRI	16.65	2900	J
17.		UNKNOWN	16.74	1500	J
18.	82-05-3	7H-BENZ[DE]ANTHRACEN-7-ONE*	17.22	2700	J
19.	2422-79-9	BENZ[A]ANTHRACENE,12-METHYL-	17.62	2100	J
20.		UNKNOWN	17.87	2900	J
21.	205-82-3	BENZO[J]FLUORANTHENE	19.17	3500	J
22.	205-82-3	BENZO[J]FLUORANTHENE	19.57	10000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA17

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270698

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070698A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)Ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
100-51-6	Benzyl Alcohol	400	U
95-50-1	1,2-Dichlorobenzene	400	U
95-48-7	2-Methylphenol	400	U
39638-32-9	bis(2-Chloroisopropyl)Ether	400	U
106-44-5	4-Methylphenol	400	U
621-64-7	N-Nitroso-Di-n-Propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
65-85-0	Benzoic Acid	1900	U
111-91-1	bis(2-Chloroethoxy)Methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	510	
106-47-8	4-Chloroaniline	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-Methylphenol	400	U
91-57-6	2-Methylnaphthalene	160	J
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	400	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethyl Phthalate	400	U
208-96-8	Acenaphthylene	2700	
606-20-2	2,6-Dinitrotoluene	400	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA17

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270698

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070698A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	130	J
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	210	J
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U
86-73-7	Fluorene	110	J
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-Methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	730	
120-12-7	Anthracene	660	
84-74-2	Di-n-Butylphthalate	400	U
206-44-0	Fluoranthene	2400	
129-00-0	Pyrene	5800	
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	800	UJ
56-55-3	Benzo(a)Anthracene	2700	
218-01-9	Chrysene	3600	
117-81-7	bis(2-Ethylhexyl)Phthalate	* 16000 D 24000	EJ
117-84-0	Di-n-Octyl Phthalate	1900	
205-99-2	Benzo(b)Fluoranthene	* 8700 9100	EX JN
207-08-9	Benzo(k)Fluoranthene	* 8700 9100	EX JN
50-32-8	Benzo(a)Pyrene	5500	
193-39-5	Indeno(1,2,3-cd)Pyrene	3100	
53-70-3	Dibenzo(a,h)Anthracene	1000	
191-24-2	Benzo(g,h,i)Perylene	4700	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

* - Confirmation

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA17

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270698

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070698A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

Number TICs found: 23

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.87	1600	J
2.		ALDOL	6.07	6800	~~AJ~~ R
3.		ALDOL	6.17	840	~~ABJ~~ R
4.		ALDOL	6.53	2400	~~AJ~~ R
5.		UNKNOWN	7.17	2600	J
6.	610-48-0	ANTHRACENE, 1-METHYL-	14.09	760	J
7.		FLUORANTHENE ISOMER	15.07	800	J
8.	886-66-8	BENZENE, 1,1'-(1,3-BUTADIYNE	15.17	800	J
9.	243-17-4	11H-BENZO[B]FLUORNENE	15.74	1100	J
10.	3353-12-6	PYRENE, 4-METHYL-	15.90	800	J
11.	3353-12-6	PYRENE, 4-METHYL-	16.04	920	J
12.		UNKNOWN	16.67	2800	J
13.	203-12-3	BENZO[GH]FLUORANTHENE	16.72	3000	J
14.		PHTHALATE	16.85	3500	J
15.		PHTHALATE	16.94	4400	J
16.		PHTHALATE	17.14	11000	J
17.		PHTHALATE	17.24	30000	J
18.		PHTHALATE	17.35	4000	J
19.		PHTHALATE	17.45	11000	J
20.		PHTHALATE	17.55	17000	J
21.		PHTHALATE	17.62	5600	J
22.	2381-16-0	BENZ[A]ANTHRACENE, 9-METHYL-	17.67	2500	J
23.	205-82-3	BENZO[J]FLRORANTHENE	19.60	4800	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA18

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270700

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070700A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 31 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	260	J
111-44-4	bis(2-Chloroethyl)Ether	480	U
95-57-8	2-Chlorophenol	480	U
541-73-1	1,3-Dichlorobenzene	480	U
106-46-7	1,4-Dichlorobenzene	480	U
100-51-6	Benzyl Alcohol	480	U
95-50-1	1,2-Dichlorobenzene	480	U
95-48-7	2-Methylphenol	480	U
39638-32-9	bis(2-Chloroisopropyl)Ether	480	U
106-44-5	4-Methylphenol	52	J
621-64-7	N-Nitroso-Di-n-Propylamine	480	U
67-72-1	Hexachloroethane	480	U
98-95-3	Nitrobenzene	480	U
78-59-1	Isophorone	480	U
88-75-5	2-Nitrophenol	480	U
105-67-9	2,4-Dimethylphenol	480	U
65-85-0	Benzoic Acid	270	J
111-91-1	bis(2-Chloroethoxy)Methane	480	U
120-83-2	2,4-Dichlorophenol	480	U
120-82-1	1,2,4-Trichlorobenzene	480	U
91-20-3	Naphthalene	580	
106-47-8	4-Chloroaniline	480	U
87-68-3	Hexachlorobutadiene	480	U
59-50-7	4-Chloro-3-Methylphenol	480	U
91-57-6	2-Methylnaphthalene	52	J
77-47-4	Hexachlorocyclopentadiene	480	U
88-06-2	2,4,6-Trichlorophenol	480	U
95-95-4	2,4,5-Trichlorophenol	2300	U
91-58-7	2-Chloronaphthalene	480	U
88-74-4	2-Nitroaniline	2300	U
131-11-3	Dimethyl Phthalate	480	U
208-96-8	Acenaphthylene	79	J
606-20-2	2,6-Dinitrotoluene	480	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA18

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270700

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070700A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 31 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2300	U
83-32-9	Acenaphthene	140	J
51-28-5	2,4-Dinitrophenol	2300	U
100-02-7	4-Nitrophenol	2300	U
132-64-9	Dibenzofuran	480	U
121-14-2	2,4-Dinitrotoluene	480	U
84-66-2	Diethylphthalate	480	U
7005-72-3	4-Chlorophenyl-phenylether	480	U
86-73-7	Fluorene	72	J
100-01-6	4-Nitroaniline	2300	U
534-52-1	4,6-Dinitro-2-Methylphenol	2300	U
86-30-6	N-Nitrosodiphenylamine (1)	480	U
101-55-3	4-Bromophenyl-phenylether	480	U
118-74-1	Hexachlorobenzene	480	U
87-86-5	Pentachlorophenol	2300	U
85-01-8	Phenanthrene	200	J
120-12-7	Anthracene	71	J
84-74-2	Di-n-Butylphthalate	60	J
206-44-0	Fluoranthene	80	J
129-00-0	Pyrene	160	J
85-68-7	Butylbenzylphthalate	480	~~U~~ J
91-94-1	3,3'-Dichlorobenzidine	960	U J
56-55-3	Benzo(a)Anthracene	100	J
218-01-9	Chrysene	200	J
117-81-7	bis(2-Ethylhexyl)Phthalate	260	J
117-84-0	Di-n-Octyl Phthalate	480	U
205-99-2	Benzo(b)Fluoranthene	150	J
207-08-9	Benzo(k)Fluoranthene	89	J
50-32-8	Benzo(a)Pyrene	260	J
193-39-5	Indeno(1,2,3-cd)Pyrene	130	J
53-70-3	Dibenzo(a,h)Anthracene	480	U
191-24-2	Benzo(g,h,i)Perylene	240	J

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BBA18

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270700

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070700A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 31 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

Number TICs found: 27

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		BLANK CONTAMINANT	5.12	340	~~BJ~~
2.		BLANK CONTAMINANT	5.22	340	~~BJ~~
3.		UNKNOWN	5.92	870	J
4.		ALDOL	6.12	9700	~~ABJ~~
5.		ALDOL	6.20	2100	~~AJ~~
6.		UNKNOWN	6.35	580	J
7.		ALDOL	6.57	2000	~~AJ~~
8.		ALDOL	6.73	430	~~AJ~~
9.		ALDOL	6.78	390	~~AJ~~
10.		UNKNOWN	7.05	240	J
11.		UNKNOWN	7.20	2700	J
12.		UNKNOWN	7.35	580	J
13.		UNKNOWN	7.68	290	J
14.		UNKNOWN	7.87	290	J
15.		UNKNOWN	9.00	480	J
16.	10544-50-0	SULFUR, MOL. (S8)	11.42	290	J
17.		UNKNOWN	11.90	390	J
18.		UNKNOWN	12.54	240	J
19.		UNKNOWN	13.84	480	J
20.		UNKNOWN	13.92	680	J
21.		DDD/DDT ISOMER	15.92	290	~~J~~
22.		UNKNOWN	16.69	580	J
23.		UNKNOWN	17.19	240	J
24.	629-99-2	PENTACOSANE	17.72	2100	J
25.		UNKNOWN	18.35	190	J
26.		UNKNOWN	18.69	3900	J
27.	629-99-2	PENTACOSANE	19.09	8200	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA19

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270701

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070701A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 24 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430	U
111-44-4	bis(2-Chloroethyl)Ether	430	U
95-57-8	2-Chlorophenol	430	U
541-73-1	1,3-Dichlorobenzene	430	U
106-46-7	1,4-Dichlorobenzene	430	U
100-51-6	Benzyl Alcohol	430	U
95-50-1	1,2-Dichlorobenzene	430	U
95-48-7	2-Methylphenol	430	U
39638-32-9	bis(2-Chloroisopropyl)Ether	430	U
106-44-5	4-Methylphenol	82	J
621-64-7	N-Nitroso-Di-n-Propylamine	430	U
67-72-1	Hexachloroethane	430	U
98-95-3	Nitrobenzene	430	U
78-59-1	Isophorone	430	U
88-75-5	2-Nitrophenol	430	U
105-67-9	2,4-Dimethylphenol	430	U
65-85-0	Benzoic Acid	52	J
111-91-1	bis(2-Chloroethoxy)Methane	430	U
120-83-2	2,4-Dichlorophenol	430	U
120-82-1	1,2,4-Trichlorobenzene	430	U
91-20-3	Naphthalene	3400	
106-47-8	4-Chloroaniline	430	U
87-68-3	Hexachlorobutadiene	430	U
59-50-7	4-Chloro-3-Methylphenol	430	U
91-57-6	2-Methylnaphthalene	1200	
77-47-4	Hexachlorocyclopentadiene	430	U
88-06-2	2,4,6-Trichlorophenol	430	U
95-95-4	2,4,5-Trichlorophenol	2100	U
91-58-7	2-Chloronaphthalene	430	U
88-74-4	2-Nitroaniline	2100	U
131-11-3	Dimethyl Phthalate	430	U
208-96-8	Acenaphthylene	370	J
606-20-2	2,6-Dinitrotoluene	430	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA19

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270701

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070701A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 24 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG		Q
99-09-2	3-Nitroaniline		2100	U
83-32-9	Acenaphthene		5400	
51-28-5	2,4-Dinitrophenol		2100	U
100-02-7	4-Nitrophenol		2100	U
132-64-9	Dibenzofuran		3200	
121-14-2	2,4-Dinitrotoluene		430	U
84-66-2	Diethylphthalate		430	U
7005-72-3	4-Chlorophenyl-phenylether		430	U
86-73-7	Fluorene		5500	
100-01-6	4-Nitroaniline		2100	U
534-52-1	4,6-Dinitro-2-Methylphenol		2100	U
86-30-6	N-Nitrosodiphenylamine (1)		430	U
101-55-3	4-Bromophenyl-phenylether		430	U
118-74-1	Hexachlorobenzene		430	U
87-86-5	Pentachlorophenol		2100	U
85-01-8	Phenanthrene	* 16000 D	~~23000~~	~~E~~
120-12-7	Anthracene	* 10000 D	~~7600~~	~~E~~
84-74-2	Di-n-Butylphthalate		430	U
206-44-0	Fluoranthene	* 29000 D	~~19000~~	~~E~~
129-00-0	Pyrene	* 23000 D	~~18000~~	~~E~~
85-68-7	Butylbenzylphthalate		430	U
91-94-1	3,3'-Dichlorobenzidine		870	U J
56-55-3	Benzo(a)Anthracene	* 12000 D	~~13000~~	~~E~~
218-01-9	Chrysene	* 11000 D	~~9600~~	~~E~~
117-81-7	bis(2-Ethylhexyl) Phthalate		430	U J
117-84-0	Di-n-Octyl Phthalate		430	U
205-99-2	Benzo(b)Fluoranthene	* 16000	~~14000~~	~~EX~~ J
207-08-9	Benzo(k)Fluoranthene	* 16000	~~14000~~	~~EX~~ J
50-32-8	Benzo(a)Pyrene		6500	
193-39-5	Indeno(1,2,3-cd)Pyrene		2200	
53-70-3	Dibenzo(a,h)Anthracene		1200	
191-24-2	Benzo(g,h,i)Perylene		2100	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA19

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270701

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070701A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 24 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

Number TICs found: 23

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.92	1800	J N
2.		ALDOL	6.12	7000	~~ABJ~~ K
3.		ALDOL	6.20	1400	~~AJ~~ K
4.		ALDOL	6.57	2200	~~AJ~~ K
5.		UNKNOWN	7.20	2700	J N
6.	4453-90-1	1,4-METHANONAPHTHALENE, 1,4-	9.75	1400	J
7.	575-41-7	NAPHTHALENE, 1,3-DIMETHYL-	10.60	1300	J
8.	2489-86-3	NAPHTHALENE, 1-(2-PROPENYL)-	12.00	1300	J
9.		UNKNOWN	13.07	2000	J
10.		UNKNOWN	13.52	1900	J
11.	610-48-0	ANTHRACENE, 1-METHYL-	13.94	1900	J
12.	610-48-0	ANTHRACENE, 1-METHYL-	13.97	1800	J
13.	610-48-0	ANTHRACENE, 1-METHYL-	14.10	4800	J
14.	612-94-2	NAPHTHALENE, 2-PHENYL-	14.35	2900	J
15.	3442-78-2	PYRENE, 2-METHYL-	15.60	4400	J
16.	243-17-4	11H-BENZO[B]FLUORENE	15.77	11000	J N
17.	238-84-6	11H-BENZO[A]FLUORENE	15.87	9600	J N
18.		DDD/DDT ISOMER	15.90	9200	~~J~~ R
19.	2381-21-7	PYRENE, 1-METHYL-	16.10	2300	J N
20.		UNKNOWN	16.67	8300	J
21.	203-12-3	BENZO[GHI]FLUORANTHENE	16.75	4300	J
22.	195-19-7	BENZO[C]PHENANTHRENE	17.24	3500	J
23.	1705-84-6	TRIPHENYLENE, 2-METHYL-	17.70	5300	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA20

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270702

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070702A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)Ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
100-51-6	Benzyl Alcohol	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
39638-32-9	bis(2-Chloroisopropyl)Ether	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-Di-n-Propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
65-85-0	Benzoic Acid	73	J
111-91-1	bis(2-Chloroethoxy)Methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	390	J
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-Methylphenol	410	U
91-57-6	2-Methylnaphthalene	180	J
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	2000	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	2000	U
131-11-3	Dimethyl Phthalate	410	U
208-96-8	Acenaphthylene	4500	
606-20-2	2,6-Dinitrotoluene	410	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA20

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270702

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070702A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG		Q
99-09-2	3-Nitroaniline		2000	U
83-32-9	Acenaphthene		60	J
51-28-5	2,4-Dinitrophenol		2000	U
100-02-7	4-Nitrophenol		2000	U
132-64-9	Dibenzofuran		180	J
121-14-2	2,4-Dinitrotoluene		410	U
84-66-2	Diethylphthalate		410	U
7005-72-3	4-Chlorophenyl-phenylether		410	U
86-73-7	Fluorene		490	
100-01-6	4-Nitroaniline		2000	U
534-52-1	4,6-Dinitro-2-Methylphenol		2000	U
86-30-6	N-Nitrosodiphenylamine (1)		410	U
101-55-3	4-Bromophenyl-phenylether		410	U
118-74-1	Hexachlorobenzene		410	U
87-86-5	Pentachlorophenol		2000	U
85-01-8	Phenanthrene		2900	
120-12-7	Anthracene		1200	
84-74-2	Di-n-Butylphthalate		410	U
206-44-0	Fluoranthene	* 10000 D	~~7600~~	~~E~~
129-00-0	Pyrene	* 16000 D	~~16000~~	~~E~~
85-68-7	Butylbenzylphthalate		410	U
91-94-1	3,3'-Dichlorobenzidine		830	U J
56-55-3	Benzo(a)Anthracene	* 7800 D	~~8200~~	~~E~~
218-01-9	Chrysene	* 9000 D	~~7600~~	~~E~~
117-81-7	bis(2-Ethylhexyl) Phthalate		410	U J
117-84-0	Di-n-Octyl Phthalate		410	U
205-99-2	Benzo(b)Fluoranthene	* 20000 D	~~13000~~	~~E~~ X JM
207-08-9	Benzo(k)Fluoranthene	* 20000 D	~~13000~~	~~E~~ X JM
50-32-8	Benzo(a)Pyrene	* 11000 D	~~8200~~	~~E~~
193-39-5	Indeno(1,2,3-cd)Pyrene		4700	
53-70-3	Dibenzo(a,h)Anthracene		1600	
191-24-2	Benzo(g,h,i)Perylene	* 9000 D	~~7000~~	~~E~~

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA20

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270702

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070702A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

Number TICs found: 23

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.90	1700	J
2.		ALDOL	6.10	6200	~~AJ~~
3.		ALDOL	6.20	2300	~~AJ~~
4.		ALDOL	6.55	1900	~~AJ~~
5.		UNKNOWN	7.18	1900	J
6.	610-48-0	ANTHRACENE, 1-METHYL-	14.10	2600	J
7.	3297-72-1	ISOQUINOLINE, 1-PHENYL-	14.87	1800	J
8.		FLUORANTHENE ISOMER	15.20	2300	J
9.	238-84-6	11H-BENZO[A]FLUORENE	15.60	5800	J
10.	243-17-4	11H-BENZO[B]FLUORENE	15.75	13000	J
11.	243-17-4	11H-BENZO[B]FLUORENE	15.85	4200	J
12.	3353-12-6	PYRENE, 4-METHYL-	15.92	6700	J
13.	3353-12-6	PYRENE, 4-METHYL-	16.05	6200	J
14.	3353-12-6	PYRENE, 4-METHYL-	16.10	5400	J
15.		UNKNOWN	16.50	5400	J
16.		UNKNOWN	16.65	8700	J
17.		UNKNOWN	16.70	3300	J
18.		UNKNOWN	16.75	4200	J
19.		UNKNOWN	16.80	3500	J
20.		UNKNOWN	17.29	6200	J
21.	1705-84-6	TRIPHENYLENE, 2-METHYL-	17.70	5800	J
22.		UNKNOWN	17.95	6700	J
23.		BENZOFLUORANTHENE ISOMER	19.67	7100	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA01

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270395

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 27 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	110	U
319-85-7	beta-BHC	110	U
319-86-8	delta-BHC	110	U
58-89-9	gamma-BHC (Lindane)	110	U
76-44-8	Heptachlor	110	U
309-00-2	Aldrin	110	U
1024-57-3	Heptachlor epoxide	110	U
959-98-8	Endosulfan I	110	U
60-57-1	Dieldrin	220	U
72-55-9	4,4'-DDE	220	U
72-20-8	Endrin	220	U
33213-65-9	Endosulfan II	220	U
72-54-8	4,4'-DDD	220	U
1031-07-8	Endosulfan sulfate	220	U
50-29-3	4,4'-DDT	380	
72-43-5	Methoxychlor	1100	U
53494-70-5	Endrin ketone	220	U
5103-71-9	alpha-Chlordane	1100	U
5103-74-2	gamma-Chlordane	1100	U
8001-35-2	Toxaphene	2200	U
12674-11-2	Aroclor-1016	1100	U
11104-28-2	Aroclor-1221	1100	U
11141-16-5	Aroclor-1232	1100	U
53469-21-9	Aroclor-1242	1100	U
12672-29-6	Aroclor-1248	1100	U
11097-69-1	Aroclor-1254	2200	U
11096-82-5	Aroclor-1260	2200	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA02

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270405

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 27 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	110	U
319-85-7	beta-BHC	110	U
319-86-8	delta-BHC	110	U
58-89-9	gamma-BHC (Lindane)	110	U
76-44-8	Heptachlor	110	U
309-00-2	Aldrin	110	U
1024-57-3	Heptachlor epoxide	110	U
959-98-8	Endosulfan I	110	U
60-57-1	Dieldrin	220	U
72-55-9	4,4'-DDE	220	U
72-20-8	Endrin	220	U
33213-65-9	Endosulfan II	220	U
72-54-8	4,4'-DDD	220	U
1031-07-8	Endosulfan sulfate	220	U
50-29-3	4,4'-DDT	230	
72-43-5	Methoxychlor	1100	U
53494-70-5	Endrin ketone	220	U
5103-71-9	alpha-Chlordane	1100	U
5103-74-2	gamma-Chlordane	1100	U
8001-35-2	Toxaphene	2200	U
12674-11-2	Aroclor-1016	1100	U
11104-28-2	Aroclor-1221	1100	U
11141-16-5	Aroclor-1232	1100	U
53469-21-9	Aroclor-1242	1100	U
12672-29-6	Aroclor-1248	1100	U
11097-69-1	Aroclor-1254	2200	U
11096-82-5	Aroclor-1260	2200	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA03

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270406

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.1	U
319-85-7	beta-BHC	38.	
319-86-8	delta-BHC	9.1	U
58-89-9	gamma-BHC (Lindane)	9.1	U
76-44-8	Heptachlor	9.1	U
309-00-2	Aldrin	9.1	U
1024-57-3	Heptachlor epoxide	9.1	U
959-98-8	Endosulfan I	9.1	U
60-57-1	Dieldrin	18.	U
72-55-9	4,4'-DDE	18.	U
72-20-8	Endrin	18.	U
33213-65-9	Endosulfan II	18.	U
72-54-8	4,4'-DDD	18.	U
1031-07-8	Endosulfan sulfate	18.	U
50-29-3	4,4'-DDT	22.	
72-43-5	Methoxychlor	91.	U
53494-70-5	Endrin ketone	18.	U
5103-71-9	alpha-Chlordane	91.	U
5103-74-2	gamma-Chlordane	91.	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	91.	U
11104-28-2	Aroclor-1221	91.	U
11141-16-5	Aroclor-1232	91.	U
53469-21-9	Aroclor-1242	91.	U
12672-29-6	Aroclor-1248	91.	U
11097-69-1	Aroclor-1254	180	U
11096-82-5	Aroclor-1260	180	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA04

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270407

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.1	U
319-85-7	beta-BHC	9.1	U
319-86-8	delta-BHC	9.1	U
58-89-9	gamma-BHC (Lindane)	9.1	U
76-44-8	Heptachlor	9.1	U
309-00-2	Aldrin	9.1	U
1024-57-3	Heptachlor epoxide	9.1	U
959-98-8	Endosulfan I	9.1	U
60-57-1	Dieldrin	18.	U
72-55-9	4,4'-DDE	18.	U
72-20-8	Endrin	18.	U
33213-65-9	Endosulfan II	18.	U
72-54-8	4,4'-DDD	18.	U
1031-07-8	Endosulfan sulfate	18.	U
50-29-3	4,4'-DDT	18.	U
72-43-5	Methoxychlor	91.	U
53494-70-5	Endrin ketone	18.	U
5103-71-9	alpha-Chlordane	91.	U
5103-74-2	gamma-Chlordane	91.	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	91.	U
11104-28-2	Aroclor-1221	91.	U
11141-16-5	Aroclor-1232	91.	U
53469-21-9	Aroclor-1242	91.	U
12672-29-6	Aroclor-1248	91.	U
11097-69-1	Aroclor-1254	180	U
11096-82-5	Aroclor-1260	180	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA05

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270408

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 20.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	200	U
319-85-7	beta-BHC	200	U
319-86-8	delta-BHC	200	U
58-89-9	gamma-BHC (Lindane)	200	U
76-44-8	Heptachlor	200	U
309-00-2	Aldrin	200	U
1024-57-3	Heptachlor epoxide	200	U
959-98-8	Endosulfan I	200	U
60-57-1	Dieldrin	390	U
72-55-9	4,4'-DDE	390	U
72-20-8	Endrin	390	U
33213-65-9	Endosulfan II	390	U
72-54-8	4,4'-DDD	390	U
1031-07-8	Endosulfan sulfate	390	U
50-29-3	4,4'-DDT	390	U
72-43-5	Methoxychlor	2000	U
53494-70-5	Endrin ketone	390	U
5103-71-9	alpha-Chlordane	2000	U
5103-74-2	gamma-Chlordane	2000	U
8001-35-2	Toxaphene	3900	U
12674-11-2	Aroclor-1016	2000	U
11104-28-2	Aroclor-1221	2000	U
11141-16-5	Aroclor-1232	2000	U
53469-21-9	Aroclor-1242	2000	U
12672-29-6	Aroclor-1248	2000	U
11097-69-1	Aroclor-1254	3900	U
11096-82-5	Aroclor-1260	3900	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA06

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270409

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 23 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 4.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	42.	U
319-85-7	beta-BHC	42.	U
319-86-8	delta-BHC	42.	U
58-89-9	gamma-BHC (Lindane)	42.	U
76-44-8	Heptachlor	42.	U
309-00-2	Aldrin	42.	U
1024-57-3	Heptachlor epoxide	42.	U
959-98-8	Endosulfan I	42.	U
60-57-1	Dieldrin	83.	U
72-55-9	4,4'-DDE	83.	U
72-20-8	Endrin	83.	U
33213-65-9	Endosulfan II	83.	U
72-54-8	4,4'-DDD	83.	U
1031-07-8	Endosulfan sulfate	83.	U
50-29-3	4,4'-DDT	83.	U
72-43-5	Methoxychlor	420	U
53494-70-5	Endrin ketone	83.	U
5103-71-9	alpha-Chlordane	420	U
5103-74-2	gamma-Chlordane	420	U
8001-35-2	Toxaphene	830	U
12674-11-2	Aroclor-1016	420	U
11104-28-2	Aroclor-1221	420	U
11141-16-5	Aroclor-1232	420	U
53469-21-9	Aroclor-1242	420	U
12672-29-6	Aroclor-1248	420	U
11097-69-1	Aroclor-1254	830	U
11096-82-5	Aroclor-1260	830	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA07

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270410

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 25 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	110	U
319-85-7	beta-BHC	110	U
319-86-8	delta-BHC	110	U
58-89-9	gamma-BHC (Lindane)	110	U
76-44-8	Heptachlor	110	U
309-00-2	Aldrin	110	U
1024-57-3	Heptachlor epoxide	110	U
959-98-8	Endosulfan I	110	U
60-57-1	Dieldrin	210	U
72-55-9	4,4'-DDE	210	U
72-20-8	Endrin	210	U
33213-65-9	Endosulfan II	210	U
72-54-8	4,4'-DDD	210	U
1031-07-8	Endosulfan sulfate	210	U
50-29-3	4,4'-DDT	210	U
72-43-5	Methoxychlor	1100	U
53494-70-5	Endrin ketone	210	U
5103-71-9	alpha-Chlordane	1100	U
5103-74-2	gamma-Chlordane	1100	U
8001-35-2	Toxaphene	2100	U
12674-11-2	Aroclor-1016	1100	U
11104-28-2	Aroclor-1221	1100	U
11141-16-5	Aroclor-1232	1100	U
53469-21-9	Aroclor-1242	1100	U
12672-29-6	Aroclor-1248	1100	U
11097-69-1	Aroclor-1254	2100	U
11096-82-5	Aroclor-1260	2100	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA08

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270411

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 16 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/04/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	95.	U R
319-85-7	beta-BHC	95.	U R
319-86-8	delta-BHC	95.	U
58-89-9	gamma-BHC (Lindane)	95.	U
76-44-8	Heptachlor	95.	U
309-00-2	Aldrin	95.	U R
1024-57-3	Heptachlor epoxide	95.	U
959-98-8	Endosulfan I	95.	U
60-57-1	Dieldrin	190	U
72-55-9	4,4'-DDE	190	U
72-20-8	Endrin	190	U
33213-65-9	Endosulfan II	190	U
72-54-8	4,4'-DDD	190	U
1031-07-8	Endosulfan sulfate	190	U
50-29-3	4,4'-DDT	190	U
72-43-5	Methoxychlor	950	U
53494-70-5	Endrin ketone	190	U
5103-71-9	alpha-Chlordane	950	U
5103-74-2	gamma-Chlordane	950	U
8001-35-2	Toxaphene	1900	U
12674-11-2	Aroclor-1016	950	U
11104-28-2	Aroclor-1221	950	U
11141-16-5	Aroclor-1232	950	U
53469-21-9	Aroclor-1242	950	U
12672-29-6	Aroclor-1248	950	U
11097-69-1	Aroclor-1254	1900	U
11096-82-5	Aroclor-1260	1900	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA09

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270412

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 14 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.3	U
319-85-7	beta-BHC	9.3	U
319-86-8	delta-BHC	9.3	U
58-89-9	gamma-BHC (Lindane)	9.3	U
76-44-8	Heptachlor	9.3	U
309-00-2	Aldrin	9.3	U
1024-57-3	Heptachlor epoxide	9.3	U
959-98-8	Endosulfan I	9.3	U
60-57-1	Dieldrin	19.	U
72-55-9	4,4'-DDE	19.	U
72-20-8	Endrin	19.	U
33213-65-9	Endosulfan II	19.	U
72-54-8	4,4'-DDD	19.	U
1031-07-8	Endosulfan sulfate	19.	U
50-29-3	4,4'-DDT	19.	U
72-43-5	Methoxychlor	93.	U
53494-70-5	Endrin ketone	19.	U
5103-71-9	alpha-Chlordane	93.	U
5103-74-2	gamma-Chlordane	93.	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	93.	U
11104-28-2	Aroclor-1221	93.	U
11141-16-5	Aroclor-1232	93.	U
53469-21-9	Aroclor-1242	93.	U
12672-29-6	Aroclor-1248	93.	U
11097-69-1	Aroclor-1254	190	U
11096-82-5	Aroclor-1260	190	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA10

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270413

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/04/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	90.	U
319-85-7	beta-BHC	90.	U
319-86-8	delta-BHC	90.	U
58-89-9	gamma-BHC (Lindane)	90.	U
76-44-8	Heptachlor	90.	U
309-00-2	Aldrin	90.	U
1024-57-3	Heptachlor epoxide	90.	U
959-98-8	Endosulfan I	90.	U
60-57-1	Dieldrin	180	U
72-55-9	4,4'-DDE	180	U
72-20-8	Endrin	180	U
33213-65-9	Endosulfan II	180	U
72-54-8	4,4'-DDD	180	U
1031-07-8	Endosulfan sulfate	180	U
50-29-3	4,4'-DDT	180	U
72-43-5	Methoxychlor	900	U
53494-70-5	Endrin ketone	180	U
5103-71-9	alpha-Chlordane	900	U
5103-74-2	gamma-Chlordane	900	U
8001-35-2	Toxaphene	1800	U
12674-11-2	Aroclor-1016	900	U
11104-28-2	Aroclor-1221	900	U
11141-16-5	Aroclor-1232	900	U
53469-21-9	Aroclor-1242	900	U
12672-29-6	Aroclor-1248	900	U
11097-69-1	Aroclor-1254	1800	U
11096-82-5	Aroclor-1260	1800	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA11

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270414

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 20.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	190	U
319-85-7	beta-BHC	190	U
319-86-8	delta-BHC	190	U
58-89-9	gamma-BHC (Lindane)	190	U
76-44-8	Heptachlor	190	U
309-00-2	Aldrin	190	U
1024-57-3	Heptachlor epoxide	190	U
959-98-8	Endosulfan I	190	U
60-57-1	Dieldrin	380	U
72-55-9	4,4'-DDE	380	U
72-20-8	Endrin	380	U
33213-65-9	Endosulfan II	380	U
72-54-8	4,4'-DDD	380	U
1031-07-8	Endosulfan sulfate	380	U
50-29-3	4,4'-DDT	380	U
72-43-5	Methoxychlor	1900	U
53494-70-5	Endrin ketone	380	U
5103-71-9	alpha-Chlordane	1900	U
5103-74-2	gamma-Chlordane	1900	U
8001-35-2	Toxaphene	3800	U
12674-11-2	Aroclor-1016	1900	U
11104-28-2	Aroclor-1221	1900	U
11141-16-5	Aroclor-1232	1900	U
53469-21-9	Aroclor-1242	1900	U
12672-29-6	Aroclor-1248	1900	U
11097-69-1	Aroclor-1254	3800	U
11096-82-5	Aroclor-1260	3800	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA12

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270415

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 30 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/04/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 2.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	23.	U
319-85-7	beta-BHC	23.	U
319-86-8	delta-BHC	23.	U
58-89-9	gamma-BHC (Lindane)	23.	U
76-44-8	Heptachlor	23.	U
309-00-2	Aldrin	23.	U
1024-57-3	Heptachlor epoxide	23.	U
959-98-8	Endosulfan I	23.	U
60-57-1	Dieldrin	46.	U
72-55-9	4,4'-DDE	46.	U
72-20-8	Endrin	46.	U
33213-65-9	Endosulfan II	46.	U
72-54-8	4,4'-DDD	46.	U
1031-07-8	Endosulfan sulfate	46.	U
50-29-3	4,4'-DDT	46.	U
72-43-5	Methoxychlor	230	U
53494-70-5	Endrin ketone	46.	U
5103-71-9	alpha-Chlordane	230	U
5103-74-2	gamma-Chlordane	230	U
8001-35-2	Toxaphene	460	U
12674-11-2	Aroclor-1016	230	U
11104-28-2	Aroclor-1221	230	U
11141-16-5	Aroclor-1232	230	U
53469-21-9	Aroclor-1242	230	U
12672-29-6	Aroclor-1248	230	U
11097-69-1	Aroclor-1254	460	U
11096-82-5	Aroclor-1260	460	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA13

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270416

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 4.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	36.	U
319-85-7	beta-BHC	36.	U
319-86-8	delta-BHC	36.	U
58-89-9	gamma-BHC (Lindane)	36.	U
76-44-8	Heptachlor	36.	U
309-00-2	Aldrin	47.	
1024-57-3	Heptachlor epoxide	36.	U
959-98-8	Endosulfan I	36.	U
60-57-1	Dieldrin	72.	U
72-55-9	4,4'-DDE	72.	U
72-20-8	Endrin	72.	U
33213-65-9	Endosulfan II	72.	U
72-54-8	4,4'-DDD	72.	U
1031-07-8	Endosulfan sulfate	72.	U
50-29-3	4,4'-DDT	72.	U
72-43-5	Methoxychlor	360	U
53494-70-5	Endrin ketone	72.	U
5103-71-9	alpha-Chlordane	360	U
5103-74-2	gamma-Chlordane	360	U
8001-35-2	Toxaphene	720	U
12674-11-2	Aroclor-1016	360	U
11104-28-2	Aroclor-1221	360	U
11141-16-5	Aroclor-1232	360	U
53469-21-9	Aroclor-1242	360	U
12672-29-6	Aroclor-1248	360	U
11097-69-1	Aroclor-1254	720	U
11096-82-5	Aroclor-1260	720	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA14

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270417

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. 16 dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.5	U
319-85-7	beta-BHC	9.5	U
319-86-8	delta-BHC	9.5	U
58-89-9	gamma-BHC (Lindane)	9.5	U
76-44-8	Heptachlor	9.5	U
309-00-2	Aldrin	9.5	U
1024-57-3	Heptachlor epoxide	9.5	U
959-98-8	Endosulfan I	9.5	U
60-57-1	Dieldrin	19.	U
72-55-9	4,4'-DDE	19.	U
72-20-8	Endrin	19.	U
33213-65-9	Endosulfan II	19.	U
72-54-8	4,4'-DDD	19.	U
1031-07-8	Endosulfan sulfate	19.	U
50-29-3	4,4'-DDT	19.	U
72-43-5	Methoxychlor	95.	U
53494-70-5	Endrin ketone	19.	U
5103-71-9	alpha-Chlordane	95.	U
5103-74-2	gamma-Chlordane	95.	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	95.	U
11104-28-2	Aroclor-1221	95.	U
11141-16-5	Aroclor-1232	95.	U
53469-21-9	Aroclor-1242	95.	U
12672-29-6	Aroclor-1248	95.	U
11097-69-1	Aroclor-1254	190	U
11096-82-5	Aroclor-1260	1400	

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA15

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270696

Sample wt/vol: 30.0 (g/mL) G Lab File ID: PC070696A21

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 22 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 4.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	41.	U
319-85-7	beta-BHC	41.	U
319-86-8	delta-BHC	41.	U
58-89-9	gamma-BHC (Lindane)	41.	U
76-44-8	Heptachlor	41.	U
309-00-2	Aldrin	41.	U
1024-57-3	Heptachlor epoxide	41.	U
959-98-8	Endosulfan I	61.	
60-57-1	Dieldrin	82.	U
72-55-9	4,4'-DDE	82.	U
72-20-8	Endrin	82.	U
33213-65-9	Endosulfan II	82.	U
72-54-8	4,4'-DDD	2100	C
1031-07-8	Endosulfan sulfate	82.	U
50-29-3	4,4'-DDT	82.	U
72-43-5	Methoxychlor	410	U
53494-70-5	Endrin ketone	82.	U
5103-71-9	alpha-Chlordane	410	U
5103-74-2	gamma-Chlordane	700	
8001-35-2	Toxaphene	820	U
12674-11-2	Aroclor-1016	410	U
11104-28-2	Aroclor-1221	410	U
11141-16-5	Aroclor-1232	410	U
53469-21-9	Aroclor-1242	410	U
12672-29-6	Aroclor-1248	410	U
11097-69-1	Aroclor-1254	820	U
11096-82-5	Aroclor-1260	820	U

IND B
7/7 1558 C
7/5 1338 C

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA16

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270697

Sample wt/vol: 30.0 (g/mL) G Lab File ID: PC070697A21

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 4.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	40.	U
319-85-7	beta-BHC	40.	U
319-86-8	delta-BHC	40.	U
58-89-9	gamma-BHC (Lindane)	40.	U
76-44-8	Heptachlor	40.	U
309-00-2	Aldrin	40.	U
1024-57-3	Heptachlor epoxide	40.	U
959-98-8	Endosulfan I	40.	U
60-57-1	Dieldrin	80.	U
72-55-9	4,4'-DDE	80.	U
72-20-8	Endrin	80.	U
33213-65-9	Endosulfan II	80.	U
72-54-8	4,4'-DDD	1600	C
1031-07-8	Endosulfan sulfate	80.	U
50-29-3	4,4'-DDT	510	C
72-43-5	Methoxychlor	400	U
53494-70-5	Endrin ketone	80.	U
5103-71-9	alpha-Chlordane	400	U
5103-74-2	gamma-Chlordane	400	U
8001-35-2	Toxaphene	800	U
12674-11-2	Aroclor-1016	400	U
11104-28-2	Aroclor-1221	400	U
11141-16-5	Aroclor-1232	400	U
53469-21-9	Aroclor-1242	400	U
12672-29-6	Aroclor-1248	400	U
11097-69-1	Aroclor-1254	800	U
11096-82-5	Aroclor-1260	800	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA17

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270698

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 2.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	19.	U
319-85-7	beta-BHC	19.	U
319-86-8	delta-BHC	19.	U
58-89-9	gamma-BHC (Lindane)	19.	U
76-44-8	Heptachlor	19.	U
309-00-2	Aldrin	19.	U
1024-57-3	Heptachlor epoxide	19.	U
959-98-8	Endosulfan I	19.	U
60-57-1	Dieldrin	38.	U
72-55-9	4,4'-DDE	38.	U
72-20-8	Endrin	38.	U
33213-65-9	Endosulfan II	38.	U
72-54-8	4,4'-DDD	200	
1031-07-8	Endosulfan sulfate	38.	U
50-29-3	4,4'-DDT	110	
72-43-5	Methoxychlor	190	U
53494-70-5	Endrin ketone	38.	U
5103-71-9	alpha-Chlordane	190	U
5103-74-2	gamma-Chlordane	190	U
8001-35-2	Toxaphene	380	U
12674-11-2	Aroclor-1016	190	U
11104-28-2	Aroclor-1221	190	U
11141-16-5	Aroclor-1232	190	U
53469-21-9	Aroclor-1242	190	U
12672-29-6	Aroclor-1248	190	U
11097-69-1	Aroclor-1254	380	U
11096-82-5	Aroclor-1260	380	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA18

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270700

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 31 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 4.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	46.	U
319-85-7	beta-BHC	46.	U
319-86-8	delta-BHC	46.	U
58-89-9	gamma-BHC (Lindane)	46.	U
76-44-8	Heptachlor	46.	U
309-00-2	Aldrin	46.	U
1024-57-3	Heptachlor epoxide	46.	U
959-98-8	Endosulfan I	46.	U
60-57-1	Dieldrin	93.	U
72-55-9	4,4'-DDE	93.	U
72-20-8	Endrin	93.	U
33213-65-9	Endosulfan II	93.	U
72-54-8	4,4'-DDD	280	
1031-07-8	Endosulfan sulfate	93.	U
50-29-3	4,4'-DDT	93.	U
72-43-5	Methoxychlor	460	U
53494-70-5	Endrin ketone	93.	U
5103-71-9	alpha-Chlordane	460	U
5103-74-2	gamma-Chlordane	460	U
8001-35-2	Toxaphene	930	U
12674-11-2	Aroclor-1016	460	U
11104-28-2	Aroclor-1221	460	U
11141-16-5	Aroclor-1232	460	U
53469-21-9	Aroclor-1242	460	U
12672-29-6	Aroclor-1248	460	U
11097-69-1	Aroclor-1254	930	U
11096-82-5	Aroclor-1260	930	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA19

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270701

Sample wt/vol: 30.0 (g/mL) G Lab File ID: PC070701A21

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 24 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 20.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	210	U
319-85-7	beta-BHC	210	U
319-86-8	delta-BHC	210	U
58-89-9	gamma-BHC (Lindane)	210	U
76-44-8	Heptachlor	210	U
309-00-2	Aldrin	210	U
1024-57-3	Heptachlor epoxide	210	U
959-98-8	Endosulfan I	210	U
60-57-1	Dieldrin	420	U
72-55-9	4,4'-DDE	420	U
72-20-8	Endrin	420	U
33213-65-9	Endosulfan II	420	U
72-54-8	4,4'-DDD	1700	C
1031-07-8	Endosulfan sulfate	420	U
50-29-3	4,4'-DDT	420	U
72-43-5	Methoxychlor	2100	U
53494-70-5	Endrin ketone	420	U
5103-71-9	alpha-Chlordane	2100	U
5103-74-2	gamma-Chlordane	2100	U
8001-35-2	Toxaphene	4200	U
12674-11-2	Aroclor-1016	2100	U
11104-28-2	Aroclor-1221	2100	U
11141-16-5	Aroclor-1232	2100	U
53469-21-9	Aroclor-1242	2100	U
12672-29-6	Aroclor-1248	2100	U
11097-69-1	Aroclor-1254	4200	U
11096-82-5	Aroclor-1260	4200	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA20

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA01

Matrix: (soil/water) SOIL Lab Sample ID: 270702

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 06/30/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 4.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	40.	U
319-85-7	beta-BHC	110	
319-86-8	delta-BHC	40.	U
58-89-9	gamma-BHC (Lindane)	40.	U
76-44-8	Heptachlor	40.	U
309-00-2	Aldrin	40.	U
1024-57-3	Heptachlor epoxide	40.	U
959-98-8	Endosulfan I	40.	U
60-57-1	Dieldrin	80.	U
72-55-9	4,4'-DDE	80.	U
72-20-8	Endrin	80.	U
33213-65-9	Endosulfan II	80.	U
72-54-8	4,4'-DDD	80.	U
1031-07-8	Endosulfan sulfate	80.	U
50-29-3	4,4'-DDT	140	
72-43-5	Methoxychlor	400	U
53494-70-5	Endrin ketone	80.	U
5103-71-9	alpha-Chlordane	400	U
5103-74-2	gamma-Chlordane	400	U
8001-35-2	Toxaphene	800	U
12674-11-2	Aroclor-1016	400	U
11104-28-2	Aroclor-1221	400	U
11141-16-5	Aroclor-1232	400	U
53469-21-9	Aroclor-1242	400	U
12672-29-6	Aroclor-1248	400	U
11097-69-1	Aroclor-1254	800	U
11096-82-5	Aroclor-1260	800	U

CASE NARRATIVE CASE #12241
SDG #88A21
CONTRACT #68-09-0032
COMPUCHEM LABORATORIES, INC.

SAMPLE IDENTIFICATION: 88A21 88A22 88A23 88A24 88A25 88A26 88A27
88A28 88A29 88A30 88A31 88A32 88A33 88A34
88A35 88A36 88A37 88A38 88A39 88A40

CASE #12241 SDG #88A21 CONSISTED OF TWENTY SOLID SAMPLES WHICH WERE ANALYZED FOR VOLATILES, SEMIVOLATILES, AND PESTICIDES. THE SAMPLES WERE RECEIVED INTACT ON 6-29-89 AND 6-30-89 WITH THE SHIPPING CONTAINERS PROPERLY SEALED AND ALL CHAIN-OF-CUSTODY DOCUMENTS IN ORDER. THE UNDECANTED PERCENT MOISTURES FOR THESE SAMPLES RANGED FROM 12 TO 51. SEVERAL SAMPLES REQUIRED DECANTED PERCENT MOISTURES FOR THE EXTRACTABLE FRACTIONS. THE pH VALUES RANGED FROM 5.9 TO 7.6.

VOLATILES:

ALL SAMPLE AND QC FRACTIONS WERE ANALYZED WITHIN HOLDING TIMES. MOST SAMPLES CONTAINED METHYLENE CHLORIDE, ACETONE, AND/OR CHLOROFORM. LOW LEVELS OF TOLUENE, ETHYLBENZENE, AND XYLENES(REPORTED AS TOTAL ISOMERS) WERE ALSO OCCASIONALLY DETECTED. HOWEVER SAMPLE 88A39 CONTAINED(IN ADDITION TO LOW LEVELS OF METHLYENE CHLORIDE, ACETONE, CHLOROFORM, AND TOLUENE) ETHYLBENZENE AT 94UG/KG AND XYLENES(REPORTED AS TOTAL ISOMERS) AT 400 UG/KG. ONLY SAMPLES 88A31 AND 88A39 CONTAINED TENTATIVELY IDENTIFIED COMPOUNDS(TICs). 88A31 CONTAINED ONE HYDROCARBON. 88A39 CONTAINED FOUR UNKNOWNS, FOUR HYDROCARBONS, AND TWO SUBSTITUTED HYDROCARBONS. THE ASSOCIATED METHOD BLANKS, MATRIX SPIKE AND MATRIX SPIKE DUPLICATE MET ALL QC CRITERIA. ALL SAMPLE FRACTIONS MET ALL SURROGATE RECOVERY CRITERIA.

SEMIVOLATILES:

ALL SAMPLE AND QC FRACTIONS WERE EXTRACTED WITHIN HOLDING TIMES. THE SAMPLES CONTAINED VARYING NUMBERS AND CONCENTRATIONS OF POLYNUCLEAR AROMATICS. OCCASIONAL LOW LEVELS OF PHENOL, 4-METHYLPHENOL, DIBENZOFURAN, BENZOIC ACID, AND PHTHALATES WERE DETECTED. HOWEVER A HIGH LEVEL OF BIS(2-ETHYLHEXYL)-PHTHALATE WAS PRESENT IN 88A39. MOST SAMPLES CONTAINED NUMEROUS TICs. THESE CONSISTED OF MAINLY UNKNOWNS WITH SOME POLYNUCLEAR AROMATICS(PAHs), HYDRO-CARBONS, SUBSTITUTED PAHs, AND SUBSTITUTED HYDROCARBONS. THE ASSOCIATED METHOD BLANKS, MATRIX SPIKES(MS), AND MATRIX SPIKES DUPLICATES(MSD) MET ALL QC CRITERIA EXCEPT 1,4-DICHLOROBENZENE HAD RECOVERIES OF 16 IN THE MS AND 23 IN THE MSD VERSUS A LOWER LIMIT OF 28; N-NITROSO-DI-N-PROPYLAMINE HAD RECOVERIES OF 29 IN THE MS AND 37 IN THE MSD VERSUS A LOWER LIMIT OF 41, AND 1,2,4-TRICHLOROBENZENE HAD A RECOVERY OF 34 VERSUS A LOWER LIMIT OF 38 IN THE MS. IN THE MS, SOME ANALYTES WERE REPORTED OUTSIDE THE ANALYTICAL RANGE; HOWEVER, IN BOTH THE ORIGINAL UNSPIKED SAMPLE AND THE MSD ALL ANALYTES WERE WELL WITHIN THE RANGE. THE DISCREPANCY WAS ATTRIBUTED TO SAMPLE INHOMOGENEITY. ALL SAMPLE FRACTIONS MET OVERALL SURROGATE RECOVERY; HOWEVER, IN SIX SAMPLES ONE ACID AND/OR ONE BASE SURROGATE FAILED CRITERIA.

PESTICIDES:

ALL SAMPLE AND QC FRACTIONS WERE EXTRACTED WITHIN HOLDING TIMES. BETA-BHC WAS CONFIRMED IN SAMPLES 88A21(210UG/KG), 88A25(96UG/KG), 88A30(370UG/KG), 88A35(240UG/KG), AND 88A40(180UG/KG). DDE WAS CONFIRMED IN 88A24((710UG/KG), 88A35(160UG/KG), 88A39 (470UG/KG), AND 88A40(550UG/KG). DDD WAS CONFIRMED IN

RECEIVED
JUL 25 1989

88A24(12000UG/KG), 88A26(320UG/KG), 88A31(130UG/KG), 88A32(64UG/KG), 88A35(65UG/KG), 88A37(98UG/KG), 88A39(1700UG/KG), AND 88A40(88UG/KG). DDT WAS CONFIRMED IN SAMPLES 88A32(58UG/KG), 88A36(93UG/KG), 88A38(21UG/KG), AND 88A39(420UG/KG). DIELDRIN WAS CONFIRMED IN 88A35 AT 53 UG/KG. ENDOSULFAN SULFATE WAS CONFIRMED AT 100 UG/KG. BETA-BHC WAS PRESENT IN 88A30 AT GC/MS CONFIRMABLE LEVELS BUT WAS NOT CONFIRMED. DDD WAS PRESENT AT GC/MS CONFIRMABLE LEVELS IN 88A24, AND 88A39 AND WAS CONFIRMED IN BOTH. DDE WAS PRESENT AT GC/MS CONFIRMABLE LEVELS IN 88A24 AND WAS CONFIRMED. THE ASSOCIATED METHOD BLANKS, MATRIX SPIKES, AND MATRIX SPIKES MET ALL QC CRITERIA EXCEPT ALDRIN HAD RECOVERIES OF 228 IN THE MS AND 148 IN THE MSD VERSUS AN UPPER LIMIT OF 132; ENDRIN HAD A RECOVERY OF 149 IN THE MATRIX SPIKE VERSUS AN UPPER LIMIT OF 139; DDT HAD A RECOVERY OF 206 IN THE MS VERSUS AN UPPER LIMIT OF 134, AND THE RELATIVE PRECENT DIFFERENCE FOR DDT WAS 63 VERSUS AN UPPER LIMIT OF 50. ALL SAMPLES EXCEPT 88A24, 88A25, 88A35, AND 88A39 MET SURROGATE RECOVERY CRITERIA. 88A25 AND 88A35 HAD NO RECOVERIES DUE TO MATRIX INTERFERENCE, AND 88A24 AND 88A39 HAD NO RECOVERIES DUE TO DILUTION.

I CERTIFY THAT THIS DATA PACKAGE IS IN COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE CONTRACT, BOTH TECHNICALLY AND FOR COMPLETENESS, FOR OTHER THAN THE CONDITIONS DETAILED ABOVE. RELEASE OF THE DATA CONTAINED IN THE HARDCOPY DATA PACKAGE AS BEEN AUTHORIZED BY THE LABORATORY MANAGER OF HIS DESIGNEE, AS VERIFIED BY THE FOLLOWING SIGNATURE.

NOTE: THIS REPORT IS PAGINATED FOR REFERENCE AND ACCOUNTABLITY IN DECREASING NUMERICAL SEQUENCE.

Elisabeth R Nowell

ELISABETH ROBINS NOWELL
DATA REVIEWER
7-21-89

COMPUCHEM LABORATORIES

CHANGES TO THE EPA'S ORGANIC STATEMENT OF WORK (SOW) FOR THE CONTRACT LABORATORY PROGRAM (CLP)

Effective with samples received at CompuChem Laboratories, Inc. on April 3, 1989, the new "SOW for Organics Analysis; Multi-Media, Multi-Concentration" will be in effect. The new SOW is dated 2/88 with revisions dated 9/88.

EPA introduces modifications to the CLP SOW for a variety of reasons. They are:

- as a result of technical caucuses attended by representatives from EPA regional laboratories and the CLP, new or modified analytical methods are required,
- as a result of analytical data being supplied to the Agency by the CLP laboratories, QC acceptance criteria are updated and made a requirement of the program,
- as a result of requirements by the end users of the data (the EPA regions and the Program Office), changes to the deliverable requirements of the CLP are necessary.

As a service to our clients utilizing the EPA CLP SOW for their analytical needs, the following information is provided to point out the substantive changes between the new SOW and the previous one (10/86 with revisions through 8/87).

"KEY" CHANGES TO THE ORGANIC SOW

1) Wide bore capillary columns (internal diameter greater than 0.32 mm) are allowed for pesticide/PCB analysis in addition to packed columns. Fused silica capillary columns remain an optional confirmation column.

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2) The Sample Data Summary Package (SDSP) was introduced in the 10/86 SOW. The SDSP consists of copies of specific summary forms. In the 2/88 SOW, Form VIII, the Internal Standard Area Summary Form for volatile and semi-volatile analyses, has been added to the SDSP. Form VIII for volatiles and semi-volatiles is also to be included in the QC Summary Package.

3) A clarification for dealing with the three xylene isomers has been added. For total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately, e.g., a diluted analysis is not required for total xylenes unless the concentration of either peak exceeds 200 ug/l.

4) The volatile target analyte, 2-butanone, is to be quantified against the first internal standard, bromochloromethane. In the prior SOW, 2-butanone was quantified against the second internal standard, 1,4-difluorobenzene.

5) Turnaround time for the delivery of data has been lowered from 40 days to 35 days for routine analytical service (RAS) work associated with the Superfund program. The turnaround time is calculated from the Validated Time of Sample Receipt (VTSR) of the last sample in the Sample Delivery Group (SDG).

The above represents the major changes in the new organic SOW for EPA's CLP. There are, of course, other minor changes which have not been addressed in this announcement. Of note, the hardcopy deliverable forms have not changed and, in fact, retain the same revision dates as the prior SOW.

If there are any questions concerning the information presented, please feel free to contact your account administrator at 1-800-833-5097.

Robert E. Meierer

Robert E. Meierer
Vice President of Quality Assurance

COMPUCHEM
LABORATORIES

QUALITY ASSURANCE NOTICE

With the advent of the new organics Statement of Work (SOW 2/88, Revision: 9/88) participants in EPA's Contract Laboratory Program (CLP) are required to provide hard copy and diskette deliverables. CompuChem employs the Finnigan QA Formaster Program (Format A) to generate these requirements using data files from our analytical instrumentation. Currently, and independently, quantitation reports are generated by the instruments and are used with CompuChem-developed software to calculate results. The GC and GC/MS quantitation routines employ the convention of carrying at least one extra significant figure until the mathematical computations are completed. Then, the quantitative results are rounded to the SOW-required number of significant figures for reporting. In addition, the algorithm used by the Formaster Program is slightly different than that employed in Compuchem's software routines. Therefore, results presented in the supportive data supplied with our deliverables packages may be slightly different than those which appear on the hard copy forms generated via Formaster.

This notice serves to alert the end users of these data packages as to the reason why slight differences may be observed.

Robert E. Meierer

Robert E. Meierer
Director of Quality Assurance

COMPUCHEM LABORATORIES, INC. P.O. Box 12652 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 549-8263

DETECTION LIMIT CALCULATION CLARIFICATION

To protect our GC columns from unnecessary contamination, soil samples prepared according to Caucus Protocol methods are routinely diluted 5:1. Through a series of experiments we have determined that our Instrument Detection Limit for pesticides is 5X lower than the EPA Contract Required Quantitation Limit (CRQL). We, therefore, only adjust our detection limits if the dilution necessary to analyze the sample is greater than 5:1. If the sample is diluted by a factor of X the detection limit is adjusted by $\frac{X}{5}$ instead of X.

Bill DesJardins
Manager, GC Laboratory

Bob Meierer
Director, Quality Assurance

LABORATORY NOTICE

On June 15, 1985 CompuChem Laboratories began adding D3-2,4-Dinitrophenol to all standards and samples. The purpose of this addition is to enable the laboratory to have higher and more consistent analytical sensitivity for the native 2,4-Dinitrophenol. The peak corresponding to the deuterated analog is clearly labeled on each RIC as D3#1 and will not be searched and reported as a tentatively identified compound (TIC). This compound is not being used as an internal or surrogate standard.

L. Richard Flynn,
Development Chemist

Bob Meierer,
Director of Quality Assurance

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following result qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

VALUE - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10 U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must also be adjusted for percent moisture. For example, if the sample had 24% moisture and a 1 to 10 dilution factor, the sample quantitation limit for phenol (330 U) would be corrected to:

$$\frac{(330\ U)}{D} \times df \qquad \text{where } D = \frac{100 - \%\ \text{moisture}}{100}$$

and df = dilution factor

$$\text{at 24\% moisture, } D = \frac{100-24}{100} - 0.76$$

$$\frac{(330\ U)}{.76} \times 10 = 4300\ U$$ rounded to the appropriate number of significant figures

For soil sample subjected to GPC clean-up procedures, the CRQL is also multiplied by 2, to account for the fact that only half of the extract is recovered.

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 indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration is 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 ug/L and a sample quantitation limit of 430 ug/kg, report the concentration as 300J on Form I.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10 ng/ul in the final extract shall be confirmed by GC/MS.

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

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will <u>not</u> apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed according to the specifications. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample and <u>all</u> concentration values reported on that Form I are flagged with the "D" flag.

A - This flag indicates that TIC is a suspected aldol-condensation product.

X - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. If more than one is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some sample.

QUALITY ASSURANCE NOTICE

Specific guidelines are presented in the EPA CLP Organic Statement of Work for the positive qualitative identification of compounds through mass spectral interpretation. Applying these guidelines absolutely may not be possible when the nature of the sample is less than pure reference material. Where the mass spectral pattern of a compound to be identified demonstrates interferences or coelution from one or more additional compounds, either unknowns, internal standards, or surrogate standards, the "+" sign is added to the top of the dual spectra page.

Linda Fowler 4/10/89

Linda Fowler
Sr. Quality Assurance Specialist

Robert E. Meierer 4/12/89

Robert E. Meierer
Vice President, Quality Assurance

2. By fraction (VOA, SV, PEST) and by sample within each fraction - tabulated target compound results (Form I) and tentatively identified compounds (Form I, TIC) (VOA and SV only)

ATTACHMENT 1
SOP NO. HW-6

TOTAL REVIEW

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organics Analysis

Case No. 12241 SDG No BBA21 LABORATORY Compuchem SITE Sagharbor

DATA ASSESSMENT:

The current functional guidelines (1988) for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "R" (unusable),or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Reviewer's Signature: Valerie A. Rhea Date: 8/25/1989

Verified By: PG Date: 9/12/1989

DATA ASSESSMENT:

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

ATTACHMENT 1
SOP NO. HW-6

DATA ASSESSMENT:

2. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip field, rinse and water blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross- contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for the common contaminants), the analytes are qualified as non- detects, "U". The following analytes in the samples shown were qualified with "U" for these reasons:

A) Method blank contamination

SV- Di-N-Butyl phthalate was flagged non-detect in BBA36.

VOA - Methylene chloride + acetone were flagged non-detect in BBA 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39 + 40

Chloroform was flagged nondetect @ in BBA22.

B) Field or rinse blank contamination ("water blanks" or "distilled water blanks" are validated like any other sample)

VOA - Chloroform was flagged nondetect @ in BBA21, 23, 24, 25 + 26, 30, 35, 36, 37, 38, 39 + 40.

C) Trip blank contamination

ATTACHMENT 1
SOP NO. HW-6

DATA ASSESSMENT:

3. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is bromofluorobenzene (BFB) and for semi-volatiles is decafluorotriphenyl- phosphine (DFTPP).

If the mass calibration is in error, all associated data will be classified as unusable, "R".

DATA ASSESSMENT:

4. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) RESPONSE FACTOR:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be $\geq$ 0.05 in both the initial and continuing calibrations. A value $<$ 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected ("R").

ATTACHMENT 1
SOP NO. HW-6

DATA ASSESSMENT:

5. CALIBRATION:

A) PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ" (if %D or RSD >50%). If there is a gross deviation of %RSD and %D, the non-detects may be rejected ("R").

For the PCB/PESTICIDE fraction, %RSD for aldrin, endrin, DDT, and dibutylchlorendate must not exceed 10%. Percent D must be within 15% on the quantitation column and 20% on the confirmation column.

A- 4 nitrophenol was flagged estimated (J) in BBA30 due to %RSD > 5

BN- 3,3' dichlorobenzidine was flagged estimated (J) in BBA22, 23 + 24 due to %D > 50.

BNA - 2,4 Dinitrophenol*, 4 nitroaniline, butylbenzylphthalate + 3,3' dichlorobenzidine were flagged estimated (J) in BBA31, 32, 33 + 36 due to %D > 50.

BN - bis(2ethylhexyl)phthalate was rejected (R) in BBA31, 32 + 33 due to %D > 90.

BNA - Benzoic Acid, 3 nitroaniline, 2,4 Dinitrophenol, 4 nitrophenol, 4 nitroaniline + 3,3' dichlorobenzidine were flagged rejected ~~estimated (J) due~~ due to %D > 90 & Hexachlorocyclopentadiene & 4,6 Dinitro 2 methylphenol were flagged estimated (J) in BBA34 due to %D > 50

BN - Diethylphthalate was flagged estimated (J) in BBA37, 38, 39 + 40 due to %D > 50

BN - Bis(2ethylhexyl) phthalate was flagged estimated (J) in BBA39 due to %D > 30.

VOA - Acetone was flagged estimated (J) in all samples BBA21 thru 40 du to %RSD > 50.

DATA ASSESSMENT:

6. SURROGATES:

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

Pest- Beta BHC was flagged estimated (J) & all oth analytes in sample BBA25 were rejected (R) du to 0% recovery.

- Beta BHC, dieldrin 4,4'DDE & 4,4'DDD were flagge estimated (J) & all other analytes were rejected in sample BBA35 due to 0% recovery.

DATA ASSESSMENT:

7. INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

DATA ASSESSMENT:

8. COMPOUND IDENTIFICATION:

A) VOLATILE AND SEMI-VOLATILE FRACTIONS:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

B) PESTICIDE FRACTION:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10 ng/ml in the final sample extract.

BBA30 in pesticide fraction flagged rejected (R) for Beta BHC due to lack of confirmation by GC/MS.

DATA ASSESSMENT:

9. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for some additional qualification of the data.

ATTACHMENT 1
SOP NO. HW-6

DATA ASSESSMENT:

10. OTHER QC DATA OUT OF SPECIFICATION:

PEST-BBA30-BetaBHC was flagged non-detect by the lab, it was actually a hit (see PEST/PCB FORM the u was crossed out to show it as a hit.

Sample BBA40 was 51% moisture, ~~the det~~ no action was taken & the sample was validated like all others. Professional judgement.

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued on next page if necessary):

Benzo(b) & (k) fluoranthene were not seperated in the semivolatile analysis for samples BBA21-27, 29-32, 37-40. It should be reported as a ~~total~~ benzofluoranthene

12. CONTRACT PROBLEMS____NON-COMPLIANCE:

13. This package contains re-extraction, re-analysis or dilution. Upon reviewing the QA results, the following form I(s) are identified to be used.

SV-BBA24 was diluted, the diluted values were transfered to the original data & the original data will be used.

DATA ASSESSMENT:

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued):

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA21

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270703

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070703B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 23 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	17	~~B~~ U
67-64-1	Acetone	26	~~B~~ U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~3~~	~~J~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

SINGLE DATA PACKAGE

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA21

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270703

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070703B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 23 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA22

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270713

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2R70713A19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 12 Date Analyzed: 07/07/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	15	~~B~~ U
67-64-1	Acetone	35	~~B~~ U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~2~~	~~BJ~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA22

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270713

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2R70713A19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 12 Date Analyzed: 07/07/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA23

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270714

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070714B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 32 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl Chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene Chloride	36	~~B~~
67-64-1	Acetone	31	~~B~~ J
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	~~4~~	~~J~~
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	15	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	15	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	15	U
591-78-6	2-Hexanone	15	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA23

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270714

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070714B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 32 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA24

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270715

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070715B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 15 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	22	~~B~~ U
67-64-1	Acetone	24	~~B~~ U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~2~~	~~J~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA24

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270715

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070715B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 15 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA25

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270716

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070716B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 24 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	20	~~B~~ U
67-64-1	Acetone	35	~~B~~ U J
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	~~2~~ 7	~~J~~ U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA25

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270716

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070716B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 24 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA26

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270717

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070717B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 31 Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	43	~~B~~ U
67-64-1	Acetone	34	~~B~~ U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	~~2~~ 7	~~J~~ U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	2	J
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	J
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	3	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA26

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270717

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070717B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 31 Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA27

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270718

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070718B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 50 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	20	U
74-83-9	Bromomethane	20	U
75-01-4	Vinyl Chloride	20	U
75-00-3	Chloroethane	20	U
75-09-2	Methylene Chloride	47	~~B~~ U
67-64-1	Acetone	26	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
108-05-4	Vinyl Acetate	20	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA27

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270718

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070718B19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 50 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

DATA PACKAGE

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA28

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270719

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070719C19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 27 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	22	~~B~~ U
67-64-1	Acetone	14 ~~12~~	~~BJ~~ J
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BBA28

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270719

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070719C19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 27 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA29

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270720

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070720C19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 45 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	18	U
74-83-9	Bromomethane	18	U
75-01-4	Vinyl Chloride	18	U
75-00-3	Chloroethane	18	U
75-09-2	Methylene Chloride	42	~~B~~ U
67-64-1	Acetone	40	~~B~~ U
75-15-0	Carbon Disulfide	9	U
75-35-4	1,1-Dichloroethene	9	U
75-34-3	1,1-Dichloroethane	9	U
540-59-0	1,2-Dichloroethene (total)	9	U
67-66-3	Chloroform	9	U
107-06-2	1,2-Dichloroethane	9	U
78-93-3	2-Butanone	18	U
71-55-6	1,1,1-Trichloroethane	9	U
56-23-5	Carbon Tetrachloride	9	U
108-05-4	Vinyl Acetate	18	U
75-27-4	Bromodichloromethane	9	U
78-87-5	1,2-Dichloropropane	9	U
10061-01-5	cis-1,3-Dichloropropene	9	U
79-01-6	Trichloroethene	9	U
124-48-1	Dibromochloromethane	9	U
79-00-5	1,1,2-Trichloroethane	9	U
71-43-2	Benzene	9	U
10061-02-6	Trans-1,3-Dichloropropene	9	U
75-25-2	Bromoform	9	U
108-10-1	4-Methyl-2-Pentanone	18	U
591-78-6	2-Hexanone	18	U
127-18-4	Tetrachloroethene	9	U
79-34-5	1,1,2,2-Tetrachloroethane	9	U
108-88-3	Toluene	9	U
108-90-7	Chlorobenzene	9	U
100-41-4	Ethylbenzene	9	U
100-42-5	Styrene	9	U
1330-20-7	Total Xylenes	9	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA29

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270720

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070720C19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 45 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA30

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270721

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070721C19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 30 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	23	~~B~~ U
67-64-1	Acetone	43	~~B~~ UJ
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7 ~~2~~	~~J~~ U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA30

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270721

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH070721C19

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 30 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA31

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271107

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071107C19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 30 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	38	~~B~~ U
67-64-1	Acetone	45	~~B~~ U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA31

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271107

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071107C19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 30 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1120-21-4	UNDECANE	16.87	14	JN

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA32

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271108

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071108C19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 15 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	18	~~B~~
67-64-1	Acetone	27	~~B~~
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA32

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271108

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071108C19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 15 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA33

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271109

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071109C19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 33 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl Chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene Chloride	16	~~B~~ U
67-64-1	Acetone	21	~~B~~ U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	15	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	15	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	15	U
591-78-6	2-Hexanone	15	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA33

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271109

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071109C19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 33 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA34

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271110

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071110A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 12 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	9	~~B~~ U
67-64-1	Acetone	9	~~BJ~~ U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA34

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271110

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071110A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 12 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA35

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271111

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071111A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 25 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	10	~~B~~
67-64-1	Acetone	~~11~~ 13	~~BJ~~ U J
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	~~6~~ 7	~~J~~
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA35

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271111

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071111A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 25 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA36

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271112

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071112A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 33 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl Chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene Chloride	18	~~B~~ U
67-64-1	Acetone	27	~~B~~ U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	~~J~~ U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	15	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	15	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	15	U
591-78-6	2-Hexanone	15	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	4	J
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA36

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271112

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071112A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 33 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA37

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271113

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071113A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 25 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	23	~~B~~ U
67-64-1	Acetone	13 ~~11~~	~~B~~ J
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7 ~~5~~	~~J~~ U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA37

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271113

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071113A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 25 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE

BBA38

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271114

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071114A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 19 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	21	~~B~~ U
67-64-1	Acetone	15	~~B~~ U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~2~~	~~J~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE N

BBA38

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271114

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071114A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 19 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE N

BBA39

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271115

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071115A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 17 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	17	~~B~~ UJ
67-64-1	Acetone	14	~~B~~ UJ
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~2~~	~~J~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	J
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	94	
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	400	~~J~~

RN 7/24

1E

EPA SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BBA39

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271115

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071115A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 17 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	3221-61-2	OCTANE,2-METHYL-	13.65	220	J
2.	111-84-2	NONANE	14.62	750	J
3.	112-44-7	UNDECANAL	15.30	240	J
4.	54004-41-0	1-PENTANOL,4-METHYL-2-PROPYL	15.55	940	J
5.	52896-87-4	HEPTANE,4-(1-METHYLETHYL)-	15.79	590	J
6.		UNKNOWN	16.32	1300	J
7.	2051-30-1	OCTANE,2,6-DIMETHYL-	16.55	300	J
8.		UNKNOWN	16.80	1400	J
9.		UNKNOWN	16.99	1300	J
10.		UNKNOWN	17.30	3700	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPL

BBA40

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271116

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071116A1

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 51 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	20	U
74-83-9	Bromomethane	20	U
75-01-4	Vinyl Chloride	20	U
75-00-3	Chloroethane	20	U
75-09-2	Methylene Chloride	31	~~B~~ U
67-64-1	Acetone	48	~~B~~ U J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10 ~~3~~	~~J~~ U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
108-05-4	Vinyl Acetate	20	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE BBA40

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271116

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071116A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 51 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA21

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270703

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070703A20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 23 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 5.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430	U
111-44-4	bis(2-Chloroethyl)Ether	430	U
95-57-8	2-Chlorophenol	430	U
541-73-1	1,3-Dichlorobenzene	430	U
106-46-7	1,4-Dichlorobenzene	430	U
100-51-6	Benzyl Alcohol	430	U
95-50-1	1,2-Dichlorobenzene	430	U
95-48-7	2-Methylphenol	430	U
39638-32-9	bis(2-Chloroisopropyl)Ether	430	U
106-44-5	4-Methylphenol	51	J
621-64-7	N-Nitroso-Di-n-Propylamine	430	U
67-72-1	Hexachloroethane	430	U
98-95-3	Nitrobenzene	430	U
78-59-1	Isophorone	430	U
88-75-5	2-Nitrophenol	430	U
105-67-9	2,4-Dimethylphenol	430	U
65-85-0	Benzoic Acid	2100	U
111-91-1	bis(2-Chloroethoxy)Methane	430	U
120-83-2	2,4-Dichlorophenol	430	U
120-82-1	1,2,4-Trichlorobenzene	430	U
91-20-3	Naphthalene	99	J
106-47-8	4-Chloroaniline	430	U
87-68-3	Hexachlorobutadiene	430	U
59-50-7	4-Chloro-3-Methylphenol	430	U
91-57-6	2-Methylnaphthalene	52	J
77-47-4	Hexachlorocyclopentadiene	430	U
88-06-2	2,4,6-Trichlorophenol	430	U
95-95-4	2,4,5-Trichlorophenol	2100	U
91-58-7	2-Chloronaphthalene	430	U
88-74-4	2-Nitroaniline	2100	U
131-11-3	Dimethyl Phthalate	430	U
208-96-8	Acenaphthylene	240	J
606-20-2	2,6-Dinitrotoluene	430	U

ANALYSIS DATA SHEET

BBA21

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270703

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070703A20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 23 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 5.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100	U
83-32-9	Acenaphthene	76	J
51-28-5	2,4-Dinitrophenol	2100	U
100-02-7	4-Nitrophenol	2100	U
132-64-9	Dibenzofuran	62	J
121-14-2	2,4-Dinitrotoluene	430	U
84-66-2	Diethylphthalate	430	U
7005-72-3	4-Chlorophenyl-phenylether	430	U
86-73-7	Fluorene	110	J
100-01-6	4-Nitroaniline	2100	U
534-52-1	4,6-Dinitro-2-Methylphenol	2100	U
86-30-6	N-Nitrosodiphenylamine (1)	430	U
101-55-3	4-Bromophenyl-phenylether	430	U
118-74-1	Hexachlorobenzene	430	U
87-86-5	Pentachlorophenol	2100	U
85-01-8	Phenanthrene	1500	
120-12-7	Anthracene	310	J
84-74-2	Di-n-Butylphthalate	430	U
206-44-0	Fluoranthene	3300	
129-00-0	Pyrene	3700	
85-68-7	Butylbenzylphthalate	430	U
91-94-1	3,3'-Dichlorobenzidine	860	U
56-55-3	Benzo(a)Anthracene	1800	
218-01-9	Chrysene	2100	
117-81-7	bis(2-Ethylhexyl)Phthalate	430	U
117-84-0	Di-n-Octyl Phthalate	430	U
205-99-2	Benzo(b)Fluoranthene	3600	
207-08-9	Benzo(k)Fluoranthene	~~3600~~	
50-32-8	Benzo(a)Pyrene	1600	
193-39-5	Indeno(1,2,3-cd)Pyrene	1000	
53-70-3	Dibenzo(a,h)Anthracene	450	
191-24-2	Benzo(g,h,i)Perylene	1200	

(1) - Cannot be separated from Diphenylamine

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA21

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270703

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070703A20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 23 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 5.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100	U
83-32-9	Acenaphthene	77	J
51-28-5	2,4-Dinitrophenol	2100	U
100-02-7	4-Nitrophenol	2100	U
132-64-9	Dibenzofuran	62	J
121-14-2	2,4-Dinitrotoluene	430	U
84-66-2	Diethylphthalate	430	U
7005-72-3	4-Chlorophenyl-phenylether	430	U
86-73-7	Fluorene	110	J
100-01-6	4-Nitroaniline	2100	U
534-52-1	4,6-Dinitro-2-Methylphenol	2100	U
86-30-6	N-Nitrosodiphenylamine (1)	430	U
101-55-3	4-Bromophenyl-phenylether	430	U
118-74-1	Hexachlorobenzene	430	U
87-86-5	Pentachlorophenol	2100	U
85-01-8	Phenanthrene	1500	
120-12-7	Anthracene	310	J
84-74-2	Di-n-Butylphthalate	430	U
206-44-0	Fluoranthene	3300	
129-00-0	Pyrene	3700	
85-68-7	Butylbenzylphthalate	430	U
91-94-1	3,3'-Dichlorobenzidine	860	U
56-55-3	Benzo(a)Anthracene	1800	
218-01-9	Chrysene	2100	
117-81-7	bis(2-Ethylhexyl)Phthalate	430	U
117-84-0	Di-n-Octyl Phthalate	430	U
205-99-2	Benzo(b)Fluoranthene	3600	
207-08-9	Benzo(k)Fluoranthene	3600	
50-32-8	Benzo(a)Pyrene	1600	
193-39-5	Indeno(1,2,3-cd)Pyrene	1000	
53-70-3	Dibenzo(a,h)Anthracene	450	
191-24-2	Benzo(g,h,i)Perylene	1200	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BBA21

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270703

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070703A20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 23 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: 5.8 Dilution Factor: 1.00

Number TICs found: 23

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.57	3000	J
2.		ALDOL	6.75	3700	~~AJ~~
3.		ALDOL	7.17	260	~~AJ~~
4.		ALDOL	7.23	870	~~AJ~~
5.		UNKNOWN	7.92	910	J
6.		UNKNOWN	7.97	390	J
7.		UNKNOWN PNA	15.35	220	J
8.		UNKNOWN PNA	15.55	390	J
9.		UNKNOWN	16.25	220	J
10.		UNKNOWN	16.39	260	J
11.		UNKNOWN PNA	17.22	170	J
12.		UNKNOWN PNA	17.39	350	J
13.		UNKNOWN PNA	17.49	170	J
14.		UNKNOWN PNA	17.55	260	J
15.		UNKNOWN	18.19	130	J
16.		UNKNOWN	18.37	170	J
17.		UNKNOWN	18.42	390	J
18.		UNKNOWN	18.50	170	J
19.		UNKNOWN	19.47	220	J
20.		UNKNOWN	19.54	480	J
21.		UNKNOWN	19.74	430	J
22.		UNKNOWN	20.50	1200	J
23.		UNKNOWN	27.06	4800	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA22

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270713

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070713A20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
100-51-6	Benzyl Alcohol	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
39638-32-9	bis(2-Chloroisopropyl)Ether	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
65-85-0	Benzoic Acid	1800	U
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	1800	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	1800	U
131-11-3	Dimethyl Phthalate	370	U
208-96-8	Acenaphthylene	310	J
606-20-2	2,6-Dinitrotoluene	370	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA22

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270713

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070713A20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	1800	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-Methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	220	J
120-12-7	Anthracene	150	J
84-74-2	Di-n-Butylphthalate	210	J
206-44-0	Fluoranthene	610	
129-00-0	Pyrene	980	
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	750	U J
56-55-3	Benzo(a)Anthracene	600	
218-01-9	Chrysene	740	
117-81-7	bis(2-Ethylhexyl)Phthalate	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	1300	X
207-08-9	~~Benzo(k)Fluoranthene~~	~~1300~~	X
50-32-8	Benzo(a)Pyrene	820	
193-39-5	Indeno(1,2,3-cd)Pyrene	580	
53-70-3	Dibenzo(a,h)Anthracene	250	J
191-24-2	Benzo(g,h,i)Perylene	860	

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BBA22

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270713

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070713A20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.00

Number TICs found: 21

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	6.67	420	~~NJ~~ R
2.		UNKNOWN	7.88	230	J
3.		UNKNOWN PNA	15.45	260	J
4.		UNKNOWN	17.09	230	J
5.		UNKNOWN PNA	17.25	300	J
6.		UNKNOWN	17.49	300	J
7.		UNKNOWN PNA	17.55	190	J
8.		UNKNOWN	18.20	230	J
9.		UNKNOWN	18.79	300	J
10.		UNKNOWN	19.20	3400	J
11.		UNKNOWN	19.69	1200	J
12.		UNKNOWN	19.74	680	J
13.		UNKNOWN	20.04	680	J
14.		UNKNOWN PNA	20.40	230	J
15.		UNKNOWN	22.07	420	J
16.		UNKNOWN	22.15	230	J
17.		UNKNOWN	22.34	300	J
18.		UNKNOWN	22.90	450	J
19.		UNKNOWN	23.75	150	J
20.		UNKNOWN	23.85	300	J
21.		UNKNOWN	26.02	2300	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA23

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270714

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070714A20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 32 dec. 20 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)Ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
100-51-6	Benzyl Alcohol	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
39638-32-9	bis(2-Chloroisopropyl)Ether	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-Di-n-Propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
65-85-0	Benzoic Acid	2000	U
111-91-1	bis(2-Chloroethoxy)Methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-Methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	2000	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	2000	U
131-11-3	Dimethyl Phthalate	410	U
208-96-8	Acenaphthylene	120	J
606-20-2	2,6-Dinitrotoluene	410	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA23

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270714

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070714A20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 32 dec. 20 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2000	U
83-32-9	Acenaphthene	410	U
51-28-5	2,4-Dinitrophenol	2000	U
100-02-7	4-Nitrophenol	2000	U
132-64-9	Dibenzofuran	410	U
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U
86-73-7	Fluorene	410	U
100-01-6	4-Nitroaniline	2000	U
534-52-1	4,6-Dinitro-2-Methylphenol	2000	U
86-30-6	N-Nitrosodiphenylamine (1)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	48	J
85-01-8	Phenanthrene	190	J
120-12-7	Anthracene	80	J
84-74-2	Di-n-Butylphthalate	410	U
206-44-0	Fluoranthene	360	J
129-00-0	Pyrene	480	
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	830	U J
56-55-3	Benzo(a)Anthracene	250	J
218-01-9	Chrysene	370	J
117-81-7	bis(2-Ethylhexyl)Phthalate	410	U
117-84-0	Di-n-Octyl Phthalate	410	U
205-99-2	Benzo(~~b~~)Fluoranthene total	660	~~K~~
207-08-9	~~Benzo(K)Fluoranthene~~	~~660~~	~~K~~
50-32-8	Benzo(a)Pyrene	360	J
193-39-5	Indeno(1,2,3-cd)Pyrene	320	J
53-70-3	Dibenzo(a,h)Anthracene	170	J
191-24-2	Benzo(g,h,i)Perylene	470	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA23

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270714

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070714A20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 32 dec. 20 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.3 Dilution Factor: 1.00

Number TICs found: 15

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	6.45	420	~~NJ~~
2.		ALDOL	6.62	830	~~NJ~~
3.		ALDOL	7.15	370	~~NJ~~
4.		UNKNOWN	7.83	460	J
5.		UNKNOWN	19.19	290	J
6.		UNKNOWN	20.02	250	J
7.		UNKNOWN	20.44	1200	J
8.		UNKNOWN	22.05	500	J
9.		UNKNOWN	22.79	120	J
10.		UNKNOWN	22.84	120	J
11.		UNKNOWN	22.89	170	J
12.		UNKNOWN	22.94	83	J
13.		UNKNOWN	22.99	210	J
14.		UNKNOWN	23.24	170	J
15.		UNKNOWN	25.96	750	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA24

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270715

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070715A20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 15 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.2 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	780	U
111-44-4	bis(2-Chloroethyl)Ether	780	U
95-57-8	2-Chlorophenol	780	U
541-73-1	1,3-Dichlorobenzene	780	U
106-46-7	1,4-Dichlorobenzene	780	U
100-51-6	Benzyl Alcohol	780	U
95-50-1	1,2-Dichlorobenzene	780	U
95-48-7	2-Methylphenol	780	U
39638-32-9	bis(2-Chloroisopropyl)Ether	780	U
106-44-5	4-Methylphenol	780	U
621-64-7	N-Nitroso-Di-n-Propylamine	780	U
67-72-1	Hexachloroethane	780	U
98-95-3	Nitrobenzene	780	U
78-59-1	Isophorone	780	U
88-75-5	2-Nitrophenol	780	U
105-67-9	2,4-Dimethylphenol	780	U
65-85-0	Benzoic Acid	3800	U
111-91-1	bis(2-Chloroethoxy)Methane	780	U
120-83-2	2,4-Dichlorophenol	780	U
120-82-1	1,2,4-Trichlorobenzene	780	U
91-20-3	Naphthalene	3200	
106-47-8	4-Chloroaniline	780	U
87-68-3	Hexachlorobutadiene	780	U
59-50-7	4-Chloro-3-Methylphenol	780	U
91-57-6	2-Methylnaphthalene	1000	
77-47-4	Hexachlorocyclopentadiene	780	U
88-06-2	2,4,6-Trichlorophenol	780	U
95-95-4	2,4,5-Trichlorophenol	3800	U
91-58-7	2-Chloronaphthalene	780	U
88-74-4	2-Nitroaniline	3800	U
131-11-3	Dimethyl Phthalate	780	U
208-96-8	Acenaphthylene	9300	
606-20-2	2,6-Dinitrotoluene	780	U

SEMIVOLATILE ORGANICS

Lab Name: COMPUCHEM LABS Contract: 68-03-3012

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: [illegible]

Matrix: (soil/water) SOIL Lab Sample ID: 270715

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070715A2C

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 15 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.2 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3800	U
83-32-9	Acenaphthene	2100	
51-28-5	2,4-Dinitrophenol	3800	U
100-02-7	4-Nitrophenol	3800	U
132-64-9	Dibenzofuran	280	J
121-14-2	2,4-Dinitrotoluene	780	U
84-66-2	Diethylphthalate	780	U
7005-72-3	4-Chlorophenyl-phenylether	780	U
86-73-7	Fluorene	3200	
100-01-6	4-Nitroaniline	3800	U
534-52-1	4,6-Dinitro-2-Methylphenol	3800	U
86-30-6	N-Nitrosodiphenylamine (1)	780	U
101-55-3	4-Bromophenyl-phenylether	780	U
118-74-1	Hexachlorobenzene	780	U
87-86-5	Pentachlorophenol	3800	U
85-01-8	Phenanthrene	1600 J D ~~20000~~	~~E~~
120-12-7	Anthracene	8500	
84-74-2	Di-n-Butylphthalate	920	
206-44-0	Fluoranthene	7800 D ~~23000~~	~~E~~
129-00-0	Pyrene	13000 D ~~32000~~	~~E~~
85-68-7	Butylbenzylphthalate	780	U
91-94-1	3,3'-Dichlorobenzidine	1600	U J
56-55-3	Benzo(a)Anthracene	6000 D ~~21000~~	~~E~~
218-01-9	Chrysene	9000 D ~~21000~~	~~E~~
117-81-7	bis(2-Ethylhexyl) Phthalate	1000	
117-84-0	Di-n-Octyl Phthalate	780	U
205-99-2	Benzo(b)Fluoranthene	17000 D ~~36000~~	~~E~~
207-08-9	~~Benzo(k)Fluoranthene~~	~~7000 D 15000~~	~~E~~
50-32-8	Benzo(a)Pyrene	11000 D ~~19000~~	~~E~~
193-39-5	Indeno(1,2,3-cd)Pyrene	7200 ~~14000~~	~~E~~
53-70-3	Dibenzo(a,h)Anthracene	4800	
191-24-2	Benzo(g,h,i)Perylene	10000 D ~~20000~~	~~E~~

(1) - Cannot be separated from Diphenylamine

total benzofluoran

FORM I SV-2 * taken from diluted analysis 1/87 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BBA24

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270715

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070715A20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 15 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.2 Dilution Factor: 2.0

Number TICs found: 21

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	6.63	2100	~~AJ~~ K
2.	610-48-0	ANTHRACENE, 1-METHYL-	15.29	5600	J N
3.	610-48-0	ANTHRACENE, 1-METHYL-	15.32	6000	J
4.	203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRE	15.47	17000	J
5.	3674-66-6	PHENANTHRENE, 2,5-DIMETHYL-	16.17	6400	J
6.	52251-71-5	ANTHRACENE, 2-ETHYL-	16.20	5800	J
7.	2381-21-7	PYRENE, 1-METHYL-	17.10	7500	J
8.	243-17-4	11H-BENZO[B]FLUORENE	17.25	18000	J
9.	2381-21-7	PYRENE, 1-METHYL-	17.42	22000	J
10.	3353-12-6	PYRENE, 4-METHYL-	17.57	10000	J
11.	2381-21-7	PYRENE, 1-METHYL-	17.62	8600	J
12.	64401-21-4	PYRENE, 1,3-DIMETHYL-	17.90	6400	J
13.	84-15-1	1,1':2',1''-TERPHENYL	18.05	7600	J
14.	239-35-0	BENZO[B]NAPHTHO[2,1-D]THIOPH	18.20	18000	J
15.	203-12-3	BENZO[GHI]FLUORANTHENE	18.30	12000	J
16.	82-05-3	7H-BENZ[DE]ANTHRACEN-7-ONE	18.82	14000	J
17.	1705-84-6	TRIPHENYLENE, 2-METHYL-	19.22	10000	J
18.	2422-79-9	BENZ[A]ANTHRACENE, 12-METHYL	19.49	11000	J
19.		UNKNOWN PAH	19.52	10000	J
20.		BENZO FLUORANTHENE	20.75	6000	J K N
21.	205-82-3	BENZO(J)FLUORANTHENE	21.19	24000	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA24DL

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270715

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70715C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 15 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 6.2 Dilution Factor: 10.0

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	3900	U
111-44-4	bis(2-Chloroethyl)Ether	3900	U
95-57-8	2-Chlorophenol	3900	U
541-73-1	1,3-Dichlorobenzene	3900	U
106-46-7	1,4-Dichlorobenzene	3900	U
100-51-6	Benzyl Alcohol	3900	U
95-50-1	1,2-Dichlorobenzene	3900	U
95-48-7	2-Methylphenol	3900	U
39638-32-9	bis(2-Chloroisopropyl)Ether	3900	U
106-44-5	4-Methylphenol	3900	U
621-64-7	N-Nitroso-Di-n-Propylamine	3900	U
67-72-1	Hexachloroethane	3900	U
98-95-3	Nitrobenzene	3900	U
78-59-1	Isophorone	3900	U
88-75-5	2-Nitrophenol	3900	U
105-67-9	2,4-Dimethylphenol	3900	U
65-85-0	Benzoic Acid	19000	U
111-91-1	bis(2-Chloroethoxy)Methane	3900	U
120-83-2	2,4-Dichlorophenol	3900	U
120-82-1	1,2,4-Trichlorobenzene	3900	U
91-20-3	Naphthalene	760	DJ
106-47-8	4-Chloroaniline	3900	U
87-68-3	Hexachlorobutadiene	3900	U
59-50-7	4-Chloro-3-Methylphenol	3900	U
91-57-6	2-Methylnaphthalene	3900	U
77-47-4	Hexachlorocyclopentadiene	3900	U
88-06-2	2,4,6-Trichlorophenol	3900	U
95-95-4	2,4,5-Trichlorophenol	19000	U
91-58-7	2-Chloronaphthalene	3900	U
88-74-4	2-Nitroaniline	19000	U
131-11-3	Dimethyl Phthalate	3900	U
208-96-8	Acenaphthylene	2900	DJ
606-20-2	2,6-Dinitrotoluene	3900	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA24DL

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270715

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70715C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 15 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 6.2 Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	19000	U
83-32-9	Acenaphthene	3900	U
51-28-5	2,4-Dinitrophenol	19000	U
100-02-7	4-Nitrophenol	19000	U
132-64-9	Dibenzofuran	3900	U
121-14-2	2,4-Dinitrotoluene	3900	U
84-66-2	Diethylphthalate	3900	U
7005-72-3	4-Chlorophenyl-phenylether	3900	U
86-73-7	Fluorene	820	DJ
100-01-6	4-Nitroaniline	19000	U
534-52-1	4,6-Dinitro-2-Methylphenol	19000	U
86-30-6	N-Nitrosodiphenylamine (1)	3900	U
101-55-3	4-Bromophenyl-phenylether	3900	U
118-74-1	Hexachlorobenzene	3900	U
87-86-5	Pentachlorophenol	19000	U
85-01-8	Phenanthrene	1600	DJ
120-12-7	Anthracene	1900	DJ
84-74-2	Di-n-Butylphthalate	3900	U
206-44-0	Fluoranthene	7800	D
129-00-0	Pyrene	13000	D
85-68-7	Butylbenzylphthalate	3900	U
91-94-1	3,3'-Dichlorobenzidine	7800	U
56-55-3	Benzo(a)Anthracene	6000	D
218-01-9	Chrysene	9000	D
117-81-7	bis(2-Ethylhexyl)Phthalate	3900	U
117-84-0	Di-n-Octyl Phthalate	3900	U
205-99-2	Benzo(b)Fluoranthene	17000	DX
207-08-9	Benzo(k)Fluoranthene	17000	DX
50-32-8	Benzo(a)Pyrene	11000	D
193-39-5	Indeno(1,2,3-cd)Pyrene	7200	D
53-70-3	Dibenzo(a,h)Anthracene	2600	DJ
191-24-2	Benzo(g,h,i)Perylene	10000	D

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

BBA24DL

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270715

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70715C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 15 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 6.2 Dilution Factor: 10.0

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	610-48-0	ANTHRACENE, 1-METHYL-	15.40	4700	J
2.	243-17-4	11H-BENZO[B]FLUORENE	16.99	1600	J
3.	243-17-4	11H-BENZO[B]FLUORENE	17.15	2700	J
4.	2381-21-7	PYRENE, 1-METHYL-	17.32	1600	J
5.	3353-12-6	PYRENE, 4-METHYL-	17.47	2000	J
6.		UNKNOWN	18.10	1600	J
7.	203-12-3	BENZO[GHI]FLUORANTHENE	18.19	1200	J
8.	82-05-3	7H-BENZ[DE]ANTHRACEN-7-ONE	18.69	2400	J
9.	3697-24-3	CHRYSENE, 5-METHYL-	19.09	2000	J
10.	1705-84-6	TRIPHENYLENE, 2-METHYL-	19.15	1200	J
11.	4076-39-5	BENZO[C]PHENANTHRENE, 1-METH	19.34	3100	J
12.		UNKNOWN	19.90	1600	J
13.		UNKNOWN	20.05	2000	J
14.	205-82-3	BENZO[J]FLUORANTHENE	20.54	2400	J
15.		UNKNOWN	21.57	1600	J
16.		UNKNOWN	21.65	6300	J
17.		UNKNOWN	21.84	5100	J
18.		UNKNOWN	22.35	2400	J
19.		UNKNOWN	23.59	3100	J
20.		UNKNOWN	23.94	2700	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE BBA25

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270716

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70716C2

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 24 dec. 16 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2000	U
111-44-4	bis(2-Chloroethyl)Ether	2000	U
95-57-8	2-Chlorophenol	2000	U
541-73-1	1,3-Dichlorobenzene	2000	U
106-46-7	1,4-Dichlorobenzene	2000	U
100-51-6	Benzyl Alcohol	2000	U
95-50-1	1,2-Dichlorobenzene	2000	U
95-48-7	2-Methylphenol	2000	U
39638-32-9	bis(2-Chloroisopropyl)Ether	2000	U
106-44-5	4-Methylphenol	2000	U
621-64-7	N-Nitroso-Di-n-Propylamine	2000	U
67-72-1	Hexachloroethane	2000	U
98-95-3	Nitrobenzene	2000	U
78-59-1	Isophorone	2000	U
88-75-5	2-Nitrophenol	2000	U
105-67-9	2,4-Dimethylphenol	2000	U
65-85-0	Benzoic Acid	9500	U
111-91-1	bis(2-Chloroethoxy)Methane	2000	U
120-83-2	2,4-Dichlorophenol	2000	U
120-82-1	1,2,4-Trichlorobenzene	2000	U
91-20-3	Naphthalene	1800	J
106-47-8	4-Chloroaniline	2000	U
87-68-3	Hexachlorobutadiene	2000	U
59-50-7	4-Chloro-3-Methylphenol	2000	U
91-57-6	2-Methylnaphthalene	690	J
77-47-4	Hexachlorocyclopentadiene	2000	U
88-06-2	2,4,6-Trichlorophenol	2000	U
95-95-4	2,4,5-Trichlorophenol	9500	U
91-58-7	2-Chloronaphthalene	2000	U
88-74-4	2-Nitroaniline	9500	U
131-11-3	Dimethyl Phthalate	2000	U
208-96-8	Acenaphthylene	4000	
606-20-2	2,6-Dinitrotoluene	2000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPL

BBA25

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270716

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70716C2

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 24 dec. 16 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	9500	U
83-32-9	Acenaphthene	1200	J
51-28-5	2,4-Dinitrophenol	9500	U
100-02-7	4-Nitrophenol	9500	U
132-64-9	Dibenzofuran	230	J
121-14-2	2,4-Dinitrotoluene	2000	U
84-66-2	Diethylphthalate	2000	U
7005-72-3	4-Chlorophenyl-phenylether	2000	U
86-73-7	Fluorene	1800	J
100-01-6	4-Nitroaniline	9500	U
534-52-1	4,6-Dinitro-2-Methylphenol	9500	U
86-30-6	N-Nitrosodiphenylamine (1)	2000	U
101-55-3	4-Bromophenyl-phenylether	2000	U
118-74-1	Hexachlorobenzene	2000	U
87-86-5	Pentachlorophenol	9500	U
85-01-8	Phenanthrene	13000	
120-12-7	Anthracene	4600	
84-74-2	Di-n-Butylphthalate	620	J
206-44-0	Fluoranthene	21000	
129-00-0	Pyrene	24000	
85-68-7	Butylbenzylphthalate	2000	U
91-94-1	3,3'-Dichlorobenzidine	3900	U
56-55-3	Benzo(a)Anthracene	12000	
218-01-9	Chrysene	13000	
117-81-7	bis(2-Ethylhexyl)Phthalate	480	J
117-84-0	Di-n-Octyl Phthalate	2000	U
205-99-2	Benzo(b)Fluoranthene	20000	
~~207-08-9~~	~~Benzo(k)Fluoranthene~~	~~20000~~	
50-32-8	Benzo(a)Pyrene	11000	
193-39-5	Indeno(1,2,3-cd)Pyrene	7400	
53-70-3	Dibenzo(a,h)Anthracene	2600	
191-24-2	Benzo(g,h,i)Perylene	11000	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA25

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270716

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2D70716C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 24 dec. 16 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 5.0

Number TICs found: 21

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	6.60	1400	JR
2.	610-48-0	ANTHRACENE, 1-METHYL-	15.22	2600	J
3.	610-48-0	ANTHRACENE, 1-METHYL-	15.27	2800	J
4.	203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRE	15.42	3600	J
5.	3674-66-6	PHENANTHRENE, 2,5-DIMETHYL-	16.07	1200	J
6.		UNKNOWN	16.14	990	J
7.		FLUORANTHENE ISOMER	16.57	800	J
8.	243-17-4	11H-BENZO[B]FLUORENE	17.00	1200	J
9.	243-17-4	11H-BENZO[B]FLUORENE	17.17	2400	J
10.	2381-21-7	PYRENE, 1-METHYL-	17.25	990	J
11.	3353-12-6	PYRENE, 4-METHYL-	17.32	2000	J
12.	3353-12-6	PYRENE, 4-METHYL-	17.47	1600	J
13.	2381-21-7	PYRENE, 1-METHYL-	17.52	800	J
14.	3029-19-4	1-PYRENE-CARBOXALDEHYDE	17.94	800	J
15.	239-35-0	BENZO[B]NAPHTHO[2,1-D]THIOPH	18.10	1400	J
16.	203-12-3	BENZO[GHI]FLUORANTHENE	18.19	1200	J
17.	82-05-3	7H-BENZ[DE]ANTHRACEN-7-ONE	18.70	2200	J
18.	1705-84-6	TRIPHENYLENE, 2-METHYL-	19.09	1200	J
19.	1705-84-6	TRIPHENYLENE, 2-METHYL-	19.17	800	J
20.		UNKNOWN	19.32	1200	J
21.		UNKNOWN	19.35	990	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

BBA26

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270717

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070717C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 31 dec. 23 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	860	U
111-44-4	bis(2-Chloroethyl)Ether	860	U
95-57-8	2-Chlorophenol	860	U
541-73-1	1,3-Dichlorobenzene	860	U
106-46-7	1,4-Dichlorobenzene	860	U
100-51-6	Benzyl Alcohol	860	U
95-50-1	1,2-Dichlorobenzene	860	U
95-48-7	2-Methylphenol	860	U
39638-32-9	bis(2-Chloroisopropyl)Ether	860	U
106-44-5	4-Methylphenol	860	U
621-64-7	N-Nitroso-Di-n-Propylamine	860	U
67-72-1	Hexachloroethane	860	U
98-95-3	Nitrobenzene	860	U
78-59-1	Isophorone	860	U
88-75-5	2-Nitrophenol	860	U
105-67-9	2,4-Dimethylphenol	860	U
65-85-0	Benzoic Acid	4200	U
111-91-1	bis(2-Chloroethoxy)Methane	860	U
120-83-2	2,4-Dichlorophenol	860	U
120-82-1	1,2,4-Trichlorobenzene	860	U
91-20-3	Naphthalene	1100	
106-47-8	4-Chloroaniline	860	U
87-68-3	Hexachlorobutadiene	860	U
59-50-7	4-Chloro-3-Methylphenol	860	U
91-57-6	2-Methylnaphthalene	200	J
77-47-4	Hexachlorocyclopentadiene	860	U
88-06-2	2,4,6-Trichlorophenol	860	U
95-95-4	2,4,5-Trichlorophenol	4200	U
91-58-7	2-Chloronaphthalene	860	U
88-74-4	2-Nitroaniline	4200	U
131-11-3	Dimethyl Phthalate	860	U
208-96-8	Acenaphthylene	750	J
606-20-2	2,6-Dinitrotoluene	860	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA26

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270717

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070717C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 31 dec. 23 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4200	U
83-32-9	Acenaphthene	310	J
51-28-5	2,4-Dinitrophenol	4200	U
100-02-7	4-Nitrophenol	4200	U
132-64-9	Dibenzofuran	860	U
121-14-2	2,4-Dinitrotoluene	860	U
84-66-2	Diethylphthalate	860	U
7005-72-3	4-Chlorophenyl-phenylether	860	U
86-73-7	Fluorene	350	J
100-01-6	4-Nitroaniline	4200	U
534-52-1	4,6-Dinitro-2-Methylphenol	4200	U
86-30-6	N-Nitrosodiphenylamine (1)	860	U
101-55-3	4-Bromophenyl-phenylether	860	U
118-74-1	Hexachlorobenzene	860	U
87-86-5	Pentachlorophenol	4200	U
85-01-8	Phenanthrene	1600	
120-12-7	Anthracene	510	J
84-74-2	Di-n-Butylphthalate	860	U
206-44-0	Fluoranthene	2900	
129-00-0	Pyrene	4500	
85-68-7	Butylbenzylphthalate	860	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
56-55-3	Benzo(a)Anthracene	1900	
218-01-9	Chrysene	2600	
117-81-7	bis(2-Ethylhexyl)Phthalate	250	J
117-84-0	Di-n-Octyl Phthalate	860	U
205-99-2	Benzo(b)Fluoranthene total	4600	X
~~207-08-9~~	~~Benzo(k)Fluoranthene~~	~~4600~~	~~X~~
50-32-8	Benzo(a)Pyrene	2900	
193-39-5	Indeno(1,2,3-cd)Pyrene	2100	
53-70-3	Dibenzo(a,h)Anthracene	810	J
191-24-2	Benzo(g,h,i)Perylene	3000	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA26

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270717

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070717C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 31 dec. 23 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 2.0

Number TICs found: 21

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	6.57	1000	NR
2.		UNKNOWN	7.77	610	J
3.	610-48-0	ANTHRACENE, 1-METHYL-	15.24	520	J
4.	610-48-0	ANTHRACENE, 1-METHYL-	15.37	950	J
5.	3674-66-6	PHENANTHRENE, 2,5-DIMETHYL-	16.05	430	J
6.	243-17-4	11H-BENZO[B]FLUORENE	17.14	610	J
7.	3353-12-6	PYRENE, 4-METHYL-	17.30	430	J
8.	3353-12-6	PYRENE, 4-METHYL-	17.45	430	J
9.	82-05-3	7H-BENZ[DE]ANTHRACEN-7-ONE	18.69	690	J
10.	1705-84-6	TRIPHENYLENE, 2-METHYL-	19.07	520	J
11.	4076-39-5	BENZO[C]PHENANTHRENE, 1-METH	19.32	870	J
12.		UNKNOWN	19.89	350	J
13.		UNKNOWN	19.99	430	J
14.		UNKNOWN	20.04	350	J
15.	205-82-3	BENZO[J]FLUORANTHENE	20.54	690	J
16.		UNKNOWN	21.90	690	J
17.		UNKNOWN	22.32	520	J
18.	214-17-5	BENZO[B]CHRYSENE	23.90	870	J
19.	214-17-5	BENZO[B]CHRYSENE	24.70	430	J
20.		UNKNOWN	25.66	780	J
21.	205-82-3	BENZO[J]FLUORANTHENE	20.90	1000	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA27

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270718

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070718C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 50 dec. 27 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	450	U
111-44-4	bis(2-Chloroethyl)Ether	450	U
95-57-8	2-Chlorophenol	450	U
541-73-1	1,3-Dichlorobenzene	450	U
106-46-7	1,4-Dichlorobenzene	450	U
100-51-6	Benzyl Alcohol	450	U
95-50-1	1,2-Dichlorobenzene	450	U
95-48-7	2-Methylphenol	450	U
39638-32-9	bis(2-Chloroisopropyl)Ether	450	U
106-44-5	4-Methylphenol	450	U
621-64-7	N-Nitroso-Di-n-Propylamine	450	U
67-72-1	Hexachloroethane	450	U
98-95-3	Nitrobenzene	450	U
78-59-1	Isophorone	450	U
88-75-5	2-Nitrophenol	450	U
105-67-9	2,4-Dimethylphenol	450	U
65-85-0	Benzoic Acid	2200	U
111-91-1	bis(2-Chloroethoxy)Methane	450	U
120-83-2	2,4-Dichlorophenol	450	U
120-82-1	1,2,4-Trichlorobenzene	450	U
91-20-3	Naphthalene	450	U
106-47-8	4-Chloroaniline	450	U
87-68-3	Hexachlorobutadiene	450	U
59-50-7	4-Chloro-3-Methylphenol	450	U
91-57-6	2-Methylnaphthalene	450	U
77-47-4	Hexachlorocyclopentadiene	450	U
88-06-2	2,4,6-Trichlorophenol	450	U
95-95-4	2,4,5-Trichlorophenol	2200	U
91-58-7	2-Chloronaphthalene	450	U
88-74-4	2-Nitroaniline	2200	U
131-11-3	Dimethyl Phthalate	450	U
208-96-8	Acenaphthylene	71	J
606-20-2	2,6-Dinitrotoluene	450	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA27

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270718

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070718C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 50 dec. 27 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2200	U
83-32-9	Acenaphthene	450	U
51-28-5	2,4-Dinitrophenol	2200	U
100-02-7	4-Nitrophenol	2200	U
132-64-9	Dibenzofuran	450	U
121-14-2	2,4-Dinitrotoluene	450	U
84-66-2	Diethylphthalate	450	U
7005-72-3	4-Chlorophenyl-phenylether	450	U
86-73-7	Fluorene	450	U
100-01-6	4-Nitroaniline	2200	U
534-52-1	4,6-Dinitro-2-Methylphenol	2200	U
86-30-6	N-Nitrosodiphenylamine (1)	450	U
101-55-3	4-Bromophenyl-phenylether	450	U
118-74-1	Hexachlorobenzene	450	U
87-86-5	Pentachlorophenol	2200	U
85-01-8	Phenanthrene	240	J
120-12-7	Anthracene	66	J
84-74-2	Di-n-Butylphthalate	450	U
206-44-0	Fluoranthene	410	J
129-00-0	Pyrene	390	J
85-68-7	Butylbenzylphthalate	450	U
91-94-1	3,3'-Dichlorobenzidine	900	U
56-55-3	Benzo(a)Anthracene	280	J
218-01-9	Chrysene	340	J
117-81-7	bis(2-Ethylhexyl)Phthalate	450	U
117-84-0	Di-n-Octyl Phthalate	450	U
205-99-2	Benzo(b)Fluoranthene	560	X
~~207-08-9~~	~~Benzo(k)Fluoranthene~~	~~560~~	~~X~~
50-32-8	Benzo(a)Pyrene	250	J
193-39-5	Indeno(1,2,3-cd)Pyrene	210	J
53-70-3	Dibenzo(a,h)Anthracene	92	J
191-24-2	Benzo(g,h,i)Perylene	280	J

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

BBA27

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270718

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070718C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 50 dec. 27 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 10

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	6.62	820	~~AJ~~ R
2.		ALDOL	7.15	320	~~J~~ R
3.		UNKNOWN	7.83	410	J
4.		UNKNOWN	15.27	640	J
5.		UNKNOWN	15.45	590	J
6.		UNKNOWN	18.72	500	J
7.		UNKNOWN	19.92	360	J
8.	205-82-3	BENZO[J]FLUORANTHENE	20.94	230	J
9.		UNKNOWN	21.90	460	J
10.		UNKNOWN	25.67	640	J

FORM I SV-TIC 1/87 Rev.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA28

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270719

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ070719C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 27 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	450	U
111-44-4	bis(2-Chloroethyl)Ether	450	U
95-57-8	2-Chlorophenol	450	U
541-73-1	1,3-Dichlorobenzene	450	U
106-46-7	1,4-Dichlorobenzene	450	U
100-51-6	Benzyl Alcohol	450	U
95-50-1	1,2-Dichlorobenzene	450	U
95-48-7	2-Methylphenol	450	U
39638-32-9	bis(2-Chloroisopropyl)Ether	450	U
106-44-5	4-Methylphenol	450	U
621-64-7	N-Nitroso-Di-n-Propylamine	450	U
67-72-1	Hexachloroethane	450	U
98-95-3	Nitrobenzene	450	U
78-59-1	Isophorone	450	U
88-75-5	2-Nitrophenol	450	U
105-67-9	2,4-Dimethylphenol	450	U
65-85-0	Benzoic Acid	2200	U
111-91-1	bis(2-Chloroethoxy)Methane	450	U
120-83-2	2,4-Dichlorophenol	450	U
120-82-1	1,2,4-Trichlorobenzene	450	U
91-20-3	Naphthalene	450	U
106-47-8	4-Chloroaniline	450	U
87-68-3	Hexachlorobutadiene	450	U
59-50-7	4-Chloro-3-Methylphenol	450	U
91-57-6	2-Methylnaphthalene	450	U
77-47-4	Hexachlorocyclopentadiene	450	U
88-06-2	2,4,6-Trichlorophenol	450	U
95-95-4	2,4,5-Trichlorophenol	2200	U
91-58-7	2-Chloronaphthalene	450	U
88-74-4	2-Nitroaniline	2200	U
131-11-3	Dimethyl Phthalate	450	U
208-96-8	Acenaphthylene	73	J
606-20-2	2,6-Dinitrotoluene	450	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA28

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270719

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ070719C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 27 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2200	U
83-32-9	Acenaphthene	450	U
51-28-5	2,4-Dinitrophenol	2200	U
100-02-7	4-Nitrophenol	2200	U
132-64-9	Dibenzofuran	450	U
121-14-2	2,4-Dinitrotoluene	450	U
84-66-2	Diethylphthalate	450	U
7005-72-3	4-Chlorophenyl-phenylether	450	U
86-73-7	Fluorene	450	U
100-01-6	4-Nitroaniline	2200	U
534-52-1	4,6-Dinitro-2-Methylphenol	2200	U
86-30-6	N-Nitrosodiphenylamine (1)	450	U
101-55-3	4-Bromophenyl-phenylether	450	U
118-74-1	Hexachlorobenzene	450	U
87-86-5	Pentachlorophenol	2200	U
85-01-8	Phenanthrene	430	J
120-12-7	Anthracene	68	J
84-74-2	Di-n-Butylphthalate	450	U
206-44-0	Fluoranthene	630	
129-00-0	Pyrene	610	
85-68-7	Butylbenzylphthalate	450	U
91-94-1	3,3'-Dichlorobenzidine	900	U
56-55-3	Benzo(a)Anthracene	300	J
218-01-9	Chrysene	430	J
117-81-7	bis(2-Ethylhexyl)Phthalate	450	U
117-84-0	Di-n-Octyl Phthalate	450	U
205-99-2	Benzo(b)Fluoranthene	340	J
207-08-9	Benzo(k)Fluoranthene	240	J
50-32-8	Benzo(a)Pyrene	380	J
193-39-5	Indeno(1,2,3-cd)Pyrene	250	J
53-70-3	Dibenzo(a,h)Anthracene	120	J
191-24-2	Benzo(g,h,i)Perylene	290	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA28

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270719

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ070719C20

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 27 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 14

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	6.63	820	~~NJ~~
2.		UNKNOWN	7.83	410	J
3.		UNKNOWN	16.40	140	J
4.		UNKNOWN	18.70	640	J
5.		UNKNOWN	19.10	360	J
6.		UNKNOWN	19.94	230	J
7.		UNKNOWN	20.92	910	J
8.		UNKNOWN	21.70	4100	J
9.		UNKNOWN	21.89	270	J
10.		UNKNOWN	22.67	410	J
11.		UNKNOWN	23.85	270	J
12.		UNKNOWN	25.39	270	J
13.		UNKNOWN	25.71	1900	J
14.		UNKNOWN	26.32	1200	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA29

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270720

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070720A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 45 dec. 32 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	490	U
111-44-4	bis(2-Chloroethyl)Ether	490	U
95-57-8	2-Chlorophenol	490	U
541-73-1	1,3-Dichlorobenzene	490	U
106-46-7	1,4-Dichlorobenzene	490	U
100-51-6	Benzyl Alcohol	490	U
95-50-1	1,2-Dichlorobenzene	490	U
95-48-7	2-Methylphenol	490	U
39638-32-9	bis(2-Chloroisopropyl)Ether	490	U
106-44-5	4-Methylphenol	490	U
621-64-7	N-Nitroso-Di-n-Propylamine	490	U
67-72-1	Hexachloroethane	490	U
98-95-3	Nitrobenzene	490	U
78-59-1	Isophorone	490	U
88-75-5	2-Nitrophenol	490	U
105-67-9	2,4-Dimethylphenol	490	U
65-85-0	Benzoic Acid	2400	U
111-91-1	bis(2-Chloroethoxy)Methane	490	U
120-83-2	2,4-Dichlorophenol	490	U
120-82-1	1,2,4-Trichlorobenzene	490	U
91-20-3	Naphthalene	490	U
106-47-8	4-Chloroaniline	490	U
87-68-3	Hexachlorobutadiene	490	U
59-50-7	4-Chloro-3-Methylphenol	490	U
91-57-6	2-Methylnaphthalene	490	U
77-47-4	Hexachlorocyclopentadiene	490	U
88-06-2	2,4,6-Trichlorophenol	490	U
95-95-4	2,4,5-Trichlorophenol	2400	U
91-58-7	2-Chloronaphthalene	490	U
88-74-4	2-Nitroaniline	2400	U
131-11-3	Dimethyl Phthalate	490	U
208-96-8	Acenaphthylene	310	J
606-20-2	2,6-Dinitrotoluene	490	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA29

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270720

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070720A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 45 dec. 32 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2400	U
83-32-9	Acenaphthene	490	U
51-28-5	2,4-Dinitrophenol	2400	U
100-02-7	4-Nitrophenol	2400	U
132-64-9	Dibenzofuran	490	U
121-14-2	2,4-Dinitrotoluene	490	U
84-66-2	Diethylphthalate	490	U
7005-72-3	4-Chlorophenyl-phenylether	490	U
86-73-7	Fluorene	94	J
100-01-6	4-Nitroaniline	2400	U
534-52-1	4,6-Dinitro-2-Methylphenol	2400	U
86-30-6	N-Nitrosodiphenylamine (1)	490	U
101-55-3	4-Bromophenyl-phenylether	490	U
118-74-1	Hexachlorobenzene	490	U
87-86-5	Pentachlorophenol	2400	U
85-01-8	Phenanthrene	1300	
120-12-7	Anthracene	260	J
84-74-2	Di-n-Butylphthalate	490	U
206-44-0	Fluoranthene	2100	
129-00-0	Pyrene	1800	
85-68-7	Butylbenzylphthalate	490	U
91-94-1	3,3'-Dichlorobenzidine	970	U
56-55-3	Benzo(a)Anthracene	1300	
218-01-9	Chrysene	1600	
117-81-7	bis(2-Ethylhexyl)Phthalate	120	J
117-84-0	Di-n-Octyl Phthalate	490	U
205-99-2	Benzo(b)Fluoranthene total	2300	X
~~207-08-9~~	~~Benzo(k)Fluoranthene~~	~~2300~~	~~X~~
50-32-8	Benzo(a)Pyrene	1200	
193-39-5	Indeno(1,2,3-cd)Pyrene	710	
53-70-3	Dibenzo(a,h)Anthracene	280	J
191-24-2	Benzo(g,h,i)Perylene	880	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA29

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270720

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH070720A16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 45 dec. 32 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/02/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.00

Number TICs found: 22

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.88	780	J
2.		ALDOL	6.07	1900	~~J~~
3.		ALDOL	6.53	1100	~~J~~
4.	10544-50-0	SULFUR, MOL. (S8)	11.40	340	J
5.		UNKNOWN	13.92	200	J
6.		UNKNOWN	13.95	200	J
7.		UNKNOWN	14.10	390	J
8.		UNKNOWN	14.57	1500	J
9.		UNKNOWN	15.02	690	J
10.		UNKNOWN	15.75	290	J
11.		UNKNOWN	16.67	200	J
12.		UNKNOWN	16.72	290	J
13.		UNKNOWN	16.80	200	J
14.		UNKNOWN	17.25	240	J
15.		UNKNOWN	17.67	290	J
16.		UNKNOWN	17.90	340	J
17.		UNKNOWN	18.54	730	J
18.		UNKNOWN	19.12	390	J
19.	192-97-2	BENZO[E]PYRENE	19.49	980	J
20.		UNKNOWN	20.60	200	J
21.		UNKNOWN	21.12	240	J
22.		UNKNOWN	22.04	390	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA30

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270721

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070721B16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 30 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/10/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	940	U
111-44-4	bis(2-Chloroethyl)Ether	940	U
95-57-8	2-Chlorophenol	940	U
541-73-1	1,3-Dichlorobenzene	940	U
106-46-7	1,4-Dichlorobenzene	940	U
100-51-6	Benzyl Alcohol	940	U
95-50-1	1,2-Dichlorobenzene	940	U
95-48-7	2-Methylphenol	940	U
39638-32-9	bis(2-Chloroisopropyl)Ether	940	U
106-44-5	4-Methylphenol	940	U
621-64-7	N-Nitroso-Di-n-Propylamine	940	U
67-72-1	Hexachloroethane	940	U
98-95-3	Nitrobenzene	940	U
78-59-1	Isophorone	940	U
88-75-5	2-Nitrophenol	940	U
105-67-9	2,4-Dimethylphenol	940	U
65-85-0	Benzoic Acid	130	J
111-91-1	bis(2-Chloroethoxy)Methane	940	U
120-83-2	2,4-Dichlorophenol	940	U
120-82-1	1,2,4-Trichlorobenzene	940	U
91-20-3	Naphthalene	230	J
106-47-8	4-Chloroaniline	940	U
87-68-3	Hexachlorobutadiene	940	U
59-50-7	4-Chloro-3-Methylphenol	940	U
91-57-6	2-Methylnaphthalene	120	J
77-47-4	Hexachlorocyclopentadiene	940	U
88-06-2	2,4,6-Trichlorophenol	940	U
95-95-4	2,4,5-Trichlorophenol	4600	U
91-58-7	2-Chloronaphthalene	940	U
88-74-4	2-Nitroaniline	4600	U
131-11-3	Dimethyl Phthalate	940	U
208-96-8	Acenaphthylene	160	J
606-20-2	2,6-Dinitrotoluene	940	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA30

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270721

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070721B16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 30 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/10/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4600	U
83-32-9	Acenaphthene	680	J
51-28-5	2,4-Dinitrophenol	4600	U
100-02-7	4-Nitrophenol	4600	U
132-64-9	Dibenzofuran	480	J
121-14-2	2,4-Dinitrotoluene	940	U
84-66-2	Diethylphthalate	940	U
7005-72-3	4-Chlorophenyl-phenylether	940	U
86-73-7	Fluorene	650	J
100-01-6	4-Nitroaniline	4600	U
534-52-1	4,6-Dinitro-2-Methylphenol	4600	U
86-30-6	N-Nitrosodiphenylamine (1)	940	U
101-55-3	4-Bromophenyl-phenylether	940	U
118-74-1	Hexachlorobenzene	940	U
87-86-5	Pentachlorophenol	4600	U
85-01-8	Phenanthrene	9400	
120-12-7	Anthracene	1800	
84-74-2	Di-n-Butylphthalate	940	U
206-44-0	Fluoranthene	10000	
129-00-0	Pyrene	6700	
85-68-7	Butylbenzylphthalate	940	U
91-94-1	3,3'-Dichlorobenzidine	1900	U
56-55-3	Benzo(a)Anthracene	4000	
218-01-9	Chrysene	3400	
117-81-7	bis(2-Ethylhexyl)Phthalate	140	J
117-84-0	Di-n-Octyl Phthalate	940	U
205-99-2	Benzo(b)Fluoranthene	5900	
207-08-9	Benzo(k)Fluoranthene	5900	
50-32-8	Benzo(a)Pyrene	3400	
193-39-5	Indeno(1,2,3-cd)Pyrene	1900	
53-70-3	Dibenzo(a,h)Anthracene	760	J
191-24-2	Benzo(g,h,i)Perylene	2000	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BBA30

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270721

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD070721B16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 30 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/10/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 2.0

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	5.73	2500	~~JB~~
2.		UNKNOWN PNA	13.45	380	J
3.		UNKNOWN PNA	13.57	1500	J
4.		UNKNOWN	13.85	570	J
5.		UNKNOWN PNA	14.20	380	J
6.		UNKNOWN	14.32	860	J
7.		UNKNOWN	14.64	380	J
8.		UNKNOWN	15.05	380	J
9.		UNKNOWN PNA	15.20	860	J
10.		UNKNOWN PNA	15.30	290	J
11.		UNKNOWN PNA	15.37	480	J
12.		UNKNOWN	16.14	670	J
13.		UNKNOWN	16.19	290	J
14.		UNKNOWN	16.22	290	J
15.		UNKNOWN	16.62	380	J
16.		UNKNOWN	17.04	290	J
17.		UNKNOWN	17.87	570	J
18.		BENZO PYRENE ISOMER	18.34	670	J
19.		BENZO PYRENE ISOMER	18.67	1800	J
20.		UNKNOWN	21.04	480	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: BBA31

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271107

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2J71107C16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 30 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	470	U
111-44-4	bis(2-Chloroethyl)Ether	470	U
95-57-8	2-Chlorophenol	470	U
541-73-1	1,3-Dichlorobenzene	470	U
106-46-7	1,4-Dichlorobenzene	470	U
100-51-6	Benzyl Alcohol	470	U
95-50-1	1,2-Dichlorobenzene	470	U
95-48-7	2-Methylphenol	470	U
39638-32-9	bis(2-Chloroisopropyl)Ether	470	U
106-44-5	4-Methylphenol	470	U
621-64-7	N-Nitroso-Di-n-Propylamine	470	U
67-72-1	Hexachloroethane	470	U
98-95-3	Nitrobenzene	470	U
78-59-1	Isophorone	470	U
88-75-5	2-Nitrophenol	470	U
105-67-9	2,4-Dimethylphenol	470	U
65-85-0	Benzoic Acid	2300	U
111-91-1	bis(2-Chloroethoxy)Methane	470	U
120-83-2	2,4-Dichlorophenol	470	U
120-82-1	1,2,4-Trichlorobenzene	470	U
91-20-3	Naphthalene	90	J
106-47-8	4-Chloroaniline	470	U
87-68-3	Hexachlorobutadiene	470	U
59-50-7	4-Chloro-3-Methylphenol	470	U
91-57-6	2-Methylnaphthalene	470	U
77-47-4	Hexachlorocyclopentadiene	470	U
88-06-2	2,4,6-Trichlorophenol	470	U
95-95-4	2,4,5-Trichlorophenol	2300	U
91-58-7	2-Chloronaphthalene	470	U
88-74-4	2-Nitroaniline	2300	U
131-11-3	Dimethyl Phthalate	470	U
208-96-8	Acenaphthylene	290	J
606-20-2	2,6-Dinitrotoluene	470	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA31

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271107

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2J71107C16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 30 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2300	U
83-32-9	Acenaphthene	470	U
51-28-5	2,4-Dinitrophenol	2300	U J
100-02-7	4-Nitrophenol	2300	U
132-64-9	Dibenzofuran	470	U
121-14-2	2,4-Dinitrotoluene	470	U
84-66-2	Diethylphthalate	470	U
7005-72-3	4-Chlorophenyl-phenylether	470	U
86-73-7	Fluorene	470	U
100-01-6	4-Nitroaniline	2300	U J
534-52-1	4,6-Dinitro-2-Methylphenol	2300	U
86-30-6	N-Nitrosodiphenylamine (1)	470	U
101-55-3	4-Bromophenyl-phenylether	470	U
118-74-1	Hexachlorobenzene	470	U
87-86-5	Pentachlorophenol	2300	U
85-01-8	Phenanthrene	420	J
120-12-7	Anthracene	140	J
84-74-2	Di-n-Butylphthalate	470	U
206-44-0	Fluoranthene	1600	
129-00-0	Pyrene	2300	
85-68-7	Butylbenzylphthalate	470	U
91-94-1	3,3'-Dichlorobenzidine	940	U
56-55-3	Benzo(a)Anthracene	1200	
218-01-9	Chrysene	1600	
117-81-7	bis(2-Ethylhexyl)Phthalate	470	U R
117-84-0	Di-n-Octyl Phthalate	470	U
205-99-2	Benzo(b)Fluoranthene	2500	
~~207-08-9~~	~~Benzo(k)Fluoranthene~~	~~2500~~	~~U~~
50-32-8	Benzo(a)Pyrene	1300	
193-39-5	Indeno(1,2,3-cd)Pyrene	510	
53-70-3	Dibenzo(a,h)Anthracene	210	J
191-24-2	Benzo(g,h,i)Perylene	670	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BBA31

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271107

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G2J71107C16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 30 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

Number TICs found: 26 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		BLANK CONTAMINANT	5.02	1100	~~BJ~~ R
2.		BLANK CONTAMINANT	5.10	1400	~~BJ~~ R
3.	694-87-1	BICYCLO[4.2.0]OCTA-1,3,5-TRI	5.38	430	J NR
4.		BLANK CONTAMINANT	5.67	380	~~BJ~~ R
5.		UNKNOWN	5.82	1000	J
6.		ALDOL	6.00	18000	~~AJ~~ R
7.		ALDOL	6.10	670	~~AJ~~ R
8.		ALDOL	6.45	810	~~AJ~~ R
9.	7151-64-6	9H-FLUORENE, 9-ETHYLIDENE-	13.75	240	J NR
10.	610-48-0	ANTHRACENE, 1-METHYL-	13.92	190	J
11.		UNKNOWN	13.95	190	J
12.	3674-74-6	PHENANTHRENE, 2-ETHYL-	14.55	380	J
13.	243-17-4	11H-BENZO[B]FLUORENE	15.42	190	J
14.	3353-12-6	PYRENE, 4-METHYL-	15.57	430	J
15.	3442-78-2	PYRENE, 2-METHYL-	15.72	380	J
16.		UNKNOWN	16.50	570	J
17.		UNKNOWN	17.05	240	J
18.		UNKNOWN	17.47	380	J
19.		UNKNOWN	17.57	330	J
20.		UNKNOWN	17.70	190	J
21.		UNKNOWN	18.34	2400	J
22.		UNKNOWN	18.82	2500	J
23.	192-97-2	BENZO[E]PYRENE	19.29	330	J
24.		UNKNOWN	19.95	1100	J
25.		UNKNOWN	20.47	1300	J
26.		UNKNOWN	24.30	430	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA32

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271108

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ071108C16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 15 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	390	U
111-44-4	bis(2-Chloroethyl)Ether	390	U
95-57-8	2-Chlorophenol	390	U
541-73-1	1,3-Dichlorobenzene	390	U
106-46-7	1,4-Dichlorobenzene	390	U
100-51-6	Benzyl Alcohol	390	U
95-50-1	1,2-Dichlorobenzene	390	U
95-48-7	2-Methylphenol	390	U
39638-32-9	bis(2-Chloroisopropyl)Ether	390	U
106-44-5	4-Methylphenol	390	U
621-64-7	N-Nitroso-Di-n-Propylamine	390	U
67-72-1	Hexachloroethane	390	U
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
88-75-5	2-Nitrophenol	390	U
105-67-9	2,4-Dimethylphenol	390	U
65-85-0	Benzoic Acid	1900	U
111-91-1	bis(2-Chloroethoxy)Methane	390	U
120-83-2	2,4-Dichlorophenol	390	U
120-82-1	1,2,4-Trichlorobenzene	390	U
91-20-3	Naphthalene	91	J
106-47-8	4-Chloroaniline	390	U
87-68-3	Hexachlorobutadiene	390	U
59-50-7	4-Chloro-3-Methylphenol	390	U
91-57-6	2-Methylnaphthalene	390	U
77-47-4	Hexachlorocyclopentadiene	390	U
88-06-2	2,4,6-Trichlorophenol	390	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	390	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethyl Phthalate	390	U
208-96-8	Acenaphthylene	150	J
606-20-2	2,6-Dinitrotoluene	390	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA32

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271108

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ071108C16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 15 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	390	U
51-28-5	2,4-Dinitrophenol	1900	UJ
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	390	U
121-14-2	2,4-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
7005-72-3	4-Chlorophenyl-phenylether	390	U
86-73-7	Fluorene	390	U
100-01-6	4-Nitroaniline	1900	U UJ
534-52-1	4,6-Dinitro-2-Methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	330	J
120-12-7	Anthracene	87	J
84-74-2	Di-n-Butylphthalate	390	U
206-44-0	Fluoranthene	910	
129-00-0	Pyrene	2200	
85-68-7	Butylbenzylphthalate	390	U UJ
91-94-1	3,3'-Dichlorobenzidine	780	U UJ
56-55-3	Benzo(a)Anthracene	2000	
218-01-9	Chrysene	1200	
117-81-7	bis(2-Ethylhexyl)Phthalate	390	U R
117-84-0	Di-n-Octyl Phthalate	390	U
205-99-2	Benzo(b)Fluoranthene total	2100	
~~207-08-9~~	~~Benzo(k)Fluoranthene~~	~~2100~~	
50-32-8	Benzo(a)Pyrene	1000	
193-39-5	Indeno(1,2,3-cd)Pyrene	270	J
53-70-3	Dibenzo(a,h)Anthracene	65	J
191-24-2	Benzo(g,h,i)Perylene	320	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA32

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271108

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ071108C16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 15 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

Number TICs found: 25

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		BLANK CONTAMINANT	5.02	860	~~BJ~~ R
2.		BLANK CONTAMINANT	5.10	1100	~~BJ~~ R
3.		UNKNOWN	5.40	270	J N R
4.		VOA TCL	5.62	240	~~BJ~~ N R
5.		UNKNOWN	5.68	270	J N
6.		UNKNOWN	5.82	430	J N
7.		ALDOL	6.00	13000	~~AJ~~ R
8.		UNKNOWN	6.12	430	J N
9.		UNKNOWN	6.18	240	J N
10.		ALDOL	6.45	590	~~AJ~~ N R
11.		UNKNOWN	6.55	270	J N R
12.		UNKNOWN	12.19	160	J
13.		UNKNOWN	13.99	270	J
14.	238-84-6	11H-BENZO[A]FLUORENE	15.45	160	J
15.	243-17-4	11H-BENZO[B]FLUORENE	15.60	390	J
16.	3442-78-2	PYRENE, 2-METHYL-	15.75	160	J
17.	3442-78-2	PYRENE, 2-METHYL-	15.90	120	J
18.	3442-78-2	PYRENE, 2-METHYL-	15.95	120	J
19.		UNKNOWN	16.54	550	J
20.		UNKNOWN	17.54	270	J
21.		UNKNOWN	17.60	120	J
22.		UNKNOWN	17.77	200	J
23.		UNKNOWN	18.44	1600	J
24.	192-97-2	BENZO[E]PYRENE	19.00	1600	J
25.	192-97-2	BENZO[E]PYRENE	19.39	900	J N

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA33

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271109

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071109B16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 33 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	490	U
111-44-4	bis(2-Chloroethyl)Ether	490	U
95-57-8	2-Chlorophenol	490	U
541-73-1	1,3-Dichlorobenzene	490	U
106-46-7	1,4-Dichlorobenzene	490	U
100-51-6	Benzyl Alcohol	490	U
95-50-1	1,2-Dichlorobenzene	490	U
95-48-7	2-Methylphenol	490	U
39638-32-9	bis(2-Chloroisopropyl)Ether	490	U
106-44-5	4-Methylphenol	490	U
621-64-7	N-Nitroso-Di-n-Propylamine	490	U
67-72-1	Hexachloroethane	490	U
98-95-3	Nitrobenzene	490	U
78-59-1	Isophorone	490	U
88-75-5	2-Nitrophenol	490	U
105-67-9	2,4-Dimethylphenol	490	U
65-85-0	Benzoic Acid	2400	U
111-91-1	bis(2-Chloroethoxy)Methane	490	U
120-83-2	2,4-Dichlorophenol	490	U
120-82-1	1,2,4-Trichlorobenzene	490	U
91-20-3	Naphthalene	490	U
106-47-8	4-Chloroaniline	490	U
87-68-3	Hexachlorobutadiene	490	U
59-50-7	4-Chloro-3-Methylphenol	490	U
91-57-6	2-Methylnaphthalene	490	U
77-47-4	Hexachlorocyclopentadiene	490	U
88-06-2	2,4,6-Trichlorophenol	490	U
95-95-4	2,4,5-Trichlorophenol	2400	U
91-58-7	2-Chloronaphthalene	490	U
88-74-4	2-Nitroaniline	2400	U
131-11-3	Dimethyl Phthalate	490	U
208-96-8	Acenaphthylene	490	U
606-20-2	2,6-Dinitrotoluene	490	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA33

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271109

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071109B16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 33 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2400	U
83-32-9	Acenaphthene	490	U
51-28-5	2,4-Dinitrophenol	2400	U
100-02-7	4-Nitrophenol	2400	U
132-64-9	Dibenzofuran	490	U
121-14-2	2,4-Dinitrotoluene	490	U
84-66-2	Diethylphthalate	490	U
7005-72-3	4-Chlorophenyl-phenylether	490	U
86-73-7	Fluorene	490	U
100-01-6	4-Nitroaniline	2400	U
534-52-1	4,6-Dinitro-2-Methylphenol	2400	U
86-30-6	N-Nitrosodiphenylamine (1)	490	U
101-55-3	4-Bromophenyl-phenylether	490	U
118-74-1	Hexachlorobenzene	490	U
87-86-5	Pentachlorophenol	2400	U
85-01-8	Phenanthrene	66	J
120-12-7	Anthracene	490	U
84-74-2	Di-n-Butylphthalate	490	U
206-44-0	Fluoranthene	120	J
129-00-0	Pyrene	140	J
85-68-7	Butylbenzylphthalate	490	U
91-94-1	3,3'-Dichlorobenzidine	990	U
56-55-3	Benzo(a)Anthracene	78	J
218-01-9	Chrysene	110	J
117-81-7	bis(2-Ethylhexyl)Phthalate	490	U
117-84-0	Di-n-Octyl Phthalate	490	U
205-99-2	Benzo(b)Fluoranthene	490	U
207-08-9	Benzo(k)Fluoranthene	490	U
50-32-8	Benzo(a)Pyrene	490	U
193-39-5	Indeno(1,2,3-cd)Pyrene	490	U
53-70-3	Dibenzo(a,h)Anthracene	490	U
191-24-2	Benzo(g,h,i)Perylene	490	U

(1) - Cannot be separated from Diphenylamine

SAMPLE DATA PACKAGE

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA33

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271109

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071109B16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 33 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

Number TICs found: 27

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.95	200	J
2.		BLANK CONTAMINANT	4.98	1700	~~BJ~~
3.		BLANK CONTAMINANT	5.08	2000	~~BJ~~
4.		BLANK CONTAMINANT	5.25	300	~~BJ~~
5.		VOA TCL	5.58	400	~~BJ~~
6.		BLANK CONTAMINANT	5.65	550	~~BJ~~
7.		UNKNOWN	5.78	1600	J
8.		ALDOL	5.97	1900	~~AJ~~
9.		ALDOL	6.43	1100	~~AJ~~
10.		UNKNOWN	6.65	940	J
11.		UNKNOWN	7.05	650	J
12.		UNKNOWN	12.14	150	J
13.		UNKNOWN	17.42	450	J
14.		UNKNOWN	18.30	1400	J
15.		UNKNOWN	18.65	1100	J
16.		UNKNOWN	18.75	150	J
17.		UNKNOWN	18.84	350	J
18.		UNKNOWN	18.89	400	J
19.		UNKNOWN	19.24	250	J
20.		UNKNOWN	19.87	550	J
21.		UNKNOWN	20.37	800	J
22.		UNKNOWN	20.70	350	J
23.		UNKNOWN	20.90	300	J
24.		UNKNOWN	24.05	300	J
25.		UNKNOWN	24.14	350	J
26.		UNKNOWN	24.24	300	J
27.		UNKNOWN	24.30	99	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA34

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271110

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ071110B16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/14/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
100-51-6	Benzyl Alcohol	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
39638-32-9	bis(2-Chloroisopropyl)Ether	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
65-85-0	Benzoic Acid	1800	~~U~~ R
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U J
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	1800	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	1800	U
131-11-3	Dimethyl Phthalate	370	U
208-96-8	Acenaphthylene	370	U
606-20-2	2,6-Dinitrotoluene	370	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA34

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271110

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ071110B16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/14/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1800	~~U~~ R
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	1800	~~U~~ R
100-02-7	4-Nitrophenol	1800	~~U~~ R
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	1800	~~U~~ R
534-52-1	4,6-Dinitro-2-Methylphenol	1800	U J
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
84-74-2	Di-n-Butylphthalate	370	U
206-44-0	Fluoranthene	52	J
129-00-0	Pyrene	75	J
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	750	~~U~~ R
56-55-3	Benzo(a)Anthracene	47	J
218-01-9	Chrysene	45	J
117-81-7	bis(2-Ethylhexyl)Phthalate	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	49	J
207-08-9	Benzo(k)Fluoranthene	370	U
50-32-8	Benzo(a)Pyrene	55	J
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenzo(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BBA34

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271110

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GJ071110B16

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/14/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

Number TICs found: 17

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.90	110	J
2.		UNKNOWN	5.95	830	J
3.		BLANK CONTAMINANT	6.03	1100	~~BJ~~
4.		VOA TCL	6.58	230	~~BJ~~
5.		BLANK CONTAMINANT	6.63	150	~~BJ~~
6.		UNKNOWN	6.75	870	J
7.		ALDOL	6.92	1200	~~AJ~~
8.		ALDOL	7.37	830	~~AJ~~
9.		UNKNOWN	7.63	230	J
10.		UNKNOWN	8.05	610	J
11.		SURROGATE ISOMER	13.80	190	~~BJ~~
12.		UNKNOWN	17.67	230	J
13.		UNKNOWN	18.89	640	J
14.		UNKNOWN	20.40	230	J
15.		UNKNOWN	20.50	300	J
16.		UNKNOWN	26.01	340	J
17.		UNKNOWN	27.62	1000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA35

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271111

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071111B16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 25 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	440	U
111-44-4	bis(2-Chloroethyl)Ether	440	U
95-57-8	2-Chlorophenol	440	U
541-73-1	1,3-Dichlorobenzene	440	U
106-46-7	1,4-Dichlorobenzene	440	U
100-51-6	Benzyl Alcohol	440	U
95-50-1	1,2-Dichlorobenzene	440	U
95-48-7	2-Methylphenol	440	U
39638-32-9	bis(2-Chloroisopropyl)Ether	440	U
106-44-5	4-Methylphenol	440	U
621-64-7	N-Nitroso-Di-n-Propylamine	440	U
67-72-1	Hexachloroethane	440	U
98-95-3	Nitrobenzene	440	U
78-59-1	Isophorone	440	U
88-75-5	2-Nitrophenol	440	U
105-67-9	2,4-Dimethylphenol	440	U
65-85-0	Benzoic Acid	2100	U
111-91-1	bis(2-Chloroethoxy)Methane	440	U
120-83-2	2,4-Dichlorophenol	440	U
120-82-1	1,2,4-Trichlorobenzene	440	U
91-20-3	Naphthalene	440	U
106-47-8	4-Chloroaniline	440	U
87-68-3	Hexachlorobutadiene	440	U
59-50-7	4-Chloro-3-Methylphenol	440	U
91-57-6	2-Methylnaphthalene	440	U
77-47-4	Hexachlorocyclopentadiene	440	U
88-06-2	2,4,6-Trichlorophenol	440	U
95-95-4	2,4,5-Trichlorophenol	2100	U
91-58-7	2-Chloronaphthalene	440	U
88-74-4	2-Nitroaniline	2100	U
131-11-3	Dimethyl Phthalate	440	U
208-96-8	Acenaphthylene	440	U
606-20-2	2,6-Dinitrotoluene	440	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA35

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271111

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071111B16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 25 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100	U
83-32-9	Acenaphthene	440	U
51-28-5	2,4-Dinitrophenol	2100	U J
100-02-7	4-Nitrophenol	2100	U
132-64-9	Dibenzofuran	440	U
121-14-2	2,4-Dinitrotoluene	440	U
84-66-2	Diethylphthalate	440	U
7005-72-3	4-Chlorophenyl-phenylether	440	U
86-73-7	Fluorene	440	U
100-01-6	4-Nitroaniline	2100	U J
534-52-1	4,6-Dinitro-2-Methylphenol	2100	U
86-30-6	N-Nitrosodiphenylamine (1)	440	U
101-55-3	4-Bromophenyl-phenylether	440	U
118-74-1	Hexachlorobenzene	440	U
87-86-5	Pentachlorophenol	2100	U
85-01-8	Phenanthrene	440	U
120-12-7	Anthracene	440	U
84-74-2	Di-n-Butylphthalate	440	U
206-44-0	Fluoranthene	440	U
129-00-0	Pyrene	59	J
85-68-7	Butylbenzylphthalate	440	U J
91-94-1	3,3'-Dichlorobenzidine	880	U J
56-55-3	Benzo(a)Anthracene	440	U
218-01-9	Chrysene	440	U
117-81-7	bis(2-Ethylhexyl)Phthalate	440	U R
117-84-0	Di-n-Octyl Phthalate	440	U
205-99-2	Benzo(b)Fluoranthene	440	U
207-08-9	Benzo(k)Fluoranthene	440	U
50-32-8	Benzo(a)Pyrene	440	U
193-39-5	Indeno(1,2,3-cd)Pyrene	440	U
53-70-3	Dibenzo(a,h)Anthracene	440	U
191-24-2	Benzo(g,h,i)Perylene	440	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA35

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271111

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071111B16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 25 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BLANK CONTAMINANT	4.98	1100	BJ
2.	BLANK CONTAMINANT	5.08	1400	BJ
3.	BLANK CONTAMINANT	5.65	360	BJ
4.	UNKNOWN	5.80	930	J
5.	ALDOL	5.97	1100	NJ
6.	ALDOL	6.42	800	NJ
7.	UNKNOWN	6.65	180	J
8.	UNKNOWN	7.05	270	J
9.	UNKNOWN	18.30	490	J
10.	UNKNOWN	18.65	400	J
11.	UNKNOWN	18.90	270	J
12.	UNKNOWN	19.85	180	J
13.	UNKNOWN	19.90	89	J
14.	UNKNOWN	22.20	220	J
15.	UNKNOWN	22.24	130	J
16.	UNKNOWN	22.69	270	J
17.	UNKNOWN	24.02	130	J
18.	UNKNOWN	24.09	360	J
19.	UNKNOWN	24.17	580	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

BBA36

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271112

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071112C16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 33 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	510	
111-44-4	bis(2-Chloroethyl)Ether	490	U
95-57-8	2-Chlorophenol	490	U
541-73-1	1,3-Dichlorobenzene	490	U
106-46-7	1,4-Dichlorobenzene	490	U
100-51-6	Benzyl Alcohol	490	U
95-50-1	1,2-Dichlorobenzene	490	U
95-48-7	2-Methylphenol	490	U
39638-32-9	bis(2-Chloroisopropyl)Ether	490	U
106-44-5	4-Methylphenol	140	J
621-64-7	N-Nitroso-Di-n-Propylamine	490	U
67-72-1	Hexachloroethane	490	U
98-95-3	Nitrobenzene	490	U
78-59-1	Isophorone	490	U
88-75-5	2-Nitrophenol	490	U
105-67-9	2,4-Dimethylphenol	490	U
65-85-0	Benzoic Acid	640	J
111-91-1	bis(2-Chloroethoxy)Methane	490	U
120-83-2	2,4-Dichlorophenol	490	U
120-82-1	1,2,4-Trichlorobenzene	490	U
91-20-3	Naphthalene	490	U
106-47-8	4-Chloroaniline	490	U
87-68-3	Hexachlorobutadiene	490	U
59-50-7	4-Chloro-3-Methylphenol	490	U
91-57-6	2-Methylnaphthalene	490	U
77-47-4	Hexachlorocyclopentadiene	490	U
88-06-2	2,4,6-Trichlorophenol	490	U
95-95-4	2,4,5-Trichlorophenol	2400	U
91-58-7	2-Chloronaphthalene	490	U
88-74-4	2-Nitroaniline	2400	U
131-11-3	Dimethyl Phthalate	490	U
208-96-8	Acenaphthylene	490	U
606-20-2	2,6-Dinitrotoluene	490	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA36

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271112

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071112C16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 33 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2400	U
83-32-9	Acenaphthene	490	U
51-28-5	2,4-Dinitrophenol	2400	U J
100-02-7	4-Nitrophenol	2400	U
132-64-9	Dibenzofuran	490	U
121-14-2	2,4-Dinitrotoluene	490	U
84-66-2	Diethylphthalate	490	U
7005-72-3	4-Chlorophenyl-phenylether	490	U
86-73-7	Fluorene	490	U
100-01-6	4-Nitroaniline	2400	U J
534-52-1	4,6-Dinitro-2-Methylphenol	2400	U
86-30-6	N-Nitrosodiphenylamine (1)	490	U
101-55-3	4-Bromophenyl-phenylether	490	U
118-74-1	Hexachlorobenzene	490	U
87-86-5	Pentachlorophenol	2400	U
85-01-8	Phenanthrene	58	J
120-12-7	Anthracene	490	U
84-74-2	Di-n-Butylphthalate	490 ~~80~~	~~BJ~~ U
206-44-0	Fluoranthene	160	J
129-00-0	Pyrene	140	J
85-68-7	Butylbenzylphthalate	590	J
91-94-1	3,3'-Dichlorobenzidine	990	UJ
56-55-3	Benzo(a)Anthracene	99	J
218-01-9	Chrysene	280	J
117-81-7	bis(2-Ethylhexyl)Phthalate	290	J
117-84-0	Di-n-Octyl Phthalate	490	U
205-99-2	Benzo(b)Fluoranthene	160	J
207-08-9	Benzo(k)Fluoranthene	170	J
50-32-8	Benzo(a)Pyrene	140	J
193-39-5	Indeno(1,2,3-cd)Pyrene	490	U
53-70-3	Dibenzo(a,h)Anthracene	490	U
191-24-2	Benzo(g,h,i)Perylene	490	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE

BBA36

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271112

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071112C16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 33 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

Number TICs found: 22

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		BLANK CONTAMINANT	5.00	1100	~~BJ~~ JR
2.		BLANK CONTAMINANT	5.10	1600	~~BJ~~ JR
3.		UNKNOWN	5.67	450	J
4.		UNKNOWN	5.80	840	J
5.	13466-78-9	3-CARENE	5.88	500	J
6.		ALDOL	5.98	6500	~~BJ~~ JR
7.		UNKNOWN	6.07	400	J
8.		UNKNOWN	6.43	1900	J
9.		UNKNOWN	6.67	600	J
10.		UNKNOWN	7.20	300	J
11.		UNKNOWN	7.65	250	J
12.		UNKNOWN	9.29	990	J
13.		UNKNOWN	13.72	890	J
14.		UNKNOWN	16.05	450	J
15.		UNKNOWN	16.50	1500	J
16.	629-99-2	PENTACOSANE	17.47	4100	J
17.		UNKNOWN	18.34	4100	J
18.	629-99-2	PENTACOSANE	18.72	11000	J
19.		UNKNOWN	18.85	1700	J
20.		UNKNOWN	18.90	2700	J
21.		UNKNOWN	20.45	1900	J
22.		UNKNOWN	24.15	3800	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: BBA37

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271113

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD071113A16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 25 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	880	U
111-44-4	bis(2-Chloroethyl)Ether	880	U
95-57-8	2-Chlorophenol	880	U
541-73-1	1,3-Dichlorobenzene	880	U
106-46-7	1,4-Dichlorobenzene	880	U
100-51-6	Benzyl Alcohol	880	U
95-50-1	1,2-Dichlorobenzene	880	U
95-48-7	2-Methylphenol	880	U
39638-32-9	bis(2-Chloroisopropyl)Ether	880	U
106-44-5	4-Methylphenol	880	U
621-64-7	N-Nitroso-Di-n-Propylamine	880	U
67-72-1	Hexachloroethane	880	U
98-95-3	Nitrobenzene	880	U
78-59-1	Isophorone	880	U
88-75-5	2-Nitrophenol	880	U
105-67-9	2,4-Dimethylphenol	880	U
65-85-0	Benzoic Acid	4300	U
111-91-1	bis(2-Chloroethoxy)Methane	880	U
120-83-2	2,4-Dichlorophenol	880	U
120-82-1	1,2,4-Trichlorobenzene	880	U
91-20-3	Naphthalene	880	U
106-47-8	4-Chloroaniline	880	U
87-68-3	Hexachlorobutadiene	880	U
59-50-7	4-Chloro-3-Methylphenol	880	U
91-57-6	2-Methylnaphthalene	880	U
77-47-4	Hexachlorocyclopentadiene	880	U
88-06-2	2,4,6-Trichlorophenol	880	U
95-95-4	2,4,5-Trichlorophenol	4300	U
91-58-7	2-Chloronaphthalene	880	U
88-74-4	2-Nitroaniline	4300	U
131-11-3	Dimethyl Phthalate	880	U
208-96-8	Acenaphthylene	590	J
606-20-2	2,6-Dinitrotoluene	880	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE: BBA37

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271113

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD071113A16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 25 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4300	U
83-32-9	Acenaphthene	880	U
51-28-5	2,4-Dinitrophenol	4300	U
100-02-7	4-Nitrophenol	4300	U
132-64-9	Dibenzofuran	880	U
121-14-2	2,4-Dinitrotoluene	880	U
84-66-2	Diethylphthalate	880	U
7005-72-3	4-Chlorophenyl-phenylether	880	U
86-73-7	Fluorene	110	J
100-01-6	4-Nitroaniline	4300	U
534-52-1	4,6-Dinitro-2-Methylphenol	4300	U
86-30-6	N-Nitrosodiphenylamine (1)	880	U
101-55-3	4-Bromophenyl-phenylether	880	U
118-74-1	Hexachlorobenzene	880	U
87-86-5	Pentachlorophenol	4300	U
85-01-8	Phenanthrene	580	J
120-12-7	Anthracene	280	J
84-74-2	Di-n-Butylphthalate	880	U
206-44-0	Fluoranthene	850	J
129-00-0	Pyrene	1300	
85-68-7	Butylbenzylphthalate	880	U
91-94-1	3,3'-Dichlorobenzidine	1800	U
56-55-3	Benzo(a)Anthracene	770	J
218-01-9	Chrysene	1100	
117-81-7	bis(2-Ethylhexyl)Phthalate	880	U
117-84-0	Di-n-Octyl Phthalate	880	U
205-99-2	Benzo(b)Fluoranthene	1800	X
207-08-9	Benzo(k)Fluoranthene	1800	X
50-32-8	Benzo(a)Pyrene	1600	
193-39-5	Indeno(1,2,3-cd)Pyrene	880	J
53-70-3	Dibenzo(a,h)Anthracene	320	J
191-24-2	Benzo(g,h,i)Perylene	1200	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPL

BBA37

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271113

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD071113A1

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 25 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 2.0

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	5.90	1700	~~JB~~
2.		ALDOL	6.35	710	~~JB~~
3.		UNKNOWN	18.20	440	J
4.		BENZO PYRENE ISOMER	18.72	1100	J
5.		BENZO PYRENE ISOMER	19.07	1200	J
6.		UNKNOWN	23.89	800	J
7.		UNKNOWN	24.60	800	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA38

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271114

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD071114A16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 19 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	810	U
111-44-4	bis(2-Chloroethyl)Ether	810	U
95-57-8	2-Chlorophenol	810	U
541-73-1	1,3-Dichlorobenzene	810	U
106-46-7	1,4-Dichlorobenzene	810	U
100-51-6	Benzyl Alcohol	810	U
95-50-1	1,2-Dichlorobenzene	810	U
95-48-7	2-Methylphenol	810	U
39638-32-9	bis(2-Chloroisopropyl)Ether	810	U
106-44-5	4-Methylphenol	88	J
621-64-7	N-Nitroso-Di-n-Propylamine	810	U
67-72-1	Hexachloroethane	810	U
98-95-3	Nitrobenzene	810	U
78-59-1	Isophorone	810	U
88-75-5	2-Nitrophenol	810	U
105-67-9	2,4-Dimethylphenol	810	U
65-85-0	Benzoic Acid	4000	U
111-91-1	bis(2-Chloroethoxy)Methane	810	U
120-83-2	2,4-Dichlorophenol	810	U
120-82-1	1,2,4-Trichlorobenzene	810	U
91-20-3	Naphthalene	810	U
106-47-8	4-Chloroaniline	810	U
87-68-3	Hexachlorobutadiene	810	U
59-50-7	4-Chloro-3-Methylphenol	810	U
91-57-6	2-Methylnaphthalene	94	J
77-47-4	Hexachlorocyclopentadiene	810	U
88-06-2	2,4,6-Trichlorophenol	810	U
95-95-4	2,4,5-Trichlorophenol	4000	U
91-58-7	2-Chloronaphthalene	810	U
88-74-4	2-Nitroaniline	4000	U
131-11-3	Dimethyl Phthalate	810	U
208-96-8	Acenaphthylene	1300	
606-20-2	2,6-Dinitrotoluene	810	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA38

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271114

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD071114A16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 19 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4000	U
83-32-9	Acenaphthene	430	J
51-28-5	2,4-Dinitrophenol	4000	U
100-02-7	4-Nitrophenol	4000	U
132-64-9	Dibenzofuran	810	U
121-14-2	2,4-Dinitrotoluene	810	U
84-66-2	Diethylphthalate	810	U
7005-72-3	4-Chlorophenyl-phenylether	810	U
86-73-7	Fluorene	330	J
100-01-6	4-Nitroaniline	4000	U
534-52-1	4,6-Dinitro-2-Methylphenol	4000	U
86-30-6	N-Nitrosodiphenylamine (1)	810	U
101-55-3	4-Bromophenyl-phenylether	810	U
118-74-1	Hexachlorobenzene	810	U
87-86-5	Pentachlorophenol	4000	U
85-01-8	Phenanthrene	1300	
120-12-7	Anthracene	540	J
84-74-2	Di-n-Butylphthalate	810	U
206-44-0	Fluoranthene	2400	
129-00-0	Pyrene	4100	
85-68-7	Butylbenzylphthalate	810	U
91-94-1	3,3'-Dichlorobenzidine	1600	U
56-55-3	Benzo(a)Anthracene	1900	
218-01-9	Chrysene	2300	
117-81-7	bis(2-Ethylhexyl)Phthalate	810	U
117-84-0	Di-n-Octyl Phthalate	810	U
205-99-2	Benzo(b)Fluoranthene	4200	U
207-08-9	Benzo(k)Fluoranthene	4200	U
50-32-8	Benzo(a)Pyrene	3900	
193-39-5	Indeno(1,2,3-cd)Pyrene	1400	
53-70-3	Dibenzo(a,h)Anthracene	520	J
191-24-2	Benzo(g,h,i)Perylene	1700	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: BBA38

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271114

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD071114A16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 19 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 2.0

Number TICs found: 22 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	5.92	2400	~~NJ~~ R
2.		ALDOL	6.37	910	~~NJ~~ R
3.		UNKNOWN PNA	13.65	330	J
4.		UNKNOWN PNA	13.69	410	J
5.		UNKNOWN PNA	13.80	1300	J
6.		UNKNOWN PNA	14.44	490	J
7.		UNKNOWN PNA	14.50	490	J
8.		UNKNOWN PNA	14.59	410	J
9.		FLUORANTHENE ISOMER	14.90	250	J
10.		UNKNOWN PNA	15.45	740	J
11.		UNKNOWN PNA	15.60	410	J
12.		UNKNOWN PNA	15.75	490	J
13.		UNKNOWN PNA	15.79	490	J
14.		UNKNOWN PNA	16.42	820	J
15.		UNKNOWN	16.94	330	J
16.		UNKNOWN	17.30	580	J
17.		UNKNOWN	17.55	740	J
18.		UNKNOWN	18.02	250	J
19.		UNKNOWN	18.19	410	J
20.		BENZOFLUORANTHENE ISOMER	18.72	1100	J
21.		BENZOFLUORATNHENE ISOMER	19.07	1800	J
22.		UNKNOWN	20.42	820	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA39

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271115

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G3D71115B16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 20

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	8000	U
111-44-4	bis(2-Chloroethyl)Ether	8000	U
95-57-8	2-Chlorophenol	8000	U
541-73-1	1,3-Dichlorobenzene	8000	U
106-46-7	1,4-Dichlorobenzene	8000	U
100-51-6	Benzyl Alcohol	8000	U
95-50-1	1,2-Dichlorobenzene	8000	U
95-48-7	2-Methylphenol	8000	U
39638-32-9	bis(2-Chloroisopropyl)Ether	8000	U
106-44-5	4-Methylphenol	8000	U
621-64-7	N-Nitroso-Di-n-Propylamine	8000	U
67-72-1	Hexachloroethane	8000	U
98-95-3	Nitrobenzene	8000	U
78-59-1	Isophorone	8000	U
88-75-5	2-Nitrophenol	8000	U
105-67-9	2,4-Dimethylphenol	8000	U
65-85-0	Benzoic Acid	39000	U
111-91-1	bis(2-Chloroethoxy)Methane	8000	U
120-83-2	2,4-Dichlorophenol	8000	U
120-82-1	1,2,4-Trichlorobenzene	8000	U
91-20-3	Naphthalene	8400	
106-47-8	4-Chloroaniline	8000	U
87-68-3	Hexachlorobutadiene	8000	U
59-50-7	4-Chloro-3-Methylphenol	8000	U
91-57-6	2-Methylnaphthalene	47000	
77-47-4	Hexachlorocyclopentadiene	8000	U
88-06-2	2,4,6-Trichlorophenol	8000	U
95-95-4	2,4,5-Trichlorophenol	39000	U
91-58-7	2-Chloronaphthalene	8000	U
88-74-4	2-Nitroaniline	39000	U
131-11-3	Dimethyl Phthalate	8000	U
208-96-8	Acenaphthylene	6100	J
606-20-2	2,6-Dinitrotoluene	8000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA39

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271115

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G3D71115B16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 20

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	39000	U
83-32-9	Acenaphthene	4000	J
51-28-5	2,4-Dinitrophenol	39000	U
100-02-7	4-Nitrophenol	39000	U
132-64-9	Dibenzofuran	3600	J
121-14-2	2,4-Dinitrotoluene	8000	U
84-66-2	Diethylphthalate	8000	U
7005-72-3	4-Chlorophenyl-phenylether	8000	U
86-73-7	Fluorene	6800	J
100-01-6	4-Nitroaniline	39000	U
534-52-1	4,6-Dinitro-2-Methylphenol	39000	U
86-30-6	N-Nitrosodiphenylamine (1)	32000	
101-55-3	4-Bromophenyl-phenylether	8000	U
118-74-1	Hexachlorobenzene	8000	U
87-86-5	Pentachlorophenol	39000	U
85-01-8	Phenanthrene	14000	
120-12-7	Anthracene	4200	J
84-74-2	Di-n-Butylphthalate	8000	U
206-44-0	Fluoranthene	7000	J
129-00-0	Pyrene	16000	
85-68-7	Butylbenzylphthalate	8000	U
91-94-1	3,3'-Dichlorobenzidine	16000	U
56-55-3	Benzo(a)Anthracene	5000	J
218-01-9	Chrysene	8000	J
117-81-7	bis(2-Ethylhexyl)Phthalate	54000	U
117-84-0	Di-n-Octyl Phthalate	8000	U
205-99-2	Benzo(b)Fluoranthene	7600	J
207-08-9	Benzo(k)Fluoranthene	7600	J
50-32-8	Benzo(a)Pyrene	8600	
193-39-5	Indeno(1,2,3-cd)Pyrene	4100	J
53-70-3	Dibenzo(a,h)Anthracene	990	J
191-24-2	Benzo(g,h,i)Perylene	5700	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO: BBA39

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271115

Sample wt/vol: 30.0 (g/mL) G Lab File ID: G3D71115B16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 20

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	8.47	41000	J
2.	26730-14-3	TRIDECANE, 7-METHYL-	8.97	43000	J
3.	29812-79-1	HYDROXYLAMINE, O-DECYL-	9.19	88000	J
4.		UNKNOWN	9.32	51000	J
5.		UNKNOWN	9.50	56000	J
6.		UNKNOWN	9.60	45000	J
7.	54105-67-8	HEPTADECANE, 2,6-DIMETHYL-	9.80	47000	J
8.		UNKNOWN	9.97	120000	J
9.		UNKNOWN	10.35	79000	J
10.	54105-67-8	HEPTADECANE, 2,6-DIMETHYL-	10.44	120000	J
11.		UNKNOWN	10.50	41000	J
12.		UNKNOWN	10.70	110000	J
13.		UNKNOWN	11.17	100000	J
14.		UNKNOWN	11.40	100000	J
15.	54105-67-8	HEPTADECANE, 2,6-DIMETHYL-	11.74	80000	J
16.		UNKNOWN HYDROCARBON	12.07	63000	J
17.	54105-67-8	HEPTADECANE, 2,6-DIMETHYL-	12.12	60000	J
18.		UNKNOWN HYDROCARBON	12.70	46000	J
19.	54105-67-8	HEPTADECANE, 2,6-DIMETHYL-	12.77	48000	J
20.		UNKNOWN HYDROCARBON	13.30	43000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA40

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271116

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD071116A16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 51 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1300	U
111-44-4	bis(2-Chloroethyl)Ether	1300	U
95-57-8	2-Chlorophenol	1300	U
541-73-1	1,3-Dichlorobenzene	1300	U
106-46-7	1,4-Dichlorobenzene	1300	U
100-51-6	Benzyl Alcohol	1300	U
95-50-1	1,2-Dichlorobenzene	1300	U
95-48-7	2-Methylphenol	1300	U
39638-32-9	bis(2-Chloroisopropyl)Ether	1300	U
106-44-5	4-Methylphenol	160	J
621-64-7	N-Nitroso-Di-n-Propylamine	1300	U
67-72-1	Hexachloroethane	1300	U
98-95-3	Nitrobenzene	1300	U
78-59-1	Isophorone	1300	U
88-75-5	2-Nitrophenol	1300	U
105-67-9	2,4-Dimethylphenol	1300	U
65-85-0	Benzoic Acid	550	J
111-91-1	bis(2-Chloroethoxy)Methane	1300	U
120-83-2	2,4-Dichlorophenol	1300	U
120-82-1	1,2,4-Trichlorobenzene	1300	U
91-20-3	Naphthalene	390	J
106-47-8	4-Chloroaniline	1300	U
87-68-3	Hexachlorobutadiene	1300	U
59-50-7	4-Chloro-3-Methylphenol	1300	U
91-57-6	2-Methylnaphthalene	210	J
77-47-4	Hexachlorocyclopentadiene	1300	U
88-06-2	2,4,6-Trichlorophenol	1300	U
95-95-4	2,4,5-Trichlorophenol	6500	U
91-58-7	2-Chloronaphthalene	1300	U
88-74-4	2-Nitroaniline	6500	U
131-11-3	Dimethyl Phthalate	1300	U
208-96-8	Acenaphthylene	1200	J
606-20-2	2,6-Dinitrotoluene	1300	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA40

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271116

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD071116A16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 51 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	6500	U
83-32-9	Acenaphthene	1300	U
51-28-5	2,4-Dinitrophenol	6500	U
100-02-7	4-Nitrophenol	6500	U
132-64-9	Dibenzofuran	150	J
121-14-2	2,4-Dinitrotoluene	1300	U
84-66-2	Diethylphthalate	1300	U J
7005-72-3	4-Chlorophenyl-phenylether	1300	U
86-73-7	Fluorene	230	J
100-01-6	4-Nitroaniline	6500	U
534-52-1	4,6-Dinitro-2-Methylphenol	6500	U
86-30-6	N-Nitrosodiphenylamine (1)	1300	U
101-55-3	4-Bromophenyl-phenylether	1300	U
118-74-1	Hexachlorobenzene	1300	U
87-86-5	Pentachlorophenol	6500	U
85-01-8	Phenanthrene	2500	
120-12-7	Anthracene	710	J
84-74-2	Di-n-Butylphthalate	1300	U
206-44-0	Fluoranthene	5600	
129-00-0	Pyrene	5300	
85-68-7	Butylbenzylphthalate	1300	U
91-94-1	3,3'-Dichlorobenzidine	2700	U
56-55-3	Benzo(a)Anthracene	3000	
218-01-9	Chrysene	4200	
117-81-7	bis(2-Ethylhexyl)Phthalate	1300	U
117-84-0	Di-n-Octyl Phthalate	1300	U
205-99-2	Benzo(b)Fluoranthene [illegible]	4200	X
~~207-08-9~~	~~Benzo(k)Fluoranthene~~	~~4200~~	~~U~~
50-32-8	Benzo(a)Pyrene	3900	
193-39-5	Indeno(1,2,3-cd)Pyrene	2000	
53-70-3	Dibenzo(a,h)Anthracene	670	J
191-24-2	Benzo(g,h,i)Perylene	1800	

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

BBA40

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271116

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD071116A16

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 51 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 2.0

Number TICs found: 22

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL	5.90	6900	~~NJ~~
2.	ALDOL	6.02	1200	~~NJ~~
3.	UNKNOWN	6.17	1600	J
4.	UNKNOWN SUBST. HYDROCARBON	6.98	1100	J
5.	UNKNOWN	13.64	1800	J
6.	UNKNOWN PNA	13.67	820	J
7.	UNKNOWN	14.10	1400	J
8.	UNKNOWN HYDROCARBON	14.40	1600	J
9.	UNKNOWN	15.44	1800	J
10.	UNKNOWN	15.82	820	J
11.	UNKNOWN	15.90	680	J
12.	UNKNOWN	16.39	2700	J
13.	UNKNOWN	16.49	950	J
14.	UNKNOWN	16.60	1400	J
15.	UNKNOWN	16.85	1200	J
16.	UNKNOWN	17.00	1100	J
17.	UNKNOWN	17.35	2300	J
18.	UNKNOWN	17.55	950	J
19.	UNKNOWN	17.92	680	J
20.	UNKNOWN	18.02	2000	J
21.	UNKNOWN	18.20	1900	J
22.	UNKNOWN	20.74	3300	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA23

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270714

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 32 dec. 20 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/08/89

GPC Cleanup: (Y/N) N pH: 6.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10.	U
319-85-7	beta-BHC	10.	U
319-86-8	delta-BHC	10.	U
58-89-9	gamma-BHC (Lindane)	10.	U
76-44-8	Heptachlor	10.	U
309-00-2	Aldrin	10.	U
1024-57-3	Heptachlor epoxide	10.	U
959-98-8	Endosulfan I	10.	U
60-57-1	Dieldrin	20.	U
72-55-9	4,4'-DDE	20.	U
72-20-8	Endrin	20.	U
33213-65-9	Endosulfan II	20.	U
72-54-8	4,4'-DDD	20.	U
1031-07-8	Endosulfan sulfate	20.	U
50-29-3	4,4'-DDT	20.	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin ketone	20.	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	200	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA24

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270715

Sample wt/vol: 30.0 (g/mL) G Lab File ID: PJ070715A21

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 15 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/08/89

GPC Cleanup: (Y/N) N pH: 6.2 Dilution Factor: 2.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	19.	U
319-85-7	beta-BHC	19.	U
319-86-8	delta-BHC	19.	U
58-89-9	gamma-BHC (Lindane)	19.	U
76-44-8	Heptachlor	19.	U
309-00-2	Aldrin	19.	U
1024-57-3	Heptachlor epoxide	19.	U
959-98-8	Endosulfan I	19.	U
60-57-1	Dieldrin	38.	U
72-55-9	4,4'-DDE	710	C
72-20-8	Endrin	38.	U
33213-65-9	Endosulfan II	38.	U
72-54-8	4,4'-DDD	2000	C
1031-07-8	Endosulfan sulfate	38.	U
50-29-3	4,4'-DDT	38.	U
72-43-5	Methoxychlor	190	U
53494-70-5	Endrin ketone	38.	U
5103-71-9	alpha-Chlordane	190	U
5103-74-2	gamma-Chlordane	190	U
8001-35-2	Toxaphene	380	U
12674-11-2	Aroclor-1016	190	U
11104-28-2	Aroclor-1221	190	U
11141-16-5	Aroclor-1232	190	U
53469-21-9	Aroclor-1242	190	U
12672-29-6	Aroclor-1248	190	U
11097-69-1	Aroclor-1254	380	U
11096-82-5	Aroclor-1260	380	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA25

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270716

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 24 dec. 16 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/08/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.5	~~U~~ R
319-85-7	beta-BHC	96.	~~U~~ R
319-86-8	delta-BHC	9.5	U R
58-89-9	gamma-BHC (Lindane)	9.5	U
76-44-8	Heptachlor	9.5	U
309-00-2	Aldrin	9.5	U
1024-57-3	Heptachlor epoxide	9.5	U
959-98-8	Endosulfan I	9.5	U
60-57-1	Dieldrin	19.	U
72-55-9	4,4'-DDE	19.	U
72-20-8	Endrin	19.	U
33213-65-9	Endosulfan II	19.	U
72-54-8	4,4'-DDD	19.	U
1031-07-8	Endosulfan sulfate	19.	U
50-29-3	4,4'-DDT	19.	U
72-43-5	Methoxychlor	95.	U
53494-70-5	Endrin ketone	19.	U
5103-71-9	alpha-Chlordane	95.	U
5103-74-2	gamma-Chlordane	95.	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	95.	U
11104-28-2	Aroclor-1221	95.	U
11141-16-5	Aroclor-1232	95.	U
53469-21-9	Aroclor-1242	95.	U
12672-29-6	Aroclor-1248	95.	U
11097-69-1	Aroclor-1254	190	U R
11096-82-5	Aroclor-1260	190	U R

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA26

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270717

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 31 dec. 23 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/08/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 2.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	21.	U
319-85-7	beta-BHC	21.	U
319-86-8	delta-BHC	21.	U
58-89-9	gamma-BHC (Lindane)	21.	U
76-44-8	Heptachlor	21.	U
309-00-2	Aldrin	21.	U
1024-57-3	Heptachlor epoxide	21.	U
959-98-8	Endosulfan I	21.	U
60-57-1	Dieldrin	42.	U
72-55-9	4,4'-DDE	42.	U
72-20-8	Endrin	42.	U
33213-65-9	Endosulfan II	42.	U
72-54-8	4,4'-DDD	320	
1031-07-8	Endosulfan sulfate	42.	U
50-29-3	4,4'-DDT	42.	U
72-43-5	Methoxychlor	210	U
53494-70-5	Endrin ketone	42.	U
5103-71-9	alpha-Chlordane	210	U
5103-74-2	gamma-Chlordane	210	U
8001-35-2	Toxaphene	420	U
12674-11-2	Aroclor-1016	210	U
11104-28-2	Aroclor-1221	210	U
11141-16-5	Aroclor-1232	210	U
53469-21-9	Aroclor-1242	210	U
12672-29-6	Aroclor-1248	210	U
11097-69-1	Aroclor-1254	420	U
11096-82-5	Aroclor-1260	420	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA27

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270718

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 50 dec. 27 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11.	U
319-85-7	beta-BHC	11.	U
319-86-8	delta-BHC	11.	U
58-89-9	gamma-BHC (Lindane)	11.	U
76-44-8	Heptachlor	11.	U
309-00-2	Aldrin	11.	U
1024-57-3	Heptachlor epoxide	11.	U
959-98-8	Endosulfan I	11.	U
60-57-1	Dieldrin	22.	U
72-55-9	4,4'-DDE	22.	U
72-20-8	Endrin	22.	U
33213-65-9	Endosulfan II	22.	U
72-54-8	4,4'-DDD	22.	U
1031-07-8	Endosulfan sulfate	22.	U
50-29-3	4,4'-DDT	22.	U
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin ketone	22.	U
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-Chlordane	110	U
8001-35-2	Toxaphene	220	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	220	U
11096-82-5	Aroclor-1260	220	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA28

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270719

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 27 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11.	U
319-85-7	beta-BHC	11.	U
319-86-8	delta-BHC	11.	U
58-89-9	gamma-BHC (Lindane)	11.	U
76-44-8	Heptachlor	11.	U
309-00-2	Aldrin	11.	U
1024-57-3	Heptachlor epoxide	11.	U
959-98-8	Endosulfan I	11.	U
60-57-1	Dieldrin	22.	U
72-55-9	4,4'-DDE	22.	U
72-20-8	Endrin	22.	U
33213-65-9	Endosulfan II	22.	U
72-54-8	4,4'-DDD	22.	U
1031-07-8	Endosulfan sulfate	22.	U
50-29-3	4,4'-DDT	22.	U
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin ketone	22.	U
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-Chlordane	110	U
8001-35-2	Toxaphene	220	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	220	U
11096-82-5	Aroclor-1260	220	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA29

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270720

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 45 dec. 32 Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	12.	U
319-85-7	beta-BHC	12.	U
319-86-8	delta-BHC	12.	U
58-89-9	gamma-BHC (Lindane)	12.	U
76-44-8	Heptachlor	12.	U
309-00-2	Aldrin	12.	U
1024-57-3	Heptachlor epoxide	12.	U
959-98-8	Endosulfan I	12.	U
60-57-1	Dieldrin	24.	U
72-55-9	4,4'-DDE	24.	U
72-20-8	Endrin	24.	U
33213-65-9	Endosulfan II	24.	U
72-54-8	4,4'-DDD	24.	U
1031-07-8	Endosulfan sulfate	24.	U
50-29-3	4,4'-DDT	24.	U
72-43-5	Methoxychlor	120	U
53494-70-5	Endrin ketone	24.	U
5103-71-9	alpha-Chlordane	120	U
5103-74-2	gamma-Chlordane	120	U
8001-35-2	Toxaphene	240	U
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	240	U
11096-82-5	Aroclor-1260	240	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA30

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270721

Sample wt/vol: 30.0 (g/mL) G Lab File ID: PC070721B15

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 30 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11.	U
319-85-7	beta-BHC	370	~~U~~ R
319-86-8	delta-BHC	11.	U
58-89-9	gamma-BHC (Lindane)	11.	U
76-44-8	Heptachlor	11.	U
309-00-2	Aldrin	11.	U
1024-57-3	Heptachlor epoxide	11.	U
959-98-8	Endosulfan I	11.	U
60-57-1	Dieldrin	23.	U
72-55-9	4,4'-DDE	23.	U
72-20-8	Endrin	23.	U
33213-65-9	Endosulfan II	23.	U
72-54-8	4,4'-DDD	23.	U
1031-07-8	Endosulfan sulfate	23.	U
50-29-3	4,4'-DDT	23.	U
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin ketone	23.	U
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-Chlordane	110	U
8001-35-2	Toxaphene	230	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	230	U
11096-82-5	Aroclor-1260	230	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA31

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271107

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 30 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11.	U
319-85-7	beta-BHC	11.	U
319-86-8	delta-BHC	11.	U
58-89-9	gamma-BHC (Lindane)	11.	U
76-44-8	Heptachlor	11.	U
309-00-2	Aldrin	11.	U
1024-57-3	Heptachlor epoxide	11.	U
959-98-8	Endosulfan I	11.	U
60-57-1	Dieldrin	23.	U
72-55-9	4,4'-DDE	23.	U
72-20-8	Endrin	23.	U
33213-65-9	Endosulfan II	23.	U
72-54-8	4,4'-DDD	130	
1031-07-8	Endosulfan sulfate	23.	U
50-29-3	4,4'-DDT	60.	
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin ketone	23.	U
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-Chlordane	110	U
8001-35-2	Toxaphene	230	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	230	U
11096-82-5	Aroclor-1260	230	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA32

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271108

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 15 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.4	U
319-85-7	beta-BHC	9.4	U
319-86-8	delta-BHC	9.4	U
58-89-9	gamma-BHC (Lindane)	9.4	U
76-44-8	Heptachlor	9.4	U
309-00-2	Aldrin	9.4	U
1024-57-3	Heptachlor epoxide	9.4	U
959-98-8	Endosulfan I	9.4	U
60-57-1	Dieldrin	19.	U
72-55-9	4,4'-DDE	19.	U
72-20-8	Endrin	19.	U
33213-65-9	Endosulfan II	19.	U
72-54-8	4,4'-DDD	64.	
1031-07-8	Endosulfan sulfate	19.	U
50-29-3	4,4'-DDT	58.	
72-43-5	Methoxychlor	94.	U
53494-70-5	Endrin ketone	19.	U
5103-71-9	alpha-Chlordane	94.	U
5103-74-2	gamma-Chlordane	94.	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	94.	U
11104-28-2	Aroclor-1221	94.	U
11141-16-5	Aroclor-1232	94.	U
53469-21-9	Aroclor-1242	94.	U
12672-29-6	Aroclor-1248	94.	U
11097-69-1	Aroclor-1254	190	U
11096-82-5	Aroclor-1260	190	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA33

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271109

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 33 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	12.	U
319-85-7	beta-BHC	12.	U
319-86-8	delta-BHC	12.	U
58-89-9	gamma-BHC (Lindane)	12.	U
76-44-8	Heptachlor	12.	U
309-00-2	Aldrin	12.	U
1024-57-3	Heptachlor epoxide	12.	U
959-98-8	Endosulfan I	12.	U
60-57-1	Dieldrin	24.	U
72-55-9	4,4'-DDE	24.	U
72-20-8	Endrin	24.	U
33213-65-9	Endosulfan II	24.	U
72-54-8	4,4'-DDD	24.	U
1031-07-8	Endosulfan sulfate	24.	U
50-29-3	4,4'-DDT	24.	U
72-43-5	Methoxychlor	120	U
53494-70-5	Endrin ketone	24.	U
5103-71-9	alpha-Chlordane	120	U
5103-74-2	gamma-Chlordane	120	U
8001-35-2	Toxaphene	240	U
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	240	U
11096-82-5	Aroclor-1260	240	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA34

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271110

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.1	U
319-85-7	beta-BHC	9.1	U
319-86-8	delta-BHC	9.1	U
58-89-9	gamma-BHC (Lindane)	9.1	U
76-44-8	Heptachlor	9.1	U
309-00-2	Aldrin	9.1	U
1024-57-3	Heptachlor epoxide	9.1	U
959-98-8	Endosulfan I	9.1	U
60-57-1	Dieldrin	18.	U
72-55-9	4,4'-DDE	18.	U
72-20-8	Endrin	18.	U
33213-65-9	Endosulfan II	18.	U
72-54-8	4,4'-DDD	18.	U
1031-07-8	Endosulfan sulfate	18.	U
50-29-3	4,4'-DDT	18.	U
72-43-5	Methoxychlor	91.	U
53494-70-5	Endrin ketone	18.	U
5103-71-9	alpha-Chlordane	91.	U
5103-74-2	gamma-Chlordane	91.	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	91.	U
11104-28-2	Aroclor-1221	91.	U
11141-16-5	Aroclor-1232	91.	U
53469-21-9	Aroclor-1242	91.	U
12672-29-6	Aroclor-1248	91.	U
11097-69-1	Aroclor-1254	180	U
11096-82-5	Aroclor-1260	180	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA35

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271111

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 25 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11.	R
319-85-7	beta-BHC	240	
319-86-8	delta-BHC	11.	R
58-89-9	gamma-BHC (Lindane)	11.	
76-44-8	Heptachlor	11.	
309-00-2	Aldrin	11.	
1024-57-3	Heptachlor epoxide	11.	
959-98-8	Endosulfan I	11.	R
60-57-1	Dieldrin	53.	
72-55-9	4,4'-DDE	160	
72-20-8	Endrin	21.	R
33213-65-9	Endosulfan II	21.	R
72-54-8	4,4'-DDD	65.	
1031-07-8	Endosulfan sulfate	21.	
50-29-3	4,4'-DDT	21.	R
72-43-5	Methoxychlor	110	
53494-70-5	Endrin ketone	21.	
5103-71-9	alpha-Chlordane	110	
5103-74-2	gamma-Chlordane	110	
8001-35-2	Toxaphene	210	
12674-11-2	Aroclor-1016	110	
11104-28-2	Aroclor-1221	110	
11141-16-5	Aroclor-1232	110	
53469-21-9	Aroclor-1242	110	
12672-29-6	Aroclor-1248	110	
11097-69-1	Aroclor-1254	210	
11096-82-5	Aroclor-1260	210	R

Rejected due to surrogate recovery

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA36

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271112

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 33 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	12.	U
319-85-7	beta-BHC	12.	U
319-86-8	delta-BHC	12.	U
58-89-9	gamma-BHC (Lindane)	12.	U
76-44-8	Heptachlor	12.	U
309-00-2	Aldrin	12.	U
1024-57-3	Heptachlor epoxide	12.	U
959-98-8	Endosulfan I	12.	U
60-57-1	Dieldrin	24.	U
72-55-9	4,4'-DDE	24.	U
72-20-8	Endrin	24.	U
33213-65-9	Endosulfan II	24.	U
72-54-8	4,4'-DDD	24.	U
1031-07-8	Endosulfan sulfate	100	
50-29-3	4,4'-DDT	93.	
72-43-5	Methoxychlor	120	U
53494-70-5	Endrin ketone	24.	U
5103-71-9	alpha-Chlordane	120	U
5103-74-2	gamma-Chlordane	120	U
8001-35-2	Toxaphene	240	U
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	240	U
11096-82-5	Aroclor-1260	240	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA37

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271113

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 25 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11.	U
319-85-7	beta-BHC	11.	U
319-86-8	delta-BHC	11.	U
58-89-9	gamma-BHC (Lindane)	11.	U
76-44-8	Heptachlor	11.	U
309-00-2	Aldrin	11.	U
1024-57-3	Heptachlor epoxide	11.	U
959-98-8	Endosulfan I	11.	U
60-57-1	Dieldrin	21.	U
72-55-9	4,4'-DDE	21.	U
72-20-8	Endrin	21.	U
33213-65-9	Endosulfan II	21.	U
72-54-8	4,4'-DDD	88.	
1031-07-8	Endosulfan sulfate	21.	U
50-29-3	4,4'-DDT	21.	U
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin ketone	21.	U
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-Chlordane	110	U
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	210	U
11096-82-5	Aroclor-1260	210	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA38

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271114

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 19 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/08/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.9	U
319-85-7	beta-BHC	9.9	U
319-86-8	delta-BHC	9.9	U
58-89-9	gamma-BHC (Lindane)	9.9	U
76-44-8	Heptachlor	9.9	U
309-00-2	Aldrin	9.9	U
1024-57-3	Heptachlor epoxide	9.9	U
959-98-8	Endosulfan I	9.9	U
60-57-1	Dieldrin	20.	U
72-55-9	4,4'-DDE	20.	U
72-20-8	Endrin	20.	U
33213-65-9	Endosulfan II	20.	U
72-54-8	4,4'-DDD	20.	U
1031-07-8	Endosulfan sulfate	20.	U
50-29-3	4,4'-DDT	21.	
72-43-5	Methoxychlor	99.	U
53494-70-5	Endrin ketone	20.	U
5103-71-9	alpha-Chlordane	99.	U
5103-74-2	gamma-Chlordane	99.	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	99.	U
11104-28-2	Aroclor-1221	99.	U
11141-16-5	Aroclor-1232	99.	U
53469-21-9	Aroclor-1242	99.	U
12672-29-6	Aroclor-1248	99.	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	200	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA39

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271115

Sample wt/vol: 30.0 (g/mL) G Lab File ID: PC071115B20

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 2.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	19.	U
319-85-7	beta-BHC	19.	U
319-86-8	delta-BHC	19.	U
58-89-9	gamma-BHC (Lindane)	19.	U
76-44-8	Heptachlor	19.	U
309-00-2	Aldrin	19.	U
1024-57-3	Heptachlor epoxide	19.	U
959-98-8	Endosulfan I	19.	U
60-57-1	Dieldrin	38.	U
72-55-9	4,4'-DDE	470	
72-20-8	Endrin	38.	U
33213-65-9	Endosulfan II	38.	U
72-54-8	4,4'-DDD	1700	C
1031-07-8	Endosulfan sulfate	38.	U
50-29-3	4,4'-DDT	420	
72-43-5	Methoxychlor	190	U
53494-70-5	Endrin ketone	38.	U
5103-71-9	alpha-Chlordane	190	U
5103-74-2	gamma-Chlordane	190	U
8001-35-2	Toxaphene	380	U
12674-11-2	Aroclor-1016	190	U
11104-28-2	Aroclor-1221	190	U
11141-16-5	Aroclor-1232	190	U
53469-21-9	Aroclor-1242	190	U
12672-29-6	Aroclor-1248	190	U
11097-69-1	Aroclor-1254	380	U
11096-82-5	Aroclor-1260	380	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA40

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 271116

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 51 dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 2.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	33.	U
319-85-7	beta-BHC	180	
319-86-8	delta-BHC	33.	U
58-89-9	gamma-BHC (Lindane)	33.	U
76-44-8	Heptachlor	33.	U
309-00-2	Aldrin	33.	U
1024-57-3	Heptachlor epoxide	33.	U
959-98-8	Endosulfan I	33.	U
60-57-1	Dieldrin	65.	U
72-55-9	4,4'-DDE	550	
72-20-8	Endrin	65.	U
33213-65-9	Endosulfan II	65.	U
72-54-8	4,4'-DDD	88.	
1031-07-8	Endosulfan sulfate	65.	U
50-29-3	4,4'-DDT	65.	U
72-43-5	Methoxychlor	330	U
53494-70-5	Endrin ketone	65.	U
5103-71-9	alpha-Chlordane	330	U
5103-74-2	gamma-Chlordane	330	U
8001-35-2	Toxaphene	650	U
12674-11-2	Aroclor-1016	330	U
11104-28-2	Aroclor-1221	330	U
11141-16-5	Aroclor-1232	330	U
53469-21-9	Aroclor-1242	330	U
12672-29-6	Aroclor-1248	330	U
11097-69-1	Aroclor-1254	650	U
11096-82-5	Aroclor-1260	650	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA21

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270703

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 23 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 5.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10.	U
319-85-7	beta-BHC	210	
319-86-8	delta-BHC	10.	U
58-89-9	gamma-BHC (Lindane)	10.	U
76-44-8	Heptachlor	10.	U
309-00-2	Aldrin	10.	U
1024-57-3	Heptachlor epoxide	10.	U
959-98-8	Endosulfan I	10.	U
60-57-1	Dieldrin	21.	U
72-55-9	4,4'-DDE	21.	U
72-20-8	Endrin	21.	U
33213-65-9	Endosulfan II	21.	U
72-54-8	4,4'-DDD	21.	U
1031-07-8	Endosulfan sulfate	21.	U
50-29-3	4,4'-DDT	21.	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin ketone	21.	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	210	U
11096-82-5	Aroclor-1260	210	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA22

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA21

Matrix: (soil/water) SOIL Lab Sample ID: 270713

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. 12 dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/07/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.1	U
319-85-7	beta-BHC	9.1	U
319-86-8	delta-BHC	9.1	U
58-89-9	gamma-BHC (Lindane)	9.1	U
76-44-8	Heptachlor	9.1	U
309-00-2	Aldrin	9.1	U
1024-57-3	Heptachlor epoxide	9.1	U
959-98-8	Endosulfan I	9.1	U
60-57-1	Dieldrin	18.	U
72-55-9	4,4'-DDE	18.	U
72-20-8	Endrin	18.	U
33213-65-9	Endosulfan II	18.	U
72-54-8	4,4'-DDD	18.	U
1031-07-8	Endosulfan sulfate	18.	U
50-29-3	4,4'-DDT	18.	U
72-43-5	Methoxychlor	91.	U
53494-70-5	Endrin ketone	18.	U
5103-71-9	alpha-Chlordane	91.	U
5103-74-2	gamma-Chlordane	91.	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	91.	U
11104-28-2	Aroclor-1221	91.	U
11141-16-5	Aroclor-1232	91.	U
53469-21-9	Aroclor-1242	91.	U
12672-29-6	Aroclor-1248	91.	U
11097-69-1	Aroclor-1254	180	U
11096-82-5	Aroclor-1260	180	U

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CASE NARRATIVE CASE #12241
SDG #BBA41
CONTRACT #68-D9-0032
COMPUCHEM LABORATORIES, INC.

THIS PORTION OF CASE #12241 SDG #BBA41 CONSISTED THREE SOLID SAMPLES WHICH WERE ANALYZED FOR VOLATILES, SEMIVOLATILES, AND PESTICIDES. THE SAMPLES WERE RECEIVED INTACT ON 6-30-89 WITH THE SHIPPING CONTAINER PROPERLY SEALED AND ALL CHAIN-OF-CUSTODY DOCUMENTS IN ORDER. THE PERCENT MOISTURES RANGED FROM 31 TO 47. THE pHs RANGED FROM 7.3 TO 7.6.

VOLATILES:

ALL SAMPLE AND QC FRACTIONS WERE ANALYZED WITHIN HOLDING TIMES. SAMPLE BBA41 CONTAINED METHYLENE CHLORIDE AT 22UG/KG, ACETONE AT 190 UG/KG, AND 2-BUTANONE AT 240 UG/KG. SAMPLES BBA42 AND BBA43 CONTAINED, RESPECTIVELY, METHYLENE CHLORIDE 18 AND 20 UG/KG, ACETONE 16 AND 18 UG/KG, AND CHLOROFORM 4 AND 3 UG/KG. METHYLENE CHLORIDE AND ACETONE WERE DETECTED IN THE ASSOCIATED METHOD BLANK. NO TENTATIVELY IDENTIFIED COMPOUNDS(TICs). THE ASSOCIATED METHOD BLANKS, MATRIX SPIKE, AND MATRIX SPIKE DUPLICATE MET ALL QC CRITERIA. ALL SAMPLE FRACTIONS MET SURROGATE RECOVERY CRITERIA.

SEMIVOLATILES:

ALL SAMPLE AND QC FRACTIONS WERE EXTRACTED WITHIN HOLDING TIMES. ALL SAMPLES CONTAINED NUMEROUS POLYNUCLEAR AROMATICS. SAMPLE BBA42 ALSO CONTAINED 4-METHYLPHENOL. FOR SAMPLE BBA41 THE MAXIMUM NUMBER OF TICs WERE REPORTED IN ADDITION TO ANY ALDOLS AND BLANK CONTAMINANTS PRESENT IN THE AS-RECEIVED ACETONE EVEN AFTER IN-HOUSE DISTILLATION. THESE TICs WERE MAINLY UNKNOWNS, BUT A POLYNUCLEAR AROMATIC, AND A DDD/DDT ISOMER WERE DETECTED. SAMPLES BBA42 AND BBA43 CONTAINED THREE AND AND FOUR TICs IN ADDITION TO ANY ALDOLS AND BLANKS CONTAMINATIONS. THE ASSOCIATED METHOD BLANKS, MATRIX SPIKE, AND MATRIX SPIKE DUPLICATE MET ALL QC CRITERIA EXCEPT THAT THE RELATIVE PERCENT DIFFERENCE FOR PYRENE WAS 57 VERSUS AN UPPER LIMIT OF 36.

PESTICIDES:

ALL SAMPLE AND QC FRACTIONS WERE EXTRACTED WITHIN HOLDING TIMES. IN SAMPLE BBA41 BETA-BHC AT 87 UG/KG, DDD AT 460 UG/KG, DDE AT 210 UG/KG, AND DDT AT 140UG/KG WERE CONFIRMED. DDD WAS VERY CLOSE TO MEETING THE CRITERIA FOR CONFIRMATION VIA GC/MS, BUT DID NOT MEET CRITERIA. THIS COMPOUND WAS SEEN AS A TIC IN THE SEMIVOLATILE FRACTION. THE ASSOCIATED METHOD BLANK, MATRIX SPIKE, AND MATRIX SPIKE DUPLICATE MET ALL QC CRITERIA EXCEPT THAT ALDRIN WAS RECOVERED AT 142 IN THE MATRIX SPIKE AND AT 162 IN THE MATRIX SPIKE DUPLICATE VERSUS AN UPPER LIMIT OF 132 AND DDT WAS RECOVERED AT 219 IN THE MATRIX SPIKE AND AT 181 IN THE MATRIX SPIKE DUPLICATE VERSUS AN UPPER LIMIT OF 134.

I CERTIFY THAT THIS DATA PACKAGE IS IN COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE CONTRACT, BOTH TECHNICALLY AND FOR COMPLETENESS, FOR OTHER THAN THE CONDITIONS DETAILED ABOVE. RELEASE OF THE DATA CONTAINED IN THE HARDCOPY DATA PACKAGE HAS BEEN AUTHORIZED BY THE LABORATORY MANAGER OR HIS DESIGNEE AS VERIFIED BY THE FOLLOWING SIGNATURE.

NOTE: THIS REPORT IS PAGINATED FOR REFERENCE AND ACCOUNTABILITY IN DEACREASING NUMERICAL SEQUENCE.

ELISABETH ROBINS NOWELL
DATA REVIEWER
DATE 7-19-89

Elisabeth R Nowell

LABORATORY NOTICE

On June 15, 1985 CompuChem Laboratories began adding D3-2,4-Dinitrophenol to all standards and samples. The purpose of this addition is to enable the laboratory to have higher and more consistent analytical sensitivity for the native 2,4-Dinitrophenol. The peak corresponding to the deuterated analog is clearly labeled on each RIC as D3#1 and will not be searched and reported as a tentatively identified compound (TIC). This compound is not being used as an internal or surrogate standard.

L. Richard Flynn,
Development Chemist

Bob Meierer,
Director of Quality Assurance

DETECTION LIMIT CALCULATION CLARIFICATION

To protect our GC columns from unnecessary contamination, soil samples prepared according to Caucus Protocol methods are routinely diluted 5:1. Through a series of experiments we have determined that our Instrument Detection Limit for pesticides is 5X lower than the EPA Contract Required Quantitation Limit (CRQL). We, therefore, only adjust our detection limits if the dilution necessary to analyze the sample is greater than 5:1. If the sample is diluted by a factor of X the detection limit is adjusted by $\frac{X}{5}$ instead of X.

Bill DesJardins
Manager, GC Laboratory

Bob Meierer
Director, Quality Assurance

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QUALITY ASSURANCE NOTICE

With the advent of the new organics Statement of Work (SOW 2/88, Revision: 9/88) participants in EPA's Contract Laboratory Program (CLP) are required to provide hard copy and diskette deliverables. CompuChem employs the Finnigan QA Formaster Program (Format A) to generate these requirements using data files from our analytical instrumentation. Currently, and independently, quantitation reports are generated by the instruments and are used with CompuChem-developed software to calculate results. The GC and GC/MS quantitation routines employ the convention of carrying at least one extra significant figure until the mathematical computations are completed. Then, the quantitative results are rounded to the SOW-required number of significant figures for reporting. In addition, the algorithm used by the Formaster Program is slightly different than that employed in Compuchem's software routines. Therefore, results presented in the supportive data supplied with our deliverables packages may be slightly different than those which appear on the hard copy forms generated via Formaster.

This notice serves to alert the end users of these data packages as to the reason why slight differences may be observed.

Robert E. Meierer

Robert E. Meierer
Director of Quality Assurance

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QUALITY ASSURANCE NOTICE

Specific guidelines are presented in the EPA CLP Organic Statement of Work for the positive qualitative identification of compounds through mass spectral interpretation. Applying these guidelines absolutely may not be possible when the nature of the sample is less than pure reference material. Where the mass spectral pattern of a compound to be identified demonstrates interferences or coelution from one or more additional compounds, either unknowns, internal standards, or surrogate standards, the "+" sign is added to the top of the dual spectra page.

Linda Fowler 4/10/89

Linda Fowler
Sr. Quality Assurance Specialist

Robert E. Meierer 4/12/89

Robert E. Meierer
Vice President, Quality Assurance

RECEIVED
JUN 20 1989
S & M BRANCH

2. By fraction (VOA, SV, PEST) and by sample within each fraction - tabulated target compound results (Form I) and tentatively identified compounds (Form I, TIC) (VOA and SV only)

ATTACHMENT 1
SOP NO. HW-6

TOTAL REVIEW

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organics Analysis

Case No. 12241 SDG No. BBA41 LABORATORY Compuchem SITE Sag Harbor

DATA ASSESSMENT:

The current functional guidelines (1988) for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "R" (unusable),or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Reviewer's Signature: _____ Date: 10/10/1989

Verified By: _____ Date: 10/15/1989

DATA ASSESSMENT:

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

ATTACHMENT 1
SOP NO. HW-6

DATA ASSESSMENT:

2. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip field, rinse and water blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross- contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for the common contaminants), the analytes are qualified as non- detects, "U". The following analytes in the samples shown were qualified with "U" for these reasons:

A) Method blank contamination

VOA - Methylene Chloride & Acetone were flagged ~~detected~~ non-detect in BBA41, 42 + 43.

B) Field or rinse blank contamination ("water blanks" or "distilled water blanks" are validated like any other sample)

VOA - Chloroform was flagged non-detect in BBA42 + 43.

C) Trip blank contamination

ATTACHMENT 1
SOP NO. HW-6

DATA ASSESSMENT:

3. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is bromofluorobenzene (BFB) and for semi-volatiles is decafluorotriphenyl- phosphine (DFTPP).

If the mass calibration is in error, all associated data will be classified as unusable, "R".

DATA ASSESSMENT:

4. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) RESPONSE FACTOR:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be $\geq$ 0.05 in both the initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected ("R").

~~VOA - 2-Butanone was rejected (R) in BBA 41,243 due to RRF < .05 in continuing calibration.~~ JS 9/19/89

DATA ASSESSMENT:

5. CALIBRATION:

A) PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ" (if %D or RSD >50%). If there is a gross deviation of %RSD and %D, the non-detects may be rejected ("R").

For the PCB/PESTICIDE fraction, %RSD for aldrin, endrin, DDT, and dibutylchlorendate must not exceed 10%. Percent D must be within 15% on the quantitation column and 20% on the confirmation column.

- 2 Butanone was flagged estimated (J) in BBA41 due to %D73

VOA - Acetone was flagged estimated (J) in BBA41, 2+3 due to %RSD 750.

BN A - bis(2 chloroisopropyl)ether + 4 nitrophenol were flagged estimated (J) in BBA41, 42+43 due to %D 750.

DATA ASSESSMENT:

6. SURROGATES:

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

DATA ASSESSMENT:

7. INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

DATA ASSESSMENT:

8. COMPOUND IDENTIFICATION:

A) VOLATILE AND SEMI-VOLATILE FRACTIONS:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

B) PESTICIDE FRACTION:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10 ng/ml in the final sample extract.

DATA ASSESSMENT:

9. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for some additional qualification of the data.

ATTACHMENT 1
SOP NO. HW-6

DATA ASSESSMENT:

10. OTHER QC DATA OUT OF SPECIFICATION:

SV- Benzo(b)fluoranthene & Benzo(k)fluoranthene were flagged estimated (J), presumptive (N) in BBA41 & presumptive (N) in BBA43 because they couldn't be differentiated from each other.

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued on next page if necessary):

All 2-Butanone init & cont calibration calculations were incorrect, I recalculated them manually & called the lab for resubmittals.

E/9/89

12. CONTRACT PROBLEMS____NON-COMPLIANCE:

13. This package contains re-extraction, re-analysis or dilution. Upon reviewing the QA results, the following form I(s) are identified to be used.

DATA ASSESSMENT:

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued):

Type of Review: total Date: 10-10-89 Case #: 12241 BBA41

Project: Sag Harbor Lab Name: Compuchem

Reviewer's Initials: KS Number of Samples: 3 D.

Analytes Rejected Due to Exceeding Review Criteria:

	Surrogates	Holding Time	Calibration	Contamination	ID	Other	Total # Samples	Total # Rejected/ Total # in all Samples
Acids (15)							3	0/45
B/N (50)							3	0/150
VOA (35)				6/3			3	6/105
PEST (20)							3	0/60
PCB (7)							3	0/~~5~~21
TCDD (1)							0	0/0

Analytes Estimated Due to Exceeding Review Criteria for:

Acids (15)			3/3				3	3/45
B/N (50)			3/3				3	3/150
VOA (35)			4/3				3	4/105
PEST (20)							3	0/60
PCB (7)							3	0/21
TCDD (1)							0	0/0

ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE NO. 12241 LABORATORY Compuchem

SDG NO. BBA41 DATA USER FIT 2

SOW _____ REVIEW COMPLETION DATE 10/10/89

NO. OF SAMPLES _____ WATER 3 _____ SOIL _____ OTHER

REVIEWER [ ] ESD [ ] ESAT [X] OTHER, CONTRACT/CONTRACTOR FIT 2

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES	O	O	O	
2. GC-MS TUNE/ GC PERFORMANCE	O	O	O	
3. INITIAL CALIBRATIONS	O	X	O	
4. CONTINUING CALIBRATIONS	X	X	O	
5. FIELD BLANKS ("F" = not applicable)	X	O	O	
6. LABORATORY BLANKS	O	O	O	
7. SURROGATES	O	O	O	
8. MATRIX SPIKE/DUPLICATES	O	O	O	
9. REGIONAL QC ("F" = not applicable)	F	F	F	
10. INTERNAL STANDARDS	O	O		
11. COMPOUND IDENTIFICATION	O	O	O	
12. COMPOUND QUANTITATION	O	O	O	
13. SYSTEM PERFORMANCE	X	X	O	
14. OVERALL ASSESSMENT	X	X	O	

O = No problems or minor problems that do not affect data usability.
X = No more than *about* 5% of the data points are qualified as either estimated or unusable.
M = More than *about* 5% of the data points are qualified as estimated.
Z = More than *about* 5% of the data points are qualified as unusable.

DPO ACTION ITEMS: _____

AREAS OF CONCERN: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA41

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271117

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071117C19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 47 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	19	U
74-83-9	Bromomethane	19	U
75-01-4	Vinyl Chloride	19	U
75-00-3	Chloroethane	19	U
75-09-2	Methylene Chloride	22	~~B~~ U
67-64-1	Acetone	190	~~B~~ U J
75-15-0	Carbon Disulfide	9	U
75-35-4	1,1-Dichloroethene	9	U
75-34-3	1,1-Dichloroethane	9	U
540-59-0	1,2-Dichloroethene (total)	9	U
67-66-3	Chloroform	9	U
107-06-2	1,2-Dichloroethane	9	U
78-93-3	2-Butanone	240	~~U~~ J
71-55-6	1,1,1-Trichloroethane	9	U
56-23-5	Carbon Tetrachloride	9	U
108-05-4	Vinyl Acetate	19	U
75-27-4	Bromodichloromethane	9	U
78-87-5	1,2-Dichloropropane	9	U
10061-01-5	cis-1,3-Dichloropropene	9	U
79-01-6	Trichloroethene	9	U
124-48-1	Dibromochloromethane	9	U
79-00-5	1,1,2-Trichloroethane	9	U
71-43-2	Benzene	9	U
10061-02-6	Trans-1,3-Dichloropropene	9	U
75-25-2	Bromoform	9	U
108-10-1	4-Methyl-2-Pentanone	19	U
591-78-6	2-Hexanone	19	U
127-18-4	Tetrachloroethene	9	U
79-34-5	1,1,2,2-Tetrachloroethane	9	U
108-88-3	Toluene	9	U
108-90-7	Chlorobenzene	9	U
100-41-4	Ethylbenzene	9	U
100-42-5	Styrene	9	U
1330-20-7	Total Xylenes	9	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA41

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271117

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071117C19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 47 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA42

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271127

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071127A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 31 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	18	~~B~~
67-64-1	Acetone	16	~~B~~
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7 ~~4~~	~~J~~
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	~~U~~
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA42

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271127

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071127A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 31 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA43

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271131

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071131A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 36 Date Analyzed: 07/06/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	16	U
74-83-9	Bromomethane	16	U
75-01-4	Vinyl Chloride	16	U
75-00-3	Chloroethane	16	U
75-09-2	Methylene Chloride	20	~~B~~
67-64-1	Acetone	18	~~B~~ U J
75-15-0	Carbon Disulfide	8	U
75-35-4	1,1-Dichloroethene	8	U
75-34-3	1,1-Dichloroethane	8	U
540-59-0	1,2-Dichloroethene (total)	8	U
67-66-3	Chloroform	8 ~~3~~	~~J~~ U
107-06-2	1,2-Dichloroethane	8	U
78-93-3	2-Butanone	16	~~U~~
71-55-6	1,1,1-Trichloroethane	8	U
56-23-5	Carbon Tetrachloride	8	U
108-05-4	Vinyl Acetate	16	U
75-27-4	Bromodichloromethane	8	U
78-87-5	1,2-Dichloropropane	8	U
10061-01-5	cis-1,3-Dichloropropene	8	U
79-01-6	Trichloroethene	8	U
124-48-1	Dibromochloromethane	8	U
79-00-5	1,1,2-Trichloroethane	8	U
71-43-2	Benzene	8	U
10061-02-6	Trans-1,3-Dichloropropene	8	U
75-25-2	Bromoform	8	U
108-10-1	4-Methyl-2-Pentanone	16	U
591-78-6	2-Hexanone	16	U
127-18-4	Tetrachloroethene	8	U
79-34-5	1,1,2,2-Tetrachloroethane	8	U
108-88-3	Toluene	8	U
108-90-7	Chlorobenzene	8	U
100-41-4	Ethylbenzene	8	U
100-42-5	Styrene	8	U
1330-20-7	Total Xylenes	8	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA43

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271131

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH071131A19

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 36 Date Analyzed: 07/06/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA41

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271117

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD071117B04

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 47 dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)Ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl Alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
95-48-7	2-Methylphenol	1200	U
39638-32-9	bis(2-Chloroisopropyl)Ether	1200	U
106-44-5	4-Methylphenol	1200	U
621-64-7	N-Nitroso-Di-n-Propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
65-85-0	Benzoic Acid	6000	U
111-91-1	bis(2-Chloroethoxy)Methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	180	J
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-Methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
95-95-4	2,4,5-Trichlorophenol	6000	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	6000	U
131-11-3	Dimethyl Phthalate	1200	U
208-96-8	Acenaphthylene	310	J
606-20-2	2,6-Dinitrotoluene	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA41

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271117

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD071117B04

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 47 dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	6000	U
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	6000	U
100-02-7	4-Nitrophenol	6000	U J
132-64-9	Dibenzofuran	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
86-73-7	Fluorene	1200	U
100-01-6	4-Nitroaniline	6000	U
534-52-1	4,6-Dinitro-2-Methylphenol	6000	U
86-30-6	N-Nitrosodiphenylamine (1)	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	6000	U
85-01-8	Phenanthrene	920	J
120-12-7	Anthracene	230	J
84-74-2	Di-n-Butylphthalate	1200	U
206-44-0	Fluoranthene	2200	
129-00-0	Pyrene	1400	
85-68-7	Butylbenzylphthalate	1200	U
91-94-1	3,3'-Dichlorobenzidine	2500	U
56-55-3	Benzo(a)Anthracene	1200	J
218-01-9	Chrysene	1200	J
117-81-7	bis(2-Ethylhexyl)Phthalate	1200	U
117-84-0	Di-n-Octyl Phthalate	1200	U
205-99-2	Benzo(b)Fluoranthene	2400	X J N
207-08-9	Benzo(k)Fluoranthene	2400	X J N
50-32-8	Benzo(a)Pyrene	1100	J
193-39-5	Indeno(1,2,3-cd)Pyrene	560	J
53-70-3	Dibenzo(a,h)Anthracene	210	J
191-24-2	Benzo(g,h,i)Perylene	610	J

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

BBA41

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271117

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GD071117B04

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 47 dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 2.0

Number TICs found: 24

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		BLANK CONTAMINANT	4.87	500	~~BJ~~
2.		BLANK CONTAMINANT	4.95	750	~~BJ~~
3.	142-62-1	HEXANOIC ACID (DOT)	5.13	1100	J
4.		ALDOL	5.80	3300	~~AJ~~
5.		BLANK CONTAMINANT	6.03	750	~~BJ~~
6.		UNKNOWN	13.97	630	J
7.		UNKNOWN	14.92	1400	J
8.		DDD/DDT ISOMER	15.09	2100	~~J~~ P
9.		UNKNOWN	15.29	2000	J
10.		UNKNOWN	15.84	2000	J
11.		UNKNOWN	16.32	1000	J
12.		UNKNOWN	16.42	1300	J
13.		UNKNOWN	16.82	1000	J
14.		UNKNOWN	16.95	1000	J
15.		UNKNOWN	17.02	1100	J
16.		UNKNOWN	17.44	1800	J
17.		UNKNOWN	18.14	2100	J
18.		UNKNOWN	18.35	2600	J
19.		BENZO PYRENE ISOMER	18.64	1100	J
20.		UNKNOWN	18.82	1000	J
21.		UNKNOWN	19.19	1100	J
22.		UNKNOWN	19.70	1600	J
23.		UNKNOWN	20.45	3300	J
24.		UNKNOWN	21.45	1600	J

FORM I SV-TIC 1/87 Rev.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA42

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271127

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071127B04

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 31 dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	480	U
111-44-4	bis(2-Chloroethyl)Ether	480	U
95-57-8	2-Chlorophenol	480	U
541-73-1	1,3-Dichlorobenzene	480	U
106-46-7	1,4-Dichlorobenzene	480	U
100-51-6	Benzyl Alcohol	480	U
95-50-1	1,2-Dichlorobenzene	480	U
95-48-7	2-Methylphenol	480	U
39638-32-9	bis(2-Chloroisopropyl)Ether	480	U
106-44-5	4-Methylphenol	55	J
621-64-7	N-Nitroso-Di-n-Propylamine	480	U
67-72-1	Hexachloroethane	480	U
98-95-3	Nitrobenzene	480	U
78-59-1	Isophorone	480	U
88-75-5	2-Nitrophenol	480	U
105-67-9	2,4-Dimethylphenol	480	U
65-85-0	Benzoic Acid	2300	U
111-91-1	bis(2-Chloroethoxy)Methane	480	U
120-83-2	2,4-Dichlorophenol	480	U
120-82-1	1,2,4-Trichlorobenzene	480	U
91-20-3	Naphthalene	480	U
106-47-8	4-Chloroaniline	480	U
87-68-3	Hexachlorobutadiene	480	U
59-50-7	4-Chloro-3-Methylphenol	480	U
91-57-6	2-Methylnaphthalene	480	U
77-47-4	Hexachlorocyclopentadiene	480	U
88-06-2	2,4,6-Trichlorophenol	480	U
95-95-4	2,4,5-Trichlorophenol	2300	U
91-58-7	2-Chloronaphthalene	480	U
88-74-4	2-Nitroaniline	2300	U
131-11-3	Dimethyl Phthalate	480	U
208-96-8	Acenaphthylene	480	U
606-20-2	2,6-Dinitrotoluene	480	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA42

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271127

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071127B04

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 31 dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2300	U
83-32-9	Acenaphthene	480	U
51-28-5	2,4-Dinitrophenol	2300	U
100-02-7	4-Nitrophenol	2300	U
132-64-9	Dibenzofuran	480	U
121-14-2	2,4-Dinitrotoluene	480	U
84-66-2	Diethylphthalate	480	U
7005-72-3	4-Chlorophenyl-phenylether	480	U
86-73-7	Fluorene	480	U
100-01-6	4-Nitroaniline	2300	U
534-52-1	4,6-Dinitro-2-Methylphenol	2300	U
86-30-6	N-Nitrosodiphenylamine (1)	480	U
101-55-3	4-Bromophenyl-phenylether	480	U
118-74-1	Hexachlorobenzene	480	U
87-86-5	Pentachlorophenol	2300	U
85-01-8	Phenanthrene	480	U
120-12-7	Anthracene	480	U
84-74-2	Di-n-Butylphthalate	480	U
206-44-0	Fluoranthene	63	J
129-00-0	Pyrene	77	J
85-68-7	Butylbenzylphthalate	480	U
91-94-1	3,3'-Dichlorobenzidine	960	U
56-55-3	Benzo(a)Anthracene	480	U
218-01-9	Chrysene	81	J
117-81-7	bis(2-Ethylhexyl)Phthalate	480	U
117-84-0	Di-n-Octyl Phthalate	480	U
205-99-2	Benzo(b)Fluoranthene	480	U
207-08-9	Benzo(k)Fluoranthene	82	J
50-32-8	Benzo(a)Pyrene	55	J
193-39-5	Indeno(1,2,3-cd)Pyrene	480	U
53-70-3	Dibenzo(a,h)Anthracene	480	U
191-24-2	Benzo(g,h,i)Perylene	480	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA42

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271127

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071127B04

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 31 dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

Number TICs found: 6

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		BLANK CONTAMINANT	4.82	480	~~BJ~~
2.		BLANK CONTAMINANT	4.90	680	~~BJ~~
3.		ALDOL	5.77	680	~~AJ~~
4.		BLANK CONTAMINANT	6.00	480	BJ
5.		UNKNOWN	14.67	2000	J
6.		UNKNOWN HYDROCARBON	18.15	190	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA43

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271131

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071131B04

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 36 dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	520	U
111-44-4	bis(2-Chloroethyl)Ether	520	U
95-57-8	2-Chlorophenol	520	U
541-73-1	1,3-Dichlorobenzene	520	U
106-46-7	1,4-Dichlorobenzene	520	U
100-51-6	Benzyl Alcohol	520	U
95-50-1	1,2-Dichlorobenzene	520	U
95-48-7	2-Methylphenol	520	U
39638-32-9	bis(2-Chloroisopropyl)Ether	520	U
106-44-5	4-Methylphenol	520	U
621-64-7	N-Nitroso-Di-n-Propylamine	520	U
67-72-1	Hexachloroethane	520	U
98-95-3	Nitrobenzene	520	U
78-59-1	Isophorone	520	U
88-75-5	2-Nitrophenol	520	U
105-67-9	2,4-Dimethylphenol	520	U
65-85-0	Benzoic Acid	2500	U
111-91-1	bis(2-Chloroethoxy)Methane	520	U
120-83-2	2,4-Dichlorophenol	520	U
120-82-1	1,2,4-Trichlorobenzene	520	U
91-20-3	Naphthalene	63	J
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	520	U
59-50-7	4-Chloro-3-Methylphenol	520	U
91-57-6	2-Methylnaphthalene	520	U
77-47-4	Hexachlorocyclopentadiene	520	U
88-06-2	2,4,6-Trichlorophenol	520	U
95-95-4	2,4,5-Trichlorophenol	2500	U
91-58-7	2-Chloronaphthalene	520	U
88-74-4	2-Nitroaniline	2500	U
131-11-3	Dimethyl Phthalate	520	U
208-96-8	Acenaphthylene	520	U
606-20-2	2,6-Dinitrotoluene	520	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA43

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271131

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071131B04

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 36 dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2500	U
83-32-9	Acenaphthene	520	U
51-28-5	2,4-Dinitrophenol	2500	U
100-02-7	4-Nitrophenol	2500	U
132-64-9	Dibenzofuran	520	U
121-14-2	2,4-Dinitrotoluene	520	U
84-66-2	Diethylphthalate	520	U
7005-72-3	4-Chlorophenyl-phenylether	520	U
86-73-7	Fluorene	520	U
100-01-6	4-Nitroaniline	2500	U
534-52-1	4,6-Dinitro-2-Methylphenol	2500	U
86-30-6	N-Nitrosodiphenylamine (1)	520	U
101-55-3	4-Bromophenyl-phenylether	520	U
118-74-1	Hexachlorobenzene	520	U
87-86-5	Pentachlorophenol	2500	U
85-01-8	Phenanthrene	280	J
120-12-7	Anthracene	520	U
84-74-2	Di-n-Butylphthalate	520	U
206-44-0	Fluoranthene	610	
129-00-0	Pyrene	540	
85-68-7	Butylbenzylphthalate	520	U
91-94-1	3,3'-Dichlorobenzidine	1000	U
56-55-3	Benzo(a)Anthracene	270	J
218-01-9	Chrysene	290	J
117-81-7	bis(2-Ethylhexyl)Phthalate	520	U
117-84-0	Di-n-Octyl Phthalate	520	U
205-99-2	Benzo(b)Fluoranthene	480	JX N
207-08-9	Benzo(k)Fluoranthene	480	JX N
50-32-8	Benzo(a)Pyrene	270	J
193-39-5	Indeno(1,2,3-cd)Pyrene	160	J
53-70-3	Dibenzo(a,h)Anthracene	54	J
191-24-2	Benzo(g,h,i)Perylene	180	J

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

BBA43

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271131

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH071131B04

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 36 dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

Number TICs found: 9

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BLANK CONTAMINANT	4.83	520	~~BJ~~
2.	BLANK CONTAMINANT	4.93	780	~~BJ~~
3.	UNKNOWN	5.62	2700	J
4.	ALDOL	5.78	1400	~~AJ~~
5.	BLANK CONTAMINANT	6.03	520	~~BJ~~
6.	ALDOL	6.23	360	~~AJ~~
7.	UNKNOWN HYDROCARBON	18.19	420	J
8. 205-99-2	BENZ[E]ACEPHENANTHRYLENE	18.69	210	J
9.	UNKNOWN HYDROCARBON	20.04	260	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA41

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271117

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 47 dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/08/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	15.	U
319-85-7	beta-BHC	87.	
319-86-8	delta-BHC	15.	U
58-89-9	gamma-BHC (Lindane)	15.	U
76-44-8	Heptachlor	15.	U
309-00-2	Aldrin	15.	U
1024-57-3	Heptachlor epoxide	15.	U
959-98-8	Endosulfan I	15.	U
60-57-1	Dieldrin	30.	U
72-55-9	4,4'-DDE	210	
72-20-8	Endrin	30.	U
33213-65-9	Endosulfan II	30.	U
72-54-8	4,4'-DDD	460	
1031-07-8	Endosulfan sulfate	30.	U
50-29-3	4,4'-DDT	140	
72-43-5	Methoxychlor	150	U
53494-70-5	Endrin ketone	30.	U
5103-71-9	alpha-Chlordane	150	U
5103-74-2	gamma-Chlordane	150	U
8001-35-2	Toxaphene	300	U
12674-11-2	Aroclor-1016	150	U
11104-28-2	Aroclor-1221	150	U
11141-16-5	Aroclor-1232	150	U
53469-21-9	Aroclor-1242	150	U
12672-29-6	Aroclor-1248	150	U
11097-69-1	Aroclor-1254	300	U
11096-82-5	Aroclor-1260	300	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA42

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271127

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 31 dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/08/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	12.	U
319-85-7	beta-BHC	12.	U
319-86-8	delta-BHC	12.	U
58-89-9	gamma-BHC (Lindane)	12.	U
76-44-8	Heptachlor	12.	U
309-00-2	Aldrin	12.	U
1024-57-3	Heptachlor epoxide	12.	U
959-98-8	Endosulfan I	12.	U
60-57-1	Dieldrin	23.	U
72-55-9	4,4'-DDE	23.	U
72-20-8	Endrin	23.	U
33213-65-9	Endosulfan II	23.	U
72-54-8	4,4'-DDD	23.	U
1031-07-8	Endosulfan sulfate	23.	U
50-29-3	4,4'-DDT	23.	U
72-43-5	Methoxychlor	120	U
53494-70-5	Endrin ketone	23.	U
5103-71-9	alpha-Chlordane	120	U
5103-74-2	gamma-Chlordane	120	U
8001-35-2	Toxaphene	230	U
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	230	U
11096-82-5	Aroclor-1260	230	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA43

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA41

Matrix: (soil/water) SOIL Lab Sample ID: 271131

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. 36 dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/08/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	12.	U
319-85-7	beta-BHC	12.	U
319-86-8	delta-BHC	12.	U
58-89-9	gamma-BHC (Lindane)	12.	U
76-44-8	Heptachlor	12.	U
309-00-2	Aldrin	12.	U
1024-57-3	Heptachlor epoxide	12.	U
959-98-8	Endosulfan I	12.	U
60-57-1	Dieldrin	25.	U
72-55-9	4,4'-DDE	25.	U
72-20-8	Endrin	25.	U
33213-65-9	Endosulfan II	25.	U
72-54-8	4,4'-DDD	25.	U
1031-07-8	Endosulfan sulfate	25.	U
50-29-3	4,4'-DDT	25.	U
72-43-5	Methoxychlor	120	U
53494-70-5	Endrin ketone	25.	U
5103-71-9	alpha-Chlordane	120	U
5103-74-2	gamma-Chlordane	120	U
8001-35-2	Toxaphene	250	U
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	250	U
11096-82-5	Aroclor-1260	250	U

ATTACHMENT 1
SOP NO. HW-6

TOTAL REVIEW

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organics Analysis

Case No. 12241 SDG No. BBA49 LABORATORY Compuchem SITE Sag Harbor

DATA ASSESSMENT:

The current functional guidelines (1988) for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "R" (unusable),or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Reviewer's Signature: Valerie A. Lee Date: 8/22/1989

Verified By: PG Date: 9/16/1989

DATA ASSESSMENT:

5. CALIBRATION:

A) PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ" (if %D or RSD >50%). If there is a gross deviation of %RSD and %D, the non-detects may be rejected ("R").

For the PCB/PESTICIDE fraction, %RSD for aldrin, endrin, DDT, and dibutylchlorendate must not exceed 10%. Percent D must be within 15% on the quantitation column and 20% on the confirmation column.

VOA - chloromethane was flagged estimated (J) in BBA55,56+57 due to %D>50.

BNA - 2,6 Dinitrotoluene & 2,4 Dinitrotoluene were rejected (R) & 3,3'dichlorobenzidine were flagged estimated in BBA52+53 due to %D out of [illegible]

- 4chloroaniline, 2nitroaniline & 4nitrophenol were flagged estimated (J) in BBA54 due to %D>50.

- bis(2chloroisopropyl)ether, benzoic acid, hexachloro cyclopentadiene, 2,4Dinitrophenol & 3,3'dichlorobenzid were flagged estimated (J) in BBA55, 56+57 due t %D>50.

DATA ASSESSMENT:

4. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) RESPONSE FACTOR:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be $\geq$ 0.05 in both the initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected ("R").

KOA-2-Butanone was rejected (R) in BBA49,50,51,52,53,54,55,56,57

9/19/89

DATA ASSESSMENT:

10. OTHER QC DATA OUT OF SPECIFICATION:

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued on next page if necessary): ~~good~~

All 2-Butanone init. & cont. calibrations were incorrect. I calculated them manually & called the lab for resubmittals. 9/19/89

12. CONTRACT PROBLEMS___NON-COMPLIANCE:

13. **This package contains re-extraction, re-analysis or dilution. Upon reviewing the QA results, the following form I(s) are identified to be used.**

No, reanalyzed or diluted samples in this package.

DRAFT

Type of Review: Total Date: 8/22/89 Case #: 12241

Project: Sag Harbor Lab Name: Compuchem

Reviewer's Initials: VS Number of Samples: (9 W)

Analytes Rejected Due to Exceeding Review Criteria:

	Surrogates	Holding Time	Calibration	Contamination	ID	Other	Total # Samples	Total # Rejected/ Total # in all Samples
Acids (15)							9	0/135
B/N (50)			4/2				9	4/450
VOA (35)							9	0/315
PEST (20)							9	0/180
PCB (7)							9	0/63
TCDD (1)							~~0~~	0/0

Analytes Estimated Due to Exceeding Review Criteria for:

Acids (15)			7/4					7/135
B/N (50)			13/6					13/450
VOA (35)			3/3					3/315
PEST (20)								0/180
PCB (7)								0/63
TCDD (1)								0/0

Region 2

ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE NO. 12241 LABORATORY Compuchem

SDG NO. BBA49 DATA USER FIT 2

SOW _____ REVIEW COMPLETION DATE 8/22/89

NO. OF SAMPLES 9 WATER _____ SOIL _____ OTHER

REVIEWER [ ] ESD [ ] ESAT [X] OTHER, CONTRACT/CONTRACTOR FIT 2

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES	O	O	O	
2. GC-MS TUNE/ GC PERFORMANCE	O	O	O	
3. INITIAL CALIBRATIONS	O	O	O	
4. CONTINUING CALIBRATIONS	X	X	O	
5. FIELD BLANKS ("F" = not applicable)	O	O	O	
6. LABORATORY BLANKS	O	O	O	
7. SURROGATES	O	O	O	
8. MATRIX SPIKE/DUPLICATES	O	O	O	
9. REGIONAL QC ("F" = not applicable)	F	F	F	
10. INTERNAL STANDARDS	O	O		
11. COMPOUND IDENTIFICATION	O	O	O	
12. COMPOUND QUANTITATION	O	O	O	
13. SYSTEM PERFORMANCE	O	O	O	
14. OVERALL ASSESSMENT	X	X	O	

O = No problems or minor problems that do not affect data usability.
X = No more than *about* 5% of the data points are qualified as either estimated or unusable.
M = More than *about* 5% of the data points are qualified as estimated.
Z = More than *about* 5% of the data points are qualified as unusable.

DPO ACTION ITEMS: _____

AREAS OF CONCERN: _____

COMPUCHEM LABORATORIES

EPA Case Narrative Case#12241
SDG#BBA49
Contract#68-D9-0032
CompuChem Laboratories, Inc.

SAMPLES: BBA49, BBA50, BBA51, BBA52, BBA53, BBA54, BBA55, BBA56, BBA57

Attached are pertinent Quality Assurance notices dealing with the analysis nine(9) water samples associated with case **12241 SDG NO. BBA49**. These samples were scheduled for low level water volatile, semivolatile and pesticide analysis.

The samples all arrived in good condition on the dates 6-28-89 thru 6-30-89. The appropriate traffic reports and chains-of-custody were all in order. The samples were logged into the Laboratory Management System and stored at 4 degrees Celsius. There were no other irregularities encountered during receipt of the samples.

VOLATILES:
The volatile fractions for this case were all analyzed within the prescribed holding time requirements. Volatile TCL compounds were detected in all the samples except two(2). Samples **BBA56** and **BBA57** were both below the detection limit(BDL) for the presence of volatile target analytes. The remaining samples each contained analytes in number from one(1) to three(3) per analysis. TCL compounds detected included chloromethane, methylene chloride, acetone, carbon disulfide, and chloroform. The concentrations for these analytes were all below the contract required quantitation(CRQL), with one exception. A concentration of carbon disulfide in sample **BBA52**, just approached the CRQL. There were no tentatively identified compounds present in any of the samples.

SEMIVOLATILES:
The semivolatile fractions met all the holding time considerations with one exception. Sample **BBA54** was initially analyzed with the holding time requirements, but was reanalyzed outside of holding times due to failing surrogate recoveries. There were no semivolatile target analytes present in any of the samples. There were also no TICs present in the samples.

PESTICIDES:
The pesticide fractions for the case also met the holding time requirements. There were no pesticide TCL compounds present.

COMPUCHEM LABORATORIES

QC SUMMARY:
Surrogate recovery criteria data were met for all the samples associated with this case, with exception. In the semivolatile fractions, D14-terphenyl failed recovery criterion in samples **BBA52** and **BBA53**. The advisory surrogate D10-pyrene also failed in sample **BBA52**. Due to the general blank classification of the samples, no matrix spike/matrix spike duplicate data was generated for these samples. The blanks associated with this case also passed QC requirements. Concentrations of methylene chloride and acetone were detected in the volatile blanks, these occurrences were flagged with the "B" footnote accordingly. A concentration of benzoic acid and one TIC was present in the semivolatile blanks, these compounds were not present in the samples.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Toney C. Spruell 7-18-89
TONEY C. SPRUELL 7-18-89
TECHNICAL REVIEWER

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

LABORATORY NOTICE

On June 15, 1985 CompuChem Laboratories began adding D3-2,4-Dinitrophenol to all standards and samples. The purpose of this addition is to enable the laboratory to have higher and more consistent analytical sensitivity for the native 2,4-Dinitrophenol. The peak corresponding to the deuterated analog is clearly labeled on each RIC as D3#1 and will not be searched and reported as a tentatively identified compound (TIC). This compound is not being used as an internal or surrogate standard.

L. Richard Flynn,
Development Chemist

Bob Meierer,
Director of Quality Assurance

DETECTION LIMIT CALCULATION CLARIFICATION

To protect our GC columns from unnecessary contamination, soil samples prepared according to Caucus Protocol methods are routinely diluted 5:1. Through a series of experiments we have determined that our Instrument Detection Limit for pesticides is 5X lower than the EPA Contract Required Quantitation Limit (CRQL). We, therefore, only adjust our detection limits if the dilution necessary to analyze the sample is greater than 5:1. If the sample is diluted by a factor of X the detection limit is adjusted by $\frac{X}{5}$ instead of X.

Bill DesJardins
Manager, GC Laboratory

Bob Meierer
Director, Quality Assurance

COMPUCHEM LABORATORIES

QUALITY ASSURANCE NOTICE

With the advent of the new organics Statement of Work (SOW 2/88, Revision: 9/88) participants in EPA's Contract Laboratory Program (CLP) are required to provide hard copy and diskette deliverables. CompuChem employs the Finnigan QA Formaster Program (Format A) to generate these requirements using data files from our analytical instrumentation. Currently, and independently, quantitation reports are generated by the instruments and are used with CompuChem-developed software to calculate results. The GC and GC/MS quantitation routines employ the convention of carrying at least one extra significant figure until the mathematical computations are completed. Then, the quantitative results are rounded to the SOW-required number of significant figures for reporting. In addition, the algorithm used by the Formaster Program is slightly different than that employed in Compuchem's software routines. Therefore, results presented in the supportive data supplied with our deliverables packages may be slightly different than those which appear on the hard copy forms generated via Formaster.

This notice serves to alert the end users of these data packages as to the reason why slight differences may be observed.

Robert E. Meierer

Robert E. Meierer
Director of Quality Assurance

COMPUCHEM LABORATORIES, INC. P.O. Box 12652 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 549-8263

QUALITY ASSURANCE NOTICE

Specific guidelines are presented in the EPA CLP Organic Statement of Work for the positive qualitative identification of compounds through mass spectral interpretation. Applying these guidelines absolutely may not be possible when the nature of the sample is less than pure reference material. Where the mass spectral pattern of a compound to be identified demonstrates interferences or coelution from one or more additional compounds, either unknowns, internal standards, or surrogate standards, the "+" sign is added to the top of the dual spectra page.

Linda Fowler 4/10/89

Linda Fowler
Sr. Quality Assurance Specialist

Robert E. Meierer 4/12/89

Robert E. Meierer
Vice President, Quality Assurance

2. By fraction (VOA, SV, PEST) and by sample within each fraction - tabulated target compound results (Form I) and tentatively identified compounds (Form I, TIC) (VOA and SV only)

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA49

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270382

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN070382C23

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ Date Analyzed: 07/01/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	2	J
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	3	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA49

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270382

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN070382C23

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ Date Analyzed: 07/01/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA50

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270393

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN070393C23

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ Date Analyzed: 07/01/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	3	J
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	1	J
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA50

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270393

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN070393C23

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ Date Analyzed: 07/01/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA51

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270394

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN070394C23

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ Date Analyzed: 07/01/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA51

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270394

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN070394C23

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ Date Analyzed: 07/01/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA52

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270693

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN070693C23

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ Date Analyzed: 07/01/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA52

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270693

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN070693C23

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ Date Analyzed: 07/01/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA53

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270694

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN070694C23

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ Date Analyzed: 07/01/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	3	J
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA53

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270694

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN070694C23

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ Date Analyzed: 07/01/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA54

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270695

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN070695C23

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ Date Analyzed: 07/01/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	1	J
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA54

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270695

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN070695C23

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ Date Analyzed: 07/01/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA55

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271104

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN071104A23

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U J
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA55

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271104

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN071104A23

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA56

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271105

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN071105A23

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	UJ
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA56

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271105

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN071105A23

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA57

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271106

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN071106A23

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ Date Analyzed: 07/05/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U J
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA57

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271106

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN071106A23

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ Date Analyzed: 07/05/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA49

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270382

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ070382A20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA49

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270382

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ070382A20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA49

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270382

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ070382A20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA50

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270393

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ070393C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA50

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270393

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ070393C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

BBA50

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270393

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ070393C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA51

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270394

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ070394C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA51

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270394

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ070394C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BBA51

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270394

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ070394C20

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/30/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA52

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270693

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH070693A08

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U R

FORM I SV-1 1/87 Rev.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA52

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270693

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH070693A08

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	~~U~~ R
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U J
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA52

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270693

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH070693A08

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA53

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270694

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH070694A08

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U R

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA53

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270694

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH070694A08

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	~~U~~ R
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U J
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA53

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270694

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH070694A08

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BBA54

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270695

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ070695B06

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/10/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	UJ
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	UJ
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA54

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270695

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ070695B06

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/10/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	UJ
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BBA54

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270695

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ070695B06

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/01/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/10/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC 1/87 Rev.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA55

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271104

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH071104B21

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U J
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U J
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U J
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA55

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271104

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH071104B21

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	UJ
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	UJ
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA55

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271104

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH071104B21

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC 1/87 Rev.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA56

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271105

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH071105B21

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA56

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271105

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH071105B21

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U J
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U J
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA56

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271105

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH071105B21

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA57

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271106

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH071106C21

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U J
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U J
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U J
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA57

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271106

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH071106C21

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BBA57

Lab Name: COMPUCHEM LABS Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271106

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH071106C21

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/05/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA52

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270693

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA53

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270694

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA54

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270695

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA55

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271104

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/04/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA56

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271105

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA57

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271106

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA49

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270382

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA50

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270393

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA51

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270394

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/28/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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1

INORGANIC ANALYSIS DATA SHEET

00009
EPA SAMPLE NO.

MBZ528

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 73.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2930			P
7440-36-0	Antimony	6.8	U	N J	P
7440-38-2	Arsenic	1.3	B	J	F
7440-39-3	Barium	79.2			P
7440-41-7	Beryllium	0.16	B		P
7440-43-9	Cadmium	0.98	U		P
7440-70-2	Calcium	1610			P
7440-47-3	Chromium	6.2		J	P
7440-48-4	Cobalt	2.0	B		P
7440-50-8	Copper	43.6			P
7439-89-6	Iron	4210		*	P
7439-92-1	Lead	245			P
7439-95-4	Magnesium	447	B		P
7439-96-5	Manganese	64.3			P
7439-97-6	Mercury	~~0.4~~			CV
7440-02-0	Nickel	8.5	B		P
7440-09-7	Potassium	274	B		P
7482-49-2	Selenium	0.60	B	N J	F
7440-22-4	Silver	1.1	B		P
7440-23-5	Sodium	466	U		P
7440-28-0	Thallium	0.55	U	W	F
7440-62-2	Vanadium	9.6	B		P
7440-66-6	Zinc	352		N J	P
	Cyanide	0.68	U		AS

9 of B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ529

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 51.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4140			P
7440-36-0	Antimony	9.6	U	N J	P
7440-38-2	Arsenic	6.6		J	F
7440-39-3	Barium	211			P
7440-41-7	Beryllium	0.48	B		P
7440-43-9	Cadmium	1.4	U		P
7440-70-2	Calcium	2080			P
7440-47-3	Chromium	13.6			P
7440-48-4	Cobalt	3.8	B		P
7440-50-8	Copper	90.7			P
7439-89-6	Iron	15800		*	P
7439-92-1	Lead	494			P
7439-95-4	Magnesium	421	B		P
7439-96-5	Manganese	71.5			P
7439-97-6	Mercury	0.2			CV
7440-02-0	Nickel	11.9	B		P
7440-09-7	Potassium	402	B		P
7482-49-2	Selenium	0.78	U	N J	F
7440-22-4	Silver	3.1	B		P
7440-23-5	Sodium	662	U		P
7440-28-0	Thallium	0.78	U		F
7440-62-2	Vanadium	16.2	B		P
7440-66-6	Zinc	543		N J	P
	Cyanide	0.97	U		AS

SB 8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN 7/87

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ530

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 59.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3440			P
7440-36-0	Antimony	10.7	B	N J	P
7440-38-2	Arsenic	4.7		J	F
7440-39-3	Barium	303			P
7440-41-7	Beryllium	0.20	B		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	9040			P
7440-47-3	Chromium	15.4			P
7440-48-4	Cobalt	2.3	B		P
7440-50-8	Copper	102			P
7439-89-6	Iron	11100		*	P
7439-92-1	Lead	2620			P
7439-95-4	Magnesium	822	B		P
7439-96-5	Manganese	127			P
7439-97-6	Mercury	~~1.2~~			CV
7440-02-0	Nickel	8.8	B		P
7440-09-7	Potassium	335	B		P
7482-49-2	Selenium	0.67	U	N J	F
7440-22-4	Silver	3.8		J	P
7440-23-5	Sodium	574	U		P
7440-28-0	Thallium	0.67	U	W	F
7440-62-2	Vanadium	13.3	B		P
7440-66-6	Zinc	703		N J	P
	Cyanide	0.84	U		AS

D & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MBZ552

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ549

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.7	U		P
7440-36-0	Antimony	24.7	U		P
7440-38-2	Arsenic	1.0	U	W	F
7440-39-3	Barium	2.7	U		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	94.5	U		P
7440-47-3	Chromium	5.5	U		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	10.1	B		P
7439-89-6	Iron	22.3	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	122	U		P
7439-96-5	Manganese	7.8	U		P
7439-97-6	Mercury	0.5	U		CV
7440-02-0	Nickel	5.8	U		P
7440-09-7	Potassium	161	U		P
7482-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.9	U		P
7440-23-5	Sodium	1700	U		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	5.5	U		P
7440-66-6	Zinc	3.3	B		P
	Cyanide	10.0	U		AS

9 & B

8/30/89

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ553

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ549

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.7	U		P
7440-36-0	Antimony	24.7	U		P
7440-38-2	Arsenic	1.0	U	W	F
7440-39-3	Barium	2.7	U		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	94.5	U		P
7440-47-3	Chromium	5.5	U		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	6.0	U		P
7439-89-6	Iron	22.3	U		P
7439-92-1	Lead	1.6	B	W J	F
7439-95-4	Magnesium	122	U		P
7439-96-5	Manganese	7.8	U		P
7439-97-6	Mercury	0.3	U		CV
7440-02-0	Nickel	5.8	U		P
7440-09-7	Potassium	161	U		P
7482-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.9	U		P
7440-23-5	Sodium	1700	U		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	5.5	U		P
7440-66-6	Zinc	4.6	B		P
	Cyanide	10.0	U		AS

JB 8/30/89

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

00007

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ554

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ549

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.7	U		P
7440-36-0	Antimony	24.7	U		P
7440-38-2	Arsenic	1.0	U	W	F
7440-39-3	Barium	2.7	U		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	94.5	U		P
7440-47-3	Chromium	5.5	U		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	6.0	U		P
7439-89-6	Iron	22.3	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	122	U		P
7439-96-5	Manganese	7.8	U		P
7439-97-6	Mercury	0.3	U		CV
7440-02-0	Nickel	5.8	U		P
7440-09-7	Potassium	161	U		P
7482-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.9	U		P
7440-23-5	Sodium	1700	U		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	5.5	U		P
7440-66-6	Zinc	3.4	B		P
	Cyanide	10.0	U		AS

JSB
8/30/89

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

FORM I - IN 7/87

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA52

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270693

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA53

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270694

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA54

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 270695

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/29/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 06/29/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/01/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA55

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271104

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/04/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA56

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271105

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BBA57

Lab Name: COMPUCHEM LABORATORIES Contract: 68-D9-0032

Lab Code: COMPU Case No.: 12241 SAS No.: _____ SDG No.: BBA49

Matrix: (soil/water) WATER Lab Sample ID: 271106

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/30/89

% Moisture: not dec. _____ dec. ____ Date Extracted: 07/03/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/05/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

COMPLETED ANALYSIS REPORT

REPORT DATE: 89/09/08

PROJECT NO: 594

PROJECT NAME: SAG HARBOR-SFUND ORG

EXPLANATIONS OF REMARK CODES

REMARK CODE	EXPLANATION
B	RESULTS BASED UPON COLONY COUNTS OUTSIDE ACCEPTABLE RANGE
J	ESTIMATED VALUE
K	ACTUAL VALUE KNOWN TO BE LESS THAN VALUE GIVEN
L	ACTUAL VALUE KNOWN TO BE GREATER THAN VALUE GIVEN
M	PRESENCE OF MATERIAL VERIFIED BUT NOT QUANTIFIED
N	NO OBSERVABLE EFFECT CONCENTRATION < 0.3%
O	SAMPLED BUT NOT ANALYZED DUE TO LAB ACCIDENT
T	REPORTED VALUE LESS THAN CRITERIA OF DETECTION
U	MATERIAL ANALYZED FOR, BUT NOT DETECTED

QA/QC REMARK CODES

CODE	EXPLANATION
QD	ACCURACY CHECK SAMPLE ABOVE UPPER ACCEPTANCE LIMIT
QE	ACCURACY CHECK SAMPLE BELOW LOWER ACCEPTANCE LIMIT
QF	PRECISION OF CALIBRATION CURVE LESS THAN ACCEPTANCE CRITERIA
QG	CONTINUING CALIBRATION CHECK DOES NOT MEET ACCEPTANCE CRITERIA
QS	SPIKE RECOVERIES ABOVE UPPER ACCPETANCE LIMIT
QR	SPIKE RECOVERIES BELOW LOWER ACCPETANCE LIMIT
QP	SAMPLE REPLICATE PRECISION DOES NOT MEET ACCEPTANCE CRITERIA
QH	RECOMMENDED HOLDING TIMES EXCEEDED
QT	TENTATIVELY IDENTIFIED COMPOUND
QB	BLANK CONTAMINATED BY ANALYTE IN EXCESS OF ACCEPTANCE CRITERIA

LOCATION CODES FOR IDENTIFICATION OF SAMPLING POINTS AT INDUSTRIAL / SANITARY FACILITIES, LANDFILLS, HAZARDOUS WASTE SITES.

CODE NUMBERS	SAMPLING POINTS
1001 - 1050	EFFLUENT PIPE NUMBER 001 TO 050
1051 - 1099	OTHER EFFLUENTS SUCH AS COOLING TOWER DISCHARGE, DISCHARGE FROM HOLDING PONDS, ETC...
1100 - 1249	IN PLANT SAMPLES
1435 - 1454	SEPARATE INFLUENT POINTS/WATER SOURCES
15XX	INFLUENT ASSOCIATED WITH EFFLUENT 10XX
2000	BLANK FOR VOLATILE ORGANICS
3000 - 3099	GROUND WATER FROM WELL 01 TO 99
3100 - 3199	SEDIMENT SAMPLE (WATER BOTTOM)
3200 - 3299	SOIL SAMPLE
3300 - 3399	STREAM WATER SAMPLE
3400 - 3499	LAGOON SAMPLE
3500 - 3599	STORAGE TANK SAMPLE
3600 - 3699	LEACHATE SAMPLE
3700 - 3799	OTHER TYPE SAMPLE

COMPLETED ANALYSIS REPORT

REPORT DATE: 89/09/08

PROJECT NO: 594

PROJECT NAME: SAG HARBOR-SFUND ORG

STATION NO	DATE FROM TO	TIME OF DAY	LABNO	PARNO	PARAMETER NAME	UNITS	CHEMISTRY	VALUE & REMARK	QA/QC REMARK
LAB BLANK	89/06/29	0000							
DEPTH: 0000 SUBSTRATE: AQUEOUS									
DESCRIPTION: LAB BLANK									
			000001	34418	METHYL CHLORIDE	UG/L	TOTAL	U	
				34413	METHYL BROMIDE	UG/L	TOTAL	U	
				39175	VINYL CHLORIDE	UG/L	TOTAL	U	
				34311	CHLOROETHANE	UG/L	TOTAL	U	
				34423	METHYLENE CHLORIDE	UG/L	TOTAL	2.8 U	
				99930	ACETONE	UG/L	TOTAL	5.7 U	
				99964	CARBON DISULFIDE	UG/L	TOTAL	U	
				34501	1,1-DICHLOROETHYLENE	UG/L	TOTAL	2.8 U	
				34496	1,1-DICHLOROETHANE	UG/L	TOTAL	4.7 U	
				34546	1,2-TRANS DICHLOROETHYLENE	UG/L	TOTAL	1.6 U	
				32106	CHLOROFORM	UG/L	TOTAL	1.6 U	
				32103	1,2-DICHLOROETHANE	UG/L	TOTAL	2.8 U	
				99999	2-BUTANONE	UG/L	TOTAL	U	
				34506	1,1,1-TRICHLOROETHANE	UG/L	TOTAL	3.8 U	
				32102	CARBON TETRACHLORIDE	UG/L	TOTAL	2.8 U	
				99999	VINYL ACETATE	UG/L	TOTAL	U	
				32101	DICHLOROBROMOMETHANE	UG/L	TOTAL	2.2 U	
				34541	1,2-DICHLOROPROPANE	UG/L	TOTAL	6.0 U	
				34561	1,3-DICHLOROPROPYLENE	UG/L	TOTAL	U	
				39180	TRICHLOROETHYLENE	UG/L	TOTAL	1.9 U	
				32105	CHLORODIBROMOMETHANE	UG/L	TOTAL	3.1 U	
				34511	1,1,2-TRICHLOROETHANE	UG/L	TOTAL	5.0 U	
				34030	BENZENE	UG/L	TOTAL	0.7 U	
				99999	CIS-1,3-DICHLOROPROPENE	UG/L	TOTAL	5.0 U	
				32104	BROMOFORM	UG/L	TOTAL	4.7 U	
				99999	4-METHYL-2-PENTANONE	UG/L	TOTAL	U	
				34475	TETRACHLOROETHYLENE	UG/L	TOTAL	4.1 U	
				34516	1,1,2,2-TETRACHLOROETHANE	UG/L	TOTAL	6.9 U	
				99999	2-HEXANONE	UG/L	TOTAL	U	
				34010	TOLUENE	UG/L	TOTAL	6.0 U	
				34301	CHLOROBENZENE	UG/L	TOTAL	6.0 U	
				34371	ETHYLBENZENE	UG/L	TOTAL	9.2 U	
				99921	STYRENE	UG/L	TOTAL	U	
				99920	XYLENES (TOTAL)	UG/L	TOTAL	U	
LAB BLANK	89/06/29	0000							
DEPTH: 0000 SUBSTRATE: AQUEOUS									
DESCRIPTION: LAB BLANK									
			000002	34586	2-CHLOROPHENOL	UG/L	TOTAL	1.2 U	
				34591	2-NITROPHENOL	UG/L	TOTAL	1.1 U	

COMPLETED ANALYSIS REPORT

REPORT DATE: 89/09/08

PROJECT NO: 594

PROJECT NAME: SAG HARBOR-SFUND ORG

STATION NO	DATE FROM TO	TIME OF DAY	LABNO	PARNO	PARAMETER NAME	UNITS	CHEMISTRY	VALUE & REMARK	QA/QC REMARK
			000002	34694	PHENOL	UG/L	TOTAL	0.8 U	
				34606	2,4-DIMETHYLPHENOL	UG/L	TOTAL	1.4 U	
				34601	2,4-DICHLOROPHENOL	UG/L	TOTAL	1.3 U	
				34621	2,4,6-TRICHLOROPHENOL	UG/L	TOTAL	6.8 U	
				34452	P-CHLORO-M-CRESOL	UG/L	TOTAL	10.8 U	
				34616	2,4-DINITROPHENOL	UG/L	TOTAL	50 U	
				34657	4,6-DINITRO-O-CRESOL	UG/L	TOTAL	22 U	
				39032	PENTACHLOROPHENOL	UG/L	TOTAL	27 U	
				34646	4-NITROPHENOL	UG/L	TOTAL	50 U	
				34566	1,3-DICHLOROBENZENE	UG/L	TOTAL	0.5 U	
				34571	1,4-DICHLOROBENZENE	UG/L	TOTAL	3.2 U	
				34536	1,2-DICHLOROBENZENE	UG/L	TOTAL	0.7 U	
				34396	HEXACHLOROETHANE	UG/L	TOTAL	0.9 U	
				39702	HEXACHLOROBUTADIENE	UG/L	TOTAL	0.6 U	
				34551	1,2,4-TRICHLOROBENZENE	UG/L	TOTAL	0.4 U	
				34696	NAPHTHALENE	UG/L	TOTAL	0.6 U	
				34273	BIS(2-CHLOROETHYL) ET.	UG/L	TOTAL	1.6 U	
				34278	BIS(2-CHLOROETHOXY) METH.	UG/L	TOTAL	1.0 U	
				34408	ISOPHORONE	UG/L	TOTAL	1.2 U	
				34447	NITROBENZENE	UG/L	TOTAL	1.1 U	
				34428	N-NITROSODI-N-PROPYLAMINE	UG/L	TOTAL	0.8 U	
				34433	N-NITROSODIPHENYLAMINE	UG/L	TOTAL	2.5 U	
				34283	BIS(2-CHLOROISOPROPYL) ET.	UG/L	TOTAL	1.4 U	
				34386	HEXACHLOROCYCLOPENTADIENE	UG/L	TOTAL	0.8 U	
				34581	2-CHLORONAPHTHALENE	UG/L	TOTAL	1.3 U	
				34200	ACENAPHTHYLENE	UG/L	TOTAL	1.5 U	
				34205	ACENAPHTHENE	UG/L	TOTAL	1.1 U	
				34381	FLOURENE	UG/L	TOTAL	2.2 U	
				39700	HEXACHLOROBENZENE	UG/L	TOTAL	1.7 U	
				34636	4-BROMOPHENYL PHENYL ET.	UG/L	TOTAL	2.5 U	
				34461	PHENANTHRENE	UG/L	TOTAL	1.4 U	
				34220	ANTHRACENE	UG/L	TOTAL	1.3 U	
				34341	DIMETHYL PHTHALATE	UG/L	TOTAL	2.1 U	
				34336	DIETHYL PHTHALATE	UG/L	TOTAL	0.98 J	
				39110	DI-N-BUTYLPPHTHALATE	UG/L	TOTAL	0.65 J	
				34292	BUTYL BENZYL PHTHALATE	UG/L	TOTAL	9.0 U	
				34596	DI-N-OCTYL PHTHALATE	UG/L	TOTAL	2.2 U	
				39100	BIS(2-ETHYLHEXYL) PHTHAL.	UG/L	TOTAL	4.95 J	
				34376	FLUORANTHENE	UG/L	TOTAL	0.9 U	
				34469	PYRENE	UG/L	TOTAL	1.2 U	
				34320	CHRYSENE	UG/L	TOTAL	2.5 U	

COMPLETED ANALYSIS REPORT

REPORT DATE: 89/09/09

PROJECT NO: 594

PROJECT NAME: SAG HARBOR-SFUND ORG

STATION NO	DATE FROM TO	TIME OF DAY	LABNO	PARNO	PARAMETER NAME	UNITS	CHEMISTRY	VALUE & REMARK	QA/QC REMARK
			000002	34526	1,2-BENZANTHRACENE	UG/L	TOTAL	2.2 U	
				34641	4-CHLOROPHENYL PHENYL ET.	UG/L	TOTAL	2.1 U	
				34403	INDENO(1,2,3-C,D) PYRENE	UG/L	TOTAL	1.8 U	
				34247	BENZO(A)PYRENE	UG/L	TOTAL	0.9 U	
				34521	1,12-BENZOPERYLENE	UG/L	TOTAL	1.8 U	
				34556	1,2:5,6-DIBENZANTHRACENE	UG/L	TOTAL	1.9 U	
				34631	3,3'-DICHLOROBENZIDENE	UG/L	TOTAL	17. U	
				34626	2,6-DINITROTOLUENE	UG/L	TOTAL	2.8 U	
				34611	2,4-DINITROTOLUENE	UG/L	TOTAL	2.4 U	
				34346	1,2-DIPHENYLHYDRAZINE	UG/L	TOTAL	2.4 U	
				34230	3,4-BENZOFLUORANTHENE	UG/L	TOTAL	10 U	
				34242	11,12-BENZOFLUORANTHENE	UG/L	TOTAL	10 U	
				99999	BENZYL ALCOHOL	UG/L	TOTAL	10 U	
				99999	2-METHYL PHENOL	UG/L	TOTAL	10 U	
				99999	4-METHYL PHENOL	UG/L	TOTAL	10 U	
				99999	BENZOIC ACID	UG/L	TOTAL	50 U	
				99999	4-CHLOROANILINE	UG/L	TOTAL	10 U	
				99999	2-METHYL NAPHTHALENE	UG/L	TOTAL	10 U	
				88894	2,4,5-TRICHLOROPHENOL	UG/L	TOTAL	50 U	
				99999	2-NITROANILINE	UG/L	TOTAL	50 U	
				99999	3-NITROANILINE	UG/L	TOTAL	50 U	
				99999	DIBENZOFURAN	UG/L	TOTAL	10 U	
				99999	4-NITROANILINE	UG/L	TOTAL	50 U	
LAB BLANK	89/06/29	0000							
DEPTH: 0000 SUBSTRATE: AQUEOUS									
DESCRIPTION: LAB BLANK									
			000003	39330	ALDRIN	UG/L	TOTAL	.004 U	
				39380	DIELDRIN	UG/L	TOTAL	.002 U	
				39350	CHLORDANE	UG/L	TOTAL	.014 U	
				99999	ALPHA CHLORDANE	UG/L	TOTAL	.002 U	
				99999	GAMMA CHLORDANE	UG/L	TOTAL	.002 U	
				39300	4,4'-DDT	UG/L	TOTAL	.012 U	
				39320	4,4'-DDE	UG/L	TOTAL	.004 U	
				39310	4,4'-DDD	UG/L	TOTAL	.011 U	
				34361	ALPHA ENDOSULFAN	UG/L	TOTAL	.014 U	
				34356	BETA ENDOSULFAN	UG/L	TOTAL	.004 U	
				34351	ENDOSULFAN SULFATE	UG/L	TOTAL	.066 U	
				39390	ENDRIN	UG/L	TOTAL	.006 U	
				34366	ENDRIN ALDEHYDE	UG/L	TOTAL	.023 U	

COMPLETED ANALYSIS REPORT

REPORT DATE: 89/09/08

PROJECT NO: 594

PROJECT NAME: SAG HARBOR-SFUND ORG

STATION NO	DATE FROM TO	TIME OF DAY	LABNO	PARNO	PARAMETER NAME	UNITS	CHEMISTRY	VALUE & REMARK	QA/QC REMARK
			000003	99999	ENDRIN KETONE	UG/L	TOTAL	.100	U
				39410	HEPTACLOR	UG/L	TOTAL	.003	U
				39420	HEPTACHLOR EPOXIDE	UG/L	TOTAL	.093	U
				39337	ALPHA-BHC	UG/L	TOTAL	.003	U
				39338	BETA-BHC	UG/L	TOTAL	.006	U
				39340	GAMMA-BHC	UG/L	TOTAL	.004	U
				34259	DELTA-BHC	UG/L	TOTAL	.009	U
				39480	METHOXYCHLOR	UG/L	TOTAL	.500	U
				39400	TOXAPHENE	UG/L	TOTAL	.240	U
				34671	PCB-1016	UG/L	TOTAL	.050	U
				39488	PCB-1221	UG/L	TOTAL	.100	U
				39492	PCB-1232	UG/L	TOTAL	.100	U
				39496	PCB-1242	UG/L	TOTAL	.050	U
				39500	PCB-1248	UG/L	TOTAL	.100	U
				39504	PCB-1254	UG/L	TOTAL	.100	U
				39508	PCB-1260	UG/L	TOTAL	.200	U
NYFT=SW1	89/06/29	0750							
COMPOSITE	89/06/29	0805							
DEPTH: 0000 SUBSTRATE: AQUEOUS									
DESCRIPTION: NYFT-SW-1									
			093496	34418	METHYL CHLORIDE	UG/L	TOTAL		U
				34413	METHYL BROMIDE	UG/L	TOTAL		U
				39175	VINYL CHLORIDE	UG/L	TOTAL		U
				34311	CHLOROETHANE	UG/L	TOTAL		U
				34423	METHYLENE CHLORIDE	UG/L	TOTAL	2.8	U
				99930	ACETONE	UG/L	TOTAL		U
				99964	CARBON DISULFIDE	UG/L	TOTAL		U
				34501	1,1-DICHLOROETHYLENE	UG/L	TOTAL	2.8	U
				34496	1,1-DICHLOROETHANE	UG/L	TOTAL	4.7	U
				34546	1,2-TRANS DICHLOROETHYLENE	UG/L	TOTAL	1.6	U
				32106	CHLOROFORM	UG/L	TOTAL	1.6	U
				32103	1,2-DICHLOROETHANE	UG/L	TOTAL	2.8	U
				99999	2-BUTANONE	UG/L	TOTAL		U
				34506	1,1,1-TRICHLOROETHANE	UG/L	TOTAL	3.8	U
				32102	CARBON TETRACHLORIDE	UG/L	TOTAL	2.8	U
				99999	VINYL ACETATE	UG/L	TOTAL		U
				32101	DICHLOROBROMOMETHANE	UG/L	TOTAL	2.2	U
				34541	1,2-DICHLOROPROPANE	UG/L	TOTAL	5.0	U
				34561	1,3-DICHLOROPROPYLENE	UG/L	TOTAL		U

COMPLETED ANALYSIS REPORT

REPORT DATE: 89/09/08

PROJECT NO: 594

PROJECT NAME: SAG HARBOR-SFUND ORG

STATION NO	DATE FROM TO	TIME OF DAY	LABNO	PARNO	PARAMETER NAME	UNITS	CHEMISTRY	VALUE & REMARK	QA/QC REMARK
			093496	39180	TRICHLOROETHYLENE	UG/L	TOTAL	1.9 U	
				32105	CHLORODIBROMOMETHANE	UG/L	TOTAL	3.1 U	
				34511	1,1,2-TRICHLOROETHANE	UG/L	TOTAL	5.0 U	
				34030	BENZENE	UG/L	TOTAL	4.4 U	
				99999	CIS-1,3-DICHLOROPROPENE	UG/L	TOTAL	5.0 U	
				32104	BROMOFORM	UG/L	TOTAL	4.7 U	
				99999	4-METHYL-2-PENTANONE	UG/L	TOTAL	U	
				34475	TETRACHLOROETHYLENE	UG/L	TOTAL	4.1 U	
				34516	1,1,2,2-TETRACHLOROETHANE	UG/L	TOTAL	6.9 U	
				99999	2-HEXANONE	UG/L	TOTAL	U	
				34010	TOLUENE	UG/L	TOTAL	3.6 U	
				34301	CHLOROBENZENE	UG/L	TOTAL	6.0 U	
				34371	ETHYLBENZENE	UG/L	TOTAL	7.2 U	
				99921	STYRENE	UG/L	TOTAL	U	
				99920	XYLENES (TOTAL)	UG/L	TOTAL	U	
				34586	2-CHLOROPHENOL	UG/L	TOTAL	1.2 U	
				34591	2-NITROPHENOL	UG/L	TOTAL	1.1 U	
				34694	PHENOL	UG/L	TOTAL	0.8 U	
				34506	2,4-DIMETHYLPHENOL	UG/L	TOTAL	1.4 U	
				34601	2,4-DICHLOROPHENOL	UG/L	TOTAL	1.3 U	
				34621	2,4,6-TRICHLOROPHENOL	UG/L	TOTAL	6.8 U	
				34452	P-CHLORO-M-CRESOL	UG/L	TOTAL	10.8 U	
				34616	2,4-DINITROPHENOL	UG/L	TOTAL	50 U	
				34657	4,6-DINITRO-O-CRESOL	UG/L	TOTAL	22 U	
				39032	PENTACHLOROPHENOL	UG/L	TOTAL	27 U	
				34646	4-NITROPHENOL	UG/L	TOTAL	50 U	
				34568	1,3-DICHLOROBENZENE	UG/L	TOTAL	0.5 U	
				34571	1,4-DICHLOROBENZENE	UG/L	TOTAL	3.2 U	
				34536	1,2-DICHLOROBENZENE	UG/L	TOTAL	0.7 U	
				34396	HEXACHLOROETHANE	UG/L	TOTAL	0.9 U	
				39702	HEXACHLOROBUTADIENE	UG/L	TOTAL	0.6 U	
				34551	1,2,4-TRICHLOROBENZENE	UG/L	TOTAL	0.4 U	
				34696	NAPHTHALENE	UG/L	TOTAL	0.6 U	
				34273	BIS(2-CHLOROETHYL) ET.	UG/L	TOTAL	1.6 U	
				34278	BIS(2-CHLOROETHOXY) METH.	UG/L	TOTAL	1.0 U	
				34408	ISOPHORONE	UG/L	TOTAL	1.2 U	
				34447	NITROBENZENE	UG/L	TOTAL	1.1 U	
				34428	N-NITROSODI-N-PROPYLAMINE	UG/L	TOTAL	0.8 U	
				34433	N-NITROSODIPHENYLAMINE	UG/L	TOTAL	2.5 U	
				34283	BIS(2-CHLOROISOPROPYL) ET.	UG/L	TOTAL	1.4 U	
				34386	HEXACHLOROCYCLOPENTADIENE	UG/L	TOTAL	0.8 U	

COMPLETED ANALYSIS REPORT

REPORT DATE: 89/09/08

PROJECT NO: 594

PROJECT NAME: SAG HARBOR-SFUND ORG

STATION NO	DATE FROM TO	TIME OF DAY	LABNO	PARNO	PARAMETER NAME	UNITS	CHEMISTRY	VALUE & REMARK	QA/QC REMARK
			093496	34581	2-CHLORONAPHTHALENE	UG/L	TOTAL	1.3 U	
				34200	ACENAPHTHYLENE	UG/L	TOTAL	1.5 U	
				34205	ACENAPHTHENE	UG/L	TOTAL	1.1 U	
				34381	FLOURENE	UG/L	TOTAL	2.2 U	
				39700	HEXACHLOROBENZENE	UG/L	TOTAL	1.7 U	
				34636	4-BROMOPHENYL PHENYL ET.	UG/L	TOTAL	2.5 U	
				34461	PHENANTHRENE	UG/L	TOTAL	1.4 U	
				34220	ANTHRACENE	UG/L	TOTAL	1.3 U	
				34341	DIMETHYL PHTHALATE	UG/L	TOTAL	2.1 U	
				34336	DIETHYL PHTHALATE	UG/L	TOTAL	1.8 U	
				39110	DI-N-BUTYLPHTHALATE	UG/L	TOTAL	2.8 U	
				34292	BUTYL BENZYL PHTHALATE	UG/L	TOTAL	9.0 U	
				34596	DI-N-OCTYL PHTHALATE	UG/L	TOTAL	0.3 NU	
				39100	BIS(2-ETHYLHEXYL) PHTHAL.	UG/L	TOTAL	13 U	
				34376	FLUORANTHENE	UG/L	TOTAL	0.9 U	
				34469	PYRENE	UG/L	TOTAL	1.2 U	
				34320	CHRYSENE	UG/L	TOTAL	2.5 U	
				34526	1,2-BENZANTHRACENE	UG/L	TOTAL	2.2 U	
				34641	4-CHLOROPHENYL PHENYL ET.	UG/L	TOTAL	2.1 U	
				34403	INDENO(1,2,3-C,D) PYRENE	UG/L	TOTAL	1.8 U	
				34247	BENZO(A)PYRENE	UG/L	TOTAL	0.9 U	
				34521	1,12-BENZOPERYLENE	UG/L	TOTAL	1.8 U	
				34556	1,2:5,6-DIBENZANTHRACENE	UG/L	TOTAL	1.9 U	
				34631	3,3'-DICHLOROBENZIDENE	UG/L	TOTAL	17. U	
				34626	2,6-DINITROTOLUENE	UG/L	TOTAL	2.8 U	
				34611	2,4-DINITROTOLUENE	UG/L	TOTAL	2.4 U	
				34346	1,2-DIPHENYLHYDRAZINE	UG/L	TOTAL	2.4 U	
				34230	3,4-BENZOFLUORANTHENE	UG/L	TOTAL	10 U	
				34242	11,12-BENZOFLUORANTHENE	UG/L	TOTAL	10 U	
				99999	BENZYL ALCOHOL	UG/L	TOTAL	0.1 NU	
				99999	2-METHYL PHENOL	UG/L	TOTAL	10 U	
				99999	4-METHYL PHENOL	UG/L	TOTAL	10 U	
				99999	BENZOIC ACID	UG/L	TOTAL	50 U	
				99999	4-CHLOROANILINE	UG/L	TOTAL	10 U	
				99999	2-METHYL NAPHTHALENE	UG/L	TOTAL	10 U	
				88894	2,4,5-TRICHLOROPHENOL	UG/L	TOTAL	50 U	
				99999	2-NITROANILINE	UG/L	TOTAL	50 U	
				99999	3-NITROANILINE	UG/L	TOTAL	50 U	
				99999	DIBENZOFURAN	UG/L	TOTAL	10 U	
				99999	4-NITROANILINE	UG/L	TOTAL	50 U	
				39330	ALDRIN	UG/L	TOTAL	.004 U	

COMPLETED ANALYSIS REPORT

REPORT DATE: 89/09/08

PROJECT NO: 594

PROJECT NAME: SAG HARBOR-SFUND ORG

STATION NO	DATE FROM TO	TIME OF DAY	LABNO	PARNO	PARAMETER NAME	UNITS	CHEMISTRY	VALUE & REMARK	QA/QC REMARK
			093496	39380	DIELDRIN	UG/L	TOTAL	.002 U	
				39350	CHLORDANE	UG/L	TOTAL	.014 U	
				99999	ALPHA CHLORDANE	UG/L	TOTAL	.002 U	
				99999	GAMMA CHLORDANE	UG/L	TOTAL	.002 U	
				39300	4,4'-DDT	UG/L	TOTAL	.012 U	
				39320	4,4'-DDE	UG/L	TOTAL	.004 U	
				39310	4,4'-DDD	UG/L	TOTAL	.011 U	
				34361	ALPHA ENDOSULFAN	UG/L	TOTAL	.014 U	
				34356	BETA ENDOSULFAN	UG/L	TOTAL	.004 U	
				34351	ENDOSULFAN SULFATE	UG/L	TOTAL	.066 U	
				39390	ENDRIN	UG/L	TOTAL	.006 U	
				34366	ENDRIN ALDEHYDE	UG/L	TOTAL	.023 U	
				99999	ENDRIN KETONE	UG/L	TOTAL	.100 U	
				39410	HEPTACLOR	UG/L	TOTAL	.003 U	
				39420	HEPTACHLOR EPOXIDE	UG/L	TOTAL	.083 U	
				39337	ALPHA-BHC	UG/L	TOTAL	.003 U	
				39338	BETA-BHC	UG/L	TOTAL	.006 U	
				39340	GAMMA-BHC	UG/L	TOTAL	.004 U	
				34259	DELTA-BHC	UG/L	TOTAL	.007 U	
				39480	METHOXYCHLOR	UG/L	TOTAL	.500 U	
				39400	TOXAPHENE	UG/L	TOTAL	.240 U	
				34671	PCB-1016	UG/L	TOTAL	.05 U	
				39488	PCB-1221	UG/L	TOTAL	.10 U	
				39492	PCB-1232	UG/L	TOTAL	.10 U	
				39496	PCB-1242	UG/L	TOTAL	.05 U	
				39500	PCB-1248	UG/L	TOTAL	.10 U	
				39504	PCB-1254	UG/L	TOTAL	.10 U	
				39508	PCB-1260	UG/L	TOTAL	.20 U	
NYFT-SWZ	89/06/29	0806							
COMPOSITE	89/06/29	0810							
DEPTH: 0000 SUBSTRATE: AQUEOUS									
DESCRIPTION: NYFT-SW-2									
			093497	34418	METHYL CHLORIDE	UG/L	TOTAL	U	
				34413	METHYL BROMIDE	UG/L	TOTAL	U	
				39175	VINYL CHLORIDE	UG/L	TOTAL	U	
				34311	CHLOROETHANE	UG/L	TOTAL	U	
				34423	METHYLENE CHLORIDE	UG/L	TOTAL	31.8	
				99930	ACETONE	UG/L	TOTAL	U	
				99964	CARBON DISULFIDE	UG/L	TOTAL	3.3	

COMPLETED ANALYSIS REPORT

REPORT DATE: 89/09/08

PROJECT NO: 594

PROJECT NAME: SAG HARBOR-SFUND ORG

STATION NO	DATE FROM TO	TIME OF DAY	LABNO	PARNO	PARAMETER NAME	UNITS	CHEMISTRY	VALUE & REMARK	QA/QC REMARK
			093497	34501	1,1-DICHLOROETHYLENE	UG/L	TOTAL	2.8	U
				34496	1,1-DICHLOROETHANE	UG/L	TOTAL	4.7	U
				34546	1,2-TRANS DICHLOROETHYLENE	UG/L	TOTAL	1.6	U
				32106	CHLOROFORM	UG/L	TOTAL	1.6	U
				32103	1,2-DICHLOROETHANE	UG/L	TOTAL	2.8	U
				99999	2-BUTANONE	UG/L	TOTAL		U
				34506	1,1,1-TRICHLOROETHANE	UG/L	TOTAL	3.8	U
				32102	CARBON TETRACHLORIDE	UG/L	TOTAL	2.8	U
				99999	VINYL ACETATE	UG/L	TOTAL		U
				32101	DICHLOROBROMOMETHANE	UG/L	TOTAL	2.2	U
				34541	1,2-DICHLOROPROPANE	UG/L	TOTAL	6.0	U
				34561	1,3-DICHLOROPROPYLENE	UG/L	TOTAL		U
				39180	TRICHLOROETHYLENE	UG/L	TOTAL	1.9	U
				32105	CHLORODIBROMOMETHANE	UG/L	TOTAL	3.1	U
				34511	1,1,2-TRICHLOROETHANE	UG/L	TOTAL	5.0	U
				34030	BENZENE	UG/L	TOTAL	4.4	U
				99999	CIS-1,3-DICHLOROPROPENE	UG/L	TOTAL	5.0	U
				32104	BROMOFORM	UG/L	TOTAL	4.7	U
				99999	4-METHYL-2-PENTANONE	UG/L	TOTAL		U
				34475	TETRACHLOROETHYLENE	UG/L	TOTAL	4.1	U
				34516	1,1,2,2-TETRACHLOROETHANE	UG/L	TOTAL	6.9	U
				99999	2-HEXANONE	UG/L	TOTAL		U
				34010	TOLUENE	UG/L	TOTAL	3.6	U
				34301	CHLOROBENZENE	UG/L	TOTAL	6.0	U
				34371	ETHYLBENZENE	UG/L	TOTAL	7.2	U
				99921	STYRENE	UG/L	TOTAL		U
				99920	XYLENES (TOTAL)	UG/L	TOTAL		U
				34586	2-CHLOROPHENOL	UG/L	TOTAL	1.2	U
				34591	2-NITROPHENOL	UG/L	TOTAL	1.1	U
				34694	PHENOL	UG/L	TOTAL	0.8	U
				34606	2,4-DIMETHYLPHENOL	UG/L	TOTAL	0.1	U
				34601	2,4-DICHLOROPHENOL	UG/L	TOTAL	1.3	U
				34621	2,4,6-TRICHLOROPHENOL	UG/L	TOTAL	6.8	U
				34452	P-CHLORO-M-CRESOL	UG/L	TOTAL	0.3	U
				34616	2,4-DINITROPHENOL	UG/L	TOTAL	50	U
				34657	4,6-DINITRO-O-CRESOL	UG/L	TOTAL	22	U
				39032	PENTACHLOROPHENOL	UG/L	TOTAL	27	U
				34646	4-NITROPHENOL	UG/L	TOTAL	50	U
				34566	1,3-DICHLOROBENZENE	UG/L	TOTAL	0.5	U
				34571	1,4-DICHLOROBENZENE	UG/L	TOTAL	3.2	U
				34536	1,2-DICHLOROBENZENE	UG/L	TOTAL	0.7	U

COMPLETED ANALYSIS REPORT

REPORT DATE: 89/09/08

PROJECT NO: 594

PROJECT NAME: SAG HARBOR-SFUND ORG

STATION NO	DATE FROM TO	TIME OF DAY	LABNO	PARNO	PARAMETER NAME	UNITS	CHEMISTRY	VALUE & REMARK	QA/QC REMARK
			093497	34396	HEXACHLOROETHANE	UG/L	TOTAL	0.9 U	
				39702	HEXACHLOROBUTADIENE	UG/L	TOTAL	0.6 U	
				34551	1,2,4-TRICHLOROBENZENE	UG/L	TOTAL	0.4 U	
				34696	NAPHTHALENE	UG/L	TOTAL	0.6 U	
				34273	BIS(2-CHLOROETHYL) ET.	UG/L	TOTAL	1.6 U	
				34278	BIS(2-CHLOROETHOXY) METH.	UG/L	TOTAL	1.0 U	
				34408	ISOPHORONE	UG/L	TOTAL	1.2 U	
				34447	NITROBENZENE	UG/L	TOTAL	1.1 U	
				34428	N-NITROSODI-N-PROPYLAMINE	UG/L	TOTAL	0.8 U	
				34433	N-NITROSODIPHENYLAMINE	UG/L	TOTAL	2.5 U	
				34283	BIS(2-CHLOROISOPROPYL) ET.	UG/L	TOTAL	1.4 U	
				34386	HEXACHLOROCYCLOPENTADIENE	UG/L	TOTAL	0.8 U	
				34581	2-CHLORONAPHTHALENE	UG/L	TOTAL	1.3 U	
				34200	ACENAPHTHYLENE	UG/L	TOTAL	1.5 U	
				34205	ACENAPHTHENE	UG/L	TOTAL	1.1 U	
				34381	FLOURENE	UG/L	TOTAL	2.2 U	
				39700	HEXACHLOROBENZENE	UG/L	TOTAL	1.7 U	
				34636	4-BROMOPHENYL PHENYL ET.	UG/L	TOTAL	2.5 U	
				34461	PHENANTHRENE	UG/L	TOTAL	1.4 U	
				34220	ANTHRACENE	UG/L	TOTAL	1.3 U	
				34341	DIMETHYL PHTHALATE	UG/L	TOTAL	2.1 U	
				34336	DIETHYL PHTHALATE	UG/L	TOTAL	1.8 U	
				39110	DI-N-BUTYLPPHTHALATE	UG/L	TOTAL	2.8 U	
				34292	BUTYL BENZYL PHTHALATE	UG/L	TOTAL	9.0 U	
				34596	DI-N-OCTYL PHTHALATE	UG/L	TOTAL	0.3 U	
				39100	BIS(2-ETHYLHEXYL) PHTHAL.	UG/L	TOTAL	13 U	
				34376	FLUORANTHENE	UG/L	TOTAL	0.9 U	
				34469	PYRENE	UG/L	TOTAL	1.2 U	
				34320	CHRYSENE	UG/L	TOTAL	2.5 U	
				34526	1,2-BENZANTHRACENE	UG/L	TOTAL	2.2 U	
				34641	4-CHLOROPHENYL PHENYL ET.	UG/L	TOTAL	2.1 U	
				34403	INDENO(1,2,3-C,D) PYRENE	UG/L	TOTAL	1.8 U	
				34247	BENZO(A)PYRENE	UG/L	TOTAL	0.9 U	
				34521	1,12-BENZOPERYLENE	UG/L	TOTAL	1.8 U	
				34556	1,2:5,6-DIBENZANTHRACENE	UG/L	TOTAL	1.9 U	
				34631	3,3'-DICHLOROBENZIDENE	UG/L	TOTAL	17. U	
				34626	2,6-DINITROTOLUENE	UG/L	TOTAL	2.8 U	
				34611	2,4-DINITROTOLUENE	UG/L	TOTAL	2.4 U	
				34346	1,2-DIPHENYLHYDRAZINE	UG/L	TOTAL	2.4 U	
				34230	3,4-BENZOFLUORANTHENE	UG/L	TOTAL	10 U	
				34242	11,12-BENZOFLUORANTHENE	UG/L	TOTAL	10 U	

COMPLETED ANALYSIS REPORT

REPORT DATE: 89/09/08

PROJECT NO: 594

PROJECT NAME: SAG HARBOR-SFUND ORG

STATION NO	DATE FROM TO	TIME OF DAY	LABNO	PARNO	PARAMETER NAME	UNITS	CHEMISTRY	VALUE & REMARK	QA/QC REMARK
			093497	99999	BENZYL ALCOHOL	UG/L	TOTAL	0.3	U
				99999	2-METHYL PHENOL	UG/L	TOTAL	10	U
				99999	4-METHYL PHENOL	UG/L	TOTAL	10	U
				99999	BENZOIC ACID	UG/L	TOTAL	50	U
				99999	4-CHLOROANILINE	UG/L	TOTAL	10	U
				99999	2-METHYL NAPHTHALENE	UG/L	TOTAL	0.2	U
				88894	2,4,5-TRICHLOROPHENOL	UG/L	TOTAL	50	U
				99999	2-NITROANILINE	UG/L	TOTAL	50	U
				99999	3-NITROANILINE	UG/L	TOTAL	50	U
				99999	DIBENZOFURAN	UG/L	TOTAL	10	U
				99999	4-NITROANILINE	UG/L	TOTAL	50	U
				39330	ALDRIN	UG/L	TOTAL	.004	U
				39380	DIELDRIN	UG/L	TOTAL	.002	U
				39350	CHLORDANE	UG/L	TOTAL	.014	U
				99999	ALPHA CHLORDANE	UG/L	TOTAL	.002	U
				99999	GAMMA CHLORDANE	UG/L	TOTAL	.002	U
				39300	4,4'-DDT	UG/L	TOTAL	.012	U
				39320	4,4'-DDE	UG/L	TOTAL	.004	U
				39310	4,4'-DDD	UG/L	TOTAL	.011	U
				34361	ALPHA ENDOSULFAN	UG/L	TOTAL	.014	U
				34356	BETA ENDOSULFAN	UG/L	TOTAL	.004	U
				34351	ENDOSULFAN SULFATE	UG/L	TOTAL	.066	U
				39390	ENDRIN	UG/L	TOTAL	.006	U
				34366	ENDRIN ALDEHYDE	UG/L	TOTAL	.023	U
				99999	ENDRIN KETONE	UG/L	TOTAL	.100	U
				39410	HEPTACLOR	UG/L	TOTAL	.003	U
				39420	HEPTACHLOR EPOXIDE	UG/L	TOTAL	.083	U
				39337	ALPHA-BHC	UG/L	TOTAL	.003	U
				39338	BETA-BHC	UG/L	TOTAL	.006	U
				39340	GAMMA-BHC	UG/L	TOTAL	.004	U
				34259	DELTA-BHC	UG/L	TOTAL	.009	U
				39480	METHOXYCHLOR	UG/L	TOTAL	.500	U
				39400	TOXAPHENE	UG/L	TOTAL	.240	U
				34671	PCB-1016	UG/L	TOTAL	.05	U
				39488	PCB-1221	UG/L	TOTAL	.10	U
				39492	PCB-1232	UG/L	TOTAL	.10	U
				39496	PCB-1242	UG/L	TOTAL	.05	U
				39500	PCB-1248	UG/L	TOTAL	.10	U
				39504	PCB-1254	UG/L	TOTAL	.10	U
				39508	PCB-1260	UG/L	TOTAL	.20	U

COMPLETED ANALYSIS REPORT

REPORT DATE: 89/09/08

PROJECT NO: 594

PROJECT NAME: SAG HARBOR-SFUND ORG

STATION NO	DATE FROM TO	TIME OF DAY	LABNO	PARNO	PARAMETER NAME	UNITS	CHEMISTRY	VALUE & REMARK	QA/QC REMARK
NYFT-TBLK-1	89/06/29	0700							
COMPOSITE	89/06/29	0710							
DEPTH: 0000 SUBSTRATE: AQUEOUS									
DESCRIPTION: NYFT-TBLK-1									
			093499	34418	METHYL CHLORIDE	UG/L	TOTAL	3.1	J
				34413	METHYL BROMIDE	UG/L	TOTAL		U
				39175	VINYL CHLORIDE	UG/L	TOTAL		U
				34311	CHLOROETHANE	UG/L	TOTAL		U
				34423	METHYLENE CHLORIDE	UG/L	TOTAL	32.6	J J
				99930	ACETONE	UG/L	TOTAL		U
				99964	CARBON DISULFIDE	UG/L	TOTAL	3.1	J
				34501	1,1-DICHLOROETHYLENE	UG/L	TOTAL	2.1	U
				34496	1,1-DICHLOROETHANE	UG/L	TOTAL	4.7	U
				34546	1,2-TRANS DICHLOROETHYLENE	UG/L	TOTAL	1.6	U
				32106	CHLOROFORM	UG/L	TOTAL	0.8	U
				32103	1,2-DICHLOROETHANE	UG/L	TOTAL	2.8	U
				99999	2-BUTANONE	UG/L	TOTAL		U
				34506	1,1,1-TRICHLOROETHANE	UG/L	TOTAL	3.8	U
				32102	CARBON TETRACHLORIDE	UG/L	TOTAL	2.8	U
				99999	VINYL ACETATE	UG/L	TOTAL		U
				32101	DICHLOROBROMOMETHANE	UG/L	TOTAL	2.2	U
				34541	1,2-DICHLOROPROPANE	UG/L	TOTAL	6.0	U
				34561	1,3-DICHLOROPROPYLENE	UG/L	TOTAL		U
				39180	TRICHLOROETHYLENE	UG/L	TOTAL	1.9	U
				32105	CHLORODIBROMOMETHANE	UG/L	TOTAL	3.1	U
				34511	1,1,2-TRICHLOROETHANE	UG/L	TOTAL	5.0	U
				34030	BENZENE	UG/L	TOTAL	4.4	U
				99999	CIS-1,3-DICHLOROPROPENE	UG/L	TOTAL	5.0	U
				32104	BROMOFORM	UG/L	TOTAL	4.7	U
				99999	4-METHYL-2-PENTANONE	UG/L	TOTAL		U
				34475	TETRACHLOROETHYLENE	UG/L	TOTAL	4.1	U
				34516	1,1,2,2-TETRACHLOROETHANE	UG/L	TOTAL	6.9	U
				99999	2-HEXANONE	UG/L	TOTAL		U
				34010	TOLUENE	UG/L	TOTAL	6.0	U
				34301	CHLOROBENZENE	UG/L	TOTAL	6.0	U
				34371	ETHYLBENZENE	UG/L	TOTAL	7.2	U
				99921	STYRENE	UG/L	TOTAL		U
				99920	XYLENES (TOTAL)	UG/L	TOTAL		U

***** END OF PROJECT *****

0000002

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ501

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 78.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2120			P
7440-36-0	Antimony	6.3	U	N J	P
7440-38-2	Arsenic	4.7		J	F
7440-39-3	Barium	60.6			P
7440-41-7	Beryllium	0.31	B		P
7440-43-9	Cadmium	0.91	U		P
7440-70-2	Calcium	10400		* J	P
7440-47-3	Chromium	9.7			P
7440-48-4	Cobalt	4.2	B		P
7440-50-8	Copper	45.7		J	P
7439-89-6	Iron	16200			P
7439-92-1	Lead	1770		* J	P
7439-95-4	Magnesium	5740		* J	P
7439-96-5	Manganese	66.9			P
7439-97-6	Mercury	~~0.2~~ 0.1		*	CV
7440-02-0	Nickel	8.2	B		P
7440-09-7	Potassium	164	B		P
7482-49-2	Selenium	0.63	B	J	F
7440-22-4	Silver	1.3	B		P
7440-23-5	Sodium	432	U		P
7440-28-0	Thallium	0.51	U		F
7440-62-2	Vanadium	9.4	B		P
7440-66-6	Zinc	312		EN J	P
	Cyanide	11.7		N J	AS

9 3 R
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

0000003

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ502

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 71.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2140			P
7440-36-0	Antimony	6.9	U	N J	P
7440-38-2	Arsenic	12.0			F
7440-39-3	Barium	49.4	B		P
7440-41-7	Beryllium	0.22	B		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	1350	B	* J	P
7440-47-3	Chromium	4.1			P
7440-48-4	Cobalt	3.5	B		P
7440-50-8	Copper	72.5		J	P
7439-89-6	Iron	11400			P
7439-92-1	Lead	374		* J	P
7439-95-4	Magnesium	729	B	* J	P
7439-96-5	Manganese	55.3			P
7439-97-6	Mercury	~~0.6~~		~~*~~	CV
7440-02-0	Nickel	7.4	B		P
7440-09-7	Potassium	198	B		P
7482-49-2	Selenium	0.81	B	J	F
7440-22-4	Silver	1.4	B		P
7440-23-5	Sodium	473	U		P
7440-28-0	Thallium	0.56	U		F
7440-62-2	Vanadium	9.4	B		P
7440-66-6	Zinc	118		EN J	P
	Cyanide	0.70	U	N	AS

SAB 8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MBZ503

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 89.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2010			P
7440-36-0	Antimony	5.5	U	N J	P
7440-38-2	Arsenic	4.1		J	F
7440-39-3	Barium	30.1	B		P
7440-41-7	Beryllium	0.27	B		P
7440-43-9	Cadmium	0.81	U		P
7440-70-2	Calcium	520	B	* J	P
7440-47-3	Chromium	4.1			P
7440-48-4	Cobalt	3.1	B		P
7440-50-8	Copper	73.3		J	P
7439-89-6	Iron	13800			P
7439-92-1	Lead	186		* J	P
7439-95-4	Magnesium	375	B	* J	P
7439-96-5	Manganese	103			P
7439-97-6	Mercury	0.2		*	CV
7440-02-0	Nickel	5.7	B		P
7440-09-7	Potassium	269	B		P
7782-49-2	Selenium	0.45	U	W	F
7440-22-4	Silver	0.87	U		P
7440-23-5	Sodium	381	U		P
7440-28-0	Thallium	0.45	U		F
7440-62-2	Vanadium	6.6	B		P
7440-66-6	Zinc	34.4		EN	P
	Cyanide	0.56	U	N	AS

9 & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ504

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 86.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1490			P
7440-36-0	Antimony	5.7	U	N J	P
7440-38-2	Arsenic	0.51	B	J	F
7440-39-3	Barium	19.3	B		P
7440-41-7	Beryllium	0.12	U		P
7440-43-9	Cadmium	0.83	U		P
7440-70-2	Calcium	515	B	* J	P
7440-47-3	Chromium	2.2	B		P
7440-48-4	Cobalt	1.2	B		P
7440-50-8	Copper	19.4		J	P
7439-89-6	Iron	2550			P
7439-92-1	Lead	66.4		*J	P
7439-95-4	Magnesium	273	B	* J	P
7439-96-5	Manganese	152			P
7439-97-6	Mercury	~~0.3~~		*	CV
7440-02-0	Nickel	2.8	B		P
7440-09-7	Potassium	237	B		P
7482-49-2	Selenium	0.46	U		F
7440-22-4	Silver	0.90	U		P
7440-23-5	Sodium	393	U		P
7440-28-0	Thallium	0.46	U		F
7440-62-2	Vanadium	2.9	B		P
7440-66-6	Zinc	54.8		EN J	P
	Cyanide	0.58	U	N	AS

98B
8/3/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

0000006

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ505

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 78.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	633			P
7440-36-0	Antimony	6.3	U	N J	P
7440-38-2	Arsenic	3.6		J	F
7440-39-3	Barium	12.7	B		P
7440-41-7	Beryllium	0.13	U		P
7440-43-9	Cadmium	0.91	U		P
7440-70-2	Calcium	625	B	* J	P
7440-47-3	Chromium	1.8	B		P
7440-48-4	Cobalt	1.5	B		P
7440-50-8	Copper	14.1			P
7439-89-6	Iron	870			P
7439-92-1	Lead	44.0		*	P
7439-95-4	Magnesium	184	B	* J	P
7439-96-5	Manganese	7.5			P
7439-97-6	Mercury	~~0.1~~		*	CV
7440-02-0	Nickel	4.1	B		P
7440-09-7	Potassium	121	B		P
7482-49-2	Selenium	0.51	U		F
7440-22-4	Silver	0.99	U		P
7440-23-5	Sodium	433	U		P
7440-28-0	Thallium	0.51	U		F
7440-62-2	Vanadium	2.2	B		P
7440-66-6	Zinc	355		EN J	P
	Cyanide	0.64	U	N	AS

9&B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN 7/87

0000007

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ506

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 75.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2360			P
7440-36-0	Antimony	6.5	U	N J	P
7440-38-2	Arsenic	1.5	B	J	F
7440-39-3	Barium	25.4	B		P
7440-41-7	Beryllium	0.16	B		P
7440-43-9	Cadmium	0.95	U		P
7440-70-2	Calcium	3340		* J	P
7440-47-3	Chromium	3.5			P
7440-48-4	Cobalt	2.0	B		P
7440-50-8	Copper	11.0			P
7439-89-6	Iron	4790			P
7439-92-1	Lead	98.9		* J	P
7439-95-4	Magnesium	2140		* J	P
7439-96-5	Manganese	30.1			P
7439-97-6	Mercury	0.1	U	* J	CV
7440-02-0	Nickel	4.6	B		P
7440-09-7	Potassium	246	B		P
7482-49-2	Selenium	0.53	U		F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	449	U		P
7440-28-0	Thallium	0.53	U		F
7440-62-2	Vanadium	5.3	B		P
7440-66-6	Zinc	63.8		EN J	P
	Cyanide	1.6		N J	AS

9 & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN 7/87

0000008

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ507

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 67.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1800			P
7440-36-0	Antimony	7.3	U	N J	P
7440-38-2	Arsenic	2.1	B	J	F
7440-39-3	Barium	44.8	B		P
7440-41-7	Beryllium	0.24	B		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	1200	B	* J	P
7440-47-3	Chromium	5.1			P
7440-48-4	Cobalt	2.8	B		P
7440-50-8	Copper	73.5		J	P
7439-89-6	Iron	5520			P
7439-92-1	Lead	155		*J	P
7439-95-4	Magnesium	454	B	* J	P
7439-96-5	Manganese	27.3			P
7439-97-6	Mercury	0.1	U	* J	CV
7440-02-0	Nickel	7.9	B		P
7440-09-7	Potassium	217	B		P
7482-49-2	Selenium	0.59	U		F
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	504	U		P
7440-28-0	Thallium	0.59	U		F
7440-62-2	Vanadium	7.2	B		P
7440-66-6	Zinc	75.8		EN J	P
	Cyanide	0.89		N J	AS

9 & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN 7/87

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ508

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 81.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1330			P
7440-36-0	Antimony	6.1	U	N J	P
7440-38-2	Arsenic	13.0			F
7440-39-3	Barium	43.3	B		P
7440-41-7	Beryllium	0.30	B		P
7440-43-9	Cadmium	0.88	U		P
7440-70-2	Calcium	3890		* J	P
7440-47-3	Chromium	4.6			P
7440-48-4	Cobalt	2.3	B		P
7440-50-8	Copper	22.9		J	P
7439-89-6	Iron	13100			P
7439-92-1	Lead	369		* J	P
7439-95-4	Magnesium	1100	B	* J	P
7439-96-5	Manganese	23.9			P
7439-97-6	Mercury	~~0.2~~		*	CV
7440-02-0	Nickel	8.4	B		P
7440-09-7	Potassium	132	B		P
7482-49-2	Selenium	0.49	U	W	F
7440-22-4	Silver	0.96	U		P
7440-23-5	Sodium	418	U		P
7440-28-0	Thallium	0.49	U		F
7440-62-2	Vanadium	4.9	B		P
7440-66-6	Zinc	157		EN J	P
	Cyanide	1.5		NJ	AS

9 & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MBZ543

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ541

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 60.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5660			P
7440-36-0	Antimony	8.2	U	N J	P
7440-38-2	Arsenic	6.0		J	F
7440-39-3	Barium	152			P
7440-41-7	Beryllium	0.33	B		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	9260			P
7440-47-3	Chromium	10.9			P
7440-48-4	Cobalt	6.2	B		P
7440-50-8	Copper	176			P
7439-89-6	Iron	23000		*	P
7439-92-1	Lead	382			P
7439-95-4	Magnesium	1220	B		P
7439-96-5	Manganese	161		*	P
7439-97-6	Mercury	~~0.5~~			CV
7440-02-0	Nickel	12.2	B		P
7440-09-7	Potassium	507	B		P
7482-49-2	Selenium	1.7		N J	F
7440-22-4	Silver	1.4	B		P
7440-23-5	Sodium	567	U		P
7440-28-0	Thallium	0.67	U		F
7440-62-2	Vanadium	20.7			P
7440-66-6	Zinc	451			P
	Cyanide	0.83	U	N J	AS

9/8 B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ555

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ549

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.7	U		P
7440-36-0	Antimony	24.7	U		P
7440-38-2	Arsenic	1.0	U	W	F
7440-39-3	Barium	2.7	U		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	94.5	U		P
7440-47-3	Chromium	5.5	U		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	6.0	U		P
7439-89-6	Iron	22.3	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	122	U		P
7439-96-5	Manganese	7.8	U		P
7439-97-6	Mercury	0.5	U		CV
7440-02-0	Nickel	5.8	U		P
7440-09-7	Potassium	161	U		P
7482-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.9	U		P
7440-23-5	Sodium	1700	U		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	5.5	U		P
7440-66-6	Zinc	2.3	B		P
	Cyanide	10.0	U		AS

JxB
8/30/89

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ556

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ549

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.7	U		P
7440-36-0	Antimony	24.7	U		P
7440-38-2	Arsenic	1.0	U	W	F
7440-39-3	Barium	2.7	U		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	94.5	U		P
7440-47-3	Chromium	5.5	U		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	6.0	U		P
7439-89-6	Iron	22.3	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	122	U		P
7439-96-5	Manganese	7.8	U		P
7439-97-6	Mercury	0.3	U		CV
7440-02-0	Nickel	5.8	U		P
7440-09-7	Potassium	161	U		P
7482-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.9	U		P
7440-23-5	Sodium	1700	U		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	5.5	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

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U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ509

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 84.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1930			P
7440-36-0	Antimony	5.9	U	N J	P
7440-38-2	Arsenic	0.86	B	J	F
7440-39-3	Barium	23.2	B		P
7440-41-7	Beryllium	0.12	U		P
7440-43-9	Cadmium	0.86	U		P
7440-70-2	Calcium	254	B	* J	P
7440-47-3	Chromium	3.1			P
7440-48-4	Cobalt	1.2	B		P
7440-50-8	Copper	30.6		J	P
7439-89-6	Iron	2980			P
7439-92-1	Lead	99.3		* J	P
7439-95-4	Magnesium	360	B	* J	P
7439-96-5	Manganese	17.8			P
7439-97-6	Mercury	0.1	U	* J	CV
7440-02-0	Nickel	3.0	B		P
7440-09-7	Potassium	229	B		P
7482-49-2	Selenium	0.48	U	W	F
7440-22-4	Silver	0.93	U		P
7440-23-5	Sodium	404	U		P
7440-28-0	Thallium	0.48	U		F
7440-62-2	Vanadium	4.9	B		P
7440-66-6	Zinc	~~37.6~~		~~EN~~	P
	Cyanide	0.59	U	N	AS

SSB
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ510

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 88.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2380			P
7440-36-0	Antimony	5.6	U	N J	P
7440-38-2	Arsenic	5.4			F
7440-39-3	Barium	50.0			P
7440-41-7	Beryllium	0.13	B		P
7440-43-9	Cadmium	0.81	U		P
7440-70-2	Calcium	4810		* J	P
7440-47-3	Chromium	5.3			P
7440-48-4	Cobalt	1.9	B		P
7440-50-8	Copper	26.4		J	P
7439-89-6	Iron	6900			P
7439-92-1	Lead	376		* J	P
7439-95-4	Magnesium	1870		* J	P
7439-96-5	Manganese	84.5			P
7439-97-6	Mercury	1.0		*	CV
7440-02-0	Nickel	5.4	B		P
7440-09-7	Potassium	187	B		P
7482-49-2	Selenium	0.45	U		F
7440-22-4	Silver	0.88	U		P
7440-23-5	Sodium	383	U		P
7440-28-0	Thallium	0.45	U	W	F
7440-62-2	Vanadium	6.2	B		P
7440-66-6	Zinc	135		EN J	P
	Cyanide	1.1		NJ	AS

JAB 8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ511

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 83.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2540			P
7440-36-0	Antimony	5.9	U	N J	P
7440-38-2	Arsenic	14.3			F
7440-39-3	Barium	37.3	B		P
7440-41-7	Beryllium	0.29	B		P
7440-43-9	Cadmium	0.87	U		P
7440-70-2	Calcium	4530		* J	P
7440-47-3	Chromium	16.5			P
7440-48-4	Cobalt	3.2	B		P
7440-50-8	Copper	59.4		J	P
7439-89-6	Iron	16100			P
7439-92-1	Lead	300		* J	P
7439-95-4	Magnesium	1260		* J	P
7439-96-5	Manganese	45.8			P
7439-97-6	Mercury	3.2		* J	CV
7440-02-0	Nickel	8.2	B		P
7440-09-7	Potassium	238	B		P
7482-49-2	Selenium	0.48	U		F
7440-22-4	Silver	0.94	U		P
7440-23-5	Sodium	409	U		P
7440-28-0	Thallium	0.48	U		F
7440-62-2	Vanadium	11.4	B		P
7440-66-6	Zinc	170		EN J	P
	Cyanide	6.1		N J	AS

9 8 B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ512

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 66.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1460			P
7440-36-0	Antimony	7.5	U	N J	P
7440-38-2	Arsenic	3.3		J	F
7440-39-3	Barium	242			P
7440-41-7	Beryllium	0.15	U		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	1040	B	* J	P
7440-47-3	Chromium	7.2			P
7440-48-4	Cobalt	2.1	B		P
7440-50-8	Copper	65.6		J	P
7439-89-6	Iron	11400			P
7439-92-1	Lead	372		* J	P
7439-95-4	Magnesium	220	B	* J	P
7439-96-5	Manganese	58.7			P
7439-97-6	Mercury	0.8		*	CV
7440-02-0	Nickel	3.9	B		P
7440-09-7	Potassium	266	B		P
7482-49-2	Selenium	0.61	U	W	F
7440-22-4	Silver	1.8	B		P
7440-23-5	Sodium	515	U		P
7440-28-0	Thallium	0.61	U		F
7440-62-2	Vanadium	7.2	B		P
7440-66-6	Zinc	63.7		EN J	P
	Cyanide	5.7		NJ	AS

J & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ513

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 89.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2840			P
7440-36-0	Antimony	5.5	U	N J	P
7440-38-2	Arsenic	4.2		J	F
7440-39-3	Barium	33.5	B		P
7440-41-7	Beryllium	0.22	B		P
7440-43-9	Cadmium	0.81	U		P
7440-70-2	Calcium	1140		* J	P
7440-47-3	Chromium	6.4			P
7440-48-4	Cobalt	3.6	B		P
7440-50-8	Copper	47.7		J	P
7439-89-6	Iron	17900			P
7439-92-1	Lead	976		* J	P
7439-95-4	Magnesium	836	B	* J	P
7439-96-5	Manganese	101			P
7439-97-6	Mercury	3.1		* J	CV
7440-02-0	Nickel	5.7	B		P
7440-09-7	Potassium	360	B		P
7482-49-2	Selenium	0.45	U	W	F
7440-22-4	Silver	0.88	U		P
7440-23-5	Sodium	382	U		P
7440-28-0	Thallium	0.45	U	W	F
7440-62-2	Vanadium	13.7			P
7440-66-6	Zinc	50.2		EN J	P
	Cyanide	7.5		NJ	AS

J98B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ514

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 84.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2510			P
7440-36-0	Antimony	5.8	U	N J	P
7440-38-2	Arsenic	7.2			F
7440-39-3	Barium	202			P
7440-41-7	Beryllium	0.28	B		P
7440-43-9	Cadmium	0.85	U		P
7440-70-2	Calcium	21200		* J	P
7440-47-3	Chromium	7.3			P
7440-48-4	Cobalt	3.4	B		P
7440-50-8	Copper	29.1		J	P
7439-89-6	Iron	9280			P
7439-92-1	Lead	238		* J	P
7439-95-4	Magnesium	4740		* J	P
7439-96-5	Manganese	116			P
7439-97-6	Mercury	~~1.3~~		~~*~~	CV
7440-02-0	Nickel	6.4	B		P
7440-09-7	Potassium	313	B		P
7482-49-2	Selenium	0.47	U	W	F
7440-22-4	Silver	0.92	U		P
7440-23-5	Sodium	403	U		P
7440-28-0	Thallium	0.47	U	W	F
7440-62-2	Vanadium	10.9	B		P
7440-66-6	Zinc	298		EN J	P
	Cyanide	2.1		N J	AS

JSB
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

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AUG 04 1989
CLP BRANCH

EPA SAMPLE NO.

MBZ549

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7436

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ549

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.7	U		P
7440-36-0	Antimony	24.7	U		P
7440-38-2	Arsenic	1.0	U	W	F
7440-39-3	Barium	2.7	U		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	94.5	U		P
7440-47-3	Chromium	5.5	U		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	6.0	U		P
7439-89-6	Iron	22.3	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	122	U		P
7439-96-5	Manganese	7.8	U		P
7439-97-6	Mercury	0.5	U		CV
7440-02-0	Nickel	5.8	U		P
7440-09-7	Potassium	161	U		P
7482-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.9	U		P
7440-23-5	Sodium	1700	U		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	5.5	U		P
7440-66-6	Zinc	3.6	B		P
	Cyanide	10.0	U		AS

9/5B
8/30/89

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ550

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ549

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.7	U		P
7440-36-0	Antimony	24.7	U		P
7440-38-2	Arsenic	1.0	U	W	F
7440-39-3	Barium	2.7	U		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	94.5	U		P
7440-47-3	Chromium	5.5	U		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	6.0	U		P
7439-89-6	Iron	22.3	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	122	U		P
7439-96-5	Manganese	7.8	U		P
7439-97-6	Mercury	0.5		J	CV
7440-02-0	Nickel	5.8	U		P
7440-09-7	Potassium	161	U		P
7482-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.9	U		P
7440-23-5	Sodium	1700	U		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	5.5	U		P
7440-66-6	Zinc	2.4	B		P
	Cyanide	10.0	U		AS

JRB
8/30/89

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____
Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
MBZ551

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ549

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/28/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.7	U		P
7440-36-0	Antimony	24.7	U		P
7440-38-2	Arsenic	1.0	U	W	F
7440-39-3	Barium	2.7	U		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	94.5	U		P
7440-47-3	Chromium	5.5	U		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	6.0	U		P
7439-89-6	Iron	22.3	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	122	U		P
7439-96-5	Manganese	7.8	U		P
7439-97-6	Mercury	0.7	U	J	CV
7440-02-0	Nickel	5.8	U		P
7440-09-7	Potassium	161	U		P
7482-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.9	U		P
7440-23-5	Sodium	1700	U		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	5.5	U		P
7440-66-6	Zinc	6.6	B		P
	Cyanide	10.0	U		AS

9/8B
8/30/89

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____
Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ515

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 74.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2650			P
7440-36-0	Antimony	6.6	U	N J	P
7440-38-2	Arsenic	3.5		J	F
7440-39-3	Barium	37.5	B		P
7440-41-7	Beryllium	0.21	B		P
7440-43-9	Cadmium	1.0	B		P
7440-70-2	Calcium	1410		* J	P
7440-47-3	Chromium	6.0		J	P
7440-48-4	Cobalt	3.1	B		P
7440-50-8	Copper	23.0		J	P
7439-89-6	Iron	14500		J	P
7439-92-1	Lead	289		* J	P
7439-95-4	Magnesium	615	B	* J	P
7439-96-5	Manganese	86.7			P
7439-97-6	Mercury	~~1.3~~		*	CV
7440-02-0	Nickel	12.7			P
7440-09-7	Potassium	188	B		P
7482-49-2	Selenium	0.54	U	W	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	456	U		P
7440-28-0	Thallium	0.54	U	W	F
7440-62-2	Vanadium	10.2	B		P
7440-66-6	Zinc	435		EN J	P
	Cyanide	2.0		N J	AS

SAB
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

0000017

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MBZ516

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 79.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2270			P
7440-36-0	Antimony	6.2	U	N J	P
7440-38-2	Arsenic	3.2		J	F
7440-39-3	Barium	31.5	B		P
7440-41-7	Beryllium	0.31	B		P
7440-43-9	Cadmium	1.2	B		P
7440-70-2	Calcium	1330		* J	P
7440-47-3	Chromium	13.9		J	P
7440-48-4	Cobalt	5.6	B		P
7440-50-8	Copper	68.8		J	P
7439-89-6	Iron	30900		J	P
7439-92-1	Lead	199		* J	P
7439-95-4	Magnesium	471	B	* J	P
7439-96-5	Manganese	107			P
7439-97-6	Mercury	1.0		*	CV
7440-02-0	Nickel	16.6			P
7440-09-7	Potassium	168	B		P
7482-49-2	Selenium	0.51	U	W	F
7440-22-4	Silver	0.98	U		P
7440-23-5	Sodium	430	U		P
7440-28-0	Thallium	0.51	U		F
7440-62-2	Vanadium	8.9	B		P
7440-66-6	Zinc	467		EN J	P
	Cyanide	2.1		N J	AS

9 & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSIS DATA SHEET

0000018
EPA SAMPLE NO.

MBZ517

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 74.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1560			P
7440-36-0	Antimony	6.7	U	N J	P
7440-38-2	Arsenic	1.6	B	J	F
7440-39-3	Barium	42.3	B		P
7440-41-7	Beryllium	0.13	U		P
7440-43-9	Cadmium	0.97	U		P
7440-70-2	Calcium	531	B	* J	P
7440-47-3	Chromium	3.2			P
7440-48-4	Cobalt	1.1	U		P
7440-50-8	Copper	10.6			P
7439-89-6	Iron	3560			P
7439-92-1	Lead	40.2		*	P
7439-95-4	Magnesium	264	B	* J	P
7439-96-5	Manganese	32.0			P
7439-97-6	Mercury	~~0.1~~		~~*~~	CV
7440-02-0	Nickel	3.2	B		P
7440-09-7	Potassium	146	B		P
7482-49-2	Selenium	0.54	U		F
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	459	U		P
7440-28-0	Thallium	0.54	U	W	F
7440-62-2	Vanadium	4.7	B		P
7440-66-6	Zinc	~~30.8~~		~~EN~~	P
	Cyanide	0.67	U	N	AS

9 8 B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

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U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ518

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 73.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2350			P
7440-36-0	Antimony	6.8	U	N J	P
7440-38-2	Arsenic	3.2		J	F
7440-39-3	Barium	34.7	B		P
7440-41-7	Beryllium	0.14	U		P
7440-43-9	Cadmium	0.99	U		P
7440-70-2	Calcium	1220	B	* J	P
7440-47-3	Chromium	5.6			P
7440-48-4	Cobalt	1.2	B		P
7440-50-8	Copper	10.4			P
7439-89-6	Iron	4080			P
7439-92-1	Lead	22.3		J	F
7439-95-4	Magnesium	478	B	* J	P
7439-96-5	Manganese	25.4			P
7439-97-6	Mercury	0.6		*	CV
7440-02-0	Nickel	3.8	B		P
7440-09-7	Potassium	228	B		P
7482-49-2	Selenium	0.55	U		F
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	466	U		P
7440-28-0	Thallium	0.55	U	W	F
7440-62-2	Vanadium	10.1	B		P
7440-66-6	Zinc	29.7		EN	P
	Cyanide	0.68	U	N	AS

JSB 8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ519

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 74.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2760			P
7440-36-0	Antimony	6.7	U	N J	P
7440-38-2	Arsenic	2.6	B	J	F
7440-39-3	Barium	31.8	B		P
7440-41-7	Beryllium	0.13	U		P
7440-43-9	Cadmium	0.97	U		P
7440-70-2	Calcium	472	B	* J	P
7440-47-3	Chromium	3.4			P
7440-48-4	Cobalt	1.9	B		P
7440-50-8	Copper	15.0			P
7439-89-6	Iron	6990			P
7439-92-1	Lead	45.8		*	P
7439-95-4	Magnesium	340	B	* J	P
7439-96-5	Manganese	20.8			P
7439-97-6	Mercury	0.7		*	CV
7440-02-0	Nickel	4.2	B		P
7440-09-7	Potassium	180	B		P
7482-49-2	Selenium	0.54	U		F
7440-22-4	Silver	15.9			P
7440-23-5	Sodium	459	U		P
7440-28-0	Thallium	0.54	U	W	F
7440-62-2	Vanadium	4.4	B		P
7440-66-6	Zinc	60.4		EN J	P
	Cyanide	0.67	U	N	AS

9/8B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

0000021

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ520

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ501

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 82.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2020			P
7440-36-0	Antimony	6.0	U	N J	P
7440-38-2	Arsenic	7.6			F
7440-39-3	Barium	48.4			P
7440-41-7	Beryllium	0.19	B		P
7440-43-9	Cadmium	0.87	U		P
7440-70-2	Calcium	1790		* J	P
7440-47-3	Chromium	3.8			P
7440-48-4	Cobalt	2.2	B		P
7440-50-8	Copper	21.7		J	P
7439-89-6	Iron	8270			P
7439-92-1	Lead	69.1		*J	P
7439-95-4	Magnesium	278	B	* J	P
7439-96-5	Manganese	52.2			P
7439-97-6	Mercury	0.1	U	* J	CV
7440-02-0	Nickel	5.8	B		P
7440-09-7	Potassium	190	B		P
7482-49-2	Selenium	0.48	U		F
7440-22-4	Silver	0.94	U		P
7440-23-5	Sodium	412	U		P
7440-28-0	Thallium	0.48	U	W	F
7440-62-2	Vanadium	6.6	B		P
7440-66-6	Zinc	41.1		EN J	P
	Cyanide	0.60	U	N	AS

S&B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MBZ521

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 79.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Note: Sb & Se Are estimated as NOT rejected

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4060			P
7440-36-0	Antimony	~~6.2~~	U	N J	P
7440-38-2	Arsenic	3.5		J	F
7440-39-3	Barium	121			P
7440-41-7	Beryllium	0.20	B		P
7440-43-9	Cadmium	0.91	U		P
7440-70-2	Calcium	1630			P
7440-47-3	Chromium	9.3			P
7440-48-4	Cobalt	2.5	B		P
7440-50-8	Copper	105			P
7439-89-6	Iron	9800		*	P
7439-92-1	Lead	443			P
7439-95-4	Magnesium	748	B		P
7439-96-5	Manganese	72.6			P
7439-97-6	Mercury	~~0.4~~			CV
7440-02-0	Nickel	5.9	B		P
7440-09-7	Potassium	233	B		P
7482-49-2	Selenium	~~0.71~~	~~B~~	WN J	F
7440-22-4	Silver	3.9		J	P
7440-23-5	Sodium	429	U		P
7440-28-0	Thallium	0.50	U		F
7440-62-2	Vanadium	10.9	B		P
7440-66-6	Zinc	294		N J	P
	Cyanide	0.63	U		AS

9 & B 8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

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EPA SAMPLE NO.

MBZ522

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 83.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Note: Sb & Se AT estimated AS "J" NOT rejected

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3040			P
7440-36-0	Antimony	~~5.9~~	U	N J	P
7440-38-2	Arsenic	1.9	B	J	F
7440-39-3	Barium	82.1			P
7440-41-7	Beryllium	0.15	B		P
7440-43-9	Cadmium	0.86	U		P
7440-70-2	Calcium	1130	B		P
7440-47-3	Chromium	5.7		J	P
7440-48-4	Cobalt	1.7	B		P
7440-50-8	Copper	19.0			P
7439-89-6	Iron	5610		*	P
7439-92-1	Lead	200			P
7439-95-4	Magnesium	517	B		P
7439-96-5	Manganese	64.0			P
7439-97-6	Mercury	~~0.7~~			CV
7440-02-0	Nickel	4.1	B		P
7440-09-7	Potassium	218	B		P
7482-49-2	Selenium	~~0.48~~	U	N J	F
7440-22-4	Silver	0.93	U		P
7440-23-5	Sodium	407	U		P
7440-28-0	Thallium	0.48	U		F
7440-62-2	Vanadium	6.7	B		P
7440-66-6	Zinc	161		N J	P
	Cyanide	0.60	U		AS

9/8B 8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

00004

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MBZ523

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 73.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3930			P
7440-36-0	Antimony	6.7	U	N J	P
7440-38-2	Arsenic	2.7		J	F
7440-39-3	Barium	131			P
7440-41-7	Beryllium	0.28	B		P
7440-43-9	Cadmium	0.97	U		P
7440-70-2	Calcium	1350	B		P
7440-47-3	Chromium	7.2		J	P
7440-48-4	Cobalt	4.3	B		P
7440-50-8	Copper	52.6			P
7439-89-6	Iron	6840		*	P
7439-92-1	Lead	212			P
7439-95-4	Magnesium	818	B		P
7439-96-5	Manganese	100			P
7439-97-6	Mercury	~~0.4~~			CV
7440-02-0	Nickel	7.4	B		P
7440-09-7	Potassium	541	B		P
7482-49-2	Selenium	0.54	U	N J	F
7440-22-4	Silver	5.7		J	P
7440-23-5	Sodium	461	U		P
7440-28-0	Thallium	0.54	U		F
7440-62-2	Vanadium	9.8	B		P
7440-66-6	Zinc	159		N J	P
	Cyanide	0.68	U		AS

2 & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ524

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 85.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2540			P
7440-36-0	Antimony	5.8	U	N J	P
7440-38-2	Arsenic	4.4		J	F
7440-39-3	Barium	30.7	B		P
7440-41-7	Beryllium	0.19	B		P
7440-43-9	Cadmium	0.84	U		P
7440-70-2	Calcium	15800			P
7440-47-3	Chromium	5.2		J	P
7440-48-4	Cobalt	1.9	B		P
7440-50-8	Copper	17.0			P
7439-89-6	Iron	5420		*	P
7439-92-1	Lead	69.8			P
7439-95-4	Magnesium	6510			P
7439-96-5	Manganese	54.7			P
7439-97-6	Mercury	~~0.1~~			CV
7440-02-0	Nickel	3.8	B		P
7440-09-7	Potassium	217	B		P
7482-49-2	Selenium	0.47	U	WN J	F
7440-22-4	Silver	0.91	U		P
7440-23-5	Sodium	398	U		P
7440-28-0	Thallium	0.47	U		F
7440-62-2	Vanadium	8.9	B		P
7440-66-6	Zinc	40.9		N J	P
	Cyanide	0.58	U		AS

J & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ525

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 74.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1960			P
7440-36-0	Antimony	6.6	U	N J	P
7440-38-2	Arsenic	2.4	B	J	F
7440-39-3	Barium	24.1	B		P
7440-41-7	Beryllium	0.16	B		P
7440-43-9	Cadmium	0.97	U		P
7440-70-2	Calcium	831	B		P
7440-47-3	Chromium	3.8		J	P
7440-48-4	Cobalt	1.4	B		P
7440-50-8	Copper	13.0			P
7439-89-6	Iron	3380		*	P
7439-92-1	Lead	27.5		S	F
7439-95-4	Magnesium	388	B		P
7439-96-5	Manganese	33.7			P
7439-97-6	Mercury	0.1	U		CV
7440-02-0	Nickel	3.3	B		P
7440-09-7	Potassium	160	B		P
7482-49-2	Selenium	0.54	U	N J	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	457	U		P
7440-28-0	Thallium	0.54	U		F
7440-62-2	Vanadium	8.1	B		P
7440-66-6	Zinc	22.7		N J	P
	Cyanide	0.67	U		AS

J & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ526

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 72.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1700			P
7440-36-0	Antimony	6.8	U	N J	P
7440-38-2	Arsenic	2.2	B	J	F
7440-39-3	Barium	29.5	B		P
7440-41-7	Beryllium	0.28	B		P
7440-43-9	Cadmium	0.99	U		P
7440-70-2	Calcium	5510			P
7440-47-3	Chromium	5.3		J	P
7440-48-4	Cobalt	2.0	B		P
7440-50-8	Copper	14.4			P
7439-89-6	Iron	4650		*	P
7439-92-1	Lead	43.2			P
7439-95-4	Magnesium	1010	B		P
7439-96-5	Manganese	44.4			P
7439-97-6	Mercury	~~0.4~~			CV
7440-02-0	Nickel	5.6	B		P
7440-09-7	Potassium	126	B		P
7482-49-2	Selenium	0.55	U	WN J	F
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	470	U		P
7440-28-0	Thallium	0.55	U		F
7440-62-2	Vanadium	14.7			P
7440-66-6	Zinc	43.0		N J	P
	Cyanide	0.69	U		AS

J & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ527

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/29/89

% Solids: 59.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3450			P
7440-36-0	Antimony	8.3	U	N J	P
7440-38-2	Arsenic	7.3			F
7440-39-3	Barium	225			P
7440-41-7	Beryllium	0.34	B		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	4700			P
7440-47-3	Chromium	9.2		J	P
7440-48-4	Cobalt	3.3	B		P
7440-50-8	Copper	65.8			P
7439-89-6	Iron	12200		*	P
7439-92-1	Lead	804			P
7439-95-4	Magnesium	727	B		P
7439-96-5	Manganese	84.8			P
7439-97-6	Mercury	~~1.4~~			CV
7440-02-0	Nickel	8.5	B		P
7440-09-7	Potassium	344	B		P
7482-49-2	Selenium	2.4		SN J	F
7440-22-4	Silver	2.8	B		P
7440-23-5	Sodium	575	U		P
7440-28-0	Thallium	0.68	U		F
7440-62-2	Vanadium	13.5	B		P
7440-66-6	Zinc	464		N J	P
	Cyanide	0.84	U		AS

J & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ557

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ549

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.7	U		P
7440-36-0	Antimony	24.7	U		P
7440-38-2	Arsenic	1.0	U	W	F
7440-39-3	Barium	2.7	U		P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	94.5	U		P
7440-47-3	Chromium	5.5	U		P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	10.1	B		P
7439-89-6	Iron	22.3	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	122	U		P
7439-96-5	Manganese	7.8	U		P
7439-97-6	Mercury	0.3	U		CV
7440-02-0	Nickel	5.8	U		P
7440-09-7	Potassium	161	U		P
7482-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.9	U		P
7440-23-5	Sodium	1700	U		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	5.5	U		P
7440-66-6	Zinc	~~12.3~~	B		P
	Cyanide	10.0	U		AS

Cr & B
7
8/30/89

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

RENFT3

U.S. EPA - CLP

00012

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

MBZ531

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 50.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2620			P
7440-36-0	Antimony	9.7	U	N J	P
7440-38-2	Arsenic	2.4	B	J	F
7440-39-3	Barium	241			P
7440-41-7	Beryllium	0.24	B		P
7440-43-9	Cadmium	1.4	U		P
7440-70-2	Calcium	3130			P
7440-47-3	Chromium	9.2		J	P
7440-48-4	Cobalt	2.2	B		P
7440-50-8	Copper	2720			P
7439-89-6	Iron	11600		*	P
7439-92-1	Lead	517			P
7439-95-4	Magnesium	475	B		P
7439-96-5	Manganese	92.2			P
7439-97-6	Mercury	~~0.6~~			CV
7440-02-0	Nickel	6.1	B		P
7440-09-7	Potassium	304	B		P
7482-49-2	Selenium	0.79	U	N J	F
7440-22-4	Silver	1.5	U		P
7440-23-5	Sodium	671	U		P
7440-28-0	Thallium	0.79	U		F
7440-62-2	Vanadium	8.9	B		P
7440-66-6	Zinc	758		N J	P
	Cyanide	3.4			AS

J & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN 7/87

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00013

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ532

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 67.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1180			P
7440-36-0	Antimony	7.3	U	N J	P
7440-38-2	Arsenic	3.2		S J	F
7440-39-3	Barium	141			P
7440-41-7	Beryllium	0.15	U		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	1640			P
7440-47-3	Chromium	4.2		J	P
7440-48-4	Cobalt	1.5	B		P
7440-50-8	Copper	1000			P
7439-89-6	Iron	6330		*	P
7439-92-1	Lead	318			P
7439-95-4	Magnesium	195	B		P
7439-96-5	Manganese	52.0			P
7439-97-6	Mercury	~~0.6~~			CV
7440-02-0	Nickel	3.7	B		P
7440-09-7	Potassium	138	B		P
7482-49-2	Selenium	0.59	U	N J	F
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	501	U		P
7440-28-0	Thallium	0.59	U		F
7440-62-2	Vanadium	4.7	B		P
7440-66-6	Zinc	399		N J	P
	Cyanide	1.2			AS

J & B

8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN 7/87

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

00014
EPA SAMPLE NO.

MBZ533

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 73.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1590			P
7440-36-0	Antimony	6.8	U	N J	P
7440-38-2	Arsenic	2.9		J	F
7440-39-3	Barium	18.3	B		P
7440-41-7	Beryllium	0.14	U		P
7440-43-9	Cadmium	0.98	U		P
7440-70-2	Calcium	832	B		P
7440-47-3	Chromium	2.3	B		P
7440-48-4	Cobalt	1.1	U		P
7440-50-8	Copper	12.9			P
7439-89-6	Iron	2990		*	P
7439-92-1	Lead	22.4			F
7439-95-4	Magnesium	275	B		P
7439-96-5	Manganese	33.3			P
7439-97-6	Mercury	~~0.9~~			CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	125	B		P
7482-49-2	Selenium	0.55	U	N J	F
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	466	U		P
7440-28-0	Thallium	0.55	U		F
7440-62-2	Vanadium	4.1	B		P
7440-66-6	Zinc	50.9		N J	P
	Cyanide	0.68	U		AS

J & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ534

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 89.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4190			P
7440-36-0	Antimony	5.5	U	N J	P
7440-38-2	Arsenic	0.54	B	W J	F
7440-39-3	Barium	41.2	B		P
7440-41-7	Beryllium	0.13	B		P
7440-43-9	Cadmium	0.80	U		P
7440-70-2	Calcium	753	B		P
7440-47-3	Chromium	4.9		J	P
7440-48-4	Cobalt	2.0	B		P
7440-50-8	Copper	14.4			P
7439-89-6	Iron	7220		*	P
7439-92-1	Lead	48.9			P
7439-95-4	Magnesium	948	B		P
7439-96-5	Manganese	59.8			P
7439-97-6	Mercury	~~0.1~~			CV
7440-02-0	Nickel	5.1	B		P
7440-09-7	Potassium	231	B		P
7482-49-2	Selenium	0.45	U	N J	F
7440-22-4	Silver	0.87	U		P
7440-23-5	Sodium	380	U		P
7440-28-0	Thallium	0.45	U		F
7440-62-2	Vanadium	7.1	B		P
7440-66-6	Zinc	101		N J	P
	Cyanide	0.56	U		AS

298
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

00016

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ535

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 75.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3480			P
7440-36-0	Antimony	6.6	U	N J	P
7440-38-2	Arsenic	5.9		S J	F
7440-39-3	Barium	157			P
7440-41-7	Beryllium	0.16	B		P
7440-43-9	Cadmium	0.96	U		P
7440-70-2	Calcium	1490			P
7440-47-3	Chromium	9.5			P
7440-48-4	Cobalt	2.4	B		P
7440-50-8	Copper	33.2			P
7439-89-6	Iron	7750		*	P
7439-92-1	Lead	129			P
7439-95-4	Magnesium	823	B		P
7439-96-5	Manganese	84.9			P
7439-97-6	Mercury	~~0.2~~			CV
7440-02-0	Nickel	6.5	B		P
7440-09-7	Potassium	263	B		P
7482-49-2	Selenium	0.53	U	N J	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	454	U		P
7440-28-0	Thallium	0.53	U		F
7440-62-2	Vanadium	8.5	B		P
7440-66-6	Zinc	311		N J	P
	Cyanide	0.67	U		AS

DSB
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN 7/87

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INORGANIC ANALYSIS DATA SHEET

00017

EPA SAMPLE NO.

MBZ536

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 56.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2800			P
7440-36-0	Antimony	8.7	U	N J	P
7440-38-2	Arsenic	2.5	B	W J	F
7440-39-3	Barium	99.1			P
7440-41-7	Beryllium	0.22	B		P
7440-43-9	Cadmium	1.3	U		P
7440-70-2	Calcium	2900			P
7440-47-3	Chromium	7.5		J	P
7440-48-4	Cobalt	1.8	B		P
7440-50-8	Copper	31.6			P
7439-89-6	Iron	9550		*	P
7439-92-1	Lead	290			P
7439-95-4	Magnesium	642	B		P
7439-96-5	Manganese	78.8			P
7439-97-6	Mercury	~~0.4~~			CV
7440-02-0	Nickel	5.3	B		P
7440-09-7	Potassium	216	B		P
7482-49-2	Selenium	0.71	U	WN J	F
7440-22-4	Silver	1.4	U		P
7440-23-5	Sodium	600	U		P
7440-28-0	Thallium	0.71	U		F
7440-62-2	Vanadium	8.5	B		P
7440-66-6	Zinc	234		N J	P
	Cyanide	0.88	U		AS

D & B 8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN 7/87

U.S. EPA - CLP

00018

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ537

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 75.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2180			P
7440-36-0	Antimony	6.6	U	NJ	P
7440-38-2	Arsenic	2.5	B	J	F
7440-39-3	Barium	40.8	B		P
7440-41-7	Beryllium	0.16	B		P
7440-43-9	Cadmium	0.96	U		P
7440-70-2	Calcium	833	B		P
7440-47-3	Chromium	5.2		J	P
7440-48-4	Cobalt	1.8	B		P
7440-50-8	Copper	188			P
7439-89-6	Iron	19200		*	P
7439-92-1	Lead	1870			P
7439-95-4	Magnesium	433	B		P
7439-96-5	Manganese	108			P
7439-97-6	Mercury	~~0.9~~			CV
7440-02-0	Nickel	5.4	B		P
7440-09-7	Potassium	217	B		P
7482-49-2	Selenium	0.53	U	NJ	F
7440-22-4	Silver	1.9	B		P
7440-23-5	Sodium	454	U		P
7440-28-0	Thallium	0.53	U		F
7440-62-2	Vanadium	7.0	B		P
7440-66-6	Zinc	231		NJ	P
	Cyanide	0.67	U		AS

DJB
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN 7/87

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00019

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

MBZ538

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 78.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2550			P
7440-36-0	Antimony	6.3	U	N J	P
7440-38-2	Arsenic	4.0		J	F
7440-39-3	Barium	17.3	B		P
7440-41-7	Beryllium	0.16	B		P
7440-43-9	Cadmium	0.92	U		P
7440-70-2	Calcium	559	B		P
7440-47-3	Chromium	4.3		J	P
7440-48-4	Cobalt	1.0	U		P
7440-50-8	Copper	18.4			P
7439-89-6	Iron	3360		*	P
7439-92-1	Lead	21.7			F
7439-95-4	Magnesium	349	B		P
7439-96-5	Manganese	42.9			P
7439-97-6	Mercury	~~0.1~~			CV
7440-02-0	Nickel	1.5	U		P
7440-09-7	Potassium	173	B		P
7482-49-2	Selenium	0.51	U	N J	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	435	U		P
7440-28-0	Thallium	0.51	U		F
7440-62-2	Vanadium	4.4	B		P
7440-66-6	Zinc	22.9		N J	P
	Cyanide	0.64	U		AS

D 8B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

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00020

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MBZ539

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 82.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2540			P
7440-36-0	Antimony	6.0	U	N J	P
7440-38-2	Arsenic	3.4		S J	F
7440-39-3	Barium	116			P
7440-41-7	Beryllium	0.15	B		P
7440-43-9	Cadmium	0.87	U		P
7440-70-2	Calcium	1110	B		P
7440-47-3	Chromium	6.3		J	P
7440-48-4	Cobalt	2.3	B		P
7440-50-8	Copper	17.3			P
7439-89-6	Iron	7380		*	P
7439-92-1	Lead	163			P
7439-95-4	Magnesium	540	B		P
7439-96-5	Manganese	87.2			P
7439-97-6	Mercury	~~0.2~~			CV
7440-02-0	Nickel	4.5	B		P
7440-09-7	Potassium	280	B		P
7482-49-2	Selenium	0.48	U	N J	F
7440-22-4	Silver	0.95	U		P
7440-23-5	Sodium	413	U		P
7440-28-0	Thallium	0.48	U		F
7440-62-2	Vanadium	8.3	B		P
7440-66-6	Zinc	85.7		N J	P
	Cyanide	1.3			AS

2 of 8B

8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN 7/87

U.S. EPA - CLP

00021

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ540

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ521

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 52.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5670			P
7440-36-0	Antimony	9.4	U	N J	P
7440-38-2	Arsenic	7.1		J	F
7440-39-3	Barium	307			P
7440-41-7	Beryllium	0.39	B		P
7440-43-9	Cadmium	24.9		J	P
7440-70-2	Calcium	4920			P
7440-47-3	Chromium	18.8			P
7440-48-4	Cobalt	3.5	B		P
7440-50-8	Copper	119			P
7439-89-6	Iron	29600		*	P
7439-92-1	Lead	1540			P
7439-95-4	Magnesium	1550	B		P
7439-96-5	Manganese	1200			P
7439-97-6	Mercury	~~9.7~~			CV
7440-02-0	Nickel	11.6	B		P
7440-09-7	Potassium	512	B		P
7482-49-2	Selenium	2.9		SN J	F
7440-22-4	Silver	6.1		J	P
7440-23-5	Sodium	651	U		P
7440-28-0	Thallium	0.76	U		F
7440-62-2	Vanadium	18.3	B		P
7440-66-6	Zinc	4020		N J	P
	Cyanide	0.96	U		AS

SSB
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

RECEIVED 00002

AUG 04 1989

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ541

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ541

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 53.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6730			P
7440-36-0	Antimony	9.2	U	N J	P
7440-38-2	Arsenic	12.6		J	F
7440-39-3	Barium	303			P
7440-41-7	Beryllium	0.37	B		P
7440-43-9	Cadmium	19.2			P
7440-70-2	Calcium	4070			P
7440-47-3	Chromium	17.8			P
7440-48-4	Cobalt	5.0	B		P
7440-50-8	Copper	253			P
7439-89-6	Iron	27200		*	P
7439-92-1	Lead	1000			P
7439-95-4	Magnesium	1490	B		P
7439-96-5	Manganese	1610		*	P
7439-97-6	Mercury	0.7			CV
7440-02-0	Nickel	18.6			P
7440-09-7	Potassium	579	B		P
7482-49-2	Selenium	3.0		SN J	F
7440-22-4	Silver	7.1		J	P
7440-23-5	Sodium	633	U		P
7440-28-0	Thallium	0.74	U		F
7440-62-2	Vanadium	24.4			P
7440-66-6	Zinc	3560			P
	Cyanide	0.93	U	N J	AS

J & B
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

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U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBZ542

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12241 SAS No.: _____ SDG No.: MBZ541

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/30/89

% Solids: 64.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2810			P
7440-36-0	Antimony	7.7	U	N J	P
7440-38-2	Arsenic	7.5		J	F
7440-39-3	Barium	160			P
7440-41-7	Beryllium	0.32	B		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	2120			P
7440-47-3	Chromium	4.1		J	P
7440-48-4	Cobalt	2.6	B		P
7440-50-8	Copper	29.0			P
7439-89-6	Iron	12900		*	P
7439-92-1	Lead	188			P
7439-95-4	Magnesium	305	B		P
7439-96-5	Manganese	71.9		*	P
7439-97-6	Mercury	0.6			CV
7440-02-0	Nickel	5.2	B		P
7440-09-7	Potassium	280	B		P
7482-49-2	Selenium	1.5	B	N J	F
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	529	U		P
7440-28-0	Thallium	0.62	U		F
7440-62-2	Vanadium	9.1	B		P
7440-66-6	Zinc	253			P
	Cyanide	0.78	U	N J	AS

GSB
8/30/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN 7/87

02-8907-29-LI
REV. NO. 0

FINAL DRAFT LISTING SITE INSPECTION REPORT
SAG HARBOR - BRIDGE STREET
SAG HARBOR, NEW YORK
VOLUME IV

PREPARED UNDER
TECHNICAL DIRECTIVE DOCUMENT NO. 02-8907-29
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

DECEMBER 22, 1989

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:

JOSEPH MAYO
PROJECT MANAGER

REVIEWED/APPROVED BY:

RONALD M. NAMAN
FIT OFFICE MANAGER

REFERENCE NO. 43

0023F
02-890605

NUS CORPORATION

II

0439

Table of Contents

Page(s)	Description
2 to 6	Surveyed Grid Sampling Locations
7 to 14	~~A~~ Grid Sampling on LILCO property on 6/27/89
16 to 23	Grid Sampling on Long Island Fisherman, Greenberg, and Casman properties and judgemental sampling on Casman property.
24 to 25	Water Sampling
29 to 34	Soil descriptions for samples collected on 6/27 and 6/28, ~~and 6/29~~ Jm, 1989.
35 to 40	Photolog

L Lodge 7-5-89

J Mayo 7/3/89

Sag Harbor 6/26/89 02-8906-05

0700 Leave office for Sag Harbor site.

1100 arrive at LILCO - meet with Rick Schmitz of LILCO. Told him we would be marking sample locations today and would sample tomorrow. Start setting up equipment.

1121 Still setting up.

1130 Go to mark 1st sample location. Sample location is near LIF (Long Island Fisherman) 5' 10" 245° from the SW corner of the LIF property. No reading above background on OVA or HNu

OVA E - 307135, HNu B 307138
Mine alert - 428588

2nd sample location 60 ft ~~342°~~ 360° from location No. 1 Jm 6/26

1145 3rd sample location 60 ft ~~340°~~ 360° from location NO. 2 Jm 6/26

1 4th sample location 60 ft ~~342°~~ 360° from location NO. 3. Jm 6/26

4th sample location does not appear to be in line with the other locations - Steel sphere may be distorting compass readings. We will use transit from location No. 2

J Mayo 6/26/89

L Lodge 7-5-89

Sag Harbor 02-8906-05 6/26/89

1200 Steve Greenberg →

Stopped by to tell me he was putting footings in ~~in~~ his back yard and he excavated down to four feet. He said he found some black petroleum smelling material at that depth. He said he it was near the SE corner of the LIF property.

1215 Mr. O'donnell came by he asked if we were from the EPA I told him we were contractors. He asked if we were going to collect samples on his property. I said yes. He said ~~it~~ his property had a problem with leachate from his septic system leaking out onto his property because of the low water table. He asked if we were going to do anything. I told him to call Jeff Gaal EPA and ~~told~~ gave him his Number.

1225 Surveying sample locations down LILCOs northern fence line.

L Lobry 25-59 J Mapp 6/26/89

Sag Harbor 02-8906-05 6/26/89

1252 - Surveying sample locations No. 10 on LILCO property & from location No. 4.

1300 - Surveying sample locations Nos. 11, 12 & 13 surf from location No. 10

1310 Break for a drink.

1330 Surveying sample locations Nos. 14 thru 17.
sample location 17 is only 58 feet from No. 16. These locations were surveyed from location No 3.

1350 Move to LIF Property
~~Surf~~ Surveying location 18, 19, & 20.

1400 Move to LIF property near Greenberg property time to survey locations 21, 22, 23.

Could not stake sample 23 as building was in the way. We will locate No. 23 from another transect.

L. Lotoya 7-5-89 J. Mayo 6/26/89

Sag Harbor 02-8906-05 6/26/89

1415 Move to Greenberg Property.
and mark sample location No. 24
1430 ~~Mo~~ Move to Casman's property
and mark sample location No. 28
Will procede to mark locations
28, 29, 30, and 31 on the
Casmans and LIF property.

Mark sample locations 28,
29, and 30. Sample location
30 is 55 feet from sample location
29 because of an obstruction near
the Casman property border.

Mark sample location No. 25 on
Greenberg property from sample
No. 29 on Casmans Property

1500 Mark sample locations No. 20 ~~and~~ &
and 23 on ~~op~~ back of LIF 6/26
property.

1530 Mark sample No. 23 from sample
No. 20 location

1550 Packing up equipment and doing
personnel decon.

1630 Leave site

J Mayo 6/26/89
L Latorre 7-5-89

Log book 02-8906-05 4/26/89

Note: Sample location No. 31 could not be marked as it was located in thick brush and there was standing water in the area. We will not be able to collect a sample at location No. 31.

Location No. 27 was ~~marked~~ marked at a later date and is found in a logbook No. 0440.

~~The location of all sample~~ On 4/26 all sample locations are located on 40 ft square grids with the following exceptions:

1. The distance between locations 4 & 5, 6 and 10, 7 and 11, 8 and 12, and 9 and 13 is 56 ft.
2. The distance between locations 16 and 17 is 58 ft.
3. The ~~the~~ distance between locations 29 and 30 is 55 feet.

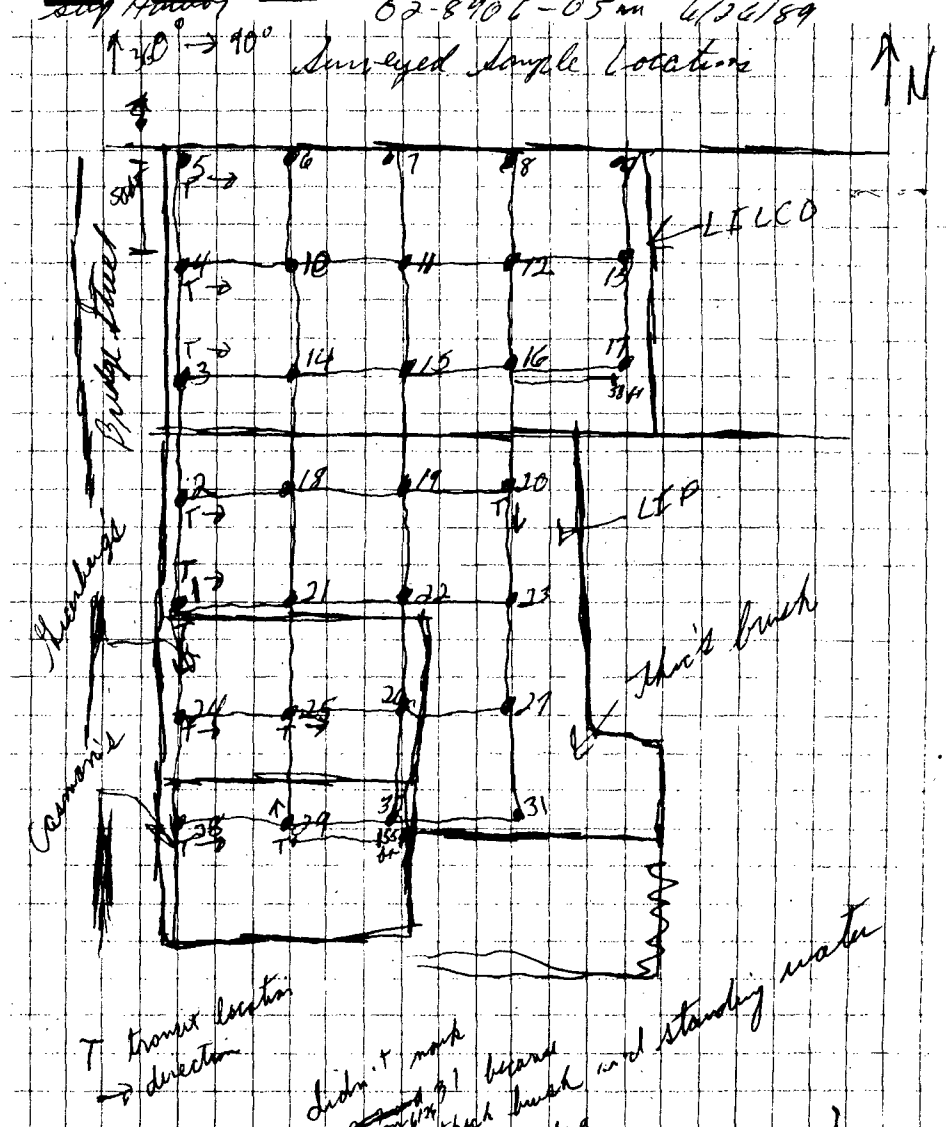
With the exception of location No. 1 On 4/26 all locations were ~~not~~ ~~no~~ determined using a transit to determine the direction and a measuring tape to determine the distance.

L L Lay 7-5-89

J Mapp 4/26/89

Log book 02-8906-05 on 4/26/89

6



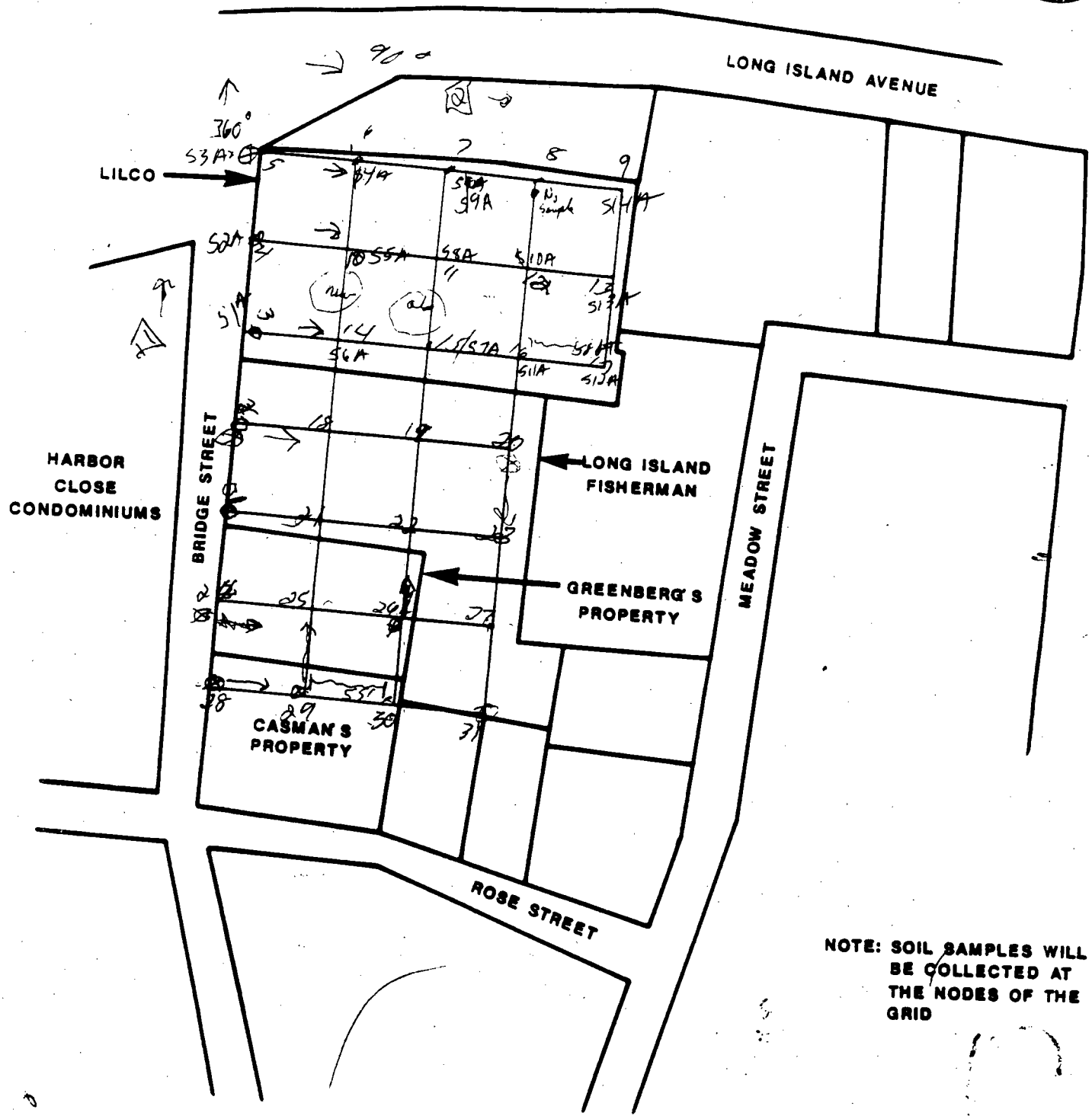


FIGURE 3-2

PROPOSED GRID SAMPLE LOCATION MAP

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

APPROXIMATE SCALE: 1"=100'
50' GRID

NUS CORPORATION

6/27/89 Sag Harbor 02-89 06-05

0700 Meet for breakfast and obtain ice and water. Weather - warm, clear 85°F No wind.

0800 Start unpacking and start decontamination of sampling equipment. Site safety meeting by Debbie Cohen.

0830 Still decontaminating equipment.

0840 Still decontaminating equipment.

0900 Still decontaminating equipment

0925 Still decontaminating equipment
OVA K - 464782, HNU B-307138
Mini-Alert - 428588

0945 Ed Gifford from the Sag Harbor Express is taking pictures.

1000 Done with decontamination. taking a drink break

1025 Prepare to sample

1030 Start to sample SIA
Auger 6 in. - 100 PPM in hole on OVA, 0 PPM on HNU
nothing in breathing zone J. Mayo 6/27/89 L. Lotorge 7-5-89

Sag Harbor 02-8906-05 6/27/89

Difficulty augering into S1A location
Try another hole nearby.

Only able to auger to ~~1 ft~~ 6/27
8 in. ~~1 ft~~ in depth because of resistance.
Hole is filling in water.
Split all samples with LILCO.

S1A taken from 3 holes adjacent to
each other - this is to obtain
enough sample volume.
S1A MS/MSD. Location No. 3
Locations are given on ~~previous~~ page 6.

1050 Finished collecting sample S1A.
Move to S2A
G. Pollack auges sample S2A at
location 4
>1000PPM on OVA in hole
0PPM on the HNU
No readings in the breathing zone.
Soil is wet - past gravel area
Soil is also black and has a sheen
Water at 1 ft 3 in.
Sample collected from 1 to 2 feet
Collect VOAs first

1110 Begin sampling S3A.
Auger to 18" collect from
1 ft to 20" 6/27 no water in
hole no reading above
background on OVA or HNU.
Sample is from location No. 5

J. Mayo 6/27/89
L. [illegible] 7-5-89

Sgt Harder 02-8906-05 6/27/89

1120 finish collecting sample 53A
return to command post for
bottles, ~~and~~ drinks, and decon.

1132 Return to site to collect
sample 54A.
~~at 15~~ Auger hole from 0 to 2 ft.
Sample from ~~0 to~~ 1 to 2 feet.
~~0 to 1 ft~~ JM 6/27 No reading on OVA or HNu.
~~1 to 15"~~ JM 6/27 Background on Mini Alert
is 16 CPM. Sample is from location
No. 6.

1158 Begin collecting sample 55A at
a location No. 10. G. Pollack
augers.
300 to 500 PPM on OVA
Water at 8"
No readings above backgrnd on HNu
Resistance to auger (8") try another hole
~~no~~ adjacent.
Auger is penetrating in 2nd hole.
Bits of wood and bottom ash in
hole.
5-10 ppm on HNu in hole
Water at 15"
JM 6/27 ~~non~~ No reading ~~in~~ above
background in breathing zone.
Sample depth ~~0 to~~ 1 to 2 ft.

Phil Solinski JM 6/27 ~~arrive~~ arrives to
replace Tom Varner at SMD.

J. Mayo 6/27/89
L. LeVoy 7-5-89

02-8906-05

Sag Harbor 6/27/89

1207 Begin collecting sample $6A
from location ~~No. 6~~ JM 6/27 No. 14
Water at 6"
OVA battery is dead. We
will use the HNu
Sheen on water in sample
hole and sheen on soil
1215 G. Pollack collects sample
$6A, It is very Hot 90-95°F, sunny
we take frequent breaks for fluids.
Depth is 12 to 24 inches
1225 Begin collecting sample $7A
from location No. 15.
Water at JM 6/27 ~~10~~ 8"
No readings above background on
HNu
Resistance at 14"
Sample from 10" to 14" hole
is ~~caving~~ JM caving.
T. Varner departs for Office

1240 Go to decon samples, equipment, and
personnell.

1300 Still Deconning - Temp. up to about 90°F

1330 Still decontaminating equipment.

J. Mayo 6/27/89
L. LaFoy 7-5-89

1345 At sample location No. 8-11 JM 6/27/89
Collect sample SSA. 3 feet
from stake. (east)
Resistance at 8" in 2 test
auger holes at this location
Sample depth ~~foot~~ from 0 to 8"

1400 Move to sample ~~location~~ SSA JM 6/27
at location No. 7.
No readings on ~~OVA~~ JM 6/27 HNu (above background)
Sample depth 12 to 24 inches.

1413 Move to sample location ~~SSA-5~~ JM 6/27 No. 8.
There is an old foundation in
this area. We will not
be able to collect a sample (SIOA)
here. Move to next location.

1435 Move to collect sample SIOA.
at location No. 12.
~~Sample location~~ JM 6/27
Sample depth is 0 to 6".
No readings above background on HNu

1450 Prepare to collect sample SIIA.
Greg is augering.
Sample depth 0 to 12".
L. Walker collects sample.
SIIA is at location No. 16

J. Mayo
6/27/89
2 today 7-5-89

1455 S. Walker places samples in jars. Water table at 10" Sheen on the water surface. No readings above background on the HNu.

1530 Move to sample S12A
S. Walker will auger.
Water at about ~~10"~~ 8"
Sample depth 1 to 2 feet
at location ~~#~~ Jm 17
Greg Pallack collects sample

1525 Move ~~to sample~~ Jm 6/27 collect sample S13A 4' of trap rock above the sample location.
Refusal at 8' below surface.
Sample is at location No. 13
Sample depth is 0 to 8 inches.

1535 return to command post.

1545 ~~Arrive~~ Prepare to collect sample S14A. S. Walker augers.
Sample at location No. 9
0 to 12 inches. 4 inches of trap rock on surface.
Team showing signs of heat stress we will stop.

1600 Return to command post for equipment and personnel decon and sample packaging.

J Mayo 6/27/89 J L Fay 7-5-89

Sag Harbor 07-8406-05 6/27/89

1630 Still deconning and Packing samples.

1715 Finished Packing equipment and samples. Debbie and Phil go to Fed X.

1740 Leave site for Hotel

1900 Debbie and Phil return from Fed-X.

L L Fay 7-5-89 J Moor 6/27/89

Sag Harbor 02-8906-05 6/28/89

0630 Arrive on site. Start unpacking and setting up decon.

0700 Doing decon and unpacking

0730 Debbie Cohen ~~does~~ ~~gives~~ conducts ~~with~~ tailgate safety meeting JM 6/28 JM 6/28

0800 Still decontaminating equipment.

0820 Samplers ~~dear~~ putting on protective gear. Fire up OVA and HNu. ~~Pt Cohen conducts~~ JM 6/28 ~~Tailgate safety meeting~~ JM

0835 OVA batteries ~~are~~ are dead on both OVAs - They won't hold a charge. Will use HNu. OVAK ~~307135~~ JM 6/28 0169782 and OVAG 307135 - Not working HNu 192120 Mini alert - 428588

0845 Arrive at sample location No. 20 to collect sample
No. $15A
G. Pollack augers
C. 15 PPM on HNu in Hole
None in breathing zone
Obstruction at 18" will try another hole
L. LaPorte 7-5-89 J. Mayo 6/28/89

Sag Harbor 02-8906-05 6/28/89

Sample depth 1 ft to 20".
Water at about 1 ft.
S. Walker collects sample.
This will be a duplicate
$15A and $16A.

0910 Move to sample location
No. 23 to collect sample
$17A.

G. Pollack Augers sample
$17A. Reading of 0 to 10 PPM
in hole. No readings in
breathing zone.

Sample depth 1 to 2 ft.

0920 Return to command post.

0930 G. Pollack augers ~~[illegible]~~ Jun 6/28 at
Jun 6/28 ~~[illegible]~~ location No. 22 for sample
$18A. Move sample location
5 ft north because of
problems augering through roots.
0 to 1 ft is all ~~[illegible]~~ roots
and organic material.
The area is very wet GW
table is at or near the surface
Sample depth 1 to 2 ft.

J. [illegible] 6/28/89

[illegible] 7-5-89

Sag Harbor 02-8906-05 6/28/89

There is a pipe exiting the building near this sample location ($18A).

0948 Finished sampling $18A. Move to next location (No. 21) to collect sample $19A. S. Walker Augers sample $19A. No readings above background on HNu in the hole or breathing zone.
Sample Depth 1 to 2 feet.
Water at 14 inches.
Greg Pollack collects sample.

0958 Weather conditions -
Warm 80-85 overcast, occasional light rain for brief periods.

1005 G. Pollack augers sample $20A at location No. 1. Sample is 6 feet North of stake ~~because of tree~~ on ~~roots~~ and 1 ft from the western wall of the LFF property
No readings above background on HNu
Sample depth ~~1 to~~ 1 ft. to 22".

1022 Return to ~~command~~ command post for decontamination of personnel and equipment.

J. Myer 6/28/89
L. LaTorre 7-5-89

Sag Harbor 02-8406-05 6/28/89

1050 ~~[illegible]~~
Arrive at sample location
No. 26 ~~$21A~~ JM 6/28 G. Pollack ~~[illegible]~~
augers sample $21A.
This sample is an MS/MSD
Sample depth is 1 to 2 ft.
No readings on ~~[illegible]~~ HNu.

1120 G. Pollack augers sample No $22A
at location No. 25 on the
Greenberg Property. This sample
is 12 feet NE of the ~~[illegible]~~ JM 6/28
sample location because of
fill in the sample area and
~~[illegible]~~ tree roots.
Sample depth is 1 to 2 feet
Water table at 2 feet.

1130 finished with sample No. $22A.

1145 G. Pollack augers sample No.
$23A at location No. 24.
No readings on HNu.
Water table at 15".
Pieces of Brick in the sample.
Sample depth 1 to 2 feet

L Lobry 7-5-89 J Mayer 6/28/89

Sag Harbor 028906-05 6/28/89

1150 Return to command Post.
Decontaminating equipment, samples, and personnel.

1225 Begin auguring sample $24A at location No. 2. S. Walker jack-hammered through the blacktop which is about 4" thick in this sample hole. ~~I~~ ~~Re~~ Refusal at 16" below the top of the soil - or 20" below the blacktop.
S. Walker collects sample $24A. No readings on HNu
Depth is 12 to 20 inches

1245 G. Pollack augers sample $25A at location No. 18.
Water table is at 1 ft.
Asphalt is about 1 to 2" thick
Sample depth is ~~[illegible]~~ to 2 feet.
first 12 to 14 inches seems to be orangy sand fill in gravel
Soil is darker below. No readings on HNu.

1300 G. Pollack collects sample $25A. No readings on HNu.

L Lotory 7-5-89

J. Mayer 6/28/89

Sag Harbor 02-89 06-05 6/28/89

21

1310 G. Pollack collects sample $26A at location No. 19. No readings above background on HNu. Sample depth is 1 to 2 feet

1315 Return to command post for decon.

1330 Begin augering at sample No. $27A at location No. 28 on the Casman property. No readings on HNu. Sample depth 1 to 2 feet. Water at 1 ft

1345 Collecting sample ~~N/FT~~ JM 6/28 $28A at location No. 29 Sample depth 1 to 2 feet Water at about 1 ft. No readings on HNu

1350 Move to location 30 to collect sample $29A. ~~On~~ JM 6/28 This sample is on the Casman property.

1355 Greg Pollack is augering sample $29A at location No readings on HNu Sample depth 1 to 2 feet. Water at 6 - 8 inches.

L LaFarge 7-5-89 J Mayer 6/28/89

02-6906-09 Sag Harbor 6/28/89

1400 S. Walker is augering sample $30A on the casman property the sample is adjacent to the vegetable garden ~~near~~ near the timbers, which surround the garden, about 6 inches N or the northern border of the garden. Depth is 12 to 24 inches No readings on the HNu
This is a judgemental sample Jeff Gaal said we ~~should~~ should consider the sample since the residents were concerned about eating the vegetables.

Raining harder.

1425 Return to command post for decontamination.
No clean (decontaminated equipment left and must call Fed. Ex. for Pick-up. End sampling

Lawn Hyp 7-5-85

1450 Packing equipment and labelling and packing samples.

J. Mayer 6/28/89

1500 Fed. Ex. truck passing by we flag it and he accepts the packages.

1515 Finished shipping samples. Begin decoming equipment. No Methanol left and ~~it hasn't~~ 6/28 the Fed x.

Sag Harbor 07-8906-05 6/28/89

package from the office hasn't arrived yet.

1530 Still decomming and packing.

1550 Leave site for Hotel

1610 Call office to trace location of the methanol they shipped. Tell C. Lo Bue ~~of~~ about the situation. He will call back.

1640 C. Lo Bue calls back. The methanol package was delayed by bad weather. He will send Steve Herrick to deliver methanol tomorrow. He asked for directions.

1700 F. Pollack calls C. Lobue with directions to the site and the Hotel.

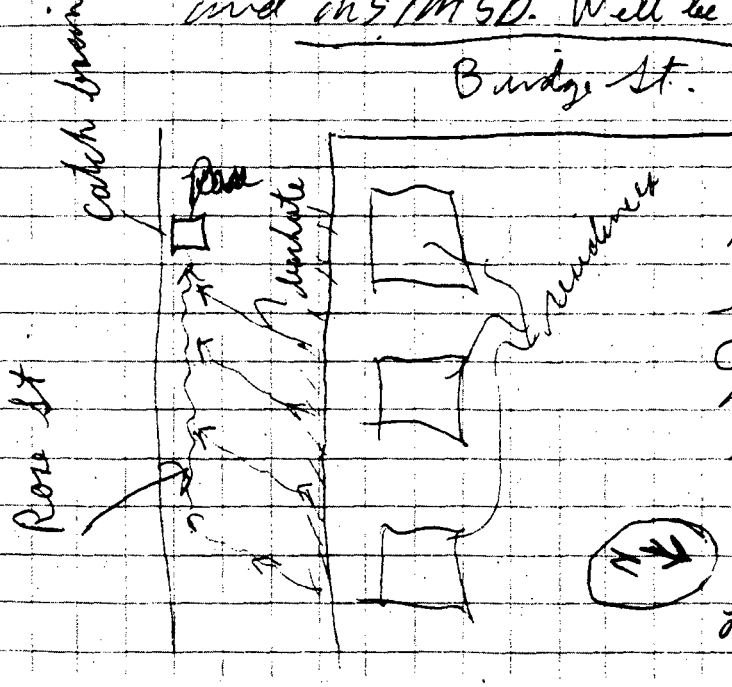
L Lobue 25/89 J. Mayo 6/28/89

6/29/89 Sag Harbor 02-8906-05

0600 Meet at hotel
0630 Alumni on site ~~[illegible]~~ pu 6DP
begin unpacking, bottle labeling,
and decontaminating

0700 Same activities as 0630

0730 Same activities as 0630
0735 Debbie Cohen fires up OVA
and HNu ~~[illegible]~~ and conducts tailgate safety
meeting. OVA 469782, HNu 192120, Mini Abut 428588
0750 Leave to collect surface
water sample SW1 from
catch basin at the intersection
of Bridge and Rose Streets.
Water is continuously ~~[illegible]~~ leaching from the properties along
Rose ~~Bridge~~ Street. The water crosses
Rose Street and empties into the
catch basin. Sample is duplicate
and MS/MSD. Will be shipped to EPA Lab.



No readings above
background on
OVA, HNu or
Mini rad.
Mini rad. 16 CPM

L Laborge 7-5-89 J. Mayo 6/29/89

Sag Harbor 02-8906-05 6/29/89

0815 Return to command post.
Prepare to collect ~~w~~ samples.
* Weather is warm, 80°F, sunny
with winds from the N-NW. 3-5 MPH

[illegible] 6/29

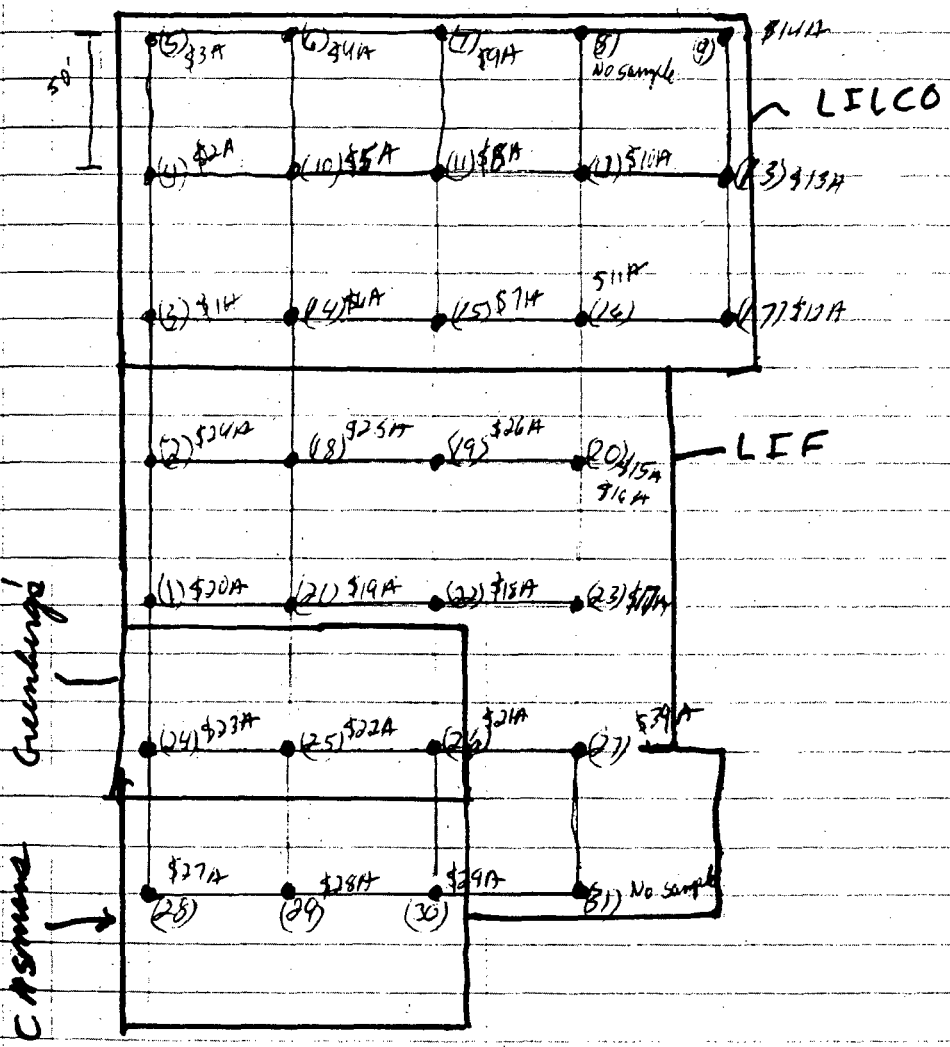
Subsequent entries are contained
in Logbook 0440 filed under
TDD No. 02-8906-05
Sag Harbor Bridge St. Site.

Note: A second ~~sa~~ water sample
was scheduled to be collected
from a catch basin near the
intersection of Bridge St. and ~~the~~
Long Island Ave. but upon
inspection it was apparent
that the basin did not
receive runoff from the
Bridge Street ~~area~~ area.
Therefore, no sample was
collected from that catch
basin.

L Lahrge
7-5-89

J Mayo 6/29/89

Summary of Soil Sample Locations



Location No. ( )
Sample No. $XXA

Sag Harbor 02-8906-05 6/28/89

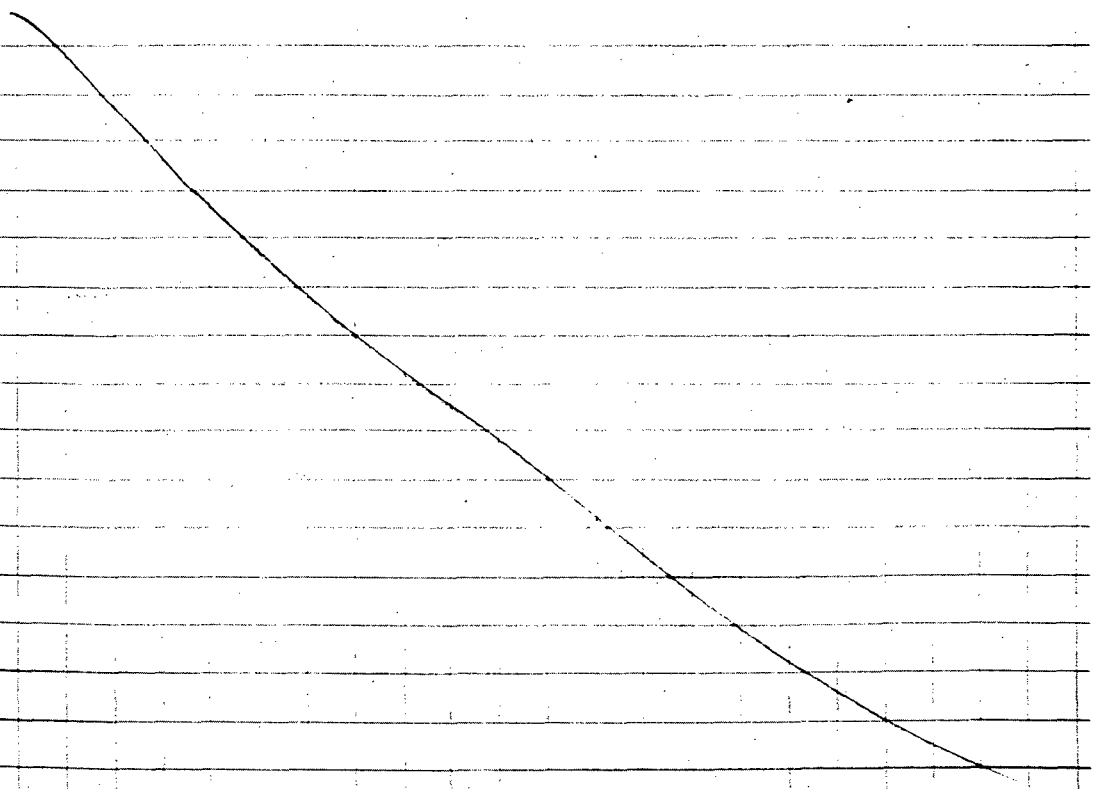
Soil Types

$27A - 10YR 2/1 Black
Fine to coarse sand, little gravel, some silt, trace shell fragments, wet + soft

$28A Same as $27A

$29A Same as $27A

$30A Same as $27A



L LaBorge 7-5-89 J. Mayer 6/28/89

62-8906-05 Sag Harbor 6/27/89

Soil Types

2.5 YR

S1A 1. Soft, 2.5/0, Med to fine sand w
1st 6" trace silt and gravel, ~~soft~~ poor moist

10YR

2nd 6" 3/3 - med to fine sand w
trace silt and gravel - some
org. material, soft, moist

S2A ~~1st~~
0 to 16 in 3/2
16 to 24 in 3/0 7.5YR oil staining
Med to coarse sand some
cobbles, trace silt, trace
organics
upper part is moist 0 to 16 in.
16 to 24 inches is wet, soft.

S3A 0 to 8" med to fine sand
little gravel color, ~~[illegible]~~ 6/2 dry, 10YR
fm 6/27

8" to 18", 10YR 3/2 med to fine
sand little gravel, moist

S4A - 0 to 1 ft same as S3A surface
10YR fm 6/07/89
1 ft to 2 ft 7/6 yellow med to
fine sand, well sorted, trace
cobbles, wet w little
coarse sand.

L Latay 7-5-89 J Mayer 6/27/89

Soil Type Sag Harbor
02-8906-05
6/27/89

55A-7.5YR Loft, color 4/0, medium to fine sand, trace silt, ash, silt, shale, and wood. Soil is oily and soft - moist.

L La Fog 7-5-89 [illegible] Mayo 6/27/89

Soil Types

Sang Harbor
02-8906-05
6/27/89

S6A - Fill ~~Saturated~~ material with ~~some~~ medium to coarse sand with some cobbles, poorly sorted, ~~wet~~ saturated. Color 3/2 5YR

S7A - 0 to 13 in same as S6A -

7.5YR ~~at~~ Bottom 1" 5/0 ~~some clay~~ trace clay, med to fine well sorted sand, soft, ~~moist~~ saturated

~~M~~S8A 5YR 2.5/1
JM 6/27
Medium to coarse sand (some coal fines) cobbles, fill, etc. Moist, soft

10YR 7/4 ~~Bro~~ Pale Brown med. sand well sorted. thin stringer at 5"

S9A Same as description above

1 to 5 in. - 5YR

5" ~~2 ft~~ JM 6/27 to 2 ft - 10YR

S10A 5YR 2.5/1 Black
Med. to coarse sand, some gravel trace silt, moist to slight odor, soft.

L LaFarge 7-5-89 J. Mayer 6/27/89

Soy Harbor 6/27/89 02-8406-05

S11A 10YR 2/1 Black
Medium to fine sand
trace silt, trace coarse sand
sand, wet and fairly well
sorted some cobbles, soft
S12A same as S11A

S13A 10YR 7/3 very pale brown
Med to fine sand, some gravel
moist, soft - could be
construction fill.

S14A 10YR 2/1 Black
Medium to fine sand
trace silt, trace coarse
sand, moist, fairly
well sorted. Some cobbles.

6/28/89

S15A 10YR 2/1 Black. Med
to coarse sand, some
gravel, trace organics,
wet, trace silt, Bits
of coal

J Lafoy 7-5-89 J Mayo 6/28/89

Soil Types

Sag Harbor
6/29/89
02-8906-05

$16A same as $15A.

$17A 10YR 3/2 V. Dark grayish brown. Same description as $15A but with no coal.

$18A ~~7.5YR 3/0~~ 6/28

0 to 1 ft. organic roots and grass mat. Black
1 to 2 ft. 7.5YR 3/0 V. Dark gray Med to coarse sand moderately sorted, soft, wet with some organics.

$19A 0 2" organic roots and grass.

0"2" to 2ft 7.5YR 2/0 Black Med Sand, Well sorted Trace coarse sand, Trace gravel + silt, Trace organics, soft-wet

$20A

7.5YR 2/0 Black
Med to coarse sand poorly sorted with some clinker coal residue, Trace gravel, soft and moist.

~~Top~~ 12" to 20" 2.5Y 5/2 Grayish Brown - Med to Fine sand, Tr. gravel, moderately sorted, Tr. Coarse sand. Clean. Soft & wet

J Mayo
6/28/89
22 Large
7/3/89

02-8906-05
Sag Harbor
6/28/89

20" to 24"
2.5Y 3/0 V. Dark Gray
same as above with clinker.

0 to 12" med to fine sand, soft
well sorted, moist fill ~~sa~~ Jm 6/28
sand. 7.5YR 6/6 Jm 6/28

$23A 2.5Y 3/2 V. Dark Grayish Brown
Med to coarse sand, tr. gravel,
soft wet. Pieces of Brick.

$24A 10YR 3/1 V. Dark Gray
Med. sand w some gravel, tr. silt
moist, ~~too~~ Jm 6/28 soft. Looks like ~~fill~~
road fill.

$25A
0 - 2" blacktop
2" - 14" 10YR 4/3 Brown to Dark
Brown Med. Sand, Tr. coarse sand,
Trace gravel, soft, damp to wet.
14" - 24" 10YR 2/2 V. Dark Brown
med. to coarse sand, some gravel,
Tr. silt, Tr. organic, Wet and Soft.

$26A same description as $25A but
with some more gravel.

Go to page 29

Jmaw 6/28/89 LL Foy 7-5-89

02-8906-05 6/28/89

Big Harbor 82-8906-05 6/26/89

Date	Time	Photographer	Sample No.	Rad No	Frame No.	Description
6/26	1135	J. Mayo	NA	1	P1, S1	1st sample location in reference to the SW corner of the LIF building.
6/26	1250	J. Mayo	NA	1	P2, S2	T. Varner setting up transit to survey sample locations.
6/27	1045	J. Mayo	S1A	1	P3, S3	G. Pollack collecting sample S1A.
6/27	1105	J. Mayo	S2A	1	P4, S4	S. Walker collects sample S2A from sample location 14.
6/27	1120	J. Mayo	S3A	1	P5, S5	S. Walker collects sample S3A from sample location No. 5.
6/27	1140	J. Mayo	S4A	1	P6, S6	G. Pollack collects sample S4A from location No. 14.

J. Mayo 6/27/89 L. Leboy 7-5-89

Photolog

Pago Harbor 02-8906-05 6/27/89

Date	Time	Photographer	Sample No	Roll	Frame No	Description
6/27	1220	J. Mayo	56A	1	07, 57	S. Walker collecting sample 56A from sample location No. 10.
6/27	1300	J. Mayo	64	1	08, 58	S Walker collecting sample 64A from sample location No. 14.
6/27	1235	J Mayo	74	1	09, 59	D. Pollack collecting sample 57A from sample location No. 15
6/27	1400	J Mayo	58A	1	10, 510	S. Walker collecting sample 58A from sample location No. 11
6/27	1410	J Mayo	59A	1	11, 511	D Pollack collecting sample 59A from sample location No. 7

J. Mayo 6/27/89 J. Mayo 25 Sep 89

Sag Harbor 02-8906-05 6/27/89

Date	Time	Photographer	Sample No.	Roll	Frame	Description
6/27	1440	J. Mayo	$10A	1 ~~12~~ 4/27	P12, S12	G. Pollack collecting sample $10A from location No. 12
6/27	1455	J. Mayo	$11A	1	P13, S13	S. Walker collecting sample $11A from location No. 16
6/27	1520	J. Mayo	$12A	1	P14, S14	G. Pollack collecting sample $12A from location No. 17
6/27	1535	J. Mayo	$13A	1	P15, S15	S. Walker collecting sample $13A from location No. 13
6/27	1550	J. Mayo	$14A	1	P16, S16	~~S. Walker~~ G. Pollack collecting sample $14A from location No. 9

J. Mayo 6/27/89 L. LaForge 7-5-89

Aug 4 abor 02-8906-05 6/28/89

Date	Time	Photographer	Sample No	Roll	Frame	Description
6/28	0900	J. Mayo	$15A	1	P17, $17	S. Walker collecting sample $15A from location No 20
6/28	0905	J. Mayo	$16A	1	P18, $18	S. Walker collecting duplicate sample $16A from location No. 20.
6/28	0915	J. Mayo	$17A	1	P19, $19	G. Pollack collecting sample $17A from location No 23
6/28	0940	J. Mayo	$18A	1	P20, $20	S. Walker collecting sample $18A from location No. 22
6/28	0955	J. Mayo	$19A	1	P21, $21	G. Pollack collecting sample $19A from location No. 21
6/28	1020	J. Mayo	$20A	2	P1	S. Walker

J. Mayo 6/28/89 L. Lafarge 7-5-89

Sag Harbor 02-8906-05 6/28/89

Date	Time	Photographer	Sample No.	Roll	Frame	Description
6/28	1100	J. Mayo	$21A	2	P2, S2	G. Pollack collects sample $21A at location No. 26
6/28	1125	J. Mayo	$22A	2	P3, S3 JM 6/28	G. Pollack collects sample $22A at location No. 25.
6/28	1155	J. Mayo	$23A	2	P4, S4	G. Pollack collecting sample No. $23A at location No. 24
6/28	1235	J. Mayo	$24A	2	P5, S5	S. Walker collecting sample $24A from location No. 2.
6/28	1250	J. Mayo	~~$25A~~ NA	2	P6, S6	S. Walker jack-hammering sample location No. 19
6/28	1300	J. Mayo	$25A	2	P7, S7	G. Pollack collecting sample $25A from location No. 18.
~~6/29~~	~~0805~~	~~J. Mayo~~ JM 6/28				

J. Mayo 6/28/89 L. LaFoy 7-5-89

Sag Harbor 02-8906-05 6/28/89

					P9, S9	Location No. 19
						G. Pollack collecting sample $27A from location No. ~~28~~ 28. JM 6/28
6/28	1346	J. Mayo	$28A	2	P10, S10	S. Walker collecting sample $28A from location No. 29.
6/28	1358	J. Mayo	$29A	2	P11, S11	G. Pollack collecting sample $29A from location 30.
6/28	1405	J. Mayo	$30A	2	P12, S12	S. Walker collecting judgemental sample $30A adjacent to ~~from~~ the Casman's property vegetable garden. JM 6/28
6/28	1410	J. Mayo	~~$~~NA	2	P13, S13	Location of Casman's property garden in relation to the garage.
6/29	0805	J. Mayo	SW1	2	P14, S14	G. Pollack collecting SW sample SW1 from the catch basin of the corner of Bridge and Rose streets,

J. Mayo 6/29/89

L. LeBoy 7-5-89

over

0022F
02-8906-05

NUS CORPORATION

II

0440

Sag Harbor 02-8966-85

Table of Contents

Page(s)	Description
4 to 12	Judgemental Soil Sampling on properties along Bridge, Rose, and Meadow Streets
14 to 15	Sag Harbor - Bridge Street site activities on 6/30/89
28 to 30	Soil descriptions for samples collected on 6/29/89
34 to 36	Photolog

J. Mayo 7/5/89

L. Lotz 7-5-89

Jm
~~Entries~~ Sag Harbor 02-8906-05 6/29/89

0825 Entries in this log book are a continuation of log book No. 0439 issued under TDD 02-8906-05 for the Sag Harbor-Bridge Street Site.

0830 Decontaminating sample and equipment

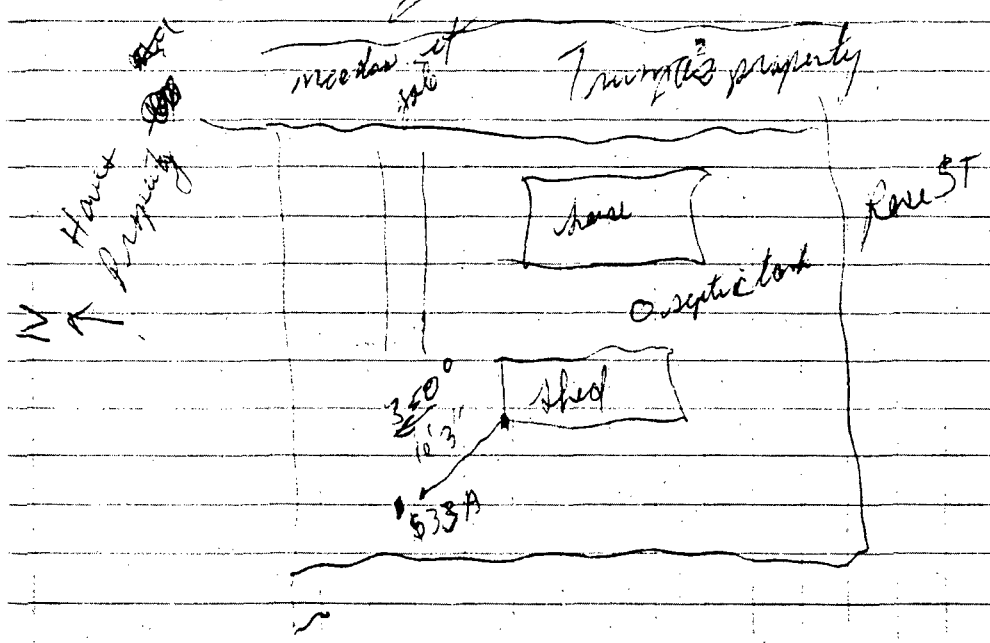
0835 Arrive at Howie's House to collect judgemental soil sample $31A Jm
S. Walker unique sample $31A. 6/29
>1000 PM in hole on OVA
HNu 5-6 ppm in hole.
No readings in breathing zone.
Water at 4 inches.
Darker soil at 14 inches
Sample depth 1 to 2 feet
Location is 18 feet 34° from the ~~[illegible]~~ a very large tree near the western property border.
Collect duplicate at this location $31A and $32A

0855 Arrive at Trump's residence.
Ask resident if she received our letter and if it was OK for us to collect a sample. She said OK.

L Lotz 7-5-89 J Mack 6/29/89

Sag Harbor 02-8906-05 6/29/89

0900 G. Pollack ~~collecting~~ augering JM 6/29 sample
$33A at rear of Trump property.
No readings N/Na
>1000PPM on OVA in the Hole
no readings above background
in the breathing zone.
Sample depth 1 to 2 feet
G. Pollack collects sample $33A
Sample location is 10 ft 3 inches and
350° from the northwest corner of
the shed in the rear of the
property.

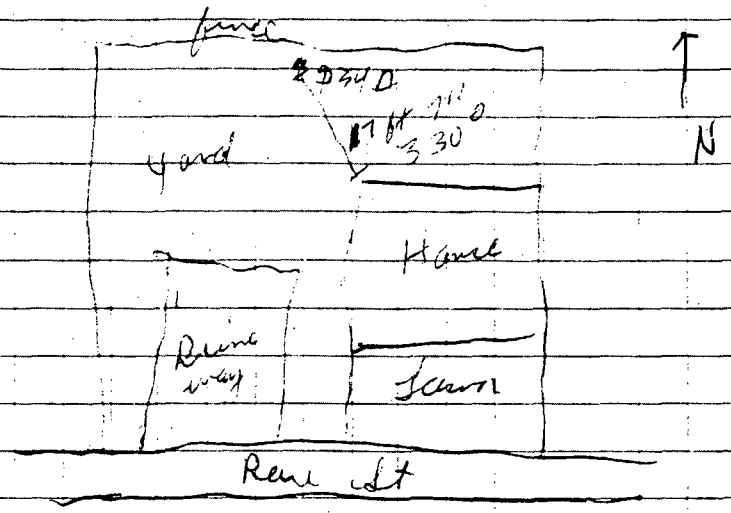


L Lacey
7.5.89

J. Mayer
6/29/89

Sag Harbor 02-5904-05 6/29/89

0915 Arrive at Mayer's residence
S. Walker angles sample S34A.



Location is 17 ft 7 in and 330 degrees from the NW corner of the House
No readings on OVA and HNu.
Sample Depth is 1 to 2 feet.

0930 Return to command post for decon of samples and equipment.

G. Pollack informs me that one VOA vial for S32A is broken. I told Phil Solinski (SMO) We will ship only one VOA.

0950 Still decontaminating equipment

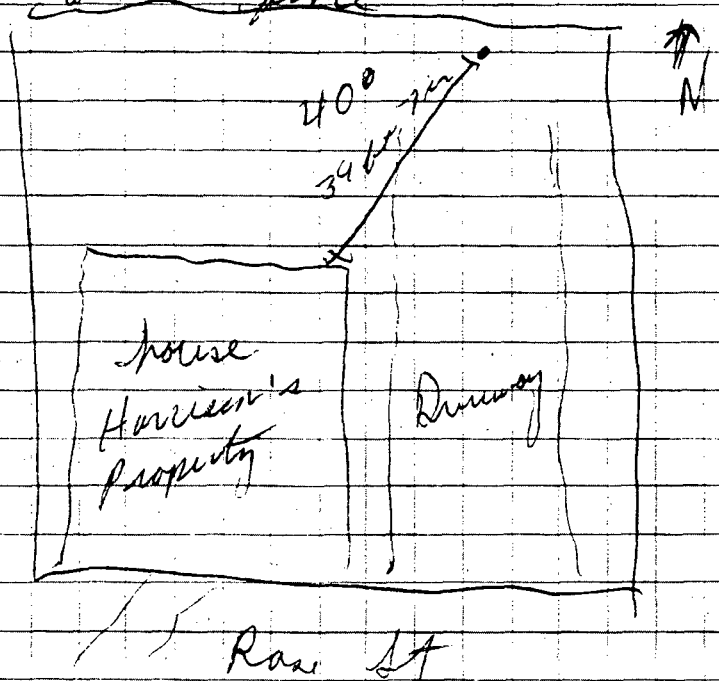
L LeForge 7-5-89

J Mayer 6/29/89

Sag Harbor 02-8406-05 6/29/89 7

1030 Still decontaminating equipment.

1050 Proceed to Harrison's property to collect sample S 35A.
G. Pollack auger sample
No readings above background on the ~~OVA~~ HNu. OVA battery is dead. Will use HNu
Sample is 39 ft 7 in. and 40° from the Northeast corner of the Harrison house in the Northeast corner of the property. Sample depth is ~~[illegible]~~ 1 to 2 feet



L Lahey 7-5-89

J. Mayo 6/29/89

Sag Harbor 02-8906-05 6/29/89

1107 Start augering sample $36A on Greenberg property. S. Walker augers sample. Sample depth is 0 to 16 inches.
Sample is in rear of ~~gre~~ Greenberg property adjacent to the LIF property. Sample location is 6.5 feet and 220° from the southwest corner of the LIF property. No readings above background on the HNu.
Water at 14 inches.

1121 Leave Greenberg's property and proceed to Harbor Close Condominium property. S. Walker is augering sample $37A. G. Pollack is augering sample $38A. No reading on HNu ~~in~~ at location $37A or $38A.

~~1120~~ Sample depth $37A + $38A is 1 to 2 feet. S. Walker collects sample $37A (JW 6/29) and G. Pollack collects sample $38A. Both samples ($37A + $38A) are 1 ft from ~~the~~ Bridge St and are opposite the LIF property which is across Bridge Street.

[signature] 7-5-89 [signature] 6/29/89

Sag Harbor 02-8906-05 6/29/89

1150 Sample location S38A is 20 ft 3 in ~~from~~ and 150° from the LIL No. 4 utility pole ~~on the~~ Jm adjacent to building No. 1 of the Harbor Close Condos.

Sample location S37A is ~~[illegible]~~ 50 ft 1 in and 170° from the LIL No. 4 utility pole adjacent to building No. 1 of the Harbor Close Condos.

1200 Taking a dwind break.
Mark sample No. 27 behind LIF property
1210 G. Pollack begins augering sample No. 39A at location No. 27.
Sample depth is 1 to 2 feet.
This is a grid sample on the LIF property that we did not collect on 6/28/89
Reading between 20 and 50 PPM on the HNu in the hole.

1240 Kate Wyckoff - Beach Plum Gardens Nursery. We spoke to ~~here~~ her about the property adjacent to here. We asked if she knew who owned it - she said no but her property extended into the area where we wanted to sample. She said we could collect ~~them~~ the samples on her property - I asked if she used a well at the nursery

J Mayo 6/29/89
J LeBarge 7-5-89

02-8906-05 Sag Harbor 6/29/89

She said ~~she~~ no because she had it tested and was told not to use it for drinking. She said she wanted to would try to find the results.

1250 Move to collect background samples.
Jeff Pallack augers background sample #40A. Location is 17.5 ft and 200° from utility pole NYT No. 4 at the border of the nursery property.
Water at 14 in.
Depth 1 to 2 ft.

1300 L. Walker collects sample #40A
No readings above background on HNu

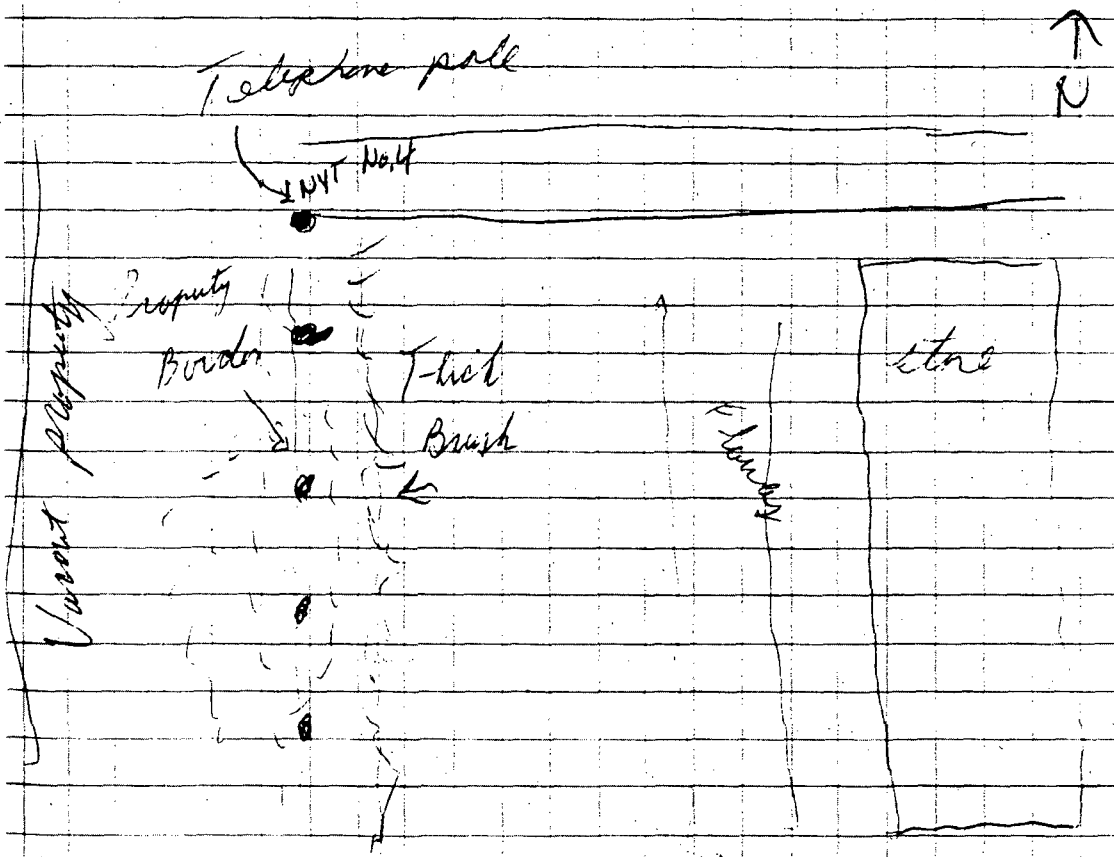
1310 Move to ~~so~~ background sample location #41A. Location is ~~32.5~~ 32.5 ft and 200° from utility pole NYT No. 4.
L. Walker augers sample. No readings above background. Water at 8 in.
Sample depth is 1 to 2 feet
J. Pallack collects background sample 541A. MS/MSD

1320 ~~L~~ L. Walker augers ~~sample~~ background sample #42A. jm 6/29
Location is 47.5 ft and 210° from utility pole ~~#~~ NYT No. 4.
Water at 18". No readings on HNu. Sample depth is 1 to 2 feet.

Today 7-5-89 jm 6/29/89

Sag Harbor 02-8906-05 6/29/89

1330 Greg Pollack augers sample $43A. Sample is 62.5 ft and 200° from utility pole NYT No.4. No readings above background on HNu. Sample depth is 1 to 2 feet.



1345 Return to command post to pack samples, and clean equipment.

L. Lotory 7-5-89

J. Mayer 6/29/89

Sag Harbor 07-8906-05 6/29/89

1430 Still ~~packing~~ Jm packing equipment and samples

1500 Nearly finished packing Phil and Debbie go to hotel to wait for Fed X to pick up samples.

1530 Fed X picks up samples

Note: We were unable to collect the background samples on the property where we had intended to collect them. After our initial phone contact and letter the (the owner) refused to ~~answer~~ Jm answer our calls. We will collect background samples on the ~~property adjacent to the~~ Nursery (Black Plum Gardens) in an area that is undeveloped and has no current use. A grid type sampling could not be conducted as proposed in the workplan - as the ~~sample~~ Jm property ~~is [illegible]~~ Jm was not of sufficient size. Instead, the ~~same~~ background samples were collected in a strait line in an undisturbed area.

JM 6/29

J. Mayo 6/29/89

[illegible] 7-5-89

Long Harbor 02-8966-05 6/30/84

0800 Meet at Hotel

0830 Arrive on site. Weather is warm 75° F, clear and breezy. We must fill the holes we made in the LIF property. We will use blacktop patching.

0900 Setting Up. Begin filling the first hole. Phil Sulinski packs ~~the~~ blactop into the hole.

0920 We proceed to the 2nd hole and remove some gravel - We fill it with blacktop and pack it down.

0935 Proceed to 3rd hole and remove some gravel. Phil packs the hole with blacktop.

0950 Finished filling holes. Proceed to Beach Allen Gardens nursery to give Ms Wyckoff my phone No. and Jeff's Local's (EPA) phone number. She is interested in obtaining the results of the sampling.

1000 ~~1005~~ 6/29 Break for breakfast.

1040 Take pictures of all the properties along Bridge, Rose, and Meadow

Sag Harbor 02-8906-05 6/30/89

Streets that were sampled during the Sag Harbor - Bridge St. Site LSI.

1100 Leave for the office.

1320 Call office from road with sample shipping information. I talk to Joe Dvorak.

L Lotory 7-5-89 J Mayo 6/30/89

Sag Harbor 02-8906-05 6/29/89

Soil Types

$31A, $32A 10YR 3/2 Med to coarse sand little gravel, tr. cobbles wet, moderately sorted, soft.

$33A 10YR 3/2 Med to coarse sand, tr. fine sand & gravel, wet, soft, trace roots.

$34A Same as $33A

$35A 10YR 3/2 V. Dark grayish brown. Med. to fine sand Tr. coarse sand, gravel, and silt, moist, soft.

$36A 10YR 3/2 V. Dark grayish brown Med to fine sand and organic ~~or~~ material, tr. coarse sand, gravel & silt, wet, firm.

$37A 0 to 12" med. ~~[illegible]~~ sand. 7.5YR 6/6 soft & moist
10YR 3/2 12" to 24" med. to fine sand, ~~[illegible]~~ tr. coarse sand, tr. gravel. trace silt, wet, soft

JM 6/29

L Lokey 7-5-89 J Mayo 6/29/89

Sag Harbor 02-8906-05 6/29/89

Soil Type

$38A - Same as $37A

0-2 ft
$39A - 5YR 2.5/1 Black
Med to fine sand, little coarse sand, tr gravel, trace silt, tr. organics, moist, soft

at 2 ft 10 YR 7/3 Very pale brown with same characteristics as the above (0-2 ft)

$40A 5Y 2.5/1 Black silt, tr some ~~sand~~ JM 6/29 fine to medium sand, tr coarse sand, organics, firm, wet

$41A 5Y 2.5/1 Black silt tr some ~~sand~~ fine to medium JM 6/29
Same as $40A with some gravel

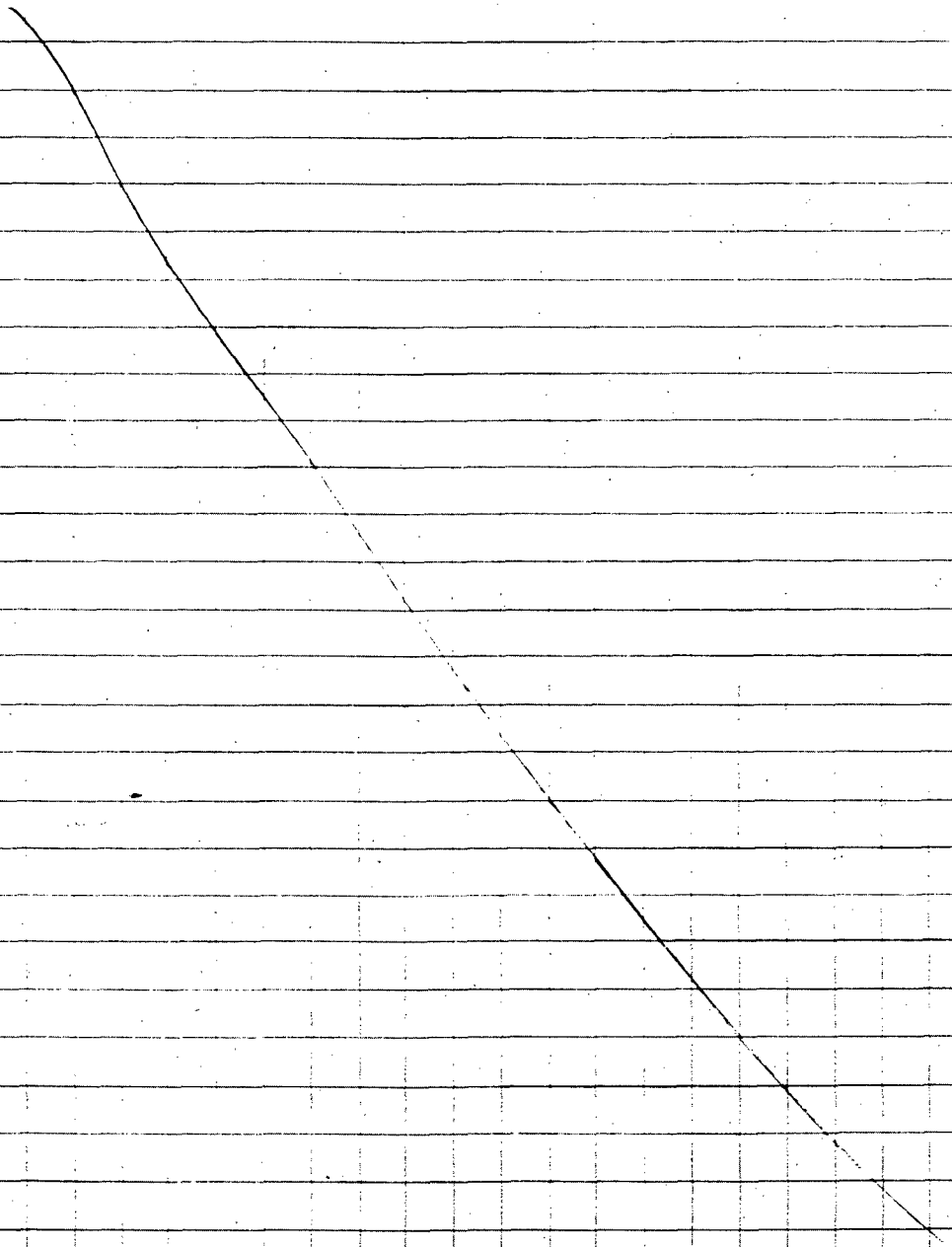
$42A 0 to 18" 5Y 2.5/1 Med to fine sand, some coarse sand tr gravel, tr silt, soft, wet.

18" to 24" 2.5Y 4/2 dark grayish brown, Fine to med. sand. Tr. coarse sand, wet, soft

L Le Toy 7-5-89 J Mayer 6/29/89

Sag Harbor 02-8006-05 6/29/89

$43A Same as $42A with a trace of glass and brick.



L La Forge
7-5-89

J S Mayo 6/29/89

Date	Time	Photographer	Sample No.	Roll	Frame	Description
6/29	0840	J. Mayo	$31A	2	~~$~~P16, ~~$~~S16 JM 6/29	S. Walker collecting sample from H No. $31A from Howe's ~~[illegible]~~ property.
6/29	0846	J. Mayo	$32A	2	~~$~~P17, ~~$~~S17 JM 6/29	S. Walker collecting sample $32A from Howes property
6/29	0905	J. Mayo	$33A	2	~~$~~P18, ~~$~~S18 JM 6/29	G. Pollack collecting soil sample $33A from rear of Trenzo property
6/29	0923	J. Mayo	$34A	2	~~$~~P19, ~~$~~S19 JM 6/29	S. Walker collecting sample $34A from Mayer's property
6/29	1055	J. Mayo	$35A	2	P20, S20	S. Walker collecting judgemental sample in rear of Harrison's property ~~[illegible]~~ adjacent to LFC.
6/29	1115	J. Mayo	$36A	2	P21, S21	G. Pollack collecting sample $36A from the rear of Greenberg property.
6/29	1130	J. Mayo	$37A	2	P22, S22	S. Walker collecting sample $37A from Barber close [illegible] property

J. Mayo 6/29/89 L. LaBorge 7-5-89

Date	Time	Photographer	Sample No	Roll	Frame	Description
6/29	1145	J Mayo	$38A	3	P1, S1	G. Pollack collecting sample $38A from the Harbor Close Condo. property
6/29	1215	J Mayo	$39A	3	P2, S2	S. Walker collecting sample $39A from location No. 27.
6/29	1300	J Mayo	40A	3	P3, S3	S. Walker collects background sample $40A.
6/29			$41A	3	P4, S4	G. Pollack collecting sample $41A. ~~from~~ (background sample)
6/29	1325	J Mayo	$42A	3	P5, S5	S. Walker collecting background sample $42A
6/29	1340	J Mayo	$43A	3	P6, S6	G. Pollack collecting ~~sample $43A on~~ JM background sample $43A.

J Mayo 6/29/84 L Laborg 7-5-84

Date	Time	Photographer	Sample No.	Roll	Frame	Description
6/30	1040	J. Mayo	NA	3	P7, S7	LILCO Property looking east from Bridge Street.
6/30	1041	J. Mayo	NA	3	P8, S8	LIF property looking southeast from Bridge Street
6/30	1042	J. Mayo	NA	3	P9, S9	Greenberg Property looking east from Bridge Street.
6/30	1045	J. Mayo	NA	3	P10, S10	Rosman's property looking east from Bridge Street
6/30	1046	J. Mayo	NA	3	P11, S11	Harrison's property looking North from Rose St.
6/30	1047	J. Mayo	NA	3	P12, S12	Mayer's property looking North from Rose St.
6/30	1050	J. Mayo	NA	3	P13, S13	Trunzo's property looking west from Meadow St.
6/30	1051	J. Mayo	NA	3	P14, S14	Howe's property looking west from Meadow St.
6/30	1052	J. Mayo	NA	3	P15, S15	LILCO & LIF property looking west from Meadow Street.

J Mayo 6/30/89 L Laboy 7-5-84

REFERENCE NO. 44

02-8810-73-SI
REV. NO. 1

FINAL DRAFT SCREENING SITE INSPECTION
SAG HARBOR - BRIDGE STREET
SAG HARBOR, NEW YORK
VOLUME I

PREPARED UNDER
TECHNICAL DIRECTIVE DOCUMENT NO. 02-8810-73
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

MARCH 14, 1989
(REVISION 1: APRIL 21, 1989)

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:

CHARLES LOBUE
PROJECT MANAGER

DEBORAH COHEN
SITE MANAGER

REVIEWED/APPROVED BY:

RONALD M. NAMAN
FIT OFFICE MANAGER

SCREENING SITE INSPECTION
TABLE OF CONTENTS

SECTION		PAGE
1.0	INTRODUCTION/BACKGROUND	1-1
1.1	Site Description	1-1
1.2	Site History	1-1
1.3	Summary of Preliminary Assessment	1-7
1.4	Summary of On-Site Reconnaissance	1-8
1.5	Objectives of the Screening Site Inspection	1-10
1.6	Project Management/Key Personnel	1-10
1.7	Community Relations/Community Concern	1-10
2.0	DATA COLLECTION	2-1
2.1	Nonsampling Data	2-1
2.2	Sampling Data	2-1
2.3	Sampling Procedures	2-7
3.0	RESULTS	3-1
3.1	Nonsampling Results	3-1
3.2	Sampling Results	3-3
4.0	DISCUSSION OF CHARACTERISTICS AND TARGETS	4-1
4.1	Source/Waste Characteristics	4-1
4.2	Air Pathway/Targets	4-1
4.3	Groundwater Pathway/Targets	4-2
4.4	Surface Water Pathway/Targets	4-2
4.5	Onsite Exposure Pathway/Targets	4-2
5.0	SUMMARY AND RECOMMENDATIONS	5-1
5.1	Summary	5-1
5.2	Recommendations	5-1

FIGURES

NUMBER		PAGE
1	Site Location Map	1-2
2	Site Map	1-3
3	Site Map, East Side of Bridge Street	1-4
4	Site Map, West Side of Bridge Street	1-5
5	Approximate Locations of Coal Gas Facilities in 1915	1-6
6	Sample Location Map, East Side of Bridge Street	2-5
7	Sample Location Map, West Side of Bridge Street	2-6

TABLES

NUMBER		PAGE
1	Nonsampling Data Collection Requirements	2-2
2	Sampling Summary	2-4
3	Groundwater Usage for Target Population	3-2
4	Organic Sampling Results	3-4
5	Inorganic Sampling Results	3-8
6	Selected Contaminants Detected on Bridge Street	3-10

1.0 INTRODUCTION/BACKGROUND

The U.S. Environmental Protection Agency (EPA) Region II assigned the NUS Region 2 Field Investigation Team (FIT) the task of performing a screening site inspection (SSI) at the Sag Harbor-Bridge Street Site in Sag Harbor, New York. This inspection was performed under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA). The performance of this SSI was authorized under the Technical Directive Document (TDD) 02-8810-73 issued under EPA Contract 68-01-7346.

1.1 SITE DESCRIPTION

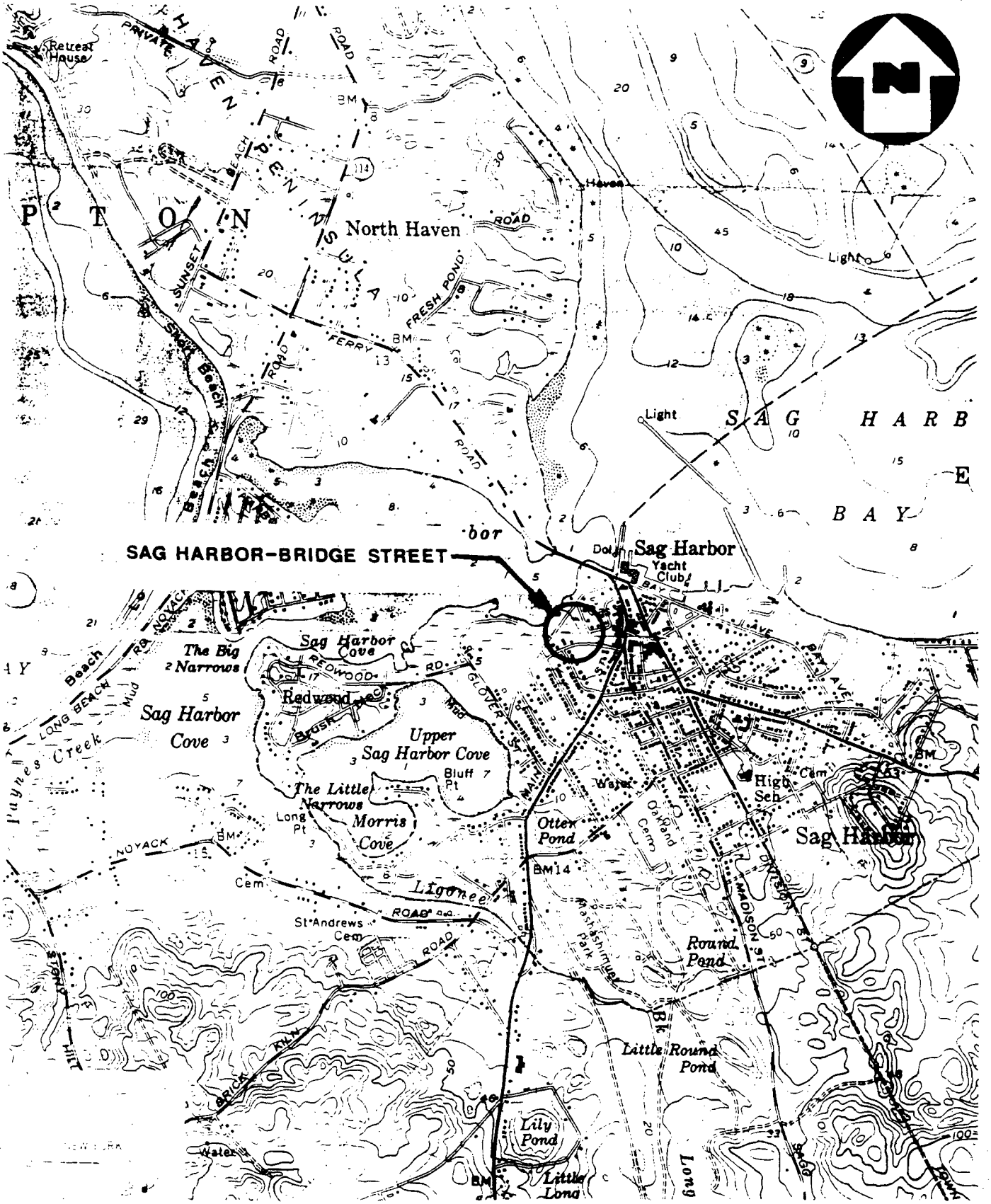
The Sag Harbor - Bridge Street Site is located on Bridge Street between Long Island Avenue and Rose Street and is in a residential/commercial area near the lower downtown area of Sag Harbor. The exact boundaries of the site are not defined. However, located on Bridge Street are a Long Island Lighting Company (LILCO) gas storage area, the Long Island Fisherman building, which was a former printing facility, and several private residences. Figure 1 is a site location map, and Figures 2 through 4 are site maps.

Due to soil, groundwater, and surface water contamination noted on Bridge Street in 1987, the mayor of Sag Harbor requested that a Superfund investigation be conducted in this vicinity. The responsible parties and sources of the areal contamination are unknown. Potential sources have been identified as an old town gas plant that existed at what is now the LILCO property, and the Long Island Fisherman Printing Facility. There may be other possible unknown sources.

Ref. Nos. 1, 2, 3, 4, 5, 6, 11, 12, 13

1.2 SITE HISTORY

Prior to 1929, a town gas plant was located on Bridge Street. Fuel gas was manufactured from either coal or rosin until LILCO purchased the property that year, installed a pressurized gas holder, and discontinued the gas plant operations. A map depicting approximate locations of the coal gas facilities is presented in Figure 5. Now the LILCO property is used to store and regulate gas supplies A gas storage container and three tanks are located on the property.



(QUAD) SAG HARBOR/GREENPORT, N.Y.

FIGURE 1

SITE LOCATION MAP

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

SCALE: 1" = 2000'

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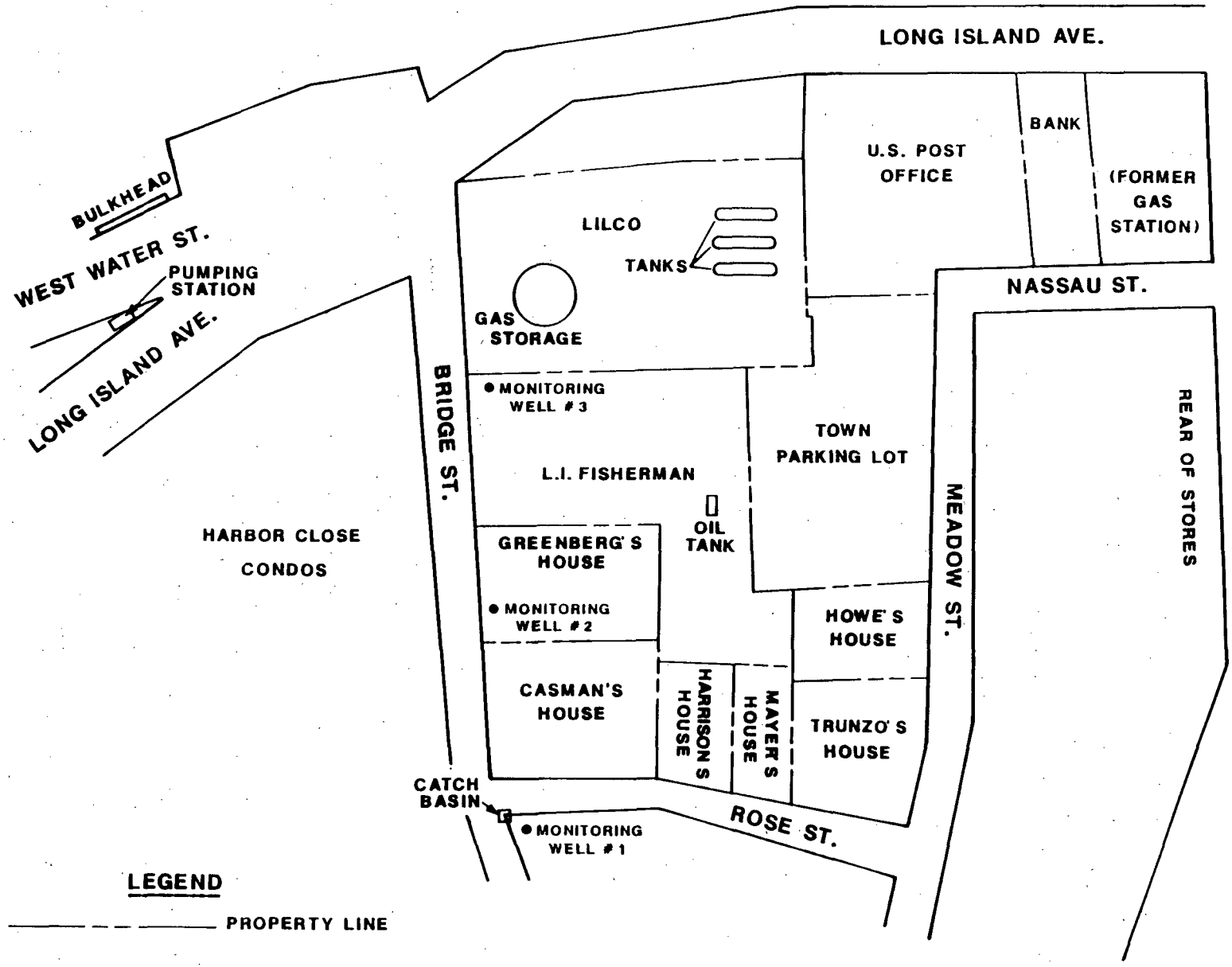

SITE MAP

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

NOT TO SCALE

FIGURE 2

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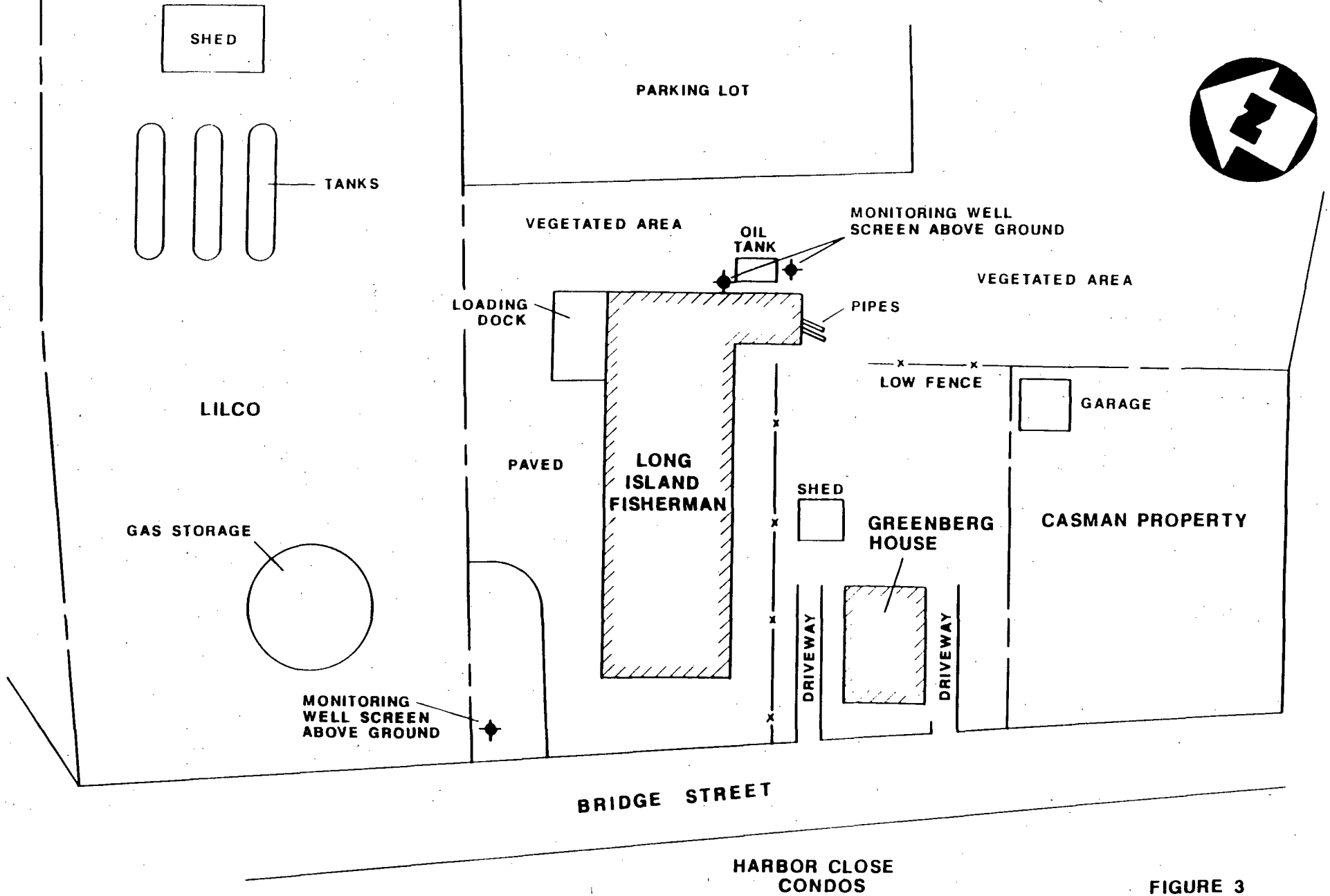

1-4

FIGURE 3

EAST SIDE OF BRIDGE STREET

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

NOT TO SCALE

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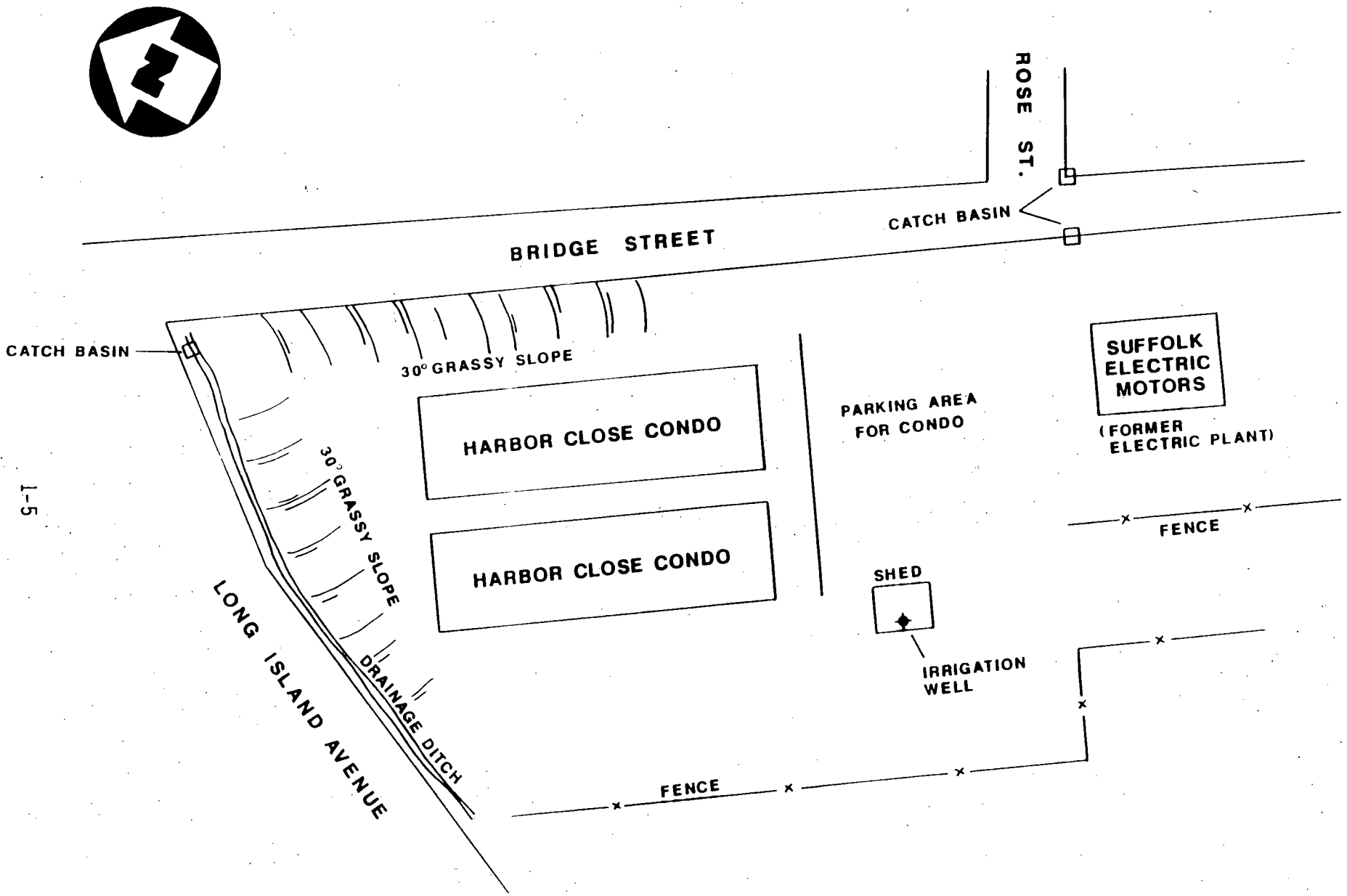

FIGURE 4

WEST SIDE OF BRIDGE STREET

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

NOT TO SCALE

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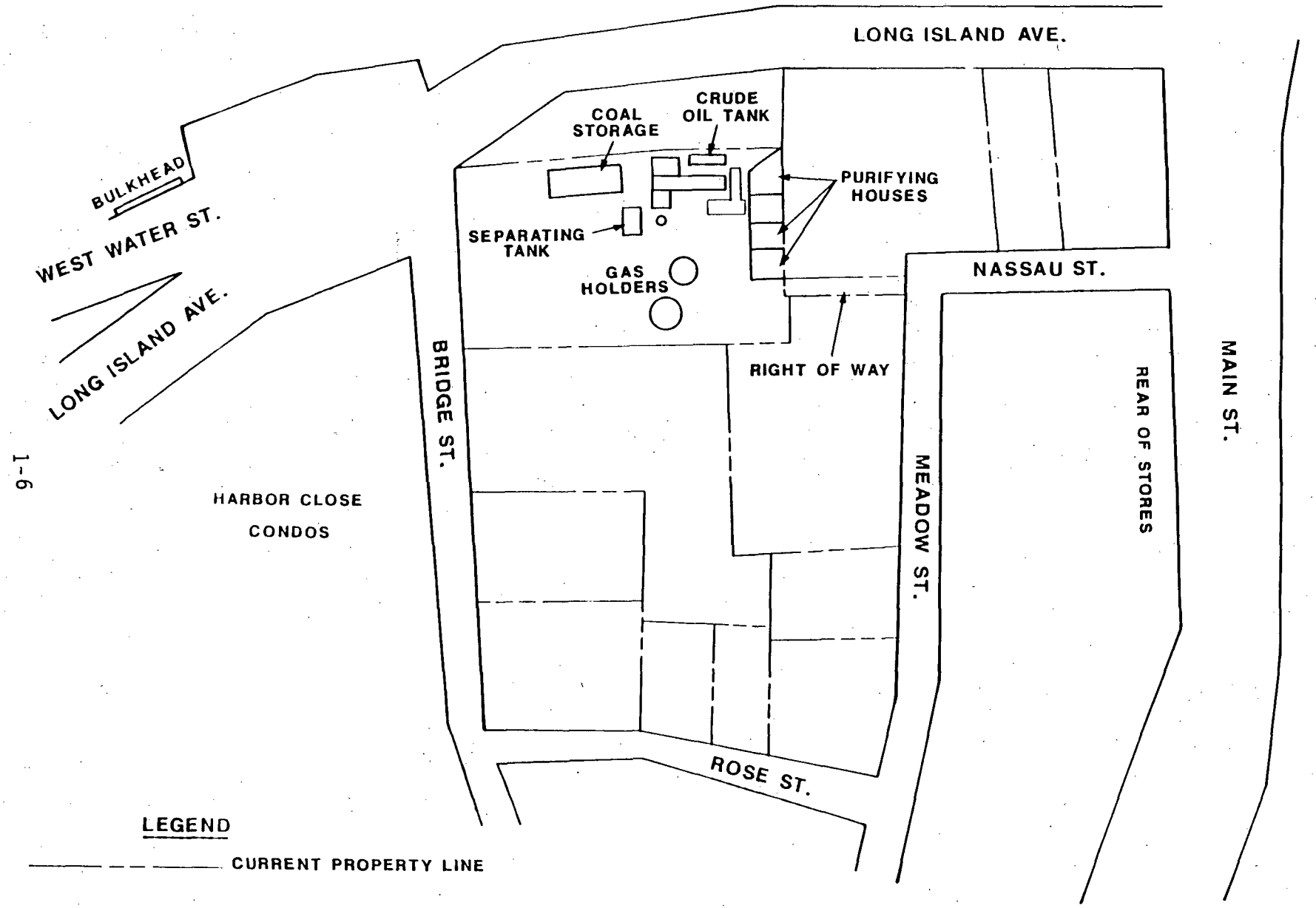

1-6

APPROXIMATE LOCATIONS OF COAL GAS FACILITIES IN 1915

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

NOT TO SCALE

FIGURE 5

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The Long Island Fisherman Printing Facility, which used to print magazines and newspapers, is located adjacent to the LILCO property. In October 1984, an aboveground fuel tank at the rear of the Long Island Fisherman building was found to be leaking Soil samples were subsequently collected from the Long Island Fisherman facility, and analysis showed the presence of No. 2 fuel and a nonfuel-type oil possibly containing PCBs. The spill was remediated by removal of approximately 35 cubic yards of contaminated soil. Monitoring wells were installed, and the case was closed as of April 1986. The building has been unoccupied since June 1988.

In April, May, and June 1987, Storch Associates conducted two environmental investigations for the Village of Sag Harbor along the route of a proposed drainage system. Those investigations were conducted in response to the complaints of Suffolk County Water Authority (SCWA) personnel and because contamination in the vicinity of Bridge Street was suspected due to the tank spill. Soil, groundwater, and surface water contamination was noted.

Ref. Nos. 1, 2, 3, 4, 6, 7, 8, 13, 14, 25, 26, 41

1.3 SUMMARY OF PRELIMINARY ASSESSMENT

The Preliminary Assessment (PA) of the Sag Harbor - Bridge Street Site was completed by FIT in November 1988. The PA encompassed a New York State Department of Environmental Conservation (NYSDEC) file search, background data collection, an off-site reconnaissance, and target identification. The PA report is included as an attachment to this report.

Source/Waste Types: The source and extent of the contamination were unidentified in the PA, but some potential sources were identified as an oil spill at the Long Island Fisherman Printing facility, electrical transformers on the LILCO property, and waste disposals of an old town gas plant (now the LILCO property). Other potential sources of contamination may have existed, as solvents, various volatile organics, and metals were detected in residential wells, soils, and storm drain runoff.

Ref. Nos. 3, 4, 7, 12, 13, 25, 26

Air Pathway: HNu readings above background were noted during the environmental investigations by Storch Associates. A large area of subsurface soil contamination is suspected, and some of the compounds detected in the soil and monitoring well samples have high gaseous mobility. Targets identified in the PA include wetlands within the 4-mile radius from Bridge Street, and the south end of Bridge Street, which is within the Sag Harbor Historic District.

Ref. Nos. 3, 4, 11, 19, 20, 21, 22, 24

Groundwater Pathway: General information about the hydrogeology in the vicinity of Bridge Street revealed that the aquifers of concern are the upper glacial aquifer and the Magothy aquifer. Both are sole source aquifers and are hydraulically connected. The water table is at or near the surface. A public well, serving most of Sag Harbor, is located 1 mile south of Bridge Street. Private well use within a quarter mile of Bridge Street was identified but not confirmed during the PA.

Ref. Nos. 3, 4, 11, 17, 15, 23

Surface Water Pathway: A catch basin on Bridge Street collects surface water runoff, and the water is pumped into Sag Harbor Cove, about 100 feet from the north end of Bridge Street. Sag Harbor Cove and Bay, Shelter Island Sound, Gardiners Bay, and Noyack Bay are all within 15 downstream miles of the site, and they are used for boating and commercial and recreational fishing. There are many nationally designated wetland areas within 15 downstream miles of Bridge Street. Also, Bridge Street is located in a 100-year flood zone.

Ref. Nos. 4, 7, 18, 35, 37

On-Site Pathway: The boundaries of the site were not defined, and therefore, the on-site population and barriers to access were not identified during the PA. The nearest residence to where contamination was noted by Storch Associates, is less than 100 feet, and residents in the vicinity of Bridge and Rose Streets were informed to take caution in the event of encountering any suspicious appearances or odors when doing any type of soil excavation.

Ref. Nos. 3, 4, 5, 11, 13

1.4 SUMMARY OF ON-SITE RECONNAISSANCE

On November 10, 1988, an on-site reconnaissance was conducted by FIT to identify sampling locations and to collect nonsampling data. The following personnel performed the recon:

Site Manager - Deborah Cohen
Site Safety Officer - Laura LaForge
Surveillance - Rich Pagano

The following observations were made:

Long Island Fisherman. The monitoring wells on the property were screened above the ground surface and left unlocked. The oil tank at the rear of the building appeared to have leaked, and the soil nearby looked stained. A window on the south side of the building was covered with a hardened gray substance that has the appearance of a sludgelike emission from that window. Pipes protruding from the building, also on the south side, appeared to be draining a liquid from their open ends. The standing water around the pipes was a rusty color.

LILCO. Storage of transformers was not observed, and the ones used on their utility poles were not PCB transformers.

Greenberg Property. This house, adjacent to Long Island Fisherman, has a backyard that is separated from the Long Island Fisherman property by a low, discontinuous fence. Two children under 7 years old and 3 adults live in the Greenberg house.

Harbor Close Condominiums. An irrigation well, used to water the lawn, was observed. Drinking water for the residents of the condominium is obtained from the public supply. There are approximately 64 adults and no children living in the complex. Adjacent to the condominiums, to the south, there was an electric company/plant, which may be another possible source of contamination. The sign on the building said Suffolk Electric Motors.

Other observations made during the reconnaissance pertained to the drainage problem on Bridge Street. The same rusty color that was observed at Long Island Fisherman was observed in the water on Bridge Street and in the water coming out of the weep holes on the curb on Rose Street. The water was draining towards the catch basin. In addition, local residents claimed that water is often seen draining south on the road surface toward the catch basins on the corner of Rose and Bridge Streets.

The wells at the Mayer, Howe, and Harrison residences are no longer in service, and the field team was not able to locate them. The nearest private well is on Meadowlark Lane. It was discovered that the homes on Meadowlark Lane are in the process of being hooked up to the public supply. One residence will retain its private well for drinking water.

No readings above background were detected on the OVA or HNu throughout the reconnaissance.

Ref. No. 6

1.5 OBJECTIVES OF THE SCREENING SITE INSPECTION

A screening site inspection (SSI) is designed to characterize and evaluate the potential risks associated with a hazardous waste control problem at a site. The major objectives of the SSI are to verify and substantiate data collected during the PA, and to characterize the site and its environs by collecting physical environmental samples for analysis to determine the presence of and to estimate the extent of hazardous substances. Through this process, sufficient information is developed to support a management decision as to whether a site should proceed to a listing site inspection (LSI), be referred to other appropriate authorities (e.g., Resource Conservation and Recovery Act (RCRA), States, Surface Coal Mining Reclamation Act (SCMRA), etc.), or be recommended for "No Further Remedial Action Planned".

The PA of Sag Harbor - Bridge Street determined that all pathways were of concern, with the onsite exposure being the most significant pathway. Nonsampling and sampling data were collected during the SSI to further determine possible sources of contamination, to identify specific areas of contamination, and to determine targets with emphasis on onsite resident population.

1.6 PROJECT MANAGEMENT/KEY PERSONNEL

The FIT Site Manager for this investigation is Deborah Cohen. The Site Manager's responsibilities include securing site access clearance, directing and overseeing all on-site and off-site activities, documenting and overseeing the management of all samples collected, and writing all deliverable reports.

The FIT Project Manager for this investigation is Charles LoBue. The Project Manager oversees the Site Manager and all aspects of the investigation, and functions as the FIT Point of Contact for the field test project committee.

The EPA Points-of-Contact Personnel for this investigation are Jeff Gaal and Sharon Steltz

1.7 COMMUNITY RELATIONS/COMMUNITY CONCERN

Since contamination at this site involves multiple properties, 13 individual communications were required to gain access to the area estimated to have been affected by contamination. Permission for entry to the LILCO property was obtained through the assistance of the EPA Region 2 Office of Regional Counsel.

The FIT crew used the utmost discretion in conducting the SSI so that public concern was not heightened by the field work. Any public inquiries were referred to Jeff Gaal and Sharon Steltz.

2.0 DATA COLLECTION

During the SSI, nonsampling and limited sampling data were collected. Nonsampling data include site/environs data and desktop data. The overall purpose of the sampling data is to identify and characterize contamination at the site and at potential on-site targets.

2.1 NONSAMPLING DATA

Nonsampling data include desktop data and data collected during both the on-site reconnaissance and the sampling inspection. The nonsampling data requirements are summarized in Table 1.

2.2 SAMPLING DATA

Typically, environmental sampling data are used to identify and document contaminant releases to groundwater and surface water, to characterize waste source constituents, and to document actual contamination at target receptors.

Sag Harbor Bridge Street is a site of areal contamination from several possible sources. Sampling was conducted to identify constituents attributable to the Bridge Street site, to estimate a preliminary extent of the contamination, and to identify residential properties that may possibly be considered onsite targets.

Sampling to document observed release to groundwater was not conducted for the following reasons:

Monitoring wells existing on the Long Island Fisherman property were unuseable because they were left unlocked and were constructed in a manner that would allow surface contamination runoff to enter into them through holes in the casing.

Monitoring wells on Bridge Street were not sampled because sampling would require a subcontract for transport and disposal of the well evacuation water.

The private wells believed to be at homes on Rose and Meadow Street are no longer in service.

However, during subsurface soil sampling, samples were collected at or near the water table.

TABLE 1

NONSAMPLING DATA COLLECTION REQUIREMENTS

Data Requirements	Purpose	Collection Methods
Source/Waste Characteristics		
Determine whether PCB source is LILCO. Identify coal gas disposal area. Determine possible sources for other contaminants including volatile organic and inorganic contaminants.	Verify potential waste sources.	Interview property owners, local officials, and local historians.
Air Pathway		
Obtain population count within one-half mile of Bridge Street.	Verify target population for air pathway.	Drive-by survey.
Groundwater Pathway		
Obtain well logs for monitoring wells on Bridge Street and verify groundwater flow.	Identify local geology.	Contact NYSDEC, Storch Associates, and USGS.
Determine groundwater use within target distance of Bridge Street.	Verify target population for groundwater pathway.	Contact SCWA. Drive-by survey.
Surface Water Pathway		
Field check surface water use. Field check nearest wetlands.	Verify use of surface water and targets.	Visual Inspection.
Obtain more accurate drainage area estimate and evaluate drainage pathway.	Verify potential to release to surface water.	Visual inspection.
Onsite Pathway		
Determine population on Bridge Street.	Verify potential resident/ nearby population targets.	Contact property owners.

Sampling to document an oberved release to surface water was also not conducted for the following reasons:

It would be difficult to attribute contamination noted to the site. Surface water runoff from most of Bridge and Rose Streets drains into the catch basins on Bridge Street.

It is not known whether the drainage system is influenced by tidal movements of Sag Harbor Cove.

Documenting the potential to release to groundwater and surface water was considered to be more feasible in the SSI stage than documenting observed releases.

The sampling inspection was conducted on November 30, 1988 by the following FIT Personnel:

Site Manager - Deborah Cohen
Site Safety Officer - Laura LaForge
Sample Management Officer - Jane Bullis
Sampler - Rich Pagano
Sampler - Ken Roof
Sampler/Decon - John Bulich

Eleven soil samples were collected to characterize constituents of the waste source areas and identify contamination at possible on-site targets. The following three types of soil samples were collected: subsurface composite, surface composite, and surface grab. Table 2 describes the samples, and Figures 6 and 7 display the sampling locations. With the exception of NYFT-S6, all composite subsurface samples were collected at a depth of 2 to 3 feet and were collected to identify waste sources and waste characteristics. NYFT-S6 was a composite subsurface sample collected below the fill soil that was recently laid down on the property at a depth of 1.5 to 2 feet. This sample was collected to identify on-site population; i.e., if the area represented by the soil smple was found to be contaminated, the residents on the property could be counted as on-site population.

The composite surface samples were collected at a depth of 0 to 6 inches, and with the exception of NYFT-S3, were collected to identify on-site population. NYFT-S3 was collected for waste characterization. NYFT-S12 was collected at a depth of 0 to 12 inches, and its purpose was to identify waste sources and characteristics.

Ref. No. 4, 6, 28

NUS CORPORATION
SUPERFUND DIVISION

INTERNAL CORRESPONDENCE

C-582-6-8-137

TO: DISTRIBUTION

DATE: JUNE 28, 1988

FROM: MICHELE MROZEK

COPIES: SEE BELOW

SUBJECT: PHASE II - FIELD TESTING PROJECT

Attached please find copies of the following items pertaining to Phase II of the Field Testing Project: 1) biweekly progress report format; 2) teleconference schedule; 3) net precipitation values; and 4) chemical data look-up tables. Progress reports are due the Tuesday prior to the teleconferences, beginning on July 5. Please note that the first page of the progress report should summarize all regional PA activities and the second page should provide a site-specific status (e.g., state file search complete; background data collection 50 percent complete). Zone I teleconferences will begin at approximately 10:00 a.m. (EST) on the scheduled date. I will call you the day prior to the teleconference with the appropriate bridge number.

The net precipitation values and chemical data look-up tables are provided to assist Prescore efforts during Phase II. The net precipitation data are presented by state code, station name, latitude and longitude. It is suggested that the value from the nearest weather station in a similar geographic setting be used as the net precipitation value for a site. The chemical data look-up tables provide data for approximately 130 substances and are separated into two tables. Table 2 provides the revised HRS assigned value for the following waste characteristic factors: gas mobility; toxicity; aquatic mobility; persistence; and food chain. Table 1 provides the raw chemical data used to derive the values on Table 2. As noted during the orientation program, these tables are draft and are currently under review. However, until revised tables are made available, these tables are acceptable for use during Phase II.

Please call me if you have any questions or comments.

Distribution:

Jane Anderson, FIT 1
Buddy Lo Bue, FIT 2
Bill Wentworth, FIT 3
Mike Profit, FIT 4

Approved:

James Skridulis
Deputy Zone Program Manager

cc: Regional EPA Points-of-Contact (w/o enclosures)
Zone I FITOMs (w/o enclosures)
Paul Beam, EPA HQ (w/o enclosures)
Lucy Sibold, EPA HQ (w/o enclosures)
Paul Clay, NUS (w/o enclosures)
Ross Dimmick, NUS (w/o enclosures)
Jim Skridulis, NUS (w/o enclosures)
Lauren Ray, E & E (w/o enclosures)

FIELD NAME	FIELD DEFINITION
STATE-NUMBER	Characters 1-2 Cooperative State Code for each State. STATE CODE LISTING 01 Alabama 02 Arizona 03 Arkansas 04 California 05 Colorado 06 Connecticut 07 Delaware 08 Florida 09 Georgia 10 Idaho 11 Illinois 12 Indiana 13 Iowa 14 Kansas 15 Kentucky 16 Louisiana 17 Maine 18 Maryland 19 Massachusetts 20 Michigan 21 Minnesota 22 Mississippi 23 Missouri 24 Montana 25 Nebraska 26 Nevada 27 New Hampshire 28 New Jersey 29 New Mexico 30 New York 31 North Carolina 32 North Dakota 33 Ohio 34 Oklahoma 35 Oregon 36 Pennsylvania 37 Rhode Island 38 South Carolina 39 South Dakota 40 Tennessee 41 Texas 42 Utah 43 Vermont 44 Virginia 45 Washington 46 West Virginia 47 Wisconsin 48 Wyoming 49 Not Used 50 Alaska 51 Hawaii 66 Puerto Rico 67 Virgin Islands 91 Pacific Islands
STATION-NUMBER	Characters 3-6 Cooperative Station Number Range = 0001-9999.
DATA-CODE	Character 7 Data Indicator Code 1 = Maximum Mean Temperature 2 = Minimum Mean Temperature 3 = Average (Mean) Temperature 4 = Heating Degree Days 5 = Cooling Degree Days 6 = Precipitation (1951-80 Normals only)

OBS	STATE	NAME		LATNUM	LONNUM	NETPREC
1871	29	LOS ALAMOS		35.52	106.19	3.4323
1872	29	AMISTAD 1 SSW		35.54	103.10	0.4029
1873	29	ROY		35.57	104.12	0.8208
1874	29	WOLF CANYON		35.58	106.46	7.9176
1875	29	CUBA		36.02	106.58	3.3220
1876	29	CHACO CANYON NAT MON		36.02	107.54	1.6283
1877	29	PASAMONTE		36.18	103.44	0.6540
1878	29	SPRINGER		36.23	104.36	0.9134
1879	29	CLAYTON WSO	R	36.27	103.09	0.4587
1880	29	CIMARRON		36.31	104.55	0.9582
1881	29	EAGLE NEST		36.33	105.16	3.4400
1882	29	GRENVILLE		36.36	103.37	0.7293
1883	29	EL VADO DAM		36.36	106.44	4.2724
1884	29	BLOOMFIELD 3 SE		36.40	107.58	1.6665
1885	29	RED RIVER		36.42	105.24	6.5349
1886	29	FRUITLAND 2 E		36.44	108.21	1.7307
1887	29	DES MOINES		36.45	103.50	1.4617
1888	29	CERRO 4 NE		36.49	105.35	2.5022
1889	29	AZTEC RUINS NAT MON		36.50	108.00	2.5060
1890	29	CHAMA		36.55	106.35	7.9954
1891	29	LAKE MALOYA		36.59	104.22	6.5991
1892	30	NY WESTERLEIGH STAT IS		40.36	74.10	21.6651
1893	30	NEW YORK JFK INTL AP		40.39	73.47	19.0931
1894	30	MINEOLA	R	40.44	73.38	21.4240
1895	30	NEW YORK LA GUARDIA WSO		40.46	73.54	19.3035
1896	30	NEW YORK CNTRL PK WSO		40.47	73.58	20.3698
1897	30	PATCHOGUE 2 N		40.48	73.01	23.7759
1898	30	BRIDGEHAMPTON		40.57	72.18	25.0065
1899	30	RIVERHEAD RESEARCH		40.58	72.43	23.0994
1900	30	SETAUKET		40.58	73.06	22.4342
1901	30	SCARSDALE		40.59	73.48	23.5676
1902	30	DOBBS FERRY		41.01	73.52	25.7776
1903	30	WEST POINT		41.23	73.58	25.3622
1904	30	PORT JERVIS		41.23	74.41	20.2989
1905	30	CARMEL 1 SW		41.25	73.42	23.9528
1906	30	GLENHAM		41.31	73.56	20.2757
1907	30	POUGHKEEPSIE FAA AP		41.38	73.53	18.7671
1908	30	MOHONK LAKE		41.46	74.09	24.9201
1909	30	LIBERTY		41.48	74.45	27.4126
1910	30	MILLBROOK		41.51	73.37	18.9681
1911	30	ELMIRA		42.06	76.49	13.5705
1912	30	ALLEGANY STATE PARK		42.06	78.45	22.0001
1913	30	SPENCER 3 W		42.12	76.34	17.6526
1914	30	BINGHAMTON WSO	R	42.13	75.59	16.8007
1915	30	ALFRED		42.15	77.48	16.5521
1916	30	LITTLE VALLEY		42.15	78.48	27.7659
1917	30	WESTFIELD 3 SW		42.17	79.37	20.7292
1918	30	BAINBRIDGE		42.18	75.29	19.2523
1919	30	ANGELICA		42.18	78.01	14.2349
1920	30	FRANKLINVILLE		42.21	78.27	19.6155
1921	30	FREDONIA		42.25	79.18	17.2706
1922	30	ITHACA CORNELL UNIV.	//	42.27	76.27	14.9113
1923	30	ALCOVE DAM		42.28	73.56	18.7429
1924	30	NORWICH 1 NE		42.32	75.30	20.0825
1925	30	DANSVILLE		42.34	77.42	11.5336

2.3 SAMPLING PROCEDURES

Sample collection, preservation, QA/QC, and chain of custody procedures were in accordance with the standard operating procedures specified in the NUS Superfund Division Quality Assurance Manual D, January 1987.

Soil/Sediment samples consisted of two 40-mL vials for volatiles, one 8-oz jar for extractables and pesticides/PCBs, and one 8-oz jar for inorganics. Soil samples were collected using dedicated sample collection equipment for each sample location. The volatile fraction was collected first as a grab sample. The soil was then homogenized in a stainless steel bowl for the collection of the nonvolatile fractions.

Aqueous QA/QC samples consisted of two 40-mL vials for volatiles, two 80-oz amber bottles for extractables and pesticides/PCBs, and two 1-liter polyethylene bottle for inorganics. The volatile fraction was collected first, followed by the nonvolatile fractions, by using dedicated sample collection equipment for each sample location.

For the Sag Harbor-Bridge Street Site, composite soil samples consisted of three or four sublocations. The volatile fraction was collected as a grab sample at one of the sublocations. After collection of the volatile fraction, soil from each sublocation was homogenized in a stainless steel bowl for the collection of the nonvolatile fractions. Three rinsate blanks (trowel, bowl, and auger) were collected for each type of sample collection equipment used. The trip blank consisted of two 40 mL vials for volatile analysis only.

All aqueous samples collected for volatile organic analysis, in 40-mL vials, were preserved with 6 Molar hydrochloric acid (HCl); those for inorganic analysis, collected in 1-liter polyethylene bottles, were preserved with nitric acid (HNO_3). Sufficient quantities of HCl and HNO_3 were added to adjust the samples to pH 2 or less.

Sampling was conducted for the full Target Compound List (TCL) including cyanide analysis.

2.3

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3.0 RESULTS

[illegible] the results of the nonsampling and sampling data during the SSI. [illegible] and supplement the PA data.

[illegible]ULTS

[illegible] operty owners in the vicinity of Bridge Street, the local historian, [illegible]ed to verify potential waste sources. The following information was

[illegible] the LILCO property are the ones on the utility poles, and they are [illegible] e property has not been used as a storage yard for transformers.

[illegible]ed when the LILCO property was a town gas plant were torn down [illegible]ap of the layout of the plant when in operation in 1915 shows [illegible] north and east borders; gas holders toward the center of the [illegible]m, generator room, and crude oil tank along the north border; and [illegible] northwest corner of the property (See Figure 5).

[illegible]own Long Island Avenue. The station was located where the post [illegible] of LILCO. A picture of Sag Harbor in the 1850s shows the [illegible]g tank used by the old town gas plant. The photo is included in

[illegible]n building was used for printing and typesetting until June 1988. [illegible] magazines and newspapers. The building is now empty.

[illegible] uffolk Electric Motors was not an electric plant. It has been an [illegible]o since some time in the 1970s.

[illegible] was conducted on November 10, 1988. Within a quarter mile from [illegible]-unit condominium were counted. Between one-quarter mile and [illegible] condominum including approximately 50 units were counted. The [illegible] between Long Island Avenue and Rose Street were not included in

3.0 RESULTS

The following sections provide the results of the nonsampling and sampling data during the SSI. These results were used to verify and supplement the PA data.

3.1 NONSAMPLING RESULTS

Source/Waste Characteristics: Property owners in the vicinity of Bridge Street, the local historian, and local officals were interviewed to verify potential waste sources. The following information was obtained:

The only transformers on the LILCO property are the ones on the utility poles, and they are not PCB transformers. The property has not been used as a storage yard for transformers.

The original buildings used when the LILCO property was a town gas plant were torn down sometime in 1987. A map of the layout of the plant when in operation in 1915 shows purifying houses on the north and east borders; gas holders toward the center of the property; an engine room, generator room, and crude oil tank along the north border; and a coal storage area in the northwest corner of the property (See Figure 5).

A railroad used to go down Long Island Avenue. The station was located where the post office now stands, east of LILCO. A picture of Sag Harbor in the 1850s shows the railroad and a gas holding tank used by the old town gas plant. The photo is included in Attachment 1, Exhibit B.

The Long Island Fisherman building was used for printing and typesetting until June 1988. The company published magazines and newspapers. The building is now empty.

It was determined that Suffolk Electric Motors was not an electric plant. It has been an electric motor repair shop since some time in the 1970s.

Ref. Nos. 6, 14, 31, 38

Air Pathway: A drive-by survey was conducted on November 10, 1988. Within a quarter mile from Bridge Street, 151 houses and an 8-unit condominium were counted. Between one-quarter mile and one-half mile, 316 houses and a condominum including approximately 50 units were counted. The 76 people living on Bridge Street between Long Island Avenue and Rose Street were not included in this count.

Ref Nos 6, 27, 29, 33

Groundwater Pathway: Well logs for the monitoring wells installed by the NYSDEC on the Long Island Fisherman property were unavailable. There are no well logs for the wells installed by Storch Associates; however, the well depths and water levels for these wells are available.

Groundwater flow was verified by the USGS to be tidal in Sag Harbor. A Suffolk County Water Authority (SCWA) representative was interviewed, and a drive-by survey was conducted to verify groundwater use in Sag Harbor. The public water supply, located about 1 mile south of Bridge Street, consists of one pump station with three wells. This water supply is not interconnected with any other water supply. The SCWA maps showing streets in Sag Harbor did not indicate homes with private wells but did show streets that do not have water mains. A drive-by survey was conducted for those streets within one-half mile from Bridge Street that did not have water mains. For the streets outside of one-half mile, a house count was conducted using the topographic map. The nearest home using a private well was identified on Meadowlark Lane about one-quarter mile southwest of Bridge Street. This was identified during the on-site reconnaissance.

TABLE 3

GROUNDWATER USAGE FOR TARGET POPULATION

Distance from Bridge Street:	Houses Served:		
	By Private Well		
(mile)	Sag Harbor	North Haven	By SCWA Well
0-$\frac{1}{4}$	12	---	---
$\frac{1}{4}$-$\frac{1}{2}$	19	---	---
$\frac{1}{2}$-1	15	42	---
1-2	153	117	1300
2-3	12	45	---
3-4	33	---	---

Ref. Nos. 4, 6, 9, 30, 32, 37

Surface Water Pathway: Sag Harbor Cove and Bay are marine environments and are connected to Gardiners Bay, which opens up into Long Island Sound and the Atlantic Ocean. Sag Harbor Cove and Bay are used for recreational boating and fishing as well as commercial fishing. Boat docks were noted along West Water Street near Bridge Street, and the Sag Harbor Yacht club is approximately one-quarter mile to the east. Surface water is not used for drinking as confirmed by SCWA. Wetlands were noted within one-quarter mile of Bridge Street as mapped in the Wetland Inventory Map.

Water was observed flowing south on Bridge Street toward two catch basins located on the east and west corners of Bridge and Rose Streets. A drainage ditch runs along the northern border of Harbor Close Condominiums and drains into a catch basin in the northeast corner of the property. There is also a drainage pit in the southwest corner of the Harbor Close Condominium property. During the site inspection ponding water was observed in the southeast corner of the LILCO property and on the south side of the Long Island Fisherman building. Surface water drainage in the vicinity of Bridge Street is pumped out an outfall pipe into Sag Harbor Cove near the boat docks on West Water Street. The outfall pipe is under water during high tide.

Ref. Nos. 4, 6, 7, 24, 34, 35

Onsite Pathway: The following number of people live on Bridge Street:

Greenberg property - 5 people: 2 children under 7 years old and 3 adults.
Casman property - 7 people, all adults
Harbor Close Condominiums - 64 people, all adults

Ref. Nos. 6, 33

3.2 SAMPLING RESULTS

Sampling results are presented in Tables 4 and 5 and are described in the following section. Table 6 presents a list of selected chemicals detected in samples collected by Storch Associates in 1987 and by NUS Corporation during the SSI.

Source/Waste Characteristics: The sampling results do not clearly indicate specific waste sources. Samples collected at LILCO (S1) and Long Island Fisherman (S2, S3, S4) showed the presence of various polynuclear aromatic hydrocarbons (PAHs) and inorganics. Samples collected at Long Island Fisherman also showed the presence of pesticides. Polychlorinated biphenyls (PCBs), which were suspected to be present in a sample collected on the north side of Long Island Fisherman after the oil spill in 1984, were detected in one sample. This sample (S6) was collected on the Greenberg property. Some contaminants detected in the soil samples are associated with wastes commonly found at town gas plants, and some contaminants are associated with fuel oils (see Table 6). Sources of the polychlorinated biphenyls (PCBs), pesticides, and various inorganics are unknown.

Ref. Nos. 6, 7, 36, 39, 40, 41

TABLE 4
ORGANIC SAMPLING RESULTS

	LILCO (S1)	LIF: northwest (S2)	LIF: oil tank (S3)	LIF: pipes (S4)
Benzoic acid	270*	160*	99*	450*
Naphthalene	440	460	27*	28*
2-Methylnaphthalene	330*	270*	12*	24*
Acenaphthylene	3900	3800	130*	260*
Acenaphthene	250*	59*	---	24*
Dibenzofuran	390*	---	---	---
Fluorene	1000	590	14*	29*
Phenanthrene	5700	790	54*	67*
Anthracene	1900	1800	34*	120*
Di-n-butyl phthalate	---	---	---	---
Fluoranthene	12000	3900	180*	500*
Pyrene	21000	8100	430	900
Butylbenzyl phthalate	---	---	7*	---
Benzo(a)anthracene	11000	4200	180*	570*

* - Estimated value, compound present below CRDL but above IDL.
All values in ppb.
LIF - Long Island Fisherman.

TABLE 4
ORGANIC SAMPLING RESULTS (cont'd)

	LILCO (S1)	LIF: northwest (S2)	LIF: oil tank (S3)	LIF: pipes (S4)
Chrysene	11000	6000	240*	820
Bis(2-ethylhexyl)phthalate	---	---	550	1700
Di-n-octyl phthalate	---	---	4*	18*
Benzo(b)fluoranthene	12000	6700	270*	550*
Benzo(k)fluoranthene	12000	4100	210*	470*
Benzo(a)pyrene	13000	9100	360*	530*
Indeno(1,2,3-cd)pyrene	12000	7100	290*	520*
Dibenz(a,h)anthracene	3100	1800	64*	110*
Benzo(g,h,i)perylene	18000	11000	460	770
Dieldrin	---	70**	---	47**
4,4'-DDE	---	260**	14*	190**
4,4,'-DDD	---	260**	120	180**
4,4'-DDT	---	720**	28**	520**
Aroclor-1248	---	---	---	---
Aroclor-1254	---	---	---	---

* - Estimated value, compound present below CRDL but above IDL.
** - Estimated Value.
All values in ppb.
LIF - Long Island Fisherman.

TABLE 4
ORGANIC SAMPLING RESULTS (cont'd)

	Greenberg (S6)	Casman (S7)	HCC (S8)	HCC (S9)	HCC (S10,11)	HCC (S12)
Benzoic acid	170*	210*	---	---	---	46*
Naphthalene	---	---	---	---	---	11*
2-Methylnaphthalene	---	16*	---	---	5*	9*
Acenaphthylene	61*	79*	26*	8*	36*, 23*	62*
Acenaphthene	---	---	---	---	48*, 5*	---
Dibenzofuran	---	16*	---	---	---	---
Fluorene	---	25*	---	---	5*, 6*	
Phenanthrene	81*	340*	---	---	36*	60*
Anthracene	---	73*	---	---	---	33*
Di-n-butyl phthalate	340**	---	---	---	---	---
Fluoranthene	210*	620	110*	45*	150*, 120*	200*
Pyrene	300*	940	140*	55*	250*, 160*	260*
Butylbenzyl phthalate	870	14*	10*	---	---	---
Benzo(a)anthracene	---	380*	---	---	---	---
Chrysene	180*	430*	---	---	180*, 120*	180*

* - Estimated value, compounds present below CRDL but above IDL.
** - Esitmated Value.
All values in ppb.
HCC - Harbor Close Condominiums.

TABLE 4
ORGANIC SAMPLING RESULTS (cont'd)

	Greenberg (S6)	Casman (S7)	HCC (S8)	HCC (S9)	HCC (S10,11)	HCC (S12)
Bis(2-ethylhexyl)phthalate	---	---	---	---	---	---
Di-n-octyl phthalate	---	---	---	3*	---	6*
Benzo(b)fluoranthene	160*	420*	120*	46*	160*, 95*	280*
Benzo(k)fluoranthene	150*	390*	98*	34*	160*, 110*	150*
Benzo(a)pyrene	200*	430*	110*	26*	130*, 89*	200*
Indeno(1,2,3-cd)pyrene	130*	330*	69*	31*	100*, 73*	160*
Dibenz(a,h)anthracene	35*	80*	---	---	28*, 27*	30*
Benzo(g,h,i)perylene	180*	460*	97*	38*	150*, 87*	250*
Dieldrin	---	---	14**	11**	2.7*	6*
4,4'-DDE	---	34	140**	49	14*, 6.8*	26**
4,4'-DDD	---	13*	130**	49	74, 27	420**
4,4'-DDT	---	31**	360**	130**	18**, 12*	45**
Aroclor-1248	1000**	---	---	---	---	---
Aroclor-1254	600**	---	---	---	---	---

* - Estimated value, compound present below CRDL but above IDL.
** - Esitmated Value.
All values in ppb.
HCC - Harbor Close Condominiums.

TABLE 5
INORGANIC SAMPLING RESULTS

	LILCO (S1)	LIF: northwest (S2)	LIF: oil tank (S3)	LIF: pipes (S4)
Aluminum	3450.0**	2000.0**	2810.0**	3930.0**
Antimony	---	---	---	---
Arsenic	15.9	5.7	1.8*	5.3
Barium	117.0**	23.6*	23.1*	235.0**
Cadmium	4.2	---	---	4.6
Calcium	5150.0**	690.0*	2040.0**	3730.0**
Chromium	---	---	---	---
Cobalt	3.0*	1.0*	---	---
Copper	125.00**	---	---	---
Iron	13800.0**	4650.0**	5250.0**	14300.0**
Lead	314.0**	23.9**	11.0**	72.2**
Magnesium	2010.0**	327.0*	893.0*	1010.0*
Manganese	138.0**	26.3**	85.2**	82.7**
Vanadium	10.5*	4.7*	5.5*	9.1*
Silver	---	---	---	24.9**
Zinc	666.0**	64.4**	50.5**	123.0**

* - Estimated value, compound present below CRDL but above IDL.
** - Estimated value.
All values in ppm.
LIF - Long Island Fisherman.

TABLE 5 (cont'd)
INORGANIC SAMPLING RESULTS

	Greenberg (S6)	Casman (S7)	HCC (S8)	HCC (S9)	HCC (S10,11)	HCC (S12)
Aluminum	1760.0**	4510.0**	11100.0**	6890.0**	3430.0**, 2230.0**	1950.0**
Antimony	---	16.5*	24.6**	17.4**	---	---
Arsenic	2.4*	5.8	63.9	19.1	2.5, 2.0*	1.9*
Barium	730.0**	195.0**	59.3	43.2*	20.2*, 12.5*	19.6*
Cadmium	2.3	4.1	3.8	3.3	---	1.4
Calcium	13100.0**	6500.0**	4040.0**	5170.0**	571.0*, 434*	1530.0**
Chromium	---	---	---	94.6**	---	---
Cobalt	---	3.0*	2.6*	2.1*	---	---
Copper	---	---	69.4**	43.7**	---	---
Iron	7530.0**	13000.0**	11400.0**	8820.0**	4870**, 3070**	4120.0**
Lead	325.0**	394.0**	55.9**	12.4**	9.2**, 11.8**	7.0**
Magnesium	1210.0*	702.0*	2190.0**	2880.0**	625.0*, 444.0*	526.0*
Manganese	79.2**	331.0**	90.9**	113.0**	93.4**, 58.6**	62.0**
Silver	2.5*	---	---	---	---	---
Vanadium	4.0*	13.4*	18.8	13.1	5.4*, 4.3*	9.1*
Zinc	485.0**	460.0**	58.0**	70.3**	---	51.8**

* - Estimated value, compounds present below CRDL but above IDL.
** - Estimated Value.
All values in ppm.
HCC-Harbor Close Condominiums

TABLE 6

SELECTED CONTAMINANTS DETECTED ON BRIDGE STREET

Characteristic Compounds Found In Manufactured Gas Plant Tars

Benzene (s,gw, fo)
Toluene (s,gw, fo)
Xylenes (s,fo)
Phenol (gw,fo)
Naphthalene (ss,gw,fo)
Methylnaphthalenes (ss,gw,fo)
Dimethylnaphthalenes (gw)
Acenaphthene (ss,gw,fo)
Fluoranthene (ss,gw)
Anthracene (ss,fo)
Phenanthrene (ss,gw,fo)
Pyrene (ss,gw)
Chrysene (ss)
Benzo(a)anthracene (ss)
Benzo(k)fluoranthene (ss)
Benzo(a)pyrene (ss)
Benzo(g,h,i)perylene (ss)
Dibenz(a,h)anthracene (ss)

Additional Compounds (not associated with manufactured gas plant tars)

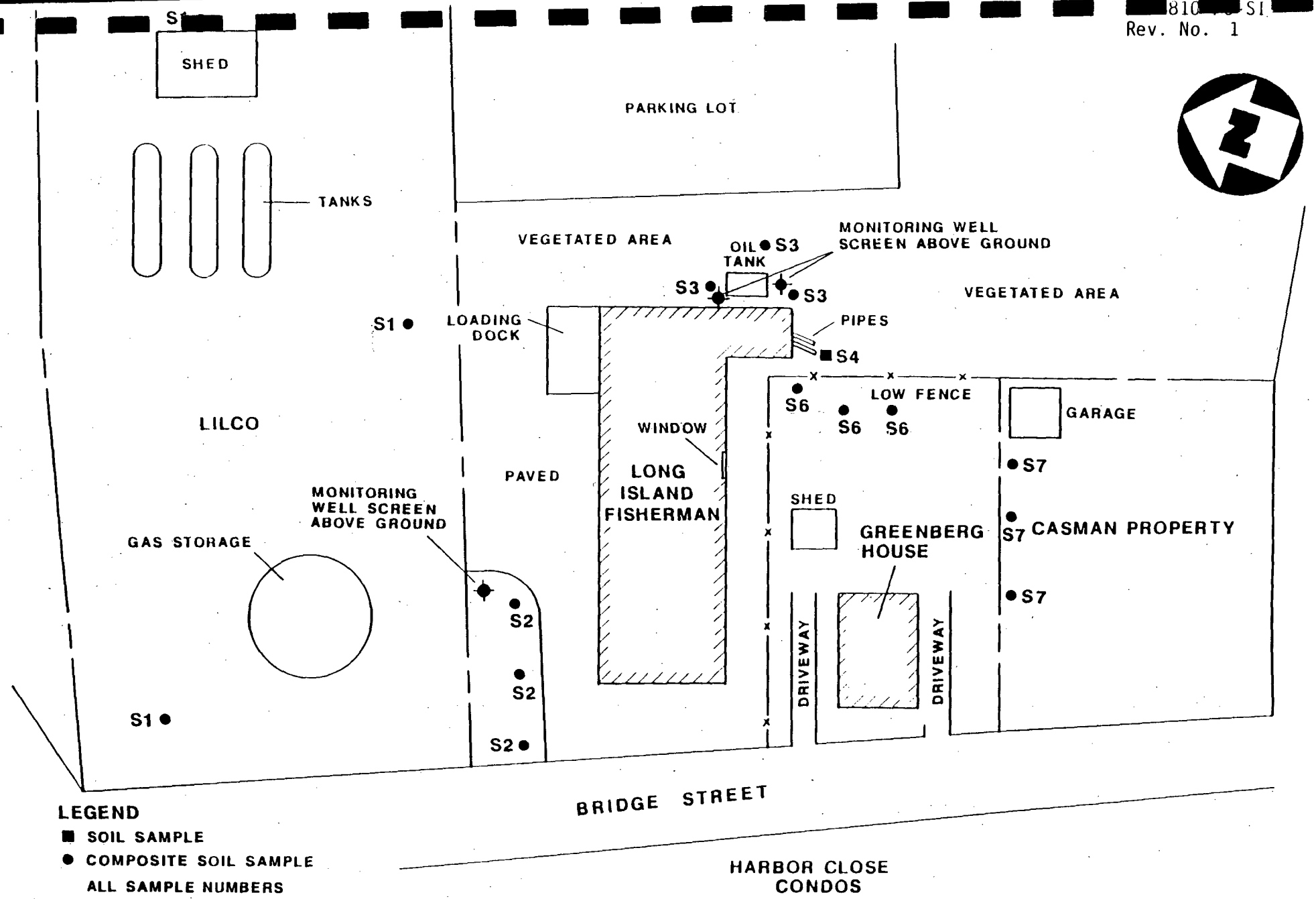
Benzoic acid (ss,fo)
Ethylbenzene (s,gw,fo)
4,4'-DDE (ss,s)
4,4'-DDT (ss,s)
Styrene (s)
Bis(2-ethylhexyl)phthalate (ss,gw,sw)
Copper (ss,gw)
Lead (ss,gw,sw)
Zinc (ss,gw,sw)
Arsenic (ss,gw,sw)
Cyanide (gw)

ss - detected in soil samples from the SSI on Sag Harbor-Bridge Street (See Tables 4 and 5)
s - detected in soil samples from Storch Associates investigation (Ref. 3)
gw - detected in groundwater samples from Storch Associates investigation (Ref. 4)
sw - detected in surface water samples from Storch Associates investigation (Ref. 4)
fo - identified in fuel oils (Ref. 40)

TABLE 2

SAMPLING SUMMARY

Sample	Sample No.	Location	Rationale
Composite, subsurface soil	NYFT-S1	LILCO Property	Waste Characterization
Composite, subsurface soil	NYFT-S2	Long Island Fisherman Property - northwest corner	Waste Characterization
Composite, surface soil	NYFT-S3	Long Island Fisherman Property - east side, near oil tank	Waste Characterization
Surface soil	NYFT-S4	Long Island Fisherman Property - south side, next to pipes	Waste Characterization
Composite, subsurface soil	NYFT-S6	Greenberg Property	On-Site Population
Composite, surface soil	NYFT-S7	Casman Property	On-Site Population
Composite, surface soil	NYFT-S8	Harbor Close Condo - east side	On-Site Population
Composite, surface soil	NYFT-S9	Harbor Close Condo - south side	On-Site Population
Composite, subsurface soil	NYFT-S10	Harbor Close Condo - southern border	Waste Characterization
Composite, subsurface soil	NYFT-S11	Same location as NYFT-S10	Waste Characterization
Surface soil	NYFT-S12	Harbor Close Condo - drainage pipe, southwest corner	Waste Characterization



LEGEND

- ■ SOIL SAMPLE
- ● COMPOSITE SOIL SAMPLE

ALL SAMPLE NUMBERS PRECEDED BY NYFT

FIGURE 6

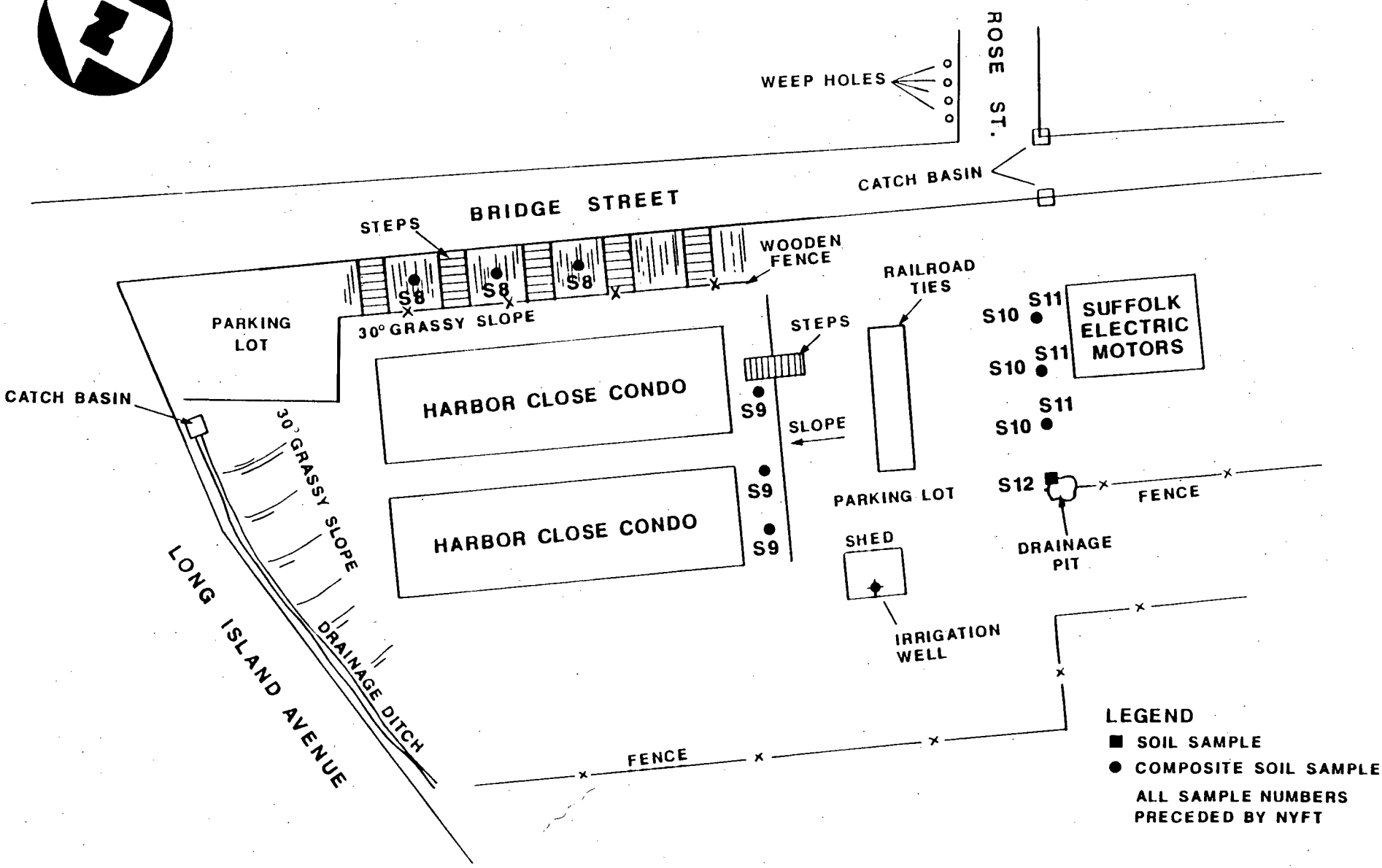
SAMPLE LOCATION MAP

EAST SIDE OF BRIDGE STREET

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

NOT TO SCALE

NUS CORPORATION



SAMPLE LOCATION MAP

WEST SIDE OF BRIDGE STREET

SAG HARBOR-BRIDGE STREET, SAG HARBOR, N.Y.

NOT TO SCALE

FIGURE 7

NUS CORPORATION

Groundwater Pathway: Groundwater samples were not collected. Soil samples S1, S2, S3, S4, S6, and S7 were collected at the water table. Various PAHs, pesticides, and various inorganics were detected in these samples except for S1. Only PAHs and inorganics were detected in S1. PCBs were detected in S6 only. The contaminants detected in the soil may represent groundwater contamination. Previous groundwater analysis detected many of these contaminants in the groundwater (see Table 6).

Ref. Nos. 3, 4, 6, 36

Surface Water Pathway: Surface water samples were not collected.

Onsite Exposure Pathway: Samples from soil depths of 0 to 2 feet were collected from the Long Island Fisherman property (S3, S4), the Greenberg property (S6), the Casman property (S7), and the Harbor Close Condominium property (S8, S9, S12).

The two samples collected on the Long Island Fisherman property, which were collected near the surface, showed notable concentrations of chrysene, bis(2-ethylhexyl)phthalate and benzo(g,h,i)perylene, as well as estimated concentrations of many PAHs, pesticides, barium, iron, and silver.

Analysis of the soil sample collected from the Greenberg property showed notable concentrations of butylbenzyl phthalate and estimated concentrations of benzoic acid, di-n-butyl phthalate, Aroclor 1248, Aroclor 1254, barium, calcium, lead, and zinc. This soil sample was collected at a depth of 1.5 to 2 feet just below the fill soil the Greenbergs recently laid down.

Analysis of the soil sample collected from the Casman property showed notable concentrations of fluoranthene and pyrene and estimated concentrations of benzoic acid, various PAHs, barium, iron, lead, manganese, and zinc.

Analysis of soil samples collected from the Harbor Close Condominium property showed notable concentrations of arsenic and vanadium and estimated concentrations of DDE, DDD, DDT, aluminum, chromium, copper, and iron. There are also low estimated concentrations of various PAHs. The condominiums use a private well for watering the lawn, and prior to sampling, the lawn had been fertilized.

Ref. Nos. 6, 36

4.0 DISCUSSION OF CHARACTERISTICS AND TARGETS

This section discusses the data and information collected during the SSI that apply to the migration pathways and targets associated with the Sag Harbor-Bridge Street Site. Refer to the PA provided in the appendix for additional background information.

4.1 SOURCE/WASTE CHARACTERISTICS

There is areal soil contamination in the vicinity of Bridge Street. Sources for the contamination and the extent of contamination could not be delineated in the SSI. Estimated property sizes within the SSI inspection are

LILCO = 35,000 ft^2
Long Island Fisherman = 28,850 ft^2
total inspection area = 180,000 ft^2

Because the specific origins of hazardous substances may no longer exist and information is lacking on the specific sources that have contributed to the areal contamination, the source and waste quantity would be based on the full areal extent of the existing contamination. The SSI confirmed the presence of prevailing contamination throughout the entire study area. Further analytical information on the full extent of the contamination can facilitate characterizing the magnitude of the problem and perhaps provide estimated levels of specific constituents.

Ref. Nos. 5, 6, 36, 37

4.2 AIR PATHWAY/TARGETS

The air pathway is not a significant pathway. No readings above background were detected on the HNu or OVA. There is a medium potential for contaminants to be released to air. Containment is based on chemicals detected in the soil at depths of less than 6 inches. It is not known whether the covering soil is contaminated. Although there may be resident population, the population within 4 miles of the site is low.

Ref. Nos. 6, 9, 10, 16, 27, 29, 33, 36

4.3 GROUNDWATER PATHWAY/TARGETS

The potential to release to the groundwater is very high, since the water table is at or near the surface and contaminants were detected in soil samples collected at the water table.

The nearest private well is on Meadowlark Lane, less than one-quarter mile southwest of Bridge Street. Most of the residents of Sag Harbor receive their drinking water from the public supply, 1 mile south of Bridge Street, but there are private wells scattered throughout the town. The public water supply wells are not interconnected with other wells. Groundwater is also used for irrigation and commercial and industrial uses.

Information on the on-site geology is needed to document hydraulic connection or discontinuity between the water table aquifer and the aquifer serving the public.

Analytical information showing the presence of contaminants in the aquifer is needed to document an observed release to groundwater.

Ref. Nos. 6. 9, 28, 32, 36, 37

4.4 SURFACE WATER PATHWAY/TARGETS

There is a high likelihood of release to surface water. The site is a few hundred feet from Sag Harbor Cove and is in a flood zone.

Surface water runoff was observed draining into the catch basins on Bridge and Rose Streets. This water, along with water from other catch basins in the area, is pumped out an outfall pipe into Sag Harbor Cove.

Sampling information for the catch basin on Bridge Street, and for water and sediments at the outfall pipe is needed to monitor for surface water release.

Ref.Nos. 4, 6, 7, 34, 35 36, 37

4.5 ONSITE EXPOSURE PATHWAY/TARGETS

This pathway is of most concern. Due to the uncertainty of waste sources and site boundaries, a projected site was determined to be the area of investigation of this SSI. A total of 76 people, including 2 children under 7 years old, live within this area and are possibly resident population.

With the exception of the LILCO property, which is completely fenced in, other properties are easily accessible.

Extended sampling is needed to document background conditions and to observe whether residents of other properties may qualify as resident population.

Ref. Nos. 5, 6, 33, 36

5.0 SUMMARY AND RECOMMENDATIONS

The following section provides a summary of the SSI findings and recommends further action for the site.

5.1 SUMMARY

The Sag Harbor-Bridge Street Site has areal soil contamination. Waste sources and boundaries have not been clearly identified. Sample analysis shows contaminants in the soil and potentially in the groundwater and surface water. Surface water and groundwater samples were not collected during this SSI investigation; however, in previous investigations by Storch Associates groundwater, surface water, and soil contamination were noted. Onsite exposure is of major concern since among the potential resident population there are two children under 7 years old.

5.2 RECOMMENDATION

Based on the PA/SSI results it is recommended that this site receive a medium priority for further evaluation in a Listing Site Inspection (LSI). It is recommended that the following samples or information be collected during the LSI with field work to focus on the following:

- Extent of soil contamination on Bridge Street and whether the contamination is limited to Bridge Street.
- Analytical documentation of background surface soil conditions.
- Documentation of an observed release to groundwater.
- Documentation of an observed release to surface water.

ATTACHMENT 1

EXHIBIT A

PHOTOGRAPH LOG

SAG HARBOR - BRIDGE STREET
SAG HARBOR, NEW YORK

SAG HARBOR - BRIDGE STREET
SAG HARBOR, NEW YORK

Photo Number	Description	Time
1P3	July 14, 1988 View south down Bridge Street. Harbor Close Condominiums are on the right, and LILCO and Long Island Fisherman are on the left.	1400
1P5	July 14, 1988 View north up Bridge Street at the corner of Rose Street.	1410
1P8,9	July 14, 1988 View of the rear of the Long Island Fisherman building; looking northwest.	1420
1P1	November 30, 1988 R. Pagano, K. Roof, and J. Bulich deconning equipment.	0745
1P4	November 30, 1988 Photo showing the first auger hole for NYFT-S2 soil sample collected near the monitoring well in the northwest corner of the Long Island Fisherman Property.	0838
1P2	November 30, 1988 R. Pagano collecting the VOA portion of NYFT-S2 soil sample at the third auger hole.	0835
1P7	November 30, 1988 Photo of the third hole of NYFT-S3 soil sample near the monitoring well that is to the left of the oil tank at the east side of the Long Island Fisherman building.	0937
1P5	November 30, 1988 R. Pagano collecting the VOA portion of NYFT-S3 soil sample at the first hole near the oil tank.	0930
1P8	November 30, 1988 K. Roof collecting NYFT-S4 soil sample near the drainage pipes on the south side of the Long Island Fisherman building.	1000
1P9	November 30, 1988 Photo of the window on the south side of the Long Island Fisherman building with gray material on the sill.	1030
1P11	November 30, 1988 K. Roof collecting the VOA portion of NYFT-S6 soil sample at the second auger hole on the Greenberg property.	1110
1P14	November 30, 1988 K. Roof collecting the VOA portion of NYFT-S1 at the third auger hole on the LILCO property.	1215
1P16	November 30, 1988 R. Pagano collecting NYFT-S7 soil sample on the Casman property.	1310
1P17	November 30, 1988 R. Pagano collecting the VOA portion of NYFT-S8 soil sample on the east side of the Harbor Close Condominium property at the third auger hole.	1420

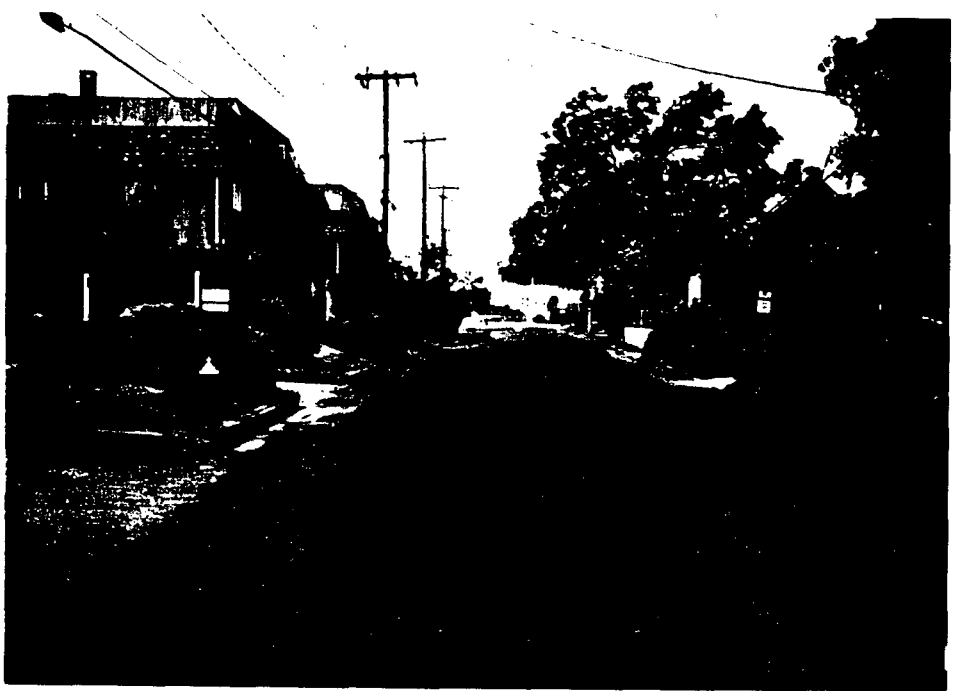
SAG HARBOR - BRIDGE STREET
SAG HARBOR, NEW YORK

Photo number	Description	Time
1P18	November 30, 1988 R. Pagano collecting NYFT-S9 soil sample.	1440
1P19	November 30, 1988 K. Roof collecting the VOA portion of NYFT-S10 soil sample at the third auger hole.	1500
1P20	November 30, 1988 K. Roof collecting NYFT-S11 at the same location as NYFT-S10.	1505
1P21	November 30, 1988 R. Pagano collecting NYFT-S12 soil sample from the drainage pit on the south side of the Harbor Close Condominium property.	1515

Photographs taken July 14, 1988 were taken by D. Hessemer.
Photographs taken November 30, 1988 were taken by D. Cohen.

SAG HARBOR - BRIDGE STREET. SAG HARBOR, NEW YORK

1P3 July 14. 1988 1400
View south down Bridge Street. Harbor Close Condominiums are on the right. and LILCO and Long Island Fisherman are on the left.



1P5 July 14. 1988 1410
View north up Bridge Street at the corner of Rose Street

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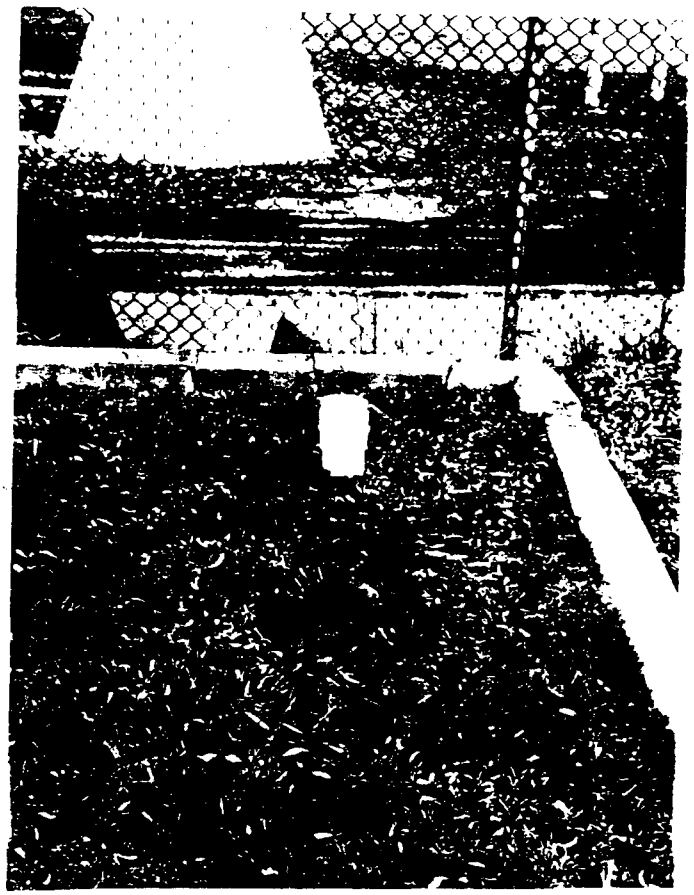
SAG HARBOR - BRIDGE STREET, SAG HARBOR, NEW YORK

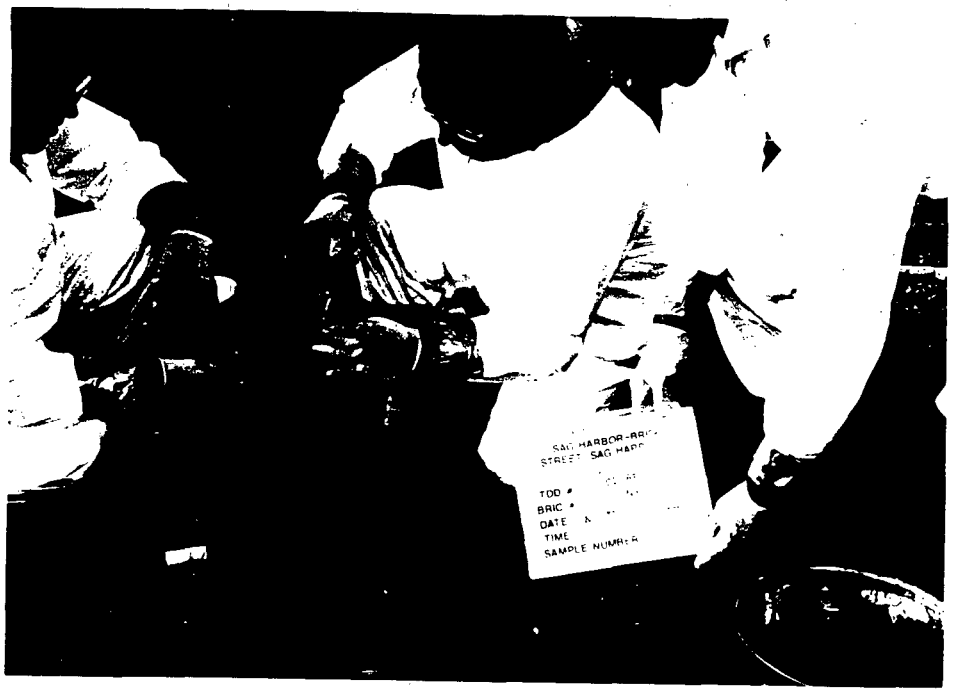
1P8,9 July 14, 1988 1420
View of the rear of the Long Island Fisherman Building; looking northwest.

SAG HARBOR - BRIDGE STREET, SAG HARBOR, NEW YORK

1P1 November 30, 1988 0745
R. Pagano, K. Roof, and J. Bulich deconning equipment.



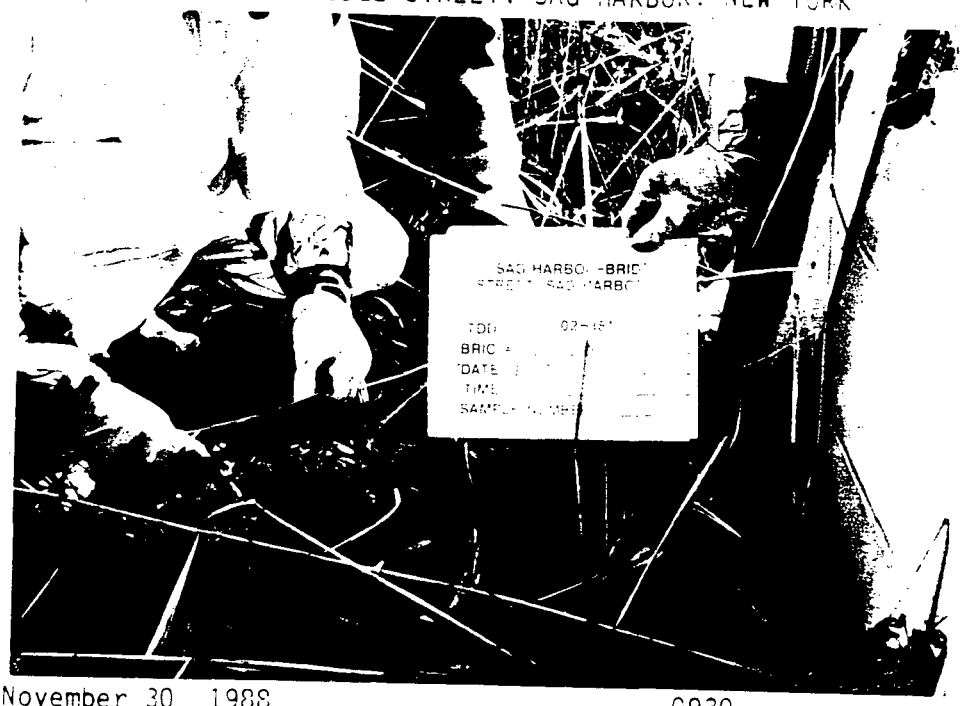
1P4 November 30, 1988 0838
Photo showing the first auger hole for NYFT-S2 soil sample collected near the monitoring well in the northwest corner of the Long Island Fisherman Property.



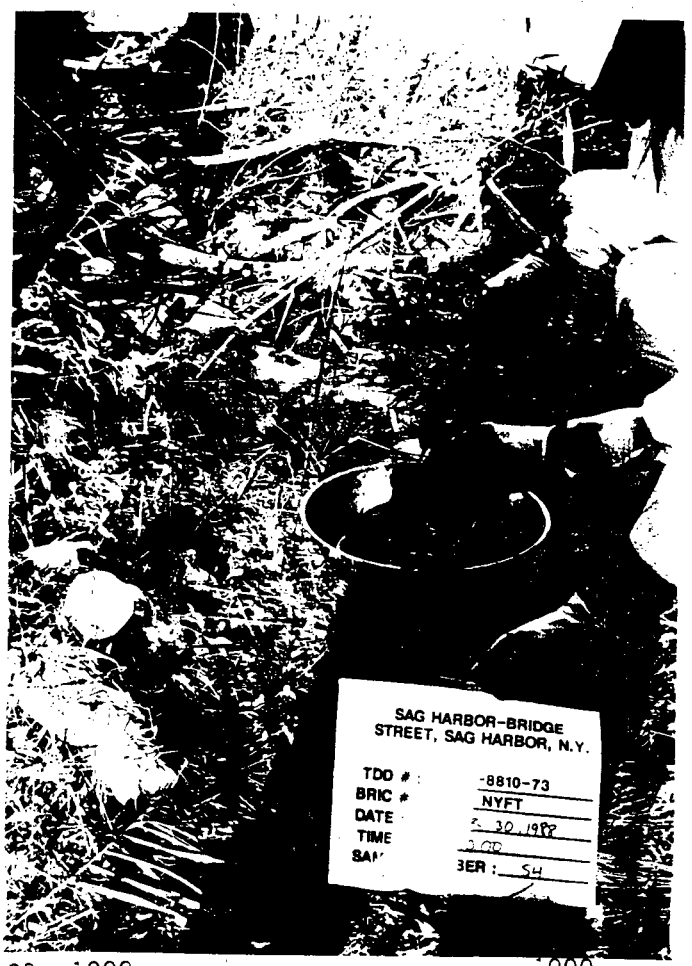
1P2 November 30. 1988 0835
R. Pagano collecting the VOA portion of NYFT S2 soil sample at the third auger hole.

1P7 November 30 1988 0937
Photo of the third hole of NYFT-S3 soil sample near the monitoring well that is to the left of the oil tank at the east side of the Long Island Fisherman building.

SAG HARBOR - BRIDGE STREET, SAG HARBOR, NEW YORK



1P5 November 30 1988 0930
R. Pagano collecting the VOA portion of NYFT S3 soil sample at the first hole near the oil tank.



1P8 November 30, 1988 1000
K. Roof collecting NYFT-S4 soil sample near the drainage pipes on the south side of the Long Island Fisherman building.

SAG HARBOR - BRIDGE STREET, SAG HARBOR, NEW YORK

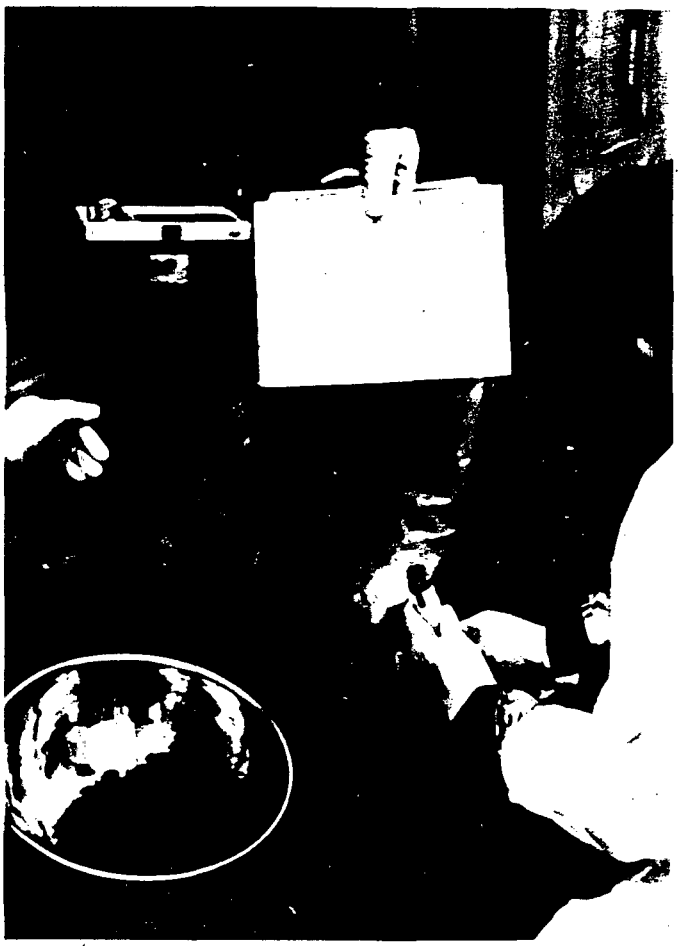
1P9 November 30, 1988 1030
Photo of the window on the south side of the Long Island Fisherman building with gray material on the sill.

1P11 November 30, 1988 1110
K. Roof collecting the VOA portion of NYFT-S6 soil sample at the second auger hole on the Greenberg property.

SAG HARBOR - BRIDGE STREET, SAG HARBOR, NEW YORK

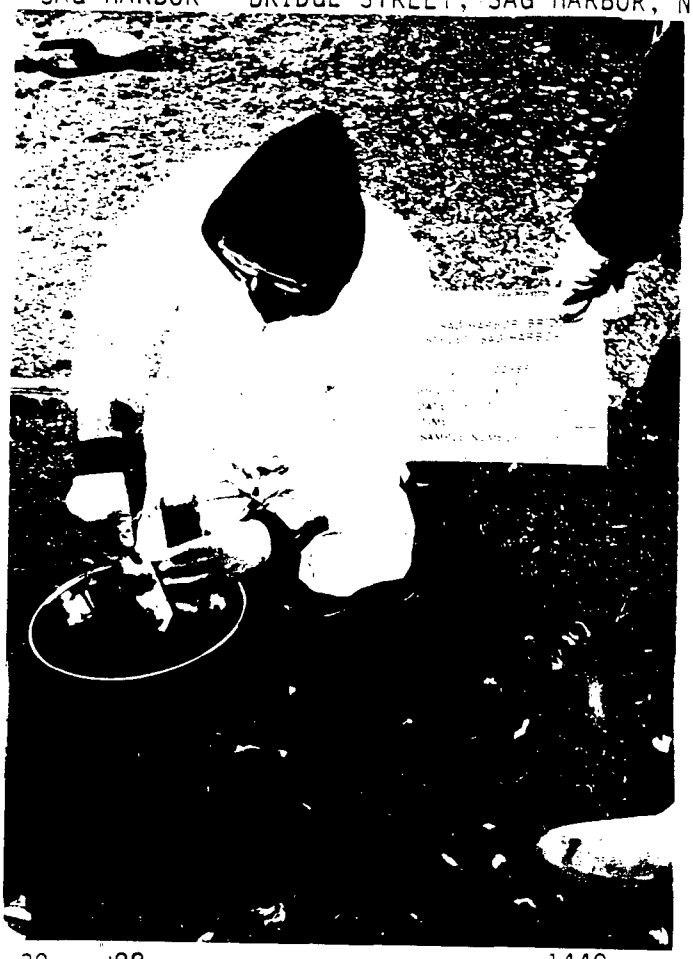
1P14 November 30, 1988 1215
K. Roof collecting the VOA portion of NYFT-S1 at the third auger hole on the LILCO property.

1P16 November 30, 1988 1310
R. Pagano collecting NYFT-S7 soil sample on the Casman property.

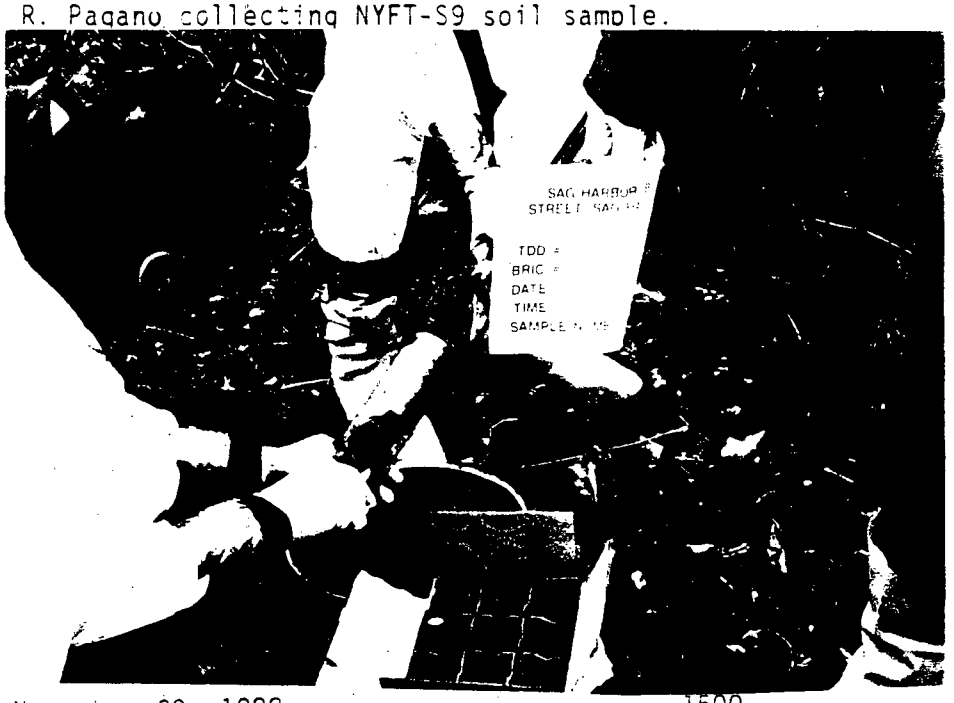


1P17 November 30, 1988 1420
R. Pagano collecting the VOA portion of NYFT-S8 soil sample on the east side of the Harbor Close Condominium property at the third auger hole.

SAG HARBOR - BRIDGE STREET, SAG HARBOR, NEW YORK

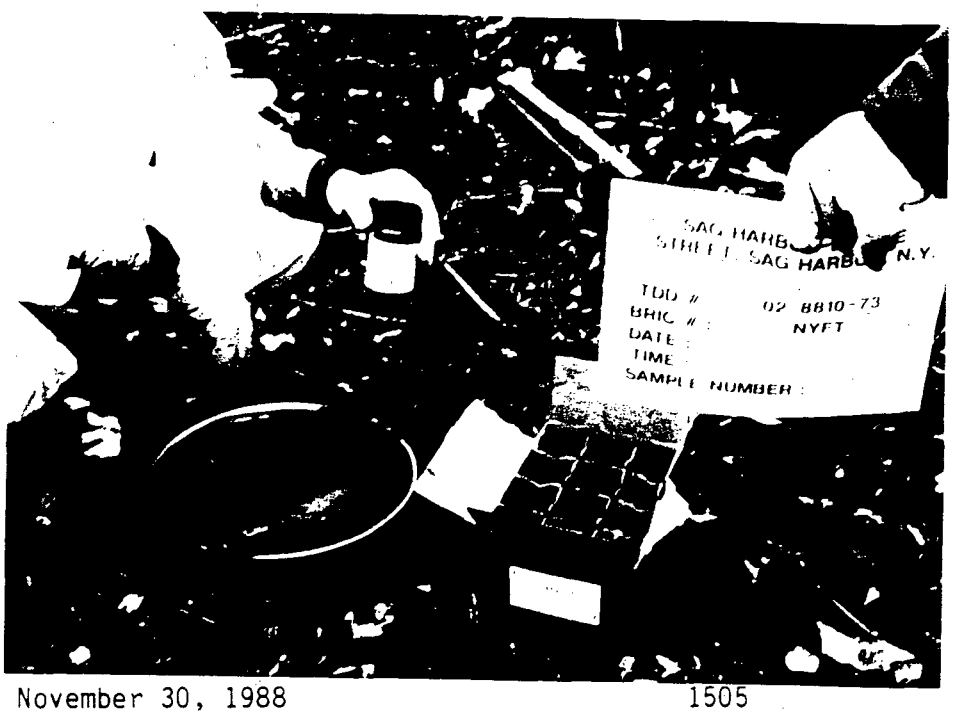


1P18 November 30, 1988 1440
R. Pagano collecting NYFT-S9 soil sample.



1P19 November 30, 1988 1500
K. Roof collecting the VOA portion of NYFT-S10 soil sample at the third auger hole.

SAG HARBOR - BRIDGE STREET, SAG HARBOR, NEW YORK



1P20 November 30, 1988 1505
K. Roof collecting NYFT-S11 at the same location as NYFT-S10.

1P21 November 30, 1988 1515
R. Pagano collecting NYFT-S12 soil sample from the drainage pit on the south side of the Harbor Close Condominium property.

EXHIBIT B

PHOTOGRAPH OF SAG HARBOR FROM THE 1850's

REFERENCE NO. 45

J. MAYO

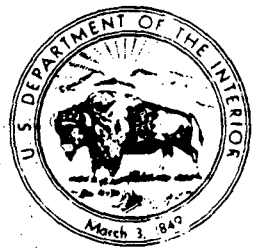
Water-Transmitting Properties of Aquifers on Long Island, New York

By N. E. McCLYMONDS and O. L. FRANKE

HYDROLOGY AND SOME EFFECTS OF URBANIZATION ON LONG ISLAND, NEW YORK

GEOLOGICAL SURVEY PROFESSIONAL PAPER 627-E

Prepared in cooperation with the New York State Department of Conservation, Division of Water Resources; the Nassau County Department of Public Works; the Suffolk County Board of Supervisors; and the Suffolk County Water Authority



UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON : 1972

HYDROLOGY AND SOME EFFECTS OF URBANIZATION ON LONG ISLAND, NEW YORK

WATER-TRANSMITTING PROPERTIES OF AQUIFERS ON LONG ISLAND, NEW YORK

By N. E. McClymonds and O. L. Franke

ABSTRACT

Data on the aquifers of Long Island, N.Y., have been collected for the past 30 years as part of a series of studies conducted by the U.S. Geological Survey in cooperation with New York State and county agencies. Since 1900, more than 50,000 wells have been constructed on Long Island. For at least 2,500 of these wells, some information was recorded that is of value in interpreting the hydrologic character of one or more of the four principal aquifers—the upper glacial, the Jameco, the Magothy, and the Lloyd. Although the data for the deeper aquifers—the Magothy and Lloyd—are concentrated largely in the western part of Long Island, enough information is available to make a general interpretation of the hydraulic conductivity and the transmissivity of all aquifers throughout most of the island.

Estimates of the average hydraulic conductivity of the screened interval in the aquifers were obtained by multiplying the specific capacity of the well by the inverse of the well-screen length and by a constant which was estimated from the Theis nonequilibrium formula. Based on the estimated average hydraulic conductivities of different lithologies in many screened intervals, a value of hydraulic conductivity was assigned to each lithology in each aquifer. Using these values, an average aquifer hydraulic conductivity was obtained from drillers' logs, and maps of average hydraulic conductivity were developed for each aquifer on Long Island. Maps of total aquifer transmissivity were developed by combining maps of average aquifer hydraulic conductivity and total aquifer thickness.

The estimated average hydraulic conductivity values obtained in this study were about 1,700 gpd per sq ft (gallons per day per square foot), for the upper glacial aquifer, about 1,300 gpd per sq ft for the Jameco, about 420 gpd per sq ft for the Magothy, and about 360 gpd per sq ft for the Lloyd. Average transmissivity values were about 200,000 gpd per ft (gallons per day per foot) for the upper glacial aquifer, about 100,000 gpd per ft for the Jameco, about 240,000 gpd per ft for the Magothy, and about 90,000 gpd per ft for the Lloyd.

INTRODUCTION

BACKGROUND, PURPOSE, AND SCOPE OF THE WATER-BUDGET STUDY

Long Island, which extends from the southeastern part of the mainland of New York State eastward about 120 miles into the Atlantic Ocean, has a total area of about 1,400 square miles (fig. 1). Kings and Queens Counties, which are part of New York City, occupy slightly less than 200 square miles of the western part of the island and have a combined population of about 4.5 million people. Nassau and Suffolk Counties, with areas of about 290 and 920 square miles, respectively, had a population of about 2.5 million people in 1965.

Although Kings and Queens Counties obtain most of their water supply from New York City's system, which is derived from parts of the Delaware and Hudson River basins in upstate New York, Nassau and tapping the underlying ground-water reservoir. Because of present large demands on the local ground-water system and because of the prospect of increased demands as the population of Long Island continues to grow, knowledge about the hydrologic system—with special emphasis on that needed for water conservation and management purposes—is a matter of vital concern now as well as in the future.

Considerable information on the water resources of Long Island is available as a result of more than 30 years of study by the U.S. Geological Survey in cooperation with New York State and county agencies. Although the studies met many of the needs for information on specific problems and areas of Long Island, more quantitative information about the island-wide hydrologic system and the relations between the various components of the system is needed for water-management purposes. To provide that information, a comprehensive water-budget study presently is being made by the Geological Survey in cooperation with the New York State Department of Conservation, Division of Water Resources; the Nassau County Department of Public Works; the Suffolk County Board of Supervisors; and the Suffolk County Water Authority.

The major objectives of the water-budget study are (1) to summarize and interpret pertinent existing in-

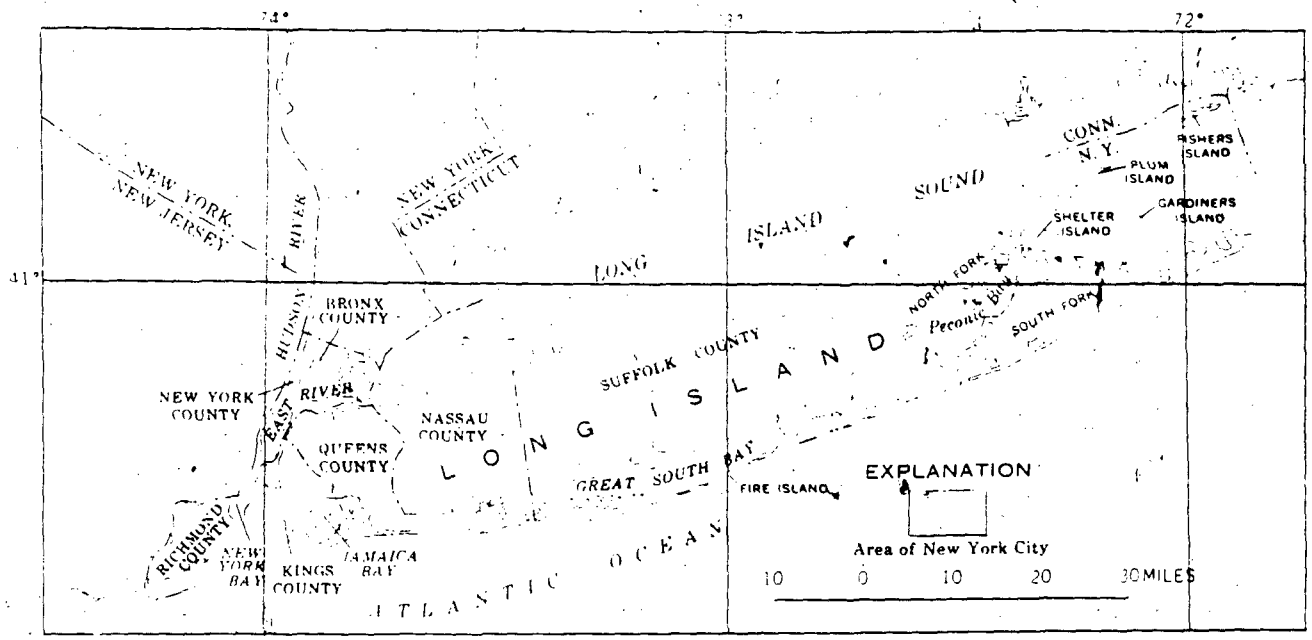


FIGURE 1.—Location and political boundaries of Long Island.

formation about the hydrologic system of Long Island and (2) to fill several gaps in the knowledge of the hydrologic system. The results of these studies are being published in a series of coordinated reports. In some of the reports, including this one, information is developed for all of Long Island; in others the primary area of concern is limited to Nassau and Suffolk Counties.

PURPOSE AND SCOPE OF THIS REPORT

To evaluate, by means of mathematical or physical models, the response of a ground-water flow system to either natural or manmade changes in the hydrologic regimen, a knowledge of the three-dimensional variation in transmissivity is essential. In addition, a knowledge of transmissivity is necessary to calculate the quantities of ground water flowing in the subsurface. Calculating subsurface flow is particularly important on Long Island because a significant percentage of the total natural outflow of water from the hydrologic system occurs as subsurface outflow to the sea.

The purpose of this report is (1) to summarize existing information on the transmissivity and hydraulic conductivity of Long Island's aquifers and (2) to prepare, for the first time, preliminary maps showing the estimated average hydraulic conductivity and transmissivity of each of the principal aquifers.

LOCATION AND GENERAL GEOGRAPHIC FEATURES OF THE AREA

Long Island is bounded on the north by Long Island Sound, on the east and south by the Atlantic Ocean, and on the west by New York Bay and the East River (fig. 1). Several smaller islands are included in the political boundaries of Long Island; the larger of these are Shelter, Gardiners, Fishers, and Plum Islands. The total land area of Long Island is about 1,400 square miles, including the smaller islands within the political boundaries of the island. The four counties—Kings, Queens, Nassau, and Suffolk—have areas of 78 square miles, 115 square miles, 291 square miles, and 922 square miles, respectively.

Several barrier beaches extend along the south shore of Long Island; the longest of these is Fire Island in southern Suffolk County. The northern and eastern coast lines of the island are indented by deep bays that form excellent harbors. Peconic Bay, which is about 30 miles long, divides the eastern end of the island into two long, narrow peninsulas that are locally referred to as the north and south forks.

PHYSIOGRAPHIC FEATURES

Most of the major features of the present-day topography of Long Island (fig. 2) are related to Pleistocene glaciation. The most prominent physiographic features are (1) the east-trending hills in the northern and central parts of the island and their eastward extensions, which form the north and south forks, (2) the gently sloping plain that extends southward from the hills, (3) the deeply eroded headlands along the north shore, and (4) the barrier beaches along the south shore.

The Harbor Hill Moraine forms the northern line of east-trending hills, which extend from Kings County to northern Nassau County and eastward to the north fork. The Ronkonkoma Moraine forms the southern line of

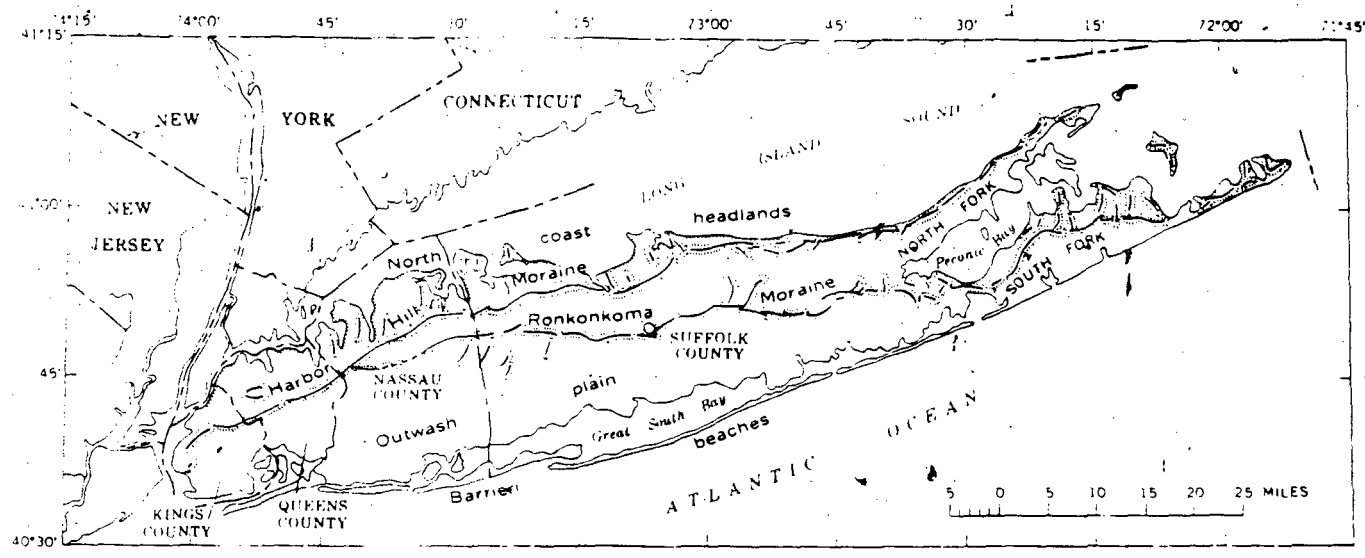


FIGURE 2.—Major physiographic features.

hills and extends from northwestern Nassau County eastward across central Suffolk County to the south fork. These moraines were deposited at the southernmost extension of the glacial ice sheets and have an altitude of about 200 to 300 feet in most of Long Island. The Ronkonkoma Moraine has a maximum altitude of about 400 feet in western Suffolk County.

The moderately even, gently sloping surface that extends southward to the south-shore bays from the Harbor Hill Moraine in Kings and Queens Counties and from the Ronkonkoma Moraine in Nassau and Suffolk Counties is underlain by glacial outwash deposits. This surface has an altitude of about 100 to 150 feet along its inland border and slopes southward at about 20 feet per mile.

The eroded headlands along the north coast are composed mainly of sand, gravel, and clayey till of glacial origin. Wave action has steepened the slopes and cut into the headlands, so that nearly vertical bluffs now exist, some as much as 100 feet high. The bays and harbors of the western part of the north shore were formed during glacial advance and retreat (fig. 2).

Along the south shore, waves and ocean currents formed offshore bars (barrier beaches). Sand and silt, as well as organic deposits, have partly filled and are continuing to fill the shallow bays behind the barrier beaches.

ACKNOWLEDGMENTS

Most of the lithologic and well data in this report were obtained from the files of the New York Water Resources Commission. The authors wish to express their thanks to Walter G. Waterman, associate engineer of the Water Resources Commission, and his colleagues for making these records available.

The report was prepared under the immediate supervision of B. L. Foxworthy, former hydrologist-in-charge, and Philip Cohen, hydrologist-in-charge of the Geological Survey subdistrict office on Long Island; and under the general supervision of Ralph C. Heath and Garald G. Parker, former district chiefs, and Robert J. Dingman, district chief, U.S. Geological Survey, Albany, N.Y.

HYDROGEOLOGIC SETTING

The hydrogeologic setting of Long Island was described in comprehensive reports by several authors (Veatch and others, 1906; Fuller, 1914; Suter and others 1949). In addition, the geology and hydrology of several smaller areas of Long Island were studied in detail by Isbister (1966), Lubke (1964), Lusczynski and Swarzenski (1966), Perlmutter and Geraghty (1963), Pluhowski and Kantrowitz (1964), and Swarzenski (1963). The general hydrologic situation on Long Island was reviewed by Cohen, Franke, and Foxworthy (1968).

Long Island is underlain by consolidated bedrock (fig. 3), which in turn is overlain by a wedge-shaped mass of unconsolidated sedimentary materials. The top of the bedrock, which is at or near the land surface in the northwestern part of the island, slopes to the southeast to a depth of about 2,000 feet below sea level in south-central Suffolk County (fig. 4). The average slope of the bedrock surface is about 65 feet per mile.

The materials that overlie the bedrock and constitute the ground-water reservoir consist of Pleistocene deposits and Cretaceous unconsolidated fluvial and deltaic deposits composed of gravel, sand, silt, clay, and mixtures thereof. The Cretaceous deposits were moderately

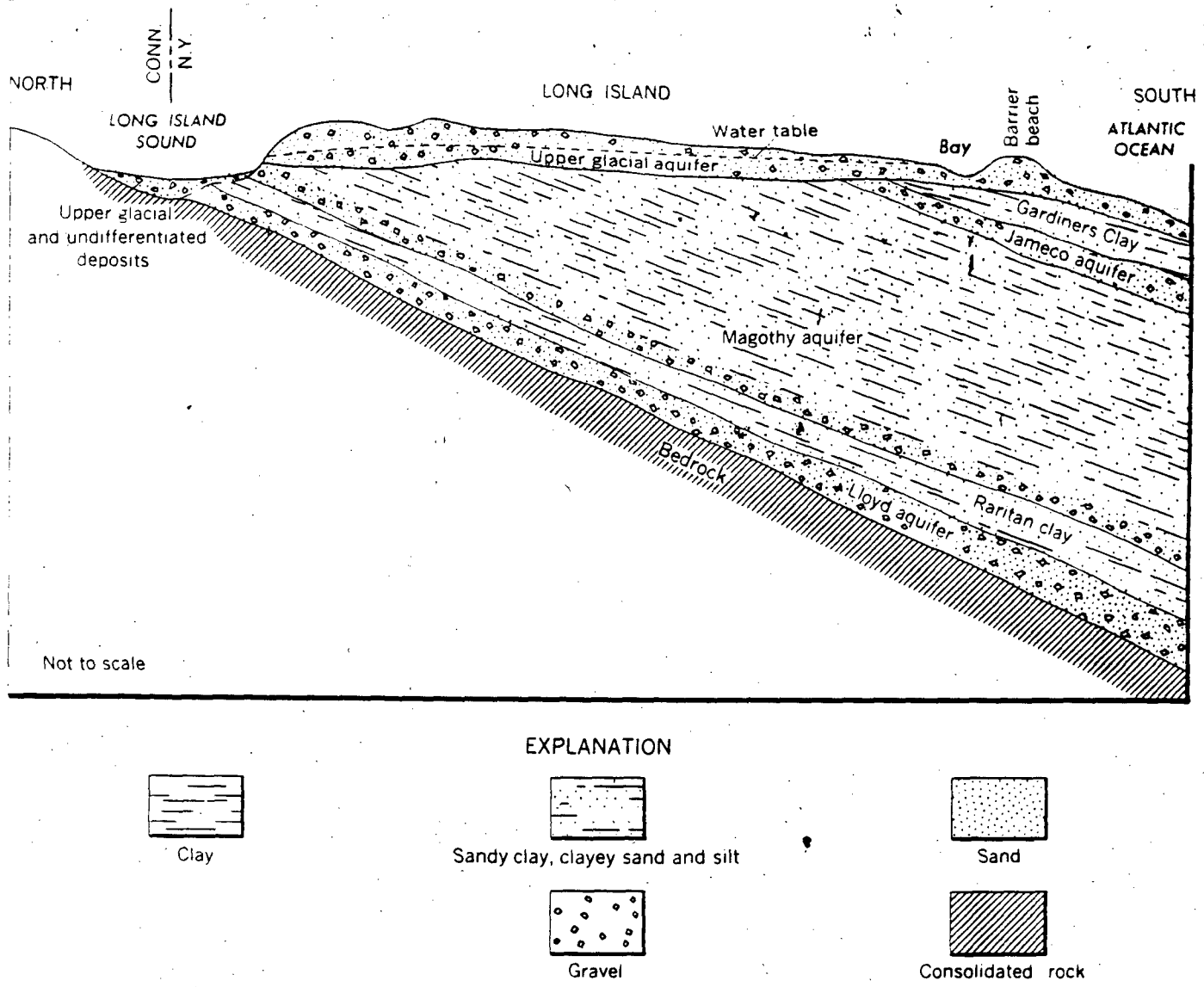


FIGURE 3.—Generalized geologic section showing relative positions of four principal aquifers.

to deeply eroded by streams and glaciers, and therefore, the Pleistocene materials were deposited on an irregular surface that locally was characterized by moderate relief. Data from the numerous wells drilled in Kings, Queens, Nassau, and northwestern Suffolk Counties are sufficient to define the general outlines of the preglacial valleys. In central and eastern Suffolk County, however, the valleys are less well defined.

The upper surface of the Cretaceous deposits generally is below sea level except in several areas in northeastern Nassau and northwestern Suffolk Counties. In all but a few small areas the Pleistocene deposits cover the Cretaceous deposits.

Pertinent information concerning the principal hydrogeologic units of Long Island's ground-water reservoir is summarized in table 1.

Ground water in the uppermost part of the zone of saturation on Long Island, mainly in the upper glacial aquifer but locally also in the Magothy aquifer, is generally under water-table (unconfined) conditions. Artesian (confined) conditions predominate in most of the other parts of the ground-water reservoir of Long Island, where the saturated deposits are overlain by silty and clayey layers of low hydraulic conductivity. Locally, the hydraulic head in the confined aquifers ranges from 30 to 40 feet below the water table in the central part of the island to nearly 20 feet above the water table near the margins of the island. At places along the north and south shores and on the barrier beaches, the head in the Lloyd aquifer is high enough to cause wells that tap the aquifer to flow.

The most significant confining layers in the groundwater reservoir are the Raritan clay, which overlies the Lloyd aquifer; the many discontinuous clay and silt

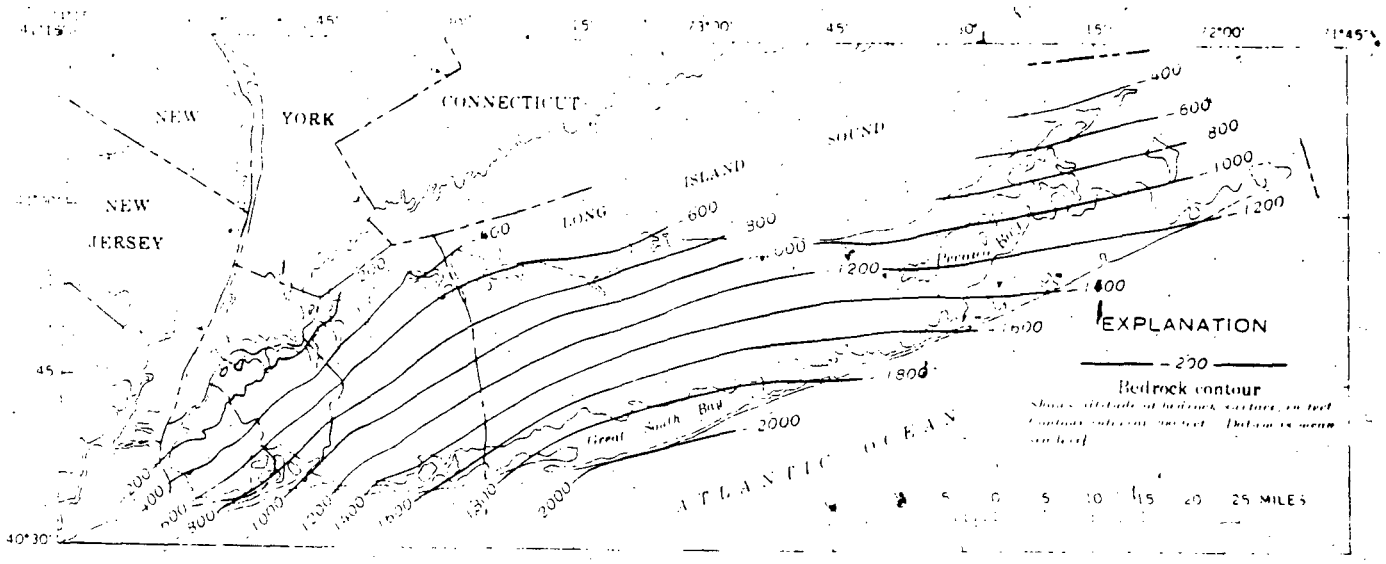


FIGURE 4.—Contour map of the bedrock surface. (Modified from Suter and others, 1949, pls. 8, 9, and 10.)

TABLE 1.—*Summary of the rock units and their water-bearing properties, Long Island*

System	Series	Geologic unit [1]	Hydrogeologic unit	Approximate maximum thickness (feet)	Depth from land surface to top (feet)	Character of deposits	Water-bearing properties
Quaternary	Holocene	Recent deposits: Artificial fill, salt marsh deposits, stream alluvium, and shoreline deposits.	Recent deposits	50	0	Sand, gravel, clay, silt, organic mud, peat, loam, and shells. Colors are gray, brown, green, black, and yellow. Recent artificial-fill deposits of gravel, sand, clay, and rubbish.	Permeable sandy beds beneath barrier beaches yield fresh water at shallow depths, brackish to salty water at greater depth. Clay and silt beneath bays retard salt-water encroachment and confine underlying aquifers. Stream floodplain and marsh deposits may yield small quantities of water but are generally clayey or silty and much less permeable than the underlying upper glacial aquifer.
	Pleistocene	Upper Pleistocene deposits	Upper glacial aquifer	600	0–50	Till (mostly along north shore and in moraines) composed of clay, sand, gravel, and boulders forms Harbor Hill and Ronkonkoma terminal moraines. Outwash deposits (mostly between and south of terminal moraines, but also interlayered with till) consist of quartzose sand, fine to very coarse, and gravel, pebble to boulder sized. Glaciolacustrine deposits (mostly in central and eastern Long Island) and marine clay (locally along south shore) consist of silt, clay, and some sand and gravel layers; includes the "20-foot clay" in southern Nassau and Queens Counties. Colors are mainly gray, brown, and yellow; silt and clay locally are grayish green. Contains shells and plant remains, generally in finer grained beds; also contains Foraminifera. Contains chlorite, biotite, muscovite, hornblende, olivine, and feldspar as accessory minerals; "20-foot clay" commonly contains glauconite.	Till is poorly permeable; commonly causes perched-water bodies and impedes downward percolation of water to underlying beds. Outwash deposits are moderately to highly permeable; specific capacities of wells tapping them range from about 10 to more than 200 gpm per ft (gallons per minute per foot) of drawdown. Good to excellent infiltration characteristics. Glaciolacustrine and marine clay deposits are mostly poorly permeable but locally have thin, moderately permeable layers of sand and gravel; generally retard downward percolation of ground water. Contains fresh water except near the shore lines. Till and marine deposits locally retard salt-water encroachment.
		—— Unconformity? ——					
		Gardiners Clay	Gardiners Clay	300	50–400	Clay, silt, and few layers of sand and gravel. Colors are grayish green and brown. Contains marine shells, Foraminifera, and lignite; also locally contains glauconite. Altitude of top generally is 50–80 feet below mean sea level. Occurs in Kings, Queens, and southern Nassau and Suffolk Counties; similar clay occurs in buried valleys near north shore.	Poorly permeable; constitutes confining layer for underlying Jameco aquifer. Locally, sand layers yield small quantities of water.
		—— Unconformity? ——					
		Jameco Gravel	Jameco aquifer	300	50–550	Sand, fine to very coarse, and gravel to large-pebble size; few layers of clay and silt. Gravel is composed of crystalline and sedimentary rocks. Color is mostly dark brown. Contains chlorite, biotite, muscovite, hornblende, and feldspar as accessory minerals. Occurs in Kings, Queens, and southern Nassau Counties; similar deposits occur in buried valleys near north shore.	Moderately to highly permeable; contains mostly fresh water, but brackish water and water with high iron content occurs locally in southeastern Nassau and southern Queens Counties. Specific capacities of wells in the Jameco range from about 20 to 150 gpm per ft of drawdown.

See footnotes at end of table.

TABLE 1.—*Summary of the rock units and their water-bearing properties, Long Island*—Continued

System	Series	Geologic unit [1]	Hydrogeologic unit	Approximate maximum thickness (feet)	Depth from land surface to top (feet)	Character of deposits	Water-bearing properties
		Unconformity					
Tertiary (?)	Pliocene(?)	Mannetto Gravel	(Commonly included with upper glacial aquifer.)	300	0–120	Gravel, fine to coarse, and lenses of sand; scattered clay lenses. Colors are white, yellow, and brown. Occurs only near Nassau-Suffolk County border near center of island.	Highly permeable, but occurs mostly above water table. Excellent infiltration characteristics.
		Unconformity					
		Magothy(?) Formation [2]	Magothy aquifer	1,100	0–600	Sand, fine to medium, clayey in part; interbedded with lenses and layers of coarse sand and sandy and solid clay. Gravel is common in basal 50–200 feet. Sand and gravel are quartzose. Lignite, pyrite, and iron oxide concretions are common; contains muscovite, magnetite, rutile, and garnet as accessory minerals. Colors are gray, white, red, brown, and yellow.	Most layers are poorly to moderately permeable; some are highly permeable locally. Specific capacities of wells in the Magothy generally range from 1 to about 30 gpm per ft of drawdown, rarely are as much as 80 gpm per ft of drawdown. Water is unconfined in uppermost parts, elsewhere is confined. Water is generally of excellent quality but has high iron content locally along north and south shores. Constitutes principal aquifer for public-supply wells in western Long Island except Kings County, where it is mostly absent. Has been invaded by salty ground water locally in southwestern Nassau and southern Queens Counties and in small areas along north shore.
		Unconformity					
Cretaceous	Upper Cretaceous	Raritan Formation: Clay member	Raritan clay	300	70–1,800	Clay, solid and silty; few lenses and layers of sand; little gravel. Lignite and pyrite are common. Colors are gray, red, and white, commonly variegated.	Poorly to very poorly permeable; constitutes confining layer for underlying Lloyd aquifer. Very few wells produce appreciable water from these deposits.
		Raritan Formation: Lloyd Sand Member	Lloyd aquifer	500	200–1,800	Sand, fine to coarse, and gravel, commonly with clayey matrix; some lenses and layers of solid and silty clay; locally contains thin lignite layers and iron concretions. Locally has gradational contact with overlying Raritan clay. Sand and most of gravel are quartzose. Colors are yellow, gray, and white; clay is red locally.	Poorly to moderately permeable. Specific capacities of wells in the Lloyd generally range from 1 to about 25 gpm per ft of drawdown, rarely are as much as 60 gpm per ft of drawdown. Water is confined under artesian pressure by overlying Raritan clay; generally of excellent quality but locally has high iron content. Has been invaded by salty ground water locally in necks near north shore, where aquifer is mostly shallow and overlying clay is discontinuous. Called "deep confined aquifer" in some earlier reports.
		Unconformity					
Precambrian		Bedrock	Bedrock		0–2,700	Crystalline metamorphic and igneous rocks; muscovite-biotite schist, gneiss, and granite. A soft, clayey zone of weathered bedrock locally is more than 100 feet thick.	Poorly permeable to virtually impermeable; constitutes virtually the lower boundary of ground-water reservoir. Some hard, fresh water is contained in joints and fractures but is impractical to develop at most places; however, a few wells near the western edges of Queens and Kings Counties obtain water from the bedrock.

[1] Names are those used in reports by the Geological Survey.
[2] The use of the term "Magothy(?) Formation" has been abandoned. The post-Raritan Cretaceous deposits are divided into the Magothy Formation and Matawan Group undifferentiated and the Monmouth Group undifferentiated.

lenses in the Magothy deposits: and the Gardiners Clay, which overlies the Jameco aquifer and locally overlies the Magothy aquifer. The clayey and silty layers in the Magothy aquifer become increasingly effective as confining layers with depth, particularly in the southern part of Long Island where the Magothy reaches its maximum thickness—about 1,100 feet in southern Suffolk County. Clayey beds in the upper glacial aquifer are found mainly in the northern part of the island and in parts of central Suffolk County; some are interbedded with glacial outwash deposits near the south shore.

DEFINITION OF HYDRAULIC CONDUCTIVITY AND TRANSMISSIVITY

The hydraulic conductivity, K, of material comprising an aquifer is a measure of the material's capacity to transmit water. In units of meinzers, commonly used by the Geological Survey, hydraulic conductivity is defined as the rate of flow of water in gallons per day through a cross-sectional area of 1 square foot under a hydraulic gradient of 1 foot per foot at a temperature of 60° F. In field practice the adjustment to the standard temperature of 60° F commonly is ignored, and hydraulic conductivity is then understood to be related to the prevailing water temperature.

The transmissivity of material comprising an aquifer is defined as the number of gallons of water that will move in 1 day through a vertical strip of the aquifer having a width of 1 foot and having the height of the aquifer, when the hydraulic gradient is unity. It is equal to the hydraulic conductivity multiplied by the

The average point hydraulic conductivities then were plotted and contoured in the fourth and final step (pls. 1*B*, 2*B*, 3*B*, and fig. 14). Commonly, the point hydraulic conductivities ranged widely, even between nearby wells. Thus, the contour lines were drawn to follow the general trend of the plotted data; however, their positions were also influenced by available information on the areal changes in lithologic character of the aquifers in various parts of Long Island.

Regional transmissivity maps of each aquifer (pls. 1*C*, 2*C*, 3*C*, and fig. 15) were developed from the average hydraulic conductivity and thickness maps by multiplying the aquifer thickness by the average hydraulic conductivity at a network of points and contouring the resulting values.

HYDRAULIC CONDUCTIVITY AND TRANSMISSIVITY OF THE PRINCIPAL AQUIFERS

UPPER GLACIAL AQUIFER

The Q/sL numbers of wells screened in the upper glacial aquifer range from less than 0.1 to more than 4.0 gpm per sq ft (gallons per minute per square foot) (fig. 7). About three-fourths of the Q/sL numbers in figure 7 are between 0.5 and 2.5 gpm per sq ft, and

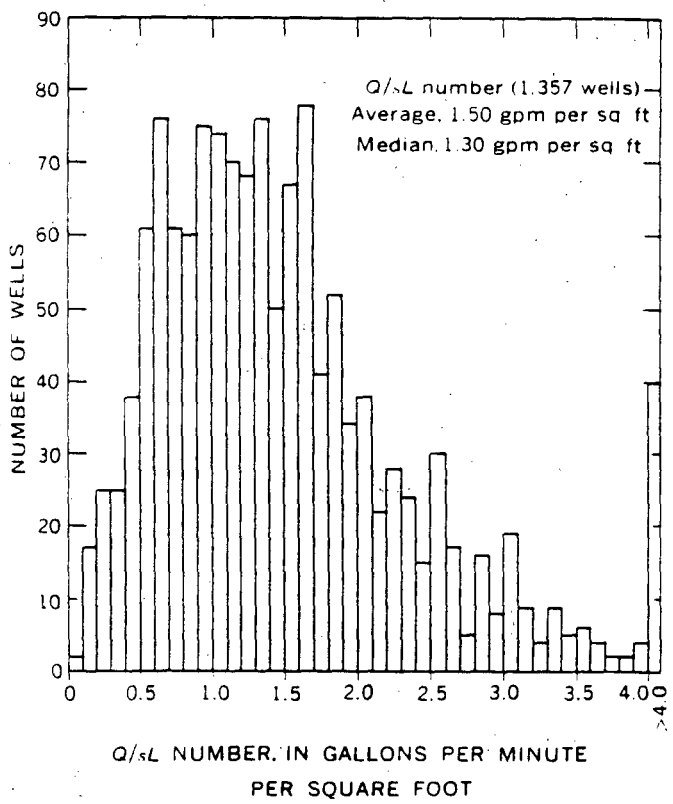


FIGURE 7.—Distribution of Q/sL numbers of wells screened in the upper glacial aquifer. (Average hydraulic conductivity of screened intervals approximates 2,000 Q/sL; see text discussion.)

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the median Q/sL number for all wells tabulated is about 1.3 gpm per sq ft. Q/sL numbers greater than 2.5 gpm per sq ft were commonly determined for wells with short screen lengths (15 feet or less) of which the upper glacial aquifer (fig. 8) has a larger proportion than

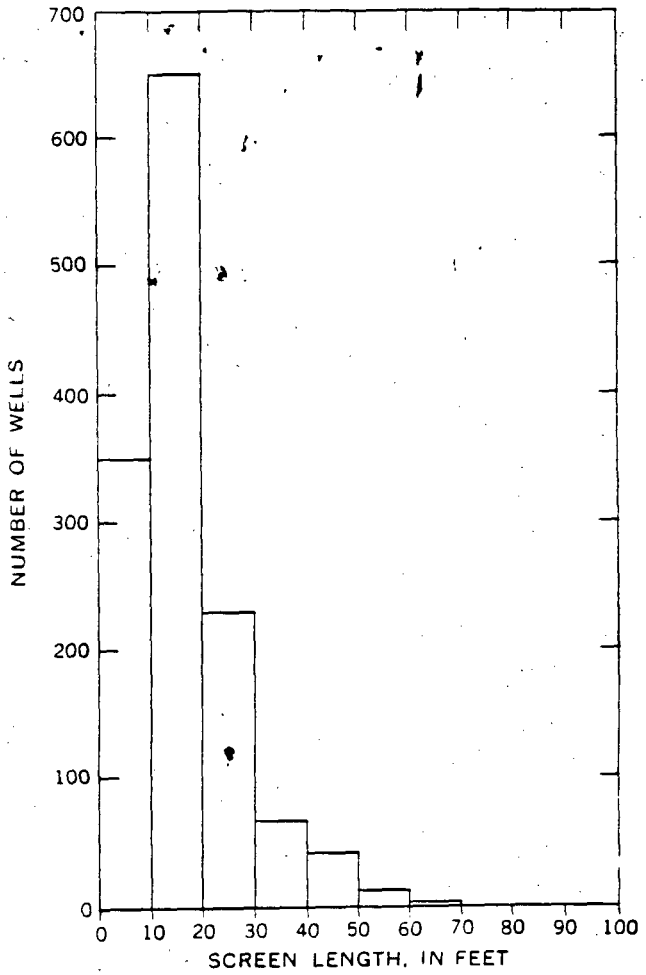

FIGURE 8.—Distribution of screen lengths of wells in the upper glacial aquifer.

any other aquifer on Long Island. (Compare figs. 8, 11, 17, and 20.) Vertical flow components probably account for an appreciable part of the discharge from these wells.

Lithologic descriptions of the screened intervals were available for most wells that were screened in the upper glacial aquifer and for which test data were available. Moreover, most of the screened intervals were either described as one lithology or the different lithologic descriptions belonged to a single lithologic class as defined earlier. The median Q/sL numbers determined for each lithologic class are listed in table 5, along with the range in Q/sL numbers assigned to each litho-

TABLE 5.—*Assigned range of Q/sL numbers and calculated hydraulic conductivity values for selected lithologic classes in the upper glacial aquifer*

Lithologic class		Number of wells	Median Q/sL number of screened intervals (gpm per sq ft)	Assigned range of Q/sL numbers (gpm per sq ft)	Calculated range of hydraulic conductivity (gpd per sq ft)
No.	Description				
1	Gravel, sand and gravel, and coarse sand	924	1.5	1.0–1.5	2,000–3,000
2	Medium, fine, and very fine sand, and sand with silt or clay layers.	408	1.1	0.2–0.9	400–1,800
3	Clay, sandy clay, and silty clay			[1] 0	0

[1] Assumed; see text discussion.

logic class and the corresponding range of calculated hydraulic conductivity values for each class.

Lithologic logs from about 620 wells penetrating the upper glacial aquifer were analyzed to determine point values of average aquifer hydraulic conductivity. These wells were fairly well distributed in the subareas of Long Island (fig. 9). Although in Kings, Queens, and

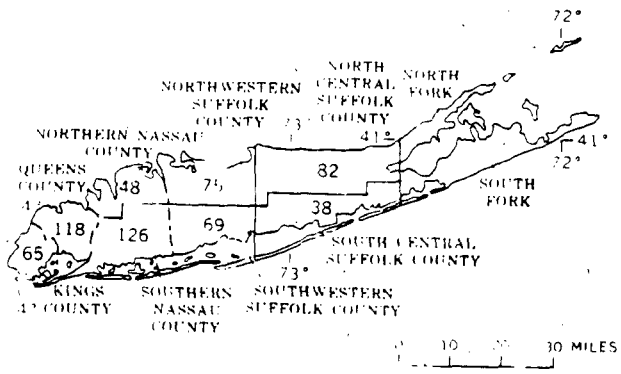

FIGURE 9.—Number of wells for which lithologic logs were available for the upper glacial aquifer in the indicated subareas in 1967.

Nassau Counties most wells that were analyzed completely penetrated the aquifer, progressively fewer wells penetrated the entire aquifer toward eastern Suffolk County.

A map showing thickness of the saturated upper glacial aquifer[1] (pl. 1*A*) was prepared from an unpublished map of the September 1965 water table, from well logs, and from maps and data contained in several reports (Isbister, 1966; Lubke, 1964; Perlmutter and Geraghty, 1963; Pluhowski and Kantrowitz, 1964; Swarzenski, 1963; Julian Soren, written commun., 1968). Maps showing lines of equal average hydraulic conductivity (pl. 1*B*) and equal transmissivity (pl. 1*C*) were constructed according to the procedures outlined previously.

Noteworthy features of the map showing thickness of the saturated upper glacial aquifer (pl. 1*A*) are (1) the areas near the north shore of the island in which the aquifer locally is more than 500 feet thick, and (2) the increasing thickness of the aquifer in eastern Suffolk County. The great thickness near the north shore reflects buried valleys in the underlying Cretaceous deposits. Buried valleys are not as pronounced near the south shore of Long Island.

The distribution of the lines of equal average hydraulic conductivity (pl. 1*B*) reflects to some extent the geologic origin of the glacial material on Long Island. Average hydraulic conductivities of 2,000 gpd per sq ft and higher occur through much of the outwash-plain deposits in southern Queens, Nassau, and Suffolk Counties. Beds of lower average hydraulic conductivity (about 1,000 gpd per sq ft) are found in north-central Nassau and Suffolk Counties, where the glacial deposits contain more silt and clay.

The trends of the lines of equal transmissivity in the upper glacial aquifer (pl. 1*C*) are similar to the trends of the lines of equal saturated thickness (pl. 1*A*). This similarity reflects the fact that the variation in thickness of the aquifer is generally greater than the variation in estimated average hydraulic conductivity (pl. 1*B*). The highest values of transmissivity in plate 1*C* are associated with the greatest aquifer thicknesses, which occur in the buried valleys along the north shore of the island and in central Suffolk County.

The average thickness, hydraulic conductivity, and transmissivity of the upper glacial aquifer in subareas of Long Island, as derived from plate 1*A*, *B*, and *C*, are listed in table 6.

[1] In numerous places on Long Island, deep channels were cut into the Cretaceous deposits and subsequently filled with Pleistocene deposits. Along the north shore, the basal deposits have been included in the Jameco Gravel by some workers (Isbister, 1966; Swarzenski, 1963) and in the upper glacial deposits by others (Lubke, 1964; Julian Soren, oral commun., 1968). In this report, all the deep buried-valley deposits along the north shore have been included in the upper glacial aquifer.

TABLE 7.—*Assigned range of Q/sL numbers and calculated hydraulic conductivity values for selected lithologic classes in the Jameco aquifer*

Lithologic class		Number of wells	Median Q/sL number of screened intervals (gpm per sq ft)	Assigned range of Q/sL numbers (gpm per sq ft)	Calculated range of hydraulic conductivity (gpd per sq ft)
No.	Description				
1	Gravel, sand and gravel, and coarse sand	37	1.1	0.8–1.1	1,600–2,200
2	Medium, fine, and very fine sand, and sand with silt or clay layers.	19	.9	0.1–0.7	200–1,400
3	Clay, sandy clay, and silty clay			[1] 0	0

[1] Assumed; see text discussion.

central and eastern Kings County than in southeastern Queens and southwestern Nassau Counties.

The computed average hydraulic conductivity of the Jameco aquifer (fig. 14) generally is slightly more than 1,000 gpd per sq ft. However, in several small areas near the northern boundary of the aquifer, the average hydraulic conductivity is about 1,500 gpd per sq ft. These areas with more permeable material probably reflect the somewhat coarser materials deposited in the narrower part of the buried valley.

Because the estimated average hydraulic conductivity of the Jameco aquifer shows very little areal variation, the gross pattern of the lines of equal transmissivity (fig. 15) closely reflects the pattern of the thickness map (fig. 13). The maximum transmissivity is about 300,000 gpd per ft and occurs in southwestern Queens County.

The average thickness, hydraulic conductivity, and transmissivity of the Jameco aquifer in subareas of Long Island, derived from figures 13, 14, and 15, are listed in table 8. The greatest average thickness and greatest average transmissivity of the Jameco aquifer occur in Kings County, although the maximum transmissivity occurs in Queens County.

TABLE 8.—*Average thickness, hydraulic conductivity, and transmissivity of the Jameco aquifer in subareas of Long Island*

Subarea	Area (sq mi)	Average total thickness (feet)	Average hydraulic conductivity (gpd per sq ft)	Average transmissivity (gpd per ft)
Kings County	60	95	1,300	120,000
Queens County	28	80	1,200	100,000
Southern Nassau County	14	35	1,400	50,000
Three subareas	102	80	1,300	110,000

MAGOTHY AQUIFER

Q/sL numbers of wells screened in the Magothy aquifer range from less than 0.1 to 3.2 gpm per sq ft (fig. 16). This compilation includes more than 85 percent of all wells screened in the Magothy aquifer for which test data are available. More than 90 percent of the Q/sL numbers are less than 1.7 gpm per sq ft, and the median Q/sL number is 0.6 gpm per sq ft. The screen

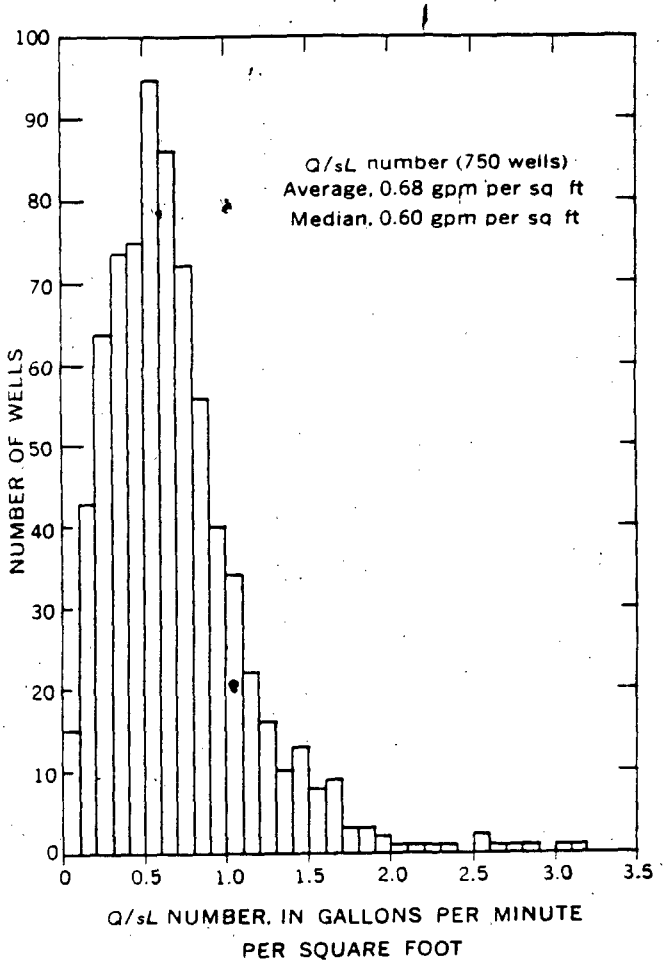

FIGURE 16.—Distribution of Q/sL numbers for wells screened in the Magothy aquifer. (Average hydraulic conductivity of screened intervals approximates 2,000 Q/sL; see text discussion.)

lengths in many of the Magothy wells are greater than 50 feet (fig. 17), and the average screen length is about 40 feet. Therefore, the effects of across-bed flow on the Q/sL numbers of most wells screened in this aquifer are probably less than in the upper glacial aquifer.

Lithologic descriptions of the screened intervals were available for all 750 Magothy wells with test data. More than half of these descriptions consisted of a single lithology, and many of the remaining screened intervals

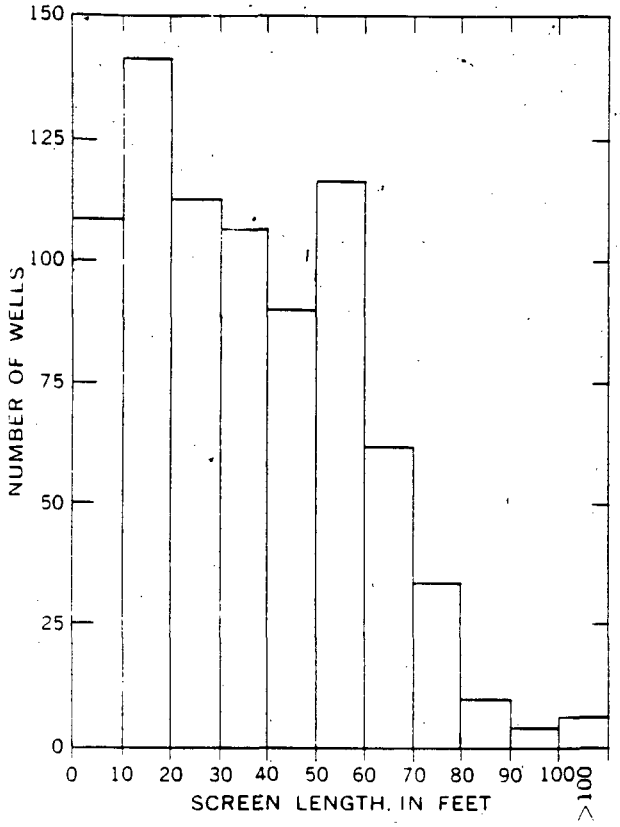

FIGURE 17.—Distribution of screen lengths of wells in the Magothy aquifer.

were described as predominantly one lithology. The median Q/sL numbers determined for each lithologic class from the descriptions of the screened intervals, the range in Q/sL numbers assigned to each lithologic class, and the corresponding range of calculated hydraulic conductivity values for each class are listed in table 9.

Lithologic logs describing the Magothy aquifer in 300 wells were analyzed to determine point values of average hydraulic conductivity. The distribution of these wells (fig. 18) was fairly uniform in Queens, Nassau, and western Suffolk Counties, but the number of wells for which logs were available is much less in central Suffolk County. In addition, the proportion of wells penetrating the entire Magothy aquifer becomes progressively smaller proceeding eastward in Suffolk County.

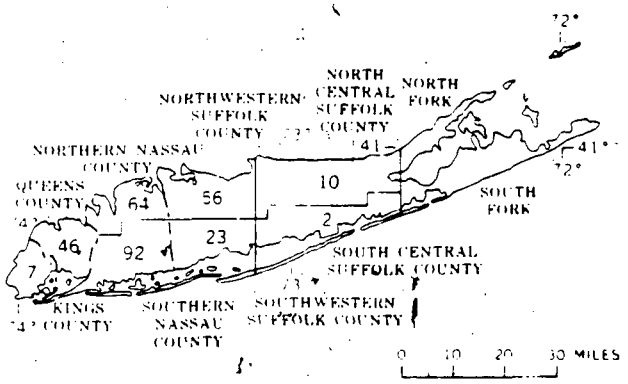

FIGURE 18.—Number of wells for which lithologic logs were available for the Magothy aquifer in the indicated subareas in 1967.

A map showing thickness of the saturated Magothy aquifer (pl. 2*A*) was prepared from an unpublished map of the September 1965 water table, from well logs, and from maps and data contained in several reports (Isbister, 1966; Lubke, 1964; Perlmutter and Geraghty, 1963; Pluhowski and Kantrowitz, 1964; Swarzenski, 1963; Julian Soren, written commun., 1968). Maps showing lines of equal average hydraulic conductivity (pl. 2*B*) and equal transmissivity (pl. 2*C*) were constructed according to the procedures outlined previously.

The Magothy aquifer thickens gradually toward the southeast and attains its maximum recorded thickness of about 1,000 feet beneath the barrier beaches in south-central and southeastern Suffolk County (pl. 2*A*). The aquifer thins markedly and locally is absent in buried valleys along the northern shore and in western Long Island.

The lines designating the highest values of estimated average hydraulic conductivity generally occur in the northern and northwestern parts of the island (pl. 2*B*) where the aquifer is thinnest and where a basal gravel deposit makes up most of the section. The smallest values of average hydraulic conductivity occur in the south-central and southeastern parts of the island, where the aquifer is thickest. The decrease in average hydraulic conductivity towards the southeast is related to an increase in the percentage of fine materials such as silt and clay in the aquifer in those areas.

TABLE 9.—*Assigned range of Q/sL numbers and calculated hydraulic conductivity values for selected lithologic classes in the Magothy aquifer*

Lithologic class		Number of wells	Median Q/sL number of screened intervals (gpm per sq ft)	Assigned range of Q/sL numbers (gpm per sq ft)	Calculated range of hydraulic conductivity (gpd per sq ft)
No.	Description				
1	Gravel, sand and gravel, and coarse sand	219	0.7	0.6–0.8	1,200–1,600
2	Medium, fine, and very fine sand, and sand with silt or clay layers.	531	.5	0.1–0.5	200–1,000
3	Clay, sandy clay, and silty clay			[1] 0	0

[1] Assumed; see text discussion.

The transmissivity of the Magothy aquifer (pl. 2C) tends to increase towards the south and southeast. Although the estimated average hydraulic conductivity tends to decrease in this direction, the greater percentage increase in aquifer thickness results in an increased transmissivity. The estimated maximum transmissivity of the Magothy aquifer is about 400,000 gpd per ft near the barrier beach in south-central Suffolk County.

Average thickness, hydraulic conductivity, and transmissivity of the Magothy aquifer in subareas of Long Island are derived from plate 2A, B, and C and are listed in table 10. The average hydraulic conductivity for each subarea is lowest in south-central Suffolk County (360 gpd per sq ft) and is highest in Kings County (over 600 gpd per sq ft). The average transmissivity by subarea is highest in south-central Suffolk County (320,000 gpd per ft), where the Magothy aquifer is thickest.

TABLE 10.—*Average thickness, hydraulic conductivity, and transmissivity of the Magothy aquifer in subareas of Long Island*

Subarea	Area (sq mi)	Average total thickness (feet)	Average hydraulic conductivity (gpd per sq ft)	Average transmissivity (gpd per ft)
Kings County	18	140	630	85,000
Queens County	61	170	460	80,000
Northern Nassau County	93	300	450	140,000
Southern Nassau County	154	600	420	250,000
Northwestern Suffolk County	150	430	420	180,000
Southwestern Suffolk County	115	770	410	320,000
North central Suffolk County	254	650	400	260,000
South central Suffolk County	141	900	360	320,000
Subareas studied	986	580	410	240,000

LLOYD AQUIFER

Q/sL numbers of wells screened in the Lloyd aquifer range from less than 0.1 to 2.1 gpm per sq ft (fig. 19). This compilation includes virtually all the wells screened in the Lloyd aquifer for which test data are available. About four-fifths of the Q/sL numbers are between 0.1 and 0.6 gpm per sq ft and the median Q/sL number for all wells is 0.35 gpm per sq ft. Screens of wells in this aquifer range from less than 10 to 90 feet in length (fig. 20). About one-third of the screens are short (15 feet or less), which suggests that vertical flow components may have materially affected the discharge of some of these wells.

Lithologic descriptions of the screened interval were available for all 94 Lloyd wells with test data. Almost half the screened intervals were described as one lithology, and most of the remaining screened intervals were described as predominantly one lithology. The

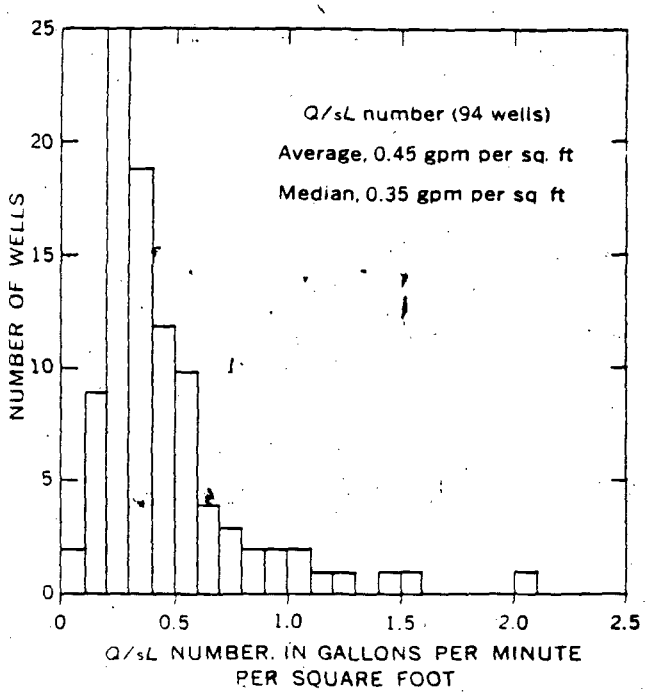

FIGURE 19.—Distribution of Q/sL numbers for wells screened in the Lloyd aquifer. (Average hydraulic conductivity of screened intervals approximates 2,000 Q/sL; see text discussion.)

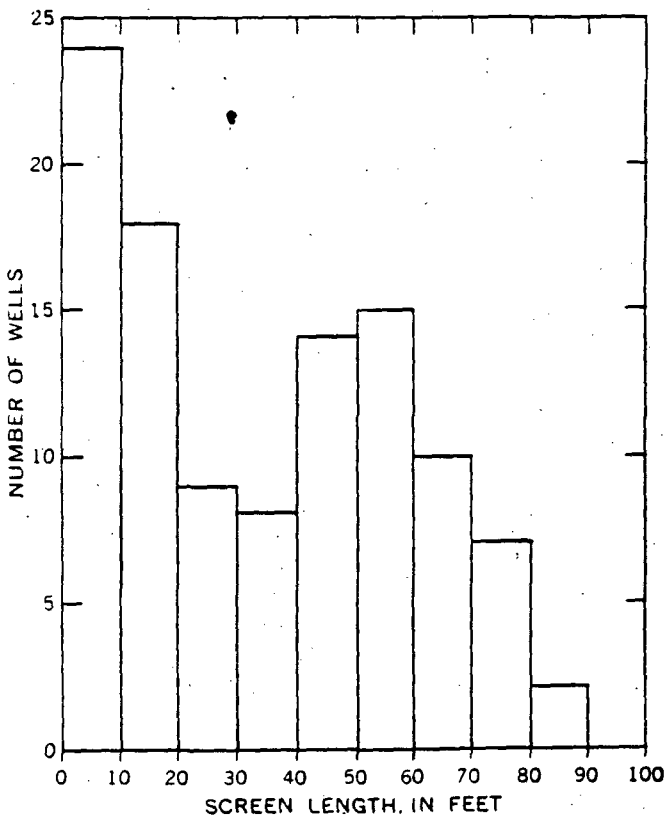

FIGURE 20.—Distribution of screen lengths of wells in the Lloyd aquifer.

REFERENCE NO. 46

federal register

Friday
December 23, 1988

Part III

Environmental Protection Agency

40 CFR Part 300

Hazard Ranking System (HRS) For Uncontrolled Hazardous Substance Releases; Appendix A of the National Oil and Hazardous Substances Contingency Plan; Proposed Rule

REFERENCE NO. 47

R. J. ...
MAR 7 1989

Toxicological Profile for

p,p'-DDT
p,p'-DDE
p,p'-DDD

Draft
For Public Comment

Agency for Toxic Substances and Disease Registry
U.S. Public Health Service

Comment Period Ends:

April 14, 1989

4. PRODUCTION, IMPORT, USE, AND DISPOSAL

4.1 PRODUCTION

Technical DDT is made by condensing chloral hydrate with chlorobenzene in the presence of sulfuric acid. It was first synthesized in 1874, but it was not until 1939 that Mueller and his coworkers discovered its insecticidal properties. Production of DDT in 1971 in the United States was estimated to be two million kilogram (kg). This represented a sharp decline from the 82 million kg produced in 1962, and from the 56 million kg produced in 1960. In 1972, the EPA announced that DDT could no longer be used except in the case of a public health emergency. In the U.S. in 1985, there were two DDT producers who exported approximately 303,000 kg of DDT (HSDB 1988). No data were located on the current production of DDT in the U.S. There are still major producers of DDT in India and some Central and South American countries. Information on the production of DDE and DDD was not located.

4.2 IMPORT

DDT was last imported into the United States in 1972, when imports amounted to 200,000 kg. Since 1972, no DDT has been imported.

4.3 USE

DDT was extensively used for the control of malaria, typhus, and other insect-transmitted diseases during World War II. It has been used worldwide in agriculture in the control of insects. In 1972, 4.5 to 6.4 million kg of DDT were utilized in the United States. Use on cotton crops was estimated to account for 67% to 90% of the total use of DDT in the U.S in 1972. The remainder was primarily used on peanut and soybean crops. Since 1973, utilization of DDT has been limited to use in controlling public health problems. It was estimated in 1973, that more than two billion kg of DDT had been used for insect control since 1940, about 80% of that in agriculture. DDT was once registered for use on 334 agricultural commodities. Peak usage occurred in 1963, when 80 million kg of DDT were used. DDD was also used as a pesticide and one form was used medically in the treatment of cancer of the adrenal gland.

4.4 DISPOSAL

Under current federal guidelines, DDT and DDD are potential candidates for incineration in a rotary kiln at a temperature of 820-1600°C. DDT formulated in 5% oil solution and other solutions are mainly disposed of by using liquid injection incineration at a temperature of 878 to 1260°C, along with a residence time of 0.16 to 1.30 seconds and 26% to 70% excess air. Destruction efficiency was reported to be >99.99%. Multiple-chamber incineration is also used for 10% DDT dust and 90% inert ingredients at a temperature range of 930 to 1210°C, along with a residence time of 1.2 to 2.5 seconds and 58% to 164% excess air. DDT powder may be disposed of by molten salt combustion at a

5. POTENTIAL FOR HUMAN EXPOSURE

5.1 OVERVIEW

Historically, DDT was released to the environment during its formulation and extensive use as a pesticide in agricultural and vector control applications. Although it was banned for use in this country in 1972, it is still being used in several areas of the world. DDT, DDE, and DDD in the atmosphere are subject to photodegradation or redeposition by rain or dry deposition. DDT and its environmental degradation products preferentially bind to soil and sediment, where they may be subject to photodegradation on the surface and biodegradation in the subsurface. However, under certain conditions, DDT may persist for long periods of time or may be converted to DDE, which persists even longer. DDT, DDE, and DDD in water are subject to sedimentation, volatilization, photodegradation, and uptake into the food chain. Both DDT and DDE bioaccumulate in organisms and levels are subject to increase as they advance up the food chain. DDT and its metabolites have been detected in virtually all media. Human exposure in this country results primarily from ingestion of meat, fish, poultry, and root and leafy vegetables.

5.2 RELEASES TO THE ENVIRONMENT

DDT and its primary metabolites, DDE and DDD, are not known to occur naturally in the environment (WHO 1979). All releases of these chemicals are related to their formulation and use as insecticides in agriculture and vector control. Use of DDT, except for use in public health emergency, was banned in the United States in 1972. According to the current database of NPL sites, 45 sites contain at least one of these compounds. DDT is present at levels up to 5300 ppm, while DDE and DDD are reported to be present at levels up to 1200 and 1300 ppm, respectively. There is the potential for release of DDT, DDE, and DDD from these sites to the environment. DDT is still used in agriculture and for vector control in some tropical countries (Coulston 1985), and direct release to the environment and movement of residues through the environment and in imported goods will result in potential exposure to the population of the United States. In addition, due to the extensive past use of DDT worldwide and the persistence of DDT and its metabolites, these materials are virtually ubiquitous and are continually being transformed and redistributed in the environment.

5.2.1 Air

During the period when DDT was extensively used, a large source of DDT release to air occurred during agricultural or vector control applications. Because use of DDT was banned in the United States in 1972, release of DDT in recent years should be negligible in this country. In 1985, there were two producers of DDT in the United States, and in that year 303,000 kg of DDT were exported (HSDB 1988). Production at these two facilities could have resulted in a small amount of release of DDT via fugitive or noncontrolled emissions.

Approximately 1100 samples of sediments from water bodies were analyzed. The median levels for DDT, DDE, and DDD were 0.1, 0.1, and 0.2 ppb, respectively. Biota from selected sites were found to contain all three compounds, with DDT, DDE, and DDD detected at median levels of 14, 26, and 15 ppm.

A summary of pesticide levels in surface waters of the United States during 1967 and 1968 was reported by Lichtenberg et al. (1970). During these two years, a total of 224 samples were analyzed from various sites in all regions of the country. The results of samples analyzed in the two year period indicated that DDT was found in 27 samples at levels ranging from 0.005 to 0.316 μg/L; DDE was found in three samples at levels of 0.02 to 0.05 μg/L; DDD was found in six samples at levels of 0.015 to 0.840 μg/L.

The U.S. Geological Survey and EPA cooperatively monitored levels of selected pesticides in the water and bed material at more than 150 river sites between 1975 and 1980. Gilliom (1984) reported the number of samples taken and percent positive found. For DDT, DDE, and DDD in water, 177 stations were monitored and 2.8, 0.6, and 4.0% were positive for the three compounds, respectively. Sediments from 171 stations were tested and 26, 42, and 31% were positive for DDT, DDE, and DDD contamination, respectively. However, levels detected in these various media were not reported.

Other reports of DDT and related metabolites in particular bodies of water are numerous. Drinking water in Oahu, Hawaii was found to contain p,p'-DDT at an average level of 1 ppt in 1971 (Bevenue et al. 1972). Sampling at three drinking water plants in New Orleans resulted in 67% of samples testing positive for DDE; levels were not quantified (Keith et al. 1976). Kraybill (1977) cites a 1976 EPA list of suspected carcinogens in drinking water which reports DDT was present in nondetectable quantities while DDE was present at levels of 0.05 ppb. The specific isomers detected were not reported.

Johnson et al. (1988) report DDT and metabolite levels in the Yakima River basin in Washington State. Use of DDT was halted in this area when the 1972 ban was initiated; however, considerable residues are present in the river and sediments. Water samples, primarily in the tributaries, were reported to contain between 0.006 to 0.06 μg/L of total DDT compounds, while river bed sediment samples contained from 0.1 to 234 μg/kg of total DDT compounds (DDT+DDE+DDD). Concentrations of p,p'-DDT in water equaled or exceeded those of p,p'-DDE; an unexpected finding in light of what is believed concerning biological half-lives of DDT and its normal environmental degradation. The authors indicate that these findings suggest an unusually long half-life for DDT in Yakima basin soils.

5.4.3 Soil

The United States National Soils Monitoring Program has provided valuable information on the overall pattern of DDT residues in soil during the years following the DDT ban. Each year since the ban of DDT, approximately 1500 samples were taken. In 1970, samples contained an average of 0.18 ppm p,p'-

DDT, while in 1972, samples contained an average of 0.37 ppm (Crockett et al. 1974). DDD levels in the 1972 samples averaged 0.05 ppm (Feltz 1980). In 1973, levels of the p,p'- and o,p'- isomers averaged 0.13 ppm (Carey et al. 1979).

In 1971, soils in five cites were sampled and 63% of the samples were positive for DDT while all were positive for DDD (Carey et al. 1980). The range of DDT detected was 0.01 to 5.86 ppm; no average level was reported. The average DDD detected was 0.05 ppm, with a range of 0.01 to 39 ppm.

DDT was extensively used in Arizona for 18 years, after which agricultural residues were closely monitored following a statewide moratorium on DDT use in January, 1969. Levels of DDT plus metabolites in green alfalfa fell steadily from an average level of 0.22 ppm at the time of the ban, to a level of 0.057 ppm 18 months later, and a level of 0.027 ppm after almost seven years (Ware et al. 1978). After three years, residues in agricultural soils had decreased 23%. Furthermore, the ratio of DDE:DDT was increasing, indicating a transformation of DDT to DDE. Buck et al. (1983) reported similar results from monitoring these same sites over 12 years following the ban on DDT use. After 12 years, residues in green alfalfa averaged 0.020 ppm. At the end of the same period, combined DDT and DDE residues in agricultural soils had fallen from 1.2 ppm to 0.39 ppm, while those in surrounding desert soil had fallen from 0.40 to 0.09 ppm.

5.4.4 Other Media

Market basket surveys indicate that there have been continual decreases in the overall levels of DDT and DDE in all classes of food tested from 1965 to 1975 (EPA 1980b). Between 1970 and 1973, DDE residues decreased only 27% compared to a decrease of 86% and 89% for DDT and DDD, respectively (EPA 1980b). A study by Duggan et al. (1983) reported the following average residues in grocery items from 1969 to 1976: domestic cheese, 3 ppb; ready-to-eat meat, fish and poultry, 5 ppb; eggs, 4 ppb; domestic fruits, 13 ppb; domestic leaf and stem vegetables, 24 ppb; domestic grains, 7 ppb; corn and corn products, 0.7 ppb; peanuts and peanut products, 11 ppb.

Current market basket surveys have been reported by Gartrell et al. (1985, 1986). Results of these surveys are summarized in Table 5-1. Overall, these surveys indicate that levels of DDT and DDE in food commodities are decreasing. However, foods imported from countries in which DDT is still used may continue to contribute small amounts of DDT and DDE to the daily diet of consumers.

5.5 GENERAL POPULATION AND OCCUPATIONAL EXPOSURE

The general population is exposed to DDT and its metabolites primarily as a result of ingestion of small amounts in the diet. As indicated in the previous section, although residue levels in food continue to slowly decline, there are measurable quantities in many commodities. Because of the extreme persistence of DDT and DDE, it is anticipated that low levels of residues will be present in commodities for decades to come. In fact, depending on use and

REFERENCE NO. 48

CHEMISTRY OF NATURAL WATERS

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Table X. Reduction Reaction of Arsenious and Arsenic Compounds at 25°C [56]

Reaction No.	Reaction	E_h°[a] (V)
(82)	$H_3AsO_4 + 3H^+ + 2e = AsO^+ + 3H_2O$	0.550
(83)	$H_3AsO_4 + 2H^+ + 2e = HAsO_2 + 2H_2O$	0.560
(84)	$H_3AsO_4 + 3H^+ + 2e = HAsO_2 + 2H_2O$	0.666
(85)	$HAsO_4^{2-} + 4H^+ + 2e = HAsO_2 + 2H_2O$	0.881
(86)	$HAsO_4^{2-} + 3H^+ + 2e = AsO_2^- + 2H_2O$	0.609
(87)	$AsO_4^{3-} + 4H^+ + 2e = AsO_2^- + 2H_2O$	0.977
(88)	$As_2O_{3(s)} + 6H^+ + 6e = 2As + 3H_2O$	0.234
(89)	$As_2O_{5(s)} + 10H^+ + 10e = 2As + 5H_2O$	0.429
(90)	$As_2O_{5(s)} + 4H^+ + 4e = As_2O_{3(s)} + 2H_2O$	0.721
(91)	$AsO^+ + 2H^+ + 3e = As + H_2O$	0.254
(92)	$HAsO_2 + 3H^+ + 3e = As + 2H_2O$	0.248
(93)	$AsO_2^- + 4H^+ + 3e = As + 2H_2O$	0.429
(94)	$AsO_4^{3-} + 8H^+ + 5e = As + 4H_2O$	0.648
(95)	$2H_3AsO_4 + 4H^+ + 4e = As_2O_{3(s)} + 5H_2O$	0.580
(96)	$2H_2AsO_4^- + 6H^+ + 4e = As_2O_{3(s)} + 5H_2O$	0.687
(97)	$2HAsO_4^{2-} + 8H^+ + 4e = As_2O_{3(s)} + 5H_2O$	0.901
(98)	$2AsO_4^{3-} + 10H^+ + 4e = As_2O_{3(s)} + 5H_2O$	1.270
(99)	$As + 3H^+ + 3e = AsH_{3(g)}$	−0.608
(100)	$O_2 + 4H^+ + 4e = 2H_2O$	1.229
(101)	$2H_2O + 2e = H_2 + 2OH^-$	−0.826
(102)	$As + 3H_2O + 3e = AsH_{3(g)} + 3OH^-$	−1.21

[a]Signs of the half-cells potentials are in accord with the IUPAC convention (see Chapter 4).

is very low, at a partial pressure of about 1 atm the calculated solubility is $10^{-5.3}M$.

No other ions encountered in natural systems, except iron, show significant reactions with arsenic to change the areas of predominance of the soluble species shown in the diagram (Figure 10). In the presence of iron, a small region of stability will occur at a pH value below 2.3 and an Eh value above +0.74 V. Organic arsenicals do not appear in the diagram because they are thermodynamically unstable in the system.

The stability relationship discussed in the previous section should be considered as an attempt to understand the possible oxidation-reduction patterns in natural waters. As discussed previously, natural systems are highly dynamic, and the kinetics of the different equilibrium reactions, which are not known for arsenic species, should be evaluated before a precise model can be established. In addition, biological transformations result in the production or organic intermediates that have major environmental significance. These cannot be predicted by thermodynamic models but they exist in the environment because of kinetic barriers.

LEAD

Background

Lead is widely distributed in the earth's crust and is also found in the atmosphere and hydrosphere. Because of its low melting point (327°C), malleability, ductility and resistance to corrosion, it has been used in the manufacture of metal products for thousands of years. The extensive, long-term mining, smelting and commercial uses have resulted in a considerable amount of information regarding the harmful effects of industrial exposure to man, animals and plants. Thus, it has long been recognized that lead could be absorbed by inhalation and ingestion and that lead absorption was responsible for loss of movement in printers' fingers exposed to heated lead type and for "dry grippes" in pottery and glass workers.

Lead is not considered an essential element to the nutrition of animals and humans [109]. Being foreign to the human body, it is a cumulative poison that tends to be deposited in bone [110] but that is also found in brain, liver, kidney, aorta and muscles. Absorbed lead is transported to these tissues via the blood system, and some portion is removed from the body through the alimentary tract and urinary system. Lead poisoning in its advanced forms causes permanent damage to the body or may cause death. The poisoning usually results from the cumulative toxic effects of lead after continuous, long-term consumption, rather than from occasional small doses [111].

The major sources of lead input to man are food, air and tobacco smoke, as well as water and other beverages. The daily average intake of lead by adults in North America is about 0.33 mg. Of this quantity, 0.01–0.03 mg/day are derived from water used for cooking and drinking [112,113]. A total intake of lead in excess of 0.6 mg/day may result in the accumulation of a dangerous quantity during a lifetime. Drinking water containing lead in concentrations varying from 0.042 to 1.0 mg/l or more has caused lead poisoning among human beings [81]. On the other hand, concentrations ranging from 0.01 to 0.16 mg/l apparently have been not poisonous over long periods of time [114]. The maximum acceptable concentration of lead in water used as drinking water is 0.05 mg/l. This limit was established to provide protection based on the combined exposure from both food and water [1].

Sources in the Environment

Natural Sources

Lead exists in nature mainly as the sulfide (galena). Lead carbonate (cerussite), lead sulfate (anglesite) and lead chlorophosphate (pyromorphite, $Pb_5Cl(PO_4)_3$) are also naturally occurring forms. The low solubility of lead in the aqueous phase of natural systems and the formation of stable complexes with organic matter are manifested in the low uptake by some plants and animals. There are extremely low concentrations of lead in natural bodies of water in proportion to the concentration in the beds of lakes and streams. The net effect of these sluggish dynamics is a high degree of accumulation with prolonged exposure.

The natural concentration of lead in soils is in the range of 2 to 200 ppm, exclusive of areas near deposits of lead ores [115,116]. Soils in rural areas of the U.S. have lead concentrations usually similar to the average content in the earth's crust, 10-15 μg/g [117]. Higher concentrations in soils of lead in specific areas are attributed to such manmade sources as mining, fallout, industrial operations and motor vehicles. The lead contents of soils along high-traffic density highways have been studied by several investigators. Substantial increase was observed in the top layer of soils adjacent to highways (150-522 μg/g), which decreased with distance and with depth [118]. In addition to these sources, soils receive, on the average, 1 $\mu g/cm^2/yr$ from precipitation, and 0.2 $\mu g/cm^2/yr$ may be deposited in dustfall.

The contribution of natural sources to present day concentrations of lead in the atmosphere apparently is insignificant. Natural concentrations have been estimated to be about 0.0005 $\mu g/m^3$ of air [119] and result from airborne dust containing on the average 10–15 ppm of lead [117] and from gases diffusing from earth's crust [120].

Natural concentrations of lead determined in the annual ice layers from the interior of northern Greenland [121] show that lead concentrations were increased from less than 0.0005 μg/kg of ice at 800 B.C. to more than 0.2 μg/kg in 1965. The sharpest rise occurred after 1940 and today's lead concentrations in Greenland are about 400 times the natural levels. The increases in lead content in other ecosystems have been documented. For example, it is estimated that the preindustrial lead content in marine water was about 0.02-0.04 μg/kg [122]. At the present time, surface waters in some areas of the Mediterranean Sea and Pacific Ocean contain as much as 0.20 and 0.35 μg/kg, respectively, and only deep waters, below 1000 meters, appear uncontaminated [122]. The lead content of fresh waters also has increased in recent times. The mean global natural lead content of lakes and rivers is estimated to be 1-10 μg/l [123].

Anthropogenic Sources

The current world production of lead is about 2.5 million ton/yr, of which 40% is in the United States. The yearly consumption of primary and secondary (recycled) lead in the U.S. has nearly doubled in the last 20 years, reaching about 1.3 million tons [124]. The largest single user is the electric storage battery industry, which accounted for 38.7% of the lead consumed in 1968. The metallic form is used to make the grids and lugs, and the lead oxides (litharge, PbO_2, red lead, Pb_3O_4; and black oxide, Pb_2O) constitute the active material pasted on the plates. The petroleum industry is the second largest consumer of lead and accounts for 20% of the total, used mostly for gasoline additives (lead alkyls). The paint industry also uses several lead compounds in the manufacture of different paints. White lead (basic lead carbonate, $2PbCO_3 \cdot Pb(OH)_2$) and red lead are used in exterior house paints and other outdoor uses because of their superior weathering characteristics. Lead chromates provide yellow, green and red pigments used in traffic marking paints and printing inks. Lead is also used in the ceramics industry; lead oxides and silicates are principal components in glazes for china and structural clays. Other uses of lead include the manufacture of such insecticides as lead arsenate (decreasing since 1946) and in electric cable insulation, hose, pipe, sheet and floor coverings, as well as a stabilizer in vinyl plastics. Wastewaters from these industrial and manufacturing operations contain varying concentrations of lead, which may reach the natural waters in the effluent discharges.

Lead in the Atmosphere

Considerable amounts of lead are emitted to the atmosphere in the form of particulate matter from a variety of sources. An inventory of the sources of lead emissions in the U.S. [124] for 1968 is shown in Table XI. These data indicate that the combustion of leaded gasoline constitutes approximately 98% of the total emission of lead from all sources. The burning of coal has not been a serious source of atmospheric lead in comparison with the burning of gasoline. Analysis of 827 samples of domestic coal provided a weighted average of 7 ppm [125]. This concentration would produce 3528 tons of lead of which 747 either remained in the clinker or were collected with fly ash. In modern furnaces burning pulverized coal, about 95–99% of the fly ash is removed by electrostatic precipitators and only a small portion of the lead is emitted as aerosols [126]. Improved industrial controls have also resulted in a considerable reduction of the amounts of lead emitted to the atmosphere from smelting of lead ores. Currently, the contribution of this source to atmospheric lead content is considered small.

Table XI. Lead Emission in the United States, 1968 [124]

Emission Source	Lead Emitted (ton/yr)
Gasoline Combustion	181,000
Coal Combustion	920
Fuel Oil Combustion	24
Lead Alkyl Manufacturing	810
Primary Lead Smelting	174
Secondary Lead Smelting	811
Brass Manufacturing	521
Lead Oxide Manufacturing	20
Gasoline Transfer	36
Total	184,316

The concentration of lead in ambient air has been closely correlated with the density of vehicular traffic [127,128]. It is highest in what might be termed "vehicular microclimates" in large cities. For example, a comparison of estimated emissions of lead from several sources in the Cincinnati area indicates that the principal contributor is the combustion of leaded gasoline [129], each gallon of which contains about 2.4 g of lead as an antiknock additive. The concentration decreases gradually as one moves from urban areas into the suburbs or smaller towns and finally into rural areas. Results of the National Air Surveillance Networks indicated that the average concentration of lead in the atmosphere of most cities in 1953-1966 was 1-3 $\mu g/m^3$, but suburban and nonurban stations averaged 0.1-0.5 $\mu g/m^3$. Many concentrations at some of the very rural stations were less than 0.05 $\mu g/m^3$ [130,131]. Studies have indicated that atmospheric fallout of lead-bearing particulates can be a significant source of lead input into surface waters, either directly or by transport of deposited particles on land surfaces in runoff [118,132-134].

Lead aerosols that are largely airborne for long distances from the emission sources because of their small size are removed from the atmosphere by precipitation. Lazrus et al. [135] determined the lead concentration in precipitation at 32 U.S. stations and found a correlation between the gallons of gasoline used and the concentration of lead in rainfall in each area. The average lead concentration was 34 $\mu g/l$ in precipitation, with a median of about 10 $\mu g/l$. The highest concentration was about 300 $\mu g/l$. The deposition rate by rainfall was estimated as high as 138 g/ha/month, and rates over 25 g/ha/month were observed at most stations in the northeastern part of the U.S. Hem and Durum [133] determined the concentration of lead in rain water at Menlo Park, California during 1971. The concentrations varied from

a few $\mu g/l$ to more than 100 $\mu g/l$. The total lead concentration varied widely from storm to storm and within individual storms, but the total rainout of lead was small compared to the relatively constant dry fallout rate at this location. However, in semirural areas an average of 1 $\mu g/cm^2/yr$ of lead is precipitated from the atmosphere [136] corresponding to a rate of 9 g/ha/month. The residence time of lead in the atmosphere was estimated from an analysis of Pb^{210} in rain water to range from 7 to 30 days, indicating the efficiency with which aerosols are removed by precipitation [137,138].

Lead in Natural Waters

Atmospheric fallout and rainout of particulate lead are considered the most significant sources of lead input into natural surface waters, especially in urban areas. Storm runoff can bring significant amounts of lead into solution, in addition to the transport of leadbearing sediments into receiving waters. The runoff rates, however, will determine the total lead concentration in transport. Generally, areas with high runoff rates are less likely to have high lead fallout rates, but runoff originating in urban areas will tend to be high in lead concentration.

The chemical composition of runoff waters is also an important factor in determining the concentration of dissolved lead. Hem and Durum [133] suggested that runoff waters with a pH value near 6.5 and an alkalinity below 30 mg/l (as HCO_3^-) are expected to contain high concentrations of soluble lead ranging from 40 $\mu g/l$ up to several hundred $\mu g/l$. Such waters may occur in high runoff areas with significant lead fallout and rainout. However, waters with alkalinities exceeding 60 mg/l and a pH value near 8.0 are expected to contain low concentrations of dissolved lead, generally below 10 $\mu g/l$. Durum et al. [93] reported the dissolved concentration of several minor elements, including lead, in 726 sites on rivers and lakes in the U.S. and Puerto Rico. The limit of detection for lead in that study was 1 $\mu g/l$. Detectable concentrations were found in 63% of the samples, with only three samples containing more than 50 $\mu g/l$. However, there was a distinct regional pattern in the data, as shown in Table XII. This regional distribution of lead in the stream waters is in agreement with the suggestion that the water composition in the eastern states is commonly favorable for the dissolution of lead [133]. Also, rainfall data [135] show that lead is supplied to this region in larger amounts than the nationwide average.

Most of the available information on the lead content of rivers and lakes is concerned with dissolved lead. However, a significant portion of lead input into natural waters is in the form of particulate lead that is transported in the runoff from rain storms, especially in urban areas. Samples of runoff originating from paved streets and other impervious surfaces in the city of

Table XII. Regional Summary of Lead in Surface Water of the U.S. [93]

Region	Maximum (μg/l)	Minimum (μg/l)	Median (μg/l)	<1 μg/l (%)	>1 μg/l (%)	>10 μg/l (%)
New England and Northeastern	890	<1	6	8	92	16
Southeastern	44	<1	4	27	73	22
Central	84	<1	<1	51	49	8
Southwestern	34	<1	<1	61	39	16
Northwestern	23	<1	<1	62	38	2

Palo Alto, California and discharging into the nearby Matadero Creek showed a total lead content of 93 μg/l, of which 91 μg/l could be removed by filtration. The lead content of the sediment fraction was about 0.11%, which is about the same percentage observed in the dry fallout in that area [133].

Samples of flood runoff collected in November, 1971 from two small streams draining urbanized areas around San Francisco Bay contained high concentrations of suspended lead ranging from 200 to 680 μg/l; more than 90% of the total lead was associated with the sediment fraction [134].

Studies on the distribution of lead in Lake Michigan [139] indicated that the concentration in the upper few centimeters of water near the air–water interface ranged from 2 μg/l offshore at Chicago to approximately 0.4 μg/l ten miles west of West Haven, Michigan. Substantially higher concentrations of lead were found in fine-grained sediments near the sediment–water interface, which decreased in underlying sediments of southern Lake Michigan. The mean concentration of lead in surficial sediments was 88 μg/g, compared to 20 μg/g in sediments at depths ranging from 15 to 100 cm. The mean concentration in suspended matter was 56 μg/g [139].

Effects of Lead on Aquatic Life

The toxicity of lead to aquatic organisms has long been recognized in England. The disappearance of fish from British streams receiving effluents from lead mines and the deaths of waterfowl and other animals in the vicinity of streams were reported as early as 1874 [140]. The continued absence of fish in rivers passing through old mining areas led Carpenter [141] to conduct the first definitive experiments on lead poisoning in fish. These studies led to the formulation of the "coagulation film anoxia" theory [140]. When fish are placed in lead-contaminated water, a film of coagulated mucous is formed over the entire body and is particularly prominent over the gills. The insoluble material interferes with the respiratory function of the gills, resulting in acute respiratory distress and death by suffocation. This effect, however, could also be produced by toxic concentrations of other heavy metal ions, including zinc, copper, cadmium and mercury [140].

The toxicity of lead to fresh-water fish is influenced by the physicochemical characteristics of the water: temperature, dissolved oxygen concentration, calcium content and, most importantly, the water hardness, which determines the lead solubility. The effect of hardness on the toxicity of lead was demonstrated by acute toxicity tests on several species of fish in waters of varying hardness. In soft waters (20–45 mg/l $CaCO_3$), the 96-hour LC_{50} values were: 1.0 mg/l for rainbow trout, 4.0–5.0 mg/l for brook trout and 5.0–7.0 mg/l for fathead minnows [80]. In hard waters, 96-hour LC_{50} values were 442 mg/l for brook trout and 482 mg/l for fathead minnows. Detrimental effects to rainbow and brook trout were observed at a concentration of 0.1 mg/l in soft waters [80].

There is neither any available information in the literature concerning the ability of fresh-water fish to concentrate lead from the surrounding medium, nor any studies in which the lead concentration was measured simultaneously in fish and water. Concentrations as high as 12 ppm in liver, 5.7 ppm in gills and 1.4 ppm in muscle of fish taken from a lake near a rich lead mine were reported [142]. However, the concentration of lead in the lake water was not reported.

Marine organisms, on the other hand, have the ability to concentrate lead up to 40,000 times [81]. The normal concentration of lead in sea water is 0.03 μg/l [143] in the bulk of the water in deep ocean basins. However, the concentration can be as high as 0.3 μg/l near the surface and shallow water near continents [144]. Although the lead content reported in seafood is relatively low, it indicates a considerable ability to be concentrated by these organisms. The reported lead concentration range in seafood is 0.17–2.5 ppm, with an average of 0.5 ppm [145]. Average wet weight concentrations in eastern oysters and soft-shell clams were reported to be 0.47 and 0.7 ppm, respectively [145]. The remarkable ability of the eastern oyster to concentrate lead was demonstrated by exposing oysters to flowing sea water containing lead concentrations of 0.025, 0.05, 0.1 and 0.2 mg/l. The total accumulation of lead amounted to 17, 35, 75 and 200 ppm (wet weight) after 49 days, with the highest concentrations in the liver and the lowest in muscle tissue [146]. The higher lead concentrations in the sea water (0.1 and 0.2 mg/l), however, had deleterious effects on the oysters. The recommended maximum lead concentration in estuarine waters is 0.05 mg/l [80].

Chemistry in Aqueous Systems

Equilibrium solubilities of the inorganic species of lead that are most likely to be present in natural waters can be computed from the available thermodynamic properties of lead and its compounds. The data in Table XIII [133]

Table XV. Sephadex Types and Fractionation Range

Type	Approximate Limit for Complete Exclusion (mol wt)	Fractionation Range (mol wt)
G-10	700	0–700
G-15	1,500	0–1,500
G-25	5,000	100–5,000
G-50	10,000	500–10,000
G-75	50,000	1,000–50,000
G-100	100,000	5,000–100,000
G-150	150,000	5,000–150,000
G-200	200,000	5,000–200,000

data are not in accordance with the value of 456 reported earlier by Shapiro [28]. This value was retracted later by Shapiro [40].

Ghassemi and Christman [41] fractionated several colored waters (from Washington, British Columbia and Alaska) on Sephadex gel columns. With the exception of one fraction having a molecular weight in excess of 50,000, color molecules in these waters fell into the 700 to 10,000 molecular weight range. These authors cited some uncertainties in the fractionation of colored waters by Sephadex columns: (1) possible interaction of color acids with the gels, (2) effect of sample concentration techniques, and (3) lack of confirmation of molecular weights by an independent method. This fractionation technique was employed also to study the effect of $[H_3^+O]$ on molecular size. In the acidic (pH = 3.5) to a slightly alkaline (pH = 8.0) range, the size of the color molecule was increased slightly. This may be attributed to an increase in the molecular radius due to greater dissociation of the functional groups or to a decrease in the extent of adsorption on Sephadex or, perhaps, both mechanisms.

Additional fractionation studies on Sephadex are those by Brodsky et al. [42] on peat extracts, Shapiro [40] on colored waters, Wershaw et al. [43] on sodium humates and Christman and Minear [44] on colored waters and soluble, naturally occurring organophosphorus compounds.

There is an additional source of organic matter that ultimately forms colored water, namely, dead leaves from various forms of riparian vegetation. The mechanisms by which this significant source operates are described by Slack and Feltz [45], Lush and Hynes [46] and Novak et al. [47].

Polynuclear Aromatic Hydrocarbons (PAH)

These compounds are considered as naturally occurring because their origin is usually in petroleum. They are released into the environment through a

Table XVI. Fractionation of Black Earth Creek Sample[a]

Peak	Grade	Molecular Weight Range	% COD	Molecular Size Range (radius cm × 10^{-8})
Ia$_1$	G-200	>200,000	6	100
Ia$_2$	G-200	100,000–200,000	4	10–50
Ib	G-100	50,000–100,000	6	5–30
II	G-75	20,000–30,000	11	10–25
IIIa	G-25	3,000–5,000	12	20
IIIb	G-25		2	5–15
IIIc$_1$	G-25	100–5,000	13	4
IIId$_1$	G-10		2	
IIId$_2$	G-10		4	0–4
IIId$_3$	G-10	<700	6	
Precipitate not soluble in H_2SO_4			9	
Precipitate soluble in H_2SO_4			9	
Loss on G-75			10	
Distillate			2	
Total			96	

[a]Reproduced from Giessing and Lee [39] courtesy of the American Chemical Society.

pyrolytic industrial operation of some sort. Examples are the preparation of acetylene from natural gas; the hydrolysis of kerosene to benzene, toluene and other organic solvents; the pyrolysis of wood, etc. There is a legitimate concern about the occurrence of these compounds in man's environment because of the carcinogenic properties exhibited to laboratory animals by some PAH. For example, 3,4-benzpyrene (BP) is, perhaps, the most carcinogenic of all PAH.

Andelman and Snodgrass [48], Andelman and Suess [49] and Harrison et al. [50] have published excellent review articles about the incidence and significance of PAH in the water environment. Typical PAH may be seen in Figure 5. The ubiquitous distribution of 3,4-benzpyrene throughout man's environment is claimed [48]. This should be questioned in view of the analytical uncertainties surrounding detection of organic molecules in environmental samples. Undoubtedly, BP is widespread, but the ubiquitous claim should be questioned until more precise analytical data are available.

Origin and Sources of PAH. Industrial operations engaged in the pyrolytic processing of such organic raw materials as coal and petroleum form (i.e., origin) PAH whenever the process is conducted at temperatures circa 700°C. Also, the consumption of pyrolytic products (coal tar, coal tar pitch, gasoline, etc.) can produce PAH. Wastewater effluents from these industrial operations conduct PAH into receiving waters because existing methods of treatment do not reduce their content to any significant extent. Effluents from the thermal processing of mineral fuels are one of the largest sources of PAH contamination of surface waters [48]. The PAH contents of typical effluents are summarized in Table XVII. Domestic wastewaters may also contain significant quantities of PAH. Borneff and Kunte [52,53] cite a concentration range of 0.8 to 87.5 μg/l for "total" PAH in several European wastewater effluents. Also, a municipal incinerator has been cited as a source of PAH [54].

Solubility and Stability of PAH in Water. Two of the most important properties influencing the incidence of PAH in water are solubility and stability. For example, the solubility of 3,4-benzpyrene in clean river water or tap water was observed to be approximately 0.01 μg/l [55]. Il'nitskii et al. [56] performed several experiments on the stability of BP in pond and tap water at concentrations of 0.01 and 10 μg/l. The latter concentration was assured through the use of an acetone–water mixture. In general, undecomposed BP could be detected after 35-40 days to the extent of 5–20% of the initial concentration. Only 10–15% of the 10 μg/l BP was lost "in the first few days." On the other hand, almost 50% of the 0.01 μg/l BP was apparently decomposed within 24 hours. Both solutions were stored in the dark. No suggestions were offered for the disappearance of the BP from the water.

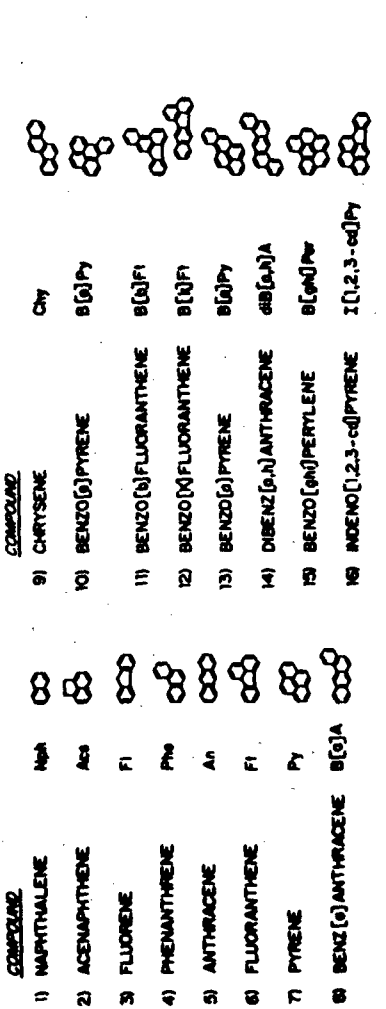


Figure 5. Identification, structures and abbreviations of PAH. All but B[e]Py are on the U.S. Environmental Protection Agency's (EPA) priority pollutant list. Reproduced from Ogan et al. [51] courtesy of the American Chemical Society.

Table XVII. PAH Concentration in Industrial Effluents[a]

Industry	Source of Wastewater	BP Concentration (μg/l)
Shale Oil	After treatment for dephenolization	2–320
Coke By-products	Not indicated	Present
	After biochemical treatment	12–16
	After oil separation (5 samples)	6.5, 130, 250 290 and "big" quantity
	Spent gas liquor	Very small quantity
Coke or Oil–Gas Works	Before discharge to sewer	Not indicated
	Before discharge to sewer (2 plants)	1000 and 340
Oil–Gas Works	After oil separation (3 samples)	3, 6 and 30
Oil Refinery	After oil separation (3 samples)	None detected
Tar Paper	Not indicated	Present
Acetylene	Not indicated	15–100
Ammonium Sulfate	After cooling and settling	About 10[b]

[a]After Andelman and Suess [49].
[b]Other PAH present.

Presumably, microbiological action or adsorption on container walls was responsible.

PAH in Fresh Surface Waters. There is evidence that PAH are found in almost all aquatic environments. This is especially true in fresh surface waters receiving wastewaters that are known sources of PAH and downstream from petroleum refineries. Some typical concentrations of 3,4-BP and PAH are reported in Table XVIII from various Russian, German and American rivers [48]. These contents result from a special effort to sample the rivers below known sources of PAH. Basu and Saxena [57] reported "total" PAH concentrations of 0.6636 and 0.3518 μg/l for the raw drinking water supplies of Pittsburgh and Philadelphia, respectively. The finished drinking waters contained "total" PAH values of 0.0028 and 0.0149 μg/l, respectively. Herbes [58] investigated the partitioning of PAH between dissolved and particulate phases in natural waters. A "significant" fraction, 15-65% of anthracene, for example, would be associated with detrital and living organic matter in natural waters. Borneff and Kunte [59] have found PAH concentrations up to 0.10 μg/l in drinking water. These researchers have concluded that

Table XVIII. Typical Concentration Ranges of 3,4-BP and PAH in Fresh Surface Waters [48]

Source	3,4-BP (μg/l)	PAH[a] (μg/l)	Total PAH (μg/l)
Rhine River	0.05–0.11	0.01–0.73	0.73–1.50
German Rivers	0.001–0.04	0.04–1.3	0.12–3.1
A U.S. River	0.078–0.150	–	–
Rivers[b]	0.0001–12	–	–
Moscow Reservoirs	4–13	–	–
Volga River	0.0001	–	–
Sunzha River	0.05–3.5	–	–
Oyster River, Connecticut	0.078–0.150	–	–

[a]May be carcinogenic.
[b]Receiving wastewaters that are sources of PAH.

PAH contents between 0.15 and 0.20 μg/l in drinking water constitute questionable safety. In 1970, the World Health Organization (WHO) adopted a 0.20-μg/l concentration as a standard for European drinking water [60].

ATMOSPHERIC WATERS

Atmospheric waters (rain water and snow) have a complex chemical composition that varies considerably from location to location as well as from storm event to storm event and from season to season. Rain water, for example, contains constituents of local origin and some that have been imported by atmospheric currents from elsewhere. Occasionally there is "dry" precipitation of mineral and organic dusts that would add substances to ground and surface waters. Also, there is the universal problem of acid rain.

The chemical analysis of atmospheric waters is worldwide. A systematic examination of rain water in northern Europe was started in 1955 by the International Meteorological Institute, Stockholm [61]. A network of sampling stations was established in Scandinavia, Great Britain and northern Europe to collect and analyze on a monthly basis. Rain water has been collected and analyzed, of course, in the United States, England and Australia [61].

Rain Water

"Normal" Rain

The principal chemical constituents of rain water are the major ions: sodium, potassium, magnesium, calcium, chloride, bicarbonate and sulfate.

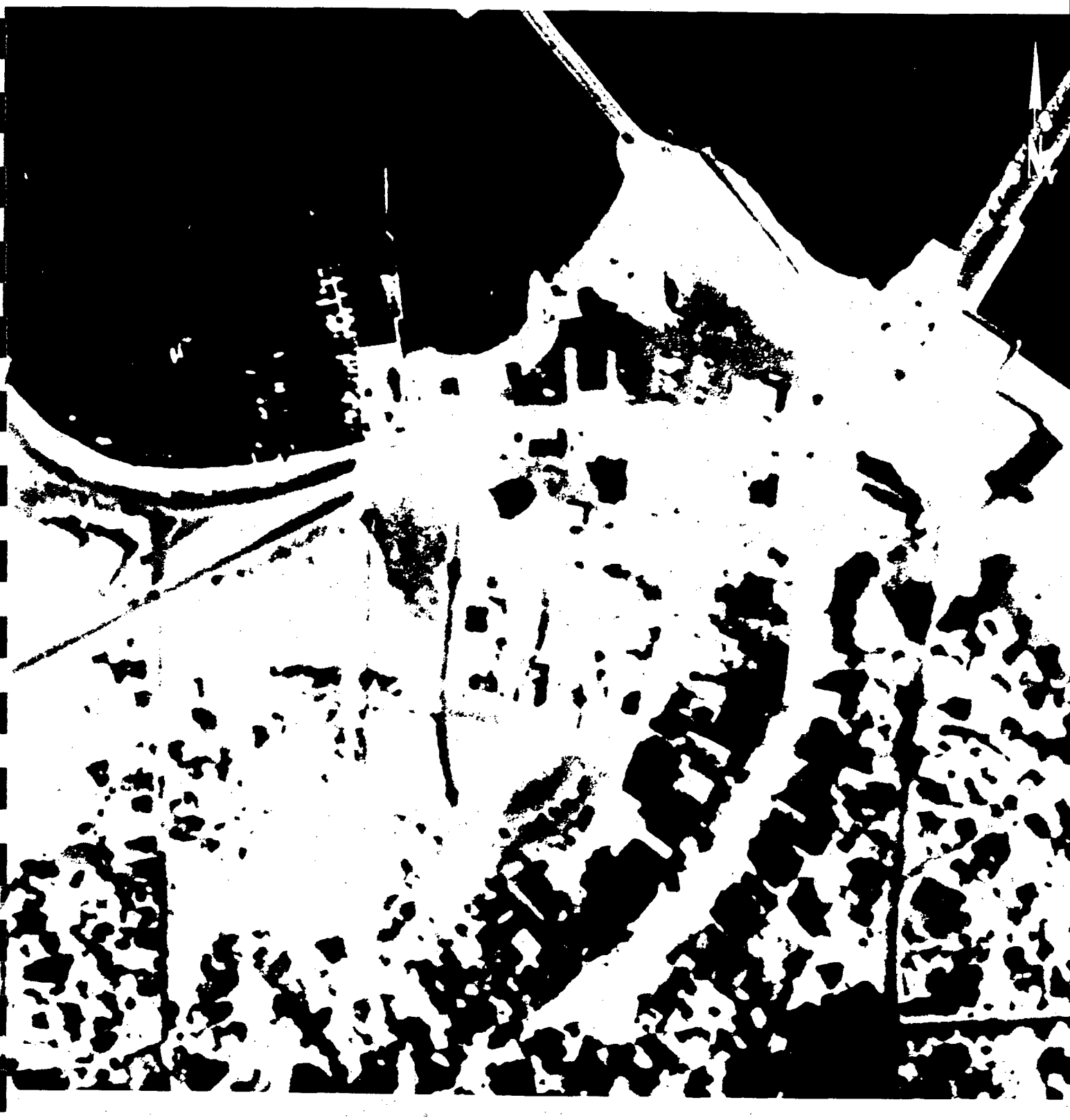
REFERENCE NO. 49

Sag Harbor - Bridge Street
Sag Harbor, NY
September 27, 1947
EPIC Frame # 12013
Approx. Scale 1:2,000

Sag Harbor - Bridge Street
Sag Harbor, NY
February 19, 1954
EPIC Frame # 10996
Approx. Scale 1:1,800

Sag Harbor - Bridge Street
Sag Harbor, NY
May 17, 1961
EPIC Frame # 12015
Approx. Scale 1:2,200

Sag Harbor - Bridge Street
Sag Harbor, NY
October 2, 1965
EPIC Frame # 11704
Approx. Scale 1:2,200



Sag Harbor - Bridge Street
Sag Harbor, NY
October 6, 1969
EPIC Frame # 11689
Approx. Scale 1:3,200

Sag Harbor - Bridge Street
Sag Harbor, NY
October 6, 1969
EPIC Frame # 11689
Approx. Scale 1:3,200

Sag Harbor - Bridge Street
Sag Harbor, NY
March 24, 1984
EPIC Frame # 12019
Approx. Scale 1:1,900

Sag Harbor - Bridge Street
Sag Harbor, NY
April 28, 1976
EPIC Frame # 12136
Approx. Scale 1:1,900

Sag Harbor - Bridge Street
Sag Harbor, NY
March 28, 1978
EPIC Frame # 11600
Approx. Scale 1:1,900

N

REFERENCE NO. 50

02-8907-29-LI
REV. NO. 0

FINAL DRAFT LISTING SITE INSPECTION REPORT
SAG HARBOR - BRIDGE STREET
SAG HARBOR, NEW YORK
VOLUME V

PREPARED UNDER
TECHNICAL DIRECTIVE DOCUMENT NO. 02-8907-29
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

DECEMBER 22, 1989

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:

Joseph Mayo

JOSEPH MAYO
PROJECT MANAGER

REVIEWED/APPROVED BY:

Ronald M Naman

RONALD M. NAMAN
FIT OFFICE MANAGER

PATHWAY SUMMARY SCORE

Air Migration Pathway Score (Sa)	4.31
Ground Water Migration Pathway Score (Sgw)	22.89
Surface Water Migration Pathway Score (Ssw)	35.00
Onsite Exposure Pathway Score (Sos)	39.00
Site Score (S)	28.67

SSI
Air .82
GW 21.80
SW 42.55
DS 25.00

26.98

PATHWAY SUMMARY SCORE

AIR PATHWAY SCORESHEET

Factor Categories and Factors

	Likelihood of Release	Maximum Value	Value Assigned	
1.	Observed Release	450	0	
2.	Potential to Release (Highest value assigned to any source evaluated)	390	120	
3.	Likelihood of Release (Higher of Lines 1 or 2)	450		120
	Waste Characteristics			
4.	Toxicity/Mobility	100	70	
5.	Hazardous Waste Quantity	100	10	
6.	Waste Characteristics (Lines 4 + 5)	200		80
	Targets			
7.	Maximally Exposed Individual	50	50	
8.	Population	235	8	
9.	Land Use	10	10	
10.	Sensitive Environments	100	27	
11.	Targets (Lines 7 + 8 + 9 + 10, subject to a maximum of 235)	235		95

Air Pathway Migration Score

12.	Pathway Score (Sa) [(Lines 3 x 6 x 11)/(2.115 x 100000)]	100	4.31

PATHWAY SUMMARY SCORE

GROUND WATER PATHWAY SCORESHEET

Factor Categories and Factors

	Likelihood of Release to an Aquifer	Maximum Value	Value Assigned	
1.	Observed Release	500	0	
2.	Potential to Release			
	2a. Containment	10	10	
	2b. Net Precipitation	10	6	
	2c. Depth to Aquifer/ Hydraulic Conductivity	35	35	
	2d. Sorptive Capacity	5	5	
	2e. Potential to Release (Lines 2a x (2b + 2c + 2d))	500	460	
3.	Likelihood of Release (Higher of Lines 1 or 2e)	500		460
	Waste Characteristics			
4.	Toxicity/Mobility	100	53	
5.	Hazardous Waste Quantity	100	10	
6.	Waste Characteristics (Lines 4 + 5)	200		63

PATHWAY SUMMARY SCORE

	Targets	Maximum Value	Value Assigned	
7.	Maximally Exposed Individual	50	50	
8.	Population			
	8a. Level I Concentrations	200	0	
	8b. Level II Concentrations	200	0	
	8c. Level III Concentrations	200	0	
	8d. Potential Contamination	200	7	
	8e. Population (Lines 8a + 8b + 8c + 8d, subject to a maximum of 200)	200		8
9.	Ground Water Use			
	9a. Drinking Water Use	50	50	
	9b. Other Water Use	20	10	
	9c. Ground Water Use (Lines 9a + 9b, with a maximum of 50)	50	50	
10.	Wellhead Protection Area	50	50	
11.	Targets (Lines 7 + 8e + 9c + 10, subject to a maximum of 200)	200		158

Ground Water Migration Score for an Aquifer

12.	Aquifer Score [(Lines 3 x 6 x 11)/(2 x 100000)]	100	22.89	

Ground Water Migration Pathway Score

13.	Pathway Score (Sgw), (Highest value from Line 12 for all aquifers evaluated)	100	22.89	

PATHWAY SUMMARY SCORE

SURFACE WATER PATHWAY SCORESHEET

Factor Categories and Factors

DRINKING WATER THREAT

	Likelihood of Release	Maximum Value	Value Assigned	
1.	Observed Release	120	0	
2.	Potential to Release by Overland Flow			
	2a. Containment	10	10	
	2b. Runoff	6	4	
	2c. Distance to Surface Water	6	0	
	2d. Potential to Release by Overland Flow (Lines 2a x (2b + 2c))	120	90	
3.	Potential to Release by Flood			
	3a. Containment (Flood)	10	5	
	3b. Flood Frequency	12	5	
	3c. Potential to Release by Flood (Lines 3a x 3b)	120	50	
4.	Potential to Release (Lines 2d + 3c, subject to a maximum of 120)	120	120	
5.	Likelihood of Release (Higher of Lines 1 or 4)	120		120
	Waste Characteristics			
6.	Toxicity/Mobility	100	100	
7.	Hazardous Waste Quantity	100	10	
8.	Waste Characteristics (Lines 6 + 7)	200		110

PATHWAY SUMMARY SCORE

	Targets	Maximum Value	Value Assigned	
9.	Maximally Exposed Individual	50	0	
10.	Population			
	10a. Level I Concentrations	200	0	
	10b. Level II Concentrations	200	0	
	10c. Level III Concentrations	200	0	
	10d. Potential Contamination	200	0	
	10e. Population (Lines 10a + 10b + 10c + 10d, subject to a maximum of 200)	200		0
11.	Surface Water Use			
	11a. Drinking Water Use	50	0	
	11b. Other Water Use	20	0	
	11c. Surface Water Use (Lines 11a + 11b)	50	0	
12.	Targets (Lines 9 + 10e + 11e, subject to a maximum of 200)	200		0
	Drinking Water Threat Score			
13.	Drinking Water Threat (Lines 5 x 8 x 12)	4800000		0

SURFACE WATER PATHWAY SCORESHEET

Factor Categories and Factors

HUMAN FOOD CHAIN THREAT

	Likelihood of Release	Maximum Value	Value Assigned
14.	Likelihood of Release (Same Value as Line 5)	120	120
	Waste Characteristics		
15.	Toxicity/Mobility	100	60
16.	Hazardous Waste Quantity	100	10
17.	Waste Characteristics (Lines 15 + 16)	200	70
	Targets		
18.	Population		
	18a. Potential Human Food Chain Contamination	200	160
	18b. Actual Human Food Chain Contamination	200	0
	18c. Population (Lines 18a + 18b, subject to a maximum of 200)	200	160
19.	Fishery Use	50	50
20.	Targets (Lines 18c + 19, subject to a maximum of 200)	200	200
	Human Food Chain Threat Score		
21.	Human Food Chain Threat (Lines 14 x 17 x 20)	4800000	1680000

SURFACE WATER PATHWAY SCORESHEET

Factor Categories and Factors

HUMAN RECREATION THREAT

	Likelihood of Release	Maximum Value	Value Assigned
22.	Likelihood of Release (Same Value as Line 5)	120	120
	Waste Characteristics		
23.	Toxicity/Mobility	100	100
24.	Hazardous Waste Quantity	100	10
25.	Waste Characteristics (Lines 23 + 24)	200	110
	Targets		
26.	Population		
	26a. Actual Contamination (Highest value assigned to any recreation area, subject to a maximum of 200)	200	0
	26b. Potential Contamination (Highest value assigned to any recreation area, subject to a maximum of 200)	200	0
	26c. Population (Higher of values on Lines 26a or 26b)	200	0
27.	Targets (Value from Line 26c)	200	0
	Human Recreation Threat Score		
28.	Human Recreation Threat (Lines 22 x 25 x 27)	4800000	0

SURFACE WATER PATHWAY SCORESHEET

Factor Categories and Factors

ENVIRONMENTAL THREAT

	Likelihood of Release	Maximum Value	Value Assigned	
29.	Likelihood of Release (Same Value as Line 5)	120		120
	Waste Characteristics			
30.	Toxicity/Mobility	100	90	
31.	Hazardous Waste Quantity	100	10	
32.	Waste Characteristics (Lines 30 + 31)	200		100
	Targets			
33.	Sensitive Environments			
	33a. Level I Concentrations	120	0	
	33b. Level II Concentrations	120	0	
	33c. Potential Contamination	120	0	
	33d. Sensitive Environments (Lines 33a + 33b + 33c, subject to a maximum of 120)	120		0
34.	Targets (Value from Line 33)	120		0
	Environmental Threat Score			
35.	Environmental Threat (Lines 29 x 32 x 34)	2880000		0
36.	Watershed Score [(Lines 13 + 21 + 28 + 35)/48000, subject to a maximum of 100]	100		35.00
37.	Pathway Score (Sgw) (Sum of scores from Line 36 for all watersheds evaluated, subject to a maximum of 100)	100		35.00

ONSITE EXPOSURE PATHWAY

Factor Categories and Factors

	Resident Population Threat	Maximum Value	Value Assigned	
1.	Likelihood of Exposure	100	100	
2.	Waste Characteristics	5	5	
3.	Targets			
	3a. High-Risk Population	100	0	
	3b. Total Resident Population	100	14	
	3c. Terrestrial Sensitive Environments	25	0	
	3d. Targets (Lines 3a + 3b + 3c, subject to a maximum of 100)	100		14
4.	Resident Population Threat Score (Lines 1 x 2 x 3d)	50000		7000
	Nearby Population Threat			
5.	Likelihood of Exposure			
	5a. Waste Quantity	100	17	
	5b. Accessibility/Frequency of Use	100	75	
	5c. Likelihood of Exposure	100	25	
6.	Waste Characteristics	5	5	
7.	Targets			
	7a. Population Within 1-Mile	100	100	
	7b Targets (Line 7a, subject to a maximum of 100)	100		100
8.	Nearby Population Threat Score (Lines 5c x 6 x 7)	50000		12500
	Onsite Exposure Pathway Score			
9.	Onsite Exposure Pathway Score (Sos) (Lines [4 + 8]/500, subject to a maximum of 100)	100		39.00

DRAFT DOCUMENTATION RECORD FOR FIELD TESTING
(Revised for RMRS as proposed)

Name of Site: SAG HARBOR-BRIDGE STREET

Township and State: SAG HARBOR, NEW YORK

Location in the State: SUFFOLK COUNTY, LONG ISLAND

Topographic map: SAG HARBOR/GREENPORT, N.Y.

Latitude: 410002

Longitude: 721756

-note: Please provide location correct to the second so that automated data bases can be tested.

Contact Persons

Site Investigation: DEBBIE COHEN/JOE MAYO
Telephone: 201-225-6160

Documentation Record: DEBBIE COHEN/JOE MAYO
Telephone: 201-225-6160

ID Number: NYD986869170

EPA Region: 2

Site Owner: VILLAGE OF SAG HARBOR

Investigating Agency: EPA

Contractor: NUS CORP. REGION 2 FIT

Type of Investigation: LISTING SITE INSPECTION

Date Scored:

SOURCE DESCRIPTION

Fill in these two pages for each source at the site (see Section 1.0 for definitions).

Source Name: CONTAMINATED SOIL

What is this source (e.g., drum pile—use plain English) and its location with reference to a map of the site. Also, provide any historical information emphasizing use, closure, remedial actions, or regulatory status.

CONTAMINATED SOIL ON LILCO AND LONG ISLAND FISHERMAN PROPERTIES LOCATED ON BRIDGE STREET. PAH CONTAMINATION WAS ALSO DETECTED ON THE CASMAN PROPERTY. LILCO PROPERTY WAS USED AS A TOWN GAS PLANT UNTIL 1929. LONG ISLAND FISHERMAN PROPERTY WAS USED AS A PRINTING FACILITY UNTIL 1988. IN 1984, FUEL OIL TANK ON FISHERMAN PROPERTY WAS LEAKING; SPILL WAS REMEDIATED, MONITORING WELLS INSTALLED, AND CASE WAS CLOSED IN 1986.

References: 1, 2, 3, 4, 6, 7, 8, 13, 14, 25, 26, 36, 42, 43, 44, 46.

Containment—document the methods, natural or engineered, that have been used to restrict the release of hazardous substances and the current state of containment: (See Tables 2-5, 1-2, 1-4).

Air:	Gas Containment Value	3
	Particulate Containment Value	2

COVERING SOIL CONTAMINATED WITH WASTE AT SURFACE IN MOST AREAS.

References: 6, 36, 42, 43, 44, 46

SITE IS SLIGHTLY VEGETATED WITH SOME AREAS COVERED BY BLACKTOP OR CRUSHED STONE.

References: 6, 36, 42, 43, 46, 49

Ground water: Containment Value 10

SOURCE TYPE-OTHER, FROM TABLE 2-6. THE SITE DOES NOT MEET THE MINIMUM SIZE REUIREMENT FOR THE CONTAMINATED SOIL SOURCE TYPE.

References: 6, 36, 42, 43, 44, 46.

Surface water: Overland Flow Containment Value 10
Flood Frequency Value (if flood containment non-zero) 5

SOURCE TYPE- OTHER, FROM TABLE I-4; NO COVER OR RUN-ON/RUNOFF MANAGEMENT SYSTEM.

References: 4, 13, 36, 42, 43, 46.

OTHER, NO CERTIFICATION OF CONTAINMENT FOR FLOODING.

References: 6, 13

Onsite: Accessibility/Frequency of Use Value 75
(if contamination less than 2 feet)

OBSERVED CONTAMINATION ON LAND WITH NO CONTINUOUS BARRIER, FROM TABLE 5-4.

References: 2, 4, 6, 36, 42, 43, 44, 46.

Hazardous substances—cite evidence of the specific hazardous substances known to be associated with the source (e.g., by deposition or sampling). Cite specific sample numbers that document concentrations significantly over background.

POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS) WERE DETECTED IN SEVERAL SOIL AND GROUNDWATER SAMPLES COLLECTED BY AN ENGINEERING FIRM FOR THE VILLAGE OF SAG HARBOR. PAHS WERE ALSO DETECTED IN SEVERAL SOIL SAMPLES COLLECTED DURING THE NUS CORP. SITE INSPECTION. A VARIETY OF PAHS AND TWO VOLATILE ORGANIC COMPOUNDS WERE FOUND AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND IN SAMPLES COLLECTED FROM THE LILCO, LIF, AND CASMAN PROPERTIES DURING THE LISTING SITE INSPECTION (LSI) CONDUCTED BY NUS CORP. REGION 2 FIT. REFER TO THE LSI REPORT FOR THE SAG HARBOR-BRIDGE STREET SITE FOR FURTHER INFORMATION CONCERNING THE LOCATIONS OF THE SAMPLES AND THE CONTAMINANTS DETECTED.

References: 3, 4, 6, 36, 42, 43, 44, 46.

Contaminants

Contaminants
3,4-Benzofluoranthene
Acenaphthylene
Acenapthene
Anthracene
Benzo(a)Pyrene
Benzo(J,K)Fluorene
Benz(a)anthracene
Chrysene
Dibenzofuran
Ethylbenzene
Fluorene
m-Xylene
Naphthalene
o-Xylene
Phenanthrene
Pyrene
p-Xylene

Source Hazardous Substance Quantity (pounds, see Section 2.2.2).

Quantity lbs. 0.000

Source Waste Quantity as Deposited (pounds, see Section 2.2.2).

Quantity lbs. 0.000

Dimensions of source and calculation of source volume and source area.

Source Volume (cu yds) 0.000

Source Area (sq ft) 84500.000

WASTESTREAM DESCRIPTION

Fill in this section for each wastestream deposited at the site (see Sections 1.0 and 2.2.2 for definitions).

2.0 AIR MIGRATION PATHWAY

2.1 LIKELIHOOD OF RELEASE

2.1.1 OBSERVED RELEASE

Identify hazardous substances detected by direct or indirect observation in the atmosphere above background as described in Table 2-2.

Chemical Name

- N/A and/or data not specified

Provide a rationale for attributing the hazardous substances to the site being evaluated. Include reference to sampling locations, atmospheric conditions, release concentrations, background concentration, detection limits and instruments used. Attach sampling plan, sampling logs, analytical results and QA/QC results as references. Provide any information that established that the substances found in the atmosphere were deposited at the site.

THERE IS NO DOCUMENTATION OF AN OBSERVED RELEASE.

References:

If an observed release has been assigned the value is 450 otherwise the value is zero.

Observed Release | 0 |

2.1.2 POTENTIAL TO RELEASE

Source Containment (2.1.2.1)

For each source considered in the air pathway, enter gas containment values from Table 2-4.

Source Number	Description	Gas Containment Assigned Value
1	CONTAMINATED SOIL	3

For each source, enter particulate containment values from Table 2-5.

Source Number	Description	Particulate Assigned Value
1	CONTAMINATED SOIL	2

For each source, select the higher of the two assigned values and enter the higher value under column (c) of the version of Table 2-3 that is included in this documentation record (page AIR-5).

Source Type (2.1.2.2)

For each source considered in the air pathway, use Table 2-6 to define the type of source, and enter the type and the assigned value for the type in Table 2-3 (included in this documentation record).

If contaminated soil description is employed, documentation of soil contamination is required to be attached.

Source Mobility (2.1.2.3)

For each source, evaluate gas mobility using Tables 2-7 and 2-8. Enter the three highest-valued substances for each source below, along with their factor values from Table 2-8. (If an agency-supplied look-up table of values is not available for any substance, provide an attachment showing vapor pressure, Henry's constant, the dry relative soil volatility and the assigned value from Table 2-7.) For each source, find the average factor value for the substances evaluated and enter that value rounded to the nearest digit, in the table below.

Source Number	Description	Average Gas Mobility Factor Value From Table 2-8
1	CONTAMINATED SOIL	3

For each source, evaluate particulate mobility. Enter the Thornthwaite P-E index value from Figure 2-3. (If the value is calculated, include an attachment providing the required documentation and showing the calculation.) Use Table 2-9 to determine the particulate mobility value. Also, transcribe below the average gas mobility value for each source and use Table 2-10 to determine the source mobility factor value.

Source	P-E Index (Same for all Sources)	Particulate Mobility Factor Value From Table 2-9	Average Gas Mobility Factor Value	Source Mobility Factor Value From Table 2-10
CONTAMINATED SOIL	139	1	3	40

Enter the source mobility factor values in Table 2-3 (included in this documentation record).

TABLE 2-3
AIR PATHWAY POTENTIAL TO RELEASE EVALUATION

NOTE: The columns in this table are not in the same order as they are in Table 2-3 in the draft HRS

Source Name	Source Type*	Source Type Factor Value (Table 2-6) (A)	Source Mobility Factor Value (Table 2-10) (B)	(A+B)	Source Contain. Value (Table 2-4 and 2-5) (C)	Emission Source Value (A+B)xC
CONTAMINATED SOIL	2	0	40	40	3	120

Selected highest emission source value. Potential to Release | 120 |

* Key to source types:

Source type number	Source type
0	Drums
1	Non-drum Containers
2	Contaminated Soil
3	Land Treatment
4	Landfill
5	Surface Impoundment
6	Waste Pile
7	Other

2.2.1 TOXICITY/MOBILITY

For purposes of testing, complete the Documentation Attachment for Toxicity/Mobility Factor for those hazardous substances deposited at the site or found in an observed release to the atmosphere. Include only those hazardous substances that were identified in a source with a containment factor value greater than zero for the air pathway. Along with the attachment, include references and any calculations.

DOCUMENTATION FOR TOXICITY/MOBILITY FACTOR

Hazardous Substance	Found in Observed Release?	Toxicity Value (Table 2-11)	Gas Mobility Value* (Table 2-8)	Particulate Mobility Value* (Table 2-9)	Toxicity/ Mobility Value (Table 2-12)
3,4-Benzofluoranthene	NO	0	0	1	0
Acenaphthylene	NO	0	2	1	0
Acenapthene	NO	0	1	1	0
Anthracene	NO	0	1	1	0
Benzo(a)Pyrene	NO	5	0	1	67
Benzo(J,K)Fluorene	NO	1	1	1	27
Benz(a)anthracene	NO	0	0	1	0
Chrysene	NO	0	0	1	0
Dibenzofuran	NO	0	1	1	0
Ethylbenzene	NO	2	3	1	70
Fluorene	NO	0	1	1	0
m-Xylene	NO	1	3	1	60
Naphthalene	NO	1	2	1	43
o-Xylene	NO	1	3	1	60
Phenanthrene	NO	1	0	1	27
Pyrene	NO	0	0	1	0
p-Xylene	NO	1	3	1	60

*If the hazardous substance is not likely to be present as a gas enter a value of 0 for gas mobility. Likewise if a hazardous substance is not likely to be present as or on particulate enter a value of 0 for particulate mobility.

AIR MIGRATION PATHWAY

Indicate here the hazardous substance with the highest toxicity/mobility value (see HRS Section 2.2.1).

Highest toxicity/mobility substance: Ethylbenzene

Toxicity/ Mobility	70

2.2.2 HAZARDOUS WASTE QUANTITY

Use the attached form for the Documentation of Hazardous Waste Quantity (pages AIR-9 to AIR-16) to assign a value to this factor. Attach all documentation that is necessary to indicate how quantity was calculated or estimated.

The quantity value	Quantity 10

AIR MIGRATION PATHWAY

2.3 TARGETS

2.3.1 MAXIMALLY EXPOSED INDIVIDUAL (MEI)

Indicate the location of the MEI and state the distance to the MEI and the source from which the distance was measured.

THE LONG ISLAND FISHERMAN AND GREENBERG PROPERTIES ARE ADJACENT. CONTAMINANTS WERE ALSO DETECTED ON THE CASMAN PROPERTY AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGOUND LEVELS.

References: 6, 13, 42, 43, 46.

Distance 0.00 Miles

Assigned value for this distance from Table 2-15 — MEI [50]

2.3.2 POPULATION

Describe briefly how population was estimated and include any printouts or maps as a reference. Summarize the population information on the table below and apply the weighting factors.

POPULATION DETERMINED USING GEMS PRINTOUT AND DRIVE-BY HOUSE COUNT. 1988 CENSUS AVG. FOR PEOPLE PER UNIT FOR TOWN OF SOUTHAMPTON IS 2.34.

References: 6, 9, 10, 16, 27, 33, 36, 37

AIR MIGRATION PATHWAY

Distance Category	Distance (miles)	(A) Population	(B) Distance Weight	(A X B)
1	onsite	7	5.265	36.855
2	} 0-1/4	448	1.0	448.000
3	} 1/4-1/2	856	0.1751	149.886
4	} 1/2-1	1217	0.0517	62.919
5	} 1-2	1662	0.0171	28.420
6	} 2-3	2025	0.0083	16.808
7	} 3-4	1776	0.0054	9.590
			Sum of (A X B)	752.478

The calculated value of the sum of (A x B) / 100 subject to a maximum of 235. Population | 8 |

2.3.3 LAND USE

Document the location of various land uses (Table 2-17) with respect to the sources (a map may be helpful).

LAND USES DETERMINED FROM TOPOGRAPHIC MAP AND ON/OFF-SITE INSPECTIONS. REFER TO FIGURES 2-1THRU 2-4 OF THE SAG HARBOR-BRIDGE STREET LSI REPORT FOR FURTHER INFORMATION CONCERNING LAND USE IN THE VICINITY OF THE SITE.

References: 5,6,13,37,43.

AIR MIGRATION PATHWAY

Indicate on the table below for each relevant land use, within 4 miles from a source, the shortest distance from the nearest source and enter the distance weight from Table 2-16.

Land Use	Distance	(A) Distance Weight	(B) Value for Use Type	(A X B)
Commercial/Industrial/ Institutional	0.250	1.000	5	5.000
Single Family Residential	0.000	5.265	8	42.120
Multiple Family Residential	0.001	1.000	10	10.000
Parks	1.000	0.052	5	0.259
Prime Agricultural	4.000	0.005	7	0.038
Nonprime Agricultural	4.000	0.005	5	0.027
			Sum of (A X B)	57.443
The calculated sum of (A x B) subject to to a maximum value of 10.			Land Use	10

2.3.4 SENSITIVE ENVIRONMENTS

Document the location of the various sensitive environments (Table 2-18 or 2-19) with respect to the nearest source.

SENSITIVE ENVIRONMENTS DETERMINED AS WETLANDS, NAT'L WILDLIFE REFUGE, AND NAT'L MONUMENT WERE WITHIN 4 MILES OF THE SITE.

References: 6,19,20,21,22,24,46.

AIR MIGRATION PATHWAY

Indicate on the table below the type and assigned value for each sensitive environment (Table 2-18 or 2-19) within 4 miles from a source, and the distance and distance weight (Table 2-16) for each environment.

Environment	(A) Assigned Value	Distance From Source	(B) Distance Weight	(A X B)
NORTH HAVEN WETLAND	75	1.100	0.017	1.283
NOYACK BAY WETLAND	75	1.200	0.017	1.283
LONG POND WETLAND	75	1.500	0.017	1.283
LITTLE LONG POND WE	75	1.500	0.017	1.283
LILY POND WETLAND	75	1.300	0.017	1.283
ROUND POND WETLAND	75	1.100	0.017	1.283
CROOKED POND WETLAN	75	2.500	0.008	0.623
POXABOGUE POND WETL	75	3.700	0.005	0.405
NOYACK CREEK WETLAN	75	3.000	0.008	0.623
MILL CREEK WETLAND	75	2.600	0.008	0.623
MORTON NWR	100	3.700	0.005	0.540
NATIONAL MONUMENT	100	0.100	1.000	100.000
SAG HARBOR COVE	75	0.060	1.000	75.000
SAG HARBOR BAY	75	0.200	1.000	75.000
SHELTER IS. SOUND	75	1.000	0.052	3.878
NORTHWEST HARBOR	75	2.000	0.017	1.283
NORTHWEST CREEK	75	2.500	0.008	0.623
CEDAR POINT	75	3.300	0.005	0.405

Sum of (A X B) 266.695

The calculated sum of (A X B) / 10 subject to a maximum value of 100.

Sensitive Environment | 27 |

GROUND WATER MIGRATION PATHWAY

3.0.1 DESCRIPTION OF THE GROUND WATER MIGRATION PATHWAY

Identify here the aquifer with the highest ground water migration pathway score for the site. This aquifer (and the appropriate overlying aquifers) will be documented for likelihood of release, waste charachteristics and targets on the following pages (GW-1 through GW-11).

Highest Scoring Aquifer: UPPER GLACIAL AQUIF

Identify here by number (surficial = 1) and name/description the aquifers that will be assessed for targets (see Figure 3.3 for instructions). Be sure to identify karst aquifers (3.0.1.3) as such.

Aquifer No.	Aquifer Name	Overlying Aquifer No.	Karst	Distance to site
1	UPPER GLACIAL AQUIF	0	No	0.000

Aquifer documentation for UPPER GLACIAL AQUIF

AQUIFERS OF CONCERN ARE UPPER GLACIAL AQUIFER AND THE MAGOTHY AQUIFER WHICH ARE HYDRAULICALLY CONNECTED. THEY ARE NOT KARST AQUIFERS. THESE AQUIFERS ARE DESIGNATED AS SOLE SOURCE AQUIFERS.

References: 17,23,45.

3.1 LIKELIHOOD OF RELEASE

Document the likelihood of release for the aquifer selected above.

Likelihood of Release	460

GROUND WATER MIGRATION PATHWAY

3.1.1 OBSERVED RELEASE

Identify hazardous substances detected in the aquifer at concentrations significantly above background or observed to have been deposited into the aquifer.

Aquifer	Chemical Name
- N/A and/or data not specified	

Provide a rationale for attributing these hazardous substances to the site being evaluated. Include sampling locations, depths of sampling points, release and background concentrations, detection limits, and any other information to indicate that these substances are found at the site.

Aquifer observed release documentation for UPPER GLACIAL AQUIF

THERE IS NO DOCUMENTED EVIDENCE OF AN OBSERVED RELEASE, SINCE GROUNDWATER SAMPLES WERE NOT COLLECTED. HOWEVER, SOME SOIL SAMPLES WERE COLLECTED AT THE WATER TABLE LEVEL. VARIOUS PAHS WERE DETECTED IN THESE SAMPLES, INCLUDING BENZO(A)PYRENE. THE CONTAMINANTS DETECTED IN THE SOIL MAY REPRESENT GROUNDWATER CONTAMINATION.

References: 3, 4, 6, 36, 42, 43, 44.

If an observed release has been assigned, then the observed value is 500, otherwise zero. Continue with the Potential to Release (3.1.2), for the purposes of testing, but evaluate it from the deposited source, ignoring the documented release.

Observed Release	0

3.1.2 POTENTIAL TO RELEASE

Containment (3.1.2.1)

For each source described for the site, identify its source type (landfill, surface impoundment, pile, containers, tank, land treatment, other), and assign a value for containment from Table 1-2 of Appendix I.

Source	Source Type	Assigned Value
CONTAMINATED SOIL	Cnt Soil	10

The highest assigned containment value. Containment [10]

Net Precipitation (3.1.2.2)

Calculate net precipitation; specify the location of the weather station used. Show calculation as an attachment. Net precipitation values may be provided and should be used where no local data is available.

Net precipitation in inches: [25]

Assigned value from Table 3-3. Net Precipitation [6]

ANNUAL NET PRECIPITATION FOR BRIDGEHAMPTON IS 25.0.

References: 50

Depth to Aquifer/Hydraulic Conductivity (3.1.2.3)

Identify the lowest documented point (either through deposition or migration) of hazardous substances at the site.

Depth of Contamination (feet) - 2

GROUND WATER MIGRATION PATHWAY

Provide descriptions and thicknesses of materials between the lowest documented point of hazardous substances at the site and the top of the aquifer being evaluated. Assign hydraulic conductivity values to each layer (Table 3-5 may be used), and calculate thickness-weighted hydraulic conductivity.

Aquifer	Unit	Thickness (T) in feet	Hydraulic Conductivity (HC) in cm/sec	T/HC
UPPER GLACIAL AQUIF	GLACIAL/SAND,W FINE	2	1.0E- 4	20000.000
			Sum (T)	2.000
			Sum (T/HC)	20000.000

Thickness-weighted hydraulic conductivity = Sum (T)/Sum (T/HC) 0.000

The appropriate value from Table 3-4. Depth to Aquifer/ Hydraulic Conduc. [35]

Aquifer depth / hydraulic conductivity documentation for UPPER GLACIAL AQUIF

THE UPPER GLACIAL AQUIFER IS MADE UP OF UNDIFFERENTIATED TILL DEPOSITS AND IS ABOUT 200-300 FEET THICK. THE MAGOTHY AQUIFER IS MADE UP OF SANDY CLAY, CLAYEY SAND, AND SILT, IS ABOUT 400-600 FEET THICK, AND IS HYDRAULICALLY CONNECTED TO THE UPPER GLACIAL AQUIFER. THE WATER TABLE IS AT OR NEAR THE SURFACE. HYDRAULIC CONDUCTIVITY WAS ESTIMATED USING TABLE 3-5. SORPTIVE CAPACITY WAS ESTIMATED USING TABLE 3-6. INFORMATION FOR THE HYDRAULIC CONDUCTIVITY AND SORPTIVE CAPACITY FACTORS WAS OBTAINED FROM LITERATURE VALUES OR FROM SOIL CLASSIFICATION DATA GENERATED DURING THE LSI. CONTAMINATION WAS DETECTED IN SOIL SAMPLES COLLECTED AT A DEPTH OF 2 FEET OR LESS.

References: 3, 4, 6, 15, 23, 42, 43, 45, 46.

Sorptive Capacity (3.1.2.4)

Provide descriptions and thicknesses of materials between the lowest documented point of hazardous substances at the site and the top of the aquifer being evaluated. Use measured sorptive capacities if available. If not available for a layer, look up the sorptive capacity for that layer in Table 3-6. Calculate the total sorbents.

Aquifer	Unit	Thickness (T)	Sorptive Capacity (SC)	T X SC
UPPER GLACIAL AQUIF	GLACIAL/SAND,W FINE	2	15	30.000

Total sorbents = sum (T X SC) 30.000

Sorptive Capacity Value | 5 |

3.? WASTE CHARACTERISTICS

Document waste characteristics for those hazardous substances at this site that are available to migrate to ground water.

3.2.1 TOXICITY/MOBILITY

Identify the hazardous substances that are available to this pathway. Assign toxicity and mobility values and determine their matrix values.

Hazardous Substance	Found in Observed Release	Toxicity Value (Table 2-11)	Mobility Value (Table 3-8,9)	Matrix Value (Table 3-10)
3,4-Benzofluoranthene	NO	0	0	0
Acenaphthylene	NO	0	0	0
Acenapthene	NO	0	0	0
Anthracene	NO	0	0	0
Benzo(a)Pyrene	NO	5	0	50
Benzo(J,K)Fluorene	NO	1	0	10
Benz(a)anthracene	NO	0	0	0
Chrysene	NO	0	0	0
Dibenzofuran	NO	0	0	0
Ethylbenzene	NO	2	2	53
Fluorene	NO	0	0	0
m-Xylene	NO	1	2	43
Naphthalene	NO	1	1	27
o-Xylene	NO	1	2	43
Phenanthrene	NO	1	0	10
Pyrene	NO	0	0	0
p-Xylene	NO	1	2	43

Highest scoring hazardous substance: Ethylbenzene

	Toxicity/ Mobility
The highest matrix value from (Table 3-10)	53

3.2.2 HAZARDOUS WASTE QUANTITY

Document quantity in the same manner as described in the air pathway (2.2.2). Consider only those sources that can be assigned a containment factor value greater than 0 for ground water (3.1.2.1). If the quantity is the same as for the air pathway, state "same". If the quantity is different because of differences in the containment factor for the pathways. -see documentation under AIR/W.

Waste Quantity	10

GROUND WATER MIGRATION PATHWAY

3.3 TARGETS

Document Targets for those aquifers that were identified for analysis in section 3.0.1 of this Documentation Record. Note that wells with an observed release from the site are considered, regardless of the distance limit specified in Rule 3.0.1.1.

3.3.1 MAXIMALLY EXPOSED INDIVIDUAL (MEI)

Identify the nearest drinking water well (or the nearest drinking water well contaminated over health based benchmarks) drawing water from the aquifers used in the evaluation of targets. Provide the location of the well, the information documenting the aquifer used by the well, the distance to the well and the use of the well for drinking water. See instructions for specific documentation that will be required if the nearest well is contaminated above a health-based benchmark or is in karst.

Scoring Aquifer: UPPER GLACIAL AQUIF
Highest MEI Aquifer: UPPER GLACIAL AQUIF

THE NEAREST HOME USING A PRIVATE WELL WAS IDENTIFIED ON MEADOWLARK LANE ABOUT 0.25 MILE SOUTHWEST OF BRIDGE STREET. THE DEPTH OF THIS WELL IS UNKNOWN.

References: 6

Assigned MEI value, -see Table 3-11. MEI [50]

3.3.2 POPULATION

Identify all drinking water users of the aquifers used in the evaluation of targets within the target distance limit (3.0.1.1), documenting the depth and locations of wells. For public systems, document the extent of the distribution system within the target distance limit and the number of people served by wells within the target distance limit. For private users, identify areas using private wells and document the aquifer(s) being used by the private wells.

For populations based on housecounts, document the appropriate population density (i.e., persons per residence) for each county.

GROUND WATER MIGRATION PATHWAY

Level I Concentrations (3.3.2.1)

For any drinking water wells with samples that establish an observed release and at concentration that meets the criteria for Level I concentration in Table 3-13, count the number of people served.

Well Identifier	Contaminant Detected	Benchmark Level Concentration	Population Served
- N/A and/or data not specified			

The calculated sum of the population served subject to a maximum value of 200. Level I | 0 |

Level II Concentrations (3.3.2.2)

For any drinking water wells with samples that establish an observed release and at concentration that meet the criteria for Level II concentration in Table 3-13, count the number of people served.

Well Identifier	Contaminant Detected	Benchmark Level Concentration	Population Served
- N/A and/or data not specified			

The calculated sum of the population served divided by 10, subject to a maximum value of 200. Level II | 0 |

Level III Concentrations (3.3.2.3)

For any drinking water wells with samples that establish an observed release and at concentration that meets the criteria for Level III concentration in Table 3-13, count the number of people served.

Well Identifier	Contaminant Detected	Benchmark Concentration	Population Served
- N/A and/or data not specified			

The calculated sum of the population served divided by 100, subject to a maximum value of 200. Level III | 0 |

Potential Contamination (3.3.2.4)

For any drinking water wells that are not listed in Level I, II or III concentrations but are included in the evaluation of targets, document their distance to the nearest source and the population served by that well. Do this as an attachment if necessary and summarize the information on the Table below.

Well Identifier	Distance	(A) Dilution Weighting Factor (Table 3-14)	(B) Population Served	(A X B)
1	0.250	1.000	28	0.280
2	0.500	0.620	44	0.273
3	1.000	0.320	133	0.426
4	2.000	0.180	3674	6.613
5	3.000	0.130	133	0.173
6	4.000	0.080	77	0.062
			Sum of (A X B)	7.826

The calculated sum of (A x B) / 100 subject to a maximum value of 200. Potential Population | 0 |

1

FROM A HOUSE COUNT ON STREETS IDENTIFIED AS NOT HAVING WATER MAINS, 12 HOUSES WERE IDENTIFIED THAT MAY HAVE PRIVATE WELLS. SPECIFIC LOCATIONS AND DEPTHS OF THESE WELLS ARE UNKNOWN.

References: 6,9,32,37

2

FROM AN HOUSE COUNT ON STREETS IDENTIFIED AS NOT HAVING WATER MAINS, 19 HOUSES ARE ESTIMATED TO HAVE PRIVATE WELLS. SPECIFIC LOCATIONS AND DEPTH OF THESE WELLS ARE UNKNOWN.

References: 6,9,32,37

3

FROM A HOUSE COUNT ON STREETS IDENTIFIED AS NOT HAVING WATER MAINS, 57 HOUSES ARE ESTIMATED AS HAVING PRIVATE WELLS. SPECIFIC LOCATIONS AND WELL DEPTHS ARE UNKNOWN.

References: 6,9,32,37

4

FROM A HOUSE COUNT ON STREETS IDENTIFIED AS NOT HAVING WATER MAINS, 170 HOUSES ARE ESTIMATED TO HAVE PRIVATE WELLS. SPECIFIC LOCATIONS AND DEPTHS OF THESE WELLS ARE UNKNOWN. THE PUBLIC WATER SUPPLY, LOCATED ABOUT 1 MILE SOUTH OF BRIDGE STREET, SERVES APPROXIMATELY 1,300 HOMES.

References: 6,9,32,37

5

FROM A HOUSE COUNT ON STREETS IDENTIFIED AS NOT HAVING WATER MAINS, 57 HOUSES ARE ESTIMATED AS HAVING PRIVATE WELLS. SPECIFIC LOCATIONS AND DEPTHS OF THESE WELLS ARE UNKNOWN.

References: 6,9,32,37

6

FROM A HOUSE COUNT ON STREETS IDENTIFIED AS NOT HAVING WATER MAINS, 33 HOUSES ARE ESTIMATED TO HAVE PRIVATE WELLS. SPECIFIC LOCATIONS AND DEPTHS OF THESE WELLS ARE UNKNOWN.

References: 6,9,32,37

3.3.3 GROUND WATER USE

As per the revised HRS instructions, the same well can not be used to evaluate both of the following factors.

Drinking Water Use (3.3.3.1)

For all wells in the aquifers being evaluated and within the target distance limit, select and describe the one that results in the highest assigned value (according to Table 3-15) for drinking water use and the highest overall value for ground water use. (Note: The well used for drinking water use must be different than the one used for other water use.)

THERE IS A PUBLIC SUPPLY WELL LOCATED WITHIN 1 MILE OF THE SITE WITH NO ALTERNATE SOURCE AVAILABLE.

References: 6

Drinking Water Use	50

Other Water Use (3.3.3.2)

For all wells in the aquifers being evaluated and within the target distance limit, select and describe the one that results in the highest assigned value (according to Table 3-16) for other water use and the highest overall value for ground water use. (Note: The well used for other water use must be different than the one used for drinking water use.)

WELLS IN THE AREA ARE USED FOR INDUSTRIAL/COMMERICIAL PURPOSES.

References: 6

Other Water Use | 10 |

3.3.4 WELLHEAD PROTECTION AREA

Document whether there is an uncontained source or a ground water observed release that lies (either partially or fully) within a wellhead protection area for the aquifer being evaluated or for an overlying aquifer. If there is one, the value is 50, otherwise the value is zero.

THE AQUIFERS OF CONCERN ARE DESIGNATED AS SOLE SOURCE AQUIFERS. PAHs AND VOLATILE ORGANIC COMPOUNDS WERE DETECTED IN SHALLOW (< 2 FEET) SOIL SAMPLES COLLECTED FROM THE SITE.

References: 17,36,42.

Wellhead Protection Area Factor Value | 50 |

4.0.1 DESCRIPTION OF THE SURFACE WATER MIGRATION PATHWAY

Identify the point of entry and describe the in-water segment up to the distance limit, and points of documented contamination. Identify sampling points and target locations on the in-water segment, by stream-miles from the probable point of entry. An annotated map may be helpful. If there is more than one watershed involved, or multiple paths within a watershed, see the instructions. In the case of multiple watersheds, document and score each watershed separately.

Segment Name	Segment Type	Starting Point (mi)	Ending Point (mi)	Flow (cfs)
SAG HARBOR COVE	Ocean (Salt water)	0.00	15.00	50000

SAG HARBOR COVE IS LOCATED A FEW HUNDRED FEET FROM THE SITE. SURFACE WATER RUNOFF WOULD EITHER ENTER THE COVE DIRECTLY OR ENTER A CATCH BASIN ON BRIDGE STREET WHICH DISCHARGES TO SAG HARBOR COVE. SAG HARBOR COVE AND BAY, SHELTER ISLAND SOUND, GARDINERS BAY, AND NOYACK BAY ARE ALL WITHIN 15 DOWNSTREAM MILES OF THE SITE. SURFACE WATER SAMPLES WERE NOT COLLECTED.

References: 4, 7, 37

4.1.1 LIKELIHOOD OF RELEASE

Observed Release (4.1.1.1)

Identify hazardous substances detected in surface water significantly above background or observed to have been deposited into surface water:

Chemical Name
- N/A and/or data not specified

Provide a rationale for attributing the hazardous substances to the site being evaluated. Include sampling locations, release concentrations, background concentrations, detection limits and any other information to indicate that these substances are found at the site.

SURFACE WATER MIGRATION PATHWAY

DRINKING WATER THREAT

THERE IS NO DOCUMENTED EVIDENCE OF AN OBSERVED RELEASE. A SURFACE WATER SAMPLE WAS COLLECTED FROM THE CATCH BASIN ON BRIDGE STREET DURING THE LSI. NO CONTAMINANTS THAT COULD BE ATTRIBUTED TO THE FACILITY WERE DETECTED AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND.

References: 42,43.

If an observed release has been assigned the value is 120 otherwise the value is zero.

Observed Release | 0 |

Potential to Release by Overland Flow (4.1.1.2.1)

Document that an overland migration path to surface water exists and that it is not more than 2 miles long. Otherwise, assign a zero (0) to this factor and go to Potential to Release by Flood (4.1.1.2.2).

Containment (4.1.1.2.1.1)

For each source indicate the source type (landfill, surface impoundment, pile, container, tanks, landfarm, other), describe the containment in terms that can be related to Table I-4 of Appendix I and indicate the value assigned.

Source Number	Source Description	Type	Value Assigned
1	CONTAMINATED SOIL	2	10

The highest assigned containment value.

Containment | 10 |

Runoff Value (4.1.1.2.1.2)

Enter the 2 year, 24-hour rainfall for the site, and note the source of the information.

Rainfall in inches 3.300

2-YEAR, 24-HOUR RAINFALL MAP PROVIDED IN THE HRS DOCUMENT.

References: 46

Define the boundaries and dimensions of the drainage area (site plus upgradient area) that can contribute to runoff from the site to the overland segment of the migration pathway.

DRAINAGE AREA IS BASED ON APPROXIMATE SITE SIZE OF 3 ACRES. DRAINAGE FROM THE SITE IS TO CATCH BASINS AT THE INTERSECTION OF BRIDGE AND ROSE STREETS. THE CATCH BASINS DISCHARGE TO SAG HARBOR COVE. OTHER RUNOFF IN THE AREA IS ALSO COLLECTED AND DIVERTED TO SAG HARBOR COVE.

References: 6, 13, 34, 37, 43.

Identify the predominant land use and hydrologic soil group in the drainage area (see Table 4-2).

The runoff curve number from Table 4-2 is: 75

RUNOFF CURVE NUMBER IS BASED ON RESIDENTIAL LOTS, SOIL GROUP B.

References: 6, 13, 37, 43, 46.

Drainage Area

Document the size of the drainage area in acres, and assign the proper value by using Table 4-3.

Estimate of area in acres	3
Assigned Value	1

The calculated runoff value.

Runoff | 4 |

Distance to Surface Water (4.1.1.2.1.3)

From the description of the migration pathway in 4.0.1, document the overland segment from the site to surface water.

THE SITE IS LOCATED A FEW HUNDRED FEET FROM SAG HARBOR COVE. SURFACE WATER RUNOFF MAY ENTER THE COVE DIRECTLY OR MAY ENTER CATCH BASINS ON BRIDGE AND ROSE STREETS. THESE CATCH BASINS DISCHARGE TO THE SAG HARBOR COVE. REFER TO FIGURE 2-2 OF THE SAG HARBOR-BRIDGE STREET LSI REPORT.

References: 6, 13, 37, 43.

Distance 0.050

The assigned distance value from Table 4-6.

Distance Value | 5 |

Potential to Release by Overland Flow | 90 |

Potential for Release Due to Flooding (4.1.1.2.2)

Enter in this section the highest value for the Containment (flood) factor multiplied by the Flood Frequency Factor. If there are multiple sources, indicate the highest scoring source. Identify here the source that is evaluated for flooding:

Highest scoring source: CONTAMINATED SOIL

Containment (Flood) (4.1.1.2.2.1)

Document containment as certified or not certified.

The assigned flood containment value. Potential to Release by Flood | 50 |

4.1.2 WASTE CHARACTERISTICS

Toxicity/Persistence (4.1.2.1)

Read the instructions to decide whether persistence is to be determined by the half-life tables for rivers or for lakes (Table 4-9). Document the in-water segment of the migration path to the appropriate intake and indicate which half-life table will be used.

The half-life table employed is for))) Rivers.

Fill in the following information for the highest valued hazardous substances at the facility that are available to the surface water migration pathway. Use Table 4-10 to assign the toxicity/persistence matrix values.

Highest Five Substances Evaluated	Found in Observed Release	Toxicity Value (Table 2-11)	Persist. Value (Table 4-9)	Tox/persist Value (Table 4-10)
Benzo(a)Pyrene	NO	5	3	100
Naphthalene	NO	1	3	60
Phenanthrene	NO	1	3	60
Benzo(J,K)Fluorene	NO	1	2	43
m-Xylene	NO	1	2	43

Highest scoring hazardous substance: Benzo(a)Pyrene

The highest value for toxicity/persistence	Toxicity/ Persistence	[100]

Hazardous Waste Quantity (4.1.2.2)

Document quantity in the same manner as described in the air pathway (2.2.2). Consider only those sources that can be assigned a containment factor value for overland flow (4.1.1.2.1.1) or for flooding (4.1.1.2.2.1) greater than zero. If the quantity is the same as for the air pathway, state "same". If the quantity is different, attach here Section 2.2.2 of this documentation record and Table 2-13 filled out for surface water quantity. -see documentation in AIR/W.

Waste Quantity	[10]

4.1.3 TARGETS

Maximally Exposed Individual (4.1.3.1)

Location of nearest intake or of an intake contaminated over benchmark and documentation that it is used for drinking water:

Scoring Intake:

Distance: 0.000

The nearest intake (or any intake) contaminated above background or above a health-based benchmark, -see below.

Contaminant	Benchmark
- N/A and/or data not specified	

If the nearest intake is not contaminated above benchmark, then

the stream flow at the intake = 0.0000

Dilution weighting factor assigned from Table 4-11 | 0 |

Maximally Exposed Individual | 0 |

SURFACE WATER MIGRATION PATHWAY

DRINKING WATER THREAT

Population (4.1.3.2)

Level I Concentration (4.1.3.2.1)

For any drinking water intake with a sample that establish an observed release and at concentrations that meet the criteria for Level I contamination in Table 3-13, document the contamination here.

Intake	Contaminant	Concentration	Benchmark Level	Factor x 100 or % Benchmark
- N/A and/or data not specified				

Population Served by intakes 0

The calculated sum of the population served subject to a maximum value of 200. Level I | 0 |

Level II Concentrations (4.1.3.2.2)

For any drinking water intake with samples that establish an observed release and at concentrations that meet the criteria for Level II concentration in Table 3-13, document the contamination here.

Intake	Contaminant	Concentration	Benchmark Level	Factor x 100 or % Benchmark
- N/A and/or data not specified				

Population Served by intakes 0

The calculated sum of the population served / 10 subject to a maximum value of 200. Level II | 0 |

SURFACE WATER MIGRATION PATHWAY

DRINKING WATER THREAT

Level III Concentrations (4.1.3.2.3)

For any drinking water intake with samples that establish an observed release and at concentrations that meet the criteria for Level III concentration in Table 3-13, document the contamination here.

Intake	Contaminant	Concentration	Benchmark Level	Factor x 100 or % Benchmark
- N/A and/or data not specified				

Population Served by intakes	0
The calculated sum of the population served / 100 subject to a maximum value of 200. Level III	0

Potential Contamination (4.1.3.2.3)

For any other drinking water intakes which are not listed already as contaminated but which are considered as targets because they lie within the 15 mile distance limit, document the location of the intake, the average flow at the intake, and the population served. Do this as an attachment, indicating particularly how stream flow was estimated. Summarize the results in the table below.

Intake	Average Flow	(A) Dilution Factor (Table 4-11)	(B) Population Served	Calculated Value for Intake (A x B)
- N/A and/or data not specified				

Sum of (A x B)	0.000
The sum of (A x B) / 100 subject to a maximum value of 200. Potential Contamination	0

SURFACE WATER MIGRATION PATHWAY

DRINKING WATER THREAT

Surface Water Use (4.1.3.3)

As per HRS instructions, the same intake cannot be used to evaluate both of the following factors.

Document the drinking water uses, if any (see Table 4-12).

THE WATERS THAT ARE POTENTIALLY IMPACTED BY THE SITE ARE MARINE WATERS AND ARE NOT USED FOR DRINKING.

References:

Drinking Water Use	0

Likewise, document the other water use from Table 4-13.

THE POTENTIALLY IMPACTED WATERS ARE NOT USED FOR ANY OF THE USES DESCRIBED IN THE OTHER WATER USES SECTION OF THE HRS.

References: 46

Other Water Use	0

The sum of Drinking Water Use and Other Water Use, subject to a maximum of 50.	Sum:	0

Fishery Use and Surface Water Use cannot both be assigned non-zero values (see instructions). Surface water use subject to a maximum value of 50.	Surface Water Use	0

4.2.1 LIKELIHOOD OF RELEASE

This factor category will receive the same value as the Likelihood of Release for the Drinking Water Threat in Section 4.1.1.

4.2.2 WASTE CHARACTERISTICS

Toxicity/Persistence (4.2.2.1)

Toxicity/persistence is evaluated in the same manner as it was for the drinking water threat (4.1.2.1) except that the substances to be evaluated are selected on the basis of their bioaccumulation potentials.

Identify and list the substances available to the surface water pathway that have the highest bioaccumulation potential values (4.2.2.1.1), as assigned from Table 4-14.

Hazardous Substance	Bioaccumulation Value
3,4-Benzofluoranthene	6
Benzo(J,K)Fluorene	6
Benz(a)anthracene	6
Chrysene	6
Phenanthrene	6
Pyrene	6

Document whether the segment of the surface water migration pathway between the probable point of entry and the nearest fishery is predominantly river or lake, and indicate which half-life table is used in assigning a value for persistence.

The segment is predominantly))) Rivers.

SURFACE WATER MIGRATION PATHWAY

HUMAN FOOD CHAIN THREAT

For the substance(s) with the highest bioaccumulation potential, evaluate toxicity and persistence and combine the values, using Table 4-10.

Substance Evaluated	Found in Observed Release	Toxicity Value (Table 2-11)	Persist. Value (Table 4-9)	Tox/persist Value (Table 4-10)
3,4-Benzofluoranthene	NO	0	1	0
Benzo(J,K)Fluorene	NO	1	2	43
Benz(a)anthracene	NO	0	1	0
Chrysene	NO	0	1	0
Phenanthrene	NO	1	3	60
Pyrene	NO	0	1	0

Select from the above table the substance with the highest toxicity/persistence value and indicate its bioaccumulation value and toxicity/persistence value.

Substance with the highest tox/per: Phenanthrene

Bioaccumulation Value	6
Toxicity/ Persistence	60

Hazardous Waste Quantity (4.2.2.2)

Assign the same factor value as was assigned for hazardous waste quantity for the Drinking Water Threat (4.1.2.2).

Waste Quantity	10

SURFACE WATER MIGRATION PATHWAY

HUMAN FOOD CHAIN THREAT

Population (4.2.3.1)

Evaluate each fishery within the watershed for level of contamination, and production.

Potential Contamination (4.2.3.1.1)

For each fishery that lacks documented contamination, document the boundaries of the fishery, its production in pounds per year and the stream flow in cubic feet per second. On an attachment, you may indicate how the production estimate was derived and how stream flow was estimated. Summarize the information in the following table. Use the bioaccumulation factor value that was found on page SW-15.

Which Fishery/ Production (lbs/yr)	Assigned Value for Production (Table 4-15)	(A) Assigned Value for Population (Table 4-16)	Stream Flow at Fishery	(B) Dilution Weighting Factor (Table 4-11)	(A X B)
SAG HARBOR COVE					
586800	6	16000000	50000.000	0.001	16000.000
				Sum of (A X B)	16000.000
The calculated total of (A X B) / 100 subject to a maximum of 200.				Potential Contamination	160

Fishery documentation for SAG HARBOR COVE

DEFAULT VALUE FOR STANDING CROP FROM TABLE I-5 FOR NY COASTAL IS 90 LBS/ACRE. ESTIMATED FISHERY AREA IS 32,600 ACRES. CONVERTING STANDING CROP TO PRODUCTION BY USING A MULTIPLIER OF 0.2. FISHERY AREA WAS ESTIMATED BY MEASURING THE DISTANCE BETWEEN SAG HARBOR COVE AND SMITH COVE(18,000FT) AND MULTIPLYING THIS DISTANCE BY 15 DOWNSTREAM MILES(79,200FT).

References: 6,35,37

SURFACE WATER MIGRATION PATHWAY

HUMAN FOOD CHAIN THREAT

Actual Contamination (4.2.3.1.2)

For each of the fisheries that is documented to be contaminated, document (as an attachment) the production in pounds per year. Summarize the information in the following table. Use the bioaccumulation factor value that was found in Section 4.2.2.

Which Fishery	Production (lbs/year)	Assigned Value For Production (Table 4-15)	(A) Assigned Value For Population (Table 4-16)
- N/A and/or data not specified			

Sum of A 0

The sum of A, subject to a maximum value of 200.

Actual Contamination | 0 |

Fishery Use (4.2.3.2)

The highest value for fishery use from Table 4-17.

Highest value | 160 |

Fishery Use and Surface Water Use cannot both be assigned non-zero values (see instructions). Fishery use subject to a maximum value of 50.

Fishery Use | 50 |

SURFACE WATERS WITHIN 15 DOWNSTREAM MILES OF THE SITE ARE USED FOR COMMERCIAL AND RECREATIONAL FISHING.

References: 6,35

SURFACE WATER MIGRATION PATHWAY

HUMAN RECREATION THREAT

4.3.1 LIKELIHOOD OF RELEASE

This factor category will receive the same value as the Likelihood of Release for the Drinking Water Threat in Section 4.1.1.

4.3.2 WASTE CHARACTERISTICS

Toxicity/Persistence (4.3.2.1)

Toxicity/persistence is evaluated in the same manner as it is for the Drinking Water Threat (4.1.2.1) except that the substances to be evaluated are selected on the basis of their dose adjusting factor values.

Identify and list the substances available to the surface water pathway that have the highest Dose Adjusting Factor values (4.3.2.1.1), as assigned from Table 4-18

Hazardous Substance	Dose Adjusting Factor Value from Table(4-18)
3,4-Benzofluoranthene	1
Acenaphthylene	1
Acenapthene	1
Anthracene	1
Benzo(a)Pyrene	1
Benzo(J,K)Fluorene	1
Benz(a)anthracene	1
Chrysene	1
Dibenzofuran	1
Ethylbenzene	1
Fluorene	1
m-Xylene	1
Naphthalene	1
o-Xylene	1
Phenanthrene	1
Pyrene	1
p-Xylene	1

Document the predominant water type (river or lake) between the point of entry and the nearest recreation area, and indicate which half-life table for persistence will be used.

The segment is predominantly))) Rivers.

SURFACE WATER MIGRATION PATHWAY

HUMAN RECREATION THREAT

For the substance(s) with the highest dose adjusting factor value, evaluate toxicity and persistence and combine the values using Table 4-10.

Substance Evaluated	Found in Observed Release	Toxicity Value (Table 2-11)	Persist. Value (Table 4-9)	Tox/persist Value (Table 4-10)
3,4-Benzofluoranthene	NO	0	1	0
Acenaphthylene	NO	0	1	0
Acenapthene	NO	0	2	0
Anthracene	NO	0	0	0
Benzo(a)Pyrene	NO	5	3	100
Benzo(J,K)Fluorene	NO	1	2	43
Benz(a)anthracene	NO	0	1	0
Chrysene	NO	0	1	0
Dibenzofuran	NO	0	2	0
Ethylbenzene	NO	2	1	37
Fluorene	NO	0	1	0
m-Xylene	NO	1	2	43
Naphthalene	NO	1	3	60
o-Xylene	NO	1	2	43
Phenanthrene	NO	1	3	60
Pyrene	NO	0	1	0
p-Xylene	NO	1	2	43

Select from the above table the substance with the highest toxicity/persistence value, indicate its dose adjusting factor.

Substance with the highest tox/per: Benzo(a)Pyrene

Dose Adjusting Factor	[1]
Toxicity/ Persistence	[100]

N TYPE Data Not Specified

Surface Water Recreation Targets

Surface Water Recreation Targets Population

Surface Water Sensitive Environments Targets

Onsite Residents Summary

Nearby Population Summary

Waste Characteristics Source Containment

Waste Characteristics Source Vol/Area

CONTAMINATED SOIL

Source Area	ft2	84500
Source Area Data Complete?	Y/N	YES

Waste Characteristics Source Streams

SUMMARY OF FACTORS BY DATA TYPE

	E TYPE Estimated Data	
Air Pathway Likelihood of Release		
Observed Release	450	0
Air Pathway Targets		
Ground Water Aquifer Distance		
Ground Water Likelihood of Release		
UPPER GLACIAL AQUIF		
Observed Release	500	0
Ground Water Targets		
Ground Water Targets Population Well		
UPPER GLACIAL AQUIF		
1		0
2		0
3		0
4		7
5		0
6		0
Surface Water Segment Description		

	E TYPE Estimated Data	
Surface Water Likelihood of Release		
Observed Release	120	0
Surface Water Drinking Water Targets		
Surface Water Drinking Water Targets Population		
Surface Water Food Chain Targets		
Surface Water Recreation Targets		
Surface Water Recreation Targets Population		
Surface Water Sensitive Environments Targets		
Onsite Residents Summary		
Nearby Population Summary		

E TYPE Estimated Data

Waste Characteristics Source Containment

Waste Characteristics Source Vol/Area

CONTAMINATED SOIL

Source Volume	yd3	0

Waste Characteristics Source Streams

T TYPE Table Data

Air Pathway Likelihood of Release

Air Pathway Targets

Ground Water Aquifer Distance

Ground Water Likelihood of Release

Ground Water Targets

Ground Water Targets Population Well

Surface Water Segment Description

Surface Water Likelihood of Release

Surface Water Drinking Water Targets

Surface Water Drinking Water Targets Population

Surface Water Food Chain Targets

T TYPE Table Data

02-8907-29-LI
REV. NO. 0

Surface Water Recreation Targets

Surface Water Recreation Targets Population

Surface Water Sensitive Environments Targets

Onsite Residents Summary

Nearby Population Summary

Waste Characteristics Source Containment

Waste Characteristics Source Vol/Area

Waste Characteristics Source Streams

H TYPE Hard Data

Air Pathway Likelihood of Release

Particulate Mobility / Thornthwaite P-E Index	3	139

Air Pathway Targets

Maximally Exposed Individual / Distance	50	50
Population	235	8
Land Use	10	10
Sensitive Environments	100	27

Ground Water Aquifer Distance

UPPER GLACIAL AQUIF

Distance	0.000

Ground Water Likelihood of Release

Precipitation Factor / Net Precipitation (inches)	10	6

UPPER GLACIAL AQUIF

Depth/Hydraulic Conductivity	35	35

Ground Water Targets

Ground Water Targets Population Well

Surface Water Segment Description

SAG HARBOR COVE

Segment flow	30000

H TYPE Hard Data

02-8907-29-LI
REV. NO. 0

Surface Water Likelihood of Release

Rainfall, 2 yr, 24hr, inches		3.500
Drainage Area (acres)		3
Runoff Curve Number		75
Distance to Surface Water in Miles		0.050

Surface Water Drinking Water Targets

Drinking Water Use	50	0
Other Water Use	20	0

Surface Water Drinking Water Targets Population

Surface Water Intakes

Surface Water Food Chain Targets

Fishery Use Factor Value / Factor Used 50

Fishery ID (From Segment ID)

SAG HARBOR COVE 160

Surface Water Recreation Targets

Recreation Area ID

SAG HARBOR COVE/BAY 0

Surface Water Recreation Targets Population

SAG HARBOR COVE/BAY

Recreation Area Category 4

Population Data Type 25955929

SUMMARY OF FACTORS BY DATA TYPE

H TYPE Hard Data

Surface Water Sensitive Environments Targets

Sensitive Environment Score

SAG HARBOR COVE	0
SAG HARBOR BAY	0
SHELTER ISLAND SOUN	0
NORTHWEST HARBOR	0
NORTHWEST CREEK	0
CEDAR POINT	0

Onsite Residents Summary

Likelihood of Release Onsite Residents	100	100
High Risk Population	100	0
Total Resident Population, Excluding High Risk	100	14
Highest Onsite Terrestrial Sensitive Environment	25	0

Nearby Population Summary

Population within 0 to 1/4 mile	100	45
Population within 1/4 to 1/2 mile	100	43
Population within 1/2 to 1 mile	100	30

Waste Characteristics Source Containment

CONTAMINATED SOIL

Air Pathway (gas)	3	3
Air Pathway (particulate)	3	2
Ground Water Containment	10	10
Overland Flow Surface Water Containment	10	10
Flood Frequency factor, No Containment	12	5
Onsite Accessibility, observed contamination	100	75

SUMMARY OF FACTORS BY DATA TYPE

H TYPE Hard Data

Waste Characteristics Source Vol/Area

CONTAMINATED SOIL

Source type		Cnt Soil
Is this a Fire Site?	Y/N	NO
Number of Source Contaminants	Count	17
Source Volume Data Complete?	Y/N	NO

Waste Characteristics Source Streams

Hazardous Waste Quantity (4.2.2.2)

Assign the same factor value as was assigned for hazardous waste quantity for the Drinking Water Threat (4.1.2.2).

	Waste Quantity
	10

4.3.3 TARGETS

Identify the recreation areas that lie within the target distance limit from the site. Boundaries between contiguous areas are defined by changes in category (Table 4-19) or changes in the dilution weighting factor (Table 4-11). Document actual contamination (if any) at each of these recreation areas.

Actual Contamination (4.3.3.1.1.3)

From those recreation areas that have been documented to be contaminated, select the highest human recreation population value and enter it here.

Recreation Area	Human Recreation Population Value
- N/A and/or data not specified	

The calculated value, subject to a maximum of 200. — Actual Contamination | 0 |

Potential Contamination (4.3.3.1.2)

For those recreation areas that have not been documented to be contaminated, multiply the human recreation population values by the dilution weighting factors.

Recreation Area	(A) Human Recreation Population Value	(B) Dilution Weighting Factor	A X B
SAG HARBOR COVE/BAY	2500	0.001	2.500

Selected recreation area with the highest product, divided by 100 subject to a maximum value of 200. — Potential Contamination | 0 |

Recreation area documentation for SAG HARBOR COVE/BAY

THERE IS NO DOCUMENTED EVIDENCE OF CONTAMINATION AT THIS RECREATION AREA.

References:

RECREATION AREA EVALUATION WORKSHEET

Recreation area: SAG HARBOR COVE/BAY

Document the recreation area category (Table 4-19)

BOAT DOCKS AND SAG HARBOR YACHT CLUB ARE LOCATED IN SAG HARBOR COVE AND BAY. THESE ARE LOCATED WIHTIN 0.25 MILE OF THE SITE.

References: 6, 13, 35

Document the type of surface water body the recreation area accesses (see Table 4-20).

-See Segment Documentation.

On the Table below, cross out the distance categories if they lie beyond the distance limit for target population that is specified in Table 4-19.

Enter on the table below the multipliers from Table 4-20 for the type of surface water body that is accessed.

Describe how the population figures that are entered on the table below were determined, and give references.

Distance Category in Miles	(A) Multiplier from Table 4-20	(B) Documented Population Within Ring	(A X B)
0 to (5	0.6500	10324	6710.600
5 to (10	0.2200	30507	6711.540
10 to (20	0.1100	37765	4154.150
20 to (40	0.0550	769640	42330.199
40 to (60	0.0330	2803412	92512.594
60 to (80	0.0230	4384069	100833.586
80 to (100	0.0180	10966814	197402.656
100 to (125	0.0150	6953398	104300.969
		Sum of (A X B)	554956.294

SURFACE WATER MIGRATION PATHWAY

HUMAN RECREATION THREAT

GRAPHICAL EXPOSURE MODELING SYSTEMS (GEMS) WAS USED TO DETERMINE POPULATION FIGURES.

References: 16

Enter the accessibility/attractiveness factor value for the recreation area category (Table 4-19), multiply it by the sum of A X B, and look up the recreation use (RU) factor value in Table 4-21.

Accessibility/ Attractiveness		Sum of (A X B)		RU	Recreation Use Population Value
1.000	x	554956.294	=	554956.294	6

The dose adjusting factor value that was determined in Section 4.3.2.

Dose Adjusting Factor Value | 1 |

Use Table 4-22 to look up the Human Recreation Population value for this recreation area, and enter the value in the box.

Human Recreation Population Value | 0 |

If this recreation area is not documented to be contaminated, document here the stream flow at the recreation area, and find on Table 4-11 the dilution weighting factor.

Stream Flow in Cubic Feet / Sec | 50000 |

Dilution Weighting Factor | 0.001 |

SURFACE WATER MIGRATION PATHWAY

ENVIRONMENTAL THREAT

4.4.1 LIKELIHOOD OF RELEASE

This factor category will receive the same value as the Likelihood of Release for the Drinking Water Threat in Section 4.1.1.

4.4.2 WASTE CHARACTERISTICS

Ecosystem Toxicity/Persistence (4.4.2.1)

The sensitive environments
under evaluation are in))) Salt Water

Document whether the segment of the surface water migration pathway between the probable point of entry and the nearest sensitive environment is predominantly river or lake, and indicate which half-life table is used for assigning a value for persistence.

The half-life table employed is for))) Rivers.

Select from among the substances available to the surface water pathway those with the highest values for ecosystem toxicity/persistence and enter them (maximum of 5) in the Table below.

Highest Five Substances Evaluated	Found in Observed Release	Ecosystem Toxicity Value (Table 2-11)	Persistence Value (Table 4-9)	Ecosystem Tox/persist Value (Table 4-10)
Benzo(a)Pyrene	NO	4	3	90
Naphthalene	NO	3	3	80
Phenanthrene	NO	3	3	80
Benz(a)anthracene	NO	5	1	67
Pyrene	NO	5	1	67

Highest scoring hazardous substance: Benzo(a)Pyrene

	Toxicity/ Persistence
The highest value for toxicity/persistence	90

SURFACE WATER MIGRATION PATHWAY

ENVIRONMENTAL THREAT

Hazardous Waste Quantity (4.4.2.2)

Assign the same factor value as was assigned for hazardous waste quantity for the Drinking Water Threat (4.1.2.2).

Waste Quantity	10

SURFACE WATER MIGRATION PATHWAY

ENVIRONMENTAL THREAT

4.4.3 TARGETS

Describe the sensitive environments that lie on or contiguous to the surface water migration path within the target distance limit and document observed contamination above background, if any.

Description of the Sensitive Environment	Documentation of Contamination Above Background
- N/A and/or data not specified	

Level I Concentration (4.4.3.1.1)

For any sensitive environments that are contaminated above ecological-based benchmarks, document the contamination here.

Which Sensitive Environment	Freshwater (F) Saltwater (S) or both (B)? (Table 4-25)	Documentation of Contamination Above Criteria (Table 4-23)	Assigned Value for the Sensitive Environ. (Table 2-18 or 2-19)
- N/A and/or data not specified			

	Value	0
The value multiplied by 10 and subject to a maximum value of 120.	Level I Contamination	0

Level II Concentration (4.4.3.1.2)

Evaluate here any sensitive environments that are contaminated above background but not above ecological-based benchmarks.

Which Sensitive Environment	Freshwater (F) Saltwater (S) or both (B)? (Table 4-25)	Documentation of Contamination Above Criteria (Table 4-23)	Assigned Value for the Sensitive Environ. (Table 2-18 or 2-19)
- N/A and/or data not specified			

	Value	0

SURFACE WATER MIGRATION PATHWAY

ENVIRONMENTAL THREAT

The value subject to a maximum of 120. — Level II Contamination | 0 |

Potential Contamination (4.4.3.1.3)

Evaluate here any other sensitive environments which are not already listed as contaminated but which are considered as targets. Document the stream flow (see instructions) at or contiguous to the environment as an attachment, and summarize the result here.

Which Sensitive Environment	(A) Assigned Value for the Sens. Env. (Table 2-18 or 2-19)	Stream Flow cf/sec.	(B) Dilution Weighting Factor (Table 4-11)	(A X B)
SAG HARBOR COVE	75	50000.000	0.001	0.075
SAG HARBOR BAY	75	50000.000	0.001	0.075
SHELTER ISLAND SOUN	75	50000.000	0.001	0.075
NORTHWEST HARBOR	75	50000.000	0.001	0.075
NORTHWEST CREEK	75	50000.000	0.001	0.075
CEDAR POINT	75	50000.000	0.001	0.075
			Sum of (A X B)	0.450

The sum of (A X B) divided by 10 and subject to a maximum value of 120. — Potential Contamination | 0 |

Description of: SAG HARBOR COVE

THE SENSITIVE ENVIRONMENT IS WETLANDS. THERE IS NO EVIDENCE OF CONTAMINATION AT THESE WETLANDS AND NO SAMPLES WERE COLLECTED.

References: 6, 19, 20, 24

Description of: SAG HARBOR BAY

THE SENSITIVE ENVIRONMENTS ARE WETLANDS. THERE IS NO DOCUMENTED CONTAMINATION AND NO SAMPLES WERE COLLECTED IN THE WETLAND.

References: 6, 19, 20, 24

SURFACE WATER MIGRATION PATHWAY

ENVIRONMENTAL THREAT

Description of: SHELTER ISLAND SOUN

THE SENSITIVE ENVIRONMENTS ARE WETLANDS. THERE IS NO DOCUMENTED CONTAMINATION AND NO SAMPLES WERE COLLECTED.

References: 6, 19, 20, 24

Description of: NORTHWEST HARBOR

THE SENSITIVE ENVIRONMENTS ARE WETLANDS. THERE IS NO DOCUMENTED CONTAMINATION AND NO SAMPLES WERE COLLECTED.

References: 6, 19, 20, 24

Description of: NORTHWEST CREEK

THE SENSITIVE ENVIRONMENTS ARE WETLANDS. THERE IS NO DOCUMENTED CONTAMINATION AND NO SAMPLES WERE COLLECTED.

References: 6, 19, 20, 24

Description of: CEDAR POINT

THE SENSITIVE ENVIRONMENTS ARE WETLANDS. THERE IS NO DOCUMENTED CONTAMINATION AND NO SAMPLES WERE COLLECTED.

References: 6, 19, 20, 24

ONSITE MIGRATION PATHWAY

RESIDENT POPULATION THREAT

5.0 ONSITE EXPOSURE PATHWAY

5.0.1 DESCRIPTION OF AREA OF OBSERVED CONTAMINATION

If hazardous substances, attributable to the site and at concentrations significantly above background levels, are found in soils or sources containing shallow wastes, describe the extent of observed contamination (defined as wastes on or above the land surface or contaminated soils or wastes not more than 2 feet below the land surface).

If there is no such observed contamination, do not evaluate this pathway.

Hazardous Substance
3,4-Benzofluoranthene
Acenaphthylene
Acenapthene
Anthracene
Benzo(a)Pyrene
Benzo(J,K)Fluorene
Benz(a)anthracene
Chrysene
Dibenzofuran
Ethylbenzene
Fluorene
m-Xylene
Naphthalene
o-Xylene
Phenanthrene
Pyrene
p-Xylene

Attach a map showing the sources and other areas of observed contamination and the intervening areas considered subject to observed contamination.

Give the rationale for attribution of the areas of observed contamination to the site.

ONSITE MIGRATION PATHWAY

RESIDENT POPULATION THREAT

A PREVIOUS INVESTIGATION BY STORCH ASSOCIATES SHOWED THE PRESENCE OF VOLATILE ORGANIC COMPOUNDS, PESTICIDES, AND PETROLEUM HYDROCARBONS IN SAMPLES COLLECTED FROM BORINGS ALONG BRIDGE STREET AND LONG ISLAND AVENUE. SOIL SAMPLES COLLECTED DURING THE NUS CORP. SSI SHOWED THE PRESENCE OF PAHs, PESTICIDES, AND INORGANIC SUBSTANCES IN SAMPLES FROM THE LIF AND LILCO PROPERTIES. LOWER CONCENTRATIONS OF PAHs WERE ALSO DETECTED IN SOIL SAMPLES FROM THE GREENBERG, CASMAN, AND HARBOR CLOSE CONDOMINIUM PROPERTIES. DURING THE LSI, SYSTEMATIC GRID SOIL SAMPLING AND JUDGMENTAL SOIL SAMPLING WERE CONDUCTED. BACKGROUND SOIL SAMPLES WERE ALSO COLLECTED TO PROVIDE A BASIS FOR EVALUATING THE SYSTEMATIC GRID SAMPLES AND JUDGMENTAL SOIL SAMPLES. ANALYSIS OF THE SOIL INDICATES THAT THE LILCO AND LIF PROPERTIES SOIL CONTAIN VOLATILE ORGANIC COMPOUNDS AND A VARIETY OF PAHs AT SIGNIFICANTLY-ABOVE-BACKGROUND LEVELS. A JUDGMENTAL SAMPLE FROM THE CASMAN PROPERTY SHOWED THE PRESENCE OF PAHs AT CONCENTRATIONS SIGNIFICANTLY ABOVE BACKGROUND. AS A RESULT, THE AREA OF THE LILCO, LIF, AND CASMAN PROPERTIES ARE CONSIDERED TO BE CONTAMINATED. THE COMBINED AREA OF THE LILCO AND LIF PROPERTIES IS APPROXIMATELY 71,500 SQ.FT., AND THE AREA OF THE CASMAN PROPERTY IS APPROXIMATELY 12,500 SQ.FT. THE COMBINED AREA IS 84,000 SQ.FT. THERE ARE SEVEN ADULTS LIVING IN THE CASMAN HOUSE.

References: 3, 4, 5, 6, 36, 39, 42, 43, 44, 46.

5.1.1 LIKELIHOOD OF EXPOSURE

If there is no resident population (defined as people living or attending school or day care on property where there is observed contamination or as wildlife inhabiting a terrestrial sensitive environment where there is observed contamination), value is zero.

Go to Nearby Population Threat (5.2)

If there is a resident population, the value is 100.

Likelihood of Exposure	100

Go to Waste Characteristics (5.1.2)

ONSITE MIGRATION PATHWAY

RESIDENT POPULATION THREAT

5.1.2 WASTE CHARACTERISTICS

Toxicity

Assign toxicity values to the highest scoring hazardous substances documented in the sources or in areas of observed contamination.

Highest Five Substances Evaluated	Found in Observed Release	Toxicity Value (Table 2-11)
Benzo(a)Pyrene	YES	5
Ethylbenzene	YES	2
Benzo(J,K)Fluorene	YES	1
m-Xylene	YES	1
Naphthalene	YES	1

Highest scoring hazardous substance: Benzo(a)Pyrene

	Toxicity Value	
The highest value for toxicity		5

ONSITE MIGRATION PATHWAY

RESIDENT POPULATION THREAT

5.1.3 TARGETS

Consider only those targets that meet the criteria stated in this section.

High-Risk Population (5.1.3.1)

Document by location the number of children less than seven years old, as of the date of the SI or action equivalent to the SI, who meet the eligibility criteria. (Children meeting more than one of the eligibility criteria may be counted only once for this factor.)

THERE ARE NO CHILDREN LESS THAN SEVEN YEARS OLD LIVING ON SITE.

References:

Number of children 0

The number of children multiplied by 10 and subject to a maximum of 100.

High-Risk Population | 0 |

Total Resident Population (5.1.3.2)

Document by location the number of individuals who live or go to school on property on which there is observed contamination (not including children counted in High-Risk Population).

THERE ARE SEVEN ADULTS LIVING ON THE CASMAN PROPERTY.

References: 27

Number of people 7

The number of people multiplied by 2 and subject to a maximum of 100.

Total Resident Population | 14 |

ONSITE MIGRATION PATHWAY

RESIDENT POPULATION THREAT

Terrestrial Sensitive Environments (5.1.3.3)

Document the location information for all terrestrial sensitive environments in which there is observed contamination. Use values from Table 5-2 or Table 2-19:

THERE ARE NO SENSITIVE ENVIRONMENTS ON SITE.

References: 19,20,24.

Highest value 0

The highest value divided by 4 and subject to a maximum of 25.

Terr. Sens. Environments | 0 |

ONSITE MIGRATION PATHWAY

NEARBY POPULATION THREAT

5.2.1 LIKELIHOOD OF EXPOSURE

Waste Quantity (5.2.1.1)

Select only those sources with wastes either on or above the surface or not more than 2 feet below the surface and summarize the area or default information required to assign a value from Table 5-3.

Source Number	Description	Area for Source (or Default Information)	Assigned Value
1	CONTAMINATED SOIL	84500	17
		Sum:	17
	The sum of the assigned values, subject to a maximum of 100.	Quantity	[17]

Accessibility/Frequency of Use (5.2.1.2)

Use Table 5-4 to assign a value for accessibility/frequency of use to areas with observed contamination. Any land used for residences is not considered in assigning a value for the accessibility/frequency of use factor.

Source Number	Description	Accessibility Value
1	CONTAMINATED SOIL	75
	Use Value	[75]

Likelihood of Exposure Value (5.2.1.3)

Use Table 5-5, along with the assigned values for waste quantity and accessibility/frequency of use, to determine the value for likelihood of exposure.

ONSITE MIGRATION PATHWAY

NEARBY POPULATION THREAT

Likelihood of Exposure	25

5.2.2 WASTE CHARACTERISTICS

Toxicity

Assign toxicity values to the highest scoring hazardous substances documented in the sources or in areas of observed contamination.

Highest Five Substances Evaluated	Found in Observed Release	Toxicity Value (Table 2-11)
Benzo(a)Pyrene	YES	5
Ethylbenzene	YES	2
Benzo(J,K)Fluorene	YES	1
m-Xylene	YES	1
Naphthalene	YES	1

Highest scoring hazardous substance: Benzo(a)Pyrene

	Toxicity Value	
The highest value for toxicity		[5]

ONSITE MIGRATION PATHWAY

NEARBY POPULATION THREAT

5.2.3 TARGETS

The Nearby Population Targets factor is based on the population within a one-mile travel distance from the site, including residents and students who attend school within this travel distance. In determining the distance of an individual from the site, measure the overland distance an individual would have to travel. If there are no natural barriers to travel, such as a river, the travel distances from the site to the population are measured along a straight line from the site. If barriers exist, the distances are measured from the site to the nearest crossing and from there to the individual (Figure 5-3). Document here the basis for the population estimates.

POPULATION WAS ESTIMATED BY A DRIVE-BY HOUSE COUNT, USING A 1988 CENSUS AVG. FOR THE TOWN OF SOUTHAMPTON (2.34). THIS HOUSE COUNT DID NOT INCLUDE HOMES ON BRIDGE STREET. POPULATION OF BRIDGE STREET WAS DETERMINED BY PERSONAL INTERVIEWS OF RESIDENTS.

References: 6,9,27,29,33

POPULATION WAS ESTIMATED BY A DRIVE-BY HOUSE COUNT USING A 1988 CENSUS AVG. FOR SOUTHAMPTON (2.34).

References: 6,9,27

POPULATION WAS ESTIMATED FROM A HOUSE COUNT USING THE 3-MILE VICINITY MAP AND THE 1988 CENSUS AVG. FOR THE TOWN OF SOUTHAMPTON (2.34).

References: 6,9,10,37

ONSITE MIGRATION PATHWAY

NEARBY POPULATION THREAT

Calculate this factor by filling in the following table:

Population	0	to	1/4 mile =	448	x	0.1	= 44.800
Population	1/4	to	1/2 mile =	856	x	0.05	= 42.800
Population	1/2	to	1 mile =	1217	x	0.025	= 30.425

Sum = 118.025

The sum, subject to a maximum of 100. Targets [100]

REFERENCES

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2. Potential Hazardous Waste Site, Site Inspection Summary Report, Sag Harbor Bridge Street Area, NYSDEC, Division of Solid and Hazardous Waste. January 15, 1988.

3. Letter from Dean Anson, Supervising Environmental Engineer, Storch Associates, to Hon. George E. Butts, Jr., Mayor, Village of Sag Harbor. June 4, 1987.

4. Letter from Dean Anson, Supervising Environmental Engineer, Storch Associates, to Hon. George E. Butts, Jr., Mayor, Village of Sag Harbor. October 2, 1987.

5. County of Suffolk, Real Property Tax Service Agnecy, Property Map.

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8. Letter from John Licata, P.E., Regional Oil Spill Engineer, NYSDEC, to Richard Riena, The Long Island Fisherman. April 24, 1986.

9. Telecon Note: Between Suffolk County Planning Department, and Deborah Cohen, NUS Corp. August 25, 1988.

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12. Letter from P. J. Ponturo, P.E., Senior Public Health Engineer, Drinking Water Supply Section, County of Suffolk, DHS, to John Licta, P.E., Senior Sanitary Engineer, NYSDEC. December 11, 1984.

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20. Letter from John W. Ozard, Senior Wildlife Biologist, Significant Habitat Unit, Wildlife Resources Center, NYSDEC, to Gregory Pollack, NUS Corp. July 25, 1988.

21. New York Registry of National Historic Sites and Landmarks as of 2/4/87 from U.S. Dept. of the Interior.

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23. Hydrogeology of Suffolk County, Long Island, New York Department of the Interior, United States Geological Survey (USGS), 1974.

24. USDI, National Wetlands Inventory; Sag Harbor, NY Quadrangle 1982; Greenport, NY Quadrangle 1980; East Hampton, NY Quadrangle 1980; Gardiners Island West, NY Quadrangle 1980.

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26. Letter from Steve Dalton, Manager, Environmental Science Division, LILCO, to John Licata, Sr. Sanitary Engineer, NYSDEC. 11/1/84.

27. Project Note: From Deborah Cohen, to File, Subject: House count for one-quarter mile and one-half mile from site. November 11, 1988.

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31. Telecon Note: conversation between Suffolk Electric Motors, and Deborah Cohen, NUS Corp., November 16, 1988.

32. Project Note: From Deborah Cohen, to File, Subject: Groundwater use in Sag Harbor and North Haven. December 1, 1988.

33. Telecon Note: Conversation between Carl Casman, Bridge Street, Sag Harbor, and Deborah Cohen, NUS Corp., November 23, 1988.

34. Project Note: From Deborah Cohen, to File, Subject: Sag Harbor Bridge Street. December 1, 1988.

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47. Draft Toxicological Profile for P,P'-DDT; P,P'-DDE; and P,P'-DDD. Agency for Toxic Substances and Disease Registry, U.S. Public Health Service, April 14, 1989.

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49. Historical Aerial Photographs of the Bridge Street Area, 1947, 1954, 1965, 1969, 1976, 1978, 1984. EPIC Phototgrahic Services.

50. Memo from M. Mrozek to Phase II Field Testing Project Points-of-Contact, June 28, 1988. Re: Net Precipitation Data for Phase II HRS Scoring.

SUMMARY OF FACTORS BY DATA TYPE

N TYPE Data Not Specified

Air Pathway Likelihood of Release

Air Pathway Targets

Ground Water Aquifer Distance

Ground Water Likelihood of Release

Ground Water Targets

Ground Water Targets Population Well

Surface Water Segment Description

Surface Water Likelihood of Release

Surface Water Drinking Water Targets

Surface Water Drinking Water Targets Population

Surface Water Food Chain Targets