SUPPLEMENTAL DATA SUBMISSION
in Support of Containment Interim Removal Action

QUANTA RESOURCES SITE

163 River Road
Edgewater, New Jersey

SEPTEMBER 2002

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
290 Broadway
New York, NY 10007

Prepared on behalf of:

115 RIVER ROAD, LLC
115 River Road
Edgewater, New Jersey 07020

Paulus, Sokolowski & Sartor, LLC
consulting engineers and environmental planners
A KEYSPAN BUSINESS SOLUTION
67A Mountain Boulevard Extension
Warren, New Jersey 07059

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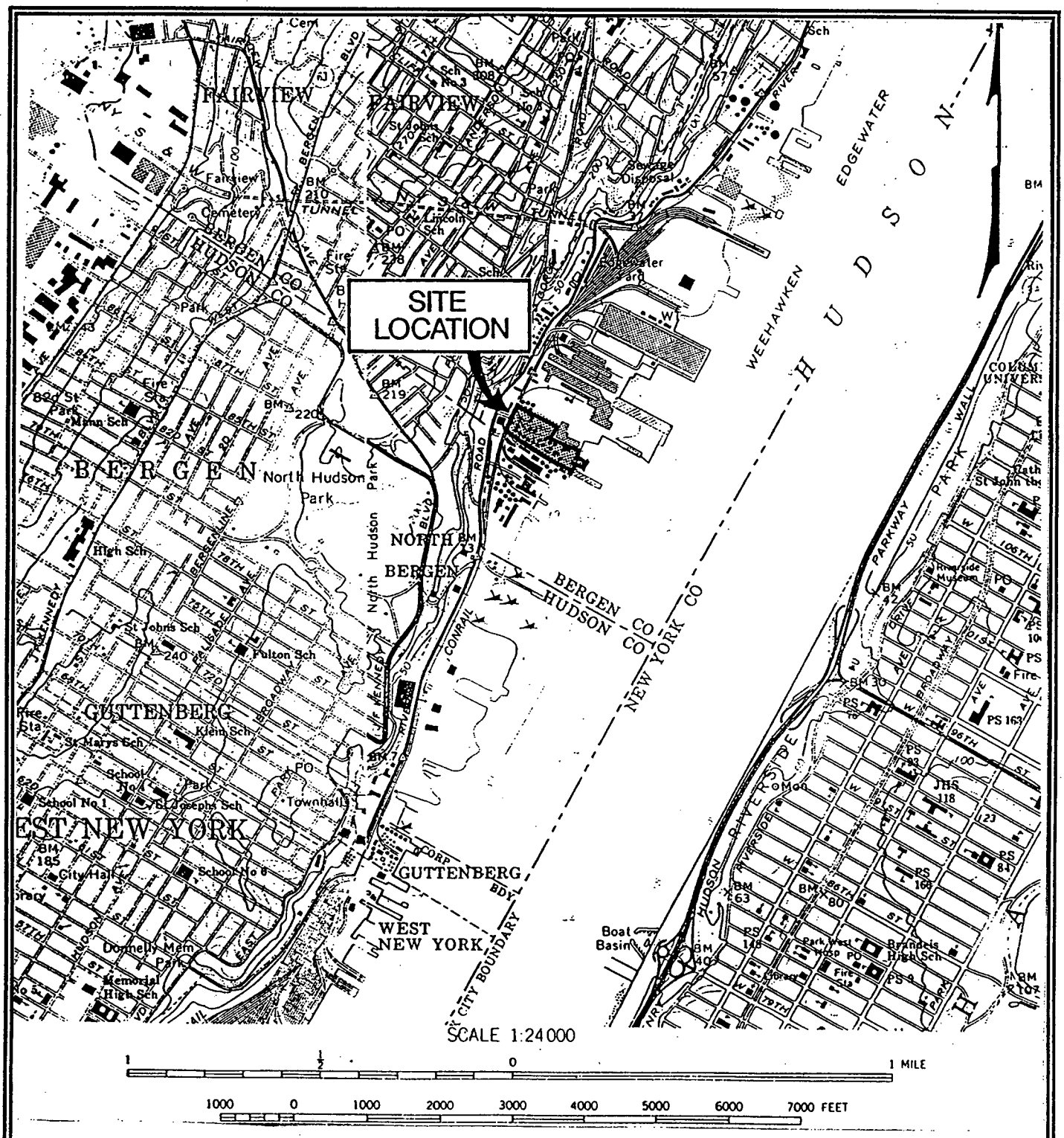
1.0 INTRODUCTION

The Quanta Resources (Quanta) property is located at 163 River Road, Edgewater, Bergen County, New Jersey (Figure 1). The site is approximately 7.45 acres in size and is situated along the Hudson River in a commercial area.

On August 18, 2000, Mr. Thomas Heagney, the owner of the adjacent Riverside Plaza North property (former Spencer-Kellogg property), entered into an Agreement of Sale and Purchase to acquire the 5.3-acre portion of the Quanta site located east of New River Road. Mr. Heagney has proposed construction of an asphalt cap across the entire site. This cap is proposed to be constructed as an interim removal action and would be used for vehicle parking for the adjacent Riverside Plaza North facility, as well as part of potential future site redevelopment. Preliminary review of subsurface conditions, as presented in the Honeywell June 2000 "Removal Site Investigation Report, Quanta Resources Site, Edgewater, NJ", did not identify potential issues of concern associated with the placement of an asphalt cap.

However, in recent communications, the USEPA indicated that the investigations previously conducted by Honeywell International, Inc. (Honeywell) (formerly Allied Signal, Inc.) had been of a relatively narrow scope and additional characterization of the site was necessary prior to approving any interim use of the site. The potential for metals, PCB and pesticide contamination was of particular concern.

Therefore, PS&S has prepared the subject document, which presents the results of site soil investigations not included in Honeywell's Removal Site Investigation Report (Revision 1, June 2000), in support of Mr. Heagney's interim removal action and redevelopment proposal. This data includes soil analytical results from a 1990 PS&S soil sampling conducted for the property owner, Mr. James Frola, as well as analytical results from a June 2000 sampling conducted by USEPA Region 2. It is our opinion that in terms of both spatial coverage and analytical testing, this additional data significantly augments the available site database and, in conjunction with previously submitted data, is sufficient to characterize the site for approval of the requested interim removal action and interim use proposal. The benefits to the proposed interim removal action are



SOURCE:
U.S.G.S. TOPOGRAPHIC MAPS
7.5 MINUTE SERIES
CENTRAL PARK, NJ/NY QUAD
WEEHAWKEN, NJ/NY QUAD

SITE LOCATION MAP

QUANTA RESOURCES SITE

EDGEWATER, NEW JERSEY

PAULUS SOKOLOWSKI & SARTOR, LLC
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NEW JERSEY

Drn By: ECS	Scale: AS SHOWN	Proj. No. 2608-001-04
Ck'd By: ECS	Date: AUGUST 19TH, 2002	Fig No. 1

multiple and would include 1) prevention of direct contact with contaminated soils, 2) collection and control of site stormwater that currently infiltrates site soils and contributes to the generation of contaminated groundwater, and discharges to the Hudson River, and 3) begin the transformation of a decades-old blighted area into a commercially viable property of benefit to the local community.

2.0 BACKGROUND

The Quanta site is bordered by the Hudson River to the east and (Old) River Road to the west. New River Road is located east of Old River Road and bisects the Quanta site. Approximately 5.3 acres of the site is now located east of New River Road. The former Celotex Industrial Park borders the site to the north and is separated from the Quanta site by a chain link fence. Additional fill has been imported onto the Celotex site, which is now 6 to 8 feet above the grade of the Quanta property. The Celotex property is currently the subject of remedial actions being undertaken as required for planned commercial and residential development. Remedial actions at the Celotex site are being conducted under oversight by the New Jersey Department of Environmental Protection (NJDEP). To the south is Riverside Plaza North, a commercial property which was formerly the Spencer-Kellogg site. Further south is the Lever Brothers property, which is occupied by Unilever Research.

The Allied Corporation operated a coal tar roofing plant at the Quanta Site and the southern portion of the Celotex property from prior to 1930 until 1974. Typically, roofing plants of this type produced three main products: creosote, coal tar pitches and refined tars used for roads. A series of companies subsequently leased the property from 1974 to 1981 for the purpose of oil storage and recycling. The NJDEP stopped waste oil reprocessing activities after elevated concentrations of polychlorinated biphenyls (PCBs) were detected in some waste oil. After 1981, the site was not usually occupied [USEPA, 1998].

The Quanta site contained 61 aboveground storage tanks and 10 or more underground storage tanks as well as numerous underground pipes. The total capacity of the tanks was over nine million gallons [USEPA, 1998]. Tanks and product were removed from the site under a USEPA Removal Action between 1984 and 1988. Currently the property is vacant and the remaining aboveground features consist of a sheet metal building located east of New River Road and office trailers located east of the sheet metal building. The property also contains numerous exposed concrete tank and building foundations, the remains of an oil/water separator, a wooden

bulkhead along the river. At low tide, oily sheens are sporadically observed in the mud flats adjacent to the property and an absorbent boom is maintained to control the sheen.

Investigations of the Quanta site have been conducted by Parsons Engineering Science, Inc. in 1997; Roy F. Weston, Inc. in 1992, 1995 and 1998 (for the USEPA), and Allied Signal Inc. (Allied) in 1998 and 1999. These data were previously compiled by Honeywell and presented to the USEPA in its June 2000 Removal Site Investigation Report (Revision 1). Additional soil sampling in the northwest portion of the site, along the border with the Celotex site, was conducted by the USEPA in June 2000.

Geologic Setting

The site is located within the Newark Basin of the Piedmont Physiographic Province. The site is underlain by between approximately 35 to 55 feet of non-native fill and estuarine and salt-marsh deposits overlying bedrock. The fill at the site consists of 9 to 18 feet of brown to black, fine to medium grained sand containing some silt, cinders, brick, wood, gypsum and concrete debris overlying non-continuous layers of marsh clay, silt, or sand. The clay consists of gray to black semi-plastic soil with areas containing traces of silt, roots, and shell fragments [Parsons, 1998; Enviro-Sciences, 1997; and GeoSyntec, 2000]. The silt is gray, brown to reddish brown and often clayey. Sand is brown to gray, medium grained and sometimes silty. The bedrock at the site appears to be the Upper Triassic-age Stockton Formation, which consists of sandstone conglomerate and siltstone.

Immediately west of the site is the Palisade Sill, which consists of intrusive bodies such as diabase dikes and sills. The ground elevation increases from approximately 10 to 18 ft above mean sea level (msl) at the site to over 200 feet on the Palisades. River sediments consist of silt to clayey silt approximately 45 feet thick immediately offshore from the bulkhead, and thicken eastward toward the main river channel. These mud flats are exposed at low tide and inundated during high tide [GeoSyntec, 2000].

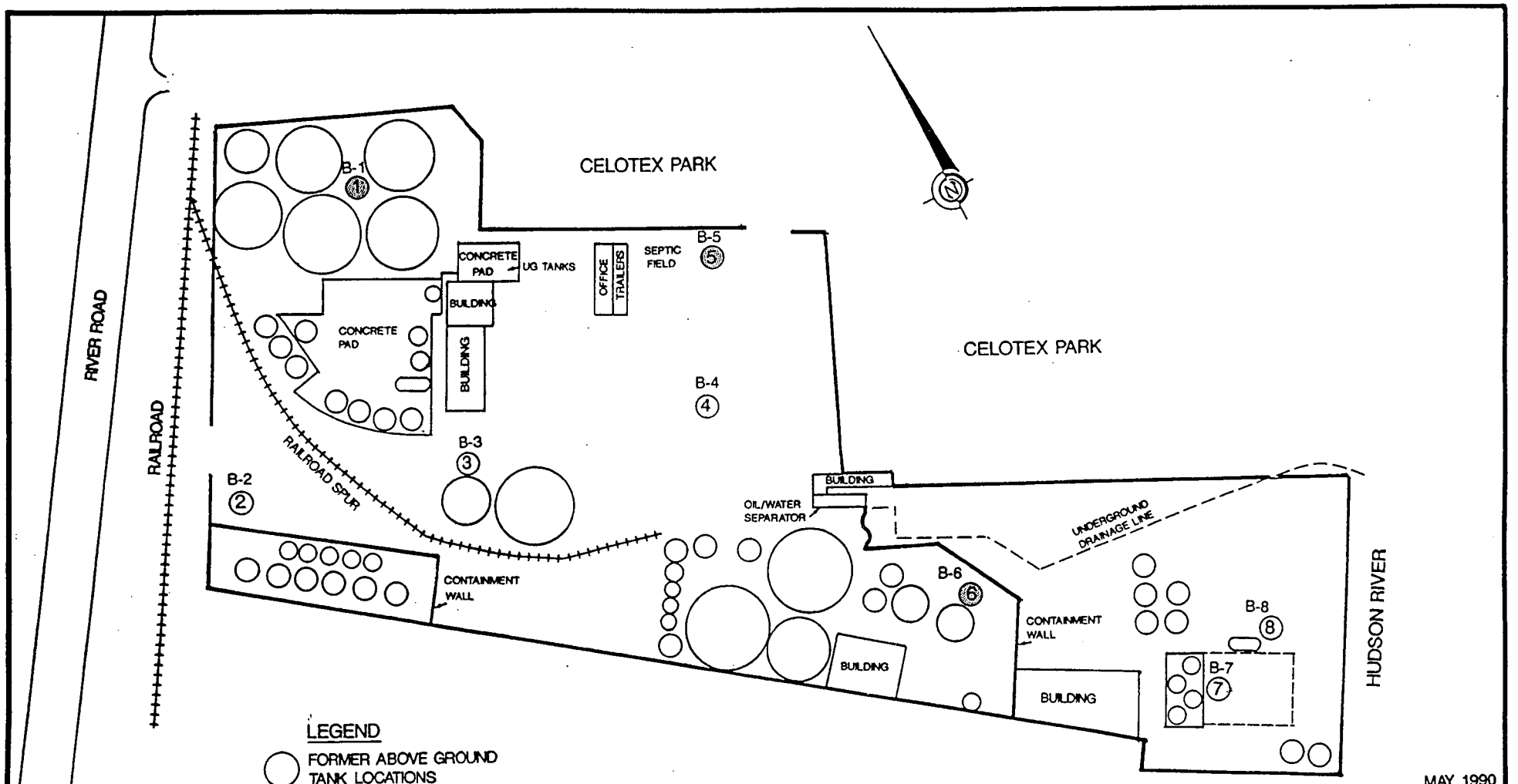
3.0 RESULTS

In May 1990, Paulus Sokolowski and Sartor LLC. (PS&S), on behalf of Mr. James Frola the landowner, conducted a soils investigation to characterize environmental contamination present in near-surface soils. That survey entailed the collection of eleven (11) soil samples from a total of eight soil borings located throughout the site. Samples were collected from the 0.0 to 0.5-foot interval from all eight borings. Additional samples were collected from the approximate 4-6-foot depth intervals from three of those borings (see Figure 2). All samples were analyzed for EPA priority pollutants with a 40-peak library search (PP+40) and total petroleum hydrocarbons (TPHC). Sample depth intervals and contaminant concentrations reported by the laboratory are presented in Table 1 through Table 3. The 1990 analytical data, together with data previously compiled by Allied, is presented in Figures 3 through 9. A summary of the 1990 analytical results follows.

3.1 Inorganics (Metals)

No concentrations of antimony, beryllium, cadmium, chromium, copper, nickel, selenium, or silver were reported above current (2002) NJDEP Residential Direct Contact Soil Cleanup Criteria (RDCSCC). Arsenic, lead, mercury, thallium, and zinc were the only metals for which concentrations (in parts per million (ppm)) were reported above RDCSCC. These exceedances are summarized below.

Parameter	Range of Values > RDCSCC	No. of Values > RDCSCC	NJDEP RDCSCC
Arsenic	53-310	4	20
Lead	440-670	3	400
Mercury	15, 23	2	14
Thallium	2.4	1	2
Zinc	1800	1	1500



MAY 1990

SOIL SAMPLING LOCATIONS
FROLA PROPERTY
163 RIVER ROAD, EDGEWATER, NJ

PAULUS, SOKOLOWSKI & SARTOR INC.
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NJ

Drn. By: M.R.	Scale: no scale	Proj. No. 1368-001-04
Ck'd By: J.B.	Date: 6/26/90	Fig. No. 2

TABLE 1
QUANTA SITE
Summary of Laboratory Analytical Data
Metals, Phenolics, Petroleum Hydrocarbon and Pesticide/PCB Analysis of Soils
May 1990

Sample No.	B1-AS1	B1-AS2	B2-AS1	B3-AS1	B4-AS1	B5-AS1	B5-AS2	B6-AS1	B6-AS2	B7-AS1	B8-AS1	FB-1	FB-2	NJDEP RDCSCC(1)
Depth (ft)	1-3	4-6	1-3	1-3	1-3	1-3	4-6	4-5	0.0-0.5	0.0-0.5	0.0-0.5	-	-	
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Water	Water	
Antimony	.34	<0.10	1.0	2.3	2.1	5.5	1.4	.25	<0.10	<0.10	<0.10	<.001	<.001	14
Arsenic	3	3.9	12	**53**	**73**	**190**	**310**	6.8	5.4	2.2	1.4	<.001	<.001	20
Beryllium	0.73	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.54	<0.50	<0.50	<.005	<.005	2
Cadmium	<1.0	<1.0	2.1	1.2	<1.0	3.0	1.2	<1.0	<1.0	<1.0	<1.0	<.01	<.01	39
Chromium	5.9	9.8	16	12	7.8	32	18	12	9.8	5.4	3	<.025	<.025	120,000(3)
Selenium	1.1	0.64	0.79	0.84	1.3	3.8	1.7	1.1	0.25	0.58	0.46	<.001	<.001	63
Copper	37	15	58	170	110	250	87	66	8.1	25	8.6	<.02	<.02	600
Silver	<3.0	<3.0	<3.0	<3.0	<3.0	4.1	<3.0	<3.0	<3.0	<3.0	<3.0	<.03	<.03	110
Lead	25	32	**440**	260	200	**670**	**510**	83	**24**	18	23	<.005	<.005	400
Thallium	<0.10	0.17	0.33	0.83	0.77	2.4	1.4	<0.10	0.14	0.39	<0.10	<.001	<.001	2
Mercury	<0.10	0.29	**23**	0.61	2.7	**15**	2.9	0.39	<0.10	0.22	0.2	<.001	<.001	14
Nickel	4.6	8	53	11	9.7	46	13	39	11	<4.0	6.1	<.04	<.04	250
Zinc	64	40	250	**1800**	110	110	110	160	38	10	32	<.05	<.05	1500
Cyanide	<.50	<.50	<.50	<.50	3.2	<.50	1.4	2.6	<.50	<.50	<.50	<.01	<.01	1100
Phenolics, Total	16	16	18	75	5.0	4.6	5.0	31	91	280	7.5	<.05	<.05	10,000
TPHC	1,300	710	**38,000**	**11,000**	6,000	390	550	**12,000**	3,200	110	**37,000**	ND	ND	10,000(4)
PCBs	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.47
Dieldrin	ND	**0.24**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.042
beta BHC	ND	ND	ND	ND	ND	ND	ND	0.095	0.26	ND	ND	ND	ND	*
delta BHC	ND	ND	ND	ND	ND	ND	ND	ND	0.37	0.086	ND	ND	ND	*
gamma BHC	ND	0.49	ND	ND	ND	ND	ND	0.40	ND	0.14	ND	ND	ND	*
4,4 D,D,D,	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3
4,4 D D E	ND	ND	ND	ND	0.33	0.090	ND	0.078	ND	ND	ND	ND	ND	2
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15

All results reported in Parts Per Million (PPM)
TI = Tentatively identified
ND = Not Detected at Method Detection Limit
(1) RDCSCC Residential Direct Contact Soil Cleanup Criteria
(2) Values in bold type exceed NJDEP RDCSCC

B = The analyte was found in the blank as well as the sample
J Indicates an estimated value
* No current RDCSCC
(3) RDCSCC for trivalent chromium
(4) Total Organic Constituents Cleanup Criteria

TABLE 2
QUANTA SITE
Summary of Laboratory Analytical Data
Volatile Organic Compound Analysis of Soils
May 1990

Sample No.	B1-AS1	B1-AS2	B2-AS1	B3-AS1	B4-AS1	B5-AS1	B5-AS2	B6-AS1	B6-AS2	B7-AS1	B8-AS1	FB-1	FB-2	TB-1	NJDEP RDCSCC/ IGWSCC(1)
Depth (ft)	1-3	4-6	1-3	1-3	1-3	1-3	4-6	4.5-5	0.0-0.5	0.0-0.5	0.0-0.5	ND	ND	ND	
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Water	Water	Water	
Date	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/22/90	5/22/90	5/22/90	5/22/90	5/21/90	5/22/90	5/21/90	
Benzene	0.72	0.11	ND	**4.6**	ND	ND	ND	**8.1**	**19**	**11**	0.09	ND	ND	ND	3/1
Ethylbenzene	11	1.5	4.1	20	ND	ND	ND	38	50	9.4	2.5	ND	ND	ND	1000/100
Toluene	5.1	0.95	ND	6.7	ND	ND	ND	25	42	31	0.17	ND	ND	ND	1000/500
Trichloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.54	ND	ND	ND	23/1
Total Xylenes	37	5.5	29.7	36.8	0.49	ND	ND	**78**	**94**	54	2.08	ND	ND	ND	410/67
Total Volatile Organics	53.82	8.06	33.8	68.1	.49	ND	ND	149.1	205	105.4	5.38	ND	ND	ND	*
Total TI Volatile Organics	314.3	35.16	226.2(3)	223.9	3.8	2.3	0.3	285	839	148.9	8.88	ND	ND	ND	*

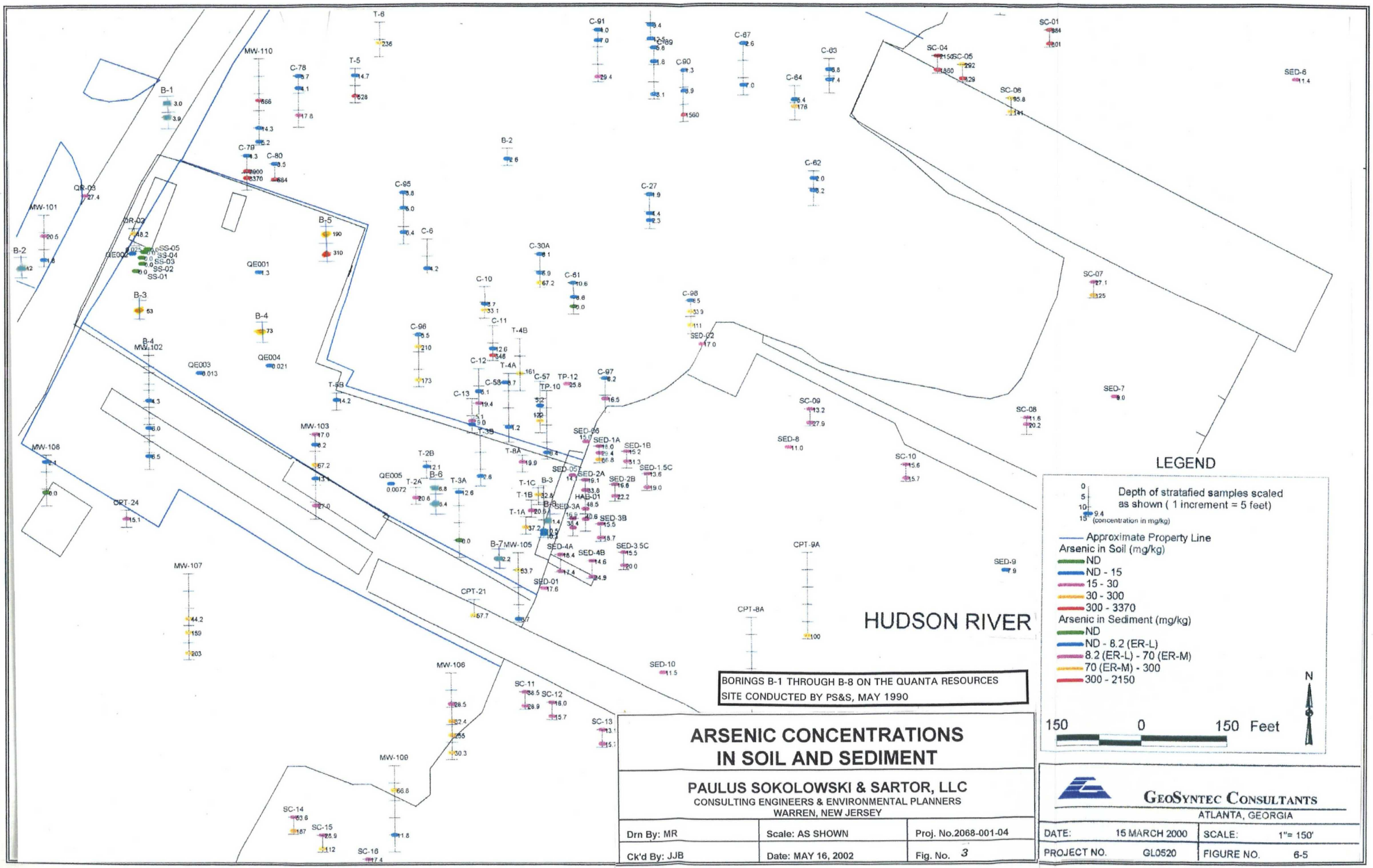
All results reported in Parts Per Million (PPM)
TI = Tentatively identified
ND = Not Detected at Method Detection Limit
* = No current NJDEP Cleanup Criteria
(1) RDCSCC = Residential Direct Contact Soil Cleanup Criteria
IGWSCC = Impact to Groundwater Soil Cleanup Criteria
(2) Values in bold type exceed NJDEP RDCSCC
(3) Excludes naphthalene reported in library search

TABLE 3
QUANTA SITE
Summary of Laboratory Analytical Data
Base Neutral Organic Compound Analysis of Soils
May 1990

Sample No.	B1-AS1	B1-AS2	B2-AS1	B3-AS1	B4-AS1	B5-AS1	B5-AS2	B6-AS1	B6-AS2	B7-AS1	B8-AS1	FB-1	FB-2	NJDEP RDCSCC/ IGWSCC(1)
Depth (ft)	1-3	4-6	1-3	1-3	1-3	1-3	4-6	1-3	4-6	1-3	0.0-0.5	-	-	
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Water	Water	
Date	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/22/90	5/22/90	5/22/90	5/22/90	5/21/90	5/22/90	
Acenaphthene	170	67	150	31	ND	.97 J	17	540	240	240	75	ND	ND	3400/100
Acenaphthylene	13	4.7 J	9.6J	ND	ND	ND	ND	130	57	82 J	ND	ND	ND	*
Anthracene	85	36	170	60	ND	1.1 J	19	560	250	720	12 J	ND	ND	10,000/100
Benzo(a)Anthracene	**29**	**20**	**150**	**180**	**3 J**	**4.3 J**	**67**	**290**	**180**	**240**	**15 J**	ND	ND	0.9/500
Benzo(a)Pyrene	**20**	**14**	**140**	**210**	ND	**4.5 J**	**64**	**130**	**110**	**200**	**27**	ND	ND	0.66/100
Benzo(b)Fluoranthene	15	11	120	190	3.5 J	4.8 J	70	110	87	180 J	17 J	ND	ND	*
Benzo(k)Fluoranthene	**18**	**13**	**110**	**160**	**4.3 J**	**3.6 J**	**56**	**150**	**85**	**180 J**	**8.9 J**	ND	ND	0.9/500
Benzo(g,h,i)perylene	ND	6.5	72	150	ND	3.2 J	40	39 J	41	74 J	15 J	ND	ND	*
Bis(2-ethylhexyl)phthalate	ND	.7 JB	17 JB	1.7 JB	ND	ND	ND	ND	ND	ND	ND	ND	ND	49/100
Chrysene	29	20	160	200	4.4 J	4.9 J	78	380	160	330	26	ND	ND	*
Dibenzo(a,h)anthracene	ND	**1.8 J**	ND	**56**	ND	ND	**22**	**19 J**	**19 J**	**27 J**	**5.9 J**	ND	ND	0.66/100
Fluoranthene	130	71	330	310	7 J	7.9	93	730	420	540	35	ND	1.6 J	2300/100
Fluorene	130	53	170	26	ND	.86	16	ND	270	530	43	ND	ND	2300/100
Indeno(1,2,3,-CD)Pyrene	**7.6 J**	**6.2**	**67**	**140**	ND	**2.8 J**	ND	**42 J**	**42**	**80 J**	**9.4**	ND	ND	0.9/500
Naphthalene	**520**	180	**330**	16	ND	1.6 J	8.7 J	**1400**	**1200**	**970**	120	ND	1.8 J	230/100
Phenanthrene	200	160	410	150	4.9 J	5.9	66	1000	840	940	55	ND	2.8 J	*
Pyrene	89	50	270	140	6.7 J	4.9 J	83	750	260	890	92	ND	ND	1700/100
Total PAHs	1455.6	714.2	2658.6	2019.0	33.8	51.33	699.7	6270	4261	6223	556.2	ND	6.2	*
Total Base Neutrals (BN)	1,448 7.6 J	707.7 6.5 J	2,649 9.6 J	2,019 ND	ND 33.8 J	14.7 36.7 J	691 8.7 J	6170 100 J	4,242 19 J	5,600 623 J	473 83.2 J	ND	ND 6.2 J	*
Total Acid Extractables (AE)	8.1	4.7	ND	ND	ND	ND	ND	42	53	ND	ND	ND	ND	*
Total TI Semivolatiles (estimated)	837	3,079	1,397	600	200	109	5,081	4,971	6,300	1,856	437	ND	ND	*

All results reported in Parts Per Million (PPM)
TI = Tentatively identified
ND = Not Detected at Method Detection Limit
(1) RDCSCC Residential Direct Contact Soil Cleanup Criteria
IGWSCC Impact to Groundwater Soil Cleanup Criteria
(2) Values in bold type exceed NJDEP RDCSCC

B = The analyte was found in the blank as well as the sample
J Indicates an estimated value below MDL
* No Current Cleanup Criteria



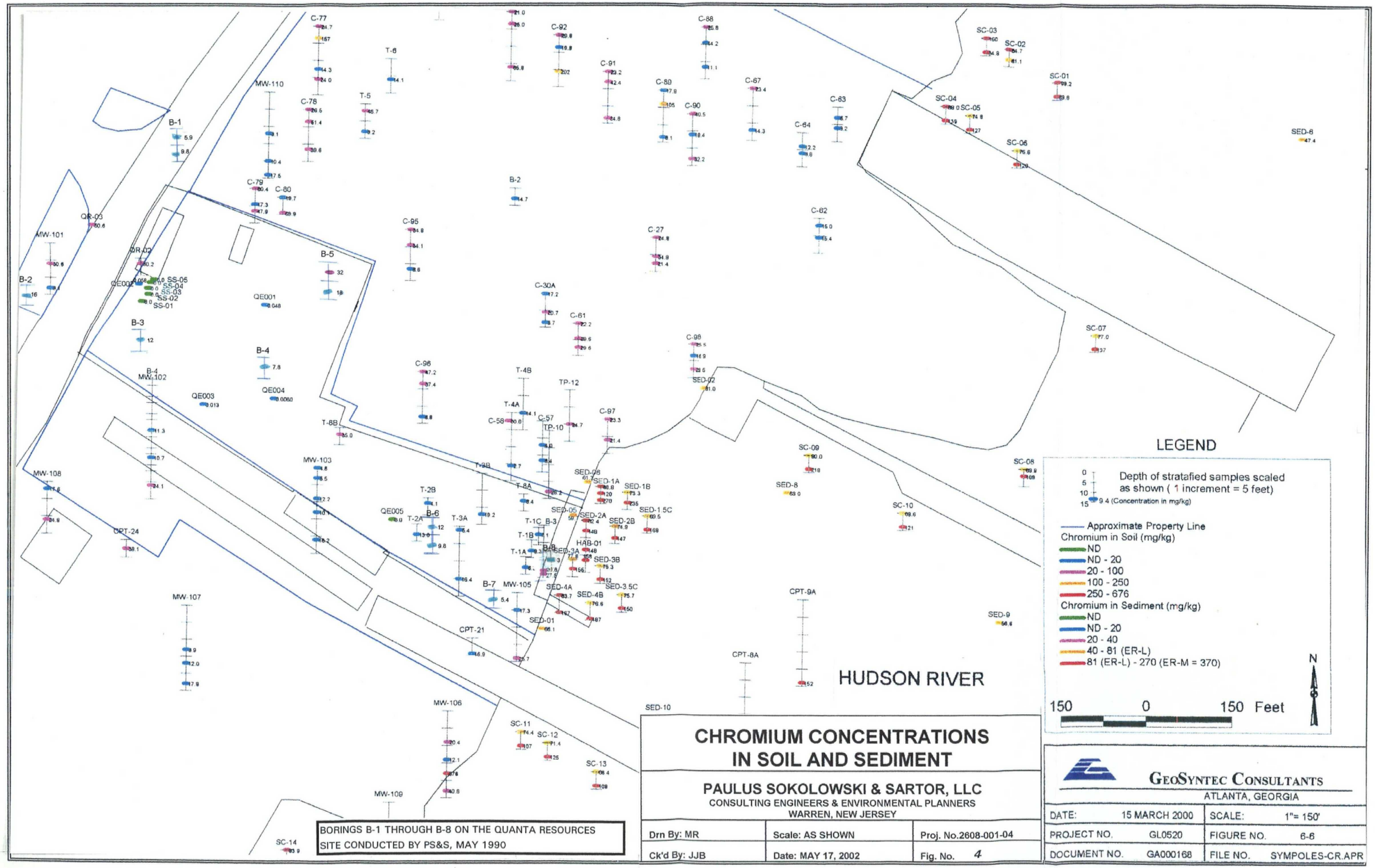
ARSENIC CONCENTRATIONS IN SOIL AND SEDIMENT

PAULUS SOKOLOWSKI & SARTOR, LLC
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NEW JERSEY

Drn By: MR	Scale: AS SHOWN	Proj. No.2068-001-04
Ck'd By: JJB	Date: MAY 16, 2002	Fig. No. 3

GEOSYNTEC CONSULTANTS
ATLANTA, GEORGIA

DATE:	15 MARCH 2000	SCALE:	1"= 150'
PROJECT NO.	GL0520	FIGURE NO.	6-5



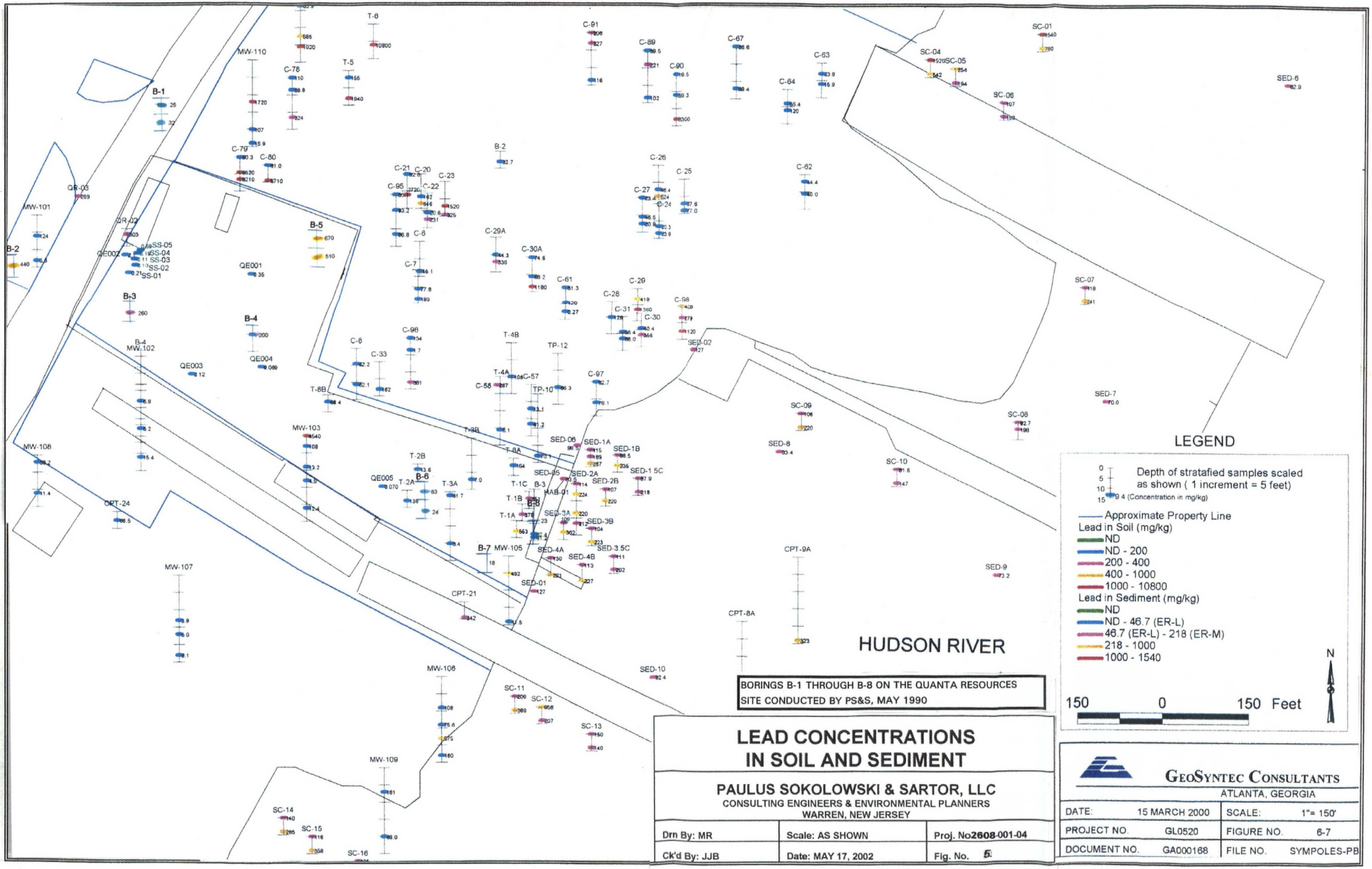
CHROMIUM CONCENTRATIONS IN SOIL AND SEDIMENT

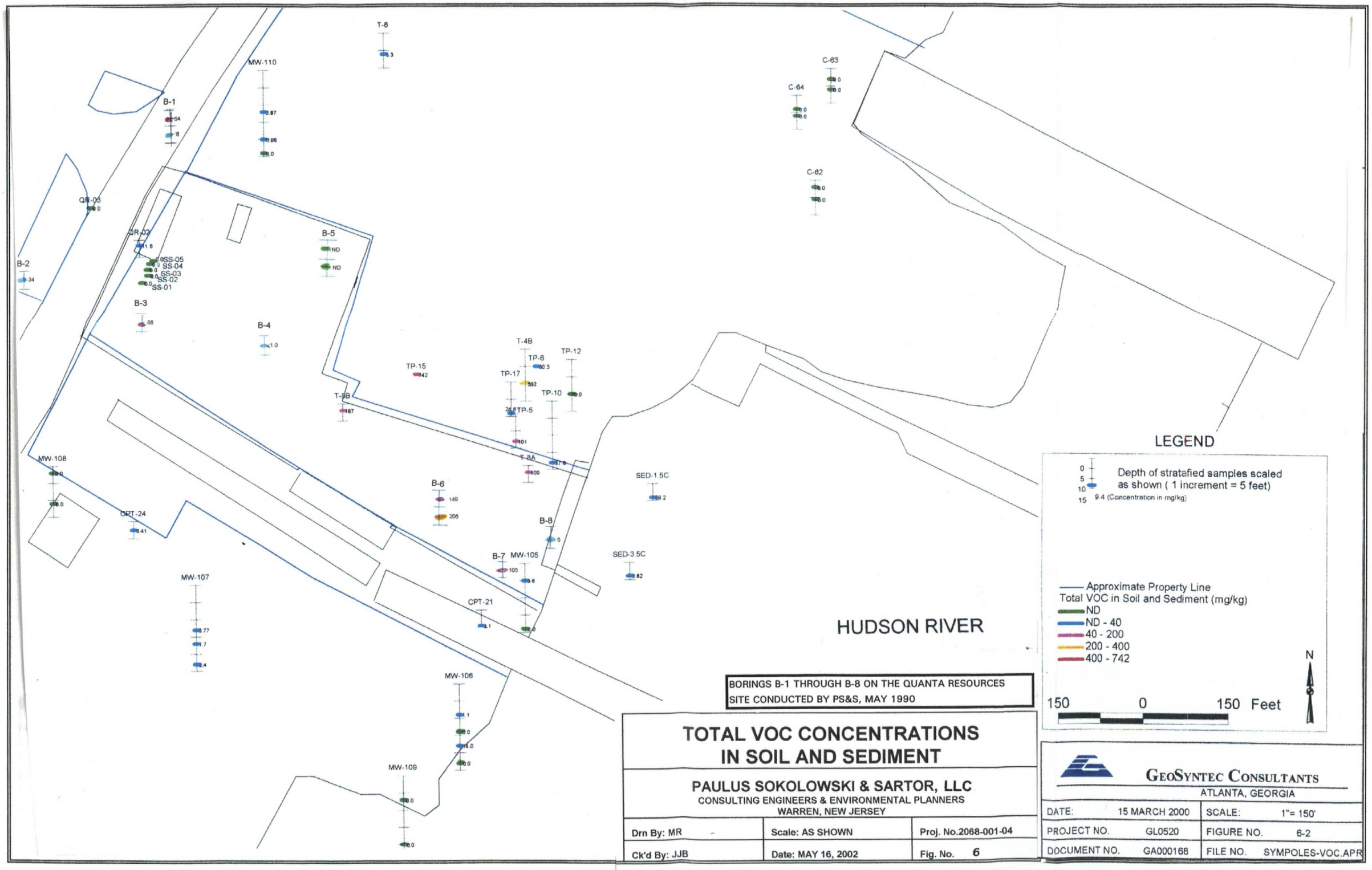
PAULUS SOKOLOWSKI & SARTOR, LLC
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NEW JERSEY

Drn By: MR	Scale: AS SHOWN	Proj. No.2608-001-04
Ck'd By: JJB	Date: MAY 17, 2002	Fig. No. 4

GEOSYNTEC CONSULTANTS
ATLANTA, GEORGIA

DATE:	15 MARCH 2000	SCALE:	1"= 150'
PROJECT NO.	GL0520	FIGURE NO.	6-6
DOCUMENT NO.	GA000168	FILE NO.	SYMPOLES-CR.APR


HUDSON RIVER
LEGEND
Depth of stratafied samples scaled as shown (1 increment = 5 feet)
0
5
10
15
9.4 (Concentration in mg/kg)
Approximate Property Line
Lead in Soil (mg/kg)
ND
ND - 200
200 - 400
400 - 1000
1000 - 10800
Lead in Sediment (mg/kg)
ND
ND - 46.7 (ER-L)
46.7 (ER-L) - 218 (ER-M)
218 - 1000
1000 - 1540
150 0 150 Feet
N
BORINGS B-1 THROUGH B-8 ON THE QUANTA RESOURCES SITE CONDUCTED BY PS&S, MAY 1990
LEAD CONCENTRATIONS IN SOIL AND SEDIMENT
PAULUS SOKOLOWSKI & SARTOR, LLC
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NEW JERSEY
Drn By: MR
Scale: AS SHOWN
Proj. No2608-001-04
Ck'd By: JJB
Date: MAY 17, 2002
Fig. No. 5
GEOSYNTEC CONSULTANTS
ATLANTA, GEORGIA
DATE: 15 MARCH 2000
SCALE: 1"= 150'
PROJECT NO. GL0520
FIGURE NO. 6-7
DOCUMENT NO. GA000168
FILE NO. SYMPOLES-PB



BORINGS B-1 THROUGH B-8 ON THE QUANTA RESOURCES SITE CONDUCTED BY PS&S, MAY 1990

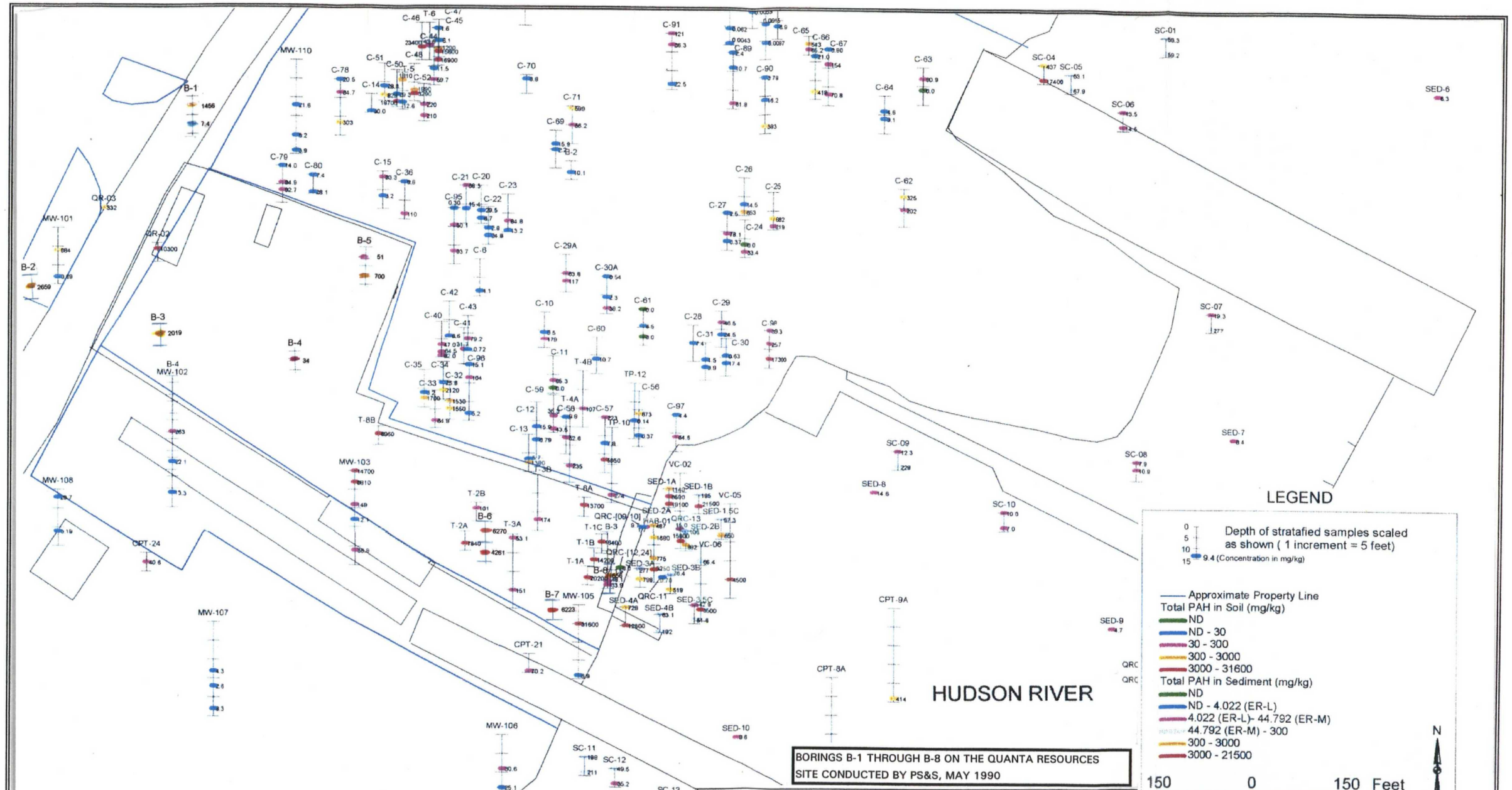
TOTAL VOC CONCENTRATIONS IN SOIL AND SEDIMENT

PAULUS SOKOLOWSKI & SARTOR, LLC
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NEW JERSEY

Drn By: MR	Scale: AS SHOWN	Proj. No.2068-001-04
Ck'd By: JJB	Date: MAY 16, 2002	Fig. No. 6

GEOSYNTEC CONSULTANTS
ATLANTA, GEORGIA

DATE:	15 MARCH 2000	SCALE:	1"= 150'
PROJECT NO.	GL0520	FIGURE NO.	6-2
DOCUMENT NO.	GA000168	FILE NO.	SYMPOLES-VOC.APR



BORINGS B-1 THROUGH B-8 ON THE QUANTA RESOURCES SITE CONDUCTED BY PS&S, MAY 1990

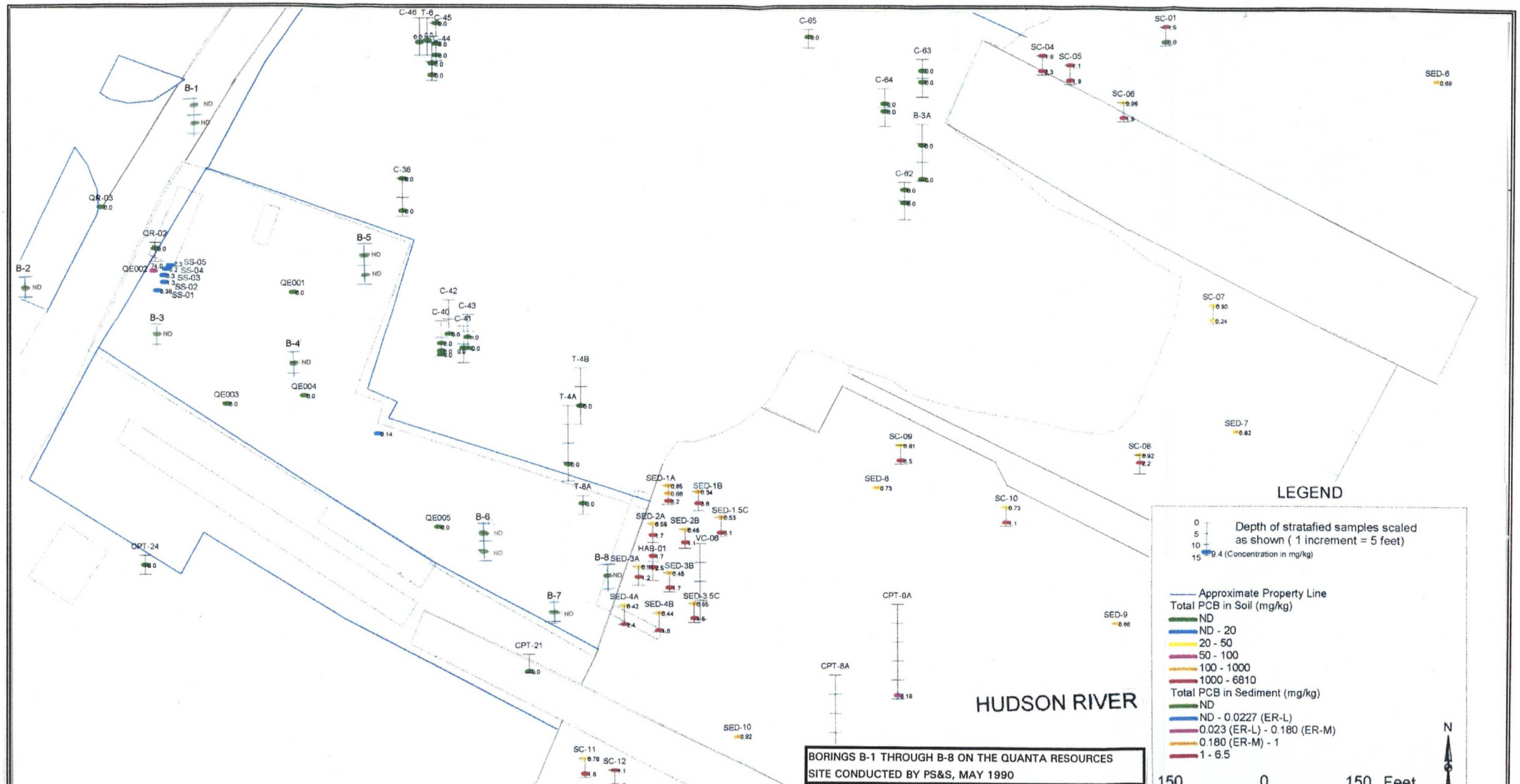
TOTAL PAH CONCENTRATIONS IN SOIL AND SEDIMENT

PAULUS SOKOLOWSKI & SARTOR, LLC
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NEW JERSEY

Drn By: MR	Scale: AS SHOWN	Proj. No.2608-001-04
Ck'd By: JJB	Date: MAY 17, 2002	Fig. No. 7

GEOSYNTEC CONSULTANTS
ATLANTA, GEORGIA

DATE:	15 MARCH 2000	SCALE:	1"= 150'
PROJECT NO.	GL0520	FIGURE NO.	6-3
DOCUMENT NO.	GA000168	FILE NO.	SYMPOLES-PAH.APR



BORINGS B-1 THROUGH B-8 ON THE QUANTA RESOURCES SITE CONDUCTED BY PS&S, MAY 1990

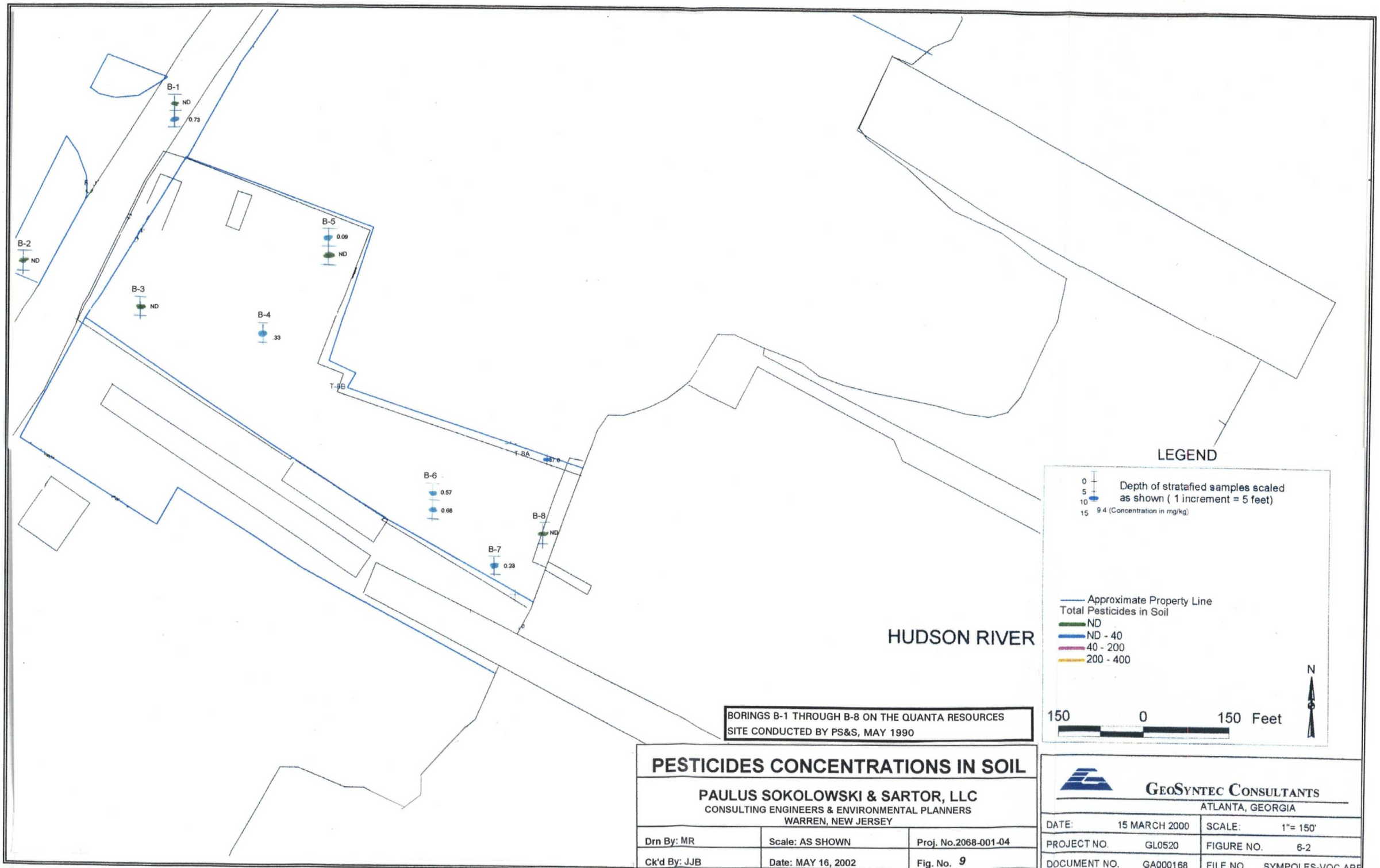
PCB CONCENTRATIONS IN SOIL AND SEDIMENT

PAULUS SOKOLOWSKI & SARTOR, LLC
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NEW JERSEY

Drn By: MR	Scale: AS SHOWN	Proj. No.2068-001-04
Ck'd By: JJB	Date: MAY 16, 2002	Fig. No. 8

GEOSYNTEC CONSULTANTS
ATLANTA, GEORGIA

DATE:	15 MARCH 2000	SCALE:	1"= 150'
PROJECT NO.	GL0520	FIGURE NO.	6-4
DOCUMENT NO.	GA000168	FILE NO.	SYNPOLES-PCB.APR



BORINGS B-1 THROUGH B-8 ON THE QUANTA RESOURCES SITE CONDUCTED BY PS&S, MAY 1990

PESTICIDES CONCENTRATIONS IN SOIL

PAULUS SOKOLOWSKI & SARTOR, LLC
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NEW JERSEY

Drn By: MR	Scale: AS SHOWN	Proj. No.2068-001-04
Ck'd By: JJB	Date: MAY 16, 2002	Fig. No. 9

GEOSYNTEC CONSULTANTS
ATLANTA, GEORGIA

DATE:	15 MARCH 2000	SCALE:	1"= 150'
PROJECT NO.	GL0520	FIGURE NO.	6-2
DOCUMENT NO.	GA000168	FILE NO.	SYMPOLES-VOC.APF

3.2 Volatile Organic Compounds (VOCs)

Benzene was the only VOC reported above NJDEP RDCSCC. The four values reported above the 3 ppm RDCSCC ranged from 4.6 ppm to 19 ppm. These four values were also the only exceedances of the benzene Impact to Groundwater Soil Cleanup Criteria (IGWSCC). The IGWSCC for total xylenes (67 ppm) was also exceeded in both samples obtained from station B-6 (78 and 94 ppm). Estimated concentrations of tentatively identified VOCs (excluding naphthalene reported in sample B2-AS1) ranged from 0.3 ppm to 314.2 ppm.

3.3 Base Neutral Organic Compounds (BNs)

Total BN concentrations greater than 400 ppm were reported from all but one location and were predominantly comprised of polyaromatic hydrocarbons (PAHs). Total BN concentrations at these locations ranged from 473 ppm to 6,170 ppm. Values greater than 1,000 ppm (1,448 to 6,170 ppm) were reported from five locations. Values of the individual PAH parameters typically exceeded the respective RDCSCC (see Table 3).

3.4 Total Petroleum Hydrocarbons (TPHC)

Concentrations of TPHCs significantly above the 10,000 ppm NJDEP Total Organic Constituents (TOC) cleanup criteria were reported from five surface samples obtained from five different locations. TPHC values greater than 10,000 ppm ranged from 11,000 to 38,000 ppm.

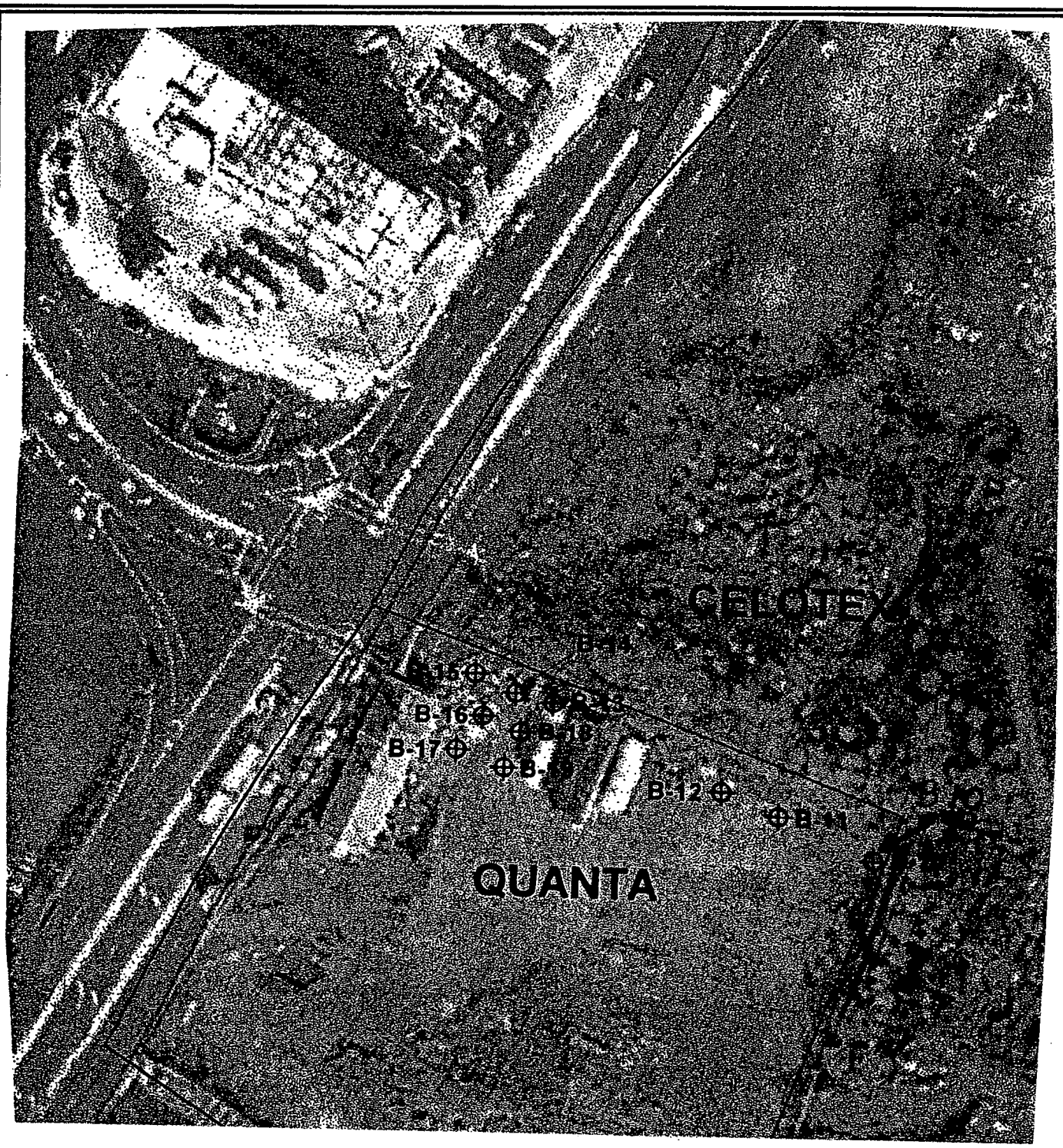
3.5 Pesticides and PCBs

Pesticides were reported in six of the 11 samples. A dieldrin concentration of 0.24 ppm, reported in subsurface sample B1-AS2, was the only value that exceeded NJDEP RDCSCC (0.042 ppm for dieldrin). No PCBs were detected in any of the samples.

4.0 SUMMARY OF JUNE 2000 SOIL SAMPLING DATA

In June 2000, soil sampling was conducted in the northwest corner of the Quanta site in the area bordering the former Celotex site. Eighteen (18) samples were collected from 10 borings located in this area (see Figure 10). Samples were typically collected from 0.5 and 3.5 feet below grade. All 18 samples were analyzed for arsenic; five of these samples were also analyzed for other metals, volatile and semi-volatile organic compounds (VOCs and SVOCs), and PCB/pesticides. The arsenic data is summarized on Table 4. Summaries of all analytical data are included in Appendix B.

Elevated concentrations of arsenic relative to general site conditions were reported from several of the borings (B-10, B-11, B-12 and B-18). Concentrations at these locations ranged from 90 ppm to 35,100 ppm. The more elevated concentrations were typically reported from the subsurface samples. Concentrations of antimony, copper, lead, mercury, thallium, and zinc exceeded RDCSCC in one or more samples. PAHs were reported in significant concentrations, but generally consistent with other site data. No VOCs, PCB, or pesticides were reported above NJDEP RDCSCC or IGWSCC.



SOURCE:
USEPA FILES

SOIL SAMPLING LOCATIONS

JUNE 2000

QUANTA RESOURCES SITE
EDGEWATER, NEW JERSEY

PAULUS SOKOLOWSKI & SARTOR, LLC
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NEW JERSEY

Drn By: ECS	Scale: AS SHOWN	Proj. No. 2608-001-04
Ck'd By: ECS	Date: AUGUST 19TH, 2002	Fig No. 10

TABLE 4 QUANTA SITE SUMMARY OF ARSENIC ANALYTICAL DATA USEPA, JUNE 2000		
Sample Location	**Sample Depth (ft)**	**Arsenic Soil Concentration (mg/kg)**
B-10	0.5	90
B-10	3.5	3440
B-11	0.5	2650
B-11	3.5	35100
B-12	0.5	121
B-12	0.5	130
B-12	3.5	12000
B-13	0.5	379
B-14	0.5	626
B-14	3.5	439
B-15	0.5	250
B-15	3.5	338
B-16	0.5	134
B-16	3.5	1650
B-17	0.5	110
B-17	3.5	393
B-18	0.5	3900
B-19	0.5	12
Source: USEPA Files		

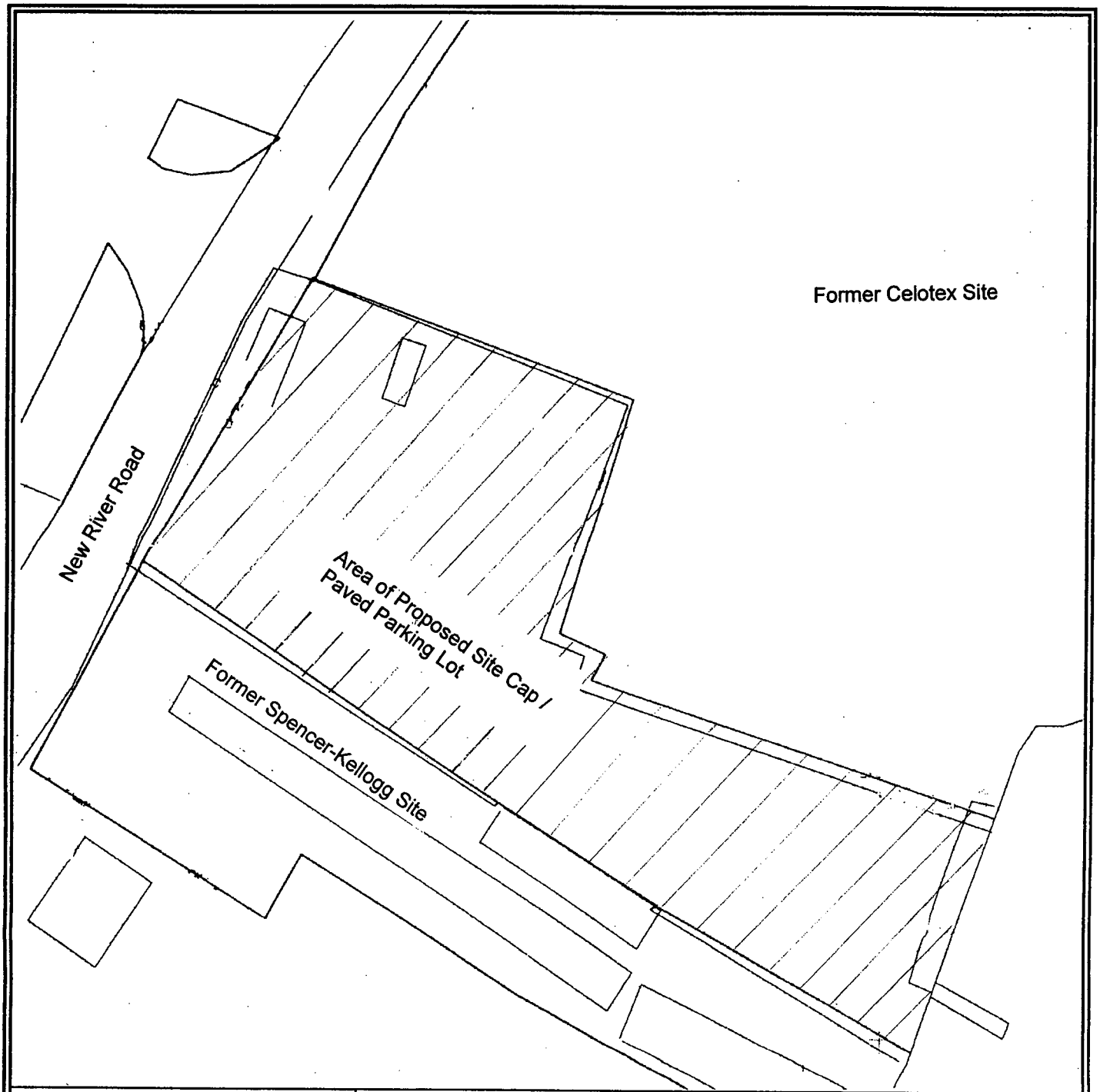
5.0 CONCLUSION

Soil sampling conducted in 1990 entailed the collection of 11 soil samples from eight soil borings located throughout the site. All samples were analyzed for EPA priority pollutants with a 40-peak library search (PP+40) and total petroleum hydrocarbons (TPHC). In terms of both spatial coverage and analytical testing, this additional data significantly augments the available site database and, in conjunction with previously available data, is sufficient to characterize the site for approval of the requested interim removal action (construction of an asphalt cap) and interim use proposal (parking) (see Figure 11). In addition, preliminary review of subsurface conditions, as presented in the Honeywell June 2000 "Removal Site Investigation Report, Quanta Resources Site, Edgewater, NJ", did not identify potential issues of concern associated with the placement of six inches of crushed stone/asphalt over the site as the basis for the site cap.

The analytical results indicate that the primary contaminants of concern (PAHs and petroleum hydrocarbons) are associated with the coal tar and waste oils operations previously conducted at the site. Concentrations of selected metals (arsenic, lead, mercury, thallium, and zinc) above NJDEP RDCSCC were negligible. Only one exceedance of RDCSCC for pesticides (dieldrin at 0.24 ppm) was reported. All PCB analyses were non-detectable.

Significant concentrations of arsenic were subsequently (2000) reported from the northwestern portion of the site bordering the Celotex site. The more elevated concentrations were typically reported from the subsurface samples. Concentrations of antimony, copper, lead, mercury, thallium, zinc and PAHs also exceeded RDCSCC in one or more samples. However, no VOCs, PCBs, or pesticides were reported above NJDEP RDCSCC or IGWSCC.

The proposed interim removal action plan, in conjunction with remedial work that Honeywell intends to implement on the upland portion of the site, will address the human health and environmental risks posed by the contaminants located within the upland portion of the site. Implementation of this proposed interim remedial action would 1) prevent direct contact with contaminated soils and 2) reduce infiltration and generation of contaminated groundwater, and



SOURCE:

AREA OF PROPOSED SITE CAP / PARKING LOT

QUANTA RESOURCES SITE

RIVER ROAD, EDGEWATER, NEW JERSEY

PAULUS SOKOLOWSKI & SARTOR, LLC

CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS

WARREN, NEW JERSEY

Drn By: ECS	Scale: AS SHOWN	Proj. No. 2068-001-004
Ck'd By: JJB	Date: SEPTEMBER 17, 2002	Fig No. 11

discharges to the Hudson River and 3) eliminate concerns regarding odors and potential air emissions emanating from the site.

The proposed interim removal action also satisfies the provisions of applicable relevant and appropriate requirements ("ARARs"), including New Jersey's Brownfields and Contaminated Sites Remediation Act, and NJDEP's Technical Requirements for Site Remediation". These ARARs expressly recognize that it is appropriate to use containment and exposure controls, in conjunction with deed restrictions, to address contamination for properties to be utilized for commercial use.

Moreover, the interim removal action (paving plan) is consistent with the presumptive remedy for the site (and with the approved remedy for the adjacent Celotex site). The objective of the EPA presumptive remedies initiative is to use EPA's past experience at similar sites to streamline site investigations and speed up selection of cleanup actions. According to EPA, "presumptive remedies are expected to be used at all appropriate sites except under unusual site-specific circumstances." In most coal tar sites, the final selected remedy consists of engineering controls comprised of some combination of an impervious cap and subsurface containment systems to control migration of NAPLs and DNAPLs and institutional controls to restrict future uses. These presumptive remedies for the Quanta site have been acknowledged and recommended within EPA as early as 1994 (T. Budrow, June 1, 1994, August 7, 1995).

As noted above, the proposed interim removal action would be consistent with the remedial actions already approved for the adjacent Celotex site in the area just north of the Quanta site. In that area "hotspot "excavation of arsenic greater than 1000 ppm was required in the footprint of planned building 400. The construction of a cap, including geotextile and geomembrane liners, was approved for the remainder of the area, as long as a buffer zone between the building and the area of arsenic contamination was maintained, if needed for construction related to any future groundwater remedial action.

Finally, the capping/paving proposal will have no impact on EPA's ability to complete additional remedial investigations and feasibility studies in connection with contaminated sediments in the

Hudson River or other upland investigations involved with control of NAPL into the Hudson River. Construction of the proposed site cap should actually assist in the evaluation of sheen source areas. While upland source areas for the coal tar seeps and the sheen on the river have been identified, it has not yet been determined if coal tar product in sediment is contributing to sheen development in the river. The extent of the contribution of sediments to the sheen development can be better evaluated once the upland source areas have been addressed.

In conclusion, we believe the enclosed site sampling data is sufficient to address EPA concerns regarding potential site contamination issues not directly associated with the former coal tar and waste oil operations, that the proposed interim removal action and interim use proposals are consistent with EPA and NJDEP policy, and that construction of the site cap would fully address the potential of primary contact with site contaminants, the principal risk posed by the upland portion of the site.

Appendix A

Results of Soil Screening Survey, PS&S, January 1991

ATTORNEY WORK PRODUCT

PRIVILIGED AND CONFIDENTIAL

RESULTS OF SOIL SCREENING SURVEY

FROLA PROPERTY
163 River Road
Edgewater, New Jersey

January 1991

Prepared for:

Clapp & Eisenberg
80 Park Plaza
Newark, New Jersey 07102

Submitted by:

Paulus, Sokolowski and Sartor, Inc.
67A Mountain Boulevard Extension
Warren, New Jersey 07060

Job No. 1368-0001-04

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4.0	SUMMARY AND CONCLUSIONS	15

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Appendix A	Soil Boring Logs
Appendix B	Air Monitoring Data Sheets
Appendix C	Chemical Analysis Reporting Forms Submitted by Accutest

1.0 INTRODUCTION

1.1 General

The Frola property is approximately 8 acres in size and is situated on the west bank of the Hudson River in Edgewater, New Jersey. The site is in an industrial-commercial area, bordered on the north by the Edgewater Associates' property (formerly Celotex Industrial Park); the former Spencer-Kellog site to the south; and River Road, a primary commercial thoroughfare, to the west (Figure 1.)

The Allied Chemical Corporation operated a coal tar processing plant at this location from 1918 to 1971. The property was sold to James V. Frola on March 18, 1974; Albert Von Dohln later became a part owner with Mr. Frola. A series of companies then leased the property for the purpose of oil storage and recycling.

In May 1990, Paulus, Sokolowski and Sartor, Inc. (PS&S) was authorized to conduct a preliminary soils survey to determine if evidence of significant environmental contamination, that may be due to past uses of the site, was present in the near-surface soils. This initial survey entailed the collection of eleven soil samples from a total of eight soil borings for chemical analysis of USEPA Priority Pollutants (PP+40) and total petroleum hydrocarbons (TPHC). A summary of the soil sampling and chemical analyses conducted in may 1990 is contained herein.

1.2 Site Background

Information regarding general site background, including past ownership and use, contamination investigations and remedial activities was provided by Clapp & Eisenberg, counsel to Mr. James Frola. A brief summary of pertinent documents is provided below.

The Allied Chemical Corporation (now Allied Corporation) and its predecessor companies previously operated a coal tar processing plant at this location. According to Allied Chemical Corp. documents, the Edgewater plant was started in 1918 and was shut down in May 1971 "due to naphthalene

SOURCE:
U.S.G.S. TOPOGRAPHIC MAPS
7.5. MINUTE SERIES
CENTRAL PARK, NJ/NY QUAD
WEEHAWKEN, NJ/NY QUAD

SITE LOCATION MAP
FROLA PROPERTY
EDGEWATER, NEW JERSEY

PAULUS, SOKOLOWSKI & SARTOR INC.
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
67A MOUNTAIN BLVD. EXT., WARREN, NJ 07060

Drn. By: M.R.	Scale: as shown	Proj. No. 1368-001-04
Ck'd By: J.B.	Date: 7/30/90	Fig. No. 1

price deterioration and creosote market considerations" (E.J. Korbel, 5/20/74). Plans were made to utilize the location as a creosote terminal after manufacturing operations were discontinued, but it is unclear whether those plans were actually implemented.

Gaess Environmental Service Corp (GES) leased 11 tanks on the southeast corner of the site from October 15, 1974 to October 15, 1975. GES was apparently utilizing these tanks for oil storage at the time of the property purchase by Mr. Frola in 1974. On May 13, 1977 the Dublin Equipment Corporation signed a five year lease and Energy Recovery Procedures Corporation (ERP) was designated as tenant. On July 14, 1978, ERP assigned its lease to Edgewater Terminals, Inc. and on July 15, 1980, Edgewater Terminals assigned its lease to Quanta Resources Corp.

Operations ceased at the site in July 1981, at the direction of the New Jersey Department of Environmental Protection (NJDEP), which issued a formal order to cease operations in October 1981. Quanta Resources Corporation filed for reorganization as per Chapter 11 of the Bankruptcy Code and, in November 1981, the Chapter 11 Petition was converted into a Chapter 7 liquidation.

The site contained 61 above-ground storage tanks with a storage capacity of approximately 9 million gallons. Large quantities of chemically contaminated waste oil, oil sludges, tar, asphalt, process water, and coal tar by-products were abandoned in the tanks. At the time of the United States Environmental Protection Agency (EPA) Immediate Removal Action in April 1983, approximately 100 drums containing oils, sludges, contaminated absorbent materials, debris and uncharacterized materials were also staged within the facility (USEPA On-Scene Coordinator's Report, 3/31/88).

In addition, material spills, explosions and other environmental incidents occurred during the Allied Corp. ownership of the property. The following incidents were documented in Allied correspondence relating to this facility.

On July 31, 1968 an explosion and resultant fire occurred

at the #3 Pitch receiver. Approximately 8,000 gallons of hot pitch (660° F) spilled. The cause was presumed to be due to a rapid pressure increase due to addition of water to the hot pitch (H.J. Goebbert, et al., 8/6/68).

A spill of an undocumented volume of carbolic oil occurred on December 31, 1969 (R.L. Fawcett, 1/15/70).

Three thousand gallons of creosote oil spilled into the site storm sewer and entered the Hudson River on January 5, 1970.

A property loss prevention report by Marsh & McLennon dated September 16, 1970 noted that "Tank #29 was destroyed in a fire (Feb. 1970) caused by an oil leak on a tank car that was ignited by a propane torch during unloading operations which spread to the tank supports which buckled due to the heat".

Notes of R.B. Rosener to B.T. McMillan (4/24/70) indicated that housekeeping standards "had slipped considerably" during the winter. In addition, water and ground oils from the northwest tank farm had laid stagnant on the ground and had overflowed on streets. Leak control was noted as only fair and an abatement program was in progress "trying to reverse 65 years of bad habits". May 26, 1970 correspondence from B.T. McMillan indicated that funding for curbing and sewer lines to provide a more long term solution to this problem had not been approved.

Allied documents indicated that major water and air pollution control violations had also occurred at the facility and that significant environmental issues needed to be addressed in the years immediately prior to the cessation of Allied operations at this location. These included the following:

R.L. Fawcett (3/20/70) noted that an NJDEP consent order dated February 7, 1969 required Allied to implement an air pollution abatement program, with compliance due July 1, 1969. In addition, it was noted that "odors from 30 Series and Fibre Coolers remain excessive and state will start receiving specific complaints this spring and summer unless abatement is effected". A.J. Frank (3/26/70) described the history of air pollution abatement (particularly odors) as "dismal", with state files as old as 10-15 years.

January 15, 1970 correspondence from R.L. Fawcett noted that "enforcement actions have materialized and abatement of oils and phenols (BOD) will be required, apparently this year". Included in the anticipated requirements were installation of spill protection facilities including the dock area, emergency containment and pumping of the save-all contents, and drainage of all tank areas to the separator. It was also noted that to produce "an effluent quality of the residual drainage from process areas satisfactory to the State a significant improvement in plant operations re control of oil spills, leaks, losses to and through the oil-water separator will be required".

Draft correspondence from B.T. McMillan (4/20/70) noted that Allied was charged by the State of New Jersey for discharging industrial wastes and other polluting matter into the Hudson River in violation of R.S. 58:12-2 and with violation of Chapter 6 Section 2.1 of the New Jersey Air Pollution Control code relating to nuisance odor complaints in the neighborhood above the plant.

In an April 24, 1970 correspondence, B.T. McMillan observed that "there is attendant plant problem with operational, maintenance and housekeeping performance that directly affects plant's capacity to meet regulatory

control requirements and enforcement. Until this is reversed, I doubt that the plant will effectively meet regulatory requirements". In an additional April 20, 1970 correspondence, preliminary process wastewater characteristics for COD (22,000 ppm), BOD (12,300 ppm) and phenols (5,400 ppm) were noted.

A November 19, 1970 memorandum from R.B. Rosener stated that a complaint concerning odors was received from a resident of North Bergen that night. As a result, the blend tank was not to be used without his permission.

Concerns regarding environmental and health conditions at the site continued after the sale of the property to Mr. Frola. An August 10, 1977 memorandum by A. Davies of Allied described a visit to the site by Mr. Davies and Mr. Rosener and Mr. Pat Job of ERP. Mr. Davies noted that "there were a number of potentially hazardous situations in the environmental and industrial areas". His observations included:

The "SAV-ALL" was very oily and there was the potential for this oil to make its way to the Hudson River. The oil did not appear to be coal tar oil.

The former solvent tank farm was very oily and although diked, there was a hole in the dike about a foot from the bottom which allowed oil to run out onto the adjacent land.

The boiler house floor was covered with an oil spill.

The barrelling dock was covered with tar as a result of some drums of tar which had rusted and run over the dock.

There were a number of areas where oil was lying on the ground and could be carried to the river in the event of a heavy rainstorm.

It was noted that ERP had cleaned 18 tanks to date. Mr. Coari, the former Superintendent of Operations at the

Edgewater Plant also had talked to Mr. Job about safety aspects of handling coal tar products.

The U.S. Coast Guard (USCG) monitored the site from 1979 through 1981. Reports documenting these visits noted the effectiveness of a containment boom along the Hudson River waterfront to prevent oil from entering the river. A USCG report documented a "pollution incident" on January 12, 1979. The report noted that oil extended from just north of Newtown Refinery 1/8 mile south of Lever Brothers and that approximately 75-100 gallons of oil had escaped from the containment boom.

The NJDEP, Bureau of Hazardous Waste, also documented numerous inspections of the facility in 1980 and 1981. These reports noted numerous releases from tanks, lines and vehicles on-site and cleanup actions being undertaken. A report dated 3/12/81 noted that oil and oily sludges covered an area approximately 20' x 50' in the A-tank farm. A report dated 5/4/81 noted that pools of oil, and oil and standing water covered areas approximately 100' x 15' and 25' x 15' in the south section of the A-tank farm. This was attributed to the overflow of tank B-12.

The landowners hired a cleanup contractor, Bayview Environmental Services, in December of 1982. "Between that time and the summer of 1983, the contractor tended to small spills, maintained the containment boom, dismantled sections of transfer lines, installed emergency clay diking, constructed an overland discharge line from the separator to the Hudson River and arranged for the disposal of 200,000 gallons of contaminated water from a leaking facility tank. About 776,000 gallons of oil were removed from the site during 1982 through early 1983, while approximately 214,500 gallons of oil and 107,500 gallons of contaminated water were removed from July 1984 through January 1985 (USEPA On Scene Coordinator's Report, 3/31/88).

The EPA also noted that many of the aboveground storage tanks had developed extensive rust around seams and valves. Many leaks had developed at tank seams, valves and transfer lines and that most of the larger tanks on site had either no roofs or partially collapsed wooden roofs. In addi-

tion, drainage from the facility resulted in a chronic release of oil into the Hudson River as documented by the USCG, the NJDEP and the EPA.

From September 1984 through March 1985, the EPA, the owners of the property, and representatives of other Potentially Responsible Parties (PRPs) attempted to negotiate a plan to initiate cleanup of the facility. Since these initial negotiations were unsuccessful, the EPA initiated an "Immediate Removal Action" on April 3, 1985. From April 3, 1985 to September 25, 1985 the EPA supervised the removal and disposal of approximately 2.45 million gallons of waste solids, oils, and aqueous (USEPA On Scene Coordinator's Report, 3/31/88).

An inventory of materials removed from the site indicates that approximately 4.05 million gallons of wastes were removed by Allied from November 1985 through September 1988 (Manifest and Recycling Inventories, USEPA, undated). The estimated volume (gallons) of wastes removed by the landowner, the EPA, and Allied, is summarized below:

Material	Land Owner	USEPA	Allied
Solids	---	19,985	513,756
Oils	990,500	9,360	901,789
Aqueous	307,500	2,420,629	548,658
Naphthalene	---	---	42,659
Coal Tar	---	---	1,531,202
PCB Oils	---	---	308,790
Soils	---	---	200,636
	1,298,000	2,449,974	4,047,490

2.0 FIELD INVESTIGATION

2.1 Soil Sampling Program

A field investigation was conducted by PS&S on May 21 and 22, 1990. Eight locations were selected for soil sampling and are depicted on Figure 2. Soil borings were conducted at each location utilizing a truck-mounted drill rig and hollow stem auger drilling techniques. Soil samples were collected from the one-foot to three-foot depth interval at each boring location and from the four-foot to six-foot depth interval at boring locations B-1, B-5, and B-6. A total of 11 soil samples were acquired for chemical analysis.

2.2 Soil Characteristics

Visual classification of all samples was recorded by PS&S representatives in the field using the Unified Soil Classification System (see Appendix A for logs of soil borings). Also noted was the presence of any visible contamination. The initial stratum was generally comprised of fill material and ranged from the surface to approximately 5.5 to 6.0 feet deep. This fill material typically consisted of silts, sands, gravels, and cinders which were dark grey to black in color. This material typically had a strong petroleum-like odor and appeared to contain petroleum-like liquid and solid fractions. Oily sheens were also visible on the exposed soil surfaces. These materials appeared to be a heavy weight, free petroleum product and/or a coal tar material.

An organic clayey-silt layer was encountered below the fill material in borings B-1, B-5, and B-6. This material appeared to be derived from the Hudson River as bank deposits and typically had a slight petroleum-like odor. However, no visual signs of contamination in this material were observed.

2.3 Air Monitoring

Ambient air, the boreholes, and the analytical soil samples themselves were monitored with an HNu photoionization detector (10.2ev.). The soil sample organic vapor levels ranged from 0 to 30 ppm, while organic vapor levels within the boreholes ranged from 0 to 10 ppm. No organic vapor levels above background (0.2 ppm) were measured in the ambient air (workzone). Air monitoring data sheets are located in Appendix B.

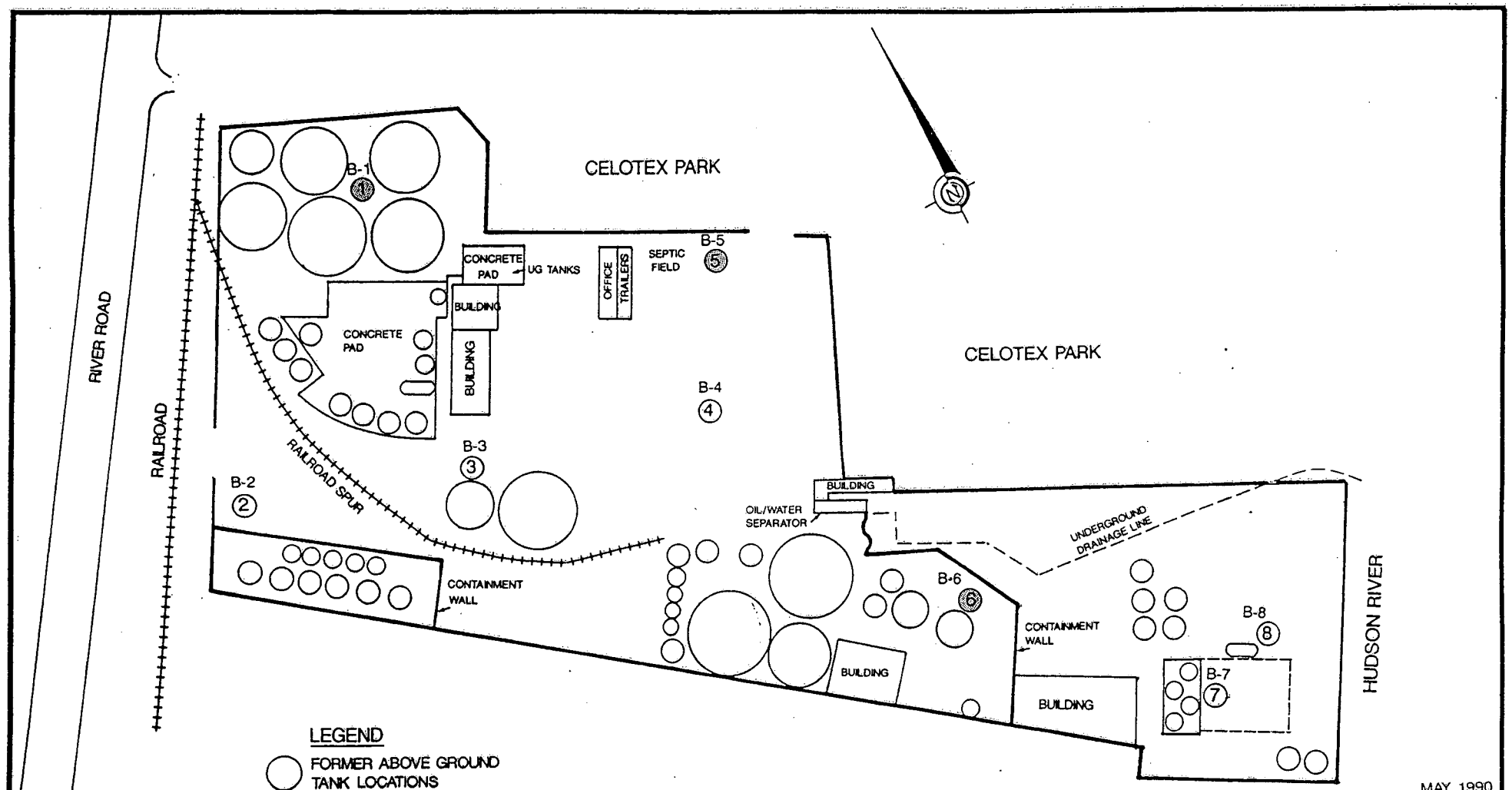
2.4 Quality Assurance and Quality Control

The drill rig, augers and rods were steam cleaned prior to initiating on-site drilling and before beginning each new boring. Soil samples were obtained with a two-inch split-spoon sampler. The split-spoon sampler was decontaminated prior to acquiring each sampling interval in accordance with the procedures set forth in Table 3-1 of the NJDEP Field Sampling Procedures Manual, Feburary 1988. The sampling equipment was decontaminated in the following manner:

1. Thorough scrub and washing with alconox soap solution and tap water;
2. Rinse with tap water, then distilled/deionized water;
3. 10% nitric acid rinse;
4. Rinse with tap water, then distilled/deionized water;
5. Wipe with pesticide grade acetone;
6. Allow to dry thoroughly;
7. Final rinse with distilled/deionized water.

PS&S representatives wore disposable gloves during the sampling operation. Gloves were changed following the acquisition of each sample to prevent cross-contamination between samples.

All soil samples were placed in laboratory-provided glass sample jars with protective Teflon seal lids. Sample information was recorded on a standard chain-of-custody document and the samples were placed in an iced cooler and transported to Accutest, an NJDEP certified laboratory.



MAY 1990

SOIL SAMPLING LOCATIONS
FROLA PROPERTY
163 RIVER ROAD, EDGEWATER, NJ

PAULUS, SOKOLOWSKI & SARTOR INC.
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NJ

Drn. By: M.R.	Scale: no scale	Proj. No. 1368-001-04
Ck'd By: J.B.	Date: 6/26/90	Fig. No. 2

TABLE 1

FROLA PROPERTY

Summary of Laboratory Analytical Data - Accutest

Metals, Phenolics, Petroleum Hydrocarbon and Pesticide / PCB Analysis of Soils

May, 1990

Sample No.	B1-AS1	B1-AS2	B2-AS1	B3-AS1	B4-AS1	B5-AS1	B5-AS2	
Depth (ft)	1-3.0'	4-6.0'	1-3.0'	1-3.0'	1-3.0'	1-3.0'	4-6.0'	NJDEP/ECRA
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	Guideline
ANTIMONY	.34	<0.10	1.0	2.3	2.1	5.5	1.4	10
ARSENIC	3	3.9	12	53	73	190	310	20
BERYLLIUM	0.73	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1
CADMIUM	<1.0	<1.0	2.1	1.2	<1.0	3.0	1.2	3
CHROMIUM	5.9	9.8	16	12	7.8	32	18	100
SELENIUM	1.1	0.64	0.79	0.84	1.3	3.8	1.7	4
COPPER	37	15	58	170	110	250	87	170
SILVER	<3.0	<3.0	<3.0	<3.0	<3.0	4.1	<3.0	5
LEAD	25	32	440	260	200	670	510	250-1000
THALLIUM	<0.10	0.17	0.33	0.83	0.77	2.4	1.4	5
MERCURY	<0.10	0.29	23	0.61	2.7	15	2.9	1
NICKEL	4.6	8	53	11	9.7	46	13	100
ZINC	64	40	250	1800	110	110	110	350
CYANIDE	<.50	<.50	<.50	<.50	3.2	<.50	1.4	12
PHENOLICS, TOTAL	16	16	18	75	5.0	4.6	5.0	*
TPHC	1,300	710	38,000	11,000	6,000	390	550	100
PESTICIDES / PCBs	ND / ND	.73 / ND	ND / ND	ND / ND	.33 / ND	.09 / ND	ND / ND	* / 5

All results reported in Parts Per Million (PPM)

TI = Tentatively Identified

ND= Not Detected At Method Detection Limit

B= The analyte was found in the blank as well as the sample.

J Indicates an estimated value.

* No current action level guideline

TABLE 1 (CON'T)
FROLA PROPERTY
Summary of Laboratory Analytical Data - Accutest
Metals, Phenolics, Petroleum Hydrocarbon and Pesticide / PCB Analysis of Soils
May, 1990

Sample No.	B6-AS1	B6-AS2	B7-AS1	B8-AS1	FB-1	FB-2	
Depth (ft)	4.5-5.0'	0.0-0.5'	0.0-0.5'	0.0-0.5'	--	--	NJDEP/ECRA
Sample Type	SOIL	SOIL	SOIL	SOIL	WATER	WATER	Guideline
ANTIMONY	.25	<0.10	<0.10	<0.10	<.001	<.001	10
ARSENIC	6.8	5.4	2.2	1.4	<.001	<.001	20
BERYLLIUM	<0.50	0.54	<0.50	<0.50	<.005	<.005	1
CADMIUM	<1.0	<1.0	<1.0	<1.0	<.01	<.01	3
CHROMIUM	12	9.8	5.4	3	<.025	<.025	100
SELENIUM	1.1	0.25	0.58	0.46	<.001	<.001	4
COPPER	66	8.1	25	8.6	<.02	<.02	170
SILVER	<3.0	<3.0	<3.0	<3.0	<.03	<.03	5
LEAD	83	24	18	23	<.005	<.005	250-1000
THALLIUM	<0.10	0.14	0.39	<0.10	<.001	<.001	5
MERCURY	0.39	<0.10	0.22	0.2	<.001	<.001	1
NICKEL	39	11	<4.0	6.1	<.04	<.04	100
ZINC	160	38	10	32	<.05	<.05	350
CYANIDE	2.6	<.50	<.50	<.50	<.01	<.01	12
PHENOLICS, TOTAL	31	91	280	7.5	<.05	<.05	*
TPHC	12,000	3,200	110	37,000	ND	ND	100
PESTICIDES / PCBs	.573 / ND	.679 / ND	.226 / ND	ND / ND	ND / ND	ND / ND	* / 5

All results reported in Parts Per Million (PPM)
TI = Tentatively Identified
ND= Not Detected At Method Detection Limit

B= The analyte was found in the blank as well as the sample.
J Indicates an estimated value.
* No current action level guideline

concentration of 2.7 ppm were reported above the respective ECRA guidelines of 20 ppm and 1.0 ppm. Finally, a mercury value of 23 ppm was reported at location B-2. This concentration was the highest concentration of mercury reported for these analytical samples. A lead value of 440 ppm was also reported at that location.

Cyanide concentrations were uniformly below the 12 ppm ECRA guideline; values ranged from less than 0.5 ppm to 3.2 ppm.

3.2 Organic Analyses

3.2.1 Volatile Organic Compounds (VOC)

The reported priority pollutant VOC concentrations exceeded the ECRA guideline of 1 ppm at all locations, with the exception of location B-4 (0.49 ppm). Values above the ECRA guideline ranged from 5.38 ppm to 205 ppm. Locations where values were most elevated included B-1 (53.82 ppm), B-2 (33.8 ppm), B-3 (68.1 ppm), B-6 (149.1 ppm and 205 ppm) and B-7 (105.4 ppm). See Table 2 for a summary of VOC analytical data.

The individual compounds reported included benzene, ethylbenzene, toluene, m-xylene and p,o-xylene. Benzene and toluene were not reported at location B-2, while a trace of trichloroethylene (0.54 ppm) was reported from location B-8. Although the xylenes tended to be the dominant or co-dominant compounds, the concentrations of these five VOCs were relatively evenly distributed at the individual locations (Figure 3).

Tentatively identified VOCs were also reported at each location through a laboratory library search of non-priority pollutant compounds. Estimated concentrations ranged from 0.03 ppm to 1,326.2 ppm. Estimated concentrations greater than 100 ppm were reported from all locations with the exception of locations B-4, B-5, and B-8. An estimated concentration of 1,326.2 ppm was reported from location B-2. Compounds tentatively identified, and their estimated concentrations, are listed in Table 3. The estimated concentrations of tentatively identified VOCs are plotted together with the reported concentrations of priority pollutant VOCs, by location, on Figure 4.

TABLE 2
FROLA PROPERTY
Summary of Laboratory Analytical Data - Accutest
Volatile Organic Compound Analysis of Soils
May, 1990

Sample No.	B1-AS1	B1-AS2	B2-AS1	B3-AS1	B4-AS1	B5-AS1	B5-AS2
Depth (ft)	1-3.0'	4-6.0'	1-3.0'	1-3.0'	1-3.0'	1-3.0'	4-6.0'
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Date	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90
BENZENE	0.72	0.11	ND	4.6	ND	ND	ND
ETHYLBENZENE	11	1.5	4.1	20	ND	ND	ND
TOLUENE	5.1	0.95	ND	6.7	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND
m-XYLENE	19	2.8	3.7	3.8	0.14	ND	ND
p,o-XYLENE	18	2.7	26	33	0.35	ND	ND
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TOTAL VOLATILE ORGANICS	53.82	8.06	33.8	68.1	.49	ND	ND
TOTAL TI VOLATILE ORGANICS	314.3	35.16	1,326.2	223.9	3.8	2.3	.03

All results reported in Parts Per Million (PPM)
TI: Tentatively Identified
ND: Not Detected At Method Detection Limit
NJDEP ECRA Priority Pollutant VOC Guideline = 1.0 ppm

TABLE 3
FROLA PROPERTY
Summary Of Library Search
Volatile Organic Compounds in Soils
May, 1990

Sample No.	B1-AS1	B1-AS2	B2-AS1	B3-AS1	B4-AS1	B5-AS1	B5-AS2	B6-AS1	B6-AS2	B7-AS1	B8-AS1
Depth (ft)	1-3.0'	4-6.0'	1-3.0'	1-3.0'	1-3.0'	1-3.0'	4-6.0'	4.5-5.0'	0.0-0.5'	0.0-0.5'	0.0-0.5'
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Date	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/22/90	5/22/90	5/22/90	5/22/90
2-PROPANONE	.065	--	--	--	--	--	.03	--	--	--	--
BENZENES	16.22	1.3	24	20	1.1	--	--	22	299	136.9	.48
1H-IDENE,2,3-DIHYDRO	280	32	190	200	--	--	--	250	540	--	7.3
BENZOFURAN	18	1.7	--	--	--	--	--	7.7	--	12	--
UNKNOWNS	--	.16	--	3.9	.636	2.3	--	3.2	--	--	--
2-HEXANE,2,5 DIMETHYL	--	--	3.9	--	--	--	--	--	--	--	--
CYCLOHEXANE	--	--	3.5	--	--	--	--	--	--	--	--
CYCLOPENTANE	--	--	4.8	--	--	--	--	--	--	--	--
NAPHTHALENE	--	--	1,100	--	--	--	--	--	--	--	--
4-CARENE	--	--	--	--	2.1	--	--	--	--	--	--
1,3,6-OCTATRIENE, - 3,7-DIMETHYL	--	--	--	--	--	--	--	2.1	--	--	--
BENZALDEHYDE,4-METHYL	--	--	--	--	--	--	--	--	--	--	1.1
TOTAL	314.29	35.16	1326.2	223.9	3.8	2.3	.03	285	839	148.9	8.88

All results reported in Parts Per Million (PPM)

TABLE 2 (con't)
FROLA PROPERTY
Summary of Laboratory Analytical Data - Accutest
Volatile Organic Compound Analysis of Soils
May, 1990

Sample No.	B6-AS1	B6-AS2	B7-AS1	B8-AS1	FB-1	FB-2	TB-1
Depth (ft)	4.5-5.0'	0.0-0.5'	0.0-0.5'	0.0-0.5'	--	--	--
Sample Type	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER
Date	5/22/90	5/22/90	5/22/90	5/22/90	5/21/90	5/22/90	5/21/90
BENZENE	8.1	19	11	0.09	ND	ND	ND
ETHYLBENZENE	38	50	9.4	2.5	ND	ND	ND
TOLUENE	25	42	31	0.17	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND	0.54	ND	ND	ND
m-XYLENE	37	45	25	0.48	ND	ND	ND
p,o-XYLENE	41	49	29	1.6	ND	ND	ND
	---	---	---	---	---	---	---
TOTAL VOLATILE ORGANICS	149.1	205	105.4	5.38	ND	ND	ND
TOTAL TI VOLATILE ORGANICS	285	839	148.9	8.88	ND	ND	ND

All results reported in Parts Per Million (PPM)
TI: Tentatively Identified
ND: Not Detected At Method Detection Limit
NJDEP ECRA Priority Pollutant VOC Guideline = 1.0 ppm

FIGURE 3

VOLATILE ORGANIC CONSTITUENTS IN SOILS

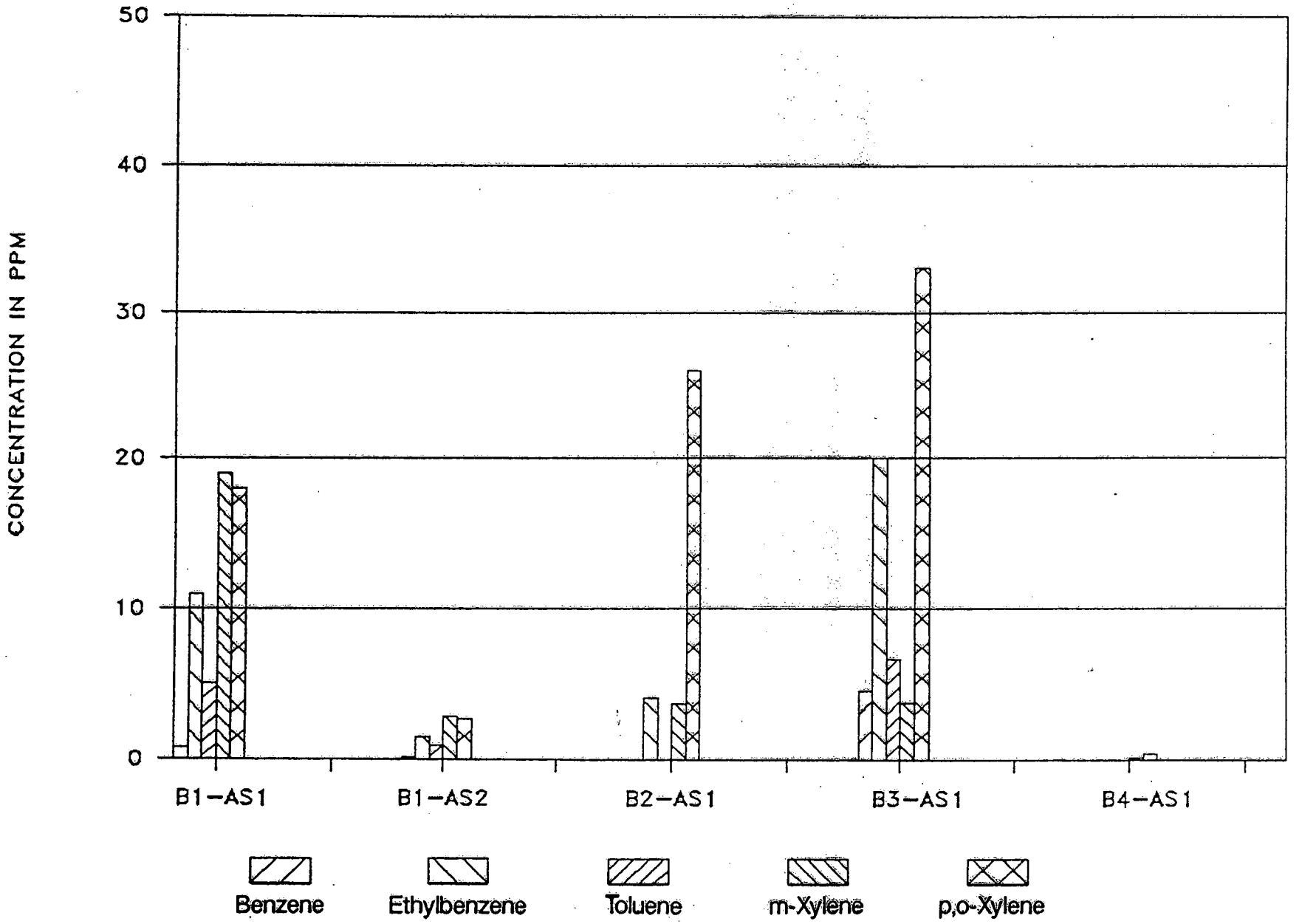


FIGURE 3 (CONT.)

VOLATILE ORGANIC CONSTITUENTS IN SOILS

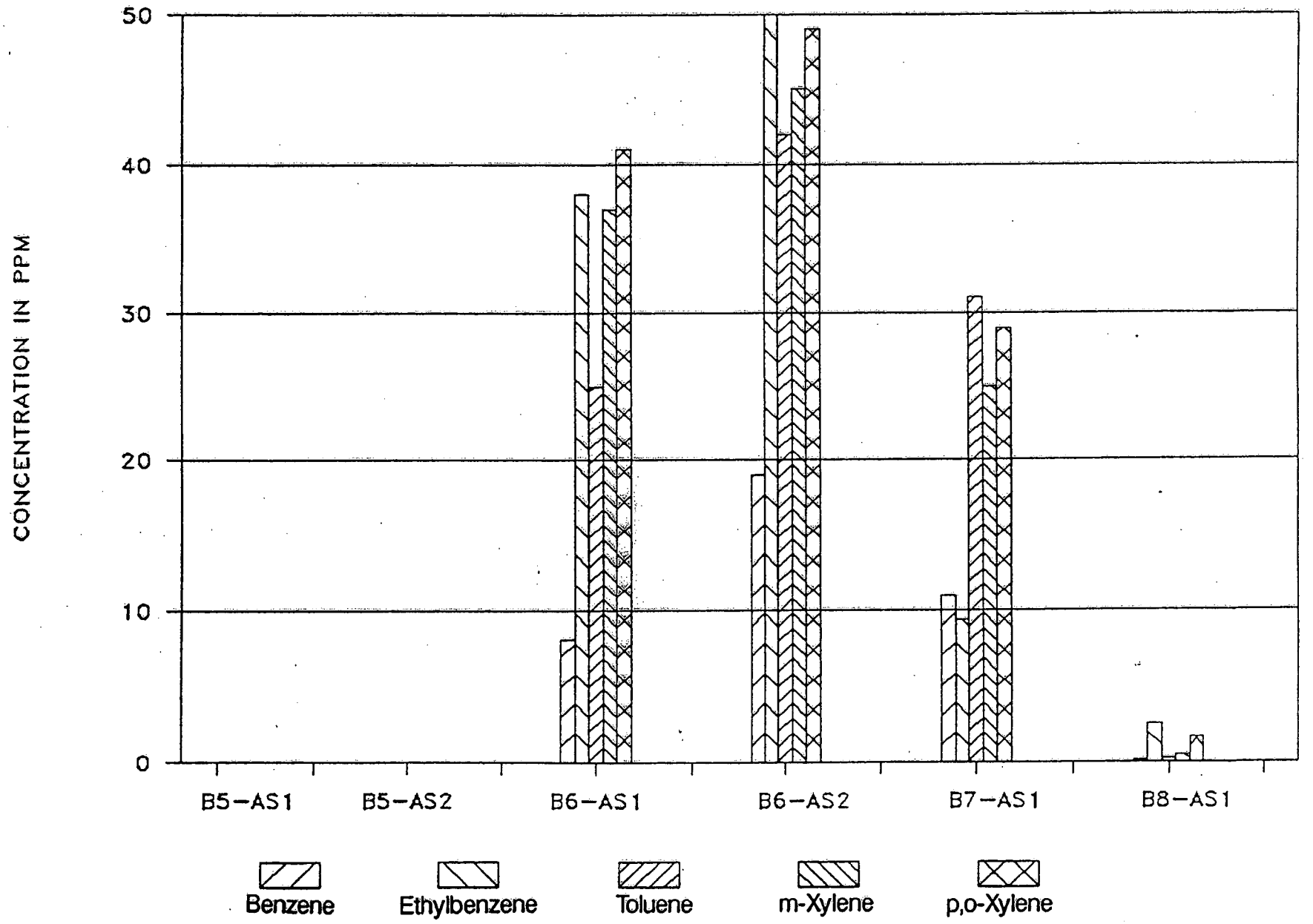
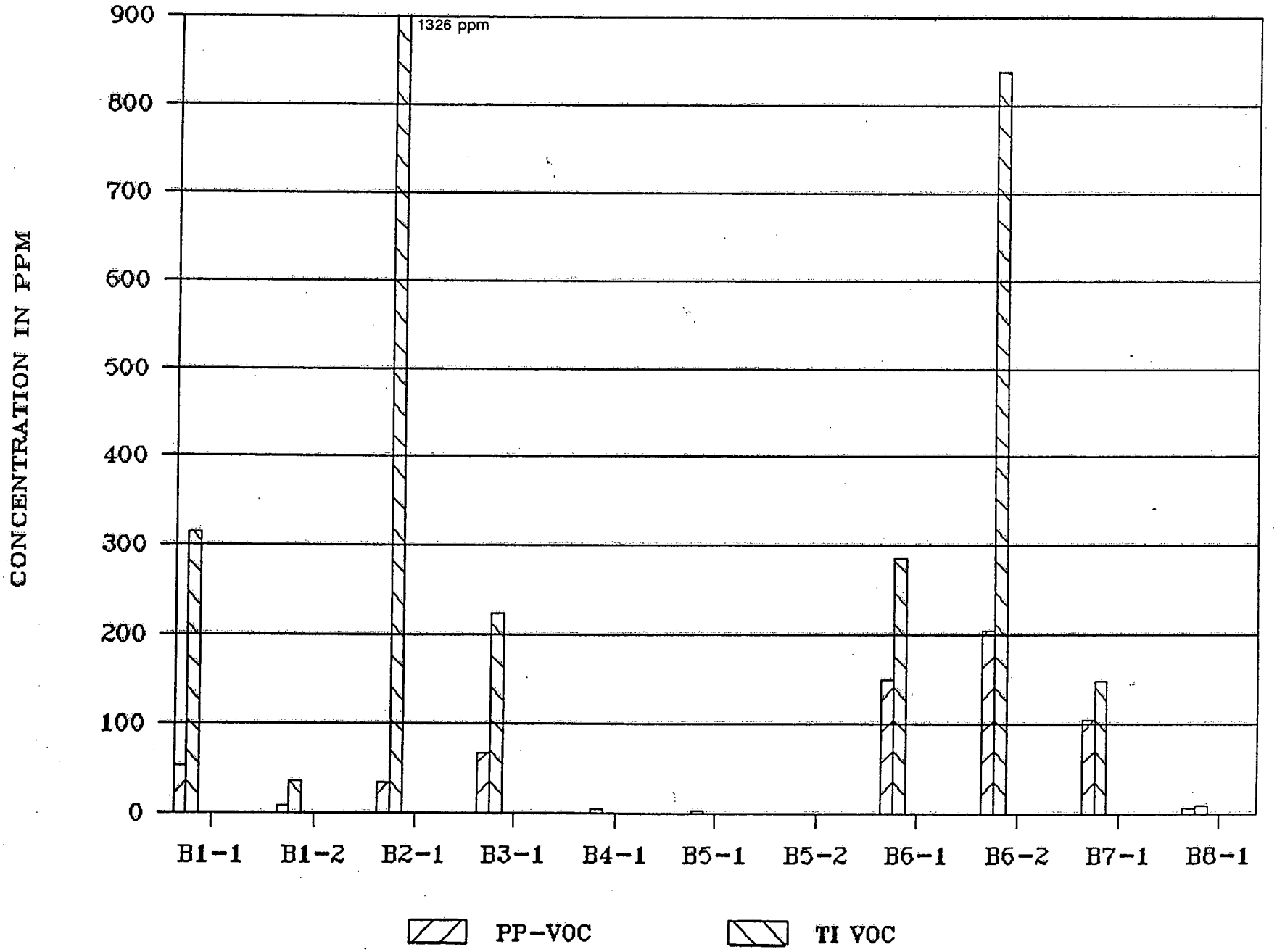


FIGURE 4

TOTAL VOC CONCENTRATIONS IN SOILS



3.2.2 Base Neutral (BN) and Acid Extractable (AE) Organic Compounds

Concentrations of priority pollutant BN compounds significantly above the 10 ppm NJDEP ECRA guideline were reported from all locations, with the exception of location B-4 (See Table 4).

Seventeen priority pollutant BN compounds were identified by Accutest. With the exception of bis (2-ethylhexyl) phthalate, all were reported at significant concentrations. Of these, naphthalene, phenanthrene, fluoranthene, and pyrene were commonly the compounds having the greatest concentrations.

Total BN concentrations greater than 400 ppm were reported from all locations, excepting location B-4, with values ranging from 473 ppm to 6,170 ppm. Values greater than 1,000 ppm were reported from location B-1 (1,448 ppm), B-2 (2,649 ppm), B-3 (2,019 ppm), B-6 (6,170 and 4,242 ppm) and B-7 (5,600 ppm). Total BN values reported have been plotted at the respective locations on Figure 5 and plotted together with TPHC values on Figure 6.

Estimated concentrations of tentatively identified non-priority pollutant BN compounds greater than 100 ppm were reported from each of the sampling locations (Table 4). Estimated values ranged from 109 ppm to 6,300 ppm. Concentrations in excess of 1,000 ppm were reported at locations B-1, B-2, B-5, B-6, and B-7. Naphthalene, benzene, dibenzofuran, undecane, and indene compounds were commonly reported at significant concentrations. Boring B-4 was the only location where no non-priority pollutant BN compounds were reported.

Concentrations of priority pollutant AE organic compounds were generally non-detectable. At location B-1, values of 8.1 and 4.7 ppm were reported, while at location B-6, values of 42 and 53 ppm were noted. The latter values were the only concentrations reported above the 10 ppm NJDEP ECRA guideline. The compound 2,4-dimethylphenol was the only constituent identified at location B-6; while phenol, 4-chloro-3-methylphenol, as well as 2,4-dimethylphenol were reported at location B-1.

TABLE 4

FROLA PROPERTY

Summary of Laboratory Analytical Data - Accutest

Base Neutral + Petroleum Hydrocarbon Analysis of Soils

May, 1990

Sample No.	B1 AS1	B1 AS2	B2-AS1	B3 AS1	B4 AS1	B5 AS1	B5 AS2
Depth (ft)	1-3.0'	4-6.0'	1-3.0'	1-3.0'	1-3.0'	1-3.0'	4-6.0'
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Date	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90	5/21/90
ACENAPHTHENE	170	67	150	31	ND	.97 J	17
ACENAPHTHYLENE	13	4.7 J	9.6 J	ND	ND	ND	ND
ANTHRACENE	85	36	170	60	ND	1.1 J	19
BENZO (A) ANTHRACENE	29	20	150	180	3 J	4.3 J	67
BENZO (A) PYRENE	20	14	140	210	ND	4.5 J	64
BENZO (B) FLUORANTHENE	15	11	120	190	3.5 J	4.8 J	70
BENZO (K) FLUORANTHENE	18	13	110	160	4.3 J	3.6 J	56
BENZO (G,H,I) PERYLENE	ND	6.5	72	150	ND	3.2 J	40
BIS (2-ETHYLHEXYL) PHTHALATE	ND	.7 JB	17 JB	1.7 JB	ND	ND	ND
CHRYSENE	29	20	160	200	4.4 J	4.9 J	78
DIBENZO (A,H) ANTHRACENE	ND	1.8 J	ND	56	ND	ND	22
FLUORANTHENE	130	71	330	310	7 J	7.9	93
FLUORENE	130	53	170	26	ND	.86	16
INDENO (1,2,3,-CD) PYRENE	7.6 J	6.2	67	140	ND	2.8 J	ND
NAPHTHALENE	520	180	330	16	ND	1.6 J	8.7 J
PHENANTHRENE	200	160	410	150	4.9 J	5.9	66
PYRENE	89	50	270	140	6.7 J	4.9 J	83
	---	---	---	---	---	---	---
TOTAL BASE NEUTRALS (BN)	1,448	707.7	2,649	2,019	ND	14.7	691
	7.6 J	6.5 J	9.6 J	ND	33.8 J	36.7 J	8.7 J
TOTAL ACID EXTRACTABLES (AE)	8.1	4.7	ND	ND	ND	ND	ND
TOTAL TI SEMI VOLATILES (estimated)	837	3,079	1,397	600	200	109	5,081
TPHC	1,300	710	38,000	11,000	6,000	390	550

All results reported in Parts Per Million (PPM)

TI: Tentatively Identified

ND: Not Detected At Method Detection Limit

B: Indicates compound found in blank as well as sample.

J: Indicates an estimated value below MDL.

NJDEP ECRA Guidelines - BN = 10 ppm; AE = 10 ppm

TABLE 4 (CON'T)
FROLA PROPERTY
Summary of Laboratory Analytical Data - Accutest
Base Neutral + Petroleum Hydrocarbon Analysis of Soils
May, 1990

Sample No.	B6-AS1	B6 AS2	B7-AS1	B8 AS1	FB-1	FB-2
Depth (ft)	1-3.0'	4-6.0'	1-3.0'	1-3.0'	--	--
Sample Type	SOIL	SOIL	SOIL	SOIL	WATER	WATER
Date	5/22/90	5/22/90	5/22/90	5/22/90	5/21/90	5/22/90
ACENAPHTHENE	540	240	240	75	ND	ND
ACENAPHTHYLENE	130	57	82 J	ND	ND	ND
ANTHRACENE	560	250	720	12 J	ND	ND
BENZO (A) ANTHRACENE	290	180	240	15 J	ND	ND
BENZO (A) PYRENE	130	110	200	27	ND	ND
BENZO (B) FLUORANTHENE	110	87	180 J	17 J	ND	ND
BENZO (K) FLUORANTHENE	150	85	180 J	8.9 J	ND	ND
BENZO (G,H,I) PERYLENE	39 J	41	74 J	15 J	ND	ND
BIS (2-ETHYLHEXYL) PHTHALATE	ND	ND	ND	ND	ND	ND
CHRYSENE	380	160	330	26	ND	ND
DIBENZO (A,H) ANTHRACENE	19 J	19 J	27 J	5.9 J	ND	ND
FLUORANTHENE	730	420	540	35	ND	1.6 J
FLUORENE	ND	270	530	43	ND	ND
INDENO (1,2,3,-CD) PYRENE	42 J	42	80 J	9.4	ND	ND
NAPHTHALENE	1400	1200	970	120	ND	1.8 J
PHENANTHRENE	1000	840	940	55	ND	2.8 J
PYRENE	750	260	890	92	ND	ND
	---	---	---	---	---	---
TOTAL BASE NEUTRALS (BN)	6170	4,242	5,600	473	ND	ND
	100 J	19 J	623 J	83.2 J	ND	6.2 J
TOTAL ACID EXTRACTABLES (AE)	42	53	ND	ND	ND	ND
TOTAL TI SEMI VOLATILES (estimated)	4,971	6,300	1,856	437	ND	ND
TPHC	12,000	3,200	110	37,000	ND	ND

All results reported in Parts Per Million (PPM)
TI: Tentatively Identified
ND: Not Detected At Method Detection Limit

B: Indicates compound found in blank as well as sample
J: Indicates an estimated value below MDL
NJDEP ECRA Guidelines - BN = 10 ppm; AE = 10 ppm

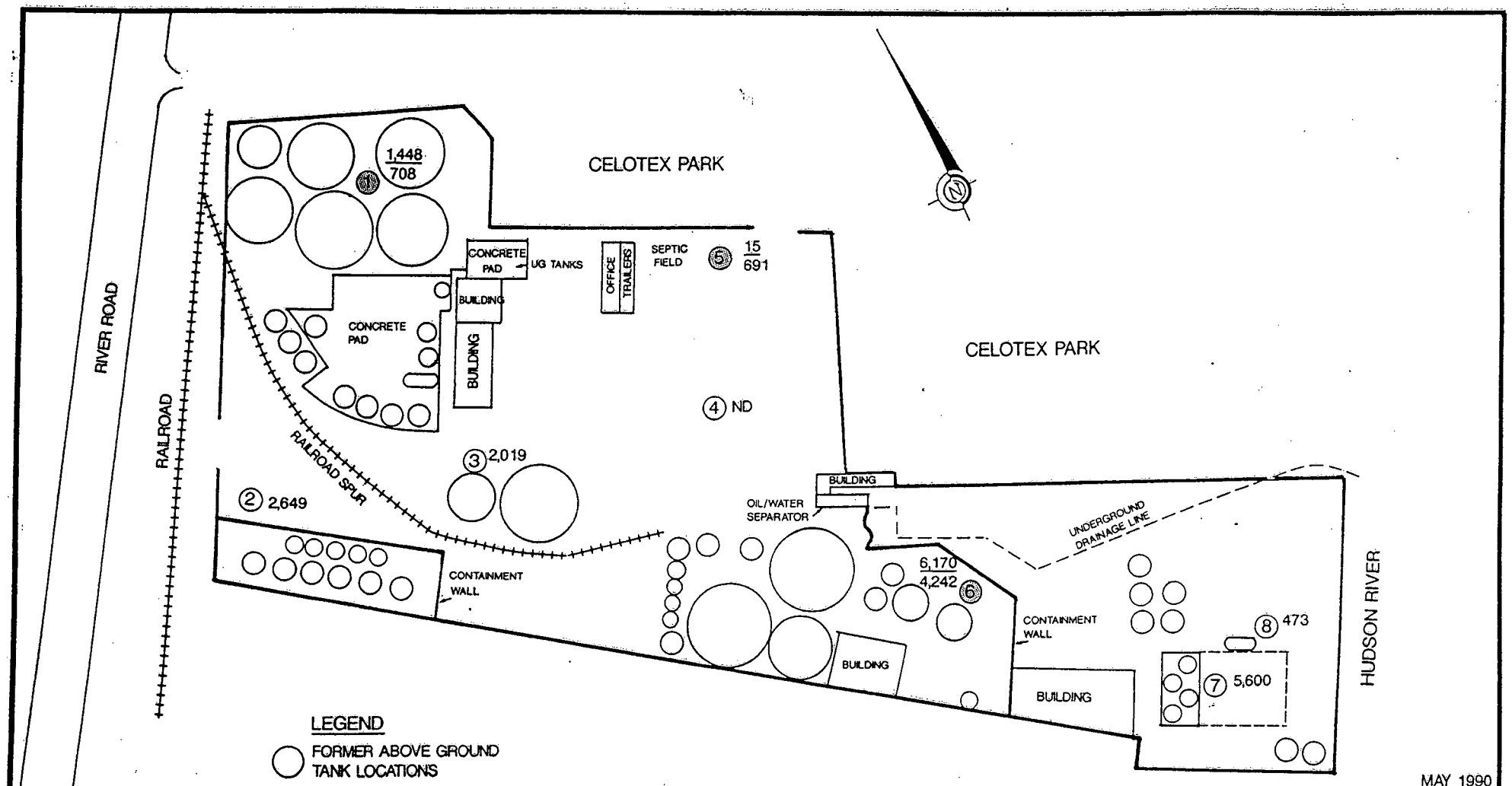
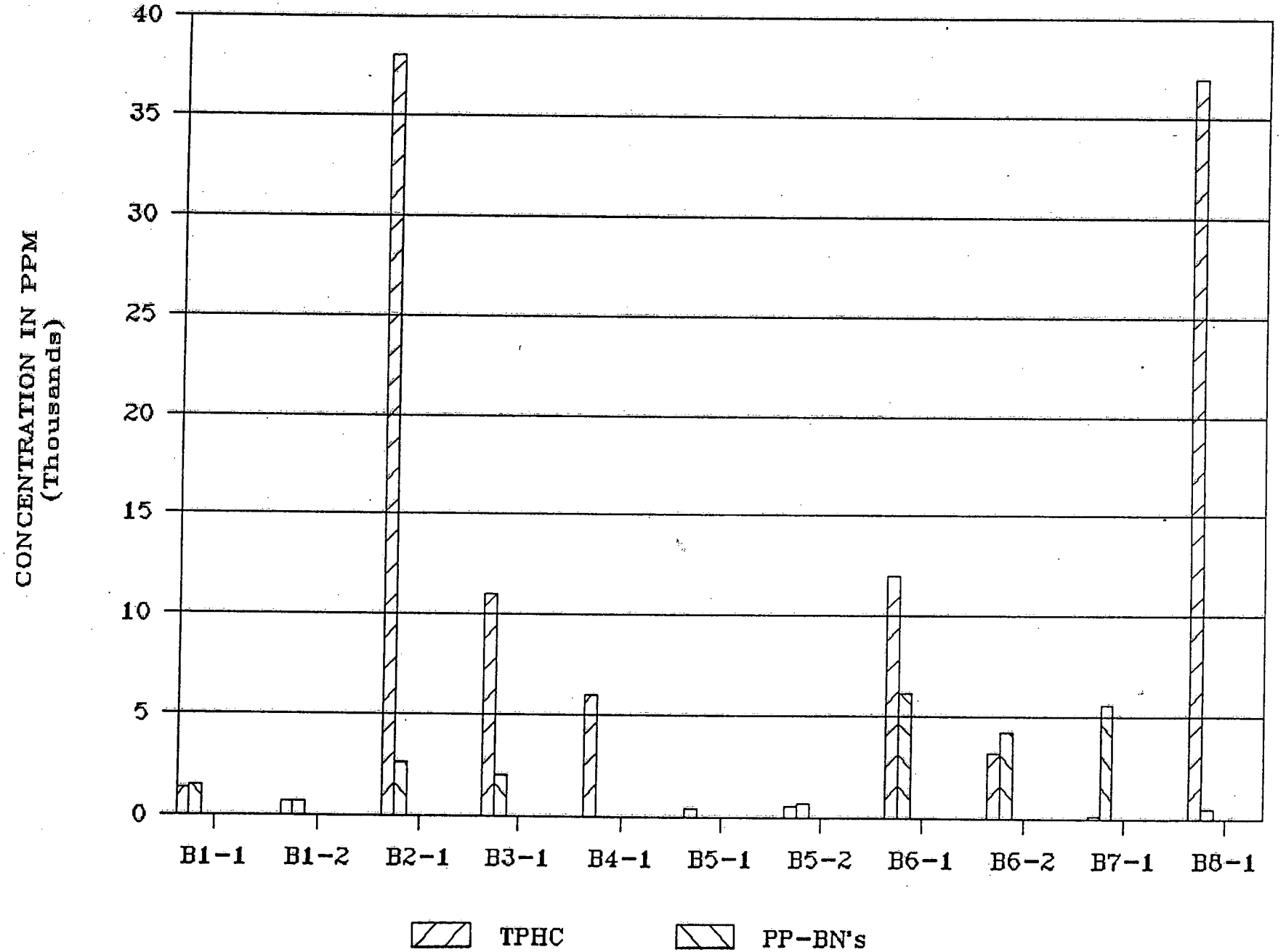
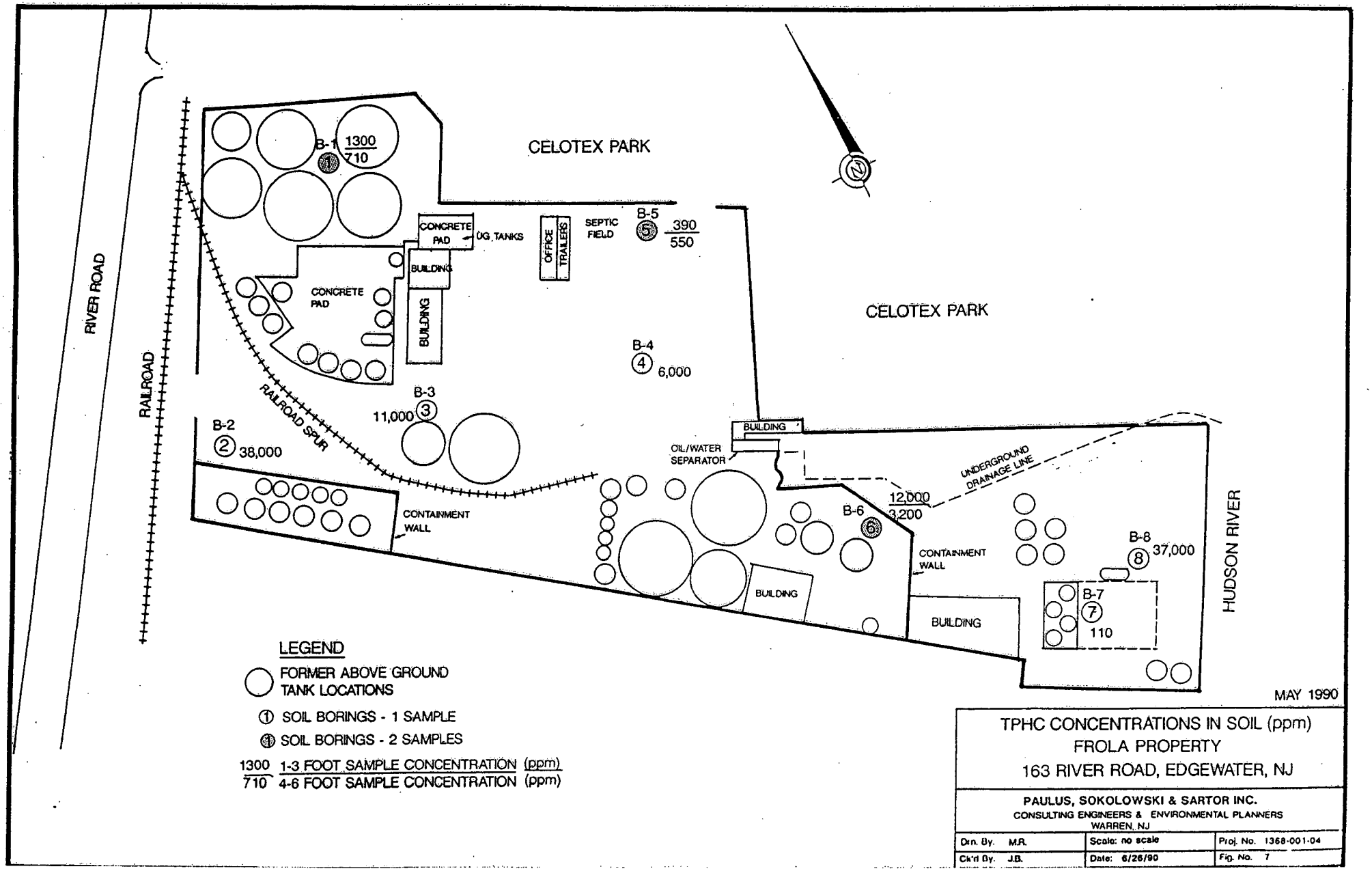

CELOTEX PARK
CELOTEX PARK
RIVER ROAD
RAILROAD
RAILROAD SPUR
1,448
708
CONCRETE PAD
UG TANKS
BUILDING
BUILDING
CONCRETE PAD
OFFICE
TRAILERS
SEPTIC FIELD
15
691
ND
2,019
2,649
CONTAINMENT WALL
OIL/WATER SEPARATOR
BUILDING
UNDERGROUND DRAINAGE LINE
6,170
4,242
CONTAINMENT WALL
BUILDING
BUILDING
473
5,600
HUDSON RIVER
LEGEND
FORMER ABOVE GROUND TANK LOCATIONS
SOIL BORINGS - 1 SAMPLE
SOIL BORINGS - 2 SAMPLES
1-3 FOOT SAMPLE CONCENTRATION (ppm)
4-6 FOOT SAMPLE CONCENTRATION (ppm)
ND : NON-DETECTABLE
MAY 1990
PRIORITY POLLUTANT BASE NEUTRAL ORGANICS
FROLA PROPERTY
163 RIVER ROAD, EDGEWATER, NJ
PAULUS, SOKOLOWSKI & SARTOR INC.
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NJ
Drn. By. M.R.
Scale: no scale
Proj. No. 1368-001-04
Ck'd By. J.B.
Date: 7/6/90
Fig. No. 5

FIGURE 6

TPHC AND BASE NEUTRAL COMPOUNDS IN SOILS




CELOTEX PARK
CELOTEX PARK
RIVER ROAD
RAILROAD
RAILROAD SPUR
HUDSON RIVER
B-1 1300/710
B-2 38,000
B-3 11,000
B-4 6,000
B-5 390/550
B-6 12,000/3,200
B-7 110
B-8 37,000
CONCRETE PAD
UG. TANKS
BUILDING
BUILDING
CONCRETE PAD
OFFICE
TRAILERS
SEPTIC FIELD
BUILDING
OIL/WATER SEPARATOR
UNDERGROUND DRAINAGE LINE
CONTAINMENT WALL
CONTAINMENT WALL
BUILDING
BUILDING
LEGEND
FORMER ABOVE GROUND TANK LOCATIONS
SOIL BORINGS - 1 SAMPLE
SOIL BORINGS - 2 SAMPLES
1300 1-3 FOOT SAMPLE CONCENTRATION (ppm)
710 4-6 FOOT SAMPLE CONCENTRATION (ppm)
MAY 1990
TPHC CONCENTRATIONS IN SOIL (ppm)
FROLA PROPERTY
163 RIVER ROAD, EDGEWATER, NJ
PAULUS, SOKOLOWSKI & SARTOR INC.
CONSULTING ENGINEERS & ENVIRONMENTAL PLANNERS
WARREN, NJ
Drn. By. M.R.
Scale: no scale
Proj. No. 1368-001-04
Ck'd By. J.B.
Date: 6/26/90
Fig. No. 7

3.2.3 Total Petroleum Hydrocarbons (TPHC)

Concentrations of TPHCs significantly above the 100 ppm NJDEP ECRA guideline were reported from all locations (see Table 4). Concentrations were relatively low only at location B-5 (390 and 550 ppm) and B-7 (110 ppm). Maximum values reported from all other locations ranged from 1,300 ppm to 38,000 ppm, with concentrations greater than 5,000 ppm reported from locations B-2, B-3, B-4, B-6 and B-8. TPHC concentrations are also plotted on Figure 6 and at their respective locations on a general site plan (Figure 7).

3.2.4 Other Organic Compounds

Total phenolic concentrations ranged from non-detectable to 280 ppm. Concentrations greater than 20 ppm were reported from locations B-3 (75 ppm), B-6 (31 and 91 ppm) and B-7 (280 ppm) (Table 1).

Minor concentrations of pesticides (less than 0.8 ppm) were reported at locations B-1, B-4, B-5, B-6 and B-7. No PBCs were reported from any of the samples (Table 1).

4.0 SUMMARY AND CONCLUSIONS

Analytical data reported from eleven soil samples obtained from eight borings throughout the site indicated widespread occurrence of total petroleum hydrocarbon (TPHC), base neutral (BN), and volatile organic compounds (VOC) at concentrations significantly above NJDEP ECRA guideline levels. In addition, concentrations of arsenic, mercury, copper, lead, and zinc in selected borings also exceeded ECRA guidelines.

TPHC concentrations ranged from 390 ppm to 38,000 ppm and concentrations greater than 5,000 ppm were reported from five of the eight locations sampled. These reported values are more than 50 times above the ECRA 100 ppm guideline.

Seventeen priority pollutant BN compounds were identified and with the exception of bis (2-ethylhexyl) phthalate, all were reported at significant concentrations. Of these seventeen compounds, only bis(2-ethylhexyl) phthalate has not been confirmed as being a component of coal tar materials (The Coal Tar Data Book, 1965 and (Draft) Toxicological Profile for Polycyclic Aromatic Hydrocarbons, ATSDR, 1987). Of these, naphthalene, phenanthrene, fluoranthene, and pyrene were commonly the compounds having the greatest concentrations in the site samples analyzed.

Total BN concentrations above the 10 ppm ECRA guideline were reported from seven of the eight locations sampled. These values ranged from 473 ppm to 6,170 ppm. Non-priority pollutant BN compound concentrations were also elevated, with estimated concentrations ranging from 200 ppm to 6,300 ppm.

Reported VOC concentrations exceeded the ECRA 1.0 ppm guideline at seven of the eight locations, with these values ranging from 5.38 ppm to 205 ppm. Benzene, toluene, ethyl benzene, m-xylene and p,o xylenes were the primary constituents identified. Non-priority pollutant VOC concentrations ranged from 0.03 ppm to 1,326.2 ppm.

Concentrations of selected heavy metals exceeded or equaled respective ECRA guidelines at five locations. These parameters included

arsenic, copper, cadmium, mercury and zinc (not all parameters had elevated concentrations at each of the five locations). Locations of greatest potential concern, based on the number of elevated parameter values, were B-3 and B-5.

No PCBs were detected, while cyanide levels were less than 3.2 ppm and generally non-detectable.

The BN and VOC constituents reported have been commonly identified in both coal tar and petroleum oils. The pattern of elevated BN and TPHC concentrations indicates that both coal tar and waste oils previously handled on the site were probable sources of the significant BN and TPHC levels reported on site.

APPENDIX A

SOIL BORING LOGS

PAULUS SOKOLOWSKI and SARTOR
CONSULTING ENGINEERS
WARREN, NEW JERSEY 07060

SHEET 1 of 1
BORING NO. B-1
JOB NO. 136B-0001-C

BORING LOG

PROJECT: FROLA PROPERTY
PROJECT LOCATION: EDGEWATER, N.J.
BORING LOCATION: SEE BORING LOCATION PLAN
INSPECTOR: DL WHITEHEAD / BL GARCIA
CONTRACTOR: J.P. KRITZAR
DRILLER: CARL
HELPER: PAUL

ELEVATION: —
DATUM: —
DATE STARTED: 5·21·90
DATE COMP.: 5·21·90

TYPE OF RIG: TRUCK ☒ SKID ☐ BARGE MOUNTED ☐ TRIPOD ☐ OTHER ☐ HOLLOW STEM AUGER
CASING: DIA. IN. FROM TO FT.; DIA. IN. FROM TO FT.
DRILLING MUD UTILIZED: MUD TYPE —
ROTARY BIT DIA. IN.

SAMPLING EQUIPMENT (TYPE & SIZE)
SPOON SAMPLER: 3" ANALYTICAL SAMPLER
TUBE SAMPLER: DIA. — IN.: TYPE
CORE SAMPLER: —
CORE BIT:

FEED DURING CORING: MECHANICAL ☐ HYDRAULIC ☐ OTHER ☐
SAMPLER HAMMER: WEIGHT (LBS) 140 AVG. FALL 30 IN.
CASING HAMMER: WEIGHT (LBS) — AVG. FALL — IN.

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	SURFACE WATER ELEV.	REMARKS
5·21·90		-1'	—	0.5	—	WATER OBSERVED
		-4'	—	1.0	—	" "

DAILY PROGRESS	CASING BLOWS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH (FT)	REMARKS
					CONCRETE AND GRAVEL			AUGERED DOWN TO -1.0 GSL
		AS-1	1-3'	3,5 3,4	DARK GRAY - BLACK SAND AND GRAVEL WITH CINDER MATERIAL · RESIDUAL OIL SHEEN / PRODUCT	F	2	WATER · ANALYTICAL SAMPLE PETROLEUM ODOR
		AS-2	4-6	10,5 4,4	DARK GRAY - BLACK SAND AND GRAVEL WITH CINDER MATERIAL · RESIDUAL OIL SHEEN / PRODUCT · BLACK ORGANIC SILTS + CLAYS AT -5.5'	F	4	PETROLEUM ODOR ANALYTICAL SAMPLE
					C.D = 6.0'	O	6	
							8	
							10	

PAULUS SOKOLOWSKI and SARTOR
CONSULTING ENGINEERS
WARREN, NEW JERSEY 07060

SHEET 1 of 1
BORING NO. B-2
JOB NO. 1368-0001-C

BORING LOG

PROJECT:	FROLA PROPERTY
PROJECT LOCATION	EDGEWATER, N.J.
BORING LOCATION:	SEE BORING LOCATION PLAN
INSPECTOR:	DL WHITEHEAD / BL GARCIA
CONTRACTOR:	J.P. KRITZAR
DRILLER:	CARL
HELPER:	PAUL
ELEVATION	—
DATUM:	—
DATE STARTED:	5·21·90
DATE COMP.:	5·21·90

TYPE OF RIG: TRUCK ☒ SKID ☐ BARGE MOUNTED ☐ TRIPOD ☐ OTHER ☐ HOLLOW STEM AUGER

CASING: DIA. IN. FROM TO FT.: DIA. IN. FROM TO FT.

DRILLING MUD UTILIZED: MUD TYPE — ROTARY BIT DIA. IN.

SAMPLING EQUIPMENT (TYPE & SIZE)
SPOON SAMPLER: 3" ANALYTICAL SAMPLER
TUBE SAMPLER: DIA. — IN.: TYPE
CORE SAMPLER: — CORE BIT:

FEED DURING CORING: MECHANICAL ☐ HYDRAULIC ☐ OTHER ☐

SAMPLER HAMMER: WEIGHT (LBS) 140 AVG. FALL 30 IN.

CASING HAMMER: WEIGHT (LBS) — AVG. FALL — IN.

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	SURFACE WATER ELEV.	REMARKS
5·21·90	—	3	—	2'	—	WATER ENCOUNTERED DARK COLOR AND OILY

DAILY PROGRESS	CASING BLOWS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH (FT)	REMARKS
					CONCRETE, ASPHALT AND GRAVEL			AUGERED DOWN THROUGH ASPHALT
		AS-1	1-3	8, 13, 15, 8	BLACK-DARK GRAY SILTY-SAND, GRAVELS AND CINDERS - RESIDUAL OIL SHEEN / PRODUCT	F	2	PETROLEUM ODOR ANALYTICAL SAMPLE WATER
					CD = 3.0'		4	
							6	
							8	
							10	

PAULUS SOKOLOWSKI and SARTOR
CONSULTING ENGINEERS
WARREN, NEW JERSEY 07060

SHEET 1 of 1
BORING NO. B-3
JOB NO. 1368-0001-0

BORING LOG

PROJECT: FROLA PROPERTY	ELEVATION: —
PROJECT LOCATION: EDGEWATER, N.J.	DATUM: —
BORING LOCATION: SEE BORING LOCATION PLAN	DATE STARTED: 5·21·90
INSPECTOR: DL WHITEHEAD / BL GARCIA	DATE COMP.: 5·21·90
CONTRACTOR: J.P. KRITZAR	
DRILLER: CARL	HELPER: PAUL

TYPE OF RIG: TRUCK ☒ SKID ☐ BARGE MOUNTED ☐ TRIPOD ☐ OTHER ☐ HOLLOW STEM AUGER

CASING: DIA. IN. FROM TO FT.; DIA. IN. FROM TO FT.

DRILLING MUD UTILIZED: MUD TYPE — ROTARY BIT DIA. IN.

SAMPLING EQUIPMENT (TYPE & SIZE)
- SPOON SAMPLER: 3" ANALYTICAL SAMPLER
- TUBE SAMPLER: DIA. — IN.: TYPE
- CORE SAMPLER: — CORE BIT:

FEED DURING CORING: MECHANICAL ☐ HYDRAULIC ☐ OTHER ☐

SAMPLER HAMMER: WEIGHT (LBS) 140 AVG. FALL 30 IN.

CASING HAMMER: WEIGHT (LBS) — AVG. FALL — IN.

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	SURFACE WATER ELEV.	REMARKS
						NOT OBSERVED

DAILY PROGRESS	CASING BLOWS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH (FT)	REMARKS
					ASPHALT AND GRAVEL	F		AUGERED DOWN THROUGH ASPHALT
		AS-1	1-3	23, 52, 38, 60	6" GRAY-BLACK SILTY SAND 6" BLACK COAL TAR CINDERS WITH TRACE SILT (SOME BRICK FRAGMENTS		2	PETROLEUM ODOR ANALYTICAL SAMPLE
					CD = 3.0'		4	
							6	
							8	
							10	

PAULUS SOKOLOWSKI and SARTOR
CONSULTING ENGINEERS
WARREN, NEW JERSEY 07060

SHEET 1 of 1
BORING NO. B-4
JOB NO. 1368-0001-0

BORING LOG

PROJECT:	FROLA PROPERTY
PROJECT LOCATION	EDGEWATER, N.J.
BORING LOCATION:	SEE BORING LOCATION PLAN
INSPECTOR:	DL WHITEHEAD / BL GARCIA
CONTRACTOR:	J.P. KRITZAR
DRILLER:	CARL
HELPER:	PAUL
ELEVATION	—
DATUM:	—
DATE STARTED:	5.21.90
DATE COMP.:	5.21.90

TYPE OF RIG: TRUCK ☒ SKID ☐ BARGE MOUNTED ☐ TRIPOD ☐ OTHER ☐ HOLLOW STEM AUGER

CASING: DIA. IN. FROM TO FT.: DIA. IN. FROM TO FT.

DRILLING MUD UTILIZED: MUD TYPE — ROTARY BIT DIA. IN.

SAMPLING EQUIPMENT (TYPE & SIZE)
- SPOON SAMPLER: 3" ANALYTICAL SAMPLER
- TUBE SAMPLER: DIA. — IN.: TYPE
- CORE SAMPLER: — CORE BIT:

FEED DURING CORING: MECHANICAL ☐ HYDRAULIC ☐ OTHER ☐

SAMPLER HAMMER: WEIGHT (LBS) 140 AVG. FALL 30 IN.

CASING HAMMER: WEIGHT (LBS) — AVG. FALL — IN.

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	SURFACE WATER ELEV.	REMARKS
5.21.90						NOT OBSERVED

DAILY PROGRESS	CASING BLOWS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH (FT)	REMARKS
					ASPHALT AND GRAVELS			AUGERED DOWN THROUGH ASPHALT
		A-1	1-3	23, 100/6"	BLACK - DARK GREY SILTY SAND AND CINDERS	F		PETROLEUM ODOR
							2	ANALYTICAL SAMPLE
					C.D = 2.0'			
					THREE ATTEMPTS WITHIN 10' RADIUS - NO AUGER ADVANCEMENT			
							4	
							6	
							8	
							10	

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CONSULTING ENGINEERS
WARREN, NEW JERSEY 07060

SHEET 1 of 1
BORING NO. B-5
JOB NO. 1368-0001-C

BORING LOG

PROJECT: FROLA PROPERTY	ELEVATION —
PROJECT LOCATION: EDGEWATER, N.J.	DATUM: —
BORING LOCATION: SEE BORING LOCATION PLAN	DATE STARTED: 5·21·90
INSPECTOR: DL WHITEHEAD / BL GARCIA	DATE COMP.: 5·21·90
CONTRACTOR: J.P. KRITZAR	
DRILLER: CARL	HELPER: PAUL

TYPE OF RIG: TRUCK ☒ SKID ☐ BARGE MOUNTED ☐ TRIPOD ☐ OTHER ☐ HOLLOW STEM AUGER

CASING: DIA. IN. FROM TO FT.; DIA. IN. FROM TO FT.

DRILLING MUD UTILIZED: MUD TYPE — ROTARY BIT DIA. IN.

SAMPLING EQUIPMENT (TYPE & SIZE)
- SPOON SAMPLER: 3" ANALYTICAL SAMPLER
- TUBE SAMPLER: DIA. — IN.: TYPE
- CORE SAMPLER: — CORE BIT:

FEED DURING CORING: MECHANICAL ☐ HYDRAULIC ☐ OTHER ☐

SAMPLER HAMMER: WEIGHT (LBS) 140 AVG. FALL 30 IN.

CASING HAMMER: WEIGHT (LBS) — AVG. FALL — IN.

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	SURFACE WATER ELEV.	REMARKS
5·21·90	—	6·0	6·0	~5·0	—	WATER OBSERVED

DAILY PROGRESS	CASING BLOWS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH (FT)	REMARKS
					CINDERS AND GRAVEL			AUGERED DOWN THROUGH SOILS
		AS-1	1-3	3, 5, 20, 30	BLACK-BROWN SILTY SAND AND GRAVEL · 1' INTERVAL OF YELLOW-RED BROWN MATERIAL	F	2	CHEMICAL ODOR ANALYTICAL SAMPLE
		AS-2	4-6	4, 5, 4, 4	BLACK-BROWN SILTY SAND AND GRAVELS INTERLAYERED WITH SANDY SILT	F ▽	4	ANALYTICAL SAMPLE WATER
		S3	6-8	1, 0, 1, 0	LT. GRAY SILTY SAND — SANDY SILT WITH SOME CLAY	O	6	
					CD = 8·0'		8	
							10	

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CONSULTING ENGINEERS
WARREN, NEW JERSEY 07060

SHEET 1 of 1
BORING NO. B-6
JOB NO. 1368-0001-0

BORING LOG

PROJECT:	FROLA PROPERTY
PROJECT LOCATION	EDGEWATER, N.J.
BORING LOCATION:	SEE BORING LOCATION PLAN
INSPECTOR:	DL WHITEHEAD / BL GARCIA
CONTRACTOR:	J.P. KRITZAR
DRILLER:	CARL
HELPER:	PAUL
ELEVATION	—
DATUM:	—
DATE STARTED:	5·22·90
DATE COMP.:	5·22·90

TYPE OF RIG: TRUCK ☒ SKID ☐ BARGE MOUNTED ☐ TRIPOD ☐ OTHER ☐ HOLLOW STEM AUGER

CASING: DIA. IN. FROM TO FT.: DIA. IN. FROM TO FT.

DRILLING MUD UTILIZED: MUD TYPE — ROTARY BIT DIA. IN.

SAMPLING EQUIPMENT (TYPE & SIZE)
SPOON SAMPLER: 3" ANALYTICAL SAMPLER
TUBE SAMPLER: DIA. — IN.: TYPE
CORE SAMPLER: — CORE BIT:

FEED DURING CORING: MECHANICAL ☐ HYDRAULIC ☐ OTHER ☐

SAMPLER HAMMER: WEIGHT (LBS) 140 AVG. FALL 30 IN.

CASING HAMMER: WEIGHT (LBS) — AVG. FALL — IN.

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	SURFACE WATER ELEV.	REMARKS
5·22·90	—	2	—	0.5-1.0		WATER OBSERVED

DAILY PROGRESS	CASING BLOWS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH (FT)	REMARKS
					GRAVEL AND FILL MATERIAL	▽		AUGERED DOWN THROUGH FILL
		AS-1	1-3	3, 17, 34, 36	BLACK SILTY SAND GRAVEL AND WOOD	F		WATER
							2	ANALYTICAL SAMPLE
		AS-2	4-6	4, 20, 8, 10	BLACK SILTY SAND AND GRAVEL	F	4	OIL SHEEN ON SAMPLE ANALYTICAL SAMPLE
		S.3	6-8	1, 2, 4, 5	BLACK SILTY SAND AND GRAVEL		6	
					TAN BROWN-BLACK SAND AND GRAVEL	SM		
					CD = 8.0'		8	
							10	

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CONSULTING ENGINEERS
WARREN, NEW JERSEY 07060

SHEET 1 of 1
BORING NO. B-7
JOB NO. 1368-0001-C

BORING LOG

PROJECT:	FROLA PROPERTY
PROJECT LOCATION	EDGEWATER, N.J.
BORING LOCATION:	SEE BORING LOCATION PLAN
INSPECTOR:	DL WHITEHEAD / BL GARCIA
CONTRACTOR:	J.P. KRITZAR
DRILLER:	CARL
HELPER:	PAUL
ELEVATION	—
DATUM:	—
DATE STARTED:	5.22.90
DATE COMP.:	5.22.90

TYPE OF RIG: TRUCK ☒ SKID ☐ BARGE MOUNTED ☐ TRIPOD ☐ OTHER ☐ HOLLOW STEM AUGER

CASING: DIA. IN. FROM TO FT.; DIA. IN. FROM TO FT.

DRILLING MUD UTILIZED: MUD TYPE —

ROTARY BIT DIA. IN.

SAMPLING EQUIPMENT (TYPE & SIZE)
SPOON SAMPLER: 3" ANALYTICAL SAMPLER
TUBE SAMPLER: DIA. — IN.: TYPE
CORE SAMPLER: —
CORE BIT:

FEED DURING CORING: MECHANICAL ☐ HYDRAULIC ☐ OTHER ☐

SAMPLER HAMMER: WEIGHT (LBS) 140 AVG. FALL 30 IN.

CASING HAMMER: WEIGHT (LBS) — AVG. FALL — IN.

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	SURFACE WATER ELEV.	REMARKS
5.22.90	—	Z	—	—	—	NOT OBSERVED

DAILY PROGRESS	CASING BLOWS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH (FT)	REMARKS
					FILL MATERIAL AND GRAVELS			AUGERED DOWN THROUGH MATERIAL
		AS-1	1-3	21, 34, 100/6"	BLACK TAR AND GRAVELS	F		ANALYTICAL SAMPLE
					CD = 2.0'		2	CONCRETE PAD REFUSAL
							4	
							6	
							8	
							10	

PAULUS SOKOLOWSKI and SARTOR
CONSULTING ENGINEERS
WARREN, NEW JERSEY 07060

SHEET 1 of 1
BORING NO. B-8
JOB NO. 1368-0001-0

BORING LOG

PROJECT:	FROLA PROPERTY	ELEVATION:	—
PROJECT LOCATION	EDGEWATER, N.J.	DATUM:	—
BORING LOCATION:	SEE BORING LOCATION PLAN	DATE STARTED:	5·22·90
INSPECTOR:	DL WHITEHEAD / BL GARCIA	DATE COMP.:	5·22·90
CONTRACTOR:	J.P. KRITZAR		
DRILLER:	CARL	HELPER:	PAUL

TYPE OF RIG: TRUCK ☒ SKID ☐ BARGE MOUNTED ☐ TRIPOD ☐ OTHER ☐ HOLLOW STEM AUGER

CASING: DIA. IN. FROM TO FT.; DIA. IN. FROM TO FT.

DRILLING MUD UTILIZED: MUD TYPE — ROTARY BIT DIA. IN.

SAMPLING EQUIPMENT (TYPE & SIZE)
- SPOON SAMPLER: 3" ANALYTICAL SAMPLER
- TUBE SAMPLER: DIA. — IN.: TYPE
- CORE SAMPLER: — CORE BIT:

FEED DURING CORING: MECHANICAL ☐ HYDRAULIC ☐ OTHER ☐

SAMPLER HAMMER: WEIGHT (LBS) 140 AVG. FALL 30 IN.

CASING HAMMER: WEIGHT (LBS) — AVG. FALL — IN.

GROUND WATER OBSERVATIONS

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	SURFACE WATER ELEV.	REMARKS
5·22·90	—	3	—	—	—	MOIST AT 3'

DAILY PROGRESS	CASING BLOWS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH (FT)	REMARKS
					GRAVEL AND CONCRETE			AUGERED DOWN THROUGH MATERIAL
		AS1	1-3		BLACK SILTY SAND AND GRAVEL WITH CINDERS AND COAL TAR RESIDUALS	F	2	ANALYTICAL SAMPLE
					CD= 3.0'		4	MOIST @ 3.0'
							6	
							8	
							10	

APPENDIX B

AIR MONITORING DATA SHEETS

AIR MONITORING DATA SHEET

GENERAL INFORMATION

- PROJECT: FROLA PROPERTY JOB NO.: 1368.0001.04
- OBSERVERS: DLW / BLG
- DATE: 05.22.90 TUE
- BOREHOLE NO.: B-6, B-7, B-8 LOCATION: AS STAKED
- WEATHER CONDITIONS: PRTLY CLDY, LT WIND 60-70°F
- WIND DIRECTION/SPEED: ~5 W
- BACKGROUND OVA — HNU 0.2 (REF) EXPLOS —
- DAILY INSTRUMENT CALIBRATION: YES, ISOBUT 9.8 SPAN

	TIME/ DATE	DEPTH	SAMPLE NUMBER	OVA		HNU		EXPLOS		REMARKS
				AMB	BH	AMB	BH	AMB	BH	
B-6	900	0 1	—			0	0-2			—
	910	1-3	AS-1			0	2-5			SAMPLE 10-15
	930	4-6	AS-2			0	5-10			SAMPLE 10-15
	940	6-8	—			0	5-8			—
B-7	1010	0-1	—			0	5-10			—
	1015	1-3	AS-1			0	5-10			SAMPLE 10-15
B-8	1110	0-1	—			0	0			—
	1115	1-3	AS-1			0	3-5			SAMPLE 5

AIR MONITORING DATA SHEET

GENERAL INFORMATION

- PROJECT: FEOLA PROPERTY JOB NO.: 1368.0001.04
- OBSERVERS: DLW / BLG
- DATE: 05.21.90 MON
- BOREHOLE NO.: B-1, B-2, B-3, + B-4 LOCATION: AS STAKED
- WEATHER CONDITIONS: OVERCAST, RAINSHOWERS / DRIZZLE
- WIND DIRECTION/SPEED: 5-15 MPH OUT OF E
- BACKGROUND OVA — HNU 0.2 (REF) EXPLOS —
- DAILY INSTRUMENT CALIBRATION: YES, ISO BUT 9.8 SPAN

	TIME/ DATE	DEPTH	SAMPLE NUMBER	OVA		HNU		EXPLOS		REMARKS
				AMB	BH	AMB	BH	AMB	BH	
B-1	1008	0-1	—			0	0-1			—
	1015	1-3	AS-1			0	0-.5			SAMPLE 20-30
	1020	1-3	AS-1			0	0-10			—
	1030	4	—			0	0-3.			—
	1045	4-6	AS-2			0	0-5.			SAMPLE 0-5.
B-2	1115	0-1	—			0	1-2			
		1-3	AS-1			0	5-10			SAMPLE 0-5
B-3	1200	0-1	—			0	0-1			
	1215	1-3	AS-1			0	2-3			SAMPLE 5-10
B-4	1320	0-1	—			0	0-1			
	1330	1-3	AS-1			0	0-2			SAMPLE 5-7
	*	SECOND ANALYTICAL SAMPLE NOT ACQUIRED DUE TO OBSTRUCTION								

AIR MONITORING DATA SHEET

GENERAL INFORMATION

- PROJECT: FROLA PROPERTY JOB NO.: 1368.0001.04
- OBSERVERS: DLW/BLG
- DATE: 05.21.90 MON
- BOREHOLE NO.: B-5 LOCATION: AS STAKED
- WEATHER CONDITIONS: RAINSHOWERS / DRIZZLE
- WIND DIRECTION/SPEED: 5-15 MPH OUT OF E
- BACKGROUND OVA — HNU 0.2 (REF) EXPLOS —
- DAILY INSTRUMENT CALIBRATION: YES, 150 BUT 9.8 SPAN

B-5

TIME/ DATE	DEPTH	SAMPLE NUMBER	OVA		HNU		EXPLOS		REMARKS
			AMB	BH	AMB	BH	AMB	BH	
1450	0-1	—			0	0			—
1500	1-3	AS-1			0	0			SAMPLE 1-2
1507	3-4	—			0	0			—
1510	4-6	AS-2			0	0			SAMPLE 0
1520	6-8	—			0	0			—

APPENDIX C

CHEMICAL ANALYSIS REPORTING FORMS
ACCUTEST INC.

ACCUTEST®
2235 ROUTE 130, DAYTON, NJ 08810 • (201) 329-0200

PAULUS, SOKOLOWSKI & SARTOR, INC.
67A MOUNTAIN BLVD. EXTENSION
P.O. BOX 4039
WARREN, NJ 07060

ATTN: JOHN BRZOZOWSKI

DATE: 07/03/90
JOB No: 902989
PROJECT No: 1368-0001-04
SAMPLE RECEIVED: 05/22/90

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012766	05/21/90	10:20	DLW	SOIL - B1, AS-1 FROLA, EDGEWATER, NJ
E012767	05/21/90	10:45	DLW	SOIL - B1, AS-2 FROLA, EDGEWATER, NJ
E012768	05/21/90	11:30	DLW	SOIL - B2, AS-1 FROLA, EDGEWATER, NJ
E012769	05/21/90	12:30	DLW	SOIL - B3, AS-1 FROLA, EDGEWATER, NJ
E012770	05/21/90	13:45	DLW	SOIL - B4, AS-1 FROLA, EDGEWATER, NJ
E012771	05/21/90	15:00	DLW	SOIL - B5, AS-1 FROLA, EDGEWATER, NJ

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VICE PRESIDENT

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PAULUS, SOKOLOWSKI & SARTOR, INC.
67A MOUNTAIN BLVD. EXTENSION
P.O. BOX 4039
WARREN, NJ 07060

ATTN: JOHN BRZOZOWSKI

DATE: 07/03/90
JOB No: 902989
PROJECT No: 1368-0001-04
SAMPLE RECEIVED: 05/22/90

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012772	05/21/90	15:10	DLW	SOIL - B5, AS-2 FROLA, EDGEWATER, NJ
E012773	05/21/90	14:30	DLW	WATER - FB-1 FROLA, EDGEWATER, NJ
E012774	05/21/90		DLW	WATER - TB-1 FROLA, EDGEWATER, NJ
E012775	05/22/90	09:10	DLW	SOIL - B6, AS-1 FROLA, EDGEWATER, NJ
E012776	05/22/90	09:30	DLW	SOIL - B6, AS-2 FROLA, EDGEWATER, NJ
E012777	05/22/90	10:15	DLW	SOIL - B7, AS-1 FROLA, EDGEWATER, NJ

VINCENT D. PUGLIESE
VICE PRESIDENT

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PAULUS, SOKOLOWSKI & SARTOR, INC.
67A MOUNTAIN BLVD. EXTENSION
P.O. BOX 4039
WARREN, NJ 07060

ATTN: JOHN BRZOZOWSKI

DATE: 07/03/90
JOB No: 902989
PROJECT No: 1368-0001-04
SAMPLE RECEIVED: 05/22/90

SAMPLE SUMMARY

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012778	05/22/90	11:15	DLW	SOIL - B8, AS-1 FROLA, EDGEWATER, NJ
E012779	05/22/90	10:45	DLW	WATER - FB-2 FROLA, EDGEWATER, NJ

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VICE PRESIDENT

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS+S
LAB SAMPLE #: E012766
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 05/25/90
DATA FILE : >E0363
>B6474

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	1200	
2)	ACRYLONITRILE	ND	1200	
3)	BENZENE	720	58	
4)	BROMOFORM	ND	58	
5)	BROMODICHLOROMETHANE	ND	58	
6)	BROMOMETHANE	ND	120	
7)	CARBON TETRACHLORIDE	ND	58	
8)	CHLOROBENZENE	ND	58	
9)	CHLOROETHANE	ND	120	
10)	2-CHLOROETHYL VINYL ETHER	ND	120	
11)	CHLOROFORM	ND	58	
12)	CHLOROMETHANE	ND	120	
13)	cis-1,3-DICHLOROPROPENE	ND	58	
14)	DIBROMOCHLOROMETHANE	ND	58	
15)	1,2-DICHLOROBENZENE	ND	58	
16)	1,3-DICHLOROBENZENE	ND	58	
17)	1,4-DICHLOROBENZENE	ND	58	
18)	1,1-DICHLOROETHANE	ND	58	
19)	1,2-DICHLOROETHANE	ND	58	
20)	1,1-DICHLOROETHYLENE	ND	58	
21)	trans-1,2-DICHLOROETHYLENE	ND	58	
22)	trans-1,3-DICHLOROPROPENE	ND	58	
23)	1,2-DICHLOROPROPANE	ND	58	
24)	ETHYLBENZENE	11000	2300	
25)	METHYLENE CHLORIDE	ND	58	
26)	1,1,2,2-TETRACHLOROETHANE	ND	58	
27)	TETRACHLOROETHYLENE	ND	58	
28)	TOLUENE	5100	2300	
29)	1,1,1-TRICHLOROETHANE	ND	58	
30)	1,1,2-TRICHLOROETHANE	ND	58	
31)	TRICHLOROETHYLENE	ND	58	
32)	TRICHLOROFLUOROMETHANE	ND	58	
33)	VINYL CHLORIDE	ND	120	
34)	m-XYLENE	19000	2300	
35)	p,o-XYLENE	18000	2300	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012766
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >C4592
>D0239

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACENAPHTHENE	170000	11000	
2)	ACENAPHTHYLENE	13000	11000	
3)	ANTHRACENE	85000	11000	
4)	BENZIDENE	ND	57000	
5)	BENZO(A)ANTHRACENE	29000	11000	
6)	BENZO(A)PYRENE	20000	11000	
7)	BENZO(B)FLUORANTHENE	15000	11000	
8)	BENZO(K)FLUORANTHENE	18000	11000	
9)	BENZO(G,H,I)PERYLENE	ND	11000	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	11000	
11)	BIS(2-CHLOROETHYL)ETHER	ND	11000	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	11000	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	11000	
14)	4-BROMOPHENYL PHENYL ETHER	ND	11000	
15)	BUTYL BENZYL PHTHALATE	ND	11000	
16)	2-CHLORONAPHTHALENE	ND	11000	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	11000	
18)	CHRYSENE	ND	11000	
19)	DIBENZO(A,H)ANTHRACENE	29000	11000	
20)	1,2-DICHLOROBENZENE	ND	11000	
21)	1,3-DICHLOROBENZENE	ND	11000	
22)	1,4-DICHLOROBENZENE	ND	11000	
23)	3,3'-DICHLOROBENZIDENE	ND	11000	
24)	DIETHYL PHTHALATE	ND	23000	
25)	DIMETHYL PHTHALATE	ND	11000	
26)	DI-N-BUTYL PHTHALATE	ND	11000	
27)	2,4-DINITROTOLUENE	ND	11000	
28)	2,6-DINITROTOLUENE	ND	11000	
29)	DI-N-OCTYL PHTHALATE	ND	11000	
30)	1,2-DIPHENYLHYDRAZINE	ND	11000	
31)	FLUORANTHENE	ND	11000	
32)	FLUORENE	130000	11000	
33)	HEXACHLOROBENZENE	130000	11000	
34)	HEXACHLOROBUTADIENE	ND	11000	
35)	HEXACHLOROCYCLOPENTADIENE	ND	11000	
36)	HEXACHLOROETHANE	ND	11000	
37)	INDENO(1,2,3-CD)PYRENE	ND	11000	
38)	ISOPHORONE	7600	11000	J
39)	NAPHTHALENE	ND	11000	
40)	NITROBENZENE	520000	57000	
41)	N-NITROSODIMETHYLAMINE	ND	11000	
42)	N-NITROSODI-N-PROPYLAMINE	ND	11000	
43)	N-NITROSODIPHENYLAMINE	ND	11000	
44)	PHENANTHRENE	ND	11000	
45)	PYRENE	200000	11000	
46)	1,2,4-TRICHLOROBENZENE	89000	11000	
		ND	11000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS&S
LAB SAMPLE #: E012766
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >C4592

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	4-CHLORO-3-METHYL PHENOL	1800	23000	J
2)	2-CHLOROPHENOL	ND	11000	
3)	2,4-DICHLOROPHENOL	ND	11000	
4)	2,4-DIMETHYLPHENOL	4000	11000	J
5)	2,4-DINITROPHENOL	ND	57000	
6)	2-METHYL-4,6-DINITROPHENOL	ND	57000	
7)	2-NITROPHENOL	ND	11000	
8)	4-NITROPHENOL	ND	57000	
9)	PENTACHLOROPHENOL	ND	57000	
10)	PHENOL	2300	11000	J
11)	2,4,6-TRICHLOROPHENOL	ND	11000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS+S

Lab Sample ID: E012766

Date Analyzed: 5/25/90 19:04

Lab File ID: >E0363

Matrix: SOIL FOR VOA

Number TICs found: 7 CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	67641	2-Propanone (9CI)	6.91	65.	
2.	98828	Benzene, (1-methylethyl)- (9CI)	27.46	620.	
3.	103651	Benzene, propyl- (8CI9CI)	31.73	1100.	
4.	271896	Benzofuran (8CI9CI)	33.00	18000.	
5.	496117	1H-Indene, 2,3-dihydro- (9CI)	34.63	280000.	
6.	611143	Benzene, 1-ethyl-2-methyl- (9CI)	36.08	12000.	
7.	25155151	Benzene, methyl(1-methylethyl)- (9	37.94	2500.	
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

FORM I VOA-TIC

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012766	05/21/90	10:20	DLW	SOIL - B1, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S[A]					
ALDRIN	ND	3.8	UG/KG	06/23/90	WHS
alpha-BHC	ND	3.8	UG/KG	06/23/90	WHS
beta-BHC	ND	3.8	UG/KG	06/23/90	WHS
delta-BHC	ND	3.8	UG/KG	06/23/90	WHS
gamma-BHC	ND	3.8	UG/KG	06/23/90	WHS
CHLORDANE	ND	38	UG/KG	06/23/90	WHS
4,4'-DDD	ND	3.8	UG/KG	06/23/90	WHS
4,4'-DDE	ND	3.8	UG/KG	06/23/90	WHS
4,4'-DDT	ND	3.8	UG/KG	06/23/90	WHS
DIELDRIN	ND	3.8	UG/KG	06/23/90	WHS
ENDOSULFAN I	ND	3.8	UG/KG	06/23/90	WHS
ENDOSULFAN II	ND	3.8	UG/KG	06/23/90	WHS
ENDOSULFAN SULFATE	ND	3.8	UG/KG	06/23/90	WHS
ENDRIN	ND	3.8	UG/KG	06/23/90	WHS
ENDRIN ALDEHYDE	ND	3.8	UG/KG	06/23/90	WHS
HEPTACHLOR	ND	3.8	UG/KG	06/23/90	WHS
HEPTACHLOR EPOXIDE	ND	3.8	UG/KG	06/23/90	WHS
TOXAPHENE	ND	38	UG/KG	06/23/90	WHS
AROCHLOR 1016	ND	19	UG/KG	06/23/90	WHS
AROCHLOR 1221	ND	19	UG/KG	06/23/90	WHS
AROCHLOR 1232	ND	19	UG/KG	06/23/90	WHS

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012766	05/21/90	10:20	DLW	SOIL - B1, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
PESTICIDES, PCB'S(Cont.)[A]					
AROCHLOR 1242	ND	19	UG/KG	06/23/90	WHS
AROCHLOR 1248	ND	19	UG/KG	06/23/90	WHS
AROCHLOR 1254	ND	19	UG/KG	06/23/90	WHS
AROCHLOR 1260	ND	19	UG/KG	06/23/90	WHS

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012766	05/21/90	10:20	DLW	SOIL - B1, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
ANTIMONY	0.34	0.10	MG/KG	06/01/90	SRB
ARSENIC	3.0	0.10	MG/KG	06/01/90	NTH
BERYLLIUM	0.73	0.50	MG/KG	06/01/90	BJR
CADMIUM	<1.0	1.0	MG/KG	06/01/90	BJR
CHROMIUM	5.9	2.5	MG/KG	06/07/90	TPM
COPPER	37	2.0	MG/KG	06/01/90	BJR
LEAD	25	10	MG/KG	06/14/90	TPM
MERCURY	<0.10	0.10	MG/KG	06/01/90	SMH
NICKEL	4.6	4.0	MG/KG	06/01/90	BJR
SELENIUM	1.1	0.10	MG/KG	06/08/90	SRB
SILVER	<3.0	3.0	MG/KG	06/07/90	TPM
THALLIUM	<0.10	0.10	MG/KG	06/01/90	RTK
ZINC	64	5.0	MG/KG	06/01/90	BJR

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012766	05/21/90	10:20	DLW	SOIL - B1, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
CYANIDE, TOTAL	<0.50	0.50	MG/KG	05/30/90	HBI
PETROLEUM HYDROCARBONS	1300	25	MG/KG	05/30/90	BJI
PHENOLICS, TOTAL	16	2.5	MG/KG	06/05/90	KY
SOLIDS, TOTAL PERCENT	87	2.0	%	05/23/90	AMI

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS+S
LAB SAMPLE #: E012767
MATRIX : SOIL

METHOD : SW846 8240
ANALYSIS DATE: 05/31/90
DATA FILE : >B6550

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACROLEIN	ND	1700	
2)	ACRYLONITRILE	ND	1700	
3)	BENZENE	110	87	
4)	BROMOFORM	ND	87	
5)	BROMODICHLOROMETHANE	ND	87	
6)	BROMOMETHANE	ND	170	
7)	CARBON TETRACHLORIDE	ND	87	
8)	CHLOROBENZENE	ND	87	
9)	CHLOROETHANE	ND	170	
10)	2-CHLOROETHYL VINYL ETHER	ND	170	
11)	CHLOROFORM	ND	87	
12)	CHLOROMETHANE	ND	170	
13)	cis-1,3-DICHLOROPROPENE	ND	87	
14)	DIBROMOCHLOROMETHANE	ND	87	
15)	1,2-DICHLOROBENZENE	ND	87	
16)	1,3-DICHLOROBENZENE	ND	87	
17)	1,4-DICHLOROBENZENE	ND	87	
18)	1,1-DICHLOROETHANE	ND	87	
19)	1,2-DICHLOROETHANE	ND	87	
20)	1,1-DICHLOROETHYLENE	ND	87	
21)	trans-1,2-DICHLOROETHYLENE	ND	87	
22)	trans-1,3-DICHLOROPROPENE	ND	87	
23)	1,2-DICHLOROPROPANE	ND	87	
24)	ETHYLBENZENE	1500	87	
25)	METHYLENE CHLORIDE	ND	87	
26)	1,1,2,2-TETRACHLOROETHANE	ND	87	
27)	TETRACHLOROETHYLENE	ND	87	
28)	TOLUENE	950	87	
29)	1,1,1-TRICHLOROETHANE	ND	87	
30)	1,1,2-TRICHLOROETHANE	ND	87	
31)	TRICHLOROETHYLENE	ND	87	
32)	TRICHLOROFLUOROMETHANE	ND	87	
33)	VINYL CHLORIDE	ND	170	
34)	m-XYLENE	2800	87	
35)	p,o-XYLENE	2700	87	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

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QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012767
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >C4591
>D0238

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACENAPHTHENE	67000	5700	
2)	ACENAPHTHYLENE	4700	5700	J
3)	ANTHRACENE	36000	5700	
4)	BENZIDENE	ND	29000	
5)	BENZO(A)ANTHRACENE	20000	5700	
6)	BENZO(A)PYRENE	14000	5700	
7)	BENZO(B)FLUORANTHENE	11000	5700	
8)	BENZO(K)FLUORANTHENE	13000	5700	
9)	BENZO(G,H,I)PERYLENE	6500	5700	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	5700	
11)	BIS(2-CHLOROETHYL)ETHER	ND	5700	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	5700	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	700	5700	JB
14)	4-BROMOPHENYL PHENYL ETHER	ND	5700	
15)	BUTYL BENZYL PHTHALATE	ND	5700	
16)	2-CHLORONAPHTHALENE	ND	5700	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	5700	
18)	CHRYSENE	20000	5700	
19)	DIBENZO(A,H)ANTHRACENE	1800	5700	J
20)	1,2-DICHLOROBENZENE	ND	5700	
21)	1,3-DICHLOROBENZENE	ND	5700	
22)	1,4-DICHLOROBENZENE	ND	5700	
23)	3,3'-DICHLOROBENZIDENE	ND	11000	
24)	DIETHYL PHTHALATE	ND	5700	
25)	DIMETHYL PHTHALATE	ND	5700	
26)	DI-N-BUTYL PHTHALATE	ND	5700	
27)	2,4-DINITROTOLUENE	ND	5700	
28)	2,6-DINITROTOLUENE	ND	5700	
29)	DI-N-OCTYL PHTHALATE	ND	5700	
30)	1,2-DIPHENYLHYDRAZINE	ND	5700	
31)	FLUORANTHENE	71000	5700	
32)	FLUORENE	53000	5700	
33)	HEXACHLOROBENZENE	ND	5700	
34)	HEXACHLOROBUTADIENE	ND	5700	
35)	HEXACHLOROCYCLOPENTADIENE	ND	5700	
36)	HEXACHLOROETHANE	ND	5700	
37)	INDENO(1,2,3-CD)PYRENE	6200	5700	
38)	ISOPHORONE	ND	5700	
39)	NAPHTHALENE	180000	23000	
40)	NITROBENZENE	ND	5700	
41)	N-NITROSODIMETHYLAMINE	ND	5700	
42)	N-NITROSODI-N-PROPYLAMINE	ND	5700	
43)	N-NITROSODIPHENYLAMINE	ND	5700	
44)	PHENANTHRENE	160000	23000	
45)	PYRENE	50000	5700	
46)	1,2,4-TRICHLOROBENZENE	ND	5700	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ACCUTEST
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS&S
LAB SAMPLE #: E012767
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >C4591

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	11000	
2)	2-CHLOROPHENOL	ND	5700	
3)	2,4-DICHLOROPHENOL	ND	5700	
4)	2,4-DIMETHYLPHENOL	2900	5700	J
5)	2,4-DINITROPHENOL	ND	29000	
6)	2-METHYL-4,6-DINITROPHENOL	ND	29000	
7)	2-NITROPHENOL	ND	5700	
8)	4-NITROPHENOL	ND	29000	
9)	PENTACHLOROPHENOL	ND	29000	
10)	PHENOL	1800	5700	J
11)	2,4,6-TRICHLOROPHENOL	ND	5700	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Lab Sample ID: E012767

Date Analyzed: 5/31/90 22:50

Lab File ID: >B6550

Matrix: SOIL FOR VOA

Number TICs found: 4 CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.		Unknown	6.68	160.	
2.	271896	Benzofuran (8CI9CI)	33.56	1700.	
3.	496117	1H-Indene, 2,3-dihydro- (9CI)	35.42	32000.	
4.	98828	benzene, (1-methylethyl)- (9CI)	36.71	1300.	
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

FORM I VOA-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Batch Number: MS-S-829

Lab Sample ID: E012767

Extraction Date: 5/31/90

Lab File ID: >C4591

Date Analyzed: 6/06/90 14:02

Matrix: SOIL FOR BNAE

Number TICs found: 25

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	496117	1H-Indene, 2,3-dihydro- (9CI)	13.87	27000.	
2.	766972	Benzene, 1-ethynyl-4-methyl- (9CI)	14.09	8200.	
3.	622764	Benzene, 1-butynyl- (9CI)	16.50	190000.	
4.	767599	1H-Indene, 1-methyl- (9CI)	16.60	110000.	
5.	4786203	2-Butenenitrile (9CI)	17.57	120000.	
6.	16587476	Benzo[b]thiophene, 6-methyl- (8CI9	19.48	81000.	
7.	4453901	1,4-Methanonaphthalene, 1,4-dihydr	19.62	1200000.	
8.	91634	Quinoline, 2-methyl- (9CI)	19.80	180000.	
9.	4453901	1,4-Methanonaphthalene, 1,4-dihydr	19.98	900000.	
10.	92524	1,1'-Biphenyl (9CI)	21.13	33000.	
11.	1127760	Naphthalene, 1-ethyl- (8CI9CI)	21.46	19000.	
12.	569415	Naphthalene, 1,8-dimethyl- (8CI9CI	21.67	29000.	
13.	581408	Naphthalene, 2,3-dimethyl- (8CI9CI	21.96	48000.	
14.	573988	Naphthalene, 1,2-dimethyl- (8CI9CI	22.32	18000.	
15.	643583	1,1'-Biphenyl, 2-methyl- (9CI)	23.00	8100.	
16.	72403135	Benzene, chloromethyl(1-methylethy	23.65	5700.	
17.	10590699	2-Quinolinecarbonitrile, 4-methyl-	23.79	49000.	
18.	2131422	Naphthalene, 1,4,6-trimethyl- (8CI	24.23	9300.	
19.	2131411	Naphthalene, 1,4,5-trimethyl- (8CI	24.48	9600.	
20.	954212	Nordiphenamid	25.23	9700.	
21.	2489863	Naphthalene, 1-(2-propenyl)- (9CI)	25.34	5200.	
22.	610355	1,2-Benzenedicarboxylic acid, 4-hy	25.45	8100.	
23.	1134356	2,2'-Bipyridine, 4,4'-dimethyl- (9	27.72	2600.	
24.	74410427	D-Galactitol, 2-(acetylmethylamino	28.76	4000.	
25.	203645	4H-Cyclopenta[def]phenanthrene (8C	30.16	4400.	

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012767	05/21/90	10:45	DLW	SOIL - B1, AS-2 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
PESTICIDES, PCB'S[A]					
ALDRIN	ND	37	UG/KG	06/23/90	WHS
alpha-BHC	ND	37	UG/KG	06/23/90	WHS
beta-BHC	ND	37	UG/KG	06/23/90	WHS
delta-BHC	ND	37	UG/KG	06/23/90	WHS
gamma-BHC	490	37	UG/KG	06/23/90	WHS
CHLORDANE	ND	370	UG/KG	06/23/90	WHS
4,4'-DDD	ND	37	UG/KG	06/23/90	WHS
4,4'-DDE	ND	37	UG/KG	06/23/90	WHS
4,4'-DDT	ND	37	UG/KG	06/23/90	WHS
DIELDRIN	240	37	UG/KG	06/23/90	WHS
ENDOSULFAN I	ND	37	UG/KG	06/23/90	WHS
ENDOSULFAN II	ND	37	UG/KG	06/23/90	WHS
ENDOSULFAN SULFATE	ND	37	UG/KG	06/23/90	WHS
ENDRIN	ND	37	UG/KG	06/23/90	WHS
ENDRIN ALDEHYDE	ND	37	UG/KG	06/23/90	WHS
HEPTACHLOR	ND	37	UG/KG	06/23/90	WHS
HEPTACHLOR EPOXIDE	ND	37	UG/KG	06/23/90	WHS
TOXAPHENE	ND	370	UG/KG	06/23/90	WHS
AROCHLOR 1016	ND	180	UG/KG	06/23/90	WHS
AROCHLOR 1221	ND	180	UG/KG	06/23/90	WHS
AROCHLOR 1232	ND	180	UG/KG	06/23/90	WHS

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012767	05/21/90	10:45	DLW	SOIL - B1, AS-2 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
PESTICIDES, PCB'S(Cont.)[A]					
AROCHLOR 1242	ND	180	UG/KG	06/23/90	WHS
AROCHLOR 1248	ND	180	UG/KG	06/23/90	WHS
AROCHLOR 1254	ND	180	UG/KG	06/23/90	WHS
AROCHLOR 1260	ND	180	UG/KG	06/23/90	WHS

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ANALYSIS REPORT

SAMPLE No	COLLECTED. DATE	TIME	BY	POINT OF COLLECTION
E012767	05/21/90	10:45	DLW	SOIL - B1, AS-2 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
ANTIMONY	<0.10	0.10	MG/KG	06/01/90	SRB
ARSENIC	3.9	0.10	MG/KG	06/01/90	NTH
BERYLLIUM	<0.50	0.50	MG/KG	06/01/90	BJR
CADMIUM	<1.0	1.0	MG/KG	06/01/90	BJR
CHROMIUM	9.8	2.5	MG/KG	06/07/90	TPM
COPPER	15	2.0	MG/KG	06/01/90	BJR
LEAD	32	10	MG/KG	06/14/90	TPM
MERCURY	0.29	0.10	MG/KG	06/01/90	SMH
NICKEL	8.0	4.0	MG/KG	06/01/90	BJR
SELENIUM	0.64	0.10	MG/KG	06/08/90	SRB
SILVER	<3.0	3.0	MG/KG	06/07/90	TPM
THALLIUM	0.17	0.10	MG/KG	06/01/90	RTK
ZINC	40	5.0	MG/KG	06/01/90	BJR

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

ACCUTEST
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012767	05/21/90	10:45	DLW	SOIL - B1, AS-2 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
CYANIDE, TOTAL	<0.50	0.50	MG/KG	05/30/90	HBM
PETROLEUM HYDROCARBONS	710	25	MG/KG	05/30/90	BJR
PHENOLICS, TOTAL	16	2.5	MG/KG	06/05/90	KY
SOLIDS, TOTAL PERCENT	87	2.0	%	05/23/90	AMH

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012768
MATRIX : SOIL

METHOD : SW846 8240
ANALYSIS DATE: 06/01/90
DATA FILE : >B6553

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACROLEIN	ND	35000	
2)	ACRYLONITRILE	ND	35000	
3)	BENZENE	ND	1800	
4)	BROMOFORM	ND	1800	
5)	BROMODICHLOROMETHANE	ND	1800	
6)	BROMOMETHANE	ND	3500	
7)	CARBON TETRACHLORIDE	ND	1800	
8)	CHLOROBENZENE	ND	1800	
9)	CHLOROETHANE	ND	3500	
10)	2-CHLOROETHYL VINYL ETHER	ND	3500	
11)	CHLOROFORM	ND	1800	
12)	CHLOROMETHANE	ND	3500	
13)	cis-1,3-DICHLOROPROPENE	ND	1800	
14)	DIBROMOCHLOROMETHANE	ND	1800	
15)	1,2-DICHLOROBENZENE	ND	1800	
16)	1,3-DICHLOROBENZENE	ND	1800	
17)	1,4-DICHLOROBENZENE	ND	1800	
18)	1,1-DICHLOROETHANE	ND	1800	
19)	1,2-DICHLOROETHANE	ND	1800	
20)	1,1-DICHLOROETHYLENE	ND	1800	
21)	trans-1,2-DICHLOROETHYLENE	ND	1800	
22)	trans-1,3-DICHLOROPROPENE	ND	1800	
23)	1,2-DICHLOROPROPANE	ND	1800	
24)	ETHYLBENZENE	4100	1800	
25)	METHYLENE CHLORIDE	ND	1800	
26)	1,1,2,2-TETRACHLOROETHANE	ND	1800	
27)	TETRACHLOROETHYLENE	ND	1800	
28)	TOLUENE	ND	1800	
29)	1,1,1-TRICHLOROETHANE	ND	1800	
30)	1,1,2-TRICHLOROETHANE	ND	1800	
31)	TRICHLOROETHYLENE	ND	1800	
32)	TRICHLOROFLUOROMETHANE	ND	1800	
33)	VINYL CHLORIDE	ND	3500	
34)	m-XYLENE	3700	1800	
35)	p,o-XYLENE	26000	1800	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012768
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >C4590

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACENAPHTHENE	150000	40000	
2)	ACENAPHTHYLENE	9600	40000	J
3)	ANTHRACENE	170000	40000	
4)	BENZIDENE	ND	200000	
5)	BENZO(A)ANTHRACENE	150000	40000	
6)	BENZO(A)PYRENE	140000	40000	
7)	BENZO(B)FLUORANTHENE	120000	40000	
8)	BENZO(K)FLUORANTHENE	110000	40000	
9)	BENZO(G,H,I)PERYLENE	72000	40000	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	40000	
11)	BIS(2-CHLOROETHYL)ETHER	ND	40000	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	40000	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	17000	40000	JB
14)	4-BROMOPHENYL PHENYL ETHER	ND	40000	
15)	BUTYL BENZYL PHTHALATE	ND	40000	
16)	2-CHLORONAPHTHALENE	ND	40000	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	40000	
18)	CHRYSENE	160000	40000	
19)	DIBENZO(A,H)ANTHRACENE	ND	40000	
20)	1,2-DICHLOROBENZENE	ND	40000	
21)	1,3-DICHLOROBENZENE	ND	40000	
22)	1,4-DICHLOROBENZENE	ND	40000	
23)	3,3'-DICHLOROBENZIDENE	ND	80000	
24)	DIETHYL PHTHALATE	ND	40000	
25)	DIMETHYL PHTHALATE	ND	40000	
26)	DI-N-BUTYL PHTHALATE	ND	40000	
27)	2,4-DINITROTOLUENE	ND	40000	
28)	2,6-DINITROTOLUENE	ND	40000	
29)	DI-N-OCTYL PHTHALATE	ND	40000	
30)	1,2-DIPHENYLHYDRAZINE	ND	40000	
31)	FLUORANTHENE	330000	40000	
32)	FLUORENE	170000	40000	
33)	HEXACHLOROBENZENE	ND	40000	
34)	HEXACHLOROBUTADIENE	ND	40000	
35)	HEXACHLOROCYCLOPENTADIENE	ND	40000	
36)	HEXACHLOROETHANE	ND	40000	
37)	INDENO(1,2,3-CD)PYRENE	67000	40000	
38)	ISOPHORONE	ND	40000	
39)	NAPHTHALENE	330000	40000	
40)	NITROBENZENE	ND	40000	
41)	N-NITROSODIMETHYLAMINE	ND	40000	
42)	N-NITROSODI-N-PROPYLAMINE	ND	40000	
43)	N-NITROSODIPHENYLAMINE	ND	40000	
44)	PHENANTHRENE	410000	40000	
45)	PYRENE	270000	40000	
46)	1,2,4-TRICHLOROBENZENE	ND	40000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS&S
LAB SAMPLE #: E012768
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : '>C4590

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	80000	
2)	2-CHLOROPHENOL	ND	40000	
3)	2,4-DICHLOROPHENOL	ND	40000	
4)	2,4-DIMETHYLPHENOL	ND	40000	
5)	2,4-DINITROPHENOL	ND	200000	
6)	2-METHYL-4,6-DINITROPHENOL	ND	200000	
7)	2-NITROPHENOL	ND	40000	
8)	4-NITROPHENOL	ND	200000	
9)	PENTACHLOROPHENOL	ND	200000	
10)	PHENOL	ND	40000	
11)	2,4,6-TRICHLOROPHENOL	ND	40000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Lab Sample ID: E012768

Date Analyzed: 6/01/90 1:06

Lab File ID: >B6553

Matrix: SOIL FOR VOA

Number TICs found: 7 CONCENTRATION UNITS: ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	Unknown	6.48	2100.	4
2. 3404782	2-Hexene, 2,5-dimethyl- (8CI9CI)	25.36	3900.	
3. 696297	Cyclohexane, (1-methylethyl)- (9CI	29.48	3500.	
4. 53907601	Cyclopentane, 1,1,3,4-tetramethyl-	31.51	4800.	
5. 496117	1H-Indene, 2,3-dihydro- (9CI)	35.40	190000.	
6. 622968	Benzene, 1-ethyl-4-methyl- (9CI)	36.73	24000.	
7. 91203	Naphthalene (ACN)(DOT)(8CI9CI)	39.39	1100000.	
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

FORM I VOA-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Batch Number: MS-S-829

Lab Sample ID: E012768

Extraction Date: 5/31/90

Lab File ID: >C4590

Date Analyzed: 6/06/90 12:47

Matrix: SOIL FOR BNAE

Number TICs found: 25

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	611143	Benzene, 1-ethyl-2-methyl- (9CI)	11.94	45000.	
2.	526738	Benzene, 1,2,3-trimethyl- (8CI9CI)	12.77	65000.	
3.	496117	1H-Indene, 2,3-dihydro- (9CI)	13.88	81000.	
4.	535773	Benzene, 1-methyl-3-(1-methylethyl	14.24	45000.	
5.	2288188	Benzene, (1-methylene-2-propenyl)-	16.47	25000.	
6.	53771883	Cyclopentane, 1-methyl-3-(1-methyl	18.20	27000.	
7.	62016346	Octane, 2,3,7-trimethyl- (9CI)	18.63	26000.	
8.	4453901	1,4-Methanonaphthalene, 1,4-dihydr	19.60	51000.	
9.	4453901	1,4-Methanonaphthalene, 1,4-dihydr	19.96	45000.	
10.	5765446	Isoxazole, 5-methyl- (8CI9CI)	20.18	25000.	
11.	74645980	Dodecane, 2,7,10-trimethyl- (9CI)	20.61	59000.	
12.	827543	Naphthalene, 2-ethenyl- (9CI)	21.12	84000.	
13.	575439	Naphthalene, 1,6-dimethyl- (8CI9CI	21.66	78000.	
14.	575371	Naphthalene, 1,7-dimethyl- (8CI9CI	21.94	86000.	
15.	75163972	Octadecane, 2,6-dimethyl- (9CI)	22.13	82000.	
16.	573988	Naphthalene, 1,2-dimethyl- (8CI9CI	22.34	48000.	
17.	132649	Dibenzofuran (8CI9CI)	23.75	100000.	
18.	2245387	Naphthalene, 1,6,7-trimethyl- (8CI	23.85	64000.	
19.	2131422	Naphthalene, 1,4,6-trimethyl- (8CI	24.18	56000.	
20.	2245387	Naphthalene, 1,6,7-trimethyl- (8CI	24.47	64000.	
21.	17312811	Undecane, 3,5-dimethyl- (8CI)	25.15	120000.	
22.	7320538	Dibenzofuran, 4-methyl- (8CI9CI)	25.44	39000.	
23.	17302328	Nonane, 3,7-dimethyl- (8CI9CI)	26.05	29000.	
24.	74645980	Dodecane, 2,7,10-trimethyl- (9CI)	27.57	25000.	
25.	203645	4H-Cyclopenta[def]phenanthrene (8C	30.16	28000.	

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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ANALYSIS REPORT

SAMPLE No	COLLECTED. DATE	TIME	BY	POINT OF COLLECTION
E012768	05/21/90	11:30	DLW	SOIL - B2, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITI
PESTICIDES, PCB'S[A]					
ALDRIN	ND	170	UG/KG	06/23/90	WHS
alpha-BHC	ND	170	UG/KG	06/23/90	WHS
beta-BHC	ND	170	UG/KG	06/23/90	WHS
delta-BHC	ND	170	UG/KG	06/23/90	WHS
gamma-BHC	ND	170	UG/KG	06/23/90	WHS
CHLORDANE	ND	1700	UG/KG	06/23/90	WHS
4,4'-DDD	ND	170	UG/KG	06/23/90	WHS
4,4'-DDE	ND	170	UG/KG	06/23/90	WHS
4,4'-DDT	ND	170	UG/KG	06/23/90	WHS
DIELDRIN	ND	170	UG/KG	06/23/90	WHS
ENDOSULFAN I	ND	170	UG/KG	06/23/90	WHS
ENDOSULFAN II	ND	170	UG/KG	06/23/90	WHS
ENDOSULFAN SULFATE	ND	170	UG/KG	06/23/90	WHS
ENDRIN	ND	170	UG/KG	06/23/90	WHS
ENDRIN ALDEHYDE	ND	170	UG/KG	06/23/90	WHS
HEPTACHLOR	ND	170	UG/KG	06/23/90	WHS
HEPTACHLOR EPOXIDE	ND	170	UG/KG	06/23/90	WHS
TOXAPHENE	ND	1700	UG/KG	06/23/90	WHS
AROCHLOR 1016	ND	860	UG/KG	06/23/90	WHS
AROCHLOR 1221	ND	860	UG/KG	06/23/90	WHS
AROCHLOR 1232	ND	860	UG/KG	06/23/90	WHS

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

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2235 ROUTE 130, DAYTON, NJ 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012768	05/21/90	11:30	DLW	SOIL - B2, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
PESTICIDES, PCB'S(Cont.)[A]					
AROCHLOR 1242	ND	860	UG/KG	06/23/90	WHS
AROCHLOR 1248	ND	860	UG/KG	06/23/90	WHS
AROCHLOR 1254	ND	860	UG/KG	06/23/90	WHS
AROCHLOR 1260	ND	860	UG/KG	06/23/90	WHS

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012768	05/21/90	11:30	DLW	SOIL - B2, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
ANTIMONY	1.0	0.10	MG/KG	06/09/90	BJR
ARSENIC	12	0.10	MG/KG	06/01/90	NTH
BERYLLIUM	<0.50	0.50	MG/KG	06/01/90	BJR
CADMIUM	2.1	1.0	MG/KG	06/01/90	BJR
CHROMIUM	16	2.5	MG/KG	06/04/90	TPM
COPPER	58	2.0	MG/KG	06/01/90	BJR
LEAD	440	10	MG/KG	06/14/90	TPM
MERCURY	23	0.10	MG/KG	06/05/90	SMH
NICKEL	53	4.0	MG/KG	06/01/90	BJR
SELENIUM	0.79	0.10	MG/KG	06/08/90	SRB
SILVER	<3.0	3.0	MG/KG	06/07/90	TPM
THALLIUM	0.33	0.10	MG/KG	06/01/90	RTK
ZINC	250	5.0	MG/KG	06/01/90	BJR

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012768	05/21/90	11:30	DLW	SOIL - B2, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
CYANIDE, TOTAL	<0.50	0.50	MG/KG	05/30/90	HBM
PETROLEUM HYDROCARBONS	38000	25	MG/KG	05/30/90	BJR
PHENOLICS, TOTAL	18	2.5	MG/KG	06/05/90	KY
SOLIDS, TOTAL PERCENT	95	2.0	%	05/23/90	AMH

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012769
MATRIX : SOIL

METHOD : SW846 8240
ANALYSIS DATE: 06/04/90
DATA FILE : >B6600

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACROLEIN	ND	56000	
2)	ACRYLONITRILE	ND	55000	
3)	BENZENE	4600	2800	
4)	BROMOFORM	ND	2800	
5)	BROMODICHLOROMETHANE	ND	2800	
6)	BROMOMETHANE	ND	5600	
7)	CARBON TETRACHLORIDE	ND	2800	
8)	CHLOROBENZENE	ND	2800	
9)	CHLOROETHANE	ND	5600	
10)	2-CHLOROETHYL VINYL ETHER	ND	5600	
11)	CHLOROFORM	ND	2800	
12)	CHLOROMETHANE	ND	5600	
13)	cis-1,3-DICHLOROPROPENE	ND	2800	
14)	DIBROMOCHLOROMETHANE	ND	2800	
15)	1,2-DICHLOROBENZENE	ND	2800	
16)	1,3-DICHLOROBENZENE	ND	2800	
17)	1,4-DICHLOROBENZENE	ND	2800	
18)	1,1-DICHLOROETHANE	ND	2800	
19)	1,2-DICHLOROETHANE	ND	2800	
20)	1,1-DICHLOROETHYLENE	ND	2800	
21)	trans-1,2-DICHLOROETHYLENE	ND	2800	
22)	trans-1,3-DICHLOROPROPENE	ND	2800	
23)	1,2-DICHLOROPROPANE	ND	2800	
24)	ETHYLBENZENE	20000	2800	
25)	METHYLENE CHLORIDE	ND	2800	
26)	1,1,2,2-TETRACHLOROETHANE	ND	2800	
27)	TETRACHLOROETHYLENE	ND	2800	
28)	TOLUENE	6700	2800	
29)	1,1,1-TRICHLOROETHANE	ND	2800	
30)	1,1,2-TRICHLOROETHANE	ND	2800	
31)	TRICHLOROETHYLENE	ND	2800	
32)	TRICHLOROFLUOROMETHANE	ND	2800	
33)	VINYL CHLORIDE	ND	5600	
34)	m-XYLENE	3800	2800	
35)	p,o-XYLENE	33000	2800	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012769
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >C4593
>D0240

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACENAPHTHENE	31000	11000	
2)	ACENAPHTHYLENE	ND	11000	
3)	ANTHRACENE	60000	11000	
4)	BENZIDENE	ND	55000	
5)	BENZO(A)ANTHRACENE	180000	11000	
6)	BENZO(A)PYRENE	210000	11000	
7)	BENZO(B)FLUORANTHENE	190000	11000	
8)	BENZO(K)FLUORANTHENE	160000	11000	
9)	BENZO(G,H,I)PERYLENE	150000	11000	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	11000	
11)	BIS(2-CHLOROETHYL)ETHER	ND	11000	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	11000	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	1700	11000	JB
14)	4-BROMOPHENYL PHENYL ETHER	ND	11000	
15)	BUTYL BENZYL PHTHALATE	ND	11000	
16)	2-CHLORONAPHTHALENE	ND	11000	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	11000	
18)	CHRYSENE	200000	11000	
19)	DIBENZO(A,H)ANTHRACENE	56000	11000	
20)	1,2-DICHLOROBENZENE	ND	11000	
21)	1,3-DICHLOROBENZENE	ND	11000	
22)	1,4-DICHLOROBENZENE	ND	11000	
23)	3,3'-DICHLOROBENZIDENE	ND	22000	
24)	DIETHYL PHTHALATE	ND	11000	
25)	DIMETHYL PHTHALATE	ND	11000	
26)	DI-N-BUTYL PHTHALATE	ND	11000	
27)	2,4-DINITROTOLUENE	ND	11000	
28)	2,6-DINITROTOLUENE	ND	11000	
29)	DI-N-OCTYL PHTHALATE	ND	11000	
30)	1,2-DIPHENYLHYDRAZINE	ND	11000	
31)	FLUORANTHENE	310000	55000	
32)	FLUORENE	26000	11000	
33)	HEXACHLOROBENZENE	ND	11000	
34)	HEXACHLOROBUTADIENE	ND	11000	
35)	HEXACHLOROCYCLOPENTADIENE	ND	11000	
36)	HEXACHLOROETHANE	ND	11000	
37)	INDENO(1,2,3-CD)PYRENE	140000	11000	
38)	ISOPHORONE	ND	11000	
39)	NAPHTHALENE	16000	11000	
40)	NITROBENZENE	ND	11000	
41)	N-NITROSODIMETHYLAMINE	ND	11000	
42)	N-NITROSODI-N-PROPYLAMINE	ND	11000	
43)	N-NITROSODIPHENYLAMINE	ND	11000	
44)	PHENANTHRENE	150000	11000	
45)	PYRENE	140000	11000	
46)	1,2,4-TRICHLOROBENZENE	ND	11000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS&S
LAB SAMPLE #: E012769
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >C4593

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	22000	
2)	2-CHLOROPHENOL	ND	11000	
3)	2,4-DICHLOROPHENOL	ND	11000	
4)	2,4-DIMETHYLPHENOL	ND	11000	
5)	2,4-DINITROPHENOL	ND	55000	
6)	2-METHYL-4,6-DINITROPHENOL	ND	55000	
7)	2-NITROPHENOL	ND	11000	
8)	4-NITROPHENOL	ND	55000	
9)	PENTACHLOROPHENOL	ND	55000	
10)	PHENOL	ND	11000	
11)	2,4,6-TRICHLOROPHENOL	ND	11000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

CERTIFICATIONS: NJ (12120) • NY (10022) • CT (PH 0505)

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Lab Sample ID: E012769

Date Analyzed: 6/04/90 22:19

Lab File ID: >B6600

Matrix: SOIL FOR VOA

Number TICs found: 3 CONCENTRATION UNITS: ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	Unknown	6.43	3900.	
2. 496117	1H-Indene, 2,3-dihydro- (9CI)	35.58	200000.	
3. 98828	Benzene, (1-methylethyl)- (9CI)	36.93	20000.	
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Batch Number: MS-S-829

Lab Sample ID: E012769

Extraction Date: 5/31/90

Lab File ID: >C4593

Date Analyzed: 6/06/90 16:31

Matrix: SOIL FOR BNAE

Number TICs found: 25

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	6044719	Dodecane, 6-methyl- (8CI9CI)	17.45	11000.	
2.	2463776	2-Undecenal (8CI9CI)	18.21	13000.	
3.	62016346	Octane, 2,3,7-trimethyl- (9CI)	18.64	13000.	
4.	629505	Tridecane (8CI9CI)	19.14	15000.	
5.	25419334	Naphthalene, 1,2,3,4-tetrahydro-1,	20.11	11000.	
6.	74645980	Dodecane, 2,7,10-trimethyl- (9CI)	20.62	17000.	
7.	62108218	Decane, 6-ethyl-2-methyl- (9CI)	21.02	21000.	
8.	54832836	1H-Indene, octahydro-2,2,4,4,7,7-h	21.09	12000.	
9.	54340851	Benzene, 1-(2-butenyl)-2,3-dimethy	21.38	12000.	
10.	13287213	Tridecane, 6-methyl- (8CI9CI)	21.88	10000.	
11.	575371	Naphthalene, 1,7-dimethyl- (8CI9CI	21.95	11000.	
12.	74645980	Dodecane, 2,7,10-trimethyl- (9CI)	22.13	30000.	
13.	630024	Octacosane (8CI9CI)	22.74	31000.	
14.	132649	Dibenzofuran (8CI9CI)	23.75	13000.	
15.	2131422	Naphthalene, 1,4,6-trimethyl- (8CI	23.86	18000.	
16.	2245387	Naphthalene, 1,6,7-trimethyl- (8CI	24.19	15000.	
17.	544763	Hexadecane (8CI9CI)	24.40	26000.	
18.	1921706	Pentadecane, 2,6,10,14-tetramethyl	25.16	35000.	
19.	55045119	Tridecane, 5-propyl- (9CI)	26.06	14000.	
20.	54833486	Heptadecane, 2,6,10,15-tetramethyl	27.43	6800.	
21.	55045108	Tridecane, 6-propyl- (9CI)	27.58	9100.	
22.	203645	4H-Cyclopenta[def]phenanthrene (8C	30.17	9100.	
23.	243174	11H-Benzo[b]fluorene (8CI9CI)	33.99	15000.	
24.	243174	11H-Benzo[b]fluorene (8CI9CI)	34.21	12000.	
25.	50328	Benzo[a]pyrene (8CI9CI)	45.68	220000.	

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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ANALYSIS REPORT

SAMPLE No	COLLECTED. DATE	TIME	BY	POINT OF COLLECTION
E012769	05/21/90	12:30	DLW	SOIL - B3, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S[A]					
ALDRIN	ND	180	UG/KG	06/23/90	WHS
alpha-BHC	ND	180	UG/KG	06/23/90	WHS
beta-BHC	ND	180	UG/KG	06/23/90	WHS
delta-BHC	ND	180	UG/KG	06/23/90	WHS
gamma-BHC	ND	180	UG/KG	06/23/90	WHS
CHLORDANE	ND	1800	UG/KG	06/23/90	WHS
4,4'-DDD	ND	180	UG/KG	06/23/90	WHS
4,4'-DDE	ND	180	UG/KG	06/23/90	WHS
4,4'-DDT	ND	180	UG/KG	06/23/90	WHS
DIELDRIN	ND	180	UG/KG	06/23/90	WHS
ENDOSULFAN I	ND	180	UG/KG	06/23/90	WHS
ENDOSULFAN II	ND	180	UG/KG	06/23/90	WHS
ENDOSULFAN SULFATE	ND	180	UG/KG	06/23/90	WHS
ENDRIN	ND	180	UG/KG	06/23/90	WHS
ENDRIN ALDEHYDE	ND	180	UG/KG	06/23/90	WHS
HEPTACHLOR	ND	180	UG/KG	06/23/90	WHS
HEPTACHLOR EPOXIDE	ND	180	UG/KG	06/23/90	WHS
TOXAPHENE	ND	1800	UG/KG	06/23/90	WHS
AROCHLOR 1016	ND	910	UG/KG	06/23/90	WHS
AROCHLOR 1221	ND	910	UG/KG	06/23/90	WHS
AROCHLOR 1232	ND	910	UG/KG	06/23/90	WHS

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012769	05/21/90	12:30	DLW	SOIL - B3, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S(Cont.)[A]					
AROCHLOR 1242	ND	910	UG/KG	06/23/90	WHS
AROCHLOR 1248	ND	910	UG/KG	06/23/90	WHS
AROCHLOR 1254	ND	910	UG/KG	06/23/90	WHS
AROCHLOR 1260	ND	910	UG/KG	06/23/90	WHS

A ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012769	05/21/90	12:30	DLW	SOIL - B3, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
ANTIMONY	2.3	0.10	MG/KG	06/09/90	BJR
ARSENIC	53	0.10	MG/KG	06/01/90	NTH
BERYLLIUM	<0.50	0.50	MG/KG	06/01/90	BJR
CADMIUM	1.2	1.0	MG/KG	06/05/90	BJR
CHROMIUM	12	2.5	MG/KG	06/04/90	TPM
COPPER	170	2.0	MG/KG	06/01/90	BJR
LEAD	260	10	MG/KG	06/14/90	TPM
MERCURY	0.61	0.10	MG/KG	06/05/90	SMH
NICKEL	11	4.0	MG/KG	06/01/90	BJR
SELENIUM	0.84	0.10	MG/KG	06/08/90	SRB
SILVER	<3.0	3.0	MG/KG	06/07/90	TPM
THALLIUM	0.83	0.10	MG/KG	06/01/90	RTK
ZINC	1800	5.0	MG/KG	06/19/90	JMC

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012769	05/21/90	12:30	DLW	SOIL - B3, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
CYANIDE, TOTAL	<0.50	0.50	MG/KG	05/30/90	HBM
PETROLEUM HYDROCARBONS	11000	25	MG/KG	05/30/90	BJR
PHENOLICS, TOTAL	75	2.5	MG/KG	06/05/90	KY
SOLIDS, TOTAL PERCENT	90	2.0	%	05/23/90	AMH

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012770
MATRIX : SOIL

METHOD : SW846 8240
ANALYSIS DATE: 05/31/90
DATA FILE : >B6548

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACROLEIN	ND	1100	
2)	ACRYLONITRILE	ND	1100	
3)	BENZENE	ND	54	
4)	BROMOFORM	ND	54	
5)	BROMODICHLOROMETHANE	ND	54	
6)	BROMOMETHANE	ND	110	
7)	CARBON TETRACHLORIDE	ND	54	
8)	CHLOROBENZENE	ND	54	
9)	CHLOROETHANE	ND	110	
10)	2-CHLOROETHYL VINYL ETHER	ND	110	
11)	CHLOROFORM	ND	54	
12)	CHLOROMETHANE	ND	110	
13)	cis-1,3-DICHLOROPROPENE	ND	54	
14)	DIBROMOCHLOROMETHANE	ND	54	
15)	1,2-DICHLOROBENZENE	ND	54	
16)	1,3-DICHLOROBENZENE	ND	54	
17)	1,4-DICHLOROBENZENE	ND	54	
18)	1,1-DICHLOROETHANE	ND	54	
19)	1,2-DICHLOROETHANE	ND	54	
20)	1,1-DICHLOROETHYLENE	ND	54	
21)	trans-1,2-DICHLOROETHYLENE	ND	54	
22)	trans-1,3-DICHLOROPROPENE	ND	54	
23)	1,2-DICHLOROPROPANE	ND	54	
24)	ETHYLBENZENE	ND	54	
25)	METHYLENE CHLORIDE	ND	54	
26)	1,1,2,2-TETRACHLOROETHANE	ND	54	
27)	TETRACHLOROETHYLENE	ND	54	
28)	TOLUENE	ND	54	
29)	1,1,1-TRICHLOROETHANE	ND	54	
30)	1,1,2-TRICHLOROETHANE	ND	54	
31)	TRICHLOROETHYLENE	ND	54	
32)	TRICHLOROFLUOROMETHANE	ND	54	
33)	VINYL CHLORIDE	ND	110	
34)	m-XYLENE	140	54	
35)	p,o-XYLENE	350	54	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

CERTIFICATIONS: NJ (12129) • NY (10983) • CT (PH-0585)

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS & S
LAB SAMPLE #: E012770
MATRIX : SOIL

METHOD : SW846 827
ANALYSIS DATE: 06/06/90
DATA FILE : >D0211

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACENAPHTHENE	ND	29000	
2)	ACENAPHTHYLENE	ND	29000	
3)	ANTHRACENE	ND	29000	
4)	BENZIDENE	ND	140000	
5)	BENZO(A)ANTHRACENE	3000	29000	J
6)	BENZO(A)PYRENE	ND	29000	
7)	BENZO(B)FLUORANTHENE	3500	29000	J
8)	BENZO(K)FLUORANTHENE	4300	29000	J
9)	BENZO(G,H,I)PERYLENE	ND	29000	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	29000	
11)	BIS(2-CHLOROETHYL)ETHER	ND	29000	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	29000	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	29000	
14)	4-BROMOPHENYL PHENYL ETHER	ND	29000	
15)	BUTYL BENZYL PHTHALATE	ND	29000	
16)	2-CHLORONAPHTHALENE	ND	29000	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	29000	
18)	CHRYSENE	4400	29000	J
19)	DIBENZO(A,H)ANTHRACENE	ND	29000	
20)	1,2-DICHLOROBENZENE	ND	29000	
21)	1,3-DICHLOROBENZENE	ND	29000	
22)	1,4-DICHLOROBENZENE	ND	29000	
23)	3,3'-DICHLOROBENZIDENE	ND	57000	
24)	DIETHYL PHTHALATE	ND	29000	
25)	DIMETHYL PHTHALATE	ND	29000	
26)	DI-N-BUTYL PHTHALATE	ND	29000	
27)	2,4-DINITROTOLUENE	ND	29000	
28)	2,6-DINITROTOLUENE	ND	29000	
29)	DI-N-OCTYL PHTHALATE	ND	29000	
30)	1,2-DIPHENYLHYDRAZINE	ND	29000	
31)	FLUORANTHENE	7000	29000	J
32)	FLUORENE	ND	29000	
33)	HEXACHLOROBENZENE	ND	29000	
34)	HEXACHLOROBUTADIENE	ND	29000	
35)	HEXACHLOROCYCLOPENTADIENE	ND	29000	
36)	HEXACHLOROETHANE	ND	29000	
37)	INDENO(1,2,3-CD)PYRENE	ND	29000	
38)	ISOPHORONE	ND	29000	
39)	NAPHTHALENE	ND	29000	
40)	NITROBENZENE	ND	29000	
41)	N-NITROSODIMETHYLAMINE	ND	29000	
42)	N-NITROSODI-N-PROPYLAMINE	ND	29000	
43)	N-NITROSODIPHENYLAMINE	ND	29000	
44)	PHENANTHRENE	ND	29000	
45)	PYRENE	4900	29000	J
46)	1,2,4-TRICHLOROBENZENE	6700	29000	J
		ND	29000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

CERTIFICATIONS: NJ (12129) • NY (10983) • CT (PH-0585)

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ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS & S
LAB SAMPLE #: E012770
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >D0211

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	57000	
2)	2-CHLOROPHENOL	ND	29000	
3)	2,4-DICHLOROPHENOL	ND	29000	
4)	2,4-DIMETHYLPHENOL	ND	29000	
5)	2,4-DINITROPHENOL	ND	140000	
6)	2-METHYL-4,6-DINITROPHENOL	ND	140000	
7)	2-NITROPHENOL	ND	29000	
8)	4-NITROPHENOL	ND	140000	
9)	PENTACHLOROPHENOL	ND	140000	
10)	PHENOL	ND	29000	
11)	2,4,6-TRICHLOROPHENOL	ND	29000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Lab Sample ID: E012770

Date Analyzed: 5/31/90 21:18

Lab File ID: >B6548

Matrix: SOIL FOR VOA

Number TICs found: 7 CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.		Unknown	6.62	140.	
2.		Unknown	6.97	150.	
3.		Unknown	7.71	75.	
4.	5208491	4-Carene, (1S,3R,6R)-(-)- (8CI)	24.91	2100.	
5.	140294	Benzeneacetontrile (9CI)	35.51	1100.	
6.		Unknown	25.40	180.	
7.		Unknown	31.49	91.	
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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ANALYSIS REPORT

SAMPLE No	COLLECTED. DATE	TIME	BY	POINT OF COLLECTION
E012770	05/21/90	13:45	DLW	SOIL - B4, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S[A]					
ALDRIN	ND	190	UG/KG	06/23/90	WHS
alpha-BHC	ND	190	UG/KG	06/23/90	WHS
beta-BHC	ND	190	UG/KG	06/23/90	WHS
delta-BHC	ND	190	UG/KG	06/23/90	WHS
gamma-BHC	ND	190	UG/KG	06/23/90	WHS
CHLORDANE	ND	1900	UG/KG	06/23/90	WHS
4,4'-DDD	ND	190	UG/KG	06/23/90	WHS
4,4'-DDE	330	190	UG/KG	06/23/90	WHS
4,4'-DDT	ND	190	UG/KG	06/23/90	WHS
DIELDRIN	ND	190	UG/KG	06/23/90	WHS
ENDOSULFAN I	ND	190	UG/KG	06/23/90	WHS
ENDOSULFAN II	ND	190	UG/KG	06/23/90	WHS
ENDOSULFAN SULFATE	ND	190	UG/KG	06/23/90	WHS
ENDRIN	ND	190	UG/KG	06/23/90	WHS
ENDRIN ALDEHYDE	ND	190	UG/KG	06/23/90	WHS
HEPTACHLOR	ND	190	UG/KG	06/23/90	WHS
HEPTACHLOR EPOXIDE	ND	190	UG/KG	06/23/90	WHS
TOXAPHENE	ND	1900	UG/KG	06/23/90	WHS
AROCHLOR 1016	ND	930	UG/KG	06/23/90	WHS
AROCHLOR 1221	ND	930	UG/KG	06/23/90	WHS
AROCHLOR 1232	ND	930	UG/KG	06/23/90	WHS

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ANALYSIS REPORT

SAMPLE No	COLLECTED. DATE	TIME	BY	POINT OF COLLECTION
E012770	05/21/90	13:45	DLW	SOIL - B4, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S(Cont.)[A]					
AROCHLOR 1242	ND	930	UG/KG	06/23/90	WHS
AROCHLOR 1248	ND	930	UG/KG	06/23/90	WHS
AROCHLOR 1254	ND	930	UG/KG	06/23/90	WHS
AROCHLOR 1260	ND	930	UG/KG	06/23/90	WHS

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012770	05/21/90	13:45	DLW	SOIL - B4, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
ANTIMONY	2.1	0.10	MG/KG	06/11/90	SRB
ARSENIC	73	0.10	MG/KG	06/01/90	NTH
BERYLLIUM	<0.50	0.50	MG/KG	06/01/90	BJR
CADMIUM	<1.0	1.0	MG/KG	06/01/90	BJR
CHROMIUM	7.8	2.5	MG/KG	06/07/90	TPM
COPPER	110	2.0	MG/KG	06/01/90	BJR
LEAD	200	10	MG/KG	06/14/90	TPM
MERCURY	2.7	0.10	MG/KG	06/05/90	SMH
NICKEL	9.7	4.0	MG/KG	06/01/90	BJR
SELENIUM[1]	1.3	0.10	MG/KG	06/08/90	SRB
SILVER	<3.0	3.0	MG/KG	06/07/90	TPM
THALLIUM	0.77	0.10	MG/KG	06/01/90	RTK
ZINC	110	5.0	MG/KG	06/01/90	BJR

[1] RESULTS DETERMINED BY METHOD OF STANDARD ADDITION (MSA).

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012771
MATRIX : SOIL

METHOD : SW846 8240
ANALYSIS DATE: 05/31/90
DATA FILE : >B6546

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACROLEIN	ND	120	
2)	ACRYLONITRILE	ND	120	
3)	BENZENE	ND	5.9	
4)	BROMOFORM	ND	5.9	
5)	BROMODICHLOROMETHANE	ND	5.9	
6)	BROMOMETHANE	ND	12	
7)	CARBON TETRACHLORIDE	ND	5.9	
8)	CHLOROBENZENE	ND	5.9	
9)	CHLOROETHANE	ND	12	
10)	2-CHLOROETHYL VINYL ETHER	ND	12	
11)	CHLOROFORM	ND	5.9	
12)	CHLOROMETHANE	ND	12	
13)	cis-1,3-DICHLOROPROPENE	ND	5.9	
14)	DIBROMOCHLOROMETHANE	ND	5.9	
15)	1,2-DICHLOROBENZENE	ND	5.9	
16)	1,3-DICHLOROBENZENE	ND	5.9	
17)	1,4-DICHLOROBENZENE	ND	5.9	
18)	1,1-DICHLOROETHANE	ND	5.9	
19)	1,2-DICHLOROETHANE	ND	5.9	
20)	1,1-DICHLOROETHYLENE	ND	5.9	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.9	
22)	trans-1,3-DICHLOROPROPENE	ND	5.9	
23)	1,2-DICHLOROPROPANE	ND	5.9	
24)	ETHYLBENZENE	ND	5.9	
25)	METHYLENE CHLORIDE	ND	5.9	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.9	
27)	TETRACHLOROETHYLENE	ND	5.9	
28)	TOLUENE	ND	5.9	
29)	1,1,1-TRICHLOROETHANE	ND	5.9	
30)	1,1,2-TRICHLOROETHANE	ND	5.9	
31)	TRICHLOROETHYLENE	ND	5.9	
32)	TRICHLOROFLUOROMETHANE	ND	5.9	
33)	VINYL CHLORIDE	ND	12	
34)	m-XYLENE	ND	5.9	
35)	p,o-XYLENE	ND	5.9	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

CERTIFICATIONS: NJ (12129) • NY (10983) • CT (PH-0585)

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012771
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >C4596

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACENAPHTHENE	970	5600	J
2)	ACENAPHTHYLENE	ND	5600	
3)	ANTHRACENE	1100	5600	J
4)	BENZIDENE	ND	28000	
5)	BENZO(A)ANTHRACENE	4300	5600	J
6)	BENZO(A)PYRENE	4500	5600	J
7)	BENZO(B)FLUORANTHENE	4800	5600	J
8)	BENZO(K)FLUORANTHENE	3600	5600	J
9)	BENZO(G,H,I)PERYLENE	3200	5600	J
10)	BIS(2-CHLOROETHOXY)METHANE	ND	5600	
11)	BIS(2-CHLOROETHYL)ETHER	ND	5600	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	5600	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	5600	
14)	4-BROMOPHENYL PHENYL ETHER	ND	5600	
15)	BUTYL BENZYL PHTHALATE	ND	5600	
16)	2-CHLORONAPHTHALENE	ND	5600	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	5600	
18)	CHRYSENE	4900	5600	J
19)	DIBENZO(A,H)ANTHRACENE	ND	5600	
20)	1,2-DICHLOROBENZENE	ND	5600	
21)	1,3-DICHLOROBENZENE	ND	5600	
22)	1,4-DICHLOROBENZENE	ND	5600	
23)	3,3'-DICHLOROBENZIDENE	ND	11000	
24)	DIETHYL PHTHALATE	ND	5600	
25)	DIMETHYL PHTHALATE	ND	5600	
26)	DI-N-BUTYL PHTHALATE	ND	5600	
27)	2,4-DINITROTOLUENE	ND	5600	
28)	2,6-DINITROTOLUENE	ND	5600	
29)	DI-N-OCTYL PHTHALATE	ND	5600	
30)	1,2-DIPHENYLHYDRAZINE	ND	5600	
31)	FLUORANTHENE	7900	5600	
32)	FLUORENE	860	5600	J
33)	HEXACHLOROBENZENE	ND	5600	
34)	HEXACHLOROBUTADIENE	ND	5600	
35)	HEXACHLOROCYCLOPENTADIENE	ND	5600	
36)	HEXACHLOROETHANE	ND	5600	
37)	INDENO(1,2,3-CD)PYRENE	2800	5600	J
38)	ISOPHORONE	ND	5600	
39)	NAPHTHALENE	1600	5600	J
40)	NITROBENZENE	ND	5600	
41)	N-NITROSODIMETHYLAMINE	ND	5600	
42)	N-NITROSODI-N-PROPYLAMINE	ND	5600	
43)	N-NITROSODIPHENYLAMINE	ND	5600	
44)	PHENANTHRENE	5900	5600	
45)	PYRENE	4900	5600	J
46)	1,2,4-TRICHLOROBENZENE	ND	5600	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS&S
LAB SAMPLE #: E012771
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >C4596

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	11000	
2)	2-CHLOROPHENOL	ND	5600	
3)	2,4-DICHLOROPHENOL	ND	5600	
4)	2,4-DIMETHYLPHENOL	ND	5600	
5)	2,4-DINITROPHENOL	ND	28000	
6)	2-METHYL-4,6-DINITROPHENOL	ND	28000	
7)	2-NITROPHENOL	ND	5600	
8)	4-NITROPHENOL	ND	28000	
9)	PENTACHLOROPHENOL	ND	28000	
10)	PHENOL	ND	5600	
11)	2,4,6-TRICHLOROPHENOL	ND	5600	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

CERTIFICATIONS: NJ (12129) • NY (10983) • CT (PH-0586)

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Lab Sample ID: E012771

Date Analyzed: 5/31/90 19:46

Lab File ID: >B6546

Matrix: SOIL FOR VOA

Number TICs found: 3 CONCENTRATION UNITS: ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	Unknown	6.23	59.	
2.	Unknown	23.78	89.	
3.	Unknown	24.79	2200.	
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Batch Number: MS-S-829

Lab Sample ID: E012771

Extraction Date: 5/31/90

Lab File ID: >C4596

Date Analyzed: 6/06/90 20:15

Matrix: SOIL FOR BNAE

Number TICs found: 21

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	54833237	Eicosane, 10-methyl- (9CI)	20.98	4000.	
2.	52896909	Heptane, 3-ethyl-5-methyl- (9CI)	22.10	5100.	
3.	629629	Pentadecane (8CI9CI)	22.74	8700.	
4.		Unknown	23.71	3200.	
5.	829265	Naphthalene, 2,3,6-trimethyl- (8CI	23.86	3400.	
6.	630079	Pentatriacontane (8CI9CI)	24.25	2700.	
7.	62108218	Decane, 6-ethyl-2-methyl- (9CI)	24.40	7800.	
8.	55045119	Tridecane, 5-propyl- (9CI)	25.15	6700.	
9.	629787	Heptadecane (8CI9CI)	25.94	10000.	
10.	74645980	Dodecane, 2,7,10-trimethyl- (9CI)	26.05	8600.	
11.	544763	Hexadecane (8CI9CI)	27.42	6600.	
12.	74645980	Dodecane, 2,7,10-trimethyl- (9CI)	27.60	4300.	
13.	244995	5H-Indeno[1,2-b]pyridine (8CI9CI)	28.75	2700.	
14.	54833486	Heptadecane, 2,6,10,15-tetramethyl	28.82	4300.	
15.	74764117	Iron, tricarbonyl[N-(phenyl-2-pyri	30.15	8800.	
16.	54833486	Heptadecane, 2,6,10,15-tetramethyl	31.41	2400.	
17.	243174	11H-Benzo[b]fluorene (8CI9CI)	34.00	3800.	
18.	243174	11H-Benzo[b]fluorene (8CI9CI)	34.22	2300.	
19.	629970	Docosane (8CI9CI)	36.16	2900.	
20.		Unknown	38.14	3800.	
21.	205823	Benzo[j]fluoranthene (8CI9CI)	45.59	6900.	
22.					
23.					
24.					
25.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012771	05/21/90	15:00	DLW	SOIL - B5, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	IN
PESTICIDES, PCB'S[A]					
ALDRIN	ND	3.7	UG/KG	06/23/90	WH
alpha-BHC	ND	3.7	UG/KG	06/23/90	WH
beta-BHC	ND	3.7	UG/KG	06/23/90	WH
delta-BHC	ND	3.7	UG/KG	06/23/90	WH
gamma-BHC	ND	3.7	UG/KG	06/23/90	WH
CHLORDANE	ND	37	UG/KG	06/23/90	WH
4,4'-DDD	ND	3.7	UG/KG	06/23/90	WH
4,4'-DDE	90	3.7	UG/KG	06/23/90	WH
4,4'-DDT	ND	3.7	UG/KG	06/23/90	WH
DIELDRIN	ND	3.7	UG/KG	06/23/90	WH
ENDOSULFAN I	ND	3.7	UG/KG	06/23/90	WH
ENDOSULFAN II	ND	3.7	UG/KG	06/23/90	WH
ENDOSULFAN SULFATE	ND	3.7	UG/KG	06/23/90	WH
ENDRIN	ND	3.7	UG/KG	06/23/90	WH
ENDRIN ALDEHYDE	ND	3.7	UG/KG	06/23/90	WH
HEPTACHLOR	ND	3.7	UG/KG	06/23/90	WH
HEPTACHLOR EPOXIDE	ND	3.7	UG/KG	06/23/90	WH
TOXAPHENE	ND	37	UG/KG	06/23/90	WH
AROCHLOR 1016	ND	19	UG/KG	06/23/90	WH
AROCHLOR 1221	ND	19	UG/KG	06/23/90	WH
AROCHLOR 1232	ND	19	UG/KG	06/23/90	WH

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012771	05/21/90	15:00	DLW	SOIL - B5, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
PESTICIDES, PCB'S(Cont.)[A]					
AROCHLOR 1242	ND	19	UG/KG	06/23/90	WH
AROCHLOR 1248	ND	19	UG/KG	06/23/90	WH
AROCHLOR 1254	ND	19	UG/KG	06/23/90	WH
AROCHLOR 1260	ND	19	UG/KG	06/23/90	WH

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012771	05/21/90	15:00	DLW	SOIL - B5, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
ANTIMONY	5.5	0.10	MG/KG	06/11/90	SRB
ARSENIC	190	0.10	MG/KG	06/06/90	JRT
BERYLLIUM	<0.50	0.50	MG/KG	06/08/90	JMC
CADMIUM	3.0	1.0	MG/KG	06/08/90	JMC
CHROMIUM	32	2.5	MG/KG	06/06/90	TPM
COPPER	250	2.0	MG/KG	06/08/90	JMC
LEAD	670	10	MG/KG	06/05/90	TPM
MERCURY	15	0.10	MG/KG	06/05/90	SMH
NICKEL	46	4.0	MG/KG	06/08/90	JMC
SELENIUM[1,2]	3.8	0.50	MG/KG	06/13/90	JKS
SILVER	4.1	3.0	MG/KG	06/07/90	TPM
THALLIUM	2.4	0.10	MG/KG	06/14/90	JRT
ZINC	110	5.0	MG/KG	06/08/90	JMC

[1] RESULTS DETERMINED BY METHOD OF STANDARD ADDITION (MSA).
[2] DIL'N REQUIRED DUE TO INTERFERENCE RESULTING IN ELEVATED MDL.

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012771	05/21/90	15:00	DLW	SOIL - B5, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
CYANIDE, TOTAL	<0.50	0.50	MG/KG	05/30/90	HBM
PETROLEUM HYDROCARBONS	390	25	MG/KG	05/30/90	BJR
PHENOLICS, TOTAL	4.6	2.5	MG/KG	06/14/90	KY
SOLIDS, TOTAL PERCENT	85	2.0	%	05/23/90	AMH

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012772
MATRIX : SOIL

METHOD : SW846 824
ANALYSIS DATE: 05/31/90
DATA FILE : >B6547

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACROLEIN	ND	110	
2)	ACRYLONITRILE	ND	110	
3)	BENZENE	ND	5.6	
4)	BROMOFORM	ND	5.6	
5)	BROMODICHLOROMETHANE	ND	5.6	
6)	BROMOMETHANE	ND	11	
7)	CARBON TETRACHLORIDE	ND	5.6	
8)	CHLOROBENZENE	ND	5.6	
9)	CHLOROETHANE	ND	11	
10)	2-CHLOROETHYL VINYL ETHER	ND	11	
11)	CHLOROFORM	ND	5.6	
12)	CHLOROMETHANE	ND	11	
13)	cis-1,3-DICHLOROPROPENE	ND	5.6	
14)	DIBROMOCHLOROMETHANE	ND	5.6	
15)	1,2-DICHLOROBENZENE	ND	5.6	
16)	1,3-DICHLOROBENZENE	ND	5.6	
17)	1,4-DICHLOROBENZENE	ND	5.6	
18)	1,1-DICHLOROETHANE	ND	5.6	
19)	1,2-DICHLOROETHANE	ND	5.6	
20)	1,1-DICHLOROETHYLENE	ND	5.6	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.6	
22)	trans-1,3-DICHLOROPROPENE	ND	5.6	
23)	1,2-DICHLOROPROPANE	ND	5.6	
24)	ETHYLBENZENE	ND	5.6	
25)	METHYLENE CHLORIDE	ND	5.6	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.6	
27)	TETRACHLOROETHYLENE	ND	5.6	
28)	TOLUENE	ND	5.6	
29)	1,1,1-TRICHLOROETHANE	ND	5.6	
30)	1,1,2-TRICHLOROETHANE	ND	5.6	
31)	TRICHLOROETHYLENE	ND	5.6	
32)	TRICHLOROFLUOROMETHANE	ND	5.6	
33)	VINYL CHLORIDE	ND	5.6	
34)	m-XYLENE	ND	11	
35)	p,o-XYLENE	ND	5.6	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS & S
LAB SAMPLE #: E012772
MATRIX : SOIL

METHOD : SW846 827
ANALYSIS DATE: 06/20/90
DATA FILE : >D0432

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACENAPHTHENE	17000	10000	
2)	ACENAPHTHYLENE	ND	10000	
3)	ANTHRACENE	19000	10000	
4)	BENZIDENE	ND	52000	
5)	BENZO(A)ANTHRACENE	67000	10000	
6)	BENZO(A)PYRENE	64000	10000	
7)	BENZO(B)FLUORANTHENE	70000	10000	
8)	BENZO(K)FLUORANTHENE	56000	10000	
9)	BENZO(G,H,I)PERYLENE	40000	10000	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	10000	
11)	BIS(2-CHLOROETHYL)ETHER	ND	10000	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	10000	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	10000	
14)	4-BROMOPHENYL PHENYL ETHER	ND	10000	
15)	BUTYL BENZYL PHTHALATE	ND	10000	
16)	2-CHLORONAPHTHALENE	ND	10000	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10000	
18)	CHRYSENE	78000	10000	
19)	DIBENZO(A,H)ANTHRACENE	22000	10000	
20)	1,2-DICHLOROBENZENE	ND	10000	
21)	1,3-DICHLOROBENZENE	ND	10000	
22)	1,4-DICHLOROBENZENE	ND	10000	
23)	3,3'-DICHLOROBENZIDENE	ND	21000	
24)	DIETHYL PHTHALATE	ND	10000	
25)	DIMETHYL PHTHALATE	ND	10000	
26)	DI-N-BUTYL PHTHALATE	ND	10000	
27)	2,4-DINITROTOLUENE	ND	10000	
28)	2,6-DINITROTOLUENE	ND	10000	
29)	DI-N-OCTYL PHTHALATE	ND	10000	
30)	1,2-DIPHENYLHYDRAZINE	ND	10000	
31)	FLUORANTHENE	93000	10000	
32)	FLUORENE	16000	10000	
33)	HEXACHLOROBENZENE	ND	10000	
34)	HEXACHLOROBUTADIENE	ND	10000	
35)	HEXACHLOROCYCLOPENTADIENE	ND	10000	
36)	HEXACHLOROETHANE	ND	10000	
37)	INDENO(1,2,3-CD)PYRENE	ND	10000	
38)	ISOPHORONE	ND	10000	
39)	NAPHTHALENE	8700	10000	J
40)	NITROBENZENE	ND	10000	
41)	N-NITROSODIMETHYLAMINE	ND	10000	
42)	N-NITROSODI-N-PROPYLAMINE	ND	10000	
43)	N-NITROSODIPHENYLAMINE	ND	10000	
44)	PHENANTHRENE	66000	10000	
45)	PYRENE	83000	10000	
46)	1,2,4-TRICHLOROBENZENE	ND	10000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS & S
LAB SAMPLE #: E012772
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/20/90
DATA FILE : >D0432

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	21000	
2)	2-CHLOROPHENOL	ND	10000	
3)	2,4-DICHLOROPHENOL	ND	10000	
4)	2,4-DIMETHYLPHENOL	ND	10000	
5)	2,4-DINITROPHENOL	ND	52000	
6)	2-METHYL-4,6-DINITROPHENOL	ND	52000	
7)	2-NITROPHENOL	ND	10000	
8)	4-NITROPHENOL	ND	52000	
9)	PENTACHLOROPHENOL	ND	52000	
10)	PHENOL	ND	10000	
11)	2,4,6-TRICHLOROPHENOL	ND	10000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Lab Sample ID: E012772

Date Analyzed: 5/31/90 20:32

Lab File ID: >B6547

Matrix: SOIL FOR VOA

Number TICs found: 2 CONCENTRATION UNITS: ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	Unknown	6.37	9.	4
2. 67641	2-Propanone (9CI)	7.01	30.	
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

FORM I VOA-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS & S

Batch Number: MS-S-829

Lab Sample ID: E012772

Extraction Date: 5/31/90

Lab File ID: >D0432

Date Analyzed: 6/20/90 15:58

Matrix: SOIL FOR BNAE

Number TICs found: 25

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	544252	1,3,5-Cycloheptatriene (8CI9CI)	5.20	9200.	
2.	132649	Dibenzofuran (8CI9CI)	21.60	5100.	
3.	1013087	Phenanthrene, 1,2,3,4-tetrahydro-	25.34	460000.	
4.	132650	Dibenzothiophene (8CI9CI)	25.45	360000.	
5.	86748	9H-Carbazole (9CI)	26.52	910000.	
6.	613127	Anthracene, 2-methyl- (8CI9CI)	27.46	540000.	
7.	832644	Phenanthrene, 4-methyl- (8CI9CI)	27.53	740000.	
8.	203645	4H-Cyclopenta[def]phenanthrene (8C	27.85	1700000.	
9.	238846	11H-Benzo[a]fluorene (8CI9CI)	31.30	6500.	
10.	238846	11H-Benzo[a]fluorene (8CI9CI)	31.66	15000.	
11.	243174	11H-Benzo[b]fluorene (8CI9CI)	31.84	8700.	
12.	2381217	Pyrene, 1-methyl- (8CI9CI)	31.98	5700.	
13.		Unknown	33.74	4500.	
14.	2693461	3-Fluoranthenamine (8CI9CI)	35.29	4600.	
15.	55044967	Methanone, [4-(1,1-dimethylethyl)p	36.51	5300.	
16.	14484447	2(1H)-Quinolinone, 3-hydroxy-4-(3-	38.16	19000.	
17.	50328	Benzo[a]pyrene (8CI9CI)	39.42	27000.	
18.	192972	Benzo[e]pyrene (8CI9CI)	40.32	110000.	
19.	55649815	1,2,3-Benzotriazin-4(3H)-one, 3-[4	41.90	23000.	
20.		Unknown	42.15	21000.	
21.		Unknown	43.77	18000.	
22.	53703	Dibenz[a,h]anthracene (8CI9CI)	47.57	17000.	
23.	215587	Benzo[b]triphenylene (8CI9CI)	49.55	27000.	
24.	215587	Benzo[b]triphenylene (8CI9CI)	49.91	17000.	
25.	191242	Benzo[ghi]perylene (8CI9CI)	52.13	27000.	

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012772	05/21/90	15:10	DLW	SOIL - B5, AS-2 FROLA, EDGEWATER NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	I
PESTICIDES, PCB'S[A]					
ALDRIN	ND	190	UG/KG	06/23/90	W
alpha-BHC	ND	190	UG/KG	06/23/90	W
beta-BHC	ND	190	UG/KG	06/23/90	W
delta-BHC	ND	190	UG/KG	06/23/90	W
gamma-BHC	ND	190	UG/KG	06/23/90	W
CHLORDANE	ND	1900	UG/KG	06/23/90	W
4,4'-DDD	ND	190	UG/KG	06/23/90	W
4,4'-DDE	ND	190	UG/KG	06/23/90	W
4,4'-DDT	ND	190	UG/KG	06/23/90	W
DIELDRIN	ND	190	UG/KG	06/23/90	W
ENDOSULFAN I	ND	190	UG/KG	06/23/90	W
ENDOSULFAN II	ND	190	UG/KG	06/23/90	W
ENDOSULFAN SULFATE	ND	190	UG/KG	06/23/90	W
ENDRIN	ND	190	UG/KG	06/23/90	W
ENDRIN ALDEHYDE	ND	190	UG/KG	06/23/90	W
HEPTACHLOR	ND	190	UG/KG	06/23/90	W
HEPTACHLOR EPOXIDE	ND	190	UG/KG	06/23/90	W
TOXAPHENE	ND	1900	UG/KG	06/23/90	W
AROCHLOR 1016	ND	930	UG/KG	06/23/90	W
AROCHLOR 1221	ND	930	UG/KG	06/23/90	W
AROCHLOR 1232	ND	930	UG/KG	06/23/90	W

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012772	05/21/90	15:10	DLW	SOIL - B5, AS-2 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	IN
PESTICIDES, PCB'S(Cont.)[A]					
AROCHLOR 1242	ND	930	UG/KG	06/23/90	WH
AROCHLOR 1248	ND	930	UG/KG	06/23/90	WH
AROCHLOR 1254	ND	930	UG/KG	06/23/90	WH
AROCHLOR 1260	ND	930	UG/KG	06/23/90	WH

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012772	05/21/90	15:10	DLW	SOIL - B5, AS-2 FROLA, EDGEWATER NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	I
ANTIMONY	1.4	0.10	MG/KG	06/09/90	B
ARSENIC	310	0.10	MG/KG	06/06/90	J
BERYLLIUM	<0.50	0.50	MG/KG	06/08/90	J
CADMIUM	1.2	1.0	MG/KG	06/08/90	J
CHROMIUM	18	2.5	MG/KG	06/07/90	T
COPPER	87	2.0	MG/KG	06/08/90	J
LEAD	510	10	MG/KG	06/05/90	T
MERCURY	2.9	0.10	MG/KG	06/05/90	S
NICKEL	13	4.0	MG/KG	06/08/90	J
SELENIUM[1]	1.7	0.50	MG/KG	06/13/90	J
SILVER	<3.0	3.0	MG/KG	06/07/90	T
THALLIUM	1.4	0.10	MG/KG	06/14/90	J
ZINC	110	5.0	MG/KG	06/08/90	J

[1] DIL'N REQUIRED DUE TO INTERFERENCE RESULTING IN ELEVATED MDL.

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012772	05/21/90	15:10	DLW	SOIL - B5, AS-2 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
CYANIDE, TOTAL	1.4	0.50	MG/KG	05/30/90	HBM
PETROLEUM HYDROCARBONS	550	25	MG/KG	05/31/90	AJR
PHENOLICS, TOTAL	5.0	2.5	MG/KG	06/14/90	KY
SOLIDS, TOTAL PERCENT	89	2.0	%	05/23/90	AMH

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012773
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 05/25/90
DATA FILE : >G5743

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	100	
2)	ACRYLONITRILE	ND	100	
3)	BENZENE	ND	5.0	
4)	BROMOFORM	ND	5.0	
5)	BROMODICHLOROMETHANE	ND	5.0	
6)	BROMOMETHANE	ND	10	
7)	CARBON TETRACHLORIDE	ND	5.0	
8)	CHLOROBENZENE	ND	5.0	
9)	CHLOROETHANE	ND	10	
10)	2-CHLOROETHYL VINYL ETHER	ND	10	
11)	CHLOROFORM	ND	5.0	
12)	CHLOROMETHANE	ND	10	
13)	cis-1,3-DICHLOROPROPENE	ND	5.0	
14)	DIBROMOCHLOROMETHANE	ND	5.0	
15)	1,2-DICHLOROBENZENE	ND	5.0	
16)	1,3-DICHLOROBENZENE	ND	5.0	
17)	1,4-DICHLOROBENZENE	ND	5.0	
18)	1,1-DICHLOROETHANE	ND	5.0	
19)	1,2-DICHLOROETHANE	ND	5.0	
20)	1,1-DICHLOROETHYLENE	ND	5.0	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.0	
22)	trans-1,3-DICHLOROPROPENE	ND	5.0	
23)	1,2-DICHLOROPROPANE	ND	5.0	
24)	ETHYLBENZENE	ND	5.0	
25)	METHYLENE CHLORIDE	ND	5.0	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.0	
27)	TETRACHLOROETHYLENE	ND	5.0	
28)	TOLUENE	ND	5.0	
29)	1,1,1-TRICHLOROETHANE	ND	5.0	
30)	1,1,2-TRICHLOROETHANE	ND	5.0	
31)	TRICHLOROETHYLENE	ND	5.0	
32)	TRICHLOROFLUOROMETHANE	ND	5.0	
33)	VINYL CHLORIDE	ND	5.0	
34)	m-XYLENE	ND	10	
35)	p,o-XYLENE	ND	5.0	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012773
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 05/29/90
DATA FILE : >C4476

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	10	
2)	ACENAPHTHYLENE	ND	10	
3)	ANTHRACENE	ND	10	
4)	BENZIDENE	ND	52	
5)	BENZO(A)ANTHRACENE	ND	10	
6)	BENZO(A)PYRENE	ND	10	
7)	BENZO(B)FLUORANTHENE	ND	10	
8)	BENZO(K)FLUORANTHENE	ND	10	
9)	BENZO(G,H,I)PERYLENE	ND	10	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	10	
11)	BIS(2-CHLOROETHYL)ETHER	ND	10	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	10	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	10	
14)	4-BROMOPHENYL PHENYL ETHER	ND	10	
15)	BUTYL BENZYL PHTHALATE	ND	10	
16)	2-CHLORONAPHTHALENE	ND	10	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10	
18)	CHRYSENE	ND	10	
19)	DIBENZO(A,H)ANTHRACENE	ND	10	
20)	1,2-DICHLOROBENZENE	ND	10	
21)	1,3-DICHLOROBENZENE	ND	10	
22)	1,4-DICHLOROBENZENE	ND	10	
23)	3,3'-DICHLOROBENZIDENE	ND	21	
24)	DIETHYL PHTHALATE	ND	10	
25)	DIMETHYL PHTHALATE	ND	10	
26)	DI-N-BUTYL PHTHALATE	ND	10	
27)	2,4-DINITROTOLUENE	ND	10	
28)	2,6-DINITROTOLUENE	ND	10	
29)	DI-N-OCTYL PHTHALATE	ND	10	
30)	1,2-DIPHENYLHYDRAZINE	ND	10	
31)	FLUORANTHENE	ND	10	
32)	FLUORENE	ND	10	
33)	HEXACHLOROBENZENE	ND	10	
34)	HEXACHLOROBUTADIENE	ND	10	
35)	HEXACHLOROCYCLOPENTADIENE	ND	10	
36)	HEXACHLOROETHANE	ND	10	
37)	INDENO(1,2,3-CD)PYRENE	ND	10	
38)	ISOPHORONE	ND	10	
39)	NAPHTHALENE	ND	10	
40)	NITROBENZENE	ND	10	
41)	N-NITROSODIMETHYLAMINE	ND	10	
42)	N-NITROSODI-N-PROPYLAMINE	ND	10	
43)	N-NITROSODIPHENYLAMINE	ND	10	
44)	PHENANTHRENE	ND	10	
45)	PYRENE	ND	10	
46)	1,2,4-TRICHLOROBENZENE	ND	10	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPL

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ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS&S
LAB SAMPLE #: E012773
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 05/29/90
DATA FILE : >C4476

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	21	
2)	2-CHLOROPHENOL	ND	10	
3)	2,4-DICHLOROPHENOL	ND	10	
4)	2,4-DIMETHYLPHENOL	ND	10	
5)	2,4-DINITROPHENOL	ND	52	
6)	2-METHYL-4,6-DINITROPHENOL	ND	52	
7)	2-NITROPHENOL	ND	10	
8)	4-NITROPHENOL	ND	52	
9)	PENTACHLOROPHENOL	ND	52	
10)	PHENOL	ND	10	
11)	2,4,6-TRICHLOROPHENOL	ND	10	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPL

CERTIFICATIONS: NJ (12120) • NY (10983) • CT (PH-0585)

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS & S

Lab Sample ID: E012773,

Date Analyzed: 5/25/90 18:50

Lab File ID: >G5743

Matrix: WATER FOR VOA

Number TICs found: 1 CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	75070	Acetaldehyde (DOT)(8CI9CI)	2.47	15.	1
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

FORM I VOA-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Batch Number: MS-S-819

Lab Sample ID: E012773

Extraction Date: 5/24/90

Lab File ID: >C4476

Date Analyzed: 5/29/90 4:55

Matrix: WATER FOR BNAE

Number TICs found: 0

CONCENTRATION UNITS: ug/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
	NO ADDITIONAL PEAK TO SEARCH			

FORM I SV-TIC

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012773	05/21/90	14:30	DLW	WATER - FB-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
PESTICIDES, PCB'S					
ALDRIN	ND	0.052	UG/L	06/05/90	SDP
alpha-BHC	ND	0.052	UG/L	06/05/90	SDP
beta-BHC	ND	0.052	UG/L	06/05/90	SDP
delta-BHC	ND	0.052	UG/L	06/05/90	SDP
gamma-BHC	ND	0.052	UG/L	06/05/90	SDP
CHLORDANE	ND	0.26	UG/L	06/05/90	SDP
4,4'-DDD	ND	0.052	UG/L	06/05/90	SDP
4,4'-DDE	ND	0.052	UG/L	06/05/90	SDP
4,4'-DDT	ND	0.052	UG/L	06/05/90	SDP
DIELDRIN	ND	0.052	UG/L	06/05/90	SDP
ENDOSULFAN I	ND	0.052	UG/L	06/05/90	SDP
ENDOSULFAN II	ND	0.052	UG/L	06/05/90	SDP
ENDOSULFAN SULFATE	ND	0.052	UG/L	06/05/90	SDP
ENDRIN	ND	0.052	UG/L	06/05/90	SDP
ENDRIN ALDEHYDE	ND	0.052	UG/L	06/05/90	SDP
HEPTACHLOR	ND	0.052	UG/L	06/05/90	SDP
HEPTACHLOR EPOXIDE	ND	0.052	UG/L	06/05/90	SDP
TOXAPHENE	ND	0.52	UG/L	06/05/90	SDP
AROCHLOR 1016	ND	0.26	UG/L	06/05/90	SDP
AROCHLOR 1221	ND	0.26	UG/L	06/05/90	SDP
AROCHLOR 1232	ND	0.26	UG/L	06/05/90	SDP

ND = NOT DETECTED
UG/L = PPB MG/L = PPM
MDL = METHOD DETECTION LIMIT

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012773	05/21/90	14:30	DLW	WATER - FB-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S(Cont.)					
AROCHLOR 1242	ND	0.26	UG/L	06/05/90	SDP
AROCHLOR 1248	ND	0.26	UG/L	06/05/90	SDP
AROCHLOR 1254	ND	0.26	UG/L	06/05/90	SDP
AROCHLOR 1260	ND	0.26	UG/L	06/05/90	SDP

ND = NOT DETECTED
UG/L = PPB MG/L = PPM
MDL = METHOD DETECTION LIMIT

VINCENT J. PUGLIESE
VICE-PRESIDENT

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012773	05/21/90	14:30	DLW	WATER - FB-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITI
ANTIMONY	<0.001	0.001	MG/L	06/11/90	NJH
ARSENIC	<0.001	0.001	MG/L	06/02/90	BJR
BERYLLIUM	<0.005	0.005	MG/L	06/12/90	JMC
CADMIUM	<0.010	0.010	MG/L	06/12/90	JMC
CHROMIUM	<0.025	0.025	MG/L	06/05/90	TPM
COPPER	<0.020	0.020	MG/L	06/13/90	JMC
LEAD	<0.005	0.005	MG/L	06/12/90	JRT
MERCURY	<0.001	0.001	MG/L	05/25/90	SMH
NICKEL	<0.040	0.040	MG/L	06/12/90	JMC
SELENIUM	<0.001	0.001	MG/L	06/11/90	JRT
SILVER	<0.030	0.030	MG/L	06/06/90	RTK
THALLIUM	<0.001	0.001	MG/L	06/13/90	JRT
ZINC	<0.050	0.050	MG/L	06/12/90	JMC

UG/L = PPB MG/L = PPM
MDL = METHOD DETECTION LIMIT

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012773	05/21/90	14:30	DLW	WATER - FB-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
CYANIDE, TOTAL	<0.010	0.010	MG/L	05/30/90	HBM
PETROLEUM HYDROCARBONS	<0.50	0.50	MG/L	05/25/90	MKR
PHENOLICS, TOTAL	<0.050	0.050	MG/L	05/25/90	FLK

ND = NOT DETECTED
UG/L = PPB MG/L = PPM
MDL = METHOD DETECTION LIMIT

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012774
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 05/25/90
DATA FILE : >G5744

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	100	
2)	ACRYLONITRILE	ND	100	
3)	BENZENE	ND	5.0	
4)	BROMOFORM	ND	5.0	
5)	BROMODICHLOROMETHANE	ND	5.0	
6)	BROMOMETHANE	ND	10	
7)	CARBON TETRACHLORIDE	ND	5.0	
8)	CHLOROBENZENE	ND	5.0	
9)	CHLOROETHANE	ND	10	
10)	2-CHLOROETHYL VINYL ETHER	ND	10	
11)	CHLOROFORM	ND	5.0	
12)	CHLOROMETHANE	ND	10	
13)	cis-1,3-DICHLOROPROPENE	ND	5.0	
14)	DIBROMOCHLOROMETHANE	ND	5.0	
15)	1,2-DICHLOROBENZENE	ND	5.0	
16)	1,3-DICHLOROBENZENE	ND	5.0	
17)	1,4-DICHLOROBENZENE	ND	5.0	
18)	1,1-DICHLOROETHANE	ND	5.0	
19)	1,2-DICHLOROETHANE	ND	5.0	
20)	1,1-DICHLOROETHYLENE	ND	5.0	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.0	
22)	trans-1,3-DICHLOROPROPENE	ND	5.0	
23)	1,2-DICHLOROPROPANE	ND	5.0	
24)	ETHYLBENZENE	ND	5.0	
25)	METHYLENE CHLORIDE	ND	5.0	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.0	
27)	TETRACHLOROETHYLENE	ND	5.0	
28)	TOLUENE	ND	5.0	
29)	1,1,1-TRICHLOROETHANE	ND	5.0	
30)	1,1,2-TRICHLOROETHANE	ND	5.0	
31)	TRICHLOROETHYLENE	ND	5.0	
32)	TRICHLOROFLUOROMETHANE	ND	5.0	
33)	VINYL CHLORIDE	ND	10	
34)	m-XYLENE	ND	5.0	
35)	p,o-XYLENE	ND	5.0	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

CERTIFICATIONS: N.J.(12129) • NY(10983) • CT(PH-0535)

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS & S

Lab Sample ID: E012774,

Date Analyzed: 5/25/90 19:35

Lab File ID: >G5744

Matrix: WATER FOR VOA

Number TICs found: 1 CONCENTRATION UNITS: ug/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1. 75070	Acetaldehyde (DOT)(8CI9CI)	2.51	15.	1
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012775
MATRIX : SOIL

METHOD : SW846 8240
ANALYSIS DATE: 05/27/90
DATA FILE : >B6477

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACROLEIN	ND	24000	
2)	ACRYLONITRILE	ND	24000	
3)	BENZENE	8100	1200	
4)	BROMOFORM	ND	1200	
5)	BROMODICHLOROMETHANE	ND	1200	
6)	BROMOMETHANE	ND	2400	
7)	CARBON TETRACHLORIDE	ND	1200	
8)	CHLOROBENZENE	ND	1200	
9)	CHLOROETHANE	ND	2400	
10)	2-CHLOROETHYL VINYL ETHER	ND	2400	
11)	CHLOROFORM	ND	1200	
12)	CHLOROMETHANE	ND	2400	
13)	cis-1,3-DICHLOROPROPENE	ND	1200	
14)	DIBROMOCHLOROMETHANE	ND	1200	
15)	1,2-DICHLOROBENZENE	ND	1200	
16)	1,3-DICHLOROBENZENE	ND	1200	
17)	1,4-DICHLOROBENZENE	ND	1200	
18)	1,1-DICHLOROETHANE	ND	1200	
19)	1,2-DICHLOROETHANE	ND	1200	
20)	1,1-DICHLOROETHYLENE	ND	1200	
21)	trans-1,2-DICHLOROETHYLENE	ND	1200	
22)	trans-1,3-DICHLOROPROPENE	ND	1200	
23)	1,2-DICHLOROPROPANE	ND	1200	
24)	ETHYLBENZENE	38000	1200	
25)	METHYLENE CHLORIDE	ND	1200	
26)	1,1,2,2-TETRACHLOROETHANE	ND	1200	
27)	TETRACHLOROETHYLENE	ND	1200	
28)	TOLUENE	25000	1200	
29)	1,1,1-TRICHLOROETHANE	ND	1200	
30)	1,1,2-TRICHLOROETHANE	ND	1200	
31)	TRICHLOROETHYLENE	ND	1200	
32)	TRICHLOROFLUOROMETHANE	ND	1200	
33)	VINYL CHLORIDE	ND	2400	
34)	m-XYLENE	37000	1200	
35)	p,o-XYLENE	41000	1200	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS & S
LAB SAMPLE #: E012775
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/07/90
DATA FILE : >D0241

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACENAPHTHENE	540000	110000	
2)	ACENAPHTHYLENE	130000	110000	
3)	ANTHRACENE	560000	110000	
4)	BENZIDENE	ND	560000	
5)	BENZO(A)ANTHRACENE	290000	110000	
6)	BENZO(A)PYRENE	130000	110000	
7)	BENZO(B)FLUORANTHENE	110000	110000	
8)	BENZO(K)FLUORANTHENE	150000	110000	
9)	BENZO(G,H,I)PERYLENE	39000	110000	J
10)	BIS(2-CHLOROETHOXY)METHANE	ND	110000	
11)	BIS(2-CHLOROETHYL)ETHER	ND	110000	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	110000	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	110000	
14)	4-BROMOPHENYL PHENYL ETHER	ND	110000	
15)	BUTYL BENZYL PHTHALATE	ND	110000	
16)	2-CHLORONAPHTHALENE	ND	110000	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	110000	
18)	CHRYSENE	380000	110000	
19)	DIBENZO(A,H)ANTHRACENE	19000	110000	J
20)	1,2-DICHLOROBENZENE	ND	110000	
21)	1,3-DICHLOROBENZENE	ND	110000	
22)	1,4-DICHLOROBENZENE	ND	110000	
23)	3,3'-DICHLOROBENZIDENE	ND	220000	
24)	DIETHYL PHTHALATE	ND	110000	
25)	DIMETHYL PHTHALATE	ND	110000	
26)	DI-N-BUTYL PHTHALATE	ND	110000	
27)	2,4-DINITROTOLUENE	ND	110000	
28)	2,6-DINITROTOLUENE	ND	110000	
29)	DI-N-OCTYL PHTHALATE	ND	110000	
30)	1,2-DIPHENYLHYDRAZINE	ND	110000	
31)	FLUORANTHENE	730000	110000	
32)	FLUORENE	ND	110000	
33)	HEXACHLOROBENZENE	ND	110000	
34)	HEXACHLOROBUTADIENE	ND	110000	
35)	HEXACHLOROCYCLOPENTADIENE	ND	110000	
36)	HEXACHLOROETHANE	ND	110000	
37)	INDENO(1,2,3-CD)PYRENE	42000	110000	J
38)	ISOPHORONE	ND	110000	
39)	NAPHTHALENE	1400000	110000	
40)	NITROBENZENE	ND	110000	
41)	N-NITROSODIMETHYLAMINE	ND	110000	
42)	N-NITROSODI-N-PROPYLAMINE	ND	110000	
43)	N-NITROSODIPHENYLAMINE	ND	110000	
44)	PHENANTHRENE	1000000	110000	
45)	PYRENE	750000	110000	
46)	1,2,4-TRICHLOROBENZENE	ND	110000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS & S
LAB SAMPLE #: E012775
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/07/90
DATA FILE : >D0241

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	220000	
2)	2-CHLOROPHENOL	ND	110000	
3)	2,4-DICHLOROPHENOL	ND	110000	
4)	2,4-DIMETHYLPHENOL	42000	110000	J
5)	2,4-DINITROPHENOL	ND	560000	
6)	2-METHYL-4,6-DINITROPHENOL	ND	560000	
7)	2-NITROPHENOL	ND	110000	
8)	4-NITROPHENOL	ND	560000	
9)	PENTACHLOROPHENOL	ND	560000	
10)	PHENOL	ND	110000	
11)	2,4,6-TRICHLOROPHENOL	ND	110000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Lab Sample ID: E012775

Date Analyzed: 5/27/90 1:23

Lab File ID: >B6477

Matrix: SOIL FOR VOA

Number TICs found: 6 CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.		Unknown	6.25	2200.	4
2.	3779611	1,3,6-Octatriene, 3,7-dimethyl-, (	24.87	2100.	
3.	496117	1H-Indene, 2,3-dihydro- (9CI)	35.38	250000.	
4.		Unknown	32.11	3200.	
5.	271896	Benzofuran (8CI9CI)	33.50	7700.	
6.	98828	Benzene, (1-methylethyl)- (9CI)	36.63	22000.	
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

FORM I VOA-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS & S

Batch Number: MS-S-829

Lab Sample ID: E012775

Extraction Date: 5/31/90

Lab File ID: >D0241

Date Analyzed: 6/07/90 19:49

Matrix: SOIL FOR BNAE

Number TICs found: 25

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	95636	Benzene, 1,2,4-trimethyl- (8CI9CI)	11.10	240000.	
2.	496117	1H-Indene, 2,3-dihydro- (9CI)	12.18	490000.	
3.	65051834	Benzene, (1-methyl-2-cyclopropen-1	14.73	52000.	
4.	95158	Benzo[b]thiophene (8CI9CI)	15.70	64000.	
5.	4453901	1,4-Methanonaphthalene, 1,4-dihydr	17.79	250000.	
6.	4453901	1,4-Methanonaphthalene, 1,4-dihydr	18.11	180000.	
7.	92524	1,1'-Biphenyl (9CI)	19.29	260000.	
8.	1127760	Naphthalene, 1-ethyl- (8CI9CI)	19.58	200000.	
9.	569415	Naphthalene, 1,8-dimethyl- (8CI9CI	19.80	320000.	
10.	573988	Naphthalene, 1,2-dimethyl- (8CI9CI	20.09	550000.	
11.	573988	Naphthalene, 1,2-dimethyl- (8CI9CI	20.45	260000.	
12.	941980	Ethanone, 1-(1-naphthalenyl)- (9CI	21.53	110000.	
13.	132649	Dibenzofuran (8CI9CI)	21.81	350000.	
14.	829265	Naphthalene, 2,3,6-trimethyl- (8CI	22.32	160000.	
15.	17301289	Undecane, 3,6-dimethyl- (8CI)	22.64	110000.	
16.	203805	1H-Phenalene (9CI)	22.96	480000.	
17.	548390	1H-Phenalen-1-one (9CI)	23.25	160000.	
18.	1430973	9H-Fluorene, 2-methyl- (9CI)	24.76	54000.	
19.	132650	Dibenzothiophene (8CI9CI)	25.66	91000.	
20.	244995	5H-Indeno[1,2-b]pyridine (8CI9CI)	26.74	67000.	
21.	2531842	Phenanthrene, 2-methyl- (8CI9CI)	27.68	85000.	
22.	4505480	1H-Indene, 2-phenyl- (9CI)	27.79	87000.	
23.	203645	4H-Cyclopenta[def]phenanthrene (8C	28.08	160000.	
24.	238846	11H-Benzo[a]fluorene (8CI9CI)	31.89	110000.	
25.	238846	11H-Benzo[a]fluorene (8CI9CI)	32.11	81000.	

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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ACCUTEST®
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012775	05/22/90	09:10	DLW	SOIL - B6, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S[A]					
ALDRIN	ND	19	UG/KG	06/21/90	WHS
alpha-BHC	ND	19	UG/KG	06/21/90	WHS
beta-BHC	95	19	UG/KG	06/21/90	WHS
delta-BHC	400	19	UG/KG	06/21/90	WHS
gamma-BHC	ND	19	UG/KG	06/21/90	WHS
CHLORDANE	ND	190	UG/KG	06/21/90	WHS
4,4'-DDD	78	19	UG/KG	06/21/90	WHS
4,4'-DDE	ND	19	UG/KG	06/21/90	WHS
4,4'-DDT	ND	19	UG/KG	06/21/90	WHS
DIELDRIN	ND	19	UG/KG	06/21/90	WHS
ENDOSULFAN I	ND	19	UG/KG	06/21/90	WHS
ENDOSULFAN II	ND	19	UG/KG	06/21/90	WHS
ENDOSULFAN SULFATE	ND	19	UG/KG	06/21/90	WHS
ENDRIN	ND	19	UG/KG	06/21/90	WHS
ENDRIN ALDEHYDE	ND	19	UG/KG	06/21/90	WHS
HEPTACHLOR	ND	19	UG/KG	06/21/90	WHS
HEPTACHLOR EPOXIDE	ND	19	UG/KG	06/21/90	WHS
TOXAPHENE	ND	190	UG/KG	06/21/90	WHS
AROCHLOR 1016	ND	96	UG/KG	06/21/90	WHS
AROCHLOR 1221	ND	96	UG/KG	06/21/90	WHS
AROCHLOR 1232	ND	96	UG/KG	06/21/90	WHS

[A] DIL'N REQUIRED DUE TO INTERFERENCE RESULTING IN ELEVATED MDL.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

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2235 ROUTE 130, DAYTON, NJ 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012775	05/22/90	09:10	DLW	SOIL - B6, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S(Cont.)[A]					
AROCHLOR 1242	ND	96	UG/KG	06/21/90	WHS
AROCHLOR 1248	ND	96	UG/KG	06/21/90	WHS
AROCHLOR 1254	ND	96	UG/KG	06/21/90	WHS
AROCHLOR 1260	ND	96	UG/KG	06/21/90	WHS

[A] DIL'N REQUIRED DUE TO INTERFERENCE RESULTING IN ELEVATED MDL.

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MDL = METHOD DETECTION LIMIT
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012775	05/22/90	09:10	DLW	SOIL - B6, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
ANTIMONY	0.25	0.10	MG/KG	06/09/90	BJR
ARSENIC	6.8	0.10	MG/KG	06/06/90	JRT
BERYLLIUM	<0.50	0.50	MG/KG	06/08/90	JMC
CADMIUM	<1.0	1.0	MG/KG	06/08/90	JMC
CHROMIUM	12	2.5	MG/KG	06/07/90	TPM
COPPER	66	2.0	MG/KG	06/08/90	JMC
LEAD	83	10	MG/KG	06/05/90	TPM
MERCURY	0.39	0.10	MG/KG	06/01/90	SMH
NICKEL	39	4.0	MG/KG	06/08/90	JMC
SELENIUM	1.1	0.10	MG/KG	06/13/90	JKS
SILVER	<3.0	3.0	MG/KG	06/07/90	TPM
THALLIUM	<0.10	0.10	MG/KG	06/14/90	JRT
ZINC	160	5.0	MG/KG	06/08/90	JMC

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012775	05/22/90	09:10	DLW	SOIL - B6, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
CYANIDE, TOTAL	2.6	0.50	MG/KG	05/30/90	HBM
PETROLEUM HYDROCARBONS	12000	25	MG/KG	05/31/90	AJR
PHENOLICS, TOTAL	31	2.5	MG/KG	06/14/90	KY
SOLIDS, TOTAL PERCENT	87	2.0	%	05/23/90	AMH

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012776
MATRIX : SOIL

METHOD : SW846 8240
ANALYSIS DATE: 06/01/90
DATA FILE : >B6570

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACROLEIN	ND	38000	
2)	ACRYLONITRILE	ND	38000	
3)	BENZENE	19000	1900	
4)	BROMOFORM	ND	1900	
5)	BROMODICHLOROMETHANE	ND	1900	
6)	BROMOMETHANE	ND	3800	
7)	CARBON TETRACHLORIDE	ND	1900	
8)	CHLOROBENZENE	ND	1900	
9)	CHLOROETHANE	ND	3800	
10)	2-CHLOROETHYL VINYL ETHER	ND	3800	
11)	CHLOROFORM	ND	1900	
12)	CHLOROMETHANE	ND	3800	
13)	cis-1,3-DICHLOROPROPENE	ND	1900	
14)	DIBROMOCHLOROMETHANE	ND	1900	
15)	1,2-DICHLOROBENZENE	ND	1900	
16)	1,3-DICHLOROBENZENE	ND	1900	
17)	1,4-DICHLOROBENZENE	ND	1900	
18)	1,1-DICHLOROETHANE	ND	1900	
19)	1,2-DICHLOROETHANE	ND	1900	
20)	1,1-DICHLOROETHYLENE	ND	1900	
21)	trans-1,2-DICHLOROETHYLENE	ND	1900	
22)	trans-1,3-DICHLOROPROPENE	ND	1900	
23)	1,2-DICHLOROPROPANE	ND	1900	
24)	ETHYLBENZENE	50000	1900	
25)	METHYLENE CHLORIDE	ND	1900	
26)	1,1,2,2-TETRACHLOROETHANE	ND	1900	
27)	TETRACHLOROETHYLENE	ND	1900	
28)	TOLUENE	42000	1900	
29)	1,1,1-TRICHLOROETHANE	ND	1900	
30)	1,1,2-TRICHLOROETHANE	ND	1900	
31)	TRICHLOROETHYLENE	ND	1900	
32)	TRICHLOROFLUOROMETHANE	ND	1900	
33)	VINYL CHLORIDE	ND	3800	
34)	m-XYLENE	45000	1900	
35)	p,o-XYLENE	49000	1900	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012776
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >C4595
>D0242

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACENAPHTHENE	240000	22000	
2)	ACENAPHTHYLENE	57000	22000	
3)	ANTHRACENE	250000	22000	
4)	BENZIDENE	ND	110000	
5)	BENZO(A)ANTHRACENE	180000	22000	
6)	BENZO(A)PYRENE	110000	22000	
7)	BENZO(B)FLUORANTHENE	87000	22000	
8)	BENZO(K)FLUORANTHENE	85000	22000	
9)	BENZO(G,H,I)PERYLENE	41000	22000	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	22000	
11)	BIS(2-CHLOROETHYL)ETHER	ND	22000	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	22000	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	22000	
14)	4-BROMOPHENYL PHENYL ETHER	ND	22000	
15)	BUTYL BENZYL PHTHALATE	ND	22000	
16)	2-CHLORONAPHTHALENE	ND	22000	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	22000	
18)	CHRYSENE	160000	22000	
19)	DIBENZO(A,H)ANTHRACENE	19000	22000	J
20)	1,2-DICHLOROBENZENE	ND	22000	
21)	1,3-DICHLOROBENZENE	ND	22000	
22)	1,4-DICHLOROBENZENE	ND	22000	
23)	3,3'-DICHLOROBENZIDENE	ND	44000	
24)	DIETHYL PHTHALATE	ND	22000	
25)	DIMETHYL PHTHALATE	ND	22000	
26)	DI-N-BUTYL PHTHALATE	ND	22000	
27)	2,4-DINITROTOLUENE	ND	22000	
28)	2,6-DINITROTOLUENE	ND	22000	
29)	DI-N-OCTYL PHTHALATE	ND	22000	
30)	1,2-DIPHENYLHYDRAZINE	ND	22000	
31)	FLUORANTHENE	420000	22000	
32)	FLUORENE	270000	22000	
33)	HEXACHLOROBENZENE	ND	22000	
34)	HEXACHLOROBUTADIENE	ND	22000	
35)	HEXACHLOROCYCLOPENTADIENE	ND	22000	
36)	HEXACHLOROETHANE	ND	22000	
37)	INDENO(1,2,3-CD)PYRENE	42000	22000	
38)	ISOPHORONE	ND	22000	
39)	NAPHTHALENE	1200000	110000	
40)	NITROBENZENE	ND	22000	
41)	N-NITROSODIMETHYLAMINE	ND	22000	
42)	N-NITROSODI-N-PROPYLAMINE	ND	22000	
43)	N-NITROSODIPHENYLAMINE	ND	22000	
44)	PHENANTHRENE	840000	110000	
45)	PYRENE	260000	22000	
46)	1,2,4-TRICHLOROBENZENE	ND	22000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS&S
LAB SAMPLE #: E012776
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >C4595

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	44000	
2)	2-CHLOROPHENOL	ND	22000	
3)	2,4-DICHLOROPHENOL	ND	22000	
4)	2,4-DIMETHYLPHENOL	53000	22000	
5)	2,4-DINITROPHENOL	ND	110000	
6)	2-METHYL-4,6-DINITROPHENOL	ND	110000	
7)	2-NITROPHENOL	ND	22000	
8)	4-NITROPHENOL	ND	110000	
9)	PENTACHLOROPHENOL	ND	110000	
10)	PHENOL	ND	22000	
11)	2,4,6-TRICHLOROPHENOL	ND	22000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Lab Sample ID: E012776

Date Analyzed: 6/01/90 18:02

Lab File ID: >B6570

Matrix: SOIL FOR VOA

Number TICs found: 6 CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	135013	Benzene, 1,2-diethyl- (9CI)	25.14	37000.	
2.	526738	Benzene, 1,2,3-trimethyl- (8CI9CI)	26.98	11000.	
3.	1074437	Benzene, 1-methyl-3-propyl- (9CI)	31.69	97000.	
4.	496117	1H-Indene, 2,3-dihydro- (9CI)	35.44	540000.	
5.	611143	Benzene, 1-ethyl-2-methyl- (9CI)	36.69	4000.	
6.	1758889	Benzene, 2-ethyl-1,4-dimethyl- (9C	39.94	150000.	
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

FORM I VOA-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Batch Number: MS-S-829

Lab Sample ID: E012776

Extraction Date: 5/31/90

Lab File ID: >C4595

Date Analyzed: 6/06/90 19:01

Matrix: SOIL FOR BNAE

Number TICs found: 25

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	98828	Benzene, (1-methylethyl)- (9CI)	12.78	95000.	
2.	496117	1H-Indene, 2,3-dihydro- (9CI)	13.90	190000.	
3.	673325	Benzene, 1-propynyl- (9CI)	14.11	120000.	
4.	15677153	Cycloprop[a]indene, 1,1a,6,6a-tetr	16.49	16000.	
5.	65051834	Benzene, (1-methyl-2-cyclopropen-1	16.63	9600.	
6.	4453901	1,4-Methanonaphthalene, 1,4-dihydr	19.65	52000.	
7.	4453901	1,4-Methanonaphthalene, 1,4-dihydr	20.05	42000.	
8.	92524	1,1'-Biphenyl (9CI)	21.13	130000.	
9.	1127760	Naphthalene, 1-ethyl- (8CI9CI)	21.49	110000.	
10.	575371	Naphthalene, 1,7-dimethyl- (8CI9CI	21.70	170000.	
11.	569415	Naphthalene, 1,8-dimethyl- (8CI9CI	21.99	290000.	
12.	573988	Naphthalene, 1,2-dimethyl- (8CI9CI	22.35	120000.	
13.	643583	1,1'-Biphenyl, 2-methyl- (9CI)	23.04	150000.	
14.	2131422	Naphthalene, 1,4,6-trimethyl- (8CI	23.65	50000.	
15.	132649	Dibenzofuran (8CI9CI)	23.79	150000.	
16.	2245387	Naphthalene, 1,6,7-trimethyl- (8CI	24.19	75000.	
17.	2131422	Naphthalene, 1,4,6-trimethyl- (8CI	24.48	37000.	
18.	2489863	Naphthalene, 1-(2-propenyl)- (9CI)	25.23	62000.	
19.	7320538	Dibenzofuran, 4-methyl- (8CI9CI)	25.49	51000.	
20.	1430973	9H-Fluorene, 2-methyl- (9CI)	26.75	570000.	
21.	92875	Benzidine (8CI)	27.72	600000.	
22.	2788230	9H-Carbazole, 9-nitroso- (9CI)	28.76	680000.	
23.	613127	Anthracene, 2-methyl- (8CI9CI)	29.74	580000.	
24.	613127	Anthracene, 2-methyl- (8CI9CI)	29.85	650000.	
25.	203645	4H-Cyclopenta[def]phenanthrene (8C	30.17	1300000.	

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

FORM I SV-TIC

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012776	05/22/90	09:30	DLW	SOIL - B6, AS-2 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INITS
PESTICIDES, PCB'S[A]					
ALDRIN	ND	19	UG/KG	06/21/90	WHS
alpha-BHC	ND	19	UG/KG	06/21/90	WHS
beta-BHC	260	19	UG/KG	06/21/90	WHS
delta-BHC	370	19	UG/KG	06/21/90	WHS
gamma-BHC	ND	19	UG/KG	06/21/90	WHS
CHLORDANE	ND	190	UG/KG	06/21/90	WHS
4,4'-DDD	ND	19	UG/KG	06/21/90	WHS
4,4'-DDE	ND	19	UG/KG	06/21/90	WHS
4,4'-DDT	ND	19	UG/KG	06/21/90	WHS
DIELDRIN	ND	19	UG/KG	06/21/90	WHS
ENDOSULFAN I	ND	19	UG/KG	06/21/90	WHS
ENDOSULFAN II	ND	19	UG/KG	06/21/90	WHS
ENDOSULFAN SULFATE	ND	19	UG/KG	06/21/90	WHS
ENDRIN	ND	19	UG/KG	06/21/90	WHS
ENDRIN ALDEHYDE	ND	19	UG/KG	06/21/90	WHS
HEPTACHLOR	ND	19	UG/KG	06/21/90	WHS
HEPTACHLOR EPOXIDE	49	19	UG/KG	06/21/90	WHS
TOXAPHENE	ND	190	UG/KG	06/21/90	WHS
AROCHLOR 1016	ND	93	UG/KG	06/21/90	WHS
AROCHLOR 1221	ND	93	UG/KG	06/21/90	WHS
AROCHLOR 1232	ND	93	UG/KG	06/21/90	WHS

[A] DIL'N REQUIRED DUE TO INTERFERENCE RESULTING IN ELEVATED MDL.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

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2235 ROUTE 130, DAYTON, NJ 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012776	05/22/90	09:30	DLW	SOIL - B6, AS-2 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S(Cont.)[A]					
AROCHLOR 1242	ND	93	UG/KG	06/21/90	WHS
AROCHLOR 1248	ND	93	UG/KG	06/21/90	WHS
AROCHLOR 1254	ND	93	UG/KG	06/21/90	WHS
AROCHLOR 1260	ND	93	UG/KG	06/21/90	WHS

[A] DIL'N REQUIRED DUE TO INTERFERENCE RESULTING IN ELEVATED MDL.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

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2235 ROUTE 130, DAYTON, NJ 08810 • (201) 329-0200

ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012776	05/22/90	09:30	DLW	SOIL - B6, AS-2 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
ANTIMONY	<0.10	0.10	MG/KG	06/09/90	BJR
ARSENIC	5.4	0.10	MG/KG	06/06/90	JRT
BERYLLIUM	0.54	0.50	MG/KG	06/08/90	JMC
CADMIUM	<1.0	1.0	MG/KG	06/08/90	JMC
CHROMIUM	9.8	2.5	MG/KG	06/07/90	TPM
COPPER	8.1	2.0	MG/KG	06/08/90	JMC
LEAD	24	10	MG/KG	06/05/90	TPM
MERCURY	<0.10	0.10	MG/KG	06/01/90	SMH
NICKEL	11	4.0	MG/KG	06/08/90	JMC
SELENIUM	0.25	0.10	MG/KG	06/13/90	JKS
SILVER	<3.0	3.0	MG/KG	06/07/90	TPM
THALLIUM	0.14	0.10	MG/KG	06/14/90	JRT
ZINC	38	5.0	MG/KG	06/08/90	JMC

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

ACCUTEST®
2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS+S
LAB SAMPLE #: E012777
MATRIX : SOIL

METHOD : SW846 8240
ANALYSIS DATE: 05/26/90
DATA FILE : >E0372
>B6611

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACROLEIN	ND	5100	
2)	ACRYLONITRILE	ND	5100	
3)	BENZENE	11000	1900	
4)	BROMOFORM	ND	250	
5)	BROMODICHLOROMETHANE	ND	250	
6)	BROMOMETHANE	ND	510	
7)	CARBON TETRACHLORIDE	ND	250	
8)	CHLOROBENZENE	ND	250	
9)	CHLOROETHANE	ND	510	
10)	2-CHLOROETHYL VINYL ETHER	ND	510	
11)	CHLOROFORM	ND	250	
12)	CHLOROMETHANE	ND	510	
13)	cis-1,3-DICHLOROPROPENE	ND	250	
14)	DIBROMOCHLOROMETHANE	ND	250	
15)	1,2-DICHLOROBENZENE	ND	250	
16)	1,3-DICHLOROBENZENE	ND	250	
17)	1,4-DICHLOROBENZENE	ND	250	
18)	1,1-DICHLOROETHANE	ND	250	
19)	1,2-DICHLOROETHANE	ND	250	
20)	1,1-DICHLOROETHYLENE	ND	250	
21)	trans-1,2-DICHLOROETHYLENE	ND	250	
22)	trans-1,3-DICHLOROPROPENE	ND	250	
23)	1,2-DICHLOROPROPANE	ND	250	
24)	ETHYLBENZENE	9400	250	
25)	METHYLENE CHLORIDE	ND	250	
26)	1,1,2,2-TETRACHLOROETHANE	ND	250	
27)	TETRACHLOROETHYLENE	ND	250	
28)	TOLUENE	31000	1900	
29)	1,1,1-TRICHLOROETHANE	ND	250	
30)	1,1,2-TRICHLOROETHANE	ND	250	
31)	TRICHLOROETHYLENE	ND	250	
32)	TRICHLOROFLUOROMETHANE	ND	250	
33)	VINYL CHLORIDE	ND	510	
34)	m-XYLENE	25000	1900	
35)	p,o-XYLENE	29000	250	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

CERTIFICATIONS: NJ (12129) • NY (10983) • CT (PH-0585)

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012777
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >D0215

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACENAPHTHENE	240000	200000	
2)	ACENAPHTHYLENE	82000	200000	J
3)	ANTHRACENE	720000	200000	
4)	BENZIDENE	ND	1000000	
5)	BENZO(A)ANTHRACENE	240000	200000	
6)	BENZO(A)PYRENE	200000	200000	
7)	BENZO(B)FLUORANTHENE	180000	200000	J
8)	BENZO(K)FLUORANTHENE	180000	200000	J
9)	BENZO(G,H,I)PERYLENE	74000	200000	J
10)	BIS(2-CHLOROETHOXY)METHANE	ND	200000	
11)	BIS(2-CHLOROETHYL)ETHER	ND	200000	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	200000	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	200000	
14)	4-BROMOPHENYL PHENYL ETHER	ND	200000	
15)	BUTYL BENZYL PHTHALATE	ND	200000	
16)	2-CHLORONAPHTHALENE	ND	200000	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	200000	
18)	CHRYSENE	330000	200000	
19)	DIBENZO(A,H)ANTHRACENE	27000	200000	J
20)	1,2-DICHLOROBENZENE	ND	200000	
21)	1,3-DICHLOROBENZENE	ND	200000	
22)	1,4-DICHLOROBENZENE	ND	200000	
23)	3,3'-DICHLOROBENZIDENE	ND	400000	
24)	DIETHYL PHTHALATE	ND	200000	
25)	DIMETHYL PHTHALATE	ND	200000	
26)	DI-N-BUTYL PHTHALATE	ND	200000	
27)	2,4-DINITROTOLUENE	ND	200000	
28)	2,6-DINITROTOLUENE	ND	200000	
29)	DI-N-OCTYL PHTHALATE	ND	200000	
30)	1,2-DIPHENYLHYDRAZINE	ND	200000	
31)	FLUORANTHENE	540000	200000	
32)	FLUORENE	530000	200000	
33)	HEXACHLOROBENZENE	ND	200000	
34)	HEXACHLOROBUTADIENE	ND	200000	
35)	HEXACHLOROCYCLOPENTADIENE	ND	200000	
36)	HEXACHLOROETHANE	ND	200000	
37)	INDENO(1,2,3-CD)PYRENE	80000	200000	J
38)	ISOPHORONE	ND	200000	
39)	NAPHTHALENE	970000	200000	
40)	NITROBENZENE	ND	200000	
41)	N-NITROSODIMETHYLAMINE	ND	200000	
42)	N-NITROSODI-N-PROPYLAMINE	ND	200000	
43)	N-NITROSODIPHENYLAMINE	ND	200000	
44)	PHENANTHRENE	940000	200000	
45)	PYRENE	890000	200000	
46)	1,2,4-TRICHLOROBENZENE	ND	200000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS&S
LAB SAMPLE #: E012777
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >D0215

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	400000	
2)	2-CHLOROPHENOL	ND	200000	
3)	2,4-DICHLOROPHENOL	ND	200000	
4)	2,4-DIMETHYLPHENOL	ND	200000	
5)	2,4-DINITROPHENOL	ND	1000000	
6)	2-METHYL-4,6-DINITROPHENOL	ND	1000000	
7)	2-NITROPHENOL	ND	200000	
8)	4-NITROPHENOL	ND	1000000	
9)	PENTACHLOROPHENOL	ND	1000000	
10)	PHENOL	ND	200000	
11)	2,4,6-TRICHLOROPHENOL	ND	200000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

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QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS+S

Lab Sample ID: E012777,

Date Analyzed: 5/26/90 01:54

Lab File ID: >E0372

Matrix: SOIL FOR VOA

Number TICs found: 5 CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	108678	Benzene, 1,3,5-trimethyl- (9CI)	26.91	16000.	
2.	95636	Benzene, 1,2,4-trimethyl- (8CI9CI)	31.89	63000.	
3.	271896	Benzofuran (8CI9CI)	32.97	12000.	
4.	611154	Benzene, 1-ethenyl-2-methyl- (9CI)	34.91	51000.	
5.	611143	Benzene, 1-ethyl-2-methyl- (9CI)	36.13	6900.	
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

FORM I VOA-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS & S

Batch Number: MS-S-829

Lab Sample ID: E012777

Extraction Date: 5/31/90

Lab File ID: >D0215

Date Analyzed: 6/06/90 18:53

Matrix: SOIL FOR BNAE

Number TICs found: 13

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	766972	Benzene, 1-ethynyl-4-methyl- (9CI)	12.45	120000.	
2.	2471832	1H-Indene, 1-ethylidene- (9CI)	17.80	190000.	
3.	90120	Naphthalene, 1-methyl- (8CI9CI)	18.16	100000.	
4.	571619	Naphthalene, 1,5-dimethyl- (8CI9CI	19.85	100000.	
5.	569415	Naphthalene, 1,8-dimethyl- (8CI9CI	20.13	180000.	
6.	132649	Dibenzofuran (8CI9CI)	21.86	220000.	
7.	74410427	D-Galactitol, 2-(acetylmethylamino	26.78	190000.	
8.	832699	Phenanthrene, 1-methyl- (8CI9CI)	27.71	88000.	
9.	613127	Anthracene, 2-methyl- (8CI9CI)	27.82	98000.	
10.	203645	4H-Cyclopenta[def]phenanthrene (8C	28.11	210000.	
11.	238846	11H-Benzo[a]fluorene (8CI9CI)	31.91	140000.	
12.	243174	11H-Benzo[b]fluorene (8CI9CI)	32.13	100000.	
13.	205823	Benzo[j]fluoranthene (8CI9CI)	40.82	120000.	
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012777	05/22/90	10:15	DLW	SOIL - B7, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S[A]					
ALDRIN	ND	24	UG/KG	06/21/90	WHS
alpha-BHC	ND	24	UG/KG	06/21/90	WHS
beta-BHC	ND	24	UG/KG	06/21/90	WHS
delta-BHC	86	24	UG/KG	06/21/90	WHS
gamma-BHC	140	24	UG/KG	06/21/90	WHS
CHLORDANE	ND	240	UG/KG	06/21/90	WHS
4,4'-DDD	ND	24	UG/KG	06/21/90	WHS
4,4'-DDE	ND	24	UG/KG	06/21/90	WHS
4,4'-DDT	ND	24	UG/KG	06/21/90	WHS
DIELDRIN	ND	24	UG/KG	06/21/90	WHS
ENDOSULFAN I	ND	24	UG/KG	06/21/90	WHS
ENDOSULFAN II	ND	24	UG/KG	06/21/90	WHS
ENDOSULFAN SULFATE	ND	24	UG/KG	06/21/90	WHS
ENDRIN	ND	24	UG/KG	06/21/90	WHS
ENDRIN ALDEHYDE	ND	24	UG/KG	06/21/90	WHS
HEPTACHLOR	ND	24	UG/KG	06/21/90	WHS
HEPTACHLOR EPOXIDE	ND	24	UG/KG	06/21/90	WHS
TOXAPHENE	ND	240	UG/KG	06/21/90	WHS
AROCHLOR 1016	ND	120	UG/KG	06/21/90	WHS
AROCHLOR 1221	ND	120	UG/KG	06/21/90	WHS
AROCHLOR 1232	ND	120	UG/KG	06/21/90	WHS

[A] DIL'N REQUIRED DUE TO INTERFERENCE RESULTING IN ELEVATED MDL.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012777	05/22/90	10:15	DLW	SOIL - B7, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
PESTICIDES, PCB'S(Cont.)[A]					
AROCHLOR 1242	ND	120	UG/KG	06/21/90	WHS
AROCHLOR 1248	ND	120	UG/KG	06/21/90	WHS
AROCHLOR 1254	ND	120	UG/KG	06/21/90	WHS
AROCHLOR 1260	ND	120	UG/KG	06/21/90	WHS

[A] DIL'N REQUIRED DUE TO INTERFERENCE RESULTING IN ELEVATED MDL.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012777	05/22/90	10:15	DLW	SOIL - B7, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
ANTIMONY	<0.10	0.10	MG/KG	06/09/90	BJR
ARSENIC	2.2	0.10	MG/KG	06/06/90	JRT
BERYLLIUM	<0.50	0.50	MG/KG	06/08/90	JMC
CADMIUM	<1.0	1.0	MG/KG	06/08/90	JMC
CHROMIUM	5.4	2.5	MG/KG	06/07/90	TPM
COPPER	25	2.0	MG/KG	06/08/90	JMC
LEAD	18	10	MG/KG	06/05/90	TPM
MERCURY	0.22	0.10	MG/KG	06/01/90	SMH
NICKEL	<4.0	4.0	MG/KG	06/08/90	JMC
SELENIUM	0.58	0.10	MG/KG	06/13/90	JKS
SILVER	<3.0	3.0	MG/KG	06/07/90	TPM
THALLIUM	0.39	0.10	MG/KG	06/14/90	JRT
ZINC	10	5.0	MG/KG	06/08/90	JMC

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012777	05/22/90	10:15	DLW	SOIL - B7, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
CYANIDE, TOTAL	<0.50	0.50	MG/KG	06/04/90	JLP
PETROLEUM HYDROCARBONS	110	25	MG/KG	05/31/90	AJR
PHENOLICS, TOTAL	280	2.5	MG/KG	06/14/90	KY
SOLIDS, TOTAL PERCENT	99	2.0	%	05/23/90	AMH

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MDL = METHOD DETECTION LIMIT
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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS+S
LAB SAMPLE #: E012778
MATRIX : SOIL

METHOD : SW846 8240
ANALYSIS DATE: 05/26/90
DATA FILE : >E0373

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACROLEIN	ND	1100	
2)	ACRYLONITRILE	ND	1100	
3)	BENZENE	90	55	
4)	BROMOFORM	ND	55	
5)	BROMODICHLOROMETHANE	ND	55	
6)	BROMOMETHANE	ND	55	
7)	CARBON TETRACHLORIDE	ND	110	
8)	CHLOROBENZENE	ND	55	
9)	CHLOROETHANE	ND	55	
10)	2-CHLOROETHYL VINYL ETHER	ND	110	
11)	CHLOROFORM	ND	110	
12)	CHLOROMETHANE	ND	55	
13)	cis-1,3-DICHLOROPROPENE	ND	110	
14)	DIBROMOCHLOROMETHANE	ND	55	
15)	1,2-DICHLOROBENZENE	ND	55	
16)	1,3-DICHLOROBENZENE	ND	55	
17)	1,4-DICHLOROBENZENE	ND	55	
18)	1,1-DICHLOROETHANE	ND	55	
19)	1,2-DICHLOROETHANE	ND	55	
20)	1,1-DICHLOROETHYLENE	ND	55	
21)	trans-1,2-DICHLOROETHYLENE	ND	55	
22)	trans-1,3-DICHLOROPROPENE	ND	55	
23)	1,2-DICHLOROPROPANE	ND	55	
24)	ETHYLBENZENE	ND	55	
25)	METHYLENE CHLORIDE	2500	55	
26)	1,1,2,2-TETRACHLOROETHANE	ND	55	
27)	TETRACHLOROETHYLENE	ND	55	
28)	TOLUENE	ND	55	
29)	1,1,1-TRICHLOROETHANE	170	55	
30)	1,1,2-TRICHLOROETHANE	ND	55	
31)	TRICHLOROETHYLENE	ND	55	
32)	TRICHLOROFLUOROMETHANE	540	55	
33)	VINYL CHLORIDE	ND	55	
34)	m-XYLENE	ND	110	
35)	p,o-XYLENE	480	55	
		1600	55	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS & S
LAB SAMPLE #: E012778
MATRIX : SOIL

METHOD : SW846 827
ANALYSIS DATE: 06/06/90
DATA FILE : >D0216

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	ACENAPHTHENE	75000	21000	
2)	ACENAPHTHYLENE	ND	21000	
3)	ANTHRACENE	12000	21000	J
4)	BENZIDENE	ND	110000	
5)	BENZO(A)ANTHRACENE	15000	21000	J
6)	BENZO(A)PYRENE	27000	21000	
7)	BENZO(B)FLUORANTHENE	17000	21000	J
8)	BENZO(K)FLUORANTHENE	8900	21000	J
9)	BENZO(G,H,I)PERYLENE	15000	21000	J
10)	BIS(2-CHLOROETHOXY)METHANE	ND	21000	
11)	BIS(2-CHLOROETHYL)ETHER	ND	21000	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	21000	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	21000	
14)	4-BROMOPHENYL PHENYL ETHER	ND	21000	
15)	BUTYL BENZYL PHTHALATE	ND	21000	
16)	2-CHLORONAPHTHALENE	ND	21000	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	21000	
18)	CHRYSENE	26000	21000	
19)	DIBENZO(A,H)ANTHRACENE	5900	21000	J
20)	1,2-DICHLOROBENZENE	ND	21000	
21)	1,3-DICHLOROBENZENE	ND	21000	
22)	1,4-DICHLOROBENZENE	ND	21000	
23)	3,3'-DICHLOROBENZIDENE	ND	43000	
24)	DIETHYL PHTHALATE	ND	21000	
25)	DIMETHYL PHTHALATE	ND	21000	
26)	DI-N-BUTYL PHTHALATE	ND	21000	
27)	2,4-DINITROTOLUENE	ND	21000	
28)	2,6-DINITROTOLUENE	ND	21000	
29)	DI-N-OCTYL PHTHALATE	ND	21000	
30)	1,2-DIPHENYLHYDRAZINE	ND	21000	
31)	FLUORANTHENE	35000	21000	
32)	FLUORENE	43000	21000	
33)	HEXACHLOROBENZENE	ND	21000	
34)	HEXACHLOROBUTADIENE	ND	21000	
35)	HEXACHLOROCYCLOPENTADIENE	ND	21000	
36)	HEXACHLOROETHANE	ND	21000	
37)	INDENO(1,2,3-CD)PYRENE	9400	21000	J
38)	ISOPHORONE	ND	21000	
39)	NAPHTHALENE	120000	21000	
40)	NITROBENZENE	ND	21000	
41)	N-NITROSODIMETHYLAMINE	ND	21000	
42)	N-NITROSODI-N-PROPYLAMINE	ND	21000	
43)	N-NITROSODIPHENYLAMINE	ND	21000	
44)	PHENANTHRENE	55000	21000	
45)	PYRENE	92000	21000	
46)	1,2,4-TRICHLOROBENZENE	ND	21000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPL

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ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS & S
LAB SAMPLE #: E012778
MATRIX : SOIL

METHOD : SW846 827(
ANALYSIS DATE: 06/06/90
DATA FILE : >D0216

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	43000	
2)	2-CHLOROPHENOL	ND	21000	
3)	2,4-DICHLOROPHENOL	ND	21000	
4)	2,4-DIMETHYLPHENOL	ND	21000	
5)	2,4-DINITROPHENOL	ND	110000	
6)	2-METHYL-4,6-DINITROPHENOL	ND	110000	
7)	2-NITROPHENOL	ND	21000	
8)	4-NITROPHENOL	ND	110000	
9)	PENTACHLOROPHENOL	ND	110000	
10)	PHENOL	ND	21000	
11)	2,4,6-TRICHLOROPHENOL	ND	21000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS+S

Lab Sample ID: E012778

Date Analyzed: 5/26/90 2:40

Lab File ID: >E0373

Matrix: SOIL FOR VOA

Number TICs found: 3 CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	496117	1H-Indene, 2,3-dihydro- (9CI)	34.95	7300.	
2.	104870	Benzaldehyde, 4-methyl- (9CI)	31.79	1100.	
3.	98828	Benzene, (1-methylethyl)- (9CI)	36.19	480.	
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS & S

Batch Number: MS-S-829

Lab Sample ID: E012778

Extraction Date: 5/31/90

Lab File ID: >D0216

Date Analyzed: 6/06/90 19:59

Matrix: SOIL FOR BNAE

Number TICs found: 20

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	620144	Benzene, 1-ethyl-3-methyl- (9CI)	11.17	19000.	
2.	496117	1H-Indene, 2,3-dihydro- (9CI)	12.25	97000.	
3.	2039896	Benzene, 2-ethenyl-1,4-dimethyl- (	14.80	11000.	
4.	90120	Naphthalene, 1-methyl- (8CI9CI)	17.81	22000.	
5.	2471832	1H-Indene, 1-ethylidene- (9CI)	18.14	24000.	
6.	827543	Naphthalene, 2-ethenyl- (9CI)	19.32	8700.	
7.	1127760	Naphthalene, 1-ethyl- (8CI9CI)	19.64	11000.	
8.	581420	Naphthalene, 2,6-dimethyl- (8CI9CI	19.86	12000.	
9.	569415	Naphthalene, 1,8-dimethyl- (8CI9CI	20.11	28000.	
10.	569415	Naphthalene, 1,8-dimethyl- (8CI9CI	20.51	11000.	
11.	643583	1,1'-Biphenyl, 2-methyl- (9CI)	21.19	890.	
12.	132649	Dibenzofuran (8CI9CI)	21.87	39000.	
13.	2131411	Naphthalene, 1,4,5-trimethyl- (8CI	22.91	1300.	
14.		Unknown	23.09	1300.	
15.	2320323	Benzene, [1-(2,4-cyclopentadien-1-	23.27	9400.	
16.		Unknown	25.97	2100.	
17.	203645	4H-Cyclopenta[def]phenanthrene (8C	28.13	17000.	
18.	3442782	Pyrene, 2-methyl- (8CI9CI)	32.28	22000.	
19.	3353126	Pyrene, 4-methyl- (8CI9CI)	32.57	12000.	
20.	205823	Benzo[j]fluoranthene (8CI9CI)	40.83	88000.	
21.					
22.					
23.					
24.					
25.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012778	05/22/90	11:15	DLW	SOIL - B8, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S[A]					
ALDRIN	ND	180	UG/KG	06/21/90	WHS
alpha-BHC	ND	180	UG/KG	06/21/90	WHS
beta-BHC	ND	180	UG/KG	06/21/90	WHS
delta-BHC	ND	180	UG/KG	06/21/90	WHS
gamma-BHC	ND	180	UG/KG	06/21/90	WHS
CHLORDANE	ND	1800	UG/KG	06/21/90	WHS
4,4'-DDD	ND	180	UG/KG	06/21/90	WHS
4,4'-DDE	ND	180	UG/KG	06/21/90	WHS
4,4'-DDT	ND	180	UG/KG	06/21/90	WHS
DIELDRIN	ND	180	UG/KG	06/21/90	WHS
ENDOSULFAN I	ND	180	UG/KG	06/21/90	WHS
ENDOSULFAN II	ND	180	UG/KG	06/21/90	WHS
ENDOSULFAN SULFATE	ND	180	UG/KG	06/21/90	WHS
ENDRIN	ND	180	UG/KG	06/21/90	WHS
ENDRIN ALDEHYDE	ND	180	UG/KG	06/21/90	WHS
HEPTACHLOR	ND	180	UG/KG	06/21/90	WHS
HEPTACHLOR EPOXIDE	ND	180	UG/KG	06/21/90	WHS
TOXAPHENE	ND	1800	UG/KG	06/21/90	WHS
AROCHLOR 1016	ND	890	UG/KG	06/21/90	WHS
AROCHLOR 1221	ND	890	UG/KG	06/21/90	WHS
AROCHLOR 1232	ND	890	UG/KG	06/21/90	WHS

[A] DIL'N REQUIRED DUE TO INTERFERENCE RESULTING IN ELEVATED MDL.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012778	05/22/90	11:15	DLW	SOIL - B8, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S(Cont.)[A]					
AROCHLOR 1242	ND	890	UG/KG	06/21/90	WHS
AROCHLOR 1248	ND	890	UG/KG	06/21/90	WHS
AROCHLOR 1254	ND	890	UG/KG	06/21/90	WHS
AROCHLOR 1260	ND	890	UG/KG	06/21/90	WHS

[A] DIL'N REQUIRED DUE TO INTERFERENCE RESULTING IN ELEVATED MDL.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012778	05/22/90	11:15	DLW	SOIL - B8, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
ANTIMONY	<0.10	0.10	MG/KG	06/09/90	BJR
ARSENIC	1.4	0.10	MG/KG	06/06/90	JRT
BERYLLIUM	<0.50	0.50	MG/KG	06/08/90	JMC
CADMIUM	<1.0	1.0	MG/KG	06/08/90	JMC
CHROMIUM	3.0	2.5	MG/KG	06/07/90	TPM
COPPER	8.6	2.0	MG/KG	06/08/90	JMC
LEAD	23	10	MG/KG	06/05/90	TPM
MERCURY	0.20	0.10	MG/KG	06/01/90	SMH
NICKEL	6.1	4.0	MG/KG	06/08/90	JMC
SELENIUM	0.46	0.10	MG/KG	06/13/90	JKS
SILVER	<3.0	3.0	MG/KG	06/07/90	TPM
THALLIUM	<0.10	0.10	MG/KG	06/14/90	JRT
ZINC	32	5.0	MG/KG	06/08/90	JMC

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012778	05/22/90	11:15	DLW	SOIL - B8, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
CYANIDE, TOTAL	<0.50	0.50	MG/KG	06/04/90	JLI
PETROLEUM HYDROCARBONS	37000	25	MG/KG	05/31/90	AJI
PHENOLICS, TOTAL	7.5	2.5	MG/KG	06/14/90	KY
SOLIDS, TOTAL PERCENT	91	2.0	%	05/23/90	AME

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

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ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : PS+S
LAB SAMPLE #: E012779
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 05/25/90
DATA FILE : >G5745

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACROLEIN	ND	100	
2)	ACRYLONITRILE	ND	100	
3)	BENZENE	ND	5.0	
4)	BROMOFORM	ND	5.0	
5)	BROMODICHLOROMETHANE	ND	5.0	
6)	BROMOMETHANE	ND	10	
7)	CARBON TETRACHLORIDE	ND	5.0	
8)	CHLOROBENZENE	ND	5.0	
9)	CHLOROETHANE	ND	10	
10)	2-CHLOROETHYL VINYL ETHER	ND	10	
11)	CHLOROFORM	ND	5.0	
12)	CHLOROMETHANE	ND	10	
13)	cis-1,3-DICHLOROPROPENE	ND	5.0	
14)	DIBROMOCHLOROMETHANE	ND	5.0	
15)	1,2-DICHLOROBENZENE	ND	5.0	
16)	1,3-DICHLOROBENZENE	ND	5.0	
17)	1,4-DICHLOROBENZENE	ND	5.0	
18)	1,1-DICHLOROETHANE	ND	5.0	
19)	1,2-DICHLOROETHANE	ND	5.0	
20)	1,1-DICHLOROETHYLENE	ND	5.0	
21)	trans-1,2-DICHLOROETHYLENE	ND	5.0	
22)	trans-1,3-DICHLOROPROPENE	ND	5.0	
23)	1,2-DICHLOROPROPANE	ND	5.0	
24)	ETHYLBENZENE	ND	5.0	
25)	METHYLENE CHLORIDE	ND	5.0	
26)	1,1,2,2-TETRACHLOROETHANE	ND	5.0	
27)	TETRACHLOROETHYLENE	ND	5.0	
28)	TOLUENE	ND	5.0	
29)	1,1,1-TRICHLOROETHANE	ND	5.0	
30)	1,1,2-TRICHLOROETHANE	ND	5.0	
31)	TRICHLOROETHYLENE	ND	5.0	
32)	TRICHLOROFLUOROMETHANE	ND	5.0	
33)	VINYL CHLORIDE	ND	5.0	
34)	m-XYLENE	ND	10	
35)	p,o-XYLENE	ND	5.0	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR BASE NEUTRAL EXTRACTABLES BY GC/MS

CLIENT : PS&S
LAB SAMPLE #: E012779
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 05/27/90
DATA FILE : >C4460

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	ACENAPHTHENE	ND	10	
2)	ACENAPHTHYLENE	ND	10	
3)	ANTHRACENE	ND	10	
4)	BENZIDENE	ND	52	
5)	BENZO(A)ANTHRACENE	ND	10	
6)	BENZO(A)PYRENE	ND	10	
7)	BENZO(B)FLUORANTHENE	ND	10	
8)	BENZO(K)FLUORANTHENE	ND	10	
9)	BENZO(G,H,I)PERYLENE	ND	10	
10)	BIS(2-CHLOROETHOXY)METHANE	ND	10	
11)	BIS(2-CHLOROETHYL)ETHER	ND	10	
12)	BIS(2-CHLOROISOPROPYL)ETHER	ND	10	
13)	BIS(2-ETHYLHEXYL)PHTHALATE	ND	10	
14)	4-BROMOPHENYL PHENYL ETHER	ND	10	
15)	BUTYL BENZYL PHTHALATE	ND	10	
16)	2-CHLORONAPHTHALENE	ND	10	
17)	4-CHLOROPHENYL PHENYL ETHER	ND	10	
18)	CHRYSENE	ND	10	
19)	DIBENZO(A,H)ANTHRACENE	ND	10	
20)	1,2-DICHLOROBENZENE	ND	10	
21)	1,3-DICHLOROBENZENE	ND	10	
22)	1,4-DICHLOROBENZENE	ND	10	
23)	3,3'-DICHLOROBENZIDENE	ND	21	
24)	DIETHYL PHTHALATE	ND	10	
25)	DIMETHYL PHTHALATE	ND	10	
26)	DI-N-BUTYL PHTHALATE	ND	10	
27)	2,4-DINITROTOLUENE	ND	10	
28)	2,6-DINITROTOLUENE	ND	10	
29)	DI-N-OCTYL PHTHALATE	ND	10	
30)	1,2-DIPHENYLHYDRAZINE	ND	10	
31)	FLUORANTHENE	1.6	10	J
32)	FLUORENE	ND	10	
33)	HEXACHLOROBENZENE	ND	10	
34)	HEXACHLOROBUTADIENE	ND	10	
35)	HEXACHLOROCYCLOPENTADIENE	ND	10	
36)	HEXACHLOROETHANE	ND	10	
37)	INDENO(1,2,3-CD)PYRENE	ND	10	
38)	ISOPHORONE	ND	10	
39)	NAPHTHALENE	1.8	10	J
40)	NITROBENZENE	ND	10	
41)	N-NITROSODIMETHYLAMINE	ND	10	
42)	N-NITROSODI-N-PROPYLAMINE	ND	10	
43)	N-NITROSODIPHENYLAMINE	ND	10	
44)	PHENANTHRENE	2.8	10	J
45)	PYRENE	ND	10	
46)	1,2,4-TRICHLOROBENZENE	ND	10	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

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ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS&S
LAB SAMPLE #: E012779
MATRIX : WATER

METHOD : EPA 625
ANALYSIS DATE: 05/27/90
DATA FILE : >C4460

	COMPOUND	RESULT (ug/L)	MDL (ug/L)	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	21	
2)	2-CHLOROPHENOL	ND	10	
3)	2,4-DICHLOROPHENOL	ND	10	
4)	2,4-DIMETHYLPHENOL	ND	10	
5)	2,4-DINITROPHENOL	ND	52	
6)	2-METHYL-4,6-DINITROPHENOL	ND	52	
7)	2-NITROPHENOL	ND	10	
8)	4-NITROPHENOL	ND	52	
9)	PENTACHLOROPHENOL	ND	52	
10)	PHENOL	ND	10	
11)	2,4,6-TRICHLOROPHENOL	ND	10	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS & S

Lab Sample ID: E012779,

Date Analyzed: 5/25/90 20:20

Lab File ID: >G5745

Matrix: WATER FOR VOA

Number TICs found: 1 CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	75070	Acetaldehyde (DOT)(8CI9CI)	2.46	15.	1
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Batch Number: MS-S-819

Lab Sample ID: E012779

Extraction Date: 5/24/90

Lab File ID: >C4460

Date Analyzed: 5/27/90 12:29

Matrix: WATER FOR BNAE

Number TICs found: 0

CONCENTRATION UNITS: ug/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
	NO ADDITIONAL PEAK TO SEARCH			

FORM I SV-TIC

1/87 Rev.

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012779	05/22/90	10:45	DLW	WATER - FB-2 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INI
PESTICIDES, PCB'S					
ALDRIN	ND	0.052	UG/L	06/05/90	SDP
alpha-BHC	ND	0.052	UG/L	06/05/90	SDP
beta-BHC	ND	0.052	UG/L	06/05/90	SDP
delta-BHC	ND	0.052	UG/L	06/05/90	SDP
gamma-BHC	ND	0.052	UG/L	06/05/90	SDP
CHLORDANE	ND	0.26	UG/L	06/05/90	SDP
4,4'-DDD	ND	0.052	UG/L	06/05/90	SDP
4,4'-DDE	ND	0.052	UG/L	06/05/90	SDP
4,4'-DDT	ND	0.052	UG/L	06/05/90	SDP
DIELDRIN	ND	0.052	UG/L	06/05/90	SDP
ENDOSULFAN I	ND	0.052	UG/L	06/05/90	SDP
ENDOSULFAN II	ND	0.052	UG/L	06/05/90	SDP
ENDOSULFAN SULFATE	ND	0.052	UG/L	06/05/90	SDP
ENDRIN	ND	0.052	UG/L	06/05/90	SDP
ENDRIN ALDEHYDE	ND	0.052	UG/L	06/05/90	SDP
HEPTACHLOR	ND	0.052	UG/L	06/05/90	SDP
HEPTACHLOR EPOXIDE	ND	0.052	UG/L	06/05/90	SDP
TOXAPHENE	ND	0.52	UG/L	06/05/90	SDP
AROCHLOR 1016	ND	0.26	UG/L	06/05/90	SDP
AROCHLOR 1221	ND	0.26	UG/L	06/05/90	SDP
AROCHLOR 1232	ND	0.26	UG/L	06/05/90	SDP

ND = NOT DETECTED
UG/L = PPB MG/L = PPM
MDL = METHOD DETECTION LIMIT

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ANALYSIS REPORT

SAMPLE No	COLLECTED DATE	TIME	BY	POINT OF COLLECTION
E012779	05/22/90	10:45	DLW	WATER - FB-2 FROLA, EDGEWATER, N

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	I
PESTICIDES, PCB'S(Cont.)					
AROCHLOR 1242	ND	0.26	UG/L	06/05/90	S
AROCHLOR 1248	ND	0.26	UG/L	06/05/90	S
AROCHLOR 1254	ND	0.26	UG/L	06/05/90	S
AROCHLOR 1260	ND	0.26	UG/L	06/05/90	S

ND = NOT DETECTED
UG/L = PPB MG/L = PPM
MDL = METHOD DETECTION LIMIT

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2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR ACID EXTRACTABLES BY GC//MS

CLIENT : PS&S
LAB SAMPLE #: E012769
MATRIX : SOIL

METHOD : SW846 8270
ANALYSIS DATE: 06/06/90
DATA FILE : >C4593

	COMPOUND	RESULT (ug/kg)*	MDL (ug/kg)*	Q
1)	4-CHLORO-3-METHYL PHENOL	ND	22000	
2)	2-CHLOROPHENOL	ND	11000	
3)	2,4-DICHLOROPHENOL	ND	11000	
4)	2,4-DIMETHYLPHENOL	ND	11000	
5)	2,4-DINITROPHENOL	ND	55000	
6)	2-METHYL-4,6-DINITROPHENOL	ND	55000	
7)	2-NITROPHENOL	ND	11000	
8)	4-NITROPHENOL	ND	55000	
9)	PENTACHLOROPHENOL	ND	55000	
10)	PHENOL	ND	11000	
11)	2,4,6-TRICHLOROPHENOL	ND	11000	

ND = NOT DETECTED
MDL= METHOD DETECTION LIMIT

* = REPORTED ON A DRY WEIGHT BASIS

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Lab Sample ID: E012769

Date Analyzed: 6/04/90 22:19

Lab File ID: >B6600

Matrix: SOIL FOR VOA

Number TICs found: 3 CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.		Unknown	6.43	3900.	
2.	496117	1H-Indene, 2,3-dihydro- (9CI)	35.58	200000.	
3.	98828	Benzene, (1-methylethyl)- (9CI)	36.93	20000.	
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

FORM I VOA-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client Name: PS&S

Batch Number: MS-S-829

Lab Sample ID: E012769

Extraction Date: 5/31/90

Lab File ID: >C4593

Date Analyzed: 6/06/90 16:31

Matrix: SOIL FOR BNAE

Number TICs found: 25

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1.	6044719	Dodecane, 6-methyl- (8CI9CI)	17.45	11000.	
2.	2463776	2-Undecenal (8CI9CI)	18.21	13000.	
3.	62016346	Octane, 2,3,7-trimethyl- (9CI)	18.64	13000.	
4.	629505	Tridecane (8CI9CI)	19.14	15000.	
5.	25419334	Naphthalene, 1,2,3,4-tetrahydro-1,	20.11	11000.	
6.	74645980	Dodecane, 2,7,10-trimethyl- (9CI)	20.62	17000.	
7.	62108218	Decane, 6-ethyl-2-methyl- (9CI)	21.02	21000.	
8.	54832836	1H-Indene, octahydro-2,2,4,4,7,7-h	21.09	12000.	
9.	54340851	Benzene, 1-(2-butenyl)-2,3-dimethy	21.38	12000.	
10.	13287213	Tridecane, 6-methyl- (8CI9CI)	21.88	10000.	
11.	575371	Naphthalene, 1,7-dimethyl- (8CI9CI	21.95	11000.	
12.	74645980	Dodecane, 2,7,10-trimethyl- (9CI)	22.13	30000.	
13.	630024	Octacosane (8CI9CI)	22.74	31000.	
14.	132649	Dibenzofuran (8CI9CI)	23.75	13000.	
15.	2131422	Naphthalene, 1,4,6-trimethyl- (8CI	23.86	18000.	
16.	2245387	Naphthalene, 1,6,7-trimethyl- (8CI	24.19	15000.	
17.	544763	Hexadecane (8CI9CI)	24.40	26000.	
18.	1921706	Pentadecane, 2,6,10,14-tetramethyl	25.16	35000.	
19.	55045119	Tridecane, 5-propyl- (9CI)	26.06	14000.	
20.	54833486	Heptadecane, 2,6,10,15-tetramethyl	27.43	6800.	
21.	55045108	Tridecane, 6-propyl- (9CI)	27.58	9100.	
22.	203645	4H-Cyclopenta[def]phenanthrene (8C	30.17	9100.	
23.	243174	11H-Benzo[b]fluorene (8CI9CI)	33.99	15000.	
24.	243174	11H-Benzo[b]fluorene (8CI9CI)	34.21	12000.	
25.	50328	Benzo[a]pyrene (8CI9CI)	45.68	220000.	

QUALIFIERS(Q);
(1)-THIS COMPOUND (OR SIMILAR SPECTRA) FOUND IN LAB BLANK.
(2)-INTERNAL OR SURROGATE STANDARD ADDED BY LABORATORY.
(3)-THIS COMPOUND ALREADY IDENTIFIED AND REPORTED AS TARGET COMPOUND.
(4)-PROBABLE BACKGROUND DUE TO SOLVENT OR CO2.
(5)-OTHER:

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ANALYSIS REPORT

SAMPLE No	COLLECTED. DATE	TIME	BY	POINT OF COLLECTION
E012769	05/21/90	12:30	DLW	SOIL - B3, AS-1 FROLA, EDGEWATER, NJ

TEST DESCRIPTION	RESULT	MDL	UNITS	DATE	INIT
PESTICIDES, PCB'S[A]					
ALDRIN	ND	180	UG/KG	06/23/90	WHS
alpha-BHC	ND	180	UG/KG	06/23/90	WHS
beta-BHC	ND	180	UG/KG	06/23/90	WHS
delta-BHC	ND	180	UG/KG	06/23/90	WHS
gamma-BHC	ND	180	UG/KG	06/23/90	WHS
CHLORDANE	ND	1800	UG/KG	06/23/90	WHS
4,4'-DDD	ND	180	UG/KG	06/23/90	WHS
4,4'-DDE	ND	180	UG/KG	06/23/90	WHS
4,4'-DDT	ND	180	UG/KG	06/23/90	WHS
DIELDRIN	ND	180	UG/KG	06/23/90	WHS
ENDOSULFAN I	ND	180	UG/KG	06/23/90	WHS
ENDOSULFAN II	ND	180	UG/KG	06/23/90	WHS
ENDOSULFAN SULFATE	ND	180	UG/KG	06/23/90	WHS
ENDRIN	ND	180	UG/KG	06/23/90	WHS
ENDRIN ALDEHYDE	ND	180	UG/KG	06/23/90	WHS
HEPTACHLOR	ND	180	UG/KG	06/23/90	WHS
HEPTACHLOR EPOXIDE	ND	180	UG/KG	06/23/90	WHS
TOXAPHENE	ND	1800	UG/KG	06/23/90	WHS
AROCHLOR 1016	ND	910	UG/KG	06/23/90	WHS
AROCHLOR 1221	ND	910	UG/KG	06/23/90	WHS
AROCHLOR 1232	ND	910	UG/KG	06/23/90	WHS

[A] ELEVATED METHOD DETECTION LIMIT (MDL) DUE TO SAMPLE MATRIX.

ND = NOT DETECTED
UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

VINCENT J. PUGLIESE
VICE-PRESIDENT

Appendix B

Summary of USEPA Soil Sampling Results – June 2000

TABLE 4 QUANTA SITE SUMMARY OF ARSENIC ANALYTICAL DATA USEPA, JUNE 2000		
Sample Location	Sample Depth (ft)	Arsenic Soil Concentration (mg/kg)
B-10	0.5	90
B-10	3.5	3440
B-11	0.5	2650
B-11	3.5	35100
B-12	0.5	121
B-12	0.5	130
B-12	3.5	12000
B-13	0.5	379
B-14	0.5	626
B-14	3.5	439
B-15	0.5	250
B-15	3.5	338
B-16	0.5	134
B-16	3.5	1650
B-17	0.5	110
B-17	3.5	393
B-18	0.5	3900
B-19	0.5	12
Source: USEPA Files		

Sample ID (Depth-ft)	B-10 (0.5)	B12 (0.5)	B12 (0.5)	B13 (0.5)	B15 (0.5)
Lab Sample Number	211025	211028	211029	211032	211035
Sampling Date	06/14/00	06/14/00	06/14/00	06/15/00	06/15/00
Matrix	SOLID	SOLID	SOLID	SOLID	SOLID
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
VOLATILE COMPOUNDS (GC/MS)					
Chloromethane	500 U	610 U	590 U	480 U	2500 U
Bromomethane	500 U	610 U	590 U	480 U	2500 U
VinylChloride	500 U	610 U	590 U	480 U	2500 U
Chloroethane	500 U	610 U	590 U	480 U	2500 U
MethyleneChloride	300 U	360 U	360 U	280 U	1500 U
Acetone	500 U	1600	590 U	480 U	2500 U
CarbonDisulfide	500 U	610 U	280 J	480 U	2500 U
1,1-Dichloroethene	200 U	240 U	240 U	190 U	1000 U
1,1-Dichloroethane	500 U	610 U	590 U	480 U	2500 U
trans-1,2-Dichloroethene	500 U	610 U	590 U	480 U	2500 U
cis-1,2-Dichloroethene	500 U	610 U	590 U	480 U	2500 U
Chloroform	500 U	610 U	590 U	480 U	2500 U
1,2-Dichloroethane	200 U	240 U	240 U	190 U	1000 U
2-Butanone	500 U	610 U	590 U	480 U	2500 U
1,1,1-Trichloroethane	500 U	610 U	590 U	480 U	2500 U
CarbonTetrachloride	200 U	240 U	240 U	190 U	1000 U
Bromodichloromethane	100 U	120 U	120 U	95 U	510 U
1,2-Dichloropropane	100 U	120 U	120 U	95 U	510 U
(1) cis-1,3-Dichloropropene	500 U	610 U	590 U	480 U	2500 U
Trichloroethene	100 U	120 U	120 U	66 J	510 U
Dibromochloromethane	500 U	610 U	590 U	480 U	2500 U
1,1,2-Trichloroethane	300 U	360 U	360 U	280 U	1500 U
Benzene	100 U	110 J	160	74 J	320 J
(1) trans-1,3-Dichloropropene	500 U	610 U	590 U	480 U	2500 U
Bromoform	400 U	480 U	470 U	380 U	2000 U
4-Methyl-2-Pentanone	500 U	610 U	590 U	480 U	2500 U
2-Hexanone	500 U	610 U	590 U	480 U	2500 U
Tetrachloroethene	100 U	120 U	120 U	54 J	510 U
1,1,2,2-Tetrachloroethane	100 U	120 U	120 U	95 U	510 U
Toluene	500 U	130 J	140 J	130 J	730 J
Chlorobenzene	500 U	610 U	590 U	480 U	2500 U
Ethylbenzene	400 U	480 U	470 U	66 J	1300 J
Styrene	500 U	610 U	590 U	480 U	2500 U
Xylene(Total)	500 U	100 J	94 J	180 J	3400
Total Confident Conc. VOAs (s)	0	1600	160	0	3400
Total Estimated Conc. VOA TICs (s)	0	5770	3900	1200	144300

(1) Values listed reflect the combined standards for the cis and trans isomers of 1,3-Dichloropropene.
^ Value is a revision to the Class IIA ground water quality standard based upon the November 18, 1996 Safe Drinking Water Act maximum contaminant level changes and the February 5, 1997 policy memo issued by Assistant Commissioner R. Gimello.

Qualifiers

U - The compound was not detected at the indicated concentration.
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concetration given is an approximate value.
B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.
NR - Not analyzed.

SUMMARY OF ANALYTICAL RESULTS

Sample ID (Depth-ft)	B-10 (0.5)	B12 (0.5)	B12 (0.5)	B13 (0.5)	B15 (0.5)
Lab Sample Number	211025	211028	211029	211032	211035
Sampling Date	06/14/00	06/14/00	06/14/00	06/15/00	06/15/00
Matrix	SOLID	SOLID	SOLID	SOLID	SOLID
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILE COMPOUNDS (GC/MS)					
Phenol	400 U	190 J	20000 U	37000 U	20000 U
2-Chlorophenol	400 U	8200 U	20000 U	37000 U	20000 U
2-Methylphenol	400 U	8200 U	20000 U	37000 U	20000 U
4-Methylphenol	400 U	8200 U	20000 U	37000 U	20000 U
2-Nitrophenol	400 U	8200 U	20000 U	37000 U	20000 U
2,4-Dimethylphenol	400 U	8200 U	20000 U	37000 U	20000 U
2,4-Dichlorophenol	400 U	8200 U	20000 U	37000 U	20000 U
4-Chloro-3-methylphenol	400 U	8200 U	20000 U	37000 U	20000 U
2,4,6-Trichlorophenol	400 U	8200 U	20000 U	37000 U	20000 U
2,4,5-Trichlorophenol	400 U	8200 U	20000 U	37000 U	20000 U
2,4-Dinitrophenol	1600 U	33000 U	80000 U	150000 U	81000 U
4-Nitrophenol	1600 U	33000 U	80000 U	150000 U	81000 U
4,6-Dinitro-2-methylphenol	1600 U	33000 U	80000 U	150000 U	81000 U
Pentachlorophenol	1600 U	33000 U	80000 U	150000 U	81000 U
bis(2-Chloroethyl)ether	40 U	820 U	2000 U	3700 U	2000 U
1,3-Dichlorobenzene	400 U	8200 U	20000 U	37000 U	20000 U
1,4-Dichlorobenzene	400 U	8200 U	20000 U	37000 U	20000 U
1,2-Dichlorobenzene	400 U	8200 U	20000 U	37000 U	20000 U
bis(2-chloroisopropyl)ether	400 U	8200 U	20000 U	37000 U	20000 U
N-Nitroso-di-n-propylamine	40 U	820 U	2000 U	3700 U	2000 U
Hexachloroethane	40 U	820 U	2000 U	3700 U	2000 U
Nitrobenzene	40 U	820 U	2000 U	3700 U	2000 U
Isophorone	400 U	8200 U	20000 U	37000 U	20000 U
bis(2-Chloroethoxy)methane	400 U	8200 U	20000 U	37000 U	20000 U
1,2,4-Trichlorobenzene	40 U	820 U	2000 U	3700 U	2000 U
Naphthalene	160 J	5600 J	5900 J	25000 J	120000
4-Chloroaniline	400 U	8200 U	20000 U	37000 U	20000 U
Hexachlorobutadiene	80 U	1600 U	4000 U	7400 U	4000 U
2-Methylnaphthalene	88 J	2200 J	2200 J	8100 J	76000
Hexachlorocyclopentadiene	400 U	8200 U	20000 U	37000 U	20000 U
2-Chloronaphthalene	400 U	8200 U	20000 U	37000 U	20000 U
2-Nitroaniline	800 U	16000 U	40000 U	74000 U	40000 U
Dimethylphthalate	400 U	8200 U	20000 U	37000 U	20000 U
Acenaphthylene	78 J	1500 J	1400 J	4000 J	12000 J
(1) 2,6-Dinitrotoluene	80 U	1600 U	4000 U	7400 U	4000 U
3-Nitroaniline	800 U	16000 U	40000 U	74000 U	40000 U
Acenaphthene	49 J	10000	12000 J	68000	33000
Dibenzofuran	63 J	4400 J	4800 J	27000 J	29000
(1) 2,4-Dinitrotoluene	80 U	1600 U	4000 U	7400 U	4000 U
Diethylphthalate	400 U	8200 U	20000 U	37000 U	20000 U
4-Chlorophenyl-phenylether	400 U	8200 U	20000 U	37000 U	20000 U
Fluorene	94 J	8100 J	8800 J	48000	39000
4-Nitroaniline	800 U	16000 U	40000 U	74000 U	40000 U
N-Nitrosodiphenylamine	400 U	8200 U	20000 U	37000 U	20000 U
4-Bromophenyl-phenylether	400 U	8200 U	20000 U	37000 U	20000 U
Hexachlorobenzene	40 U	820 U	2000 U	3700 U	2000 U
Phenanthrene	720	71000	74000	310000	170000
Anthracene	340 J	15000	16000 J	100000	40000
Carbazole	61 J	12000	13000 J	50000	5500 J
Di-n-butylphthalate	400 U	8200 U	20000 U	37000 U	20000 U
Fluoranthene	820	130000	120000	540000	110000
Pyrene	780	110000	100000	470000	110000
Butylbenzylphthalate	400 U	8200 U	20000 U	37000 U	20000 U
3,3'-Dichlorobenzidine	800 U	16000 U	40000 U	74000 U	40000 U
Benzo(a)anthracene - 900	370	66000	63000	250000	46000
Chrysene - 90,000	450	78000	71000	310000	52000
bis(2-Ethylhexyl)phthalate	400 U	8200 U	20000 U	37000 U	20000 U
Di-n-octylphthalate	400 U	8200 U	20000 U	37000 U	20000 U
Benzo(b)fluoranthene - 900	460	110000	96000	380000	63000
Benzo(k)fluoranthene - 9,000	190	41000	42000	180000	29000
Benzo(a)pyrene - 660	290	73000	68000	260000	51000
Indeno(1,2,3-cd)pyrene - 900	220	52000	37000	140000	28000
Dibenz(a,h)anthracene - 660	63	12000	9500	33000	7500
Benzo(g,h,i)perylene	220 J	51000	33000	120000	25000
Total Confident Conc. BNAs (s)	4363	831000	713500	3259000	1028500
Total Estimated Conc. BNA TICs (s)	0	283800	136000	765000	393000

(1) Values listed reflect the combined standards for the 2,4/2,6-Dinitrotoluene mixture.

^ Value is a revision to the Class IIA ground water quality standard based upon the November 18, 1996 Safe Drinking Water Act maximum contaminant level changes and the February 5, 1997 policy memo issued by Assistant Commissioner R. Gimello.

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

NR - Not analyzed.

SUMMARY OF ANALYTICAL RESULTS

Sample ID (Depth-ft)	B-10 (0.5)	B12 (0.5)	B12 (0.5)	B13 (0.5)	B15 (0.5)
Lab Sample Number	211025	211028	211029	211032	211035
Sampling Date	06/14/00	06/14/00	06/14/00	06/15/00	06/15/00
Matrix	SOLID	SOLID	SOLID	SOLID	SOLID
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES/PCBs 10ppm					
(1) Aroclor-1016	81 U	82 U	80 U	74 U	81 U
(1) Aroclor-1221	81 U	82 U	80 U	74 U	81 U
(1) Aroclor-1232	81 U	82 U	80 U	74 U	81 U
(1) Aroclor-1242	81 U	82 U	80 U	440	81 U
(1) Aroclor-1248	81 U	82 U	80 U	74 U	81 U
(1) Aroclor-1254	81 U	82 U	80 U	280	81 U
(1) Aroclor-1260	81 U	82 U	80 U	74 U	1200
(1) Aroclor-1262	81 U	82 U	80 U	74 U	81 U
(1) Aroclor-1268	81 U	82 U	80 U	74 U	81 U

(1) Values listed reflect the combined standards for "Total PCBs"

(2) Soil Cleanup criteria is provided for "Endosulfan" without specification if it is for Endosulfan I or Endosulfan II.

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concetration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

NR - Not analyzed.

Sample ID (Depth-ft)	B-10 (0.5)	B12 (0.5)	B12 (0.5)	B13 (0.5)	B15 (0.5)
Lab Sample Number	211025	211028	211029	211032	211035
Sampling Date	06/14/00	06/14/00	06/14/00	06/15/00	06/15/00
Matrix	SOLID	SOLID	SOLID	SOLID	SOLID
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES/PCBs					
Aldrin	8.1 U	41 U	40 U	74 U	41 U
alpha-BHC	8.1 U	41 U	40 U	74 U	41 U
beta-BHC	8.1 U	41 U	40 U	74 U	41 U
delta-BHC	8.1 U	41 U	40 U	74 U	41 U
gamma-BHC(Lindane)	8.1 U	41 U	40 U	74 U	41 U
Chlordane	81 U	410 U	400 U	740 U	410 U
4,4'-DDD	8.1 U	340	360	180 P*	92
4,4'-DDE	18 P*	330	330	300 P*	41 U
4,4'-DDT	29 P*	100	99	220 P*	78 P*
Dieldrin	8.1 U	41 U	40 U	74 U	41 U
(2) Endosulfan I	8.1 U	41 U	40 U	74 U	41 U
(2) Endosulfan II	8.1 U	41 U	40 U	74 U	41 U
Endosulfansulfate	8.1 U	41 U	40 U	74 U	41 U
Endrin	8.1 U	41 U	40 U	74 U	41 U
Endrinaldehyde	8.1 U	41 U	40 U	74 U	41 U
Endrinketone	8.1 U	75	74	270	110
Heptachlor	8.1 U	41 U	40 U	74 U	41 U
Heptachlorepoxide	8.1 U	41 U	40 U	74 U	41 U
Methoxychlor	17	320 P*	330 P*	1300 P*	770
Toxaphene	81 U	410 U	400 U	740 U	410 U

(1) Values listed reflect the combined standards for "Total PCBs"
(2) Soil Cleanup criteria is provided for "Endosulfan" without specification if it is for Endosulfan I or Endosulfan II.

Qualifiers

U - The compound was not detected at the indicated concentration.
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concetration given is an approximate value.
B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.
P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%
* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.
NR - Not analyzed.

SUMMARY OF ANALYTICAL RESULTS

Sample ID (Depth-ft)	B-10 (0.5)		B12 (0.5)		B12 (0.5)		B13 (0.5)		B15 (0.5)	
Lab Sample Number	211025		211028		211029		211032		211035	
Sampling Date	06/14/00		06/14/00		06/14/00		06/15/00		06/15/00	
Matrix	SOLID		SOLID		SOLID		SOLID		SOLID	
Units	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
METALS										
Aluminum	1430		6720		7550		4690		3900	
Antimony	156		4.4		3.3		29.3		23.0	
Arsenic	3440		121		130		379		250	
Barium	499		87.2		60.2		305		260	
Beryllium	0.066	U	0.23	B	0.22	B	0.14	B	0.15	B
Cadmium	9.7		0.70	B	0.99	B	0.67	B	0.67	B
Calcium	886	B	20800		23200		9580		29200	
Chromium	7.8		22.5		18.1		14.6		20.2	
Cobalt	24.7		7.5	B	8.0	B	12.1		42.8	
Copper	9690		155		199		305		405	
Iron	168500		30400		28300		54100		81500	
Lead	7760		544		690		1540		1850	
Magnesium	44.4	B	3040		3280		1480		2090	
Manganese	33.2		192		179		84.0		84.6	
Mercury	1.3		18.2		29.5		5.6		15.4	
Nickel	8.9	B	28.6		35.0		8.6	B	5.6	B
Potassium	1290		687	B	569	B	816	B	674	B
Selenium	7.7		3.0		3.3		8.1		27.9	
Silver	29.1		0.64	B	0.47	B	6.1		6.8	
Sodium	505	B	370	B	400	B	317	B	441	B
Thallium	36.2		1.7	B	1.0	U	8.2		4.3	
Vanadium	8.2	B	45.9		34.8		26.7		7.7	B
Zinc	2720		139		177		327		341	

should mg/ ug

Qualifiers

U - The compound was not detected at the indicated concentration.

B - Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.

N - The spiked sample recovery is not within control limits.

NR - Not analyzed.

SUMMARY OF ANALYTICAL RESULTS

Sample ID (Depth-ft)	B-10 (0.5)	B12 (0.5)	B12 (0.5)	B13 (0.5)	B15 (0.5)
Lab Sample Number	211025	211028	211029	211032	211035
Sampling Date	06/14/00	06/14/00	06/14/00	06/15/00	06/15/00
Matrix	SOLID	SOLID	SOLID	SOLID	SOLID
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
WET CHEMISTRY					
TotalCyanide - mg/kg	3.8	1.1	0.64	4.2	10.3

Qualifiers

U - The compound was not detected at the indicated concentration.

NR - Not analyzed.

Appendix C

Laboratory Analytical Report, Accutest, July 1990

Laboratory Analytical Report Provided under Separate cover