163423

Report No.: 8003-194

FINAL SITE INSPECTION PRIORITIZATION REPORT
BUSTERS JUNKYARD
BRONWS MILLS, BURLINGTON COUNTY, NEW JERSEY

PREPARED UNDER

WORK ASSIGNMENT NO. 019-2JZZ
CONTRACT NO. 68-W9-0051

OCTOBER 15, 1993

VOLUME 2 OF 2

REFERENCE NO. 15

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02-8803-25

02-8803-25-SI
REV. NO. 1

FINAL DRAFT
SITE INSPECTION REPORT
BUSTER'S JUNKYARD
BROWNS MILLS, NEW JERSEY

PREPARED UNDER
TECHNICAL DIRECTIVE DOCUMENT NO. 02-8803-25
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

SEPTEMBER 22, 1989
REVISED NOVEMBER 27, 1989

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:

DONALD P. HESSEMER
PROJECT MANAGER

DAVID HEIM
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REVIEWED/APPROVED BY:

RONALD M. NAMAN
FIT OFFICE MANAGER

For the purposes of the Site Inspection Prioritization Report this reference was renumbered. Please follow these numbers → 1

SITE NAME:	Buster's Junkyard	**EPA ID NO.:**	NYD981560949
ADDRESS:	1572F Pepper Road Browns Mills, New Jersey 08015	**LATITUDE:** **LONGITUDE:**	39° 59' 00" N 074° 32' 18" W

1.0 SITE SUMMARY

Buster's Junkyard is an active, 5-acre scrap metal reclaimer on the rural edge of Browns Mills, Burlington County, New Jersey. There are 1,132 residents within 1 mile of the site, and 12,503 people live within 3 miles. It is not known how long the junkyard has been in business, but it has been in operation at least since 1970. The owner of the site, Leonard (Buster) Perrine, accepts scrap metal and junked cars, and reclaims iron and steel. The junkyard is located within the New Jersey state designated Pinelands area, which is under the jurisdiction of the Pinelands Commission. Mr. Perrine never obtained the necessary licenses to operate a junkyard on the property. Mr Perrine was found to be landfilling household wastes on the property in 1983. He received a Notice of Violation in December, 1983, and an Administrative Order from the New Jersey Department of Environmental Protection (NJDEP) in August, 1984, to stop this landfilling. He replied with an affadavit testifying that solid waste disposal on site had ceased and all garbage would be covered. This part of the Pinelands has been designated by the Pinelands Commission as a high fire hazard area.

In 1975, a fire occurred on site, which involved drums of chemicals. There have been allegations of other chemical wastes being disposed of on site. However, these allegations are not documented, and any specific types of chemical wastes are unknown. The site is surrounded by a fence, and guard dogs patrol the grounds 24 hours a day. There are three small ponds, and some marshy areas on site. Two intermittent streams carry water from the site towards Rancocas Creek. Groundwater is used for drinking by all local residents, and the water table is very high here.

On June 14, 1989, NUS Corporation Region 2 FIT personnel conducted a site inspection at Buster's Junkyard. Five soil, two surface water/sediment, and four groundwater samples were collected. Analyses of these samples indicate the presence of Toxic Compound List (TCL) metals and polynuclear aromatic hydrocarbons (PAHs) on site

Ref. Nos. 1, 2, 6, 7, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 23, 24

2.0 SITE INSPECTION NARRATIVE

2.1 EXISTING ANALYTICAL DATA

On April 17, 1984, New Jersey Department of Environmental Protection (NJDEP) personnel collected a groundwater sample from a shallow well (30 feet deep) at Buster's Junkyard, and tap samples from neighboring homes at 24 and 40 Pepper Road. These samples were analyzed for volatile organic compounds, but none were detected in any of the samples.

Ref. No. 22

2.2 WASTE SOURCE DESCRIPTION

There are hundreds of junked cars on the premises, and soils at the site are oil-stained Junked automobiles may leak oil and gasoline onto the ground. There have been allegations that chemical wastes have been disposed of on the site. In 1975, the Pemberton Township Fire Department responded to a fire on site which involved 12 drums of chemicals. Approximately 50 empty drums were found on site during the NUS Corp. FIT 2 site inspection. It has been alleged by a former partner of Mr Perrine that some wastes from the nearby Lang property, a Superfund site on the National Priorities List, which was partially cleaned up in 1976, were buried on site. There is no concrete evidence to corroborate this At the Lang site, the following wastes were found in groundwater: methylene chloride, chlorobenzene, trichloroethylene, trichloroethane, octane, methyl isobutyl ketone, tetrachloroethylene, toluene, ethylbenzene, and xylenes. The New Jersey Department of Environmental Protection (NJDEP) does not have documentation indicating the final disposition of the Lang wastes. A November 1975 inspection conducted by Burlington County Health Department (BCHD) personnel found drums buried on site, and detected chemical odors.

In 1983, an NJDEP site inspection found that Mr. Perrine had been landfilling household garbage and debris on site. The quantity of wastes deposited is unknown. At the time of the NUS Corporation Region 2 FIT site inspection, there was an area of about 100 feet by 50 feet which was roped off, and free of any junked cars or other debris. This may have been the area where wastes were landfilled.

NUS Corporation Region 2 FIT personnel also noticed approximately 100 car batteries piled into a pickup truck bed on the ground on site. Some of these batteries had holes in them, and evidently had leaked acid onto the ground. NUS Corporation Region 2 FIT personnel collected five soil, two surface water/sediment, and four tapwater samples during the site inspection of June 14, 1989. Analytical results of this sampling are discussed in Section 4 0 of this report.

Ref. Nos 1, 9, 10, 11, 12, 13 14 15, 17, 18, 19, 20, 21

2.3 GROUNDWATER ROUTE

The Buster's Junkyard Site lies in an outcrop of the Kirkwood Formation, which consists of two units. The basal unit consists of clayey silt to very fine quartz sand, and the upper layer consists of fine-grained sands. The formation is about 80 feet thick in this area of Burlington County. The coefficient of permeability of the Kirkwood Formation is approximately 6×10^{-2} cm/sec. In the immediate vicinity of Buster's Junkyard, potable water supplies are drawn from shallow water-table wells penetrating the Kirkwood and the Vincentown Formation. The Vincentown aquifer is only about 25 feet thick here, and has a permeability of 6.4×10^{-2} cm/sec. All 12,503 residents within 3 miles of the site are served by private and public supply wells, either from the Kirkwood, the Vincentown, the Englishtown Formation, the Mount Laurel Sands or the Magothy - Raritan Formation. There are no confining layers among these geologic formations, though clay lenses may retard transmission of groundwater in local areas. These formations are all included in a federally designated sole-source aquifer, the New Jersey Coastal Plain Aquifer System.

At the time of the NUS Corporation Region 2 FIT site inspection, groundwater was encountered at a depth of 2.5 feet below ground surface. In a low-lying area of the site, a small marsh formed the headwaters of an intermittent stream. Groundwater flow in the area is probably toward the southwest in the area, as groundwater discharge is to the Rancocas Creek. During the site inspection, one on-site monitoring well, 30 feet deep, was sampled. There is also a 360-foot-deep well on site, which supplies drinking water to the Perrine household. This well is screened in the Kirkwood Formation. Two residential wells, each 100 feet deep, were also sampled. These wells tap the Vincentown Formation. One well, at 24 Pepper Road, is upgradient, and the other, at 44 Pepper Road, is downgradient. No organic Target Compound List (TCL) compounds were detected in any of these off-site wells. The metals iron, mercury, magnesium, manganese, and sodium were detected in these tap samples. Only iron was detected in a concentration above federally-mandated Maximum Contaminant levels (MCLs). The on-site monitoring well contained manganese, calcium, magnesium, potassium and sodium. Net annual precipitation in the area is 12 inches.

Ref. Nos. 1, 2, 3, 4, 5, 7, 8, 26

2.4 SURFACE WATER ROUTE

NUS Corporation Region 2 FIT personnel observed four marshy areas and three small ponds on site during the May 31, 1989 on-site reconnaissance. There were also a number of puddles in the junkyard. Leachate was seen flowing on site, toward one of the ponds. There are two drainage streams which intermittently carry water from ponds and marshy areas to the southwest of the site. These drainage streams lead to the Rancocas Creek 700 feet away, which flows between Hanover Lake and Mirror Lake. Mirror Lake is downstream, about 1 stream mile from the site. There are no

drinking water intakes on the stream or either of the lakes, but the lakes are used for recreational purposes. These lakes are dammed-up portions of the North Branch of Rancocas Creek. The creek is designated as a PL stream, approved for agricultural, recreational, wildlife, and potable uses. Water from the creek is diverted to irrigate approximately 250 acres of cranberry bog within 3 miles of the site. The nearest intake for irrigation is approximately 0.5 mile downstream from the site. There are freshwater wetlands greater than 5 acres in size along Rancocas Creek.

The site has a less than 3 percent slope towards the southwest, and the slope of the terrain between the site and Rancocas Creek is also less than 3 percent. The 1-year, 24-hour rainfall in the area is 3 inches.

During the NUS Corporation Region 2 FIT site inspection, two surface water samples were collected; one from an on-site pond, and one from a drainage pathway. Analyses of these samples revealed the presence of the organic TCL species xylene and acetone. The metals copper, chromium, iron, manganese, and mercury were also detected.

Ref. Nos. 1, 2, 6, 7, 8, 9, 20, 21, 25

2.5 AIR ROUTE

There are no National Historic Sites within view of the site. During the NUS Corporation Region 2 FIT site inspection at Buster's Junkyard, there were no air readings above background levels on an HNu photoionization detector. An Organic Vapor Analyzer detected over 1000 parts per million of methane beneath the ground surface, where sample NJ55-S1 was collected. This sample was collected in the roped-off area in the northwest of the site, where it is suspected that garbage was landfilled.

Ref. No. 1

2.6 ACTUAL HAZARDOUS CONDITIONS

The Buster's Junkyard site is located in an area which the Pinelands Commission has designated as a high fire hazard area. No other actual hazardous conditions pertaining to human or environmental contamination have been documented. Specifically:

- Contamination has not been documented either in organisms in a food chain leading to humans or in organisms directly consumed by humans.

- There have been no documented observed incidents of direct physical contact with hazardous substances at the facility involving a human being or domestic animal.
- There have been no documented incidents of damage to flora (e.g., stressed vegetation) or to fauna (e.g., fish kill) that can be attributed to hazardous material at the facility.
- There is no documented contamination of a sewer or storm drain without a point source to which the contamination can be attributed.
- There is no direct evidence of release of a substance of concern to the groundwater.

Ref. Nos. 1, 2, 13

3.0 MAPS AND PHOTOS

Figure 1:	Site Location Map
Figure 2:	Sample Location Map
Exhibit A:	Photograph Log

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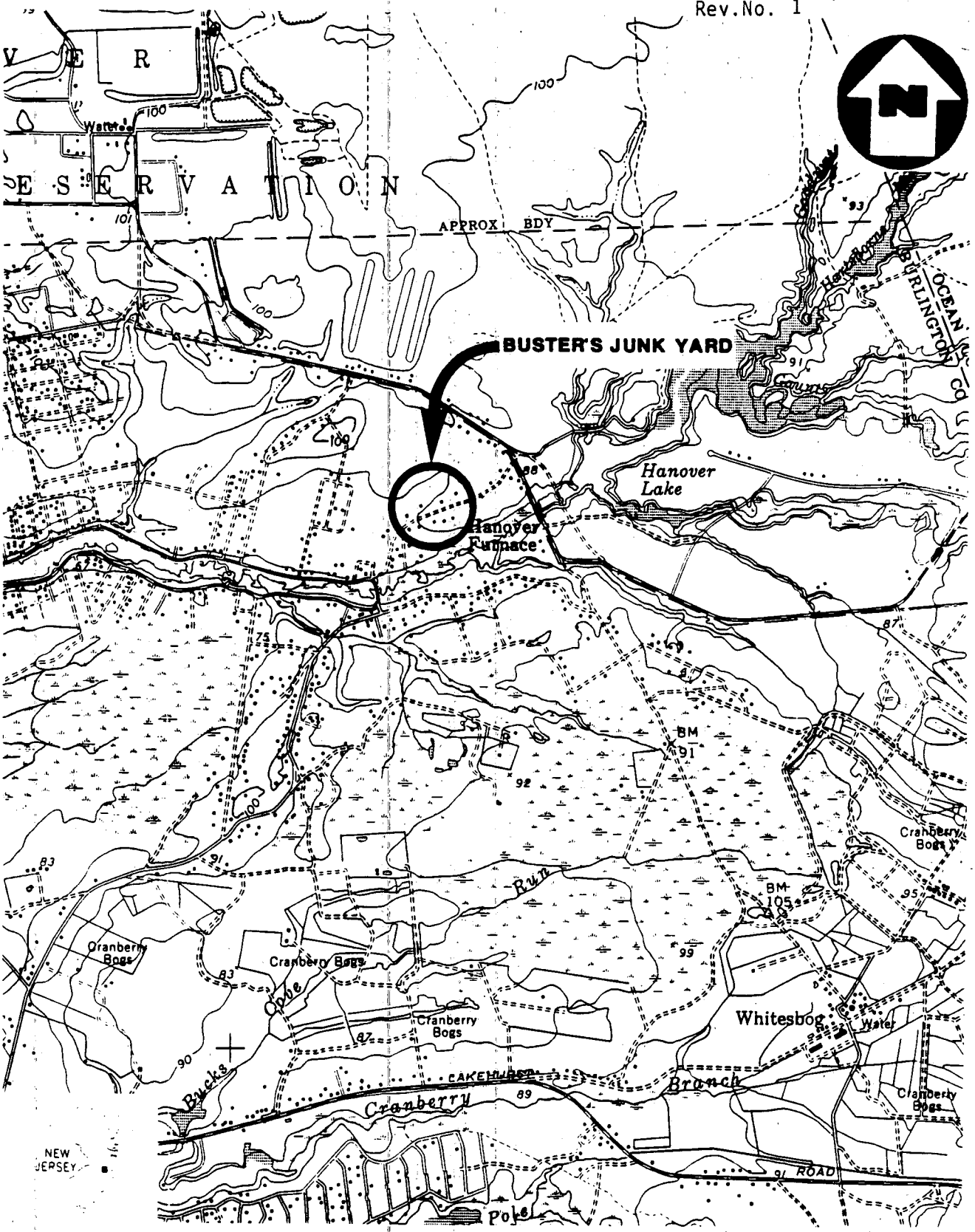
Rev.No. 1



(QUAD) BROWNS MILLS, N.J.

FIGURE 1

SITE LOCATION MAP

BUSTER'S JUNKYARD, BROWNS MILLS, N.J.

SCALE 1"=2000'

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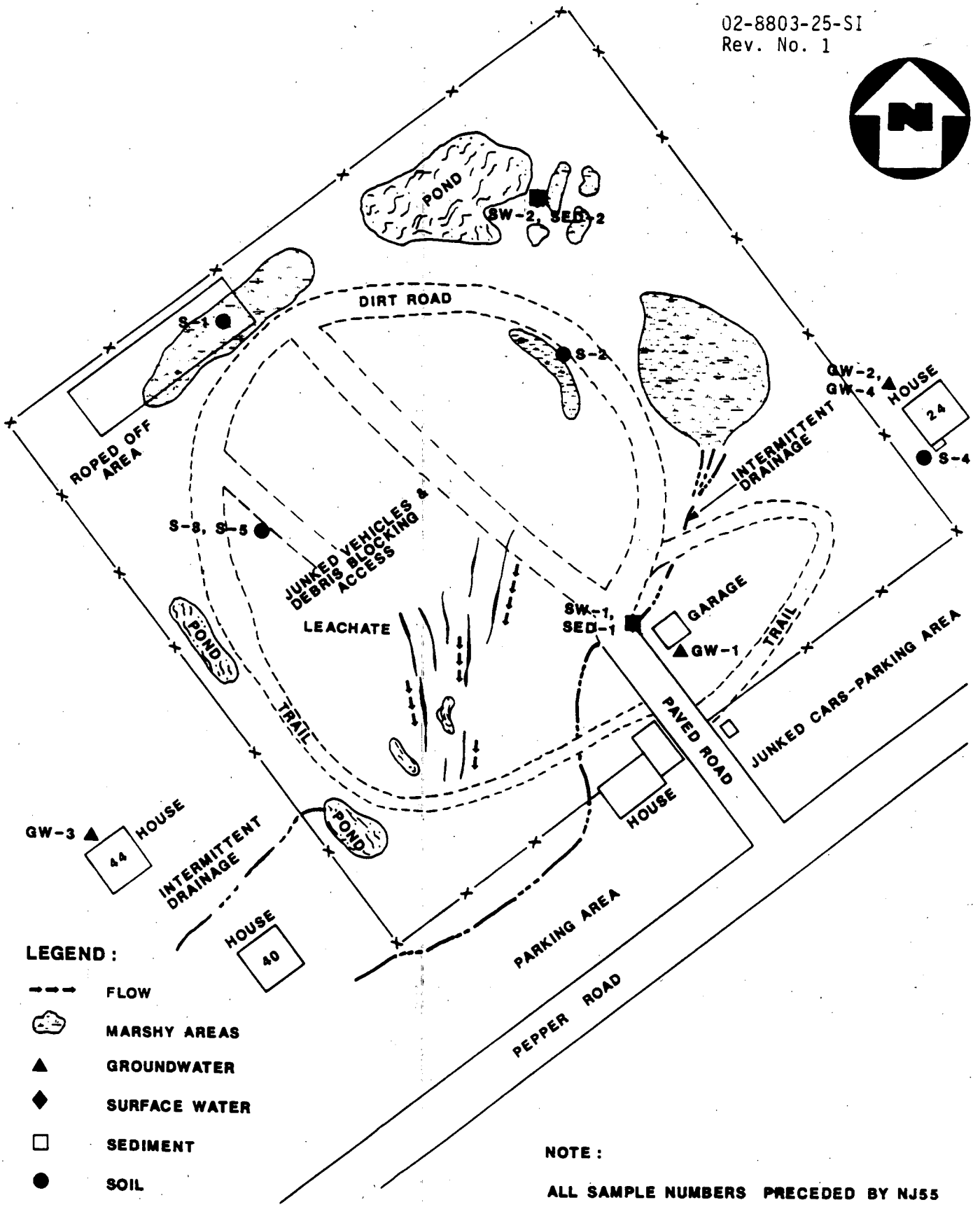


NOTE:

ALL SAMPLE NUMBERS PRECEDED BY NJ55

FIGURE 2

SAMPLE LOCATION MAP

BUSTER'S JUNKYARD, BROWNS MILLS, N.J.

NOT TO SCALE

NUS CORPORATION

EXHIBIT A

PHOTOGRAPH LOG

BUSTER'S JUNKYARD
BROWNS MILLS, NEW JERSEY
02-8803-25

ON-SITE RECONNAISSANCE: MAY 31, 1989
SITE INSPECTION: JUNE 14, 1989

BUSTER'S JUNKYARD
BROWNS MILLS, NEW JERSEY

02-8803-25
ON-SITE RECONNAISSANCE: MAY 31, 1989

PHOTOGRAPH INDEX

Photo Number	Description	Time
1P-1	Drum at southwest corner of site.	1120
1P-2	Intermittent stream in southern portion of site.	1125
1P-3	Drum near pond area, in southwest portion of site.	1129
1P-4	Chevron drum at western end of site.	1130
1P-5	Puddles and tires in middle of site.	1135
1P-6	Drums, wrecked car debris in northwest corner of site.	1140
1P-7	Pond along west side of site.	1145
1P-8	Leachate flow into pond in southwest end of site.	1147
1P-9	Marshy area at headwaters of intermittent stream at east end of site.	1152
1P-10	Intermittent stream at access road, crossing garage area at east end of site.	1155
1P-11	Marshy area along access road in northeast portion of site.	1157
1P-12	Roped-off area in northern portion of site, where garbage may have been landfilled.	1200
1P-13	Northeast section of roped-off area.	1201
1P-14	Facing north at entrance to junkyard.	1210
1P-15	Facing east at parking area at entrance to junkyard.	1212

ALL PHOTOGRAPHS TAKEN BY JOSEPH MURTAUGH

BUSTER'S JUNKYARD
BROWNS MILLS, NEW JERSEY
02-8803-25

SITE INSPECTION: JUNE 14, 1989

PHOTOGRAPH INDEX

Photo Number	Description	Time
2P-1	C. Agnew collecting sample NJ55-SW-1 from intermittent stream, west of garage.	0932
2P-2	J. Frost collecting NJ55-SED1 from intermittent stream.	1000
2P-3	C. Agnew collecting NJ55-SW2 from northeast end of site.	1032
2P-4	C. Agnew collecting NJ55-SED2 from northeast end of site.	1047
2P-5	Leachate adjacent to pond where NJ55-SW2 was collected.	1048
2P-6	West of pond where NJ55-SW2 was collected.	1049
2P-7	J. Frost collecting sample NJ55-S2 at eastern end of site.	1116
2P-8	J. Frost collecting NJ55-S1 in roped-off area, in northern end of site.	1150
2P-9	J. Frost collecting NJ55-S3 and NJ55-S5 in center of site.	1205
2P-10	Junked storage tank near site of samples NJ55-S3 and NJ55-S5.	1210
2P-11	Batteries staged in truck bed near site of samples NJ55-S3 and NJ55-S5.	1211
2P-12	J. Frost collecting sample NJ55-GW1 from tap on garage.	1240
2P-13	C. Agnew collecting background sample NJ55-S4 from [redacted] residence, 24 Pepper Road.	1315
2P-14	C. Agnew collecting NJ55-GW2 and NJ55-GW4 at 24 Pepper Road.	1325

BUSTER'S JUNKYARD
BROWNS MILLS, NEW JERSEY
02-8803-25

SITE INSPECTION: JUNE 14, 1989

PHOTOGRAPH INDEX (con't)

Photo Number	Description	Time
2P-15	Facing south, stream flowing from site across [redacted] property 44 Pepper Road.	1345
2P-16	Facing northeast, stream flowing from site across [redacted] property.	1347
2P-17	C. Agnew collecting sample NJ55-GW3 from [redacted] house.	1400

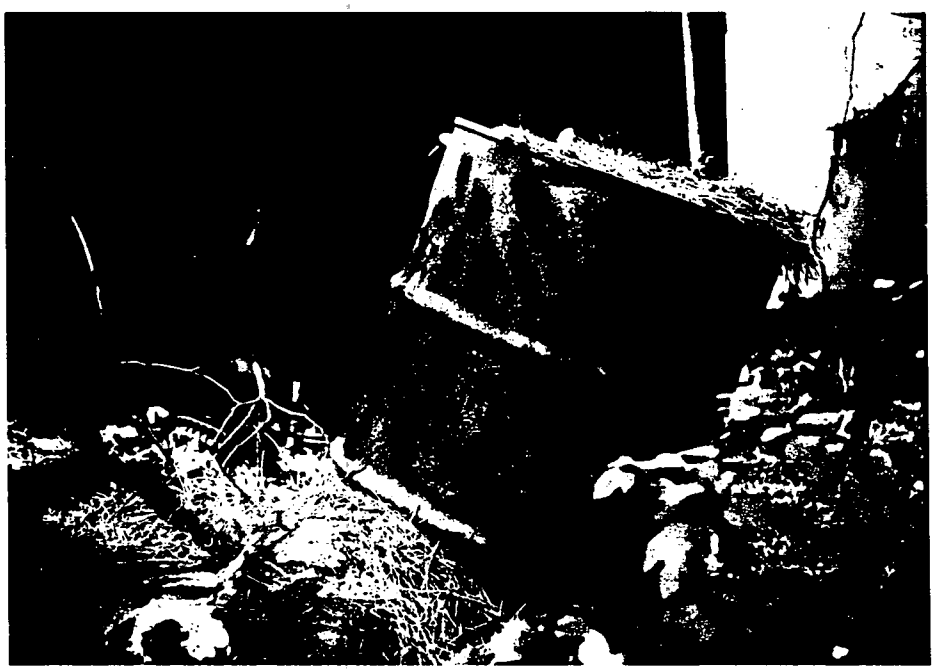
ALL PHOTOGRAPHS TAKEN BY JOSEPH MURTAUGH

BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY

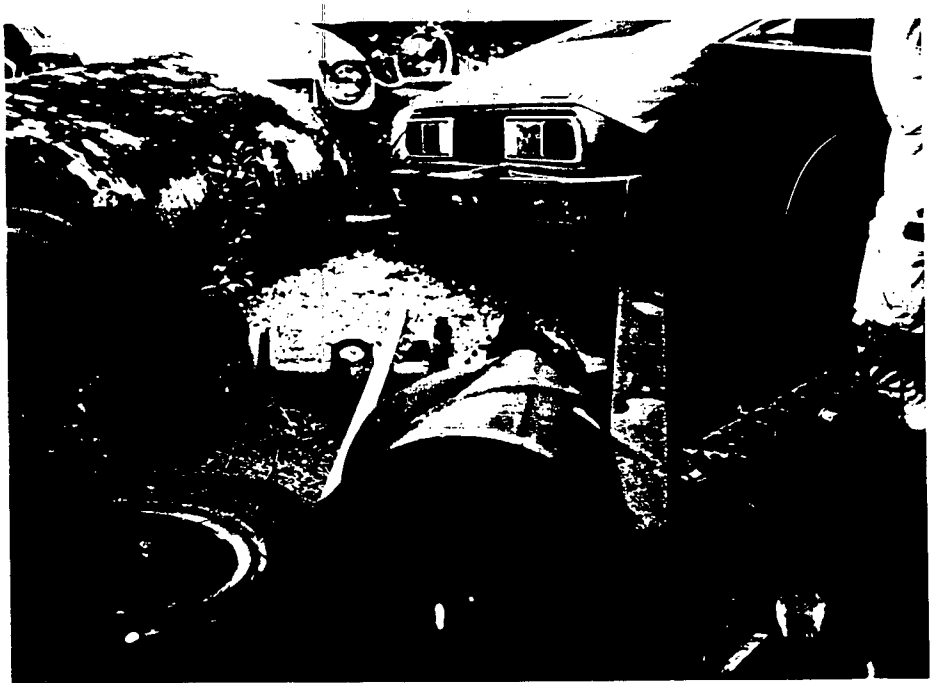
1P-1 May 31, 1989 1120
Drum at southwest corner of site.

1P-2 May 31, 1989 1125
Intermittent stream in southern portion of site.

BROWN'S JUNKYARD, BROWNS MILLS, NEW JERSEY

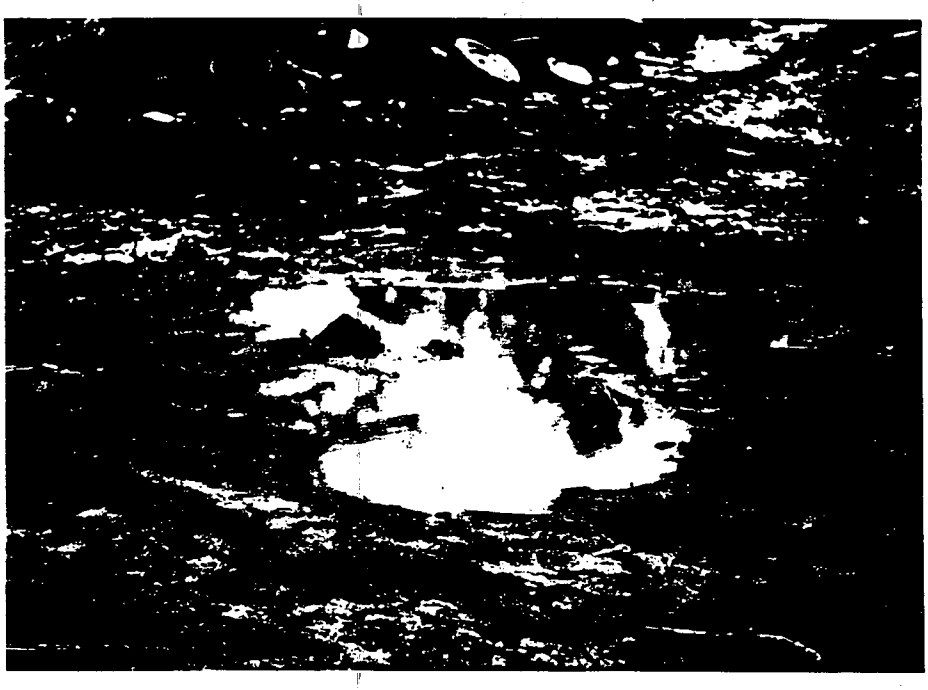


1P-3 May 31, 1989 1129
Drum near pond area, in southwest portion of site.

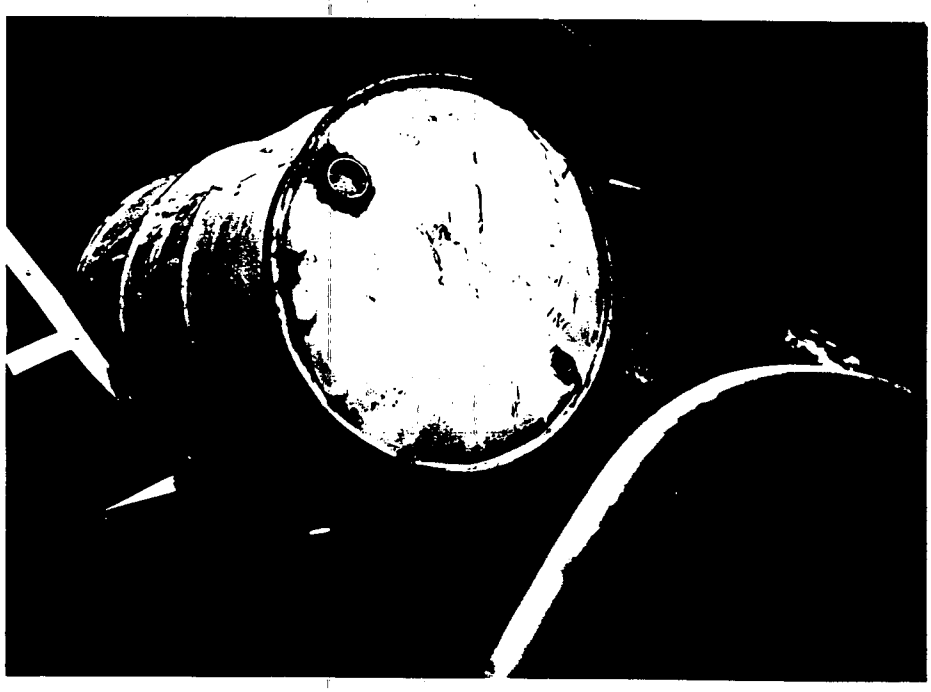


1P-4 May 31, 1989 1130
Chevron drum at western end of site.

BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY

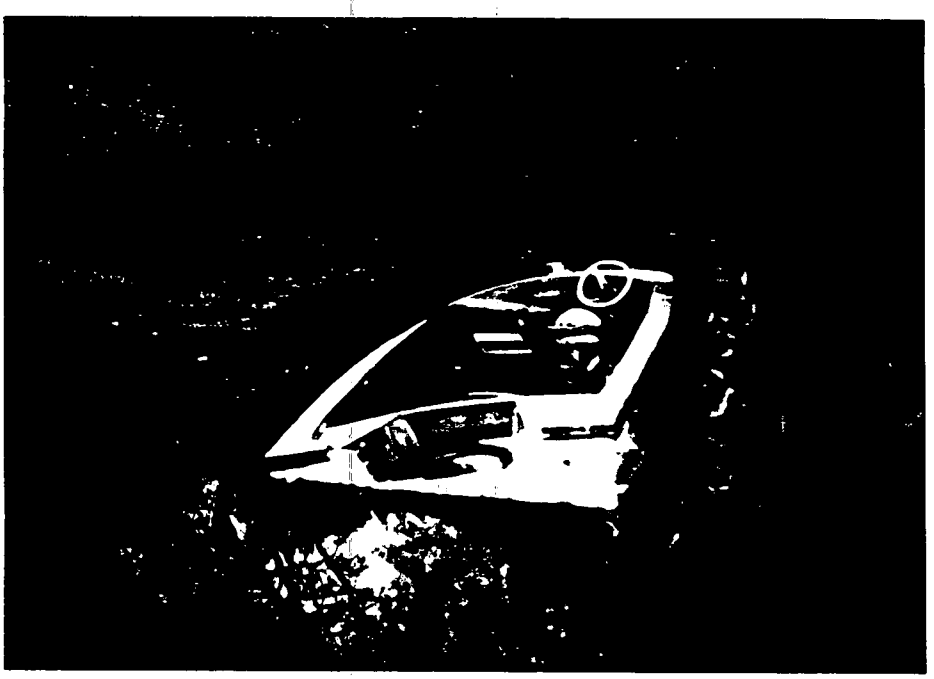


1P-5 May 31, 1989 1135
Puddles and tires in middle of site.



1P-6 May 31, 1989 1140
Drums, wrecked car debris in northwest corner of site.

BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY

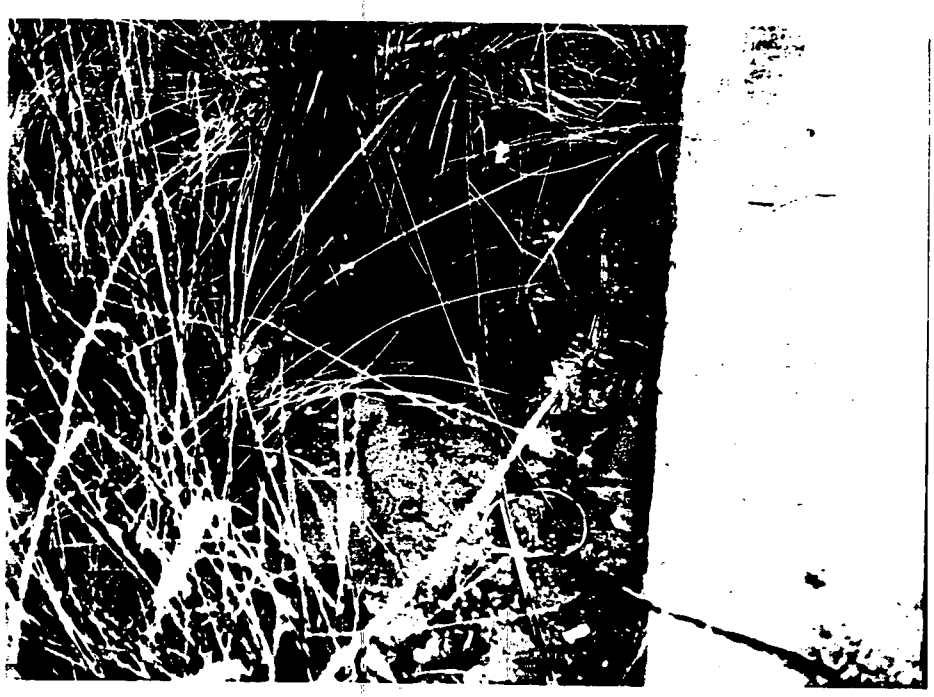


1P-7 May 31, 1989 1145
Pond along west side of site.

1P-8 May 31, 1989 1147
Leachate flow into pond in southwest end of site.

BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY

1P-9 May 31, 1989 1152
Marshy area at headwaters of intermittent stream at east end of site.



1P-10 May 31, 1989 1155
Intermittent stream at access road, crossing garage area at east end of site.

BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY

1P-11 May 31, 1989 1157
Marshy area along access road in northeast portion of site.

1P-12 May 31, 1989 1200
Roped-off area in northern portion of site, where garbage may have been landfilled.

BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY

1P-13 May 31, 1989 1201
Northeast section of roped-off area

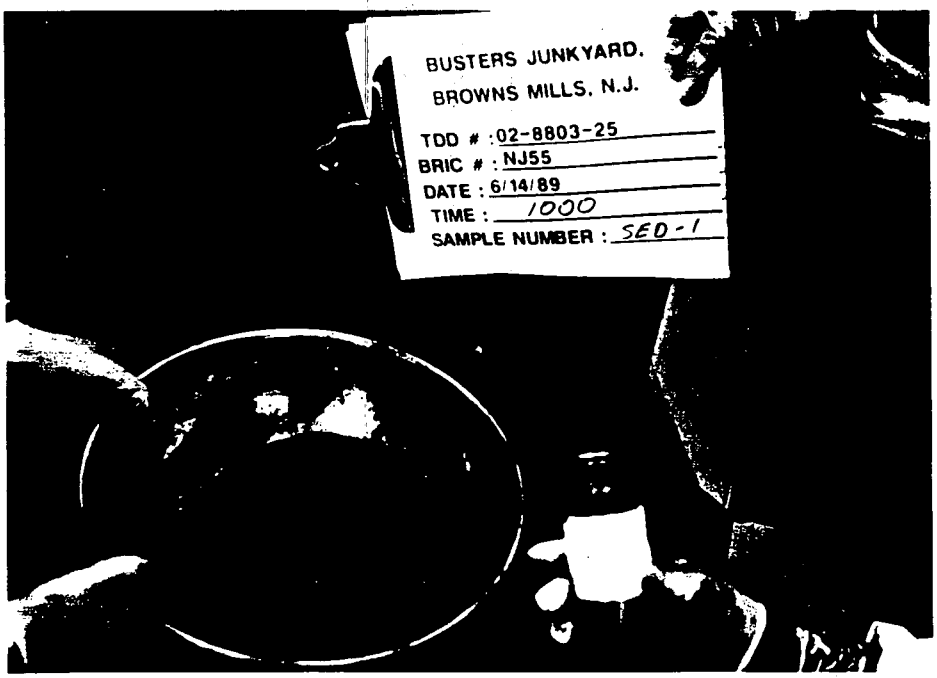
1P-14 May 31, 1989 1210
Facing north at entrance to junkyard

BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY

1P-15 May 31, 1989 1212
Facing east at parking area at entrance to junkyard.

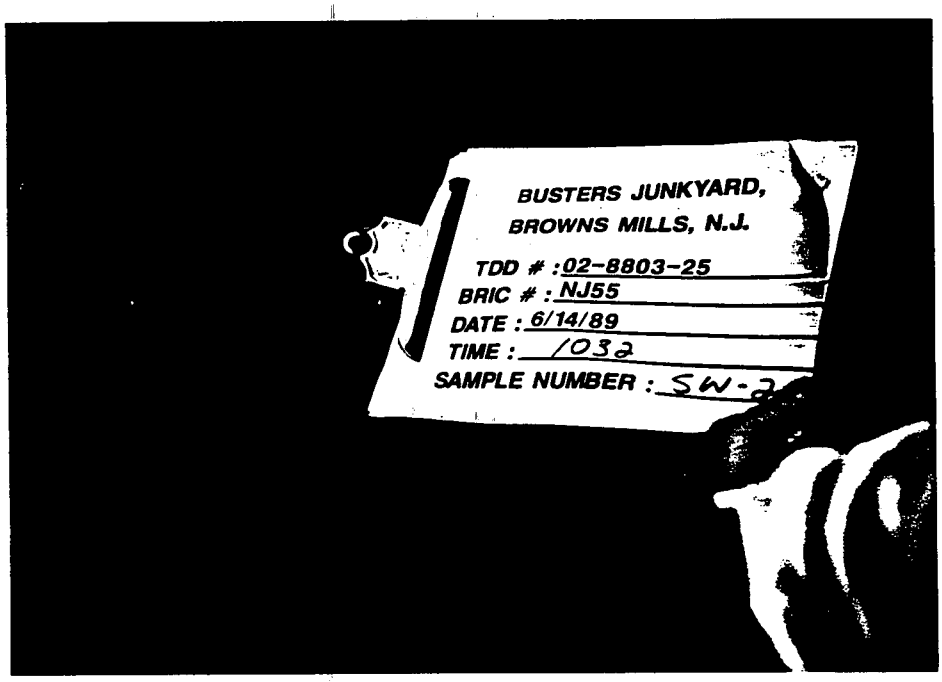
BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY

2P-1 June 14, 1989 0932
C. Agnew collecting sample NJ55-SW1 from intermittent stream, west of garage.



2P-2 June 14, 1989 1000
J. Frost collecting sample NJ55-SED1 from intermittent stream.

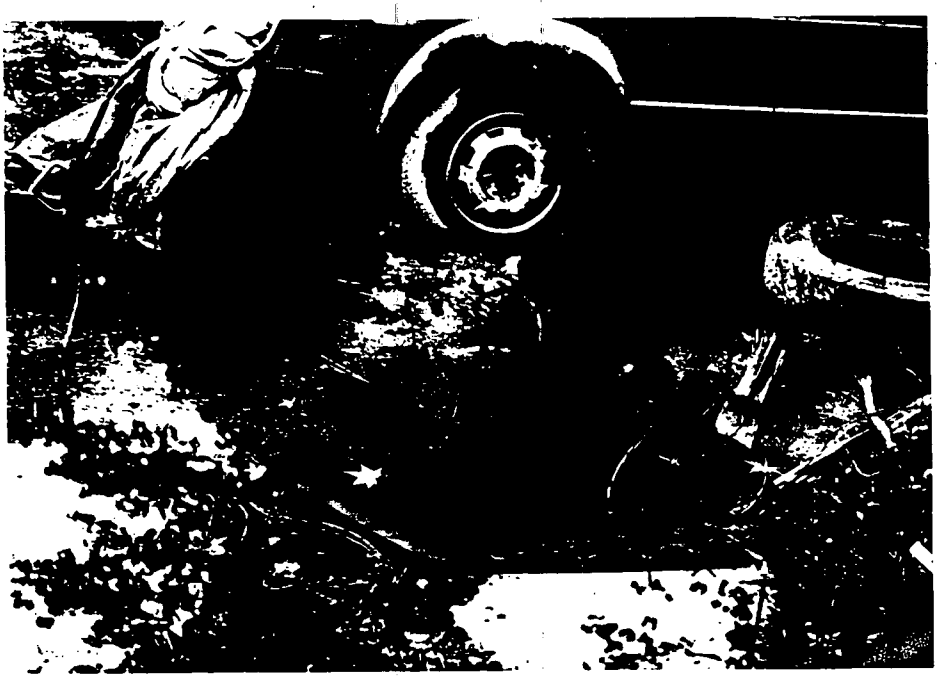
BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY



2P-3 June 14, 1989 1032
C. Agnew collecting sample NJ55-SW2 from northeast end of site.

2P-4 June 14, 1989 1047
C. Agnew collecting sample NJ55-SED2 from northeast end of site.

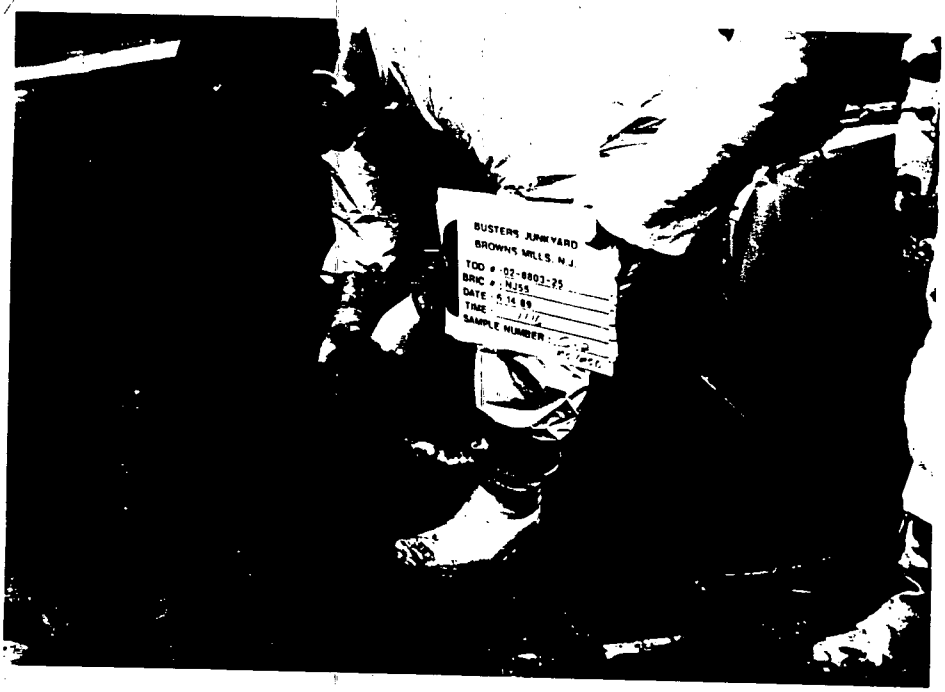
BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY



2P-5 June 14, 1989 1048
Leachate adjacent to pond where NJ55-SW2 was collected.

2P-6 June 14, 1989 1049
West of pond where NJ55-SW2 was collected.

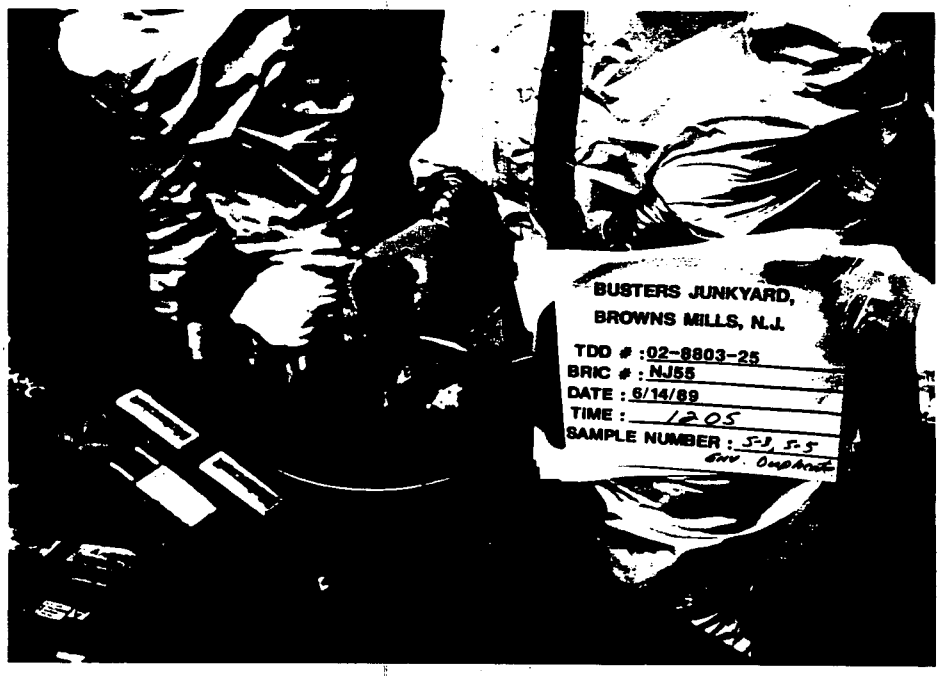
BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY



2P-7 June 14, 1989 1116
J. Frost collecting sample NJ55-S2 at eastern end of site.

2P-8 June 14, 1989 1150
J. Frost collecting sample NJ55-S1 in roped-off area, in northern end of site.

BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY



2P-9 June 14, 1989 1205
J. Frost collecting samples NJ55-S3 and NJ55-S5 in center of site.

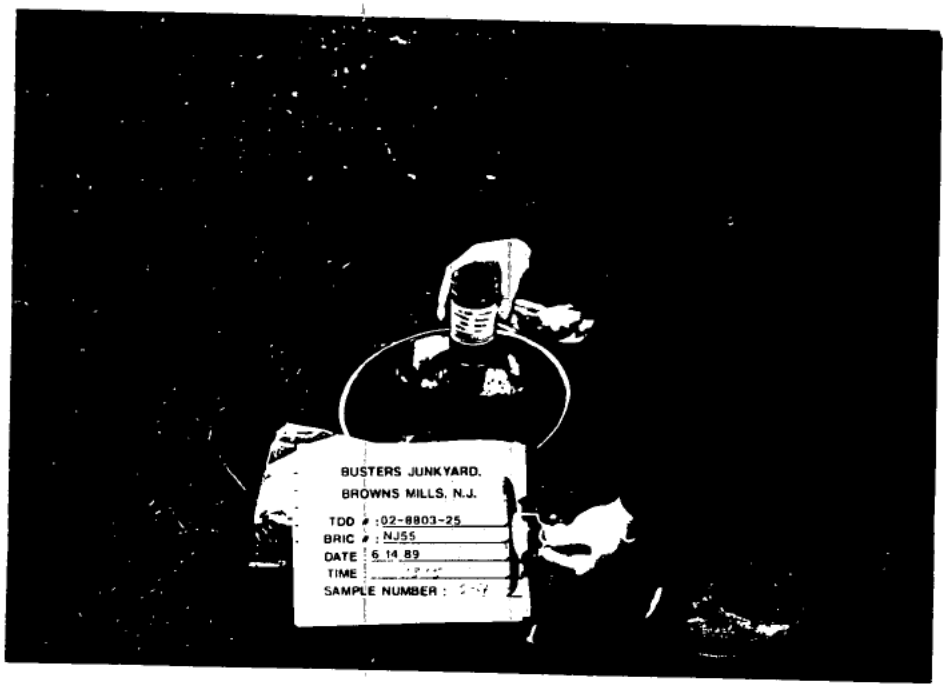
2P-10 June 14, 1989 1210
Junked storage tank near site of samples NJ55-S3 and NJ55-S5.

BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY

2P-11 June 14, 1989 1211
Batteries staged in truck bed near site of samples NJ55-S3 and NJ55-S5.

2P-12 June 14, 1989 1240
J. Frost collecting sample NJ55-GW1 from tap on garage.

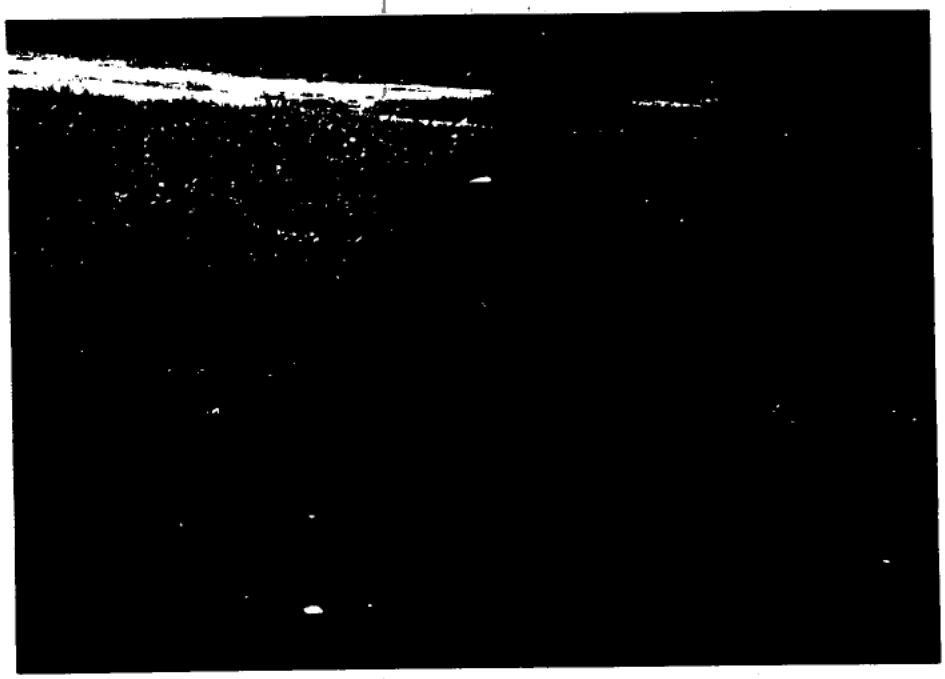
BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY



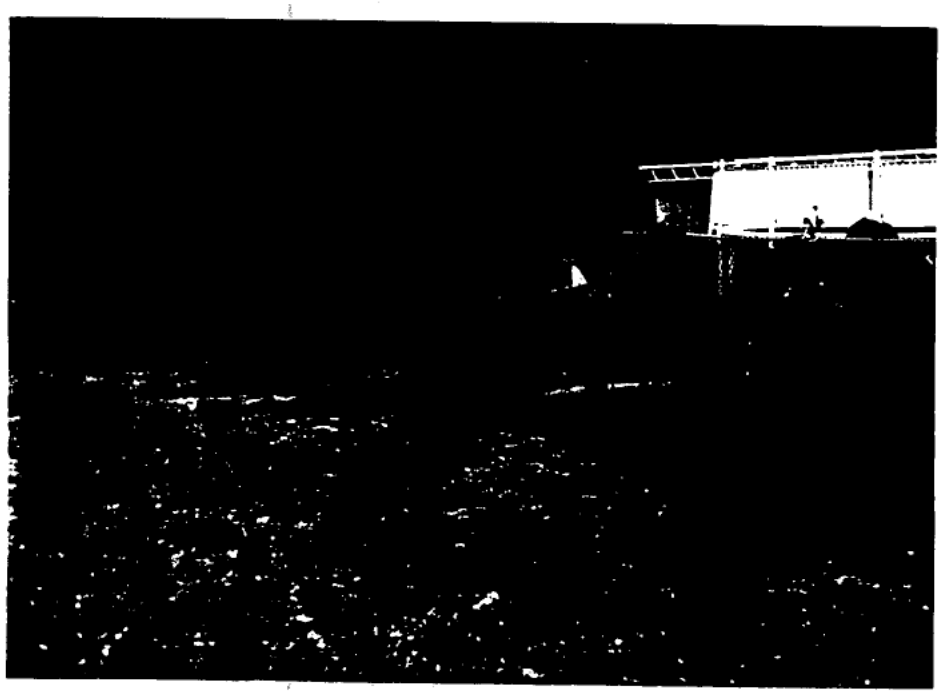
2P-13 June 14, 1989 1315
C. Agnew collecting background sample NJ55-S4 from [redacted] residence, 24 Pepper Road.

2P-14 June 14, 1989 1325
C. Agnew collecting samples NJ55-GW2 and NJ55-GW4 at 24 Pepper Road.

BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY

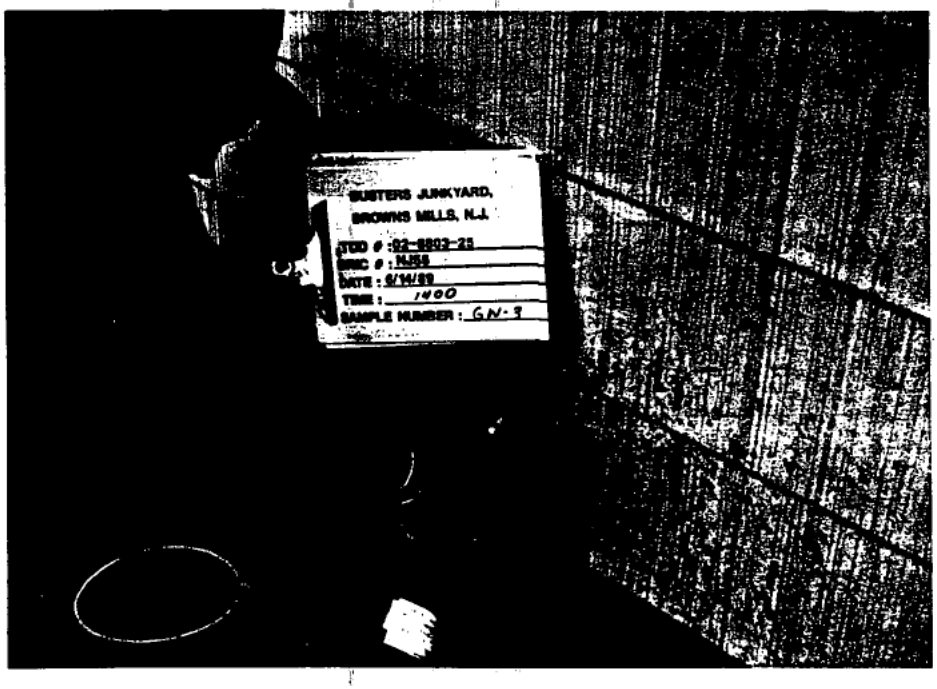


2P-15 June 14, 1989 1345
Facing south, stream flowing from site across [redacted] property, 44 Pepper Road.



2P-16 June 14, 1989 1347
Facing northeast, stream flowing from site across [redacted] property.

BUSTER'S JUNKYARD, BROWNS MILLS, NEW JERSEY



2P-17 June 14, 1989 1400
C. Agnew collecting sample NJ55-GW3 from [redacted] house.

4.0 SITE INSPECTION SAMPLING RESULTS

On June 14, 1989, NUS Corporation Region 2 FIT personnel conducted a site inspection at Buster's Junkyard. Four groundwater, two surface water/sediment, and five soil samples were collected. Sample locations are shown in Section 3.0, Figure 2.

Inorganic analysis of these samples indicate the absence of Target Compound List (TCL) metals in soils above concentrations considered normal for soil. The surface water samples both contained iron and manganese in concentrations above their Maximum Contaminant Levels (MCLs) of 0.3 mg/L and 0.05 mg/L. They also both contained mercury in concentrations below its MCL of 2 ug/L, zinc below its MCL of 5 mg/L, and copper below its MCL of 1 mg/L. The sample NJ55-SW1 contained chromium at a concentration below its MCL of 0.05 mg/L. The groundwater samples NJ55-GW3 and NJ55-GW4 contained iron in concentrations above its MCL, and NJ55-GW3 contained mercury below its MCL. Both NJ55-GW1, collected from an on-site well, and NJ55-GW3, from a downgradient tap at the [redacted] residence, 44 Pepper Road, contained magnesium, potassium and sodium. No MCLs are established for these metals. The upgradient sample NJ55-GW4 and both surface water samples contained aluminum, for which there is no MCL. The on-site sample, NJ55-GW1, contained manganese at 15.5 ug/L, below its MCL of 0.050 mg/L (50 ug/L). MCLs are promulgated pursuant to the Safe Drinking Water Act.

Organic analysis of the samples revealed the presence of acetone in the surface water sample NJ55-SW2, and xylene in NJ55-SW1. Bis(2-ethyl hexyl)phthalate was found in the samples NJ55-SED1, NJ55-S2, and NJ55-S5. The soil sample NJ55-S4, collected as a background sample from the lawn of the [redacted] residence, 24 Pepper Road, contained the pesticide 4,4-DDT and the polynuclear aromatic hydrocarbons (PAHs) benzo(b)fuoranthene and benzo(k)fluoranthene. The sediment sample NJ55-SED1, collected from a drainage ditch, contained acetone, xylene, and the PAHs naphthalene, 2-methylnaphthalane, dimethylphthalate, pyrene, butylbenzylphthalate, and chrysene. These results are summarized in Table 1.

Ref. Nos. 2, 4, 5

TABLE 1
HIGHEST CONCENTRATIONS OF TCL SUBSTANCES DETECTED AT THE BUSTER'S JUNKYARD SITE

Compound	Concentration	Medium
Acetone	150 ug/kg	sediment
Benzo(b)fluoranthene	460 ug/kg EN	soil
Benzo(k)fluoranthene	460 ug/kg EN	soil
Bis(2-ethyl hexyl) phthalate	3,200 ug/kg	soil
Butylbenzyl phthalate	930 ug/kg E	sediment
Chrysene	470 ug/kg	sediment
4,4-DDT	26 ug/kg	soil
Dimethyl phthalate	1,500 ug/kg	sediment
2-methylnaphthalene	1,900 ug/kg	sediment
Naphthalene	780 ug/kg	sediment
Pyrene	720 ug/kg	sediment
Xylenes	11 ug/L	surface water
Aluminum	6,080 ug/L	surface water
Chromium	15.2 ug/L E	surface water
Copper	57 ug/L E	surface water
Iron	34,000 ug/L	surface water
Magnesium	6,690 ug/L	groundwater
Manganese	118 ug/L	surface water
Mercury	0.6 ug/L E	surface water
Potassium	9,490 ug/L	groundwater
Sodium	9,120 ug/L	groundwater
Zinc	201 ug/L	surface water

Note:

E = Estimated Value

N = Presumptive evidence of material found

SITE NAME: BUSTER'S JUNKYARD
TDD#: 02-8803-25
SAMPLING DATE: 6/14/89
EPA CASE NO.: 12104 LAB: COMPUCHEM

SEMI-VOLATILES										
Sample ID No.	NJ55-GW1(MS/MSD)	NJ55-GW2	NJ55-GW3	NJ55-GW4(DUP)	NJ55-SW1	NJ55-SW2	NJ55-SED1	NJ55-SED2	NJ55-S1	NJ55-S2(MS/MSD)
Traffic Report No.	BAW65	BAW66	BAW67	BAW68	BAW69	BAW70	BAW71	BAW72	BAW73	BAW74
Matrix	WATER	WATER	WATER	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	1	1	1	1
Percent Moisture	--	--	--	--	--	--	22	30	11	22
Phenol										
bis(2-Chloroethyl)ether										
2-Chlorophenol										
1,3-Dichlorobenzene										
1,4-Dichlorobenzene										
Benzyl alcohol										
1,2-Dichlorobenzene										
2-Methylphenol										
bis(2-Chloroisopropyl)ether							R	R	R	R
4-Methylphenol								J		J
N-Nitroso-di-n-dipropylamine										
Hexachloroethane										
Nitrobenzene										
Isophorone										
2-Nitrophenol										
2,4-Dimethylphenol										
Benzoic acid	R	R	R	R	R	R	R	J	R	J
bis(2-Chloroethoxy)methane										
2,4-Dichlorophenol										
1,2,4-Trichlorobenzene										
Naphthalene							780			
4-Chloroaniline										
Hexachlorobutadiene										
4-Chloro-3-Methylphenol										
2-Methylnaphthalene							1900			
Hexachlorocyclopentadiene										
2,4,6-Trichlorophenol										
2,4,5-Trichlorophenol										
2-Chloronaphthalene										
2-Nitroaniline										
Dimethylphthalate							1500			
Acenaphthylene										
2,6-Dinitrotoluene										
3-Nitroaniline	R	R	R	R	R	R				
Acenaphthene										
2,4-Dinitrophenol										
4-Nitrophenol										
Dibenzofuran										
2,4-Dinitrotoluene										
Diethylphthalate										
4-Chlorophenyl-phenyl ether										
Fluorene							J			
4-Nitroaniline	R	R	R	R	R	R				
4,6-Dinitro-2-methylphenol										
N-nitrosodiphenylamine										
4-Bromophenyl-phenyl ether										
Hexachlorobenzene										

SITE NAME: BUSTER'S JUNKYARD
TDD#: 02-8803-25
SAMPLING DATE: 6/14/89
EPA CASE NO.: 12104 LAB: COMPUCHEM

SEMI-VOLATILES							
Sample ID No.	NJ55-S3	NJ55-S4	NJ55-S5(DUP)	NJ55-RIN1	NJ55-RIN2	NJ55-RIN3	NJ55-TBLK1
Traffic Report No.	BAW75	BAW76	BAW77	BAW78	BAW79	BAW80	BAW81
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	N/A
Percent Moisture	11	8	10	--	--	--	N/A
Phenol							NR
bis(2-Chloroethyl)ether							NR
2-Chlorophenol							NR
1,3-Dichlorobenzene							NR
1,4-Dichlorobenzene							NR
Benzyl alcohol							NR
1,2-Dichlorobenzene							NR
2-Methylphenol							NR
bis(2-Chloroisopropyl)ether	R						NR
4-Methylphenol							NR
N-Nitroso-di-n-dipropylamine							NR
Hexachloroethane							NR
Nitrobenzene							NR
Isophorone							NR
2-Nitrophenol							NR
2,4-Dimethylphenol							NR
Benzoic acid	R	R	R	R	R	R	NR
bis(2-Chloroethoxy)methane							NR
2,4-Dichlorophenol							NR
1,2,4-Trichlorobenzene							NR
Naphthalene							NR
4-Chloroaniline							NR
Hexachlorobutadiene							NR
4-Chloro-3-Methylphenol							NR
2-Methylnaphthalene							NR
Hexachlorocyclopentadiene							NR
2,4,6-Trichlorophenol							NR
2,4,5-Trichlorophenol							NR
2-Chloronaphthalene							NR
2-Nitroaniline							NR
Dimethylphthalate							NR
Acenaphthylene							NR
2,6-Dinitrotoluene							NR
3-Nitroaniline				R	R	R	NR
Acenaphthene							NR
2,4-Dinitrophenol							NR
4-Nitrophenol							NR
Dibenzofuran							NR
2,4-Dinitrotoluene							NR
Diethylphthalate							NR
4-Chlorophenyl-phenyl ether							NR
Fluorene							NR
4-Nitroaniline				R	R	R	NR
4,6-Dinitro-2-methylphenol							NR
N-nitrosodiphenylamine							NR
4-Bromophenyl-phenyl ether							NR
Hexachlorobenzene							NR

SITE NAME: BUSTER'S JUNKYARD
TDD#: 02-8803-25
SAMPLING DATE: 6/14/89
EPA CASE NO.: 12104 LAB: COMPUCHEM

SEMI-VOLATILES										
Sample ID No.	NJ55-GW1(MS/MSD)	NJ55-GW2	NJ55-GW3	NJ55-GW4(DUP)	NJ55-SW1	NJ55-SW2	NJ55-SED1	NJ55-SED2	NJ55-S1	NJ55-S2(MS/MSD)
Traffic Report No.	BAW65	BAW66	BAW67	BAW68	BAW69	BAW70	BAW71	BAW72	BAW73	BAW74
Matrix	WATER	WATER	WATER	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	1	1	1	1
Percent Moisture	—	--	--	--	--	--	22	30	11	22
Pentachlorophenol										
Phenanthrene							J			
Anthracene										
Di-n-butylphthalate							J			J
Fluoranthene							J			
Pyrene							720			
Butylbenzylphthalate							930 E			J
3,3'-Dichlorobenzidine										
Benzo(a)anthracene							J			
Chrysene							470			
bis(2-Ethylhexyl)phthalate							3200	J		490
Di-n-octylphthalate							J			
Benzo(b)fluoranthene							JN			JN
Benzo(k)fluoranthene							JN			JN
Benzo(a)pyrene							J			J
Indeno(1,2,3-cd)pyrene										
Dibenz(a,h)anthracene										
Benzo(g,h,i)perylene							J			

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

SITE NAME: BUSTER'S JUNKYARD
TDD#: 02-8803-25
SAMPLING DATE: 6/14/89
EPA CASE NO.: 12104 LAB: COMPUCHEM

SEMI-VOLATILES							
Sample ID No.	NJ55-B3	NJ55-S4	NJ55-S5(DUP)	NJ55-RIN1	NJ55-RIN2	NJ55-RIN3	NJ55-TBLK1
Traffic Report No.	BAW75	BAW76	BAW77	BAW78	BAW79	BAW80	BAW81
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	N/A
Percent Moisture	11	8	10	--	--	--	N/A
Pentachlorophenol							NR
Phenanthrene		J					NR
Anthracene	J						NR
Di-n-butylphthalate	J		J				NR
Fluoranthene		J	J				NR
Pyrene		J	J				NR
Butylbenzylphthalate	J	J	J				NR
3,3'-Dichlorobenzidine							NR
Benzo(a)anthracene		J	J				NR
Chrysene	J	J	J				NR
bis(2-Ethylhexyl)phthalate	J	J	410				NR
Di-n-octylphthalate			J				NR
Benzo(b)fluoranthene		460 EN	JN				NR
Benzo(k)fluoranthene		460 EN	JN				NR
Benzo(a)pyrene		J	J				NR
Indeno(1,2,3-cd)pyrene		J					NR
Dibenz(a,h)anthracene							NR
Benzo(g,h,i)perylene		J					NR

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

SITE NAME: BUSTER'S JUNKYARD
TDD#: 02-8803-25
SAMPLING DATE: 6/14/89
EPA CASE NO.: 12104 LAB: COMPUCHEM

PESTICIDES										
Sample ID No.	NJ55-GW1(MS/MSD)	NJ55-GW2	NJ55-GW3	NJ55-GW4(DUP)	NJ55-SW1	NJ55-SW2	NJ55-SED1	NJ55-SED2	NJ55-S1	NJ55-S2(MS/MSD)
Traffic Report No.	BAW65	BAW66	BAW67	BAW68	BAW69	BAW70	BAW71	BAW72	BAW73	BAW74
Matrix	WATER	WATER	WATER	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	1	1	1	1
Percent Moisture	--	--	--	--	--	--	22	30	11	22
alpha-BHC										
beta-BHC										
delta-BHC										
gamma-BHC (Lindane)										
Heptachlor										
Aldrin										
Heptachlor epoxide										
Endosulfan I										
Dieldrin										
4,4'-DDE										
Endrin										
Endosulfan II										
4,4'-DDD										
Endosulfan sulfate										
4,4'-DDT										
Methoxychlor										
Endrin ketone										
alpha-Chlordane										
gamma-Chlordane										
Toxaphene										
Aroclor-1016										
Aroclor-1221										
Aroclor-1232										
Aroclor-1242										
Aroclor-1248										
Aroclor-1254										
Aroclor-1260										

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

SITE NAME: BUSTER'S JUNKYARD
TDD#: 02-8803-25
SAMPLING DATE: 6/14/89
EPA CASE NO.: 12104 LAB: COMPUCHEM

PESTICIDES							
Sample ID No.	NJ55-S3	NJ55-S4	NJ55-S5(DUP)	NJ55-RIN1	NJ55-RIN2	NJ55-RIN3	NJ55-TBLK1
Traffic Report No.	BAW75	BAW76	BAW77	BAW78	BAW79	BAW80	BAW81
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	N/A
Percent Moisture	11	8	10	--	--	--	N/A
alpha-BHC							NR
beta-BHC							NR
delta-BHC							NR
gamma-BHC (Lindane)							NR
Heptachlor							NR
Aldrin							NR
Heptachlor epoxide							NR
Endosulfan I							NR
Dieldrin							NR
4,4'-DDE							NR
Endrin							NR
Endosulfan II							NR
4,4'-DDD							NR
Endosulfan sulfate							NR
4,4'-DDT		26					NR
Methoxychlor							NR
Endrin ketone							NR
alpha-Chlordane							NR
gamma-Chlordane							NR
Toxaphene							NR
Aroclor-1016							NR
Aroclor-1221							NR
Aroclor-1232							NR
Aroclor-1242							NR
Aroclor-1248							NR
Aroclor-1254							NR
Aroclor-1260							NR

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

SITE NAME: BUSTER'S JUNKYARD
TDD#: 02-8803-25
SAMPLING DATE: 6/14/89
EPA CASE NO.: 12104
LAB NAME: SKINNER & SHERMAN

INORGANICS										
Sample ID No.	NJ55-GW1(MS/MSD)	NJ55-GW2	NJ55-GW3	NJ55-GW4(DUP)	NJ55-SW1	NJ55-SW2	NJ55-SED1	NJ55-SED2	NJ55-S1	NJ55-S2(MS/MSD)
Traffic Report No.	MBY894	MBY895	MBY896	MBY897	MBY898	MBY899	MBY900	MBY901	MBY902	MBY903
Matrix	WATER	WATER	WATER	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	J	719	J	754	6080	2870	1460	2030	175	3730
Antimony			R				R			
Arsenic					J	J	J	J	J	J
Barium	J	J	J	J	J	J	J	J	J	J
Beryllium										
Cadmium										
Calcium	21400	R	19600	R	J	5340	J	J	R	J
Chromium					15.2 E	J	6.9	3.8	J	7.5
Cobalt			J	J		J	J	J		J
Copper				J	28.9 E	57 E	11.8			J
Iron	R	294	553	369	13400	34000	5260	933	114	5080
Lead	R	R	R	R	R	R	36.7	6.3	3.2	37.5
Magnesium	6690	R	6640	R	J	J	J	R	R	R
Manganese	15.5	R	R	J	87.2	118	20.5	4	R	20
Mercury		0.3 E	0.3 E		0.6 E	0.6 E				
Nickel					J	J	J	J		J
Potassium	8930	J	9490	J	J	J	J	J	J	J
Selenium								J	J	
Silver										
Sodium	9120	J	6540	J	J	J	J			
Thallium							R	R	R	R
Vanadium					J	J	J	J	J	J
Zinc	R	R	R	R	201	100	40.7 E	R		46.2 E

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

SITE NAME: BUSTER'S JUNKYARD
TDD#: 02-6803-25
SAMPLING DATE: 6/14/89
EPA CASE NO.: 12104
LAB NAME: SKINNER & SHERMAN

INORGANICS							
Sample ID No.	NJ55-S3	NJ55-S4	NJ55-S5(DUP)	NJ55-RIN1	NJ55-RIN2	NJ55-RIN3	NJ55-TBLK1
Traffic Report No.	MBY904	MBY905	MBY906	MBY907	MBY908	MBY909	N/A
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	N/A
Units	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L	ug/L
Aluminum	1980	2160	2050	J		J	NR
Antimony				J			NR
Arsenic	J	J	J				NR
Barium	J	J	J				NR
Beryllium							NR
Cadmium				7.5			NR
Calcium	J	J	J	J	J	J	NR
Chromium	5	3.9	4.3				NR
Cobalt	J	J	J	J			NR
Copper	J	J	J				NR
Iron	2760	3140	3030	J	J	J	NR
Lead	19.8	22.8	26.2	R	R	R	NR
Magnesium	R	J	J	J	J	J	NR
Manganese	16.5	38.4	19.1	J	J	J	NR
Mercury						0.2 E	NR
Nickel	J	J	J				NR
Potassium	J	J	J	J		J	NR
Selenium							NR
Silver				J			NR
Sodium		J					NR
Thallium	R	R	R				NR
Vanadium	J	J	J				NR
Zinc	34.3 E	R	28.5 E	J	J	J	NR

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

SITE NAME: BUSTER'S JUNKYARD
TDD#: 02-8803-25
SAMPLING DATE: 6/14/89
EPA CASE NO.: 12104 LAB: COMPUCHEM

VOLATILES										
Sample ID No.	NJ55-GW1(MS/MSD)	NJ55-GW2	NJ55-GW3	NJ55-GW4(DUP)	NJ55-SW1	NJ55-SW2	NJ55-SED1	NJ55-SED2	NJ55-S1	NJ55-S2(MS/MSD)
Traffic Report No.	BAW65	BAW66	BAW67	BAW68	BAW69	BAW70	BAW71	BAW72	BAW73	BAW74
Matrix	WATER	WATER	WATER	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor	1	1	1	1	1	1	1	1	1	1
Percent Moisture	—	—	—	--	--	—	22	30	11	22
Chloromethane										
Bromomethane										
Vinyl Chloride										
Chloroethane										
Methylene Chloride					J					
Acetone						11 E	150			
Carbon Disulfide										
1,1-Dichloroethene										
1,1-Dichloroethane										
Trans-1,2-Dichloroethene (total)										
Chloroform							J			
1,2-Dichloroethane										
2-Butanone	R	R	R	R	R	R				
1,1,1-Trichloroethane										
Carbon Tetrachloride										
Vinyl Acetate										
Bromodichloromethane										
1,2-Dichloropropane										
cis-1,3-Dichloropropene										
Trichloroethene										
Dibromochloromethane										
1,1,2-Trichloroethane										
Benzene										
trans-1,3-Dichloropropene										
Bromoform										
4-Methyl-2-Pentanone										
2-Hexanone							J			
Tetrachloroethene										
Toluene					J					
1,1,2,2-Tetrachloroethane										
Chlorobenzene										
Ethylbenzene					J		J			
Styrene										
Xylenes (Total)					11		11			

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

SITE NAME: BUSTER'S JUNKYARD
TDDN: 02-8803-25
SAMPLING DATE: 6/14/89
EPA CASE NO.: 12104 LAB: COMPUCHEM

VOLATILES	NJ55-S3	NJ55-S4	NJ55-S5(DUP)	NJ55-RIN1	NJ55-RIN2	NJ55-RIN3	NJ55-TBLK1
Sample ID No.	NJ55-S3	NJ55-S4	NJ55-S5(DUP)	NJ55-RIN1	NJ55-RIN2	NJ55-RIN3	NJ55-TBLK1
Traffic Report No.	BAW75	BAW76	BAW77	BAW78	BAW79	BAW80	BAW81
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L
Dilution Factor	1	1	1	1	1	1	1
Percent Moisture	11	8	10	--	--	--	--
Chloromethane							
Bromomethane							
Vinyl Chloride							
Chloroethane							
Methylene Chloride				B	B	B	
Acetone							
Carbon Disulfide							
1,1-Dichloroethene							
1,1-Dichloroethane							
Trans-1,2-Dichloroethene (total)							
Chloroform				J	J	J	
1,2-Dichloroethane							
2-Butanone				R	R	R	R
1,1,1-Trichloroethane							
Carbon Tetrachloride							
Vinyl Acetate							
Bromodichloromethane							
1,2-Dichloropropane							
cis-1,3-Dichloropropene							
Trichloroethene							
Dibromochloromethane							
1,1,2-Trichloroethane							
Benzene							
trans-1,3-Dichloropropene							
Bromoform							
4-Methyl-2-Pentanone							
2-Hexanone							
Tetrachloroethene							
Toluene				J			
1,1,2,2-Tetrachloroethane							
Chlorobenzene							
Ethylbenzene							
Styrene							
Xylenes (Total)							

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

TABLE I

SAMPLE DESCRIPTIONS
BUSTER'S JUNKYARD
BROWNS MILLS, NEW JERSEY
CASE NO. 12104

NUS Sample ID Number	CLP Organic Traffic Report No.	CLP Inorganic Traffic Report No.	Collection Time	Sample Type	Sample Location
NJ55-GW1* DF	BAW 65 bm	MBY 894	1240	Groundwater	On-site groundwater sample collected from an outside spigot of a private well located at the garage area of Buster's Junkyard.
NJ55-GW2	BAW 66	MBY 895	1325	Groundwater	Downgradient groundwater sample collected from an outside spigot of a private well located at the [redacted] Residence, 24 Pepper Road.
NJ55-GW3	BAW 67	MBY 896	1400	Groundwater	Upgradient groundwater sample collected from an outside spigot of a private well located at the [redacted] residence, 44 Pepper Road.
NJ55-GW4**	BAW 68	MBY 897	1325	Groundwater	Downgradient groundwater sample collected from same location as sample NJ55-GW2.
NJ55-SW1	BAW 69	MBY 898	0932	Surface water	Surface water sample collected from stream located 15 feet, 270° from western corner of garage located on site.

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

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

TABLE I
CONTINUED
SAMPLE DESCRIPTIONS
BUSTER'S JUNKYARD
BROWNS MILLS, NEW JERSEY
JUNE 14, 1989
CASE NO. 12104

NUS Sample ID Number	CLP Organic Traffic Report No.	CLP Inorganic Traffic Report No.	Collection Time	Sample Type	Sample Location
NJ55-SW2 1-1-1	BAW 70 —	MBY 899	1032	Surface Water	Surface water sample collected from the eastern edge of the pond in the northern corner of the junkyard.
NJ55-SED1 1-1-1	BAW 71 22	MBY 900	1000	Sediment	Sediment sample collected from the same location as sample NJ55-SW1.
NJ55-SED2 1-1-1	BAW 72 30	MBY 901	1047	Sediment	Sediment sample collected from the same location as sample NJ55-SW2.
NJ55-S1 1-1-1	BAW 73 11	MBY 902	1150	Soil	Soil sample collected at a depth of 2 feet 6 inches to 3 feet. Located in the center of the roped-off area in the northwest edge of the junkyard.
NJ55-S2* 1-1-1	BAW 74 22	MBY 903	1116	Soil	Soil sample collected at a depth of 0-3 inches. Located in marshy area along the access road, approximately 50 yards south of sample NJ55-SW2.

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

TABLE I
CONTINUED
SAMPLE DESCRIPTIONS
BUSTER'S JUNKYARD
BROWNS MILLS, NEW JERSEY
JUNE 14, 1989
CASE NO. 12104

NUS Sample ID Number	CLP Organic Traffic Report No.	CLP Inorganic Traffic Report No.	Collection Time	Sample Type	Sample Location
NJ55-S3 1-1-1	BAW 75 11	MBY 904	1205	Soil	Soil sample collected at a depth of 0-3 inches. Located adjacent to staged car batteries approximately 50 yards south of sample NJ55-S1.
NJ55-S4 1-1-1	BAW 76 8	MBY 905	1315	Soil	Background indicator soil sample collected at a depth of 0-3 inches. Located 20 feet, 270° from front porch step of the Lynch residence, 24 Pepper Road.
NJ55-S5** 1-1-1	BAW 77 10	MBY 906	1205	Soil	Soil sample collected from the same location as sample NJ55-S3.
NJ55-RIN1 1-1-1	BAW 78 —	MBY 907	1017	Aqueous rinsate blank	Trowel rinsate blank collected in the field.
NJ55-RIN2 1-1-1	BAW 79 —	MBY 908	1034	Aqueous rinsate blank	Bowl rinsate blank collected in the field.
NJ55-RIN3 1-1-1	BAW 80 —	MBY 909	1050	Aqueous rinsate blank	Auger rinsate blank collected in the field.
NJ55-TBLK1 1 NA NA	BAW 81 — NA NA	N/A	N/A	Aqueous trip blank	Trip blank; demonstrated analyte-free water obtained from NUS Corp., Region 2 FIT, Edison, NJ.

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

N/A - Not Applicable.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The results of analysis of samples collected at Buster's Junkyard indicate that a number of metals are present in surface and groundwater. Groundwater is the sole source of drinking water for area residents, and the local soils are very porous. The water table is high, and local residents use private wells for their potable water. It has been alleged that wastes from a Superfund National Priorities List site, the Lang property, have been placed here. However, there is no evidence to indicate that this has happened.

There are also a number of polynuclear aromatic hydrocarbons (PAHs) present in soils and sediments on site. As PAHs are common byproducts of combustion, these probably originated from fires which occurred on site, or from leakage of oil and fuel from vehicles discarded at the junkyard. The metals in the surface water may also be attributable to the site.

In light of the above, a **HIGH PRIORITY** is recommended for further action at the Buster's Junkyard site. More information is required to determine whether groundwater in the area is affected.

6.0 REFERENCES

1. Field Notebook No. 0429, Buster's Junkyard, TDD No. 02-8803-25, Site Inspection, May 26, 1989, NUS Corp. Region 2 FIT, Edison, New Jersey.

2. U.S. EPA Contract Laboratory Program, Skinner and Sherman, Inc., and Compu Chem Laboratories, Case No. 12104, Laboratory Analyses from NUS Corporation Region 2 FIT Site Inspection conducted on June 14, 1989.

3. Rush, P.E., Geology and Ground-Water Resources of Burlington County, New Jersey. U.S. Geological Survey Special Report No. 26, 1968.

4. 40 CFR, Part 141, National Interim Primary Drinking Water Regulations.

5. 40 CFR, Part 143. National Secondary Drinking Water Regulations.

6. U.S. Geological Survey Topographic Map, 7.5-minute series, "Browns Mills Quadrangle, N.J." 1957, photorevised 1971.

7. General Sciences Corporation, Graphical Exposure Modeling System (GEMS) Landover, Maryland, 1986.

8. Uncontrolled hazardous waste site ranking system, A user's manual, 40 CFR, Part 300, Appendix A, 1986.

9. Preliminary Assessment Report, NUS Corporation Region 2 FIT, August 21, 1986, TDD No 02-8608-02.

10. Burlington County Health Department, Technical Report-Chemical Waste Dump in Pemberton Township.

11. Letter from John S. Sitzer, Esq., to Paul H. Schneider, Deputy Attorney General, State of New Jersey, dated June 10, 1980.

12. Memo from Karl Delaney, NJDEP, dated September 27, 1983, re: possible Lang wastes at Buster's Junkyard.

13. Letter from John C. Gillespie, Esq., to Terrence Moore, Pinelands Commission, dated October 13, 1983.

14. Letter from John C. Gillespie, Esq., to Stephen Albano, Jr., Mayor of Pemberton Township, dated June 24, 1983.

15. Letter from Robert W. Simkin, Burlington County Health Department, to John C. Gillespie, Esq., dated November 15, 1983.

16. Letter from Anne R. Simonoff, Deputy Attorney General, State of New Jersey, to Jeffrey Snow, Esq., dated November 16, 1983.

17. Letter from [redacted] to Karl Delaney, NJDEP, dated November 22, 1983.

REFERENCES (CONT'D)

18. Memo from Karl Delaney, NJDEP, dated November 28, 1983 re: case status report.

19. NJDEP, Division of Waste Management, Notice of Violation issued December 13, 1983.

20. NJDEP, Division of Water Resources, Surface Water Classification, N.J.A.C. 7:5-4. May 1985.

21. NJDEP, Division of Water Resources, Surface Water Quality Standards, N.J.A.C. 7:9-4.1. May 1985.

22. Memo from David Bute, NJDEP, dated April 17, 1984, re: sampling at site.

23. NJDEP, Administrative Order issued August 21, 1984.

24. Perrine, Leonard, Response to Administrative Order. August 29, 1984.

25. Telecon Note between Ray Williams, Pemberton Township Water Department, and David Heim, NUS, dated September 12, 1989.

26. U.S. EPA, designation of New Jersey Coastal Plain Aquifer System. June 24, 1988.

REFERENCE NO. 1

0031F
0 2-8803-25

NUS CORPORATION

II

0429

BUSTER'S JUNKYARD
02-8803-25
TDD MGR.-J. MURTAUGH
LOGBOOK #0429
MAY 26, 1989

GUIDANCE FOR PROPER USE OF LOG BOOKS

Purpose

- Serves to document onsite activities and be understandable to an outside reader.
- Provides the basis for later written reports.
- Used as an evidentiary document and may be used in legal proceedings.

Distribution

- Controlled by the project manager and distributed as appropriate to personnel designated by the project manager.

General Procedures

- Record information in language which is objective and factual.
- Use ink. Ballpoint pen is recommended.
- Leave first two pages blank. They serve as space for the table of contents to be added when the log book is complete.
- The first written page identifies the date, time, TDD number, site name, location, NUS personnel and their responsibilities, other non-NUS personnel and observed weather conditions.
- Start on a new page at the start of each day's field activities. This page should identify date, time, TDD number, site name and location, NUS personnel and their responsibilities, other non-NUS personnel and observed weather conditions.
- List all persons entering or entering the site.
- Information recorded in the log book should be in chronological order.
- Sign and date each page, log all entries using a 24 hour clock. Entries should be time tagged every 15 to 30 minutes.
- Corrections are to be lined through and initialed. No erroneous notes are to be made illegible.
- Include a sketch or map of the site which can be used to locate photo or sample locations. Note landmarks, indicate north, and if possible include an approximate scale. Include as many sketches and maps as necessary.
- A person not present when field activities were being documented should read each completed page, and countersign and date when satisfied that the written notes are understandable.

Specific Field Activities To Be Documented

- Record the who, what and where of field activities.
- Indicate sampling and photo locations on a site sketch or map.
- As part of the chain of custody procedure, recorded in-situ sampling information must include sample number, date, time, sampling personnel, sample type, designation of sample as a grab or composite, and any preservative used.
- Information for in-situ measurements must include a sample ID number, the date, time, and personnel taking measurements. Pertinent in-situ measurements include but are not limited to pH, temperature, conductivity, flow measurements, continuous air monitoring measurements, and stack gas analysis. If mixed calculations are necessary they must be checked and signed by a second team member.
- Create a photo log to document photos taken in the field. These must include date, time, photographer, sample number, roll number, frame number, photo ID number and description. Indicate if the film is for slides or prints in the column for roll number. Photo ID numbers can be added at the time the photo log is examined.
- Record onsite health and safety measures used. Describe observed potential hazards to health and safety. Document the level of protection used, decontamination procedure used and specific decontamination solutions.
- When sampling is completed, a summary log is to be completed. It must include date, time, sample number, description, field book reference page, and the number and date of the chain of custody form on which the sample is listed. Indicate whether or not the sample was split.
- Record details regarding relevant information obtained during onsite interviews. Include names of persons interviewed, the interest group represented, their address and phone number.
- Record any other relevant information which would be difficult to generate at a later date.

OJ-8803-25

TABLE OF CONTENTS

Pgs 3-7 - On-site reconnaissance notes
Pgs 8-21 - Site Investigation notes
Pg 22 - Laboratory Info.
Pg 39, 40 Photolog
Stapled to back cover - SMO Info

mAPGW 6/20/19 Joseph Montangel

52

Buster's Junkyard 5-31-89 3
02-8803-25
On-Site Reconnaissance

1035 NUS Personnel arrive on site
- personnel on site are:
J.M Joseph Muntaugh - SM
written & photograph documentation
Rick Pagano - SSO
Dennis Foerter + surveillance

- all personnel listed above have read & understand the workplan and QA/QC procedures

weather: Partly Cloudy, Hazy, Hot & Humid 80°F.
- winds from the southwest at 0-5 mph.

1045 - R.P. gives Health & Safety meeting

- NUS personnel dressing up and preparing for level B recon

SCBA's used
Rick Pagano - 192069
Dennis Foerter - 190006
Joe Muntaugh - (Backup.)

- J.M meets with Mr Leonard Perrine
- informs him that we will be starting our recon shortly.

Busters Junkyard 5-31-89
02-8803-25 4

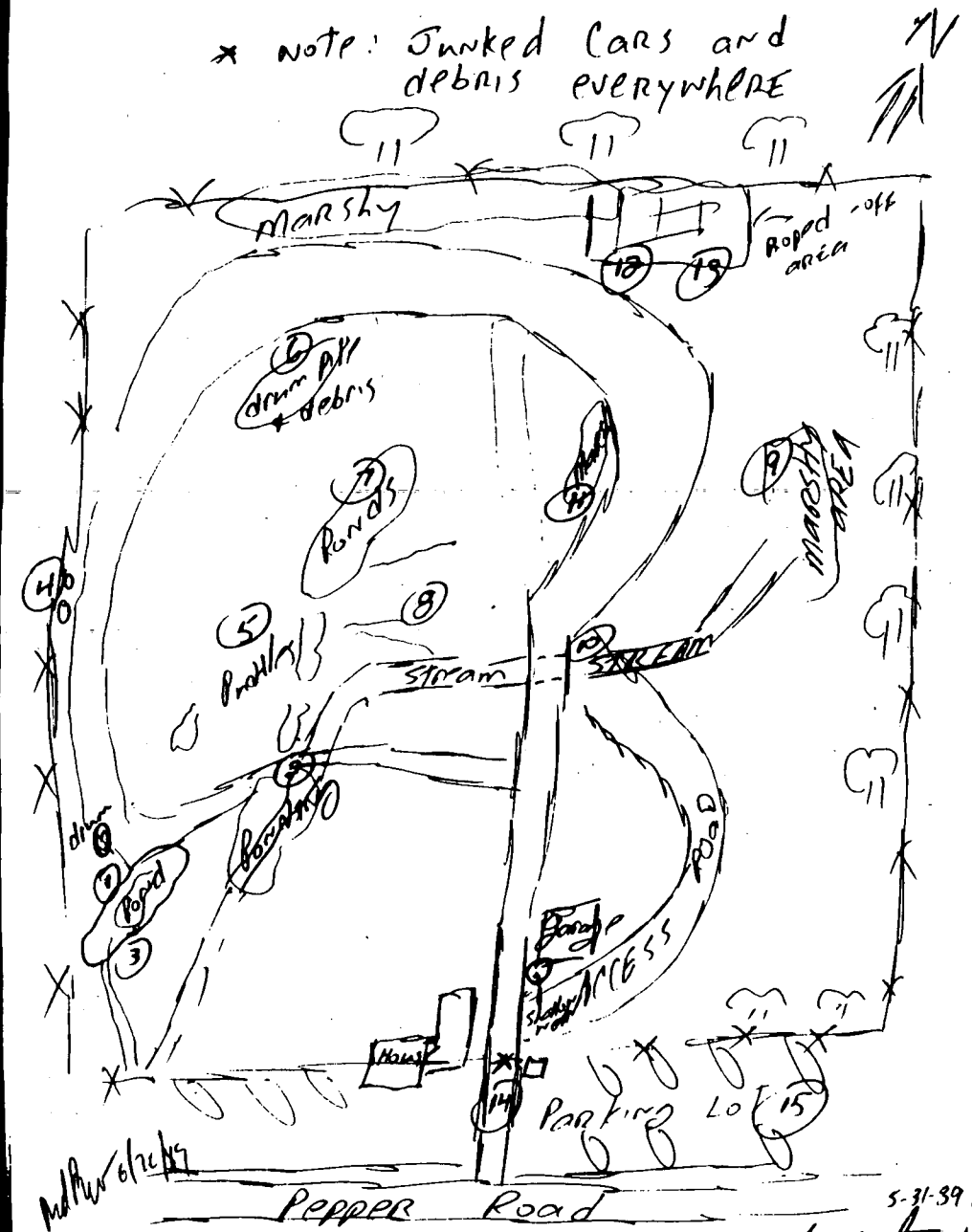
1055 R.P. and D.F. on air to recon site

- No readings above background conditions on the H-Nu, OVA, and Minirad
- Air instruments used:
  OVA - A 489758
  H-Nu - C 307140
  Minirad - 428604

1109 - R.P. and D.F. off air.

- Cameras to be used are:
  Prints - Chinon 469772 FOA
  Slides - AE-1 307127

- Note: during recon J.M. stayed back at setup area as backup but maintained line of site
- We will now go back in and take pictures on Level D.
- The total area of the Junkyard is approximately 5 acres.
- The area is entirely fenced
- an intermittent stream originates on site and flows southwest [illegible]



Busters Junkyard
02-8803-25
5-31-89

- Note: photos correspond to map.

1100 1P1/151 - Photo of drum (1)

1125 1P2/152 - Photo of ~~[illegible]~~ stream area (2)

1129 1P3/153 - Photo of drum (3)

1130 1P4/154 - Photo of Chevron Drums (4)

1135 1P5/155 - Photo of puddles in Junkyard (approx. 50 gm)

1140 1P6/156 - Photo of drums and wrecked car parts (6)
(Note: drums are empty)

1145 1P7/157 Photo of Ponds in Junkyard (7)

1147 1P8/158 Photo of leachate pathways flowing into pond (8)

1152 1P9/159 Photo of Marshy area at headwaters of stream on site (9)

1155 1P10/1510 Photo of intermittent stream at crossing of access road. 5-31-89

Phil Fagan 6-20-89

Joseph Muntaugh

Bustins Junkyard 5-31-89
On-Site Reconnaissance 6
02-8803-25

1157 1011 / 1511 Photo of marsh area where leachate is collecting. (11)

1000 1012 / 1512 Photo of roped-off area (may be the former disposal area as there is no debris on top.) (12)
- The area has been covered over.

1001 1013 / 1513 Photo of northeast section of the roped off area. (13)

1010 1014 / 1514 - Photo of entrance to the junkyard. (14)

1012 1015 / 1515 - Photo of front of junkyard showing parking lot area. (15)

- well depth = 30 feet
- NOTE The shallow is located in the garage area on site.
- There are no critters or conditions
- The water is hardly used (definitely not used as potable water)
- There is a deeper well located in the front.
- This well is 360' deep.

1225 NUS personnel leave site to talk to residents about sampling the water.

initial

Busters Junkyard
On-site Reconnaissance
02-3803-25

5-31-8

7

1230 [redacted] Residence - 44 Pepper Rd
- unlisted Phone number.
100 foot well
- water conditioner is bypassed at outside spigot.
- old well was 50' but is no longer available (old stick well)

1236 - NUS personnel leave property to go to [redacted] Residence at 40 Pepper Road
- no longer live here.
- Current resident put in a 350' well.
→ [redacted] Residence next door
Phone # [redacted] 44 Pepper road
- They have a 100' well
- outside spigot bypasses the water conditioner

- The [redacted] residence are not home but we have been informed that they would probably have no problem with us sampling their water, but if we cannot then we can sample at 40 Pepper

40 Pepper Rd was the residence sampled during the sampling conducted by the state on 4-19-84

5-31-89

Joseph Mustangl

Busters Junkyard
Site Investigation
02-8803-05

6-14-89

8

0830 NUS personnel arrive on site
- met with the site owner
Leonard "Buster" Perrine.

- He shows us an area to set up on site. By the garage.

He informs us that he will not be around but that he has roped the dogs off and he must take his son to COURT.

note 3 stray cats were observed drinking water from puddles on site.

NUS personnel on-site are:
J.M. Joseph Muntaugh - S.M. with the photographic documentation
Rick Pagano - SSO
DLH Dennis Kokrda - SMO
Jim Frost - Sampler
Chris Agnew - Sampler

- All personnel listed above have read & understood the workplan and QA/QC procedures

Ed Pi 6/20/89 Joseph Muntaugh 6-14-89

Busters Junkyard 6-14-89
Site Investigation
02-8803-05

weather: Cloudy, warm 62° F
overcast winds 0-3 mph from the south.

Air Instruments to be used are
H-NU K- 10.2 probe 428588
OVA L- 469783
miniRad - 428588

- No readings above background on the H-NU and OVA.

miniRad reads 9 CPM.

Cameras to be used are:

Slide Film - Canon sure shot
EPA # 408662

Print Film - Chinon date back
EPA # 469770

0845 - Rich Pagano gives health & safety meeting.

0850 - Begin deconning equipment
- still dressing up.

0930 - getting set to collect samples
surface water 1 / sediment 1

Conductivity Pen - EPA # 609706
Calibration Sol'n YSI 3161
Rich - I.I. EXPIRES 7-26-89

59

Busters Junkyard
Site Investigation
02-B903-05

6-14-89

0932 - arrive at surface water 1 / sed-1 location.
- located on east side of access road where the intermittent stream crosses the road by the garage area

Conductivity = 80
pH = 5

0932
SP-1 bs-1 - Photo facing east of Chris Agnew collecting surface water sample - 1

- surface water description
- The water is a murky color. Probably cedar water
- no odor on water.

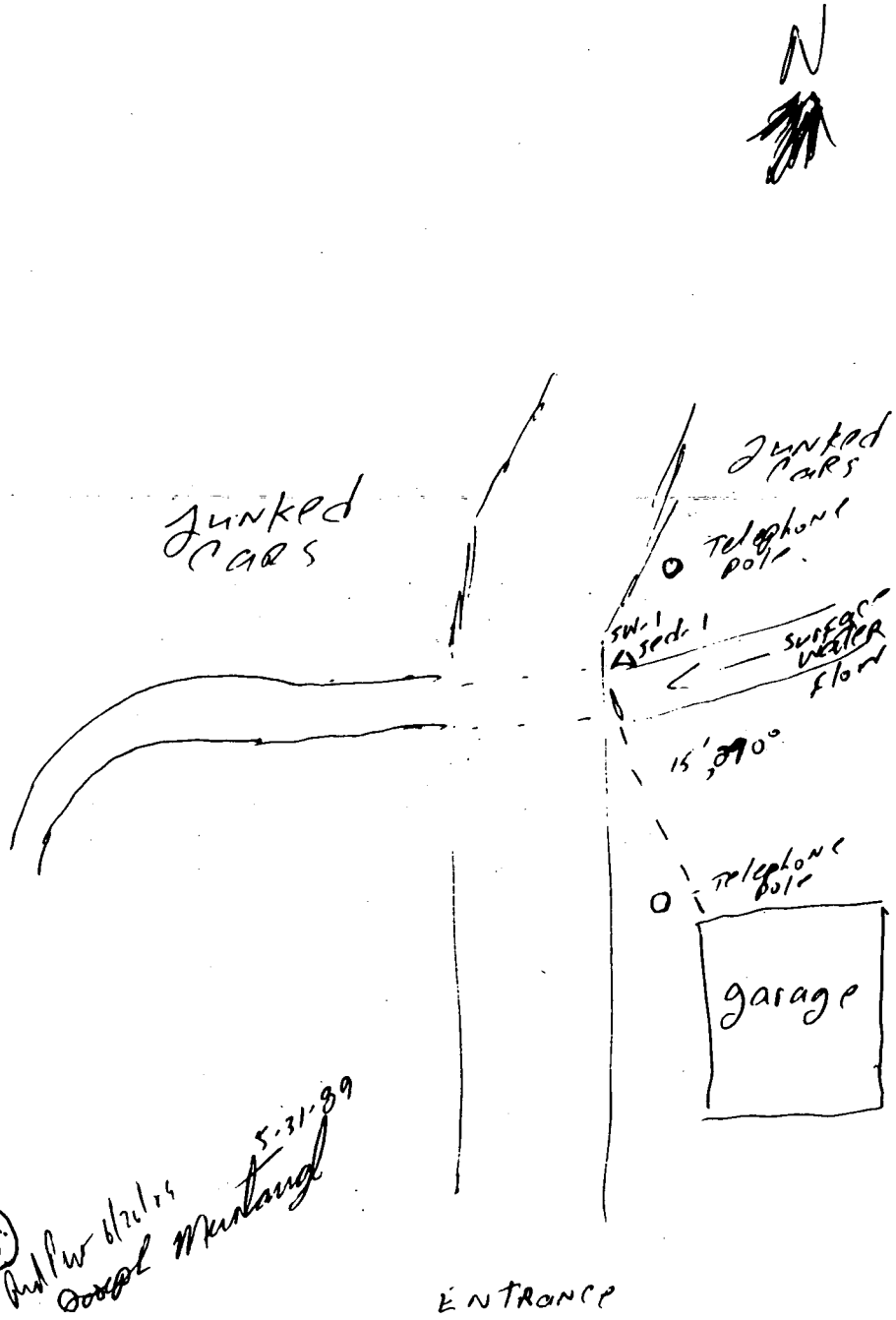
No readings above background on the HNu, OVA or miniRad

Sample location:
15', 270° from corner of garage

1000 finish collecting SW-1

Note: The bugs are swarming everywhere around the water areas.
- Bug spray is necessary to continue sampling.

AG 6-14-89



(60) Pulled w 6/26/89 Dodge Mustang 5-31-89

Busters Junkyard
Site Investigation
02-8803-25

6-14-89

11

1000 Begin collecting sed-1
from same location as sw-1

- no readings about background
on the HNU OVA or mineral

Sample description:

V-loose, Brown, F-sand, wet.
Tr pebbles, Tr silt. (Coastal Plain ...)

1000 Note: Oily sheen on surface of soil
02-2/25-2 Photo of Jim Frost collecting
sediment sample-1

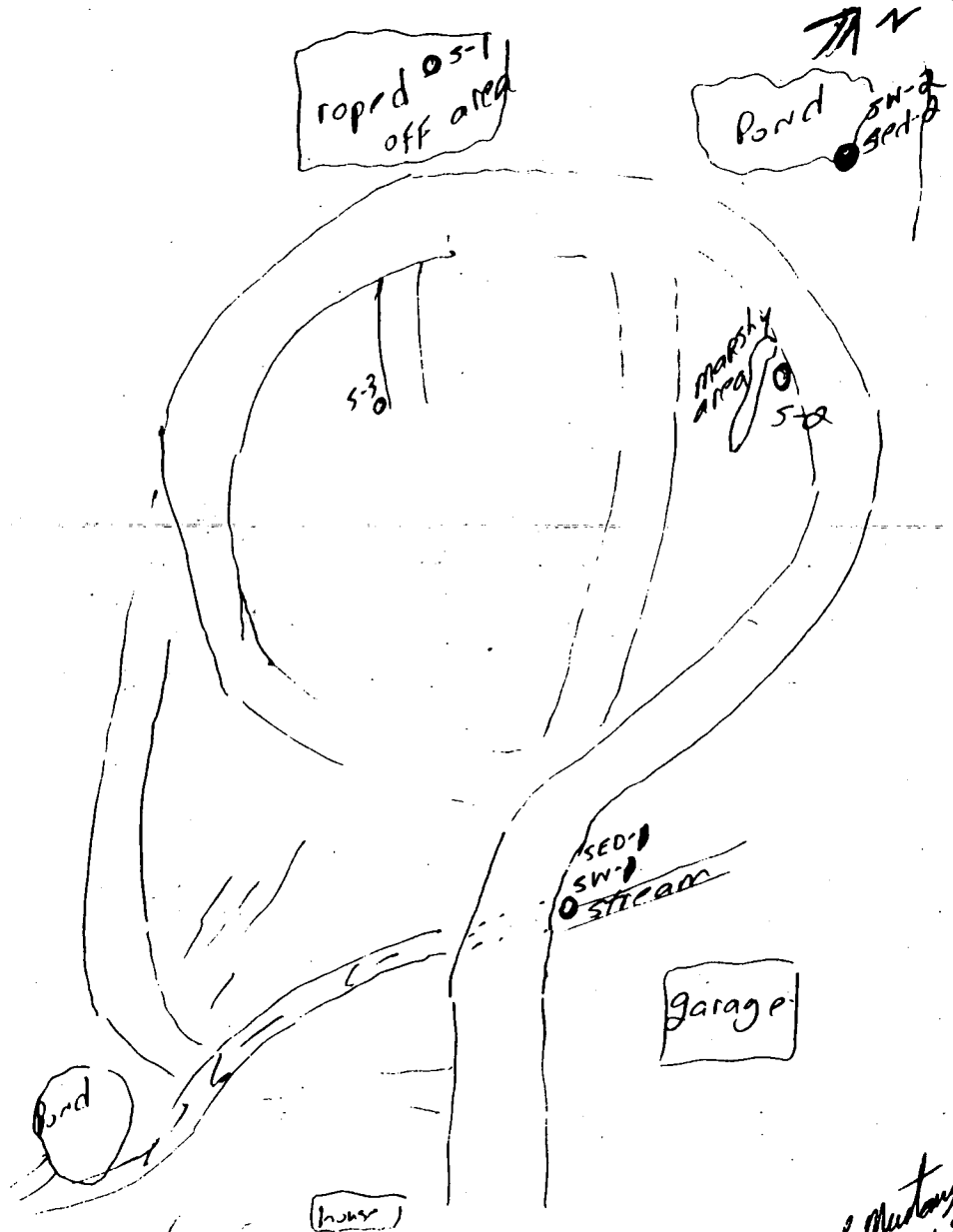
Note: photo shows oily sheen on
soil in bowl.

- Sample collected at a depth of 0-3 inches
1010 - Finished collecting sample sed-1
1017 - Dennis Forster collects Rinsate sample
RIN-1 on a trowel.
1020 - Getting set to collect
sw-2 and sed 2 located
in pond on west end
of site.

6-14-89

M Parr 6/20/89 Joseph Murtaugh

19



Joseph Mustard 5-31-89

Bill Ryan 6/20/89

Busters Junkyard
Site Investigation
02-8803-05

6-14-89

12

1032 - arrive at surface water-2/ sed-2 location.

- NOTE: Jim Frost and Chris Rogner change latex gloves.

- No readings above background on the H-Nu, OVA or Minirad.

pH = 5
Conductivity = 60

NOTE: The water is probably ponded groundwater located in the northeast corner of site

- Sample description
- The surface water is ponded (not flowing)
- The water is a dark murky color
- Cedar water - no odor
- TR oily sheen on water

1037
20-3/25-3 - Photo of Chris Rogner collecting surface water sample 2

Sample location located in pond in northeast corner of site

1034 - Dennis Forster collects Rinsate-2 on a bank

1045 - Finished collecting SW-2

Busters Junkyard
Site Investigation
02-8803-25

6-14-89

13

1047 - Begin collecting sample sed 2 from same location as SW-2

1P-4/15-4 - Photo of Chris Agnew collecting sediment sample sed-2

- No readings above background on the H-Nu, OVA or minirad

Sample description
bad odor - rotting smell on sediment / methane smell

- V-loose, Brown, F-Sands, V-wet
  TR. Silt TR. Pebbles
- oil sheen not present on sediment
- Collected at a depth of 0-3 inches

1048 2P-5/25-5 Photo of leachate in junkyard adjacent to pond

1049 2P-6/25-6 Photo of Pond where SW2 / sed-2 was collected

1050 - Dennis Foerter collects Rinsate 3 on an auger

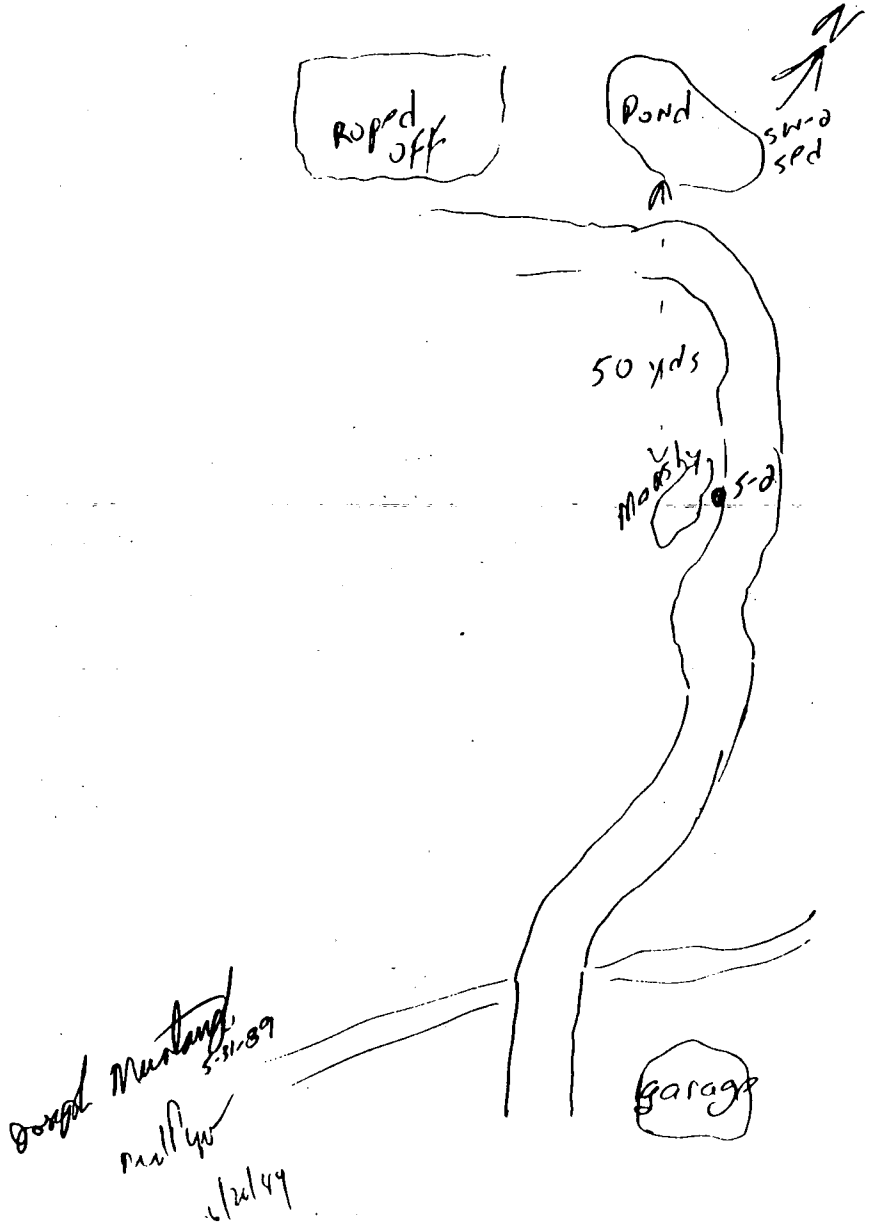
1056 - Finished collecting sed-2

- dropping samples off at setup area.

Rod Fox 6/24/89

Donald Montanari 6-14-89

63



Bustars Junkyard
Site Investigation
02-8803-05

6-14-89

14

- Jim Frost and Chris Agnew change latex gloves

1116 - arrive at soil sample S-2 location (MS/MSD)

- This sample is located on the northeast side of site located approx 50 yds south of SW-2 location on access road (6-14-89 DM)

- no reading ABG on HNU, OVA or Mini rad

1116 20-7/25-7 - Photo of Jim Frost collecting soil sample S-2 (MS/MSD)

sample description:

loose, black to brown F-Sand, wet. (Black organic detrital material on surface) Tr. pebbles

- Collected at a depth of 0-3 inches

1140 - Finished collecting soil sample S-2

- we collected soil sample S-2 here because there were junked cars and motors laying in a marshy area.

6-14-89

Dougal Mustangl

6/14/89

64

Busters Junkyard
Site Investigation
07-8803-25

6-14-89

15

arrive at Soil sample S-1 location

1143 - we will auger to a depth of up to 3 feet.
- Jim Frost & Chris Agnew change latex glove
- This is the area where garbage was landfilled - northwest edge of site
- no readings ABG on H-nu, OVA or minirad

Sample description

0-3 inches

v-loose light brown - Pale brown F-sand

3 inches to 2 ft 6" wet

V-loose, Dk grayish Brown to Pale Brown F-sand

Hit water at 2 ft 6 inches

- Sampled at an interval of 2.5 ft to 3.0 ft
VOA's collected at 2'6" to 2'9"
- very strong methane smell
- PGS OVA
- no readings on H-nu or minirad

1150

2R-3/85-3 | Photo of Jim Frost facing South collecting soil sample S-1

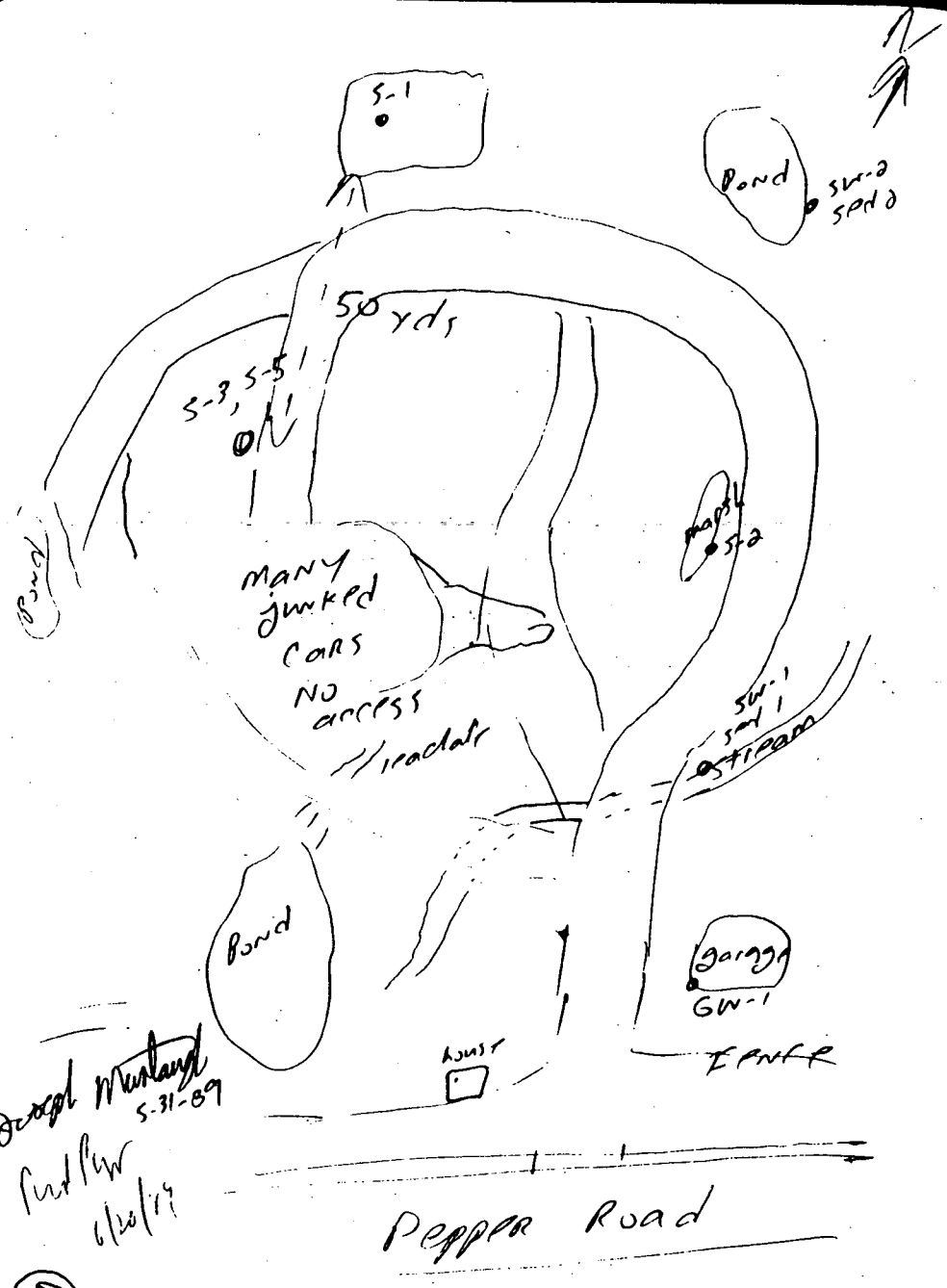
Sample description:

V-loose, BROWN, F-sand, some Pebbles

NOTE: New grass growing in roped off area.

Overall markings

65



Joseph Mustard 5-31-89
Fred Pfer 6/20/89

Busters Junkyard
Site Investigation
02-8805-05

6-14-89

1200 Finished collecting sample S-1
Jim Frost & Chris Agnew change latex gloves
1205 - Arrive at soil sample location S-3, S-5 Environmental duplicate.
Jim Frost & Chris Agnew change latex gloves
- No readings above background on the H-Pen, OVA or minirad

- We are sampling here because there are about 100 batteries staged in an old truck bed.
- also, old storage tank is adjacent to batteries.

1205 JP-9/25-9 Photo of Jim Frost collecting soil samples S-3, S-5 Env. Dup.

Sample Description:
loose brown f-sand, tr pebbles, moist
- Collected at a depth of 0-3 inches

Sample location located approx 50 yds southeast of soil sample S-1

1210 JP-10/25-10 - Photo facing north of storage tank

1211 JP-11/25-11 Photo facing west of batteries staged in truck bed.

1220 - Jim Frost notes that Alaska Pipe looks like a fire had recently occurred

Fred Pfer 6/6/89

Busters Junkyard
Site Investigation
OU-8803-25

6-14-89

17

1222 - Finished Collecting soil samples S-3, S-5

- arrive back at setup area

- Cleaning samplers off.

- preparing to collect tap water Sample GW-1

1223. Rick Pagano turns on tap water at garage area located on-site

pH = 6

Conductivity = 220

1230 - pH = 6

Conductivity = 200

1240 pH = 6

Conductivity = 200

1240 28-12/25-12 - photo of Jim Frost collecting tap water sample GW-1 MS/MSD

- water is clear, no odor

INFO CONCERNING WELL DEPTH IS ON PAGE 6 OF FIELD NOTES

1300 - Finished Collecting GW-1 6-14-89

Calibration check

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Busters Junkyard 6-14-89
Site Investigation
02-8803-25

18

1305 - ARRIVE at 24 Pepper Road [redacted] Residence.

- we will be collecting a soil sample as a background indicator and a tap water sample from their outside faucet.
- outside faucet bypasses all filters
- the house is located adjacent to junkyard on east side.

1309 - Turn outside spigot on

pH = 5.5
Conductivity = 80

- we go to collect soil sample S-4 as a background indicator located 20 feet west of front porch step
- no readings A.R.G. on H-Nu, OVA or minirad
- sample description:
  V-loose OR grayish brown silty f-sand. moist.
  (Sandy loam.)

2P-13/25-13 - collected at a depth of 0-3 inches
1315 - photo of Chris Ronan collecting

[redacted]

Busters Junkyard 6-14-89
Site Investigation
00-8803-25

1317 Finished collecting soil sample S-4

1318 - Go back to check on tap water sample GW-2 GW-4 Env. Duplicate.

pH = 5.5

Conductivity = 60

Chris Agnew changes latex gloves

1325 pH = 5.5

Conductivity = 60

- begin collecting sample

2R-14/25-14 Photo of Chris Agnew collecting tap water sample GW-2, GW-4 Env. Duplicate

- No readings ABC on H-Nu OVA or Minirad

tap water description

- the water is clear, bad odor smells like rotten eggs, H2S

1335 - Finished collecting tap water sample GW2, GW-4

- J.M. drops off receipt for samples to [redacted]

6-14-89

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Busters Junkyard 6-14-89
Site Investigation
02-8803-25

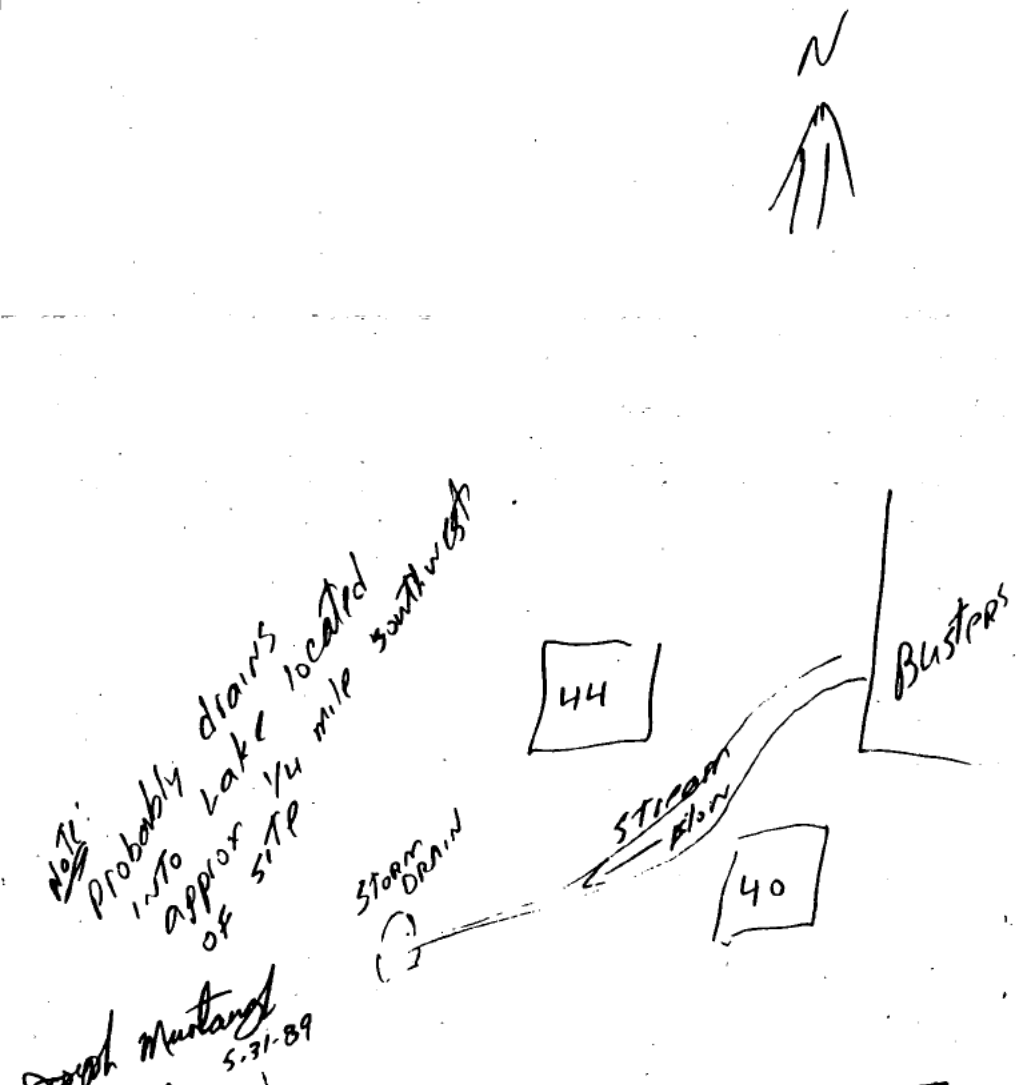
1343 - arrive at [redacted] Residence
~~[illegible]~~ located adjacent to site
at 44 Pepper Road
- located west of site
- Turn water on at outside
spigot in back - no one is
home but they know we're coming
- pH = 6
Conductivity = 220

1345
28-15/25-16
Photo facing south of stream
migrating across the Deluca
property
- the stream originates on
Busters Junkyard.

28-16/25-16
1347 - Photo of stream facing
northeast of stream leaving
site & entering onto Deluca
property

1349 - Back at GW-3 location, to check on water
1350 - pH = 6
Conductivity = 240

1400 pH = 6
Conductivity = 240
28-17/ - Begin collecting tap water GW-3
25-17 - Photo of Chris Agnew collecting
upgradient tap water sample GW-3



David Mustard 5-31-89
(40) Miller 6/26/89

Busters Junkyard 6-14-89
Site Investigation
02-8803-25

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1407 Finished collecting tap water Sample GW-3

1409 - J.M. drops off receipt for samples - no one is home to receive the receipt.

1415 - arrive back at set up area with samples

1430 - wrapping up samples & deconning equipment

1440 - J.M. drops off receipt for samples to Leonard "Buster" Perrine

1310 - still packaging samples

1350 - NUS personnel leave site

1810 - drop samples off at Federal Express in Edison, NJ.

6-14-89

Busters Junkyard
Site Investigation
02-8803-25
CASE NO: 12104
Laboratory Information:

6-14-89

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ORGANIC LAB:

Campu Chem Laboratories
3308 Chapel Hill / Nelson Highway
P.O. Box 12652
RTP, NC 27709
919 / 549-8263
ATTN: Larry Jakes
Airbill No. 3488726194

INORGANIC LAB:

Skinner & Sherman, Inc.
300 Second Avenue
WALTHAM, MA 02254
617 / 890-7200
ATTN: Marilyn Fonseca
FAX No. 1-617-890-3883
Airbill No: 3488726205

6-14-89

Rel for 1, 1 Joseph Montangl

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Busters Junkyard
02-8803-25
On-Site Reconnaissance
Photolog

Photo No	DESCRIPTION	TIME
IP-1/IS-1	Photo of drum of southwest corner of site	1120
IP-2/IS-2	Photo of intermittent stream in south end of site	1125
IP-3/IS-3	Photo of drum by pond area in the southwest end of site	1129
IP-4/IS-4	Photo of Chevron drum in the westernmost end of site	1130
IP-5/IS-5	Photos of puddles & tires in middle of site	1135
IP-6/IS-6	Photo of drums & wrecked car debris in northwest corner of site	1140
IP-7/IS-7	Photo of pond along the west side of the site	1145
IP-8/IS-8	Photo of leachate flowing into pond in the southwest end of site	1147
IP-9/IS-9	Photo of marshy area at headwaters of intermittent stream on east end of site	1150
IP-10/IS-10	Photo of intermittent stream at access road crossing by garage area on east end of site	1155
IP-11/IS-11	Photo of marshy area along access road in NE. end of site.	1157
IP-12/IS-12	Photo of roped-off area in northern end of site where garbage may have been landfilled.	1200
IP-13/IS-13	Photo of northeast section of roped area where garbage may have been landfilled.	1201
IP-14/IS-14	Photo facing north of entrance to junkyard in southern end of site.	1210
IP-15/IS-15	Photo facing east of parking area to junkyard at entrance to site	1212

All Photos taken by Joseph Montanari on 5-31-89

Joseph Montanari

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Busters Junkyard
02-8808-25
Site Investigation

Photolog

Photo No.	Description	Time
2P-1 / 25-1	Photo facing east of Chris Agnew collecting SW-1 in intermittent stream	0932
2P-2 / 25-2	Photo facing east of Jim Frost collecting SW-1 in intermittent stream	1000
2P-3 / 25-3	Photo facing south of Chris Agnew collecting SW-2 in NE end of site	1032
2P-4 / 25-4	Photo facing south of Chris Agnew collecting SW-2 in northeast end of site	1047
2P-5 / 25-5	Photo facing east of Rachelle adjacent to pond in NE end of site	1048
2P-6 / 25-6	Photo facing west of pond where Spica was collected in NE end of site	1049
2P-7 / 25-7	Photo facing west of Jim Frost collecting soil sample S-8 at east end of site	1116
2P-8 / 25-8	Photo facing south of Jim Frost collecting soil sample S-1 in hard one area in north end of site	1150
2P-9 / 25-9	Photo facing west of Jim Frost collecting soil samples S-3, S-5 in center of site	1205
2P-10 / 25-10	Photo facing north of junked storage tank by soil sample S-3, S-5	1210
2P-11 / 25-11	Photo facing west of batteries stored in truck bed by soil sample S-3, S-5	1218
2P-12 / 25-12	Photo facing north of Jim Frost collecting top water SW-1, located at garage area near entrance to site	1240
2P-13 / 25-13	Photo facing south of Chris Agnew collecting soil sample S-4 at the Lynch residence located east of site property	1315
2P-14 / 25-14	Photo facing east of Chris Agnew collecting top water sample GW2, GW4 at the Lynch Residence, 24 Pepper road	1325
2P-15 / 25-15	Photo facing south of stream from site migrating across the Dehart property located at 44 Pepper Rd (not on site)	1345
2P-16 / 25-16	Photo facing northwest of stream flowing from site and onto the Dehart property located at 44 Pepper road	1347
2P-17 / 25-17	Photo facing south of Chris Agnew collecting top water sample GW-3 located at Dehart property, 44 Pepper rd.	1400

~~[illegible]~~ 9.N

Joseph Marchand
5-30-89

B- All photos taken by Joseph Marchand

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DRAFT PRE-RELEASE INFORMATION ONLY

NUS-FIT SAMPLING INFORMATION

Site Name: Buster's Junkyard

Shipping Date(s): 6/14/89

Case No.: 12104 SAS No.:

Laboratories: Organic: Complichem Laboratories

TDD/BRICS: 02-8803-25 / NJ55 $I

Inorganic: Skinner & Sherman, Inc.

Sampling Date(s): 6/14/89

Field SMO: Signature/Date: [signature] 6/14/89

Sample Type	NUS Sample No.	Organic CLP No.	Inorganic CLP No.	QC Information	Comments
GW	NJ55 $I - GW1	BAW 65	MBY 894	MS/MSD	
GW	NJ55 - GW2	BAW 66	MBY 895		
GW	NJ55 - GW3	BAW 67	MBY 896		
GW	NJ55 - GW4	BAW 68	MBY 897	Env. Duplicate	
SW	NJ55 - SW1	BAW 69	MBY 898		
SW	NJ55 - SW2	BAW 70	MBY 899		
SED	NJ55 - SED1	BAW 71	MBY 900		
SED	NJ55 - SED2	BAW 72	MBY 901		
S	NJ55 - S1	BAW 73	MBY 902		
S	NJ55 - S2	BAW 74	MBY 903	MS/MSD	
S	NJ55 - S3	BAW 75	MBY 904	~~Env. Duplicate~~ P7	
S	NJ55 - S4	BAW 76	MBY 905		
S	NJ55 - S5	BAW 77	MBY 906	Env. Duplicate	
RIN	NJ55 - RIN1	BAW 78	MBY 907	Rinsate TRONCL	

GW = Groundwater (GW), Surface water (SW), Sediment (SED), Soils (S), Rinsate

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DRAFT FILE RELEASE

SAMPLING INFORMATION

Buster's Junkyard

Case No. 12104 SAS No. _____

TDD/BRICS 02-8803-25 / NJ55 JE

Sampling Date(s) 6/14/89

Shipping Date(s): 6/14/89

Laboratories: Organic Compuchem Laboratories

Inorganic Skinner & Sherman, Inc.

Field SMO: Signature/Date Dennis Foster 6/14/89

Sample Type	NUS Sample No.	Organic CLP No.	Inorganic CLP No.	QC Information	Comments
RIN	NJ55 - RIN2	BAW 79	MBY 908	Rinsate Bowl 2.5	
RIN	NJ55 - RIN3	BAW 80	MBY 909	Rinsate Ringer 2.5	
TBLK	NJ55 - TBLK1	BAW 81	~~MBY 910~~ D/F		

List samples in the following order: groundwater (GW), surfacewater (SW), sediment (SED), Soils (S), Rinsate blanks (RIN), Trip blanks (TBLK)

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USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 12104 | SAS NO: (IF APPLICABLE)

INORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA (SI) ESI RIFS RD RA ER NPLD O&M OTHER ____
NON-SUPERFUND—____ PROGRAM

SITE NAME: Buster's Junkyard
CITY, STATE: Browns Mills, NJ
SITE SPILL ID:

REGION NO: 2
SAMPLING COMPANY ②: NUS Corporation
SAMPLER: (NAME) Dennis J. Fraeter

SHIP TO: ③
Skinner & Sherman, Inc
300 Second Avenue
Waltham, MA 02254
ATTN: Marilyn Fonseca

SAMPLING DATE: ④
BEGIN: 6/14/89 END: 6/14/89

DATE SHIPPED: 6/14/89 CARRIER: Fed Ex ⑤
AIRBILL NO: 3488726205

SAMPLE DESCRIPTION
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

DOUBLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW M = MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: TOTAL METALS	CYANIDE	DISSOLVED METALS	HIGH ONLY (SAS): SULFIDE	pH	CONDUCTIVITY	CHLORIDE	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
MBY 907	3	L	✓							Rinsate Trowel	NJ55-Rin1
MBY 908	3	L	✓							Rinsate Bowl	NJ55-Rin2
MBY 909	3	L	✓							Rinsate Auger	NJ55-Rin3
MBY 898	1	L	✓								NJ55-SW1
MBY 900	5	L	✓								NJ55-SD1
MBY 899	1	L	✓								NJ55-SW2
MBY 901	5	L	✓								NJ55-SD2
MBY 902	4	L	✓								NJ55-S1
MBY 903	4	L	✓							MS/MSD	NJ55-S2
MBY 904	4	L	✓								NJ55-S3
MBY 906	4	L	✓								NJ55-S5
MBY 894	2	L	✓							MS/MSD	NJ55-GW1
MBY 905	4	L	✓								NJ55-S4
MBY 895	2	L	✓								NJ55-GW2
MBY 896	2	L	✓								NJ55 GW3
MBY 897	2	L	✓								NJ55 GW4
TOTALS											

EPA Form 2075-6 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO. YELLOW — LAB COPY

Environmental Protection Agency
Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

Organic Traffic Report
(For CLP Use Only)

Case Number: 12104

SAS No. (If applicable):

1. Type of Activity (Check one): ENF, ER, ESI, NPLD, O&M, PA, RA, RD, RIFS, SI, ST, STPA, STSI, Other (Specify)

Non-Superfund Program: ~~Buster's Junkyard~~ off

Site Name: Buster's Junkyard

City, State: Browns Mills, NJ

Site Spill ID:

2. Region Number: 2

Sampling Co.: NUS Corp-FIT

Sampler (Name): Dennis J. Foerster

3. Ship To: Compuchem Laboratories
3308 Chapel Hill/Nelson Hwy
P.O. Box 12652
RTP, NC 27709
ATTN: Larry James

4. Date Shipped: 6/14/89

Airbill Number: 3438726194

Carrier: Federal Express

Triple volume required for matrix spike/duplicate aqueous sample.

Ship medium and high concentration samples in paint cans.

See reverse for additional instructions.

5. Sample Description (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil (SAS)
7. Waste (SAS)
8. Other (SAS) (Specify)

CLP Sample Number (From labels)	(A) Sample Description (From box 1)	(B) Concentration L=low M=med H=high	(C) RAS Analysis VOA	BNA	Pest/PCB	(D) Special Handling	(E) Station Location	(F) Date/Time of Sample Collection	(G) Corresponding CLP Inorganic Sample Number
BAW78	4	L	✓	✓	✓	Rinsate trowel	NJSS-Rin1	6/14/89 1017	MBY 907
BAW79	4	L	✓	✓	✓	Rinsate Bowl	NJSS-Rin2	6/14/89 1034	MBY 908
BAW80	4	L	✓	✓	✓	Rinsate Auger	NJSS-Rin3	6/14/89 1050	MBY 909
BAW69	1	L	✓	✓	✓		NJSS-SW1	6/14/89 0932	MBY 898
BAW71	5	L	✓	✓	✓		NJSS-SED1	6/14/89 1000	MBY 900
BAW70	1	L	✓	✓	✓		NJSS-SW2	6/14/89 1032	MBY 899
BAW72	5	L	✓	✓	✓		NJSS-SED2	6/14/89 1047	MBY 901
BAW73	5	L	✓	✓	✓		NJSS-S1	6/14/89 1150	MBY 902
BAW74	5	L	✓	✓	✓	MS/MSD	NJSS-S2	6/14/89 1116	MBY 903
BAW75	5	L	✓	✓	✓		NJSS-S3	6/14/89 1205	MBY 904
BAW77	5	L	✓	✓	✓		NJSS-S5	6/14/89 1205	MBY 906
BAW65	2	L	✓	✓	✓	MS/MSD	NJSS-GW1	6/14/89 1240	MBY 894
BAW81	3	L	✓	✓	✓	Trip Blank	NJSS TBLK1	6/14/89	
BAW76	5	L	✓	✓	✓		NJSS-S-4	6/14/89 1215	MBY 905
BAW66	2	L	✓	✓	✓		NJSS-GW2	6/14/89 1325	MBY 895
BAW67	2	L	✓	✓	✓		NJSS GW3	6/14/89 1400	MBY 896
BAW68	2	L	✓	✓	✓		NJSS GW4	6/14/89 1325	MBY 897

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[illegible] JUNKYARD

TDD/BRICS NO. 02-8903-25 / NJ55 SI

DATE 6/14/89

SIGNATURE [illegible]

BOTTLE LOT NO. FORM

NUS Sample Number	No. of 8 oz. jars	Supplier/ Lot No.	No. of 40 mL vials	Supplier/ Lot No.	No. of 80 oz. or 1L amber	Supplier/ Lot No.	No. of 1L Poly Bottles	Supplier/ Lot No.
NJ55 - GW1		~~A9032013~~	6	8832602 A	4	A9032013	3	0105389A
NJ55 - GW2			2	8832602 A ~~A9059073~~	2	A9059073 ~~A9[illegible]~~	1	"
NJ55 - GW3			2	8832602 A	2	"	1	"
NJ55 - GW4			2	"	2	"	1	"
NJ55 - SW1			2	"	2	"	1	"
NJ55 - SW2			2	"	2	"	1	"
NJ55 - SED1	2	F9053233	2	"				
NJ55 - SED2	2	"	2	"				
NJ55 - S1	2	"	2	"				
NJ55 - S2	4	F9053243	4	"				
NJ55 - S3	2	"	2	"				
NJ55 - S4	2	"	2	"				
NJ55 - S5	2	"	2	"				
NJ55 - RIN1			2	"	2	A9032013	1	0105389A
NJ55 - RIN2			2	"	2	A9059073	1	"
NJ55 - RIN3			2	"	2	A9059073	1	"

IC = I-CHEM EP = Eagle-Picher

IDD/BRICS NO. _____

DATE _____

SIGNATURE _____

BOTTLE LOT NO. FORM

NUS Sample Number	No. of 8 oz. jars	Supplier/ Lot No.	No. of 40 mL vials	Supplier/ Lot No.	No. of 80 oz. or 1L amber	Supplier/ Lot No.	No. of 1L Poly Bottles	Supplier/ Lot No.
NJ55-TALK-1			2	P832602A				
NJ55 DI water			16	P832602A	12 40 oz			0105 3 79A

IC = I-CHEM EP = Eagle-Picher

08

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: 02-8803-25 **DATE:** 15 September 1989

FROM: David Heim **COPIES:**

SUBJECT: Buster's Junkyard

REFERENCE: field logbook # 0429

The field notes for sampling at the Buster's Junkyard site, on pages 19 and 20, identifies 44 Pepper Road as downgradient and 24 Pepper Road as upgradient for groundwater flow.

Reference information, "Geology and Ground-Water Resources of Burlington County, N.J." by P.E. Rush, USGS p.48, indicates that the Rancocas Creek is a discharge area for groundwater. The Rancocas Creek is located to the southwest of the site. If the literature is correct then 44 Pepper Road is upgradient and 24 Pepper Road is downgradient, contrary to field logbook.

David Heim
9.15.89

NUS 443A 58 1182

REFERENCE NO. 2

SAMPLING TRIP REPORT

SITE NAME: Buster's Junkyard

TDD NO.: 02-8803-25

SAMPLING DATE: June 14, 1989

EPA CASE NO: 12104

1. Site Location: Refer to Figure 1
2. Sample Locations: Refer to Figure 2
3. Sample Descriptions: Refer to Table 1
4. Laboratories Receiving Samples:

Sample Type	Name and Address of Laboratory
Organic	Compu Chem Laboratories 3308 Chapel Hill/Nelson Highway P.O. Box 12652 RTP, NC 27709
Inorganic	Skinner and Sherman, Inc. 300 Second Ave. Waltham, MA 02254

SS generated

5. Sample Dispatch Data:

A total of ten aqueous and seven soil/sediment samples for organic analysis were shipped by FIT 2 personnel via Federal Express under Airbill No. 3488726194 to Compu Chem Laboratories on June 14, 1989 at 1810 hours.

A total of nine aqueous and seven soil/sediment samples for inorganic analysis were shipped by FIT 2 personnel via Federal Express under Airbill No. 3488726205 to Skinner & Sherman, Inc., on June 14, 1989 at 1810 hours.

6. Sampling Personnel:

Name	Organization	Duties on Site
Joseph Murtaugh	NUS Corporation, FIT 2	Site Manager, Written and Photographic Documentation
Richard Pagano	NUS Corporation, FIT 2	Site Safety Officer
Dennis Foerter	NUS Corporation, FIT 2	Sample Management Officer
Jim Frost	NUS Corporation, FIT 2	Sampler
Chris Agnew	NUS Corporation, FIT 2	Sampler

7. Weather Conditions:

Cloudy, warm, 62°F, winds from the south at 0-3 mph.

8. Additional Comments:

All samples, except for a trip blank, will be analyzed for Target Compound List (TCL) organic and inorganic compounds, excluding cyanide. The trip blank will be analyzed for volatile organic compounds only.

10. Report Prepared By: Joseph Murtaugh Date: June 16, 1989

11. Approved By: RM Naman Date: 6/23/89

Case# 12104 Site BUSTER'S JUNKYARD Matrix: Soil 7

Reviewer JOHN BULICH JB Lab SKINNER Water 9

Contractor NUS (FIT 2) Other —

A.2.1 All data are of acceptable quality? Yes ____ No ✓

If no, exceptions are noted below with reason(s) for rejection or qualification as estimated value (J).

A) The following analytes are qualified as rejected (red-lined) because they do not meet the criteria for:

1) Matrix Spike: (<30% Rec) Pb → MBY894-899, 907-909

(<10% Rec) Tl → MBY900-906

2) Field Blanks (>2×IDL) Sb → MBY896, 900 Ca → MBY895, 897, 902

Fe → MBY894 Mg → MBY895, 897, 901-904

Mn → MBY895, 896, 902 Zn → MBY894-897, 901, 905

B) The following analytes are qualified as estimated (flagged with "J") because they do not meet criteria for:

1) CRDL Std.: (<90% Rec.) Cr → MBY898 Cu → MBY898, 899

Zn → MBY895-897

(>110% Rec) Pb → MBY896, 897, 908 Se → MBY901, 902

2) Matrix Spike: (30-74% Rec) Se, Tl → MBY894-899, 907-909

(126-150% Rec) Hg → MBY895, 896, 898, 899, 909 Ag → MBY907

(10-74% Rec) Sb, Hg, Se → MBY900-906 (except Se → MBY901, 902 flagged for CRDL std.)

(126-200% Rec) Zn → MBY900, 901, 903-906

A.2.1 (continuation)

3) Lab Dup (>10 x CRDL) Pb was already rejected for matrix spike
4) ICP Ser Dil (>10% Diff & I > 10 x IDL) Mg → MBY 900, 903-906

A.2.2 Contract Problems/Non-compliance

1) Dilutions beyond requirements of contract not reported on Form I's.

MMB Reviewer: _____ Date: _____
Signature

Contractor Reviewer: John Balicky Date: Sept. 1, 1989
Signature

Verified by: _____ Date: _____

TMA
Thermo Analytical Inc.

Skinner & Sherman Laboratories Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200

9(w)
7(s)
Buster's Junkyard.

RECEIVED
JUL 19 1989
S & M BRANCH

Federal Airbill #4174829772

18 July 1989

USEPA Contract Laboratory Program (CLP)
Sample Management Office (SMO)
300 North Lee Street, Suite 200
Alexandria, VA 22313

Attention: Linda Boynton

Dear Ms. Boynton:

Enclosed is the Sample Data Package for the Inorganic Analyses of Case #12104, SDG #MBY894. The samples were analyzed under Skinner and Sherman Work Order #8906141.

Please feel free to call if there are any questions concerning the enclosed.

Sincerely,

SKINNER AND SHERMAN LABORATORIES, INC.

Richard Purdy
Contract Laboratory Program
Program Manager

RP/cd

Encl.

cc: Data Audit Staff, EMSL-LV, Federal #4174829783
Richard Spear, USEPA Region II, Federal #4174829805

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

SOW No.: 7/87

RECEIVED
JUL 19 1989
S & M BRANCH

EPA Sample No.	Lab Sample ID.
MBY894	06141-01S
MBY894D	06141-01S2
MBY894S	06141-01DS
MBY895	06141-02S
MBY896	06141-03S
MBY897	06141-04S
MBY898	06141-05S
MBY899	06141-06S
MBY900	06141-07S
MBY901	06141-08S
MBY902	06141-09S
MBY903	06141-10S
MBY903D	06141-10S2
MBY903S	06141-10DS
MBY904	06141-11S
MBY905	06141-12S
MBY906	06141-13S
MBY907	06141-14S
MBY908	06141-15S
MBY909	06141-16S

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Lab Manager: [signature]

Date: 18 July 89

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY894

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): WATER Lab Sample ID: 06141-01S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 0.0

RECEIVED JUL 19 1989 M BRANCH

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	51.80	B		P
7440-36-0	Antimony	8.90	U		P
7440-38-2	Arsenic	1.60	U		F
7440-39-3	Barium	5.60	B		P
7440-41-7	Beryllium	2.50	U		P
7440-41-7	Cadmium	3.60	U		P
7440-70-2	Calcium	21400.00			P
7440-47-3	Chromium	3.70	U		P
7440-48-4	Cobalt	3.50	U		P
7440-50-8	Copper	4.90	U		P
7439-89-6	Iron	~~125.00~~			P
7439-92-1	Lead	~~[illegible]~~		~~NWJ~~	F
7439-95-4	Magnesium	6690.00			P
7439-96-5	Manganese	15.50			P
7439-97-6	Mercury	0.20	U	N*	CV
7440-02-0	Nickel	5.90	U		P
7440-09-7	Potassium	8930.00			P
7782-49-2	Selenium	1.10	U	NWJ	F
7440-22-4	Silver	2.10	U	N	P
7440-23-5	Sodium	9120.00			P
7440-28-0	Thallium	1.50	U	NWJ	F
7440-62-2	Vanadium	3.90	U		P
7440-66-6	Zinc	~~[illegible]~~			P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

~~0102~~ 2
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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY895

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): WATER Lab Sample ID: 06141-02S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	719.00			P
7440-36-0	Antimony	8.90	U		P
7440-38-2	Arsenic	1.60	U		F
7440-39-3	Barium	43.80	B		P
7440-41-7	Beryllium	2.50	U		P
7440-41-7	Cadmium	3.60	U		P
7440-70-2	Calcium	~~233.00~~	~~B~~		P
7440-47-3	Chromium	3.70	U		P
7440-48-4	Cobalt	3.50	U		P
7440-50-8	Copper	4.90	U		P
7439-89-6	Iron	294.00			P
7439-92-1	Lead	~~1.10~~	~~U~~	~~N*W~~	F
7439-95-4	Magnesium	~~300.00~~	~~B~~		P
7439-96-5	Manganese	~~12.40~~	~~B~~		P
7439-97-6	Mercury	0.30		N*J	CV
7440-02-0	Nickel	5.90	U		P
7440-09-7	Potassium	1170.00	B		P
7782-49-2	Selenium	5.50	U	NJ	F
7440-22-4	Silver	2.10	U	N	P
7440-23-5	Sodium	1530.00	B		P
7440-28-0	Thallium	1.50	U	NJ	F
7440-62-2	Vanadium	3.90	U		P
7440-66-6	Zinc	~~24.00~~	~~J~~		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY896

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): WATER Lab Sample ID: 06141-03S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 0.0

RECEIVED JUL 19 1989 S & M BRANCH

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	67.80	B		P
7440-36-0	Antimony	~~19.60~~	~~B~~		P
7440-38-2	Arsenic	1.60	U		F
7440-39-3	Barium	13.60	B		P
7440-41-7	Beryllium	2.50	U		P
7440-41-7	Cadmium	3.60	U		P
7440-70-2	Calcium	19600.00			P
7440-47-3	Chromium	3.70	U		P
7440-48-4	Cobalt	5.10	B		P
7440-50-8	Copper	4.90	U		P
7439-89-6	Iron	553.00			P
7439-92-1	Lead	~~7.90~~		~~NWJ~~	F
7439-95-4	Magnesium	6640.00			P
7439-96-5	Manganese	~~7.90~~	~~B~~		P
7439-97-6	Mercury	0.30		N*J	CV
7440-02-0	Nickel	5.90	U		P
7440-09-7	Potassium	9490.00			P
7782-49-2	Selenium	1.10	U	NWJ	F
7440-22-4	Silver	2.10	U	N	P
7440-23-5	Sodium	6540.00			P
7440-28-0	Thallium	1.50	U	NWJ	F
7440-62-2	Vanadium	3.90	U		P
7440-66-6	Zinc	~~57.30~~		~~J~~	P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY897

.ab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

.ab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

latrix (soil/water): WATER

Lab Sample ID: 06141-04S

evel (low/med): LOW

Date Received: 06/15/89

Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	754.00			P
7440-36-0	Antimony	8.90	U		P
7440-38-2	Arsenic	1.60	U		F
7440-39-3	Barium	44.20	B		P
7440-41-7	Beryllium	2.50	U		P
7440-41-7	Cadmium	3.60	U		P
7440-70-2	Calcium	~~234.00~~	~~B~~		P
7440-47-3	Chromium	3.70	U		P
7440-48-4	Cobalt	3.80	B		P
7440-50-8	Copper	21.60	B		P
7439-89-6	Iron	369.00			P
7439-92-1	Lead	~~1.90~~	~~B~~	~~N*J~~	F
7439-95-4	Magnesium	~~972.00~~	~~B~~		P
7439-96-5	Manganese	13.70	B		P
7439-97-6	Mercury	0.20	U	N*	CV
7440-02-0	Nickel	5.90	U		P
7440-09-7	Potassium	1280.00	B		P
7782-49-2	Selenium	1.10	U	NWJ	F
7440-22-4	Silver	2.10	U	N	P
7440-23-5	Sodium	1560.00	B		P
7440-28-0	Thallium	1.50	U	NJ	F
7440-62-2	Vanadium	3.90	U		P
7440-66-6	Zinc	~~24.90~~	~~J~~		P
	Cyanide				NR

:or Before: COLORLESS Clarity Before: CLEAR Texture:

or After: COLORLESS Clarity After: CLEAR Artifacts:

ments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY898

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): WATER Lab Sample ID: 06141-05S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6080.00			P
7440-36-0	Antimony	8.90	U		P
7440-38-2	Arsenic	3.00	B		F
7440-39-3	Barium	48.60	B		P
7440-41-7	Beryllium	2.50	U		P
7440-41-7	Cadmium	3.60	U		P
7440-70-2	Calcium	2850.00	B		P
7440-47-3	Chromium	15.20		J	P
7440-48-4	Cobalt	3.50	U		P
7440-50-8	Copper	28.90		J	P
7439-89-6	Iron	13400.00			P
7439-92-1	Lead	~~120.00~~	~~L~~	~~N*~~	F
7439-95-4	Magnesium	1270.00	B		P
7439-96-5	Manganese	87.20			P
7439-97-6	Mercury	0.60		N*J	CV
7440-02-0	Nickel	14.20	B		P
7440-09-7	Potassium	3980.00	B		P
7782-49-2	Selenium	1.10	U	NWJ	F
7440-22-4	Silver	2.10	U	N	P
7440-23-5	Sodium	4590.00	B		P
7440-28-0	Thallium	1.50	U	NJ	F
7440-62-2	Vanadium	12.20	B		P
7440-66-6	Zinc	201.00			P
	Cyanide				NR

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: BROWN Clarity After: CLOUDY Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY899

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): WATER Lab Sample ID: 06141-06S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2870.00			P
7440-36-0	Antimony	8.90	U		P
7440-38-2	Arsenic	5.40	B		F
7440-39-3	Barium	45.60	B		P
7440-41-7	Beryllium	2.50	U		P
7440-41-7	Cadmium	3.60	U		P
7440-70-2	Calcium	5340.00			P
7440-47-3	Chromium	8.10	B		P
7440-48-4	Cobalt	4.80	B		P
7440-50-8	Copper	57.00		J	P
7439-89-6	Iron	34000.00			P
7439-92-1	Lead	~~32.40~~		~~N*S~~	F
7439-95-4	Magnesium	1250.00	B		P
7439-96-5	Manganese	118.00			P
7439-97-6	Mercury	0.60		N*J	CV
7440-02-0	Nickel	19.20	B		P
7440-09-7	Potassium	2780.00	B		P
7782-49-2	Selenium	1.10	U	NJ	F
7440-22-4	Silver	2.10	U	N	P
7440-23-5	Sodium	3750.00	B		P
7440-28-0	Thallium	1.50	U	NJ	F
7440-62-2	Vanadium	11.20	B		P
7440-66-6	Zinc	100.00			P
	Cyanide				NR

lor Before: BROWN Clarity Before: CLOUDY Texture:

lor After: BROWN Clarity After: CLOUDY Artifacts:

mments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY900

Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Code: SKINER Case No.: 12104 SAS No.:

ix (soil/water): SOIL SDG No.: MBY894

(low/med): LOW Lab Sample ID: 06141-07S

lids: 84.2 Date Received: 06/15/89

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1460.00			P
7440-36-0	Antimony	~~4.40~~	~~B~~	~~NJ~~	P
7440-38-2	Arsenic	1.70	B		F
7440-39-3	Barium	14.10	B		P
7440-41-7	Beryllium	0.55	U		P
7440-41-7	Cadmium	0.80	U		P
7440-70-2	Calcium	374.00	B		P
7440-47-3	Chromium	6.90			P
7440-48-4	Cobalt	2.50	B		P
7440-50-8	Copper	11.80			P
7439-89-6	Iron	5260.00		*	P
7439-92-1	Lead	36.70		*	P
7439-95-4	Magnesium	327.00	B	J	F
7439-96-5	Manganese	20.50		*	P
7439-97-6	Mercury	0.11	U	NJ	P
7440-02-0	Nickel	2.80	B		CV
7440-09-7	Potassium	261.00	B		P
7782-49-2	Selenium	0.25	U	NJ	P
7440-22-4	Silver	0.47	U		F
7440-23-5	Sodium	56.00	B		P
7440-28-0	Thallium	~~0.34~~	~~U~~	~~NJ~~	P
7440-62-2	Vanadium	6.40	B		F
7440-66-6	Zinc	40.70		N*J	P
	Cyanide				NR

re: BROWN Clarity Before:

r: BROWN Clarity After: Texture: MEDIUM

Artifacts:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY901

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): SOIL Lab Sample ID: 06141-08S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 73.8

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2030.00			P
7440-36-0	Antimony	2.30	U	NJ	P
7440-38-2	Arsenic	0.84	B		F
7440-39-3	Barium	5.30	B		P
7440-41-7	Beryllium	0.65	U		P
7440-41-7	Cadmium	0.93	U		P
7440-70-2	Calcium	141.00	B		P
7440-47-3	Chromium	3.80			P
7440-48-4	Cobalt	1.20	B		P
7440-50-8	Copper	1.30	U		P
7439-89-6	Iron	933.00		*	P
7439-92-1	Lead	6.30		*	F
7439-95-4	Magnesium	~~41.00~~	~~B~~		P
7439-96-5	Manganese	4.00		*	P
7439-97-6	Mercury	0.13	U	NJ	CV
7440-02-0	Nickel	1.70	B		P
7440-09-7	Potassium	72.30	B		P
7782-49-2	Selenium	0.69	B	NJ	F
7440-22-4	Silver	0.54	U		P
7440-23-5	Sodium	59.30	U		P
7440-28-0	Thallium	~~0.40~~	~~U~~	~~NU~~	F
7440-62-2	Vanadium	5.50	B		P
7440-66-6	Zinc	~~6.60~~		~~N*J~~	P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

ROOTS GRASS

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY902

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): SOIL Lab Sample ID: 06141-09S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 87.7

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	175.00			P
7440-36-0	Antimony	1.90	U	NJ	P
7440-38-2	Arsenic	0.59	B		F
7440-39-3	Barium	2.80	B		P
7440-41-7	Beryllium	0.54	U		P
7440-41-7	Cadmium	0.78	U		P
7440-70-2	Calcium	~~40.00~~	~~B~~		P
7440-47-3	Chromium	0.98	B		P
7440-48-4	Cobalt	0.76	U		P
7440-50-8	Copper	1.10	U		P
7439-89-6	Iron	114.00		*	P
7439-92-1	Lead	3.20		*	F
7439-95-4	Magnesium	~~11.10~~	~~B~~		P
7439-96-5	Manganese	~~2.60~~	~~B~~	*	P
7439-97-6	Mercury	0.11	U	NJ	CV
7440-02-0	Nickel	1.30	U		P
7440-09-7	Potassium	22.90	B		P
7782-49-2	Selenium	0.44	B	NJ	F
7440-22-4	Silver	0.46	U		P
7440-23-5	Sodium	49.80	U		P
7440-28-0	Thallium	~~0.34~~	~~U~~	~~NJ~~	F
7440-62-2	Vanadium	1.10	B		P
7440-66-6	Zinc	1.70	U	N*	P
	Cyanide				NR

Color Before: BLACK Clarity Before: Texture: MEDIUM

Color After: BLACK Clarity After: Artifacts: YES

Comments:

STONES

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY903

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): SOIL Lab Sample ID: 06141-10S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 73.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3730.00			P
7440-36-0	Antimony	2.40	U	NJ	P
7440-38-2	Arsenic	1.50	B		F
7440-39-3	Barium	13.40	B		P
7440-41-7	Beryllium	0.67	U		P
7440-41-7	Cadmium	0.97	U		P
7440-70-2	Calcium	507.00	B		P
7440-47-3	Chromium	7.50			P
7440-48-4	Cobalt	1.10	B		P
7440-50-8	Copper	3.20	B		P
7439-89-6	Iron	5080.00		*	P
7439-92-1	Lead	37.50		*	F
7439-95-4	Magnesium	~~214.00~~	~~B~~	~~J~~	P
7439-96-5	Manganese	20.00		*	P
7439-97-6	Mercury	0.12	U	NJ	CV
7440-02-0	Nickel	3.30	B		P
7440-09-7	Potassium	200.00	B		P
7782-49-2	Selenium	0.29	U	NJ	F
7440-22-4	Silver	0.57	U		P
7440-23-5	Sodium	61.70	U		P
7440-28-0	Thallium	~~0.39~~	~~U~~	~~NW~~	F
7440-62-2	Vanadium	8.10	B		P
7440-66-6	Zinc	46.20		N*J	P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:

STONES GRASS

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY904

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): SOIL Lab Sample ID: 06141-11S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 88.9

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1980.00			P
7440-36-0	Antimony	1.90	U	NJ	P
7440-38-2	Arsenic	0.84	B		F
7440-39-3	Barium	5.00	B		P
7440-41-7	Beryllium	0.55	U		P
7440-41-7	Cadmium	0.79	U		P
7440-70-2	Calcium	244.00	B		P
7440-47-3	Chromium	5.00			P
7440-48-4	Cobalt	0.88	B		P
7440-50-8	Copper	2.70	B		P
7439-89-6	Iron	2760.00		*	P
7439-92-1	Lead	19.80		*S	F
7439-95-4	Magnesium	~~153.00~~	~~B~~	~~J~~	P
7439-96-5	Manganese	16.50		*	P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	6.90	B		P
7440-09-7	Potassium	110.00	B		P
7782-49-2	Selenium	0.24	U	NJ	F
7440-22-4	Silver	0.46	U		P
7440-23-5	Sodium	50.10	U		P
7440-28-0	Thallium	~~0.32~~	~~UW~~	~~NW~~	F
7440-62-2	Vanadium	5.60	B		P
7440-66-6	Zinc	34.30		N*J	P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:

STONES GRASS

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY905

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): SOIL Lab Sample ID: 06141-12S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 93.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2160.00			P
7440-36-0	Antimony	1.90	U	~~NJ~~	P
7440-38-2	Arsenic	0.87	B		F
7440-39-3	Barium	9.60	B		P
7440-41-7	Beryllium	0.53	U		P
7440-41-7	Cadmium	0.77	U		P
7440-70-2	Calcium	853.00	B		P
7440-47-3	Chromium	3.90			P
7440-48-4	Cobalt	1.70	B		P
7440-50-8	Copper	4.50	B		P
7439-89-6	Iron	3140.00		*	P
7439-92-1	Lead	22.80		*S	F
7439-95-4	Magnesium	678.00	B	~~J~~	P
7439-96-5	Manganese	38.40		*	P
7439-97-6	Mercury	0.10	U	~~NJ~~	CV
7440-02-0	Nickel	3.10	B		P
7440-09-7	Potassium	169.00	B		P
7782-49-2	Selenium	0.23	U	~~NJ~~	F
7440-22-4	Silver	0.45	U		P
7440-23-5	Sodium	69.90	B		P
7440-28-0	Thallium	~~0.31~~	~~U~~	~~NW~~	F
7440-62-2	Vanadium	6.40	B		P
7440-66-6	Zinc	~~18.20~~		~~N*J~~	P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:

STONES

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY906

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): SOIL Lab Sample ID: 06141-13S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 89.9

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2050.00			P
7440-36-0	Antimony	1.80	U	NJ	P
7440-38-2	Arsenic	0.89	B		F
7440-39-3	Barium	5.90	B		P
7440-41-7	Beryllium	0.51	U		P
7440-41-7	Cadmium	0.74	U		P
7440-70-2	Calcium	341.00	B		P
7440-47-3	Chromium	4.30			P
7440-48-4	Cobalt	1.50	B		P
7440-50-8	Copper	2.40	B		P
7439-89-6	Iron	3030.00		*	P
7439-92-1	Lead	26.20		*S	F
7439-95-4	Magnesium	278.00	B	J	P
7439-96-5	Manganese	19.10		*	P
7439-97-6	Mercury	0.10	U	NJ	CV
7440-02-0	Nickel	5.80	B		P
7440-09-7	Potassium	96.30	B		P
7782-49-2	Selenium	0.24	U	NJ	F
7440-22-4	Silver	0.43	U		P
7440-23-5	Sodium	47.10	U		P
7440-28-0	Thallium	~~0.33~~	~~U~~	~~NW~~	F
7440-62-2	Vanadium	5.70	B		P
7440-66-6	Zinc	28.50		N*J	P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: Artifacts: YES

Comments:

STONES

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY907

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): WATER Lab Sample ID: 06141-14S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	37.00	B		P
7440-36-0	Antimony	20.00	B		P
7440-38-2	Arsenic	1.60	U		F
7440-39-3	Barium	2.10	U		P
7440-41-7	Beryllium	2.50	U		P
7440-41-7	Cadmium	7.50			P
7440-70-2	Calcium	46.70	B		P
7440-47-3	Chromium	3.70	U		P
7440-48-4	Cobalt	4.10	B		P
7440-50-8	Copper	4.90	U		P
7439-89-6	Iron	37.50	B		P
7439-92-1	Lead	~~1.10~~	~~U~~	~~NJ~~	F
7439-95-4	Magnesium	31.60	B		P
7439-96-5	Manganese	2.10	B		P
7439-97-6	Mercury	0.20	U	NJ	CV
7440-02-0	Nickel	5.90	U		P
7440-09-7	Potassium	152.00	B		P
7782-49-2	Selenium	1.10	U	NWJ	F
7440-22-4	Silver	2.30	B	NJ	P
7440-23-5	Sodium	229.00	U		P
7440-28-0	Thallium	1.50	U	NJ	F
7440-62-2	Vanadium	3.90	U		P
7440-66-6	Zinc	13.30	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY908

ab Name: SKINNER & SHERMAN LABS. Contract: 68-W8-0006

ab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

atrix (soil/water): WATER Lab Sample ID: 06141-15S

evel (low/med): LOW Date Received: 06/15/89

Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22.00	U		P
7440-36-0	Antimony	8.90	U		P
7440-38-2	Arsenic	1.60	U		F
7440-39-3	Barium	2.10	U		P
7440-41-7	Beryllium	2.50	U		P
7440-41-7	Cadmium	3.60	U		P
7440-70-2	Calcium	83.40	B		P
7440-47-3	Chromium	3.70	U		P
7440-48-4	Cobalt	3.50	U		P
7440-50-8	Copper	4.90	U		P
7439-89-6	Iron	50.50	B		P
7439-92-1	Lead	~~1.60~~	~~B~~	~~NJ~~	F
7439-95-4	Magnesium	197.00	B		P
7439-96-5	Manganese	2.70	B		P
7439-97-6	Mercury	0.20	U	N*	CV
7440-02-0	Nickel	5.90	U		P
7440-09-7	Potassium	81.30	U		P
7782-49-2	Selenium	1.10	U	NJ	F
7440-22-4	Silver	2.10	U	N	P
7440-23-5	Sodium	229.00	U		P
7440-28-0	Thallium	1.50	U	NJ	F
7440-62-2	Vanadium	3.90	U		P
7440-66-6	Zinc	18.40	B		P
	Cyanide				NR

olor Before: COLORLESS Clarity Before: CLEAR Texture:

olor After: COLORLESS Clarity After: CLEAR Artifacts:

omments:

FORM I - IN 7/87

~~0016~~

103

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBY909

Lab Name: SKINNER & SHERMAN LABS Contract: 68-W8-0006

Lab Code: SKINER Case No.: 12104 SAS No.: SDG No.: MBY894

Matrix (soil/water): WATER Lab Sample ID: 06141-16S

Level (low/med): LOW Date Received: 06/15/89

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.80	B		P
7440-36-0	Antimony	8.90	U		P
7440-38-2	Arsenic	1.60	U		F
7440-39-3	Barium	2.10	U		P
7440-41-7	Beryllium	2.50	U		P
7440-41-7	Cadmium	3.60	U		P
7440-70-2	Calcium	45.30	B		P
7440-47-3	Chromium	3.70	U		P
7440-48-4	Cobalt	3.50	U		P
7440-50-8	Copper	4.90	U		P
7439-89-6	Iron	27.30	B		P
7439-92-1	Lead	~~1.10~~	~~U~~	~~N*~~	F
7439-95-4	Magnesium	46.60	B		P
7439-96-5	Manganese	1.40	B		P
7439-97-6	Mercury	0.20		N*J	CV
7440-02-0	Nickel	5.90	U		P
7440-09-7	Potassium	83.30	B		P
7782-49-2	Selenium	1.10	U	NJ	F
7440-22-4	Silver	2.10	U	N	P
7440-23-5	Sodium	229.00	U		P
7440-28-0	Thallium	1.50	U	NJ	F
7440-62-2	Vanadium	3.90	U		P
7440-66-6	Zinc	8.20	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

ATTACHMENT 1
SOP NO. HW-6

TOTAL REVIEW

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organics Analysis

Case No. 12104 SDG No. BAW65 waters BAW71 soils LABORATORY Compuchem SITE Custer's Junkyard

DATA ASSESSMENT:

The current functional guidelines (1988) for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "R" (unusable),or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Reviewer's Signature: Valerie A. Smith Date: 8/8/1989

Verified By: Pamela D Greenlaw Date: 8/10/1989

DATA ASSESSMENT:

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

PEST - BAW66 was extracted 1 day out of holding time criteria. All analytes were flagged estimated (J) for this sample

DATA ASSESSMENT:

2. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip field, rinse and water blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross- contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for the common contaminants), the analytes are qualified as non- detects, "U". The following analytes in the samples shown were qualified with "U" for these reasons:

A) Method blank contamination

VOA(w) - methylene chloride was flagged non-detect (U) in BAW70 + 81.
VOA (s) - methylene chloride & acetone were flagged non detect in BAW74, 72, 73, 75, 76 + 77.
- Chloroform was flagged non-detect in BAW72, 73, 75, 76 + 77.
- methylene chloride was flagged non-detect in BAW71.

B) Field or rinse blank contamination ("water blanks" or "distilled water blanks" are validated like any other sample)

VOA (w) - toluene was flagged non-detect (U) in BAW70.
VOA (s) - toluene was flagged non-detect (U) in BAW74.

C) Trip blank contamination

DATA ASSESSMENT:

4. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) RESPONSE FACTOR:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be $\geq$ 0.05 in both the initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected ("R").

VOA(w) - 2 Butanone was rejected (R) in BAW65, 66, 67, 68, 69, 70, 78, 79, 80 & 81 due to RRF<.05 in init. calib.

DATA ASSESSMENT:

5. CALIBRATION:

A) PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ" (if %D or RSD >50%). If there is a gross deviation of %RSD and %D, the non-detects may be rejected ("R").

For the PCB/PESTICIDE fraction, %RSD for aldrin, endrin, DDT, and dibutylchlorendate must not exceed 10%. Percent D must be within 15% on the quantitation column and 20% on the confirmation column.

VOA(w) - Acetone was flagged estimated (J) in BAW65, 66, 67, 68, 69, 70, 78, 79, 80 & 81 due to %RSD > 50 in init. calib.

VOA(s) - acetone was flagged estimated (J) in BAW74 & chloroethane was flagged ~~estimated~~ (J) in BAW71 due to %D 750 in cont. calib.

(w) BN - 3 nitroaniline & 4 nitroaniline were rejected (R) in BAH65, 66, 67, 68, 69, 70, 78, 79 & 80 due to %D 790.

(w) A - Benzoic Acid was rejected in BAH65, 66, 67, 68, 69, 70, 78, 79 & 80 due to %D 790.

(s) BN = bis(2 chloroisopropyl) ether was rejected (R) in BAW71, 72, 73, 74, 75 due to %RSD 790.

(s) BN = N-nitroso-Di-N-propylamine was flagged estimated (J) in BAW71, 72, 73, 74 & 75 due to %D750

(s) A = benzoic acid was rejected (R) in BAW71, 73, 75, 76 & 77 due to %RSD > 90.

(s) BN = butyl benzyl phthalate was flagged (J) in BAW71 due to %D 725.

(s) BN = bis (2 chloroisopropyl ether & hexachlorocyclopentadiene were flagged (J) in BAW76 & 77 due to %D > 50

DATA ASSESSMENT:

10. OTHER QC DATA OUT OF SPECIFICATION:

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued on next page if necessary): Good

12. CONTRACT PROBLEMS____NON-COMPLIANCE:

13. This package contains re-extraction, re-analysis or dilution. Upon reviewing the QA results, the following form I(s) are identified to be used.

(No. of Compounds/No. of Fractions (Samples)

Date: February 1989

Type of Review: total

Date: 8/8/89

Case #: 12104

Project: Busters Junkyard

Lab Name: Compuchem

Reviewer's Initials:

Number of Samples: 10(w), 7(s)

Analytes Rejected Due to Exceeding Review Criteria:

	Surrogates	Holding Time	Calibration	Contamination	ID	Other	Total # Samples	Total # Rejected/ Total # in all Samples
RB's Acids (15)			14/14				16	14/240
B/N (50)			23/14				16	23/800
2/2 VOA (35)			10/10	20/9			17	30/595
PEST (20)							16	0/320
PCB (7)							16	0/112
TCDD (1)							Ø	0/0

Analytes Estimated Due to Exceeding Review Criteria for:

Acids (15)							16	0/240
B/N (50)			10/7				16	10/800
VOA (35)			12/12				17	12/595
PEST (20)		20/1					16	20/320
PCB (7)		7/1					16	7/112
TCDD (1)							Ø	Ø/0

DPO: [ ] ACTION [ ] FYI

Region 2

ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE NO. 12104

SDG NO. BAW65(W), BAW71(S)

SOW

NO. OF SAMPLES 10 WATER 7 SOIL ____ OTHER

LABORATORY Compuchem

DATA USER FIT2

REVIEW COMPLETION DATE 8/8/89

REVIEWER [ ] ESD [ ] ESAT [X] OTHER, CONTRACT/CONTRACTOR FIT2

	VOA	BNA	PEST	OTHER
1. HOLDING TIMES	O	O	X	
2. GC-MS TUNE/ GC PERFORMANCE	O	O	O	
3. INITIAL CALIBRATIONS	O	O	O	
4. CONTINUING CALIBRATIONS	X	X	O	
5. FIELD BLANKS ("F" = not applicable)	X	O	O	
6. LABORATORY BLANKS	X	O	O	
7. SURROGATES	O	O	O	
8. MATRIX SPIKE/DUPLICATES	O	O	O	
9. REGIONAL QC ("F" = not applicable)	F	F	F	
10. INTERNAL STANDARDS	O	O		
11. COMPOUND IDENTIFICATION	O	O	O	
12. COMPOUND QUANTITATION	O	O	O	
13. SYSTEM PERFORMANCE	O	O	O	
14. OVERALL ASSESSMENT	X	X	X	

O = No problems or minor problems that do not affect data usability.
X = No more than *about* 5% of the data points are qualified as either estimated or unusable.
M = More than *about* 5% of the data points are qualified as estimated.
Z = More than *about* 5% of the data points are qualified as unusable.

DPO ACTION ITEMS:

AREAS OF CONCERN:

I. SAMPLE DATA SUMMARY PACKAGE

The Sample Data Summary Package shall contain data for samples in one Sample Delivery Group of the Case, as follows:

1. Case Narrative

2. By fraction (VOA, SV, PEST) and by sample within each fraction - tabulated target compound results (Form I) and tentatively identified compounds (Form I, TIC) (VOA and SV only)

3. By fraction (VOA, SV, PEST) - surrogate spike analysis results (Form II) by matrix (Water and/or Soil) and for soil, by concentration (Low or Medium)

4. By fraction (VOA, SV, PEST) - matrix spike/matrix spike duplicate results (Form III)

5. By fraction (VOA, SV, PEST) - blank data (Form IV) and tabulated results (Form I) including tentatively identified compounds (Form I, TIC) (VOA and SV only).

6. By fraction (VOA, SV only) - internal standard area data (Form VIII).

CASE#: 12104 SDG#: BAW65 SAS#

COMPUCHEM LABORATORIES

Case Narrative - Case# 12104
SDG No. BAW65
Contract: 68-01-7397
CompuChem Laboratories, Inc.

SAMPLES: BAW65, BAW66, BAW67, BAW68, BAW69, BAW70, BAW78, BAW79, BAW80, BAW81

Attached are the pertinent Quality Assurance notices dealing with the analysis of ten (10) water samples associated with case 12104, SDG No. BAW65. The samples were scheduled for volatile, semivolatile and pesticide analysis.

The samples were received via Federal Express in good condition on June 15, 1989 with the traffic reports in order. The traffic report listed sample BAW81 as requiring full analysis. This is a trip blank and only 2 VOA's were received. Only volatile analysis was performed on this sample. No other irregularities were encountered during receipt of the samples. The samples were logged into the Laboratory Management System and stored at 4 degrees Celsius.

VOLATILES:
All volatile fractions were prepared and analyzed within holding time considerations. The associated samples contained zero to six (0-6) Target Compounds, and zero to two (0-2) Tentatively Identified Compounds (TIC). Some samples contained the target compound methylene chloride in varying concentrations. This compound was also found in the associated blank, VBLKXL at low levels. All samples associated with this blank and containing this target compound, the concentrations will be flagged with a 'B'. All MS and MSD spike comparisons, along with the surrogate and internal standard recoveries were within the control limits.

SEMIVOLATILES:
The semivolatile portion of the case met all holding time requirements. The associated samples contained zero target compounds, and zero TIC's. The original, MS, and MSD percent recoveries along with all internal standard and surrogate recoveries were within the control limits.

COMPUCHEM LABORATORIES, INC. P.O. Box 12652 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 549-8263

COMPUCHEM LABORATORIES

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature:

Betty J. Andershock
Betty J. Andershock
Technical Reviewer
June 26, 1989

NOTE: This report is paginated for reference and accountability in decreasing numerical sequence.

COMPUCHEM LABORATORIES

Case Narrative #12104
SDG #BAW65
Contract #68-01-7397
CompuChem Laboratories, Inc.

SAMPLE IDENTIFICATIONS: BAW65, BAW66, BAW67, BAW68, BAW69, BAW70, BAW78, BAW79, BAW80

All pertinent Quality Assurance and Laboratory notices for CASE# 12104, SDG# BAW65 are included in the sample data package.

PESTICIDES:
There were no target compound list (TCL) analytes confirmed above the contract required quantitation limits in these samples. The method blanks, matrix spikes, and matrix spike duplicates met all quality control requirements. Four spike analytes in the matrix spike had recoveries that were flagged as outliers. The matrix spike duplicate had one analyte's percent recovery flagged. The spikes are advisory and are reported with reference to this qualifier.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than conditions detailed above. Release of the data contained in the hardcopy data package and in the computer-readable data submitted on the floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Daniel E. Boone Jr. 06/26/89
Daniel E. Boone, Jr. DATE 06/26/89
TECHNICAL REVIEWER

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

COMPUCHEM LABORATORIES, INC. P.O. Box 12652 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 549-8263

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW65

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267544

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067544C03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	10	U J
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	10	~~U~~ R
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroetnene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA

1/87 Rev.

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

8AW66

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: 8AW65

Matrix: (soil/water) WATER Lab Sample ID: 267552

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067552A03

Level: (low/med) LOW Date Received: 06/15/99

% Moisture: not dec. ____ Date Analyzed: 06/16/99

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

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OLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW66

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267552

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067552A03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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EPA SAMPLE NO.

8AW67

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: 8AW65

Matrix: (soil/water) WATER Lab Sample ID: 267553

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067553A03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW67

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267553

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067553A03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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EPA SAMPLE NO.

BAW68

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267558

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067558A03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW68

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267558

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067558A03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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EPA SAMPLE NO.

8AW69

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: 8AW65

Matrix: (soil/water) WATER Lab Sample ID: 267560

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067560A03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	10	U B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	2	J
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	11	

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

8AW69

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: 8AW65

Matrix: (soil/water) WATER Lab Sample ID: 267560

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067560A03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 611-14-3	BENZENE,1-ETHYL-2-METHYL-	14.55	15	J N
2. 526-73-8	BENZENE,1,2,3-TRIMETHYL-	14.74	8.0	J N

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EPA SAMPLE NO.

BAW70

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267563

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CR067563803

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5 ~~5~~	~~BU~~ u
67-64-1	Acetone	11	~~J~~
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	6	u
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

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TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW70

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267563

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CR067563B03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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EPA SAMPLE NO.

BAW71

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267581

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2R67581A19

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 22 Date Analyzed: 06/20/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	41	~~B~~ CJ
67-64-1	Acetone	150	~~B~~
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	8	J
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	2	J
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	11	

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW71

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267581

Sample wt/vol: 5.0 (g/mL) G Lab File ID: G2R67581A19

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 22 Date Analyzed: 06/20/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 107-83-5	PENTANE,2-METHYL-	4.50	260	J N
2. 96-14-0	PENTANE,3-METHYL-	4.93	120	J
3. 110-54-3	HEXANE	5.45	180	J
4.	UNKNOWN	6.38	56	J
5. 591-76-4	HEXANE,2-METHYL-	7.60	350	J
6. 540-84-1	PENTANE,2,2,4-TRIMETHYL-	8.25	86	J
7.	UNKNOWN HYDROCARBON	8.65	110	J
8. 592-13-2	HEXANE,2,5-DIMETHYL-	10.70	59	J
9. 589-81-1	HEPTANE,3-METHYL-	10.95	62	J
10. 611-14-3	BENZENE,1-ETHYL-2-METHYL-	16.72	110	J N

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EPA SAMPLE NO.

BAW72

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267593

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH067593A12

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 30 Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	24	~~B~~ U
67-64-1	Acetone	78	~~B~~ U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7 ~~5~~	~~BJ~~ U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total Xylenes	7	U

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EPA SAMPLE NO.

BAW73

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267595

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH067595A12

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 11 Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	33	~~B~~ U
67-64-1	Acetone	58	~~B~~ U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~3~~	~~BJ~~ U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW74

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267597

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH067597C12

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 22 Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	13	U
67-64-1	Acetone	13	~~B~~ U
75-15-0	Carbon Disulfide	21	~~B~~ U J
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	6	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	6	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	6	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW75

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267600

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH067600A12

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 11 Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	12	~~B~~
67-64-1	Acetone	47	~~B~~
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~2~~	~~BJ~~
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

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EPA SAMPLE NO.

BAW76

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267612

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH067612A12

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 8 Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	16	~~B~~ U
67-64-1	Acetone	43	~~B~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5 ~~3~~	~~BJ~~ U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW76

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267612

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH067612A12

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 8 Date Analyzed: 06/16/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	INSTRUMENT ARTIFACT	16.62	13	BJ R

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW77

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267614

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH067614A12

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 10 Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	16	~~B~~ LL
67-64-1	Acetone	27	~~B~~ LL
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6 ~~1~~	~~BJ~~ LL
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total Xylenes	6	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW78

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267565

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067565B03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	1	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW78

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267565

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067565803

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW79

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267566

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067566803

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	1	BJ
75-15-0	Carbon Disulfide	10	U J
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	2	J
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	10	~~U~~ R
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW79

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267566

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067566B03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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EPA SAMPLE NO.

BAW80

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267577

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067577B03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	6	B
67-64-1	Acetone	10	U J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW80

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267577

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067577B03

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW81

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267528

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067528803

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	6	~~B~~ U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW81

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267528

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN067528803

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ Date Analyzed: 06/16/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW65

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267544

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067544C22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	10	U
111-91-1	bis(2-Chloroethoxy)Methane	50	~~10~~ R
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	50	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethyl Phthalate	50	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW65

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267544

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067544C22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	~~U~~ R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	~~U~~ R
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

8AW65

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: 8AW65

Matrix: (soil/water) WATER Lab Sample ID: 267544

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067544C22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW66

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267552

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067552C22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	~~U~~ R
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW66

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267552

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067552C22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	~~U~~ R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	~~U~~ R
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

8AW65

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: 8AW65

Matrix: (soil/water) WATER Lab Sample ID: 267552

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067552C22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW67

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267553

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067553C22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	~~U~~ R
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW67

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267553

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067553C22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	~~U~~ R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	~~U~~ R
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW67

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267553

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067553C22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW68

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267558

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067558C22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	~~U~~ R
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW68

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267558

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067558C22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	~~U~~ R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	~~U~~ R
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW68

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267558

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067558C22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW69

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267560

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067560A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	~~U~~ R
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW69

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267560

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067560A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	~~U~~ R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	~~U~~ R
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

BAW69

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267560

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067560A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW70

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267563

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067563A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	~~U~~ R
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW70

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267563

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067563A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	~~U~~ R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	~~U~~ R
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

8AW70

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: 8AW65

Matrix: (soil/water) WATER Lab Sample ID: 267563

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067563A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW71

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267581

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067581A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 22 dec. 13 Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)Ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
100-51-6	Benzyl Alcohol	380	U
95-50-1	1,2-Dichlorobenzene	380	U
95-48-7	2-Methylphenol	380	U
39638-32-9	bis(2-Chloroisopropyl)Ether	380	U
106-44-5	4-Methylphenol	380	U
621-64-7	N-Nitroso-Di-n-Propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	U
65-85-0	Benzoic Acid	1800	U
111-91-1	bis(2-Chloroethoxy)Methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	780	
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-Methylphenol	380	U
91-57-6	2-Methylnaphthalene	1900	
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
95-95-4	2,4,5-Trichlorophenol	1800	U
91-58-7	2-Chloronaphthalene	380	U
88-74-4	2-Nitroaniline	1800	U
131-11-3	Dimethyl Phthalate	1500	
208-96-8	Acenaphthylene	380	U
606-20-2	2,6-Dinitrotoluene	380	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW71

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267581

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067581A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 22 dec. 13 Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	380	U
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	1800	U
132-64-9	Dibenzofuran	380	U
121-14-2	2,4-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
7005-72-3	4-Chlorophenyl-phenylether	380	U
86-73-7	Fluorene	75	J
100-01-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-Methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	160	J
120-12-7	Anthracene	380	U
84-74-2	Di-n-Butylphthalate	110	J
206-44-0	Fluoranthene	350	J
129-00-0	Pyrene	720	
85-68-7	Butylbenzylphthalate	930	~~U~~
91-94-1	3,3'-Dichlorobenzidine	760	U
56-55-3	Benzo(a)Anthracene	190	J
218-01-9	Chrysene	470	
117-81-7	bis(2-Ethylhexyl)Phthalate	3200	
117-84-0	Di-n-Octyl Phthalate	270	J
205-99-2	Benzo(b)Fluoranthene	260	J ~~X~~ N
207-08-9	Benzo(k)Fluoranthene	260	J ~~X~~ N
50-32-8	Benzo(a)Pyrene	96	J
193-39-5	Indeno(1,2,3-cd)Pyrene	380	U
53-70-3	Dibenzo(a,h)Anthracene	380	U
191-24-2	Benzo(g,h,i)Perylene	72	J

(1) - Cannot be separated from Diphenylamine

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1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW71

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267581

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067581A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 22 dec. 13 Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.00

Number TICs found: 23

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	VOA TCL	4.78	690	J N
2.	ALDOL	5.67	960	~~AJ~~ R
3.	ETHYLMETHYLBENZENE ISOMER	5.88	2700	J N
4.	TRIMETHYLBENZENE ISOMER	5.97	1600	J
5.	TRIMETHYLBENZENE ISOMER	6.25	2600	J
6.	ETHYLMETHYLBENZENE ISOMER	6.57	1000	J
7.	DIETHYLBENZNE ISOMER	6.83	2400	J
8. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	6.90	2500	J
9.	ETHYL DIMETHYL BENZENE ISOME	7.12	1600	J
10.	ETHYL DIMETHYL BENZENE ISOME	7.20	2000	J N
11.	BLANK CONTAMINANT	7.27	460	~~BJ~~ R
12. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	7.55	1900	J
13.	UNKNOWN	7.75	1000	J N
14.	UNKNOWN	7.87	1300	J
15.	UNKNOWN	15.05	3400	J
16.	UNKNOWN HYDROCARBON	16.34	5400	J
17.	UNKNOWN HYDROCARBON	16.77	7700	J
18.	UNKNOWN HYDROCARBON	16.94	8800	J
19.	UNKNOWN HYDROCARBON	17.05	7700	J
20.	UNKNOWN	17.20	9200	J
21.	UNKNOWN HYDROCARBON	17.39	10000	J
22. 74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	17.64	5000	J
23.	UNKNOWN HYDROCARBON	18.12	3700	J N

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW72

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267593

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067593A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 30 dec. 20 Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)Ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
100-51-6	Benzyl Alcohol	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
39638-32-9	bis(2-Chloroisopropyl)Ether	410	U
106-44-5	4-Methylphenol	410	~~U~~ R
621-64-7	N-Nitroso-Di-n-Propylamine	92	J
67-72-1	Hexachloroethane	410	U J
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
65-85-0	Benzoic Acid	410	U
111-91-1	bis(2-Chloroethoxy)Methane	46	J
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-Methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	410	U
91-58-7	2-Chloronaphthalene	2000	U
88-74-4	2-Nitroaniline	410	U
131-11-3	Dimethyl Phthalate	2000	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW72

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267593

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067593A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 30 dec. 20 Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2000	U
83-32-9	Acenaphthene	410	U
51-28-5	2,4-Dinitrophenol	2000	U
100-02-7	4-Nitrophenol	2000	U
132-64-9	Dibenzofuran	410	U
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U
86-73-7	Fluorene	410	U
100-01-6	4-Nitroaniline	2000	U
534-52-1	4,6-Dinitro-2-Methylphenol	2000	U
86-30-6	N-Nitrosodiphenylamine (1)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	2000	U
85-01-8	Phenanthrene	410	U
120-12-7	Anthracene	410	U
84-74-2	Di-n-Butylphthalate	410	U
206-44-0	Fluoranthene	410	U
129-00-0	Pyrene	410	U
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	830	U
56-55-3	Benzo(a)Anthracene	410	U
218-01-9	Chrysene	410	U
117-81-7	bis(2-Ethylhexyl)Phthalate	62	J
117-84-0	Di-n-Octyl Phthalate	410	U
205-99-2	Benzo(b)Fluoranthene	410	U
207-08-9	Benzo(k)Fluoranthene	410	U
50-32-8	Benzo(a)Pyrene	410	U
193-39-5	Indeno(1,2,3-cd)Pyrene	410	U
53-70-3	Dibenzo(a,h)Anthracene	410	U
191-24-2	Benzo(g,h,i)Perylene	410	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW72

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267593

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067593A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 30 dec. 20 Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

Number TICs found: 23

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	13466-78-9	3-CARENE	5.62	1600	J
2.		ALDOL	5.70	3200	~~J~~
3.	499-97-8	CYCLOHEXANE, 1-METHYLENE-4-(	6.12	670	J
4.		ALDOL	6.17	3300	~~J~~
5.		ALDOL	6.40	460	~~J~~
6.		UNKNOWN SUBSTITUTED HYDROCAR	6.78	2100	J
7.		UNKNOWN SUBSTITUTED HYDROCAR	7.30	1000	J
8.	629-92-5	NONADECANE	14.40	1200	J
9.	74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	15.44	2100	J
10.		UNKNOWN	15.77	870	J
11.		UNKNOWN	16.15	2100	J
12.		UNKNOWN HYDROCARBON	16.37	1700	J
13.		UNKNOWN	17.15	750	J
14.		UNKNOWN HYDROCARBON	17.27	3600	J
15.		UNKNOWN	17.59	1400	J
16.		UNKNOWN	18.04	1400	J
17.	629-99-2	PENTACOSANE	18.17	7900	J
18.		UNKNOWN	18.57	1400	J
19.		UNKNOWN	19.17	1100	J
20.		UNKNOWN HYDROCARBON	19.35	3400	J
21.		UNKNOWN	19.42	3200	J
22.		UNKNOWN	19.85	1400	J
23.		UNKNOWN	21.89	2600	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW73

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267595

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067595A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
100-51-6	Benzyl Alcohol	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
39638-32-9	bis(2-Chloroisopropyl)Ether	370	~~U~~ R
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U J
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
65-85-0	Benzoic Acid	1800	~~U~~ R
111-91-1	bis(2-Chloroethoxy)Methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	1800	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	1800	U
131-11-3	Dimethyl Phthalate	370	U
208-96-8	Acenaphthylene	370	U
606-20-2	2,6-Dinitrotoluene	370	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW73

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267595

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067595A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	1800	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-Methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
84-74-2	Di-n-Butylphthalate	370	U
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	740	U
56-55-3	Benzo(a)Anthracene	370	U
218-01-9	Chrysene	370	U
117-81-7	bis(2-Ethylhexyl)Phthalate	370	U
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	370	U
207-08-9	Benzo(k)Fluoranthene	370	U
50-32-8	Benzo(a)Pyrene	370	U
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenzo(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW73

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267595

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067595A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.00

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BLANK CONTAMINANT	4.68	490	~~BJ~~ R
2. 4032-93-3	HEPTANE, 2,3,6-TRIMETHYL-	4.78	450	J N
3.	ALDOL	5.47	490	~~AJ~~ R
4.	ALDOL	5.67	300	~~AJ~~
5.	ALDOL	6.15	260	~~AJ~~
6.	BLANK CONTAMINANT	17.82	520	~~BJ~~ R
7.	UNKNOWN	17.95	300	J N
8.	UNKNOWN	18.09	790	J N

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW74

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267597

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067597A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 22 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	420	U
111-44-4	bis(2-Chloroethyl)Ether	420	U
95-57-8	2-Chlorophenol	420	U
541-73-1	1,3-Dichlorobenzene	420	U
106-46-7	1,4-Dichlorobenzene	420	U
100-51-6	Benzyl Alcohol	420	U
95-50-1	1,2-Dichlorobenzene	420	U
95-48-7	2-Methylphenol	420	U
39638-32-9	bis(2-Chloroisopropyl)Ether	420	~~U~~
106-44-5	4-Methylphenol	50	J
621-64-7	N-Nitroso-Di-n-Propylamine	420	U
67-72-1	Hexachloroethane	420	U
98-95-3	Nitrobenzene	420	U
78-59-1	Isophorone	420	U
88-75-5	2-Nitrophenol	420	U
105-67-9	2,4-Dimethylphenol	420	U
65-85-0	Benzoic Acid	93	J
111-91-1	bis(2-Chloroethoxy)Methane	420	U
120-83-2	2,4-Dichlorophenol	420	U
120-82-1	1,2,4-Trichlorobenzene	420	U
91-20-3	Naphthalene	420	U
106-47-8	4-Chloroaniline	420	U
87-68-3	Hexachlorobutadiene	420	U
59-50-7	4-Chloro-3-Methylphenol	420	U
91-57-6	2-Methylnaphthalene	420	U
77-47-4	Hexachlorocyclopentadiene	420	U
88-06-2	2,4,6-Trichlorophenol	420	U
95-95-4	2,4,5-Trichlorophenol	2100	U
91-58-7	2-Chloronaphthalene	420	U
88-74-4	2-Nitroaniline	2100	U
131-11-3	Dimethyl Phthalate	420	U
208-96-8	Acenaphthylene	420	U
606-20-2	2,6-Dinitrotoluene	420	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW74

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267597

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067597A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 22 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100	U
83-32-9	Acenaphthene	420	U
51-28-5	2,4-Dinitrophenol	2100	U
100-02-7	4-Nitrophenol	2100	U
132-64-9	Dibenzofuran	420	U
121-14-2	2,4-Dinitrotoluene	420	U
84-66-2	Diethylphthalate	420	U
7005-72-3	4-Chlorophenyl-phenylether	420	U
86-73-7	Fluorene	420	U
100-01-6	4-Nitroaniline	2100	U
534-52-1	4,6-Dinitro-2-Methylphenol	2100	U
86-30-6	N-Nitrosodiphenylamine (1)	420	U
101-55-3	4-Bromophenyl-phenylether	420	U
118-74-1	Hexachlorobenzene	420	U
87-86-5	Pentachlorophenol	2100	U
85-01-8	Phenanthrene	420	U
120-12-7	Anthracene	420	U
84-74-2	Di-n-Butylphthalate	63	J
206-44-0	Fluoranthene	420	U
129-00-0	Pyrene	420	U
85-68-7	Butylbenzylphthalate	290	J
91-94-1	3,3'-Dichlorobenzidine	850	U
56-55-3	Benzo(a)Anthracene	420	U
218-01-9	Chrysene	420	U
117-81-7	bis(2-Ethylhexyl)Phthalate	490	
117-84-0	Di-n-Octyl Phthalate	420	U
205-99-2	Benzo(b)Fluoranthene	53	J ~~X~~ N
207-08-9	Benzo(k)Fluoranthene	53	J ~~X~~ N
50-32-8	Benzo(a)Pyrene	43	J
193-39-5	Indeno(1,2,3-cd)Pyrene	420	U
53-70-3	Dibenzo(a,h)Anthracene	420	U
191-24-2	Benzo(g,h,i)Perylene	420	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW74

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267597

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067597A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 22 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

Number TICs found: 24

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BLANK CONTAMINANT	4.68	510	~~BJ~~ R
2.	ALDOL	5.47	680	~~AJ~~
3.	ALDOL	5.65	5100	~~AJ~~
4.	ALDOL	6.13	3800	~~AJ~~ R
5. 24230-08-8	CYCLOPROPANEMETHANOL, .ALPHA	6.35	980	J N
6. 542-59-6	1,2-ETHANEDIOL, MONOACETATE	6.75	2600	J
7.	UNKNOWN	16.25	940	J
8.	UNKNOWN	17.14	2300	J
9.	UNKNOWN	17.32	770	J
10.	UNKNOWN	17.40	1300	J
11.	UNKNOWN	17.55	600	J
12.	UNKNOWN	17.62	1100	J
13.	UNKNOWN	18.04	1700	J
14.	UNKNOWN	18.85	600	J
15.	UNKNOWN	19.27	7300	J
16.	UNKNOWN	19.69	810	J
17.	UNKNOWN	20.32	730	J
18.	UNKNOWN	20.84	600	J
19.	UNKNOWN	21.27	770	J
20.	UNKNOWN	21.70	3700	J
21.	UNKNOWN	21.85	2600	J
22.	UNKNOWN	22.14	1100	J
23.	UNKNOWN	22.30	1000	J
24.	UNKNOWN	22.89	940	J N

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW75

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267600

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067600A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
100-51-6	Benzyl Alcohol	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
39638-32-9	bis(2-Chloroisopropyl)Ether	370	U
106-44-5	4-Methylphenol	370	~~U~~ R
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U J
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
65-85-0	Benzoic Acid	370	U
111-91-1	bis(2-Chloroethoxy)Methane	1800	~~U~~ R
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	370	U
91-58-7	2-Chloronaphthalene	1800	U
88-74-4	2-Nitroaniline	370	U
131-11-3	Dimethyl Phthalate	1800	U
208-96-8	Acenaphthylene	370	U
606-20-2	2,6-Dinitrotoluene	370	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW75

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267600

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067600A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	1800	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-Methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	50	J
84-74-2	Di-n-Butylphthalate	37	J
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	230	J
91-94-1	3,3'-Dichlorobenzidine	740	U
56-55-3	Benzo(a)Anthracene	370	U
218-01-9	Chrysene	52	J
117-81-7	bis(2-Ethylhexyl)Phthalate	290	J
117-84-0	Di-n-Octyl Phthalate	370	U
205-99-2	Benzo(b)Fluoranthene	370	U
207-08-9	Benzo(k)Fluoranthene	370	U
50-32-8	Benzo(a)Pyrene	370	U
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenzo(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW75

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267600

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067600A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/18/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

Number TICs found: 27

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BLANK CONTAMINANT	4.68	600	~~BJ~~ R
2. 4032-93-3	HEPTANE, 2,3,6-TRIMETHYL-	4.78	490	J N
3.	UNKNOWN	4.93	300	J N
4.	ALDOL	5.47	5200	~~AJ~~ R
5.	ALDOL	5.67	3700	~~AJ~~
6.	ALDOL	5.78	220	~~AJ~~
7.	ALDOL	5.87	110	~~AJ~~ R
8.	ALDOL	6.15	4100	~~AJ~~ R
9.	UNKNOWN HYDROCARBON	6.30	450	J N
10.	ALDOL	6.37	1100	~~AJ~~ R
11.	UNKNOWN	6.65	560	J N
12.	UNKNOWN	6.77	3000	J
13.	UNKNOWN	6.82	450	J
14.	UNKNOWN	6.90	370	J
15.	UNKNOWN HYDROCARBON	7.27	670	J
16.	UNKNOWN HYDROCARBON	16.32	300	J
17.	UNKNOWN HYDROCARBON	17.20	1000	J
18.	UNKNOWN	17.39	220	J
19.	UNKNOWN	17.64	340	J N
20.	BLANK CONTAMINANT	17.85	670	~~BJ~~ R
21.	UNKNOWN HYDROCARBON	18.14	5200	J N
22.	UNKNOWN	18.60	410	J
23.	UNKNOWN	18.95	560	J
24.	UNKNOWN HYDROCARBON	19.30	1900	J
25.	UNKNOWN	19.35	670	J
26.	UNKNOWN	20.45	640	J
27.	UNKNOWN	21.84	1200	J N

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW76

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267612

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067612A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 8 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360	U
111-44-4	bis(2-Chloroethyl)Ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
100-51-6	Benzyl Alcohol	360	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
39638-32-9	bis(2-Chloroisopropyl)Ether	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-Di-n-Propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
65-85-0	Benzoic Acid	1700	U
111-91-1	bis(2-Chloroethoxy)Methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-Methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	1700	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethyl Phthalate	360	U
208-96-8	Acenaphthylene	360	U
606-20-2	2,6-Dinitrotoluene	360	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW76

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267612

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067612A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 8 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1700	U
83-32-9	Acenaphthene	360	U
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	360	U
100-01-6	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-Methylphenol	1700	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	38	J
120-12-7	Anthracene	360	U
84-74-2	Di-n-Butylphthalate	360	U
206-44-0	Fluoranthene	350	J
129-00-0	Pyrene	350	J
85-68-7	Butylbenzylphthalate	180	J
91-94-1	3,3'-Dichlorobenzidine	720	U
56-55-3	Benzo(a)Anthracene	280	J
218-01-9	Chrysene	270	J
117-81-7	bis(2-Ethylhexyl)Phthalate	140	J
117-84-0	Di-n-Octyl Phthalate	360	U
205-99-2	Benzo(b)Fluoranthene	460	~~X~~ N
207-08-9	Benzo(k)Fluoranthene	460	~~X~~ N
50-32-8	Benzo(a)Pyrene	230	J
193-39-5	Indeno(1,2,3-cd)Pyrene	100	J
53-70-3	Dibenzo(a,h)Anthracene	360	U
191-24-2	Benzo(g,h,i)Perylene	120	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW76

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267612

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067612A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 8 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

Number TICs found: 15

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 17302-23-7	NONANE, 4,5-DIMETHYL-	4.78	430	J N
2.	BLANK CONTAMINANT	4.87	360	~~BJ~~ R
3.	ALDOL	5.58	2100	~~AJ~~
4.	ALDOL	5.78	1300	~~AJ~~
5.	ALDOL	6.30	1600	~~AJ~~
6.	ALDOL	6.53	430	~~AJ~~ R
7.	UNKNOWN	6.93	620	J N
8.	UNKNOWN	17.04	180	J
9.	UNKNOWN	17.99	470	J
10.	UNKNOWN	18.70	220	J
11.	UNKNOWN	19.00	1100	J
12.	FLUORANTHENE ISOMER	19.44	180	J
13.	UNKNOWN	22.80	430	J
14.	UNKNOWN	22.94	250	J
15.	UNKNOWN	23.34	650	J N

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW77

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267614

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067614A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 10 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)Ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
100-51-6	Benzyl Alcohol	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
39638-32-9	bis(2-Chloroisopropyl)Ether	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-Di-n-Propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
65-85-0	Benzoic Acid	370	U
111-91-1	bis(2-Chloroethoxy)Methane	1800	~~U~~ R
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-Methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U J
95-95-4	2,4,5-Trichlorophenol	370	U
91-58-7	2-Chloronaphthalene	1800	U
88-74-4	2-Nitroaniline	370	U
131-11-3	Dimethyl Phthalate	1800	U
208-96-8	Acenaphthylene	370	U
606-20-2	2,6-Dinitrotoluene	370	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW77

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267614

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067614A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 10 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	1800	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-Methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
84-74-2	Di-n-Butylphthalate	50	J
206-44-0	Fluoranthene	61	J
129-00-0	Pyrene	78	J
85-68-7	Butylbenzylphthalate	84	J
91-94-1	3,3'-Dichlorobenzidine	730	U
56-55-3	Benzo(a)Anthracene	43	J
218-01-9	Chrysene	49	J
117-81-7	bis(2-Ethylhexyl)Phthalate	410	
117-84-0	Di-n-Octyl Phthalate	42	J
205-99-2	Benzo(b)Fluoranthene	100	J ~~N~~
207-08-9	Benzo(k)Fluoranthene	100	J ~~N~~
50-32-8	Benzo(a)Pyrene	46	J
193-39-5	Indeno(1,2,3-cd)Pyrene	370	U
53-70-3	Dibenzo(a,h)Anthracene	370	U
191-24-2	Benzo(g,h,i)Perylene	370	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW77

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267614

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH067614A15

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 10 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

Number TICs found: 26

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 17302-23-7	NONANE, 4,5-DIMETHYL-	4.78	440	J N
2.	BLANK CONTAMIANT	4.87	410	~~BJ~~ R
3.	ALDOL	5.58	2500	~~AJ~~
4.	ALDOL	5.80	4400	~~AJ~~
5.	ALDOL	6.30	2300	~~AJ~~
6.	ALDOL	6.47	370	~~AJ~~
7.	ALDOL	6.52	1000	~~AJ~~ R
8.	UNKNOWN	6.93	440	J N
9.	UNKNOWN	17.02	370	J
10.	UNKNOWN	17.50	220	J
11.	UNKNOWN	17.99	1200	J
12.	UNKNOWN	18.45	330	J
13.	UNKNOWN	18.50	410	J
14.	UNKNOWN	18.60	150	J
15.	UNKNOWN	18.69	330	J
16.	UNKNOWN	19.00	4100	J
17.	UNKNOWN	19.22	190	J
18.	UNKNOWN	19.50	190	J
19.	UNKNOWN	19.70	150	J
20.	UNKNOWN	20.27	260	J
21.	UNKNOWN	20.39	1600	J
22.	UNKNOWN	20.45	260	J
23.	UNKNOWN	20.99	260	J
24.	UNKNOWN	21.65	220	J
25.	UNKNOWN	22.30	260	J
26.	UNKNOWN	23.32	890	J N

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW78

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267565

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067565A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	10	U
111-91-1	bis(2-Chloroethoxy)Methane	50	~~UJ~~ R
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	50	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethyl Phthalate	50	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW78

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267565

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067565A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	~~U~~ R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	~~U~~ R
86-30-6	N-Nitrosodiphenylamine (1)	50	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	50	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	20	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW78

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267565

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067565A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW79

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267566

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067566A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	10	U
111-91-1	bis(2-Chloroethoxy)Methane	50	~~10~~ R
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	50	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethyl Phthalate	50	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW79

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267566

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067566A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	~~U~~ R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	~~U~~ R
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW79

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267566

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067566A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

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

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW60

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 067577

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067577A22

Level: (low/med) LOW Date Received: 05/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	~~U~~ R
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

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EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BAW60

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267577

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067577A22

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	~~U~~ R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	~~U~~ R
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

SAMPLE DATA PACKAGE

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAW80

Lab Name: COMPUCHEM LABS Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267577

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH067577A22

Level: (low/med) LOW Date Received: 06/15/99

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/99

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/99

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW65

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267544

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW66

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267552

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/22/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/23/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

Flagged estimated due to holding time out of criteria

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EPA SAMPLE NO.

BAW67

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267553

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW68

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267558

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW69

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267560

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW70

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267563

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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EPA SAMPLE NO.

BAW71

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267581

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 22 dec. 13 Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10.	U
319-85-7	beta-BHC	10.	U
319-86-8	delta-BHC	10.	U
58-89-9	gamma-BHC (Lindane)	10.	U
76-44-8	Heptachlor	10.	U
309-00-2	Aldrin	10.	U
1024-57-3	Heptachlor epoxide	10.	U
959-98-8	Endosulfan I	10.	U
60-57-1	Dieldrin	20.	U
72-55-9	4,4'-DDE	20.	U
72-20-8	Endrin	20.	U
33213-65-9	Endosulfan II	20.	U
72-54-8	4,4'-DDD	20.	U
1031-07-8	Endosulfan sulfate	20.	U
50-29-3	4,4'-DDT	20.	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin ketone	20.	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	200	U

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EPA SAMPLE NO.

BAW72

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267593

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 30 dec. 20 Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10.	U
319-85-7	beta-BHC	10.	U
319-86-8	delta-BHC	10.	U
58-89-9	gamma-BHC (Lindane)	10.	U
76-44-8	Heptachlor	10.	U
309-00-2	Aldrin	10.	U
1024-57-3	Heptachlor epoxide	10.	U
959-98-8	Endosulfan I	10.	U
60-57-1	Dieldrin	20.	U
72-55-9	4,4'-DDE	20.	U
72-20-8	Endrin	20.	U
33213-65-9	Endosulfan II	20.	U
72-54-8	4,4'-DDD	20.	U
1031-07-8	Endosulfan sulfate	20.	U
50-29-3	4,4'-DDT	20.	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin ketone	20.	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	200	U

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EPA SAMPLE NO.

BAW73

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267595

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.0	U
319-85-7	beta-BHC	9.0	U
319-86-8	delta-BHC	9.0	U
58-89-9	gamma-BHC (Lindane)	9.0	U
76-44-8	Heptachlor	9.0	U
309-00-2	Aldrin	9.0	U
1024-57-3	Heptachlor epoxide	9.0	U
959-98-8	Endosulfan I	9.0	U
60-57-1	Dieldrin	18.	U
72-55-9	4,4'-DDE	18.	U
72-20-8	Endrin	18.	U
33213-65-9	Endosulfan II	18.	U
72-54-8	4,4'-DDD	18.	U
1031-07-8	Endosulfan sulfate	18.	U
50-29-3	4,4'-DDT	18.	U
72-43-5	Methoxychlor	90.	U
53494-70-5	Endrin ketone	18.	U
5103-71-9	alpha-Chlordane	90.	U
5103-74-2	gamma-Chlordane	90.	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	90.	U
11104-28-2	Aroclor-1221	90.	U
11141-16-5	Aroclor-1232	90.	U
53469-21-9	Aroclor-1242	90.	U
12672-29-6	Aroclor-1248	90.	U
11097-69-1	Aroclor-1254	180	U
11096-82-5	Aroclor-1260	180	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW74

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267597

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 22 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10.	U
319-85-7	beta-BHC	10.	U
319-86-8	delta-BHC	10.	U
58-89-9	gamma-BHC (Lindane)	10.	U
76-44-8	Heptachlor	10.	U
309-00-2	Aldrin	10.	U
1024-57-3	Heptachlor epoxide	10.	U
959-98-8	Endosulfan I	10.	U
60-57-1	Dieldrin	20.	U
72-55-9	4,4'-DDE	20.	U
72-20-8	Endrin	20.	U
33213-65-9	Endosulfan II	20.	U
72-54-8	4,4'-DDD	20.	U
1031-07-8	Endosulfan sulfate	20.	U
50-29-3	4,4'-DDT	20.	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin ketone	20.	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	200	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAW75

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267600

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 11 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.0	U
319-85-7	beta-BHC	9.0	U
319-86-8	delta-BHC	9.0	U
58-89-9	gamma-BHC (Lindane)	9.0	U
76-44-8	Heptachlor	9.0	U
309-00-2	Aldrin	9.0	U
1024-57-3	Heptachlor epoxide	9.0	U
959-98-8	Endosulfan I	9.0	U
60-57-1	Dieldrin	18.	U
72-55-9	4,4'-DDE	18.	U
72-20-8	Endrin	18.	U
33213-65-9	Endosulfan II	18.	U
72-54-8	4,4'-DDD	18.	U
1031-07-8	Endosulfan sulfate	18.	U
50-29-3	4,4'-DDT	18.	U
72-43-5	Methoxychlor	90.	U
53494-70-5	Endrin ketone	18.	U
5103-71-9	alpha-Chlordane	90.	U
5103-74-2	gamma-Chlordane	90.	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	90.	U
11104-28-2	Aroclor-1221	90.	U
11141-16-5	Aroclor-1232	90.	U
53469-21-9	Aroclor-1242	90.	U
12672-29-6	Aroclor-1248	90.	U
11097-69-1	Aroclor-1254	180	U
11096-82-5	Aroclor-1260	180	U

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EPA SAMPLE NO.

BAW76

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267612

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 8 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.7	U
319-85-7	beta-BHC	8.7	U
319-86-8	delta-BHC	8.7	U
58-89-9	gamma-BHC (Lindane)	8.7	U
76-44-8	Heptachlor	8.7	U
309-00-2	Aldrin	8.7	U
1024-57-3	Heptachlor epoxide	8.7	U
959-98-8	Endosulfan I	8.7	U
60-57-1	Dieldrin	17.	U
72-55-9	4,4'-DDE	17.	U
72-20-8	Endrin	17.	U
33213-65-9	Endosulfan II	17.	U
72-54-8	4,4'-DDD	17.	U
1031-07-8	Endosulfan sulfate	17.	U
50-29-3	4,4'-DDT	26.	
72-43-5	Methoxychlor	87.	U
53494-70-5	Endrin ketone	17.	U
5103-71-9	alpha-Chlordane	87.	U
5103-74-2	gamma-Chlordane	87.	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	87.	U
11104-28-2	Aroclor-1221	87.	U
11141-16-5	Aroclor-1232	87.	U
53469-21-9	Aroclor-1242	87.	U
12672-29-6	Aroclor-1248	87.	U
11097-69-1	Aroclor-1254	170	U
11096-82-5	Aroclor-1260	170	U

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EPA SAMPLE NO.

BAW77

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW71

Matrix: (soil/water) SOIL Lab Sample ID: 267614

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. 10 dec. ____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/22/89

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.9	U
319-85-7	beta-BHC	8.9	U
319-86-8	delta-BHC	8.9	U
58-89-9	gamma-BHC (Lindane)	8.9	U
76-44-8	Heptachlor	8.9	U
309-00-2	Aldrin	8.9	U
1024-57-3	Heptachlor epoxide	8.9	U
959-98-8	Endosulfan I	8.9	U
60-57-1	Dieldrin	18.	U
72-55-9	4,4'-DDE	18.	U
72-20-8	Endrin	18.	U
33213-65-9	Endosulfan II	18.	U
72-54-8	4,4'-DDD	18.	U
1031-07-8	Endosulfan sulfate	18.	U
50-29-3	4,4'-DDT	18.	U
72-43-5	Methoxychlor	89.	U
53494-70-5	Endrin ketone	18.	U
5103-71-9	alpha-Chlordane	89.	U
5103-74-2	gamma-Chlordane	89.	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	89.	U
11104-28-2	Aroclor-1221	89.	U
11141-16-5	Aroclor-1232	89.	U
53469-21-9	Aroclor-1242	89.	U
12672-29-6	Aroclor-1248	89.	U
11097-69-1	Aroclor-1254	180	U
11096-82-5	Aroclor-1260	180	U

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EPA SAMPLE NO.

BAW78

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267565

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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EPA SAMPLE NO.

BAW79

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267566

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.050	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.10	U
53494-70-5	Endrin ketone	0.50	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	0.50	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	0.50	U
11096-82-5	Aroclor-1260	1.0	U
		1.0	U

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EPA SAMPLE NO.

BAW80

Lab Name: COMPUCHEM LABORATORIES Contract: 68-01-7397

Lab Code: COMPU Case No.: 12104 SAS No.: _____ SDG No.: BAW65

Matrix: (soil/water) WATER Lab Sample ID: 267577

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/15/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/17/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/19/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

REFERENCE NO. 3

GEOLOGY AND GROUND-WATER RESOURCES OF BURLINGTON COUNTY, NEW JERSEY

By

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volume of the rock. The major source of water in the formation is from the overlying sands and gravels of the Raritan and Magothy Formations. Because of the poor past record and the geologic character of the formation, future development of the Wissahickon Formation as a source of ground water is unlikely.

MESOZOIC SEDIMENTS

Cretaceous System

Raritan and Magothy Formations

Stratigraphy.—The Raritan and Magothy Formations crop out in a 2-mile wide belt immediately southeast of the Delaware River (fig. 3). The outcrop area in Burlington County is approximately 48 square miles. The Raritan Formation lithology is extremely variable and therefore cannot be subdivided into the seven members reported in the Sayreville area, Middlesex County (Barksdale, 1943, p. 18). It has not been possible to separate the Raritan and Magothy completely because they lose some of the distinguishing characteristics described by Barksdale and others (1943, p. 64-140). Most of the outcrop area of these two formations in Burlington County is overlain by Pleistocene deposits, which further complicates any separation.

The Raritan Formation, in outcrop consists chiefly of light gray to white, cross-stratified, medium- to coarse-grained quartz sand, arkosic in part and interbedded with white to red and white variegated clays. Mechanical analyses made on sand samples taken from the Raritan and Magothy Formations in both the outcrop and the subsurface show the following percent particle size distribution:

	Clay-silt		*Sand*			*Gravel*	
Sample	*(undivided)*	*v. fine*	*fine*	*medium*	*coarse*	*v. coarse*	*(undivided)*
Cinnaminson Twp.-outcrop	10.0	3.1	16.7	49.5	16.3	2.3	2.1
Westampton Twp.-depth 405′	4.0	4.4	21.4	57.4	12.0	0.8	—

In outcrop, the Magothy Formation is similar to the Raritan Formation in having more sand than clay. However the clay beds of the Magothy Formation are generally dark and lignite bearing. Mica and pyrite are other accessory minerals of the Magothy Formation.

The Raritan and Magothy Formations thicken downdip to form a wedge-shaped unit. The thickness at Bordentown, near the outcrop area, is about 330 feet, whereas downdip near Wrightstown, it is over 600 feet thick. Farther downdip, greater thicknesses can be anticipated.

There appears to be little textural or compositional change in the sands and clays of the Raritan and Magothy Formations downdip. However, the relative proportions of these two dominant lithologies do change: the sand beds make up a smaller proportion of the formations downdip.

The Raritan and Magothy Formations are generally considered to be continental, near-shore deposits. However, it appears that the Raritan and Magothy Formations have a marine facies downdip. Horace G. Richards, Associate Curator of Geology and Paleontology, Academy of Natural Sciences, Philadelphia, (oral communications) points out that marine fossils were found in the Raritan Formation in the Transcontinental Gas Pipe Line well 16T between 1,648 and 1,658 feet below land surface and in Transcontinental Gas Pipe Line well 17T at a depth of 1,710 feet. Well 16T is in Bass River Township, Burlington County, whereas, well 17T is in Ocean County but within 3 miles of Woodland Township, Burlington County.

The Raritan and Magothy Formations unconformably overlie the Wissahickon Formation in most of the county. However, downdip, pre-Raritan sediments are probably present. The Raritan and Magothy Formations are overlain unconformably by the Merchantville Formation.

Hydrology.—The undifferentiated Raritan and Magothy Formations contain the most important and productive aquifers in Burlington County. Most of the industries adjacent to the Delaware River and most of the public water supplies and irrigation supplies throughout the county obtain ground water from these formations. Large-diameter wells tapping these formations yield up to 1,500 gpm. The specific capacities of 55 industrial, public-supply, and irrigation wells range from 2.4 to 86 gpm per foot and average 21 gpm per foot. The hydraulic characteristics and thickness of the water-bearing zones (and confining beds) in these formations vary greatly within short distances. The sand aquifers range in thickness from a few feet to about 100 feet, although the total thickness of the formation is generally much greater.

In the outcrop area adjacent to the Delaware River, two water-bearing zones are present. The upper zone, usually under water table conditions, includes the water-bearing beds in the upper 70 feet of the formation. In most of the outcrop area, the formations are overlain by the Cape May Formation of Pleistocene age. This formation is generally in hydraulic continuity with the Raritan and Magothy water-table aquifer.

resulting in a total saturated thickness of as much as 100 feet. The lower artesian zone, generally separated from the upper water-table zone by clay beds, is composed of the water-bearing beds in the lower part of the formations. It may be as much as 250 feet thick in the outcrop area, but commonly does not exceed 50 feet in thickness along the Delaware River between Palmyra and Burlington.

On Burlington Island, public-water supply wells tap the water-table zone. These wells yield up to 760 gpm with a specific capacity of 58 gpm per foot.

Throughout the Raritan and Magothy outcrop area, wells more commonly tap the lower artesian aquifer. In the Riverside and Burlington areas, many wells yield as much as 1,000 gpm from this lower zone. At Florence, artesian wells yield up to 620 gpm, whereas at Beverly, the yield is up to 1,200 gpm.

To the southeast, beyond the Raritan and Magothy outcrop area, all aquifers of these formations are under artesian conditions. In this area, the sand and clay beds are not identifiable as being continuous. Therefore the Raritan and Magothy cannot be divided into distinct water bearing zones, and it is necessary to treat these several sand aquifers as a group (fig. 8). In the Wrightstown area, the aquifers of these formations are developed extensively for water supplies to serve Fort Dix, McGuire Air Force Base, and Wrightstown. These large-diameter wells will yield from 900 to 1,000 gpm. At Wrightstown, the cumulative thickness of the aquifers in the Raritan and Magothy Formations is 260 feet. At Birmingham, wells yield up to 1,000 gpm, at Mount Holly 1,200 gpm, and at Willingboro, yields of from 1,400 to 1,500 gpm are common. To the southeast of a line connecting Marlton, Medford, Birmingham, and the Wrightstown area, no wells tap the aquifers of the Raritan and Magothy Formations because there is no industrial or public-supply demand for large quantities of water. However, if this demand should arise, it could probably be satisfied by the aquifer of the Wenonah Formation and Mount Laurel Sand or by the Cohansey Sand, both at much shallower depths.

Laboratory analyses of the coefficient of permeability were made on two sand samples and one clay sample. These analyses had coefficients of permeability of 290 and 300 gpd per sq ft for the sands and 0.08 gpd per sq ft for the clay.

Several aquifer tests were made in various parts of the county to determine the hydraulic characteristics of the aquifers. The results of these tests are summarized in the following table:

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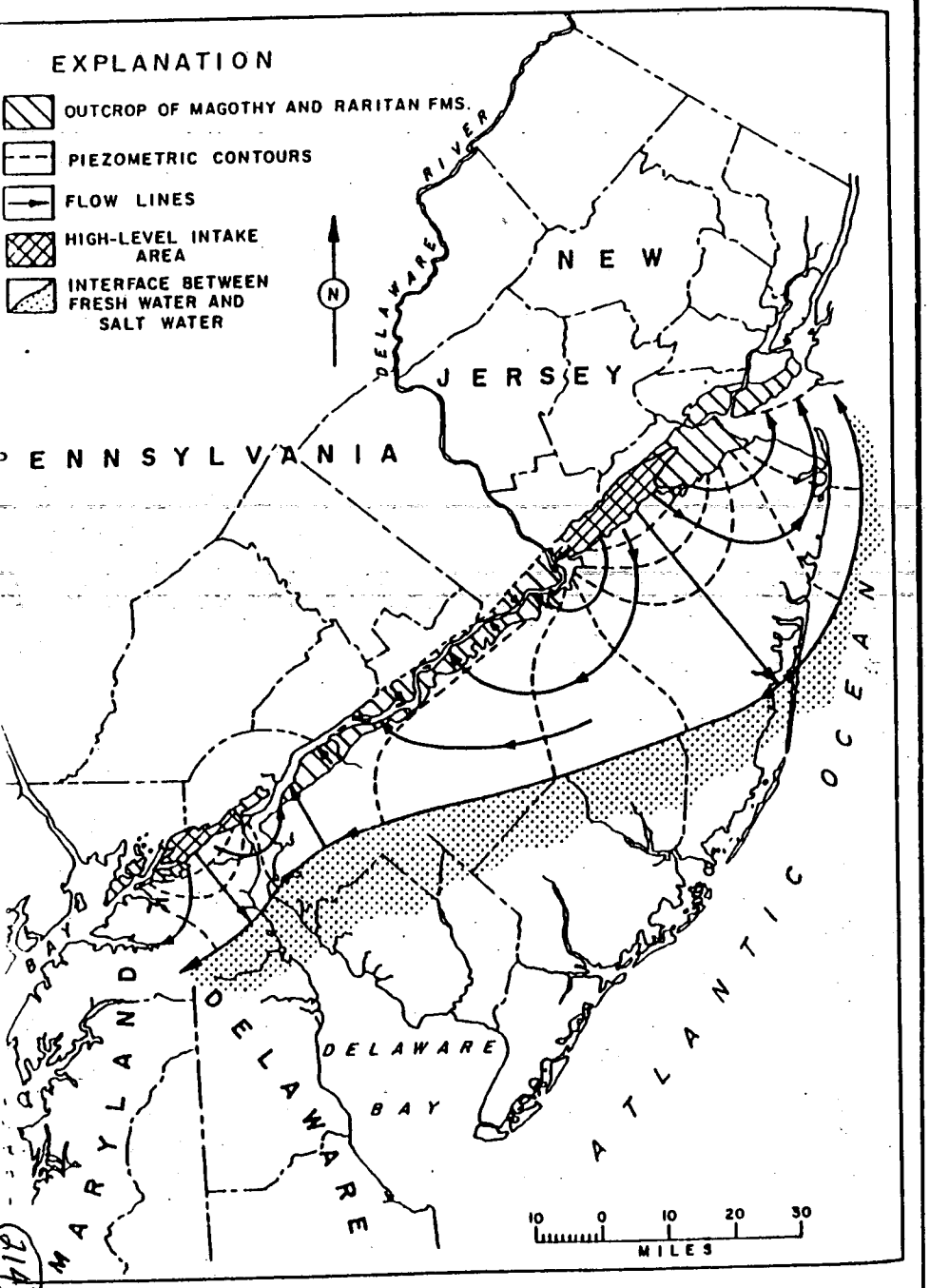
Location	*Zone*	*Coefficient of transmissibility (gpd/ft)*	*Coefficient of permeability (gpd/ft²)*	*Coefficient of storage (dimensionless)*
Burlington	upper	165,000	1,500	0.060
Burlington Twp.	lower	46,600 to 90,000	1,000 to 2,000	2.10×10^{-4}
Cinnaminson Twp.	lower	150,000	1,500	1.60×10^{-4}
Palmyra	lower	211,000 to 513,000	—	1.08×10^{-4} to 5.84×10^{-4}
Beverly	lower (?)	98,000 to 130,000	1,630 to 2,170	1.00×10^{-4} to 2.40×10^{-4}

The wide range of results of pumping tests is evidence of the variability of the geology and hydrology of these formations. At some distance from the outcrop, no pumping tests have been made; however similar coefficients can be anticipated.

In the heavily populated and industrialized area between the Delaware River and the New Jersey Turnpike of Burlington County, essentially all of the ground-water pumpage is from the Raritan and Magothy Formations. Two other areas of large withdrawal from these formations are at Mount Holly, and at Fort Dix and McGuire Air Force Base, both in New Hanover Township. (Fort Dix also obtains an average of 2 mgd of surface water from Greenwood Branch at New Lisbon.) It is estimated that 20 mgd of water are taken from these formations in Burlington County. This represents 80 percent of the total ground-water pumpage in the county.

Prior to development of the aquifers in the Raritan and Magothy Formations, much of the recharge to the aquifers was from precipitation on the high-level intake areas in Middlesex County. The water flowed to the southeast in response to natural gradients. The fresh water-salt water interface (fig. 19) in the southeastern part of the county (Barksdale and others, 1958, p. 110) is a boundary along which the fresh water is diverted with subsequent flow to the southwest into Burlington County from Ocean and Monmouth Counties.

With the growth in population of Burlington County and the increased need for water, the pumpage increased from the Raritan and Magothy Formations. Withdrawal of water locally from this aquifer changed the



ure 19.—Map showing theoretical flow pattern and location of the interface between

direction of flow in the vicinity of heavy pumpage. It has been demonstrated by aquifer tests that the normal flow of ground-water toward the Delaware River in the aquifer has been reversed in the Beverly and Burlington areas for both the upper and lower water-bearing zones. This condition probably exists in all heavy-pumpage areas where the wells are located within a few hundred feet of the Delaware River. It has been found to be a favorable condition in Burlington County because of the induced artificial recharge from the river. This recharge can be very significant under favorable conditions: it amounts to over half the long-term withdrawal. The river water entering the aquifers is generally of satisfactory quality for all users.

Recharge is available from two other sources: vertical leakage from other aquifers having higher hydraulic heads, and precipitation in the outcrop area. Local recharge within the outcrop area of the Raritan and Magothy Formations is possible if the formations are only partly saturated. Assuming an outcrop area in Burlington County of 48 square miles, the amount of potential recharge from this source is 41 mgd or 0.85 mgd per square mile of outcrop. This recharge figure is based on an average annual precipitation in the Raritan and Magothy outcrop area of about 44 inches (fig. 12), a mean annual water loss of about 26 inches (fig. 13), and a mean annual runoff of 18 inches (fig. 14) available for recharge in the outcrop area.

The rate of potential recharge from vertical leakage is probably in the order of 14 mgd. This is based on an average coefficient of permeability of 0.01 gpr /sq ft and a maximum thickness of 200 feet for the confining clays of the Raritan and Magothy Formations, the Merchantville Formation, the Woodbury Clay, and the Englishtown Formation, that separate the aquifers of the Raritan and Magothy Formations from the aquifer of the Englishtown Formation. The head difference between the two aquifers is considered to be 20 feet for this calculation although the range is from 20 to 60 feet over an area of about 520 square miles of Burlington County. Twenty feet was selected so that there would be no possibility of overstating the recharge from this source because of the use of an excessively large head difference.

The recharge available to Burlington County from Ocean, Monmouth and Mercer Counties as a result of flow, due to the ground-water gradients associated with the high level recharge area in Middlesex County, is in the order of 7 mgd. This quantity is based on an average total thickness of 250 feet of sand along a 28-mile front extending from the Delaware River near Bordentown to the fresh water-salt water interface located in the southeastern part of the county and for a sand with an average permeability of 1,000 gpd/sq ft. The average hydraulic gradient

was assumed to be 1 foot per mile. On the basis of the above assumptions, a total of 62 mgd of ground water in the Raritan and Magothy Formations are available from all sources. This is exclusive of any induced artificial recharge from the Delaware River. Only 20 mgd currently are used.

However, it must be kept in mind that the amount of recharge available from vertical leakage is only an approximation. If the coefficient of permeability were only one-half of the given average value, the available recharge from this source would be 7 mgd. Limitations in the development of this resource would be local overdevelopment, contamination, and pollution of the aquifers.

Quality of water.—The water from the Raritan and Magothy Formations is generally of good chemical quality, except for local hardness and for high concentrations of iron. The concentrations of the remaining chemical constituents would not limit the use of the water for most purposes.

The water is soft or moderately hard in most of the northwestern half of the county where data are available. However, hardness is encountered in the Mount Holly to Marlton area. (See fig. 20.)

The concentrations of iron in the water from many wells are too high to meet U. S. Public Health Service Standards. (See Table 5, p. 27.) High iron concentrations are encountered in the part of the county extending from Maple Shade to an area midway between Burlington and Mount Holly. (See fig. 21.) In this part of the county, the concentrations of iron in the water generally exceed 10 ppm (parts per million) and ranges up to 16 ppm at Moorestown.

Throughout the county, the concentrations of dissolved solids are usually less than 140 ppm and range from 40 to 203 ppm.

All chloride concentrations are less than 20 ppm in Burlington County. Most samples of well water had concentrations less than 5 ppm. These relatively low chloride concentrations indicate no salt-water contamination from the Delaware River in the Raritan and Magothy Formations in the part of the county where it is being tapped for water supplies. During long periods of low flow in the Delaware River, salt water moves up the river along the river bottom and mixes partly with the river water. Under such conditions, the composition of the water increases in chloride content in the lower reaches of the river. However, the saline invasion does not extend beyond Camden.

Several important potential sources of dissolved substances in the ground water of the Raritan and Magothy Formations are recognized. The principal source is the soil and rock material through which the

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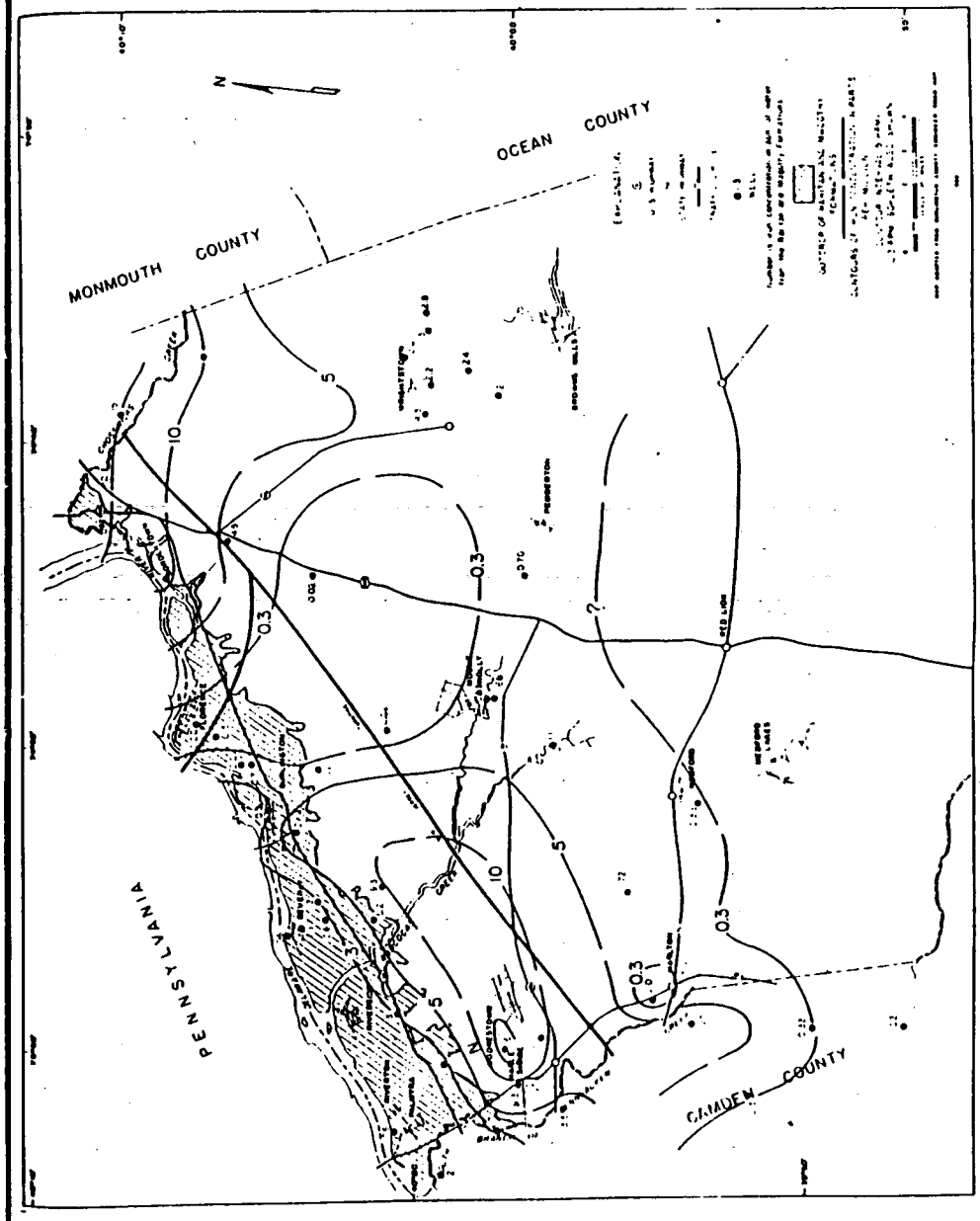

Figure 21.—Isopleths of iron concentration in water from the Raritan and Magothy Formations in Burlington County, N. J.

water flows. Two other possible sources are pollution from industrial waste and sewage, and infiltration of poor quality water from the Delaware River into the aquifer.

Industrial waste and sewage do not appear to be a direct pollution problem for this aquifer in Burlington County.

Infiltration of river water is another potential source of pollution to the aquifer along the Delaware River. At present however, the water of the Delaware River, with reference to dissolved substances, is generally equal to or better in quality than the water in the aquifer. Durfor and Keighton (1954, p. 35) report the following maximum and minimum values in chemical analyses of water of the Delaware River at Burlington between August 1949 and December 1952:

Mineral Content	*Maximum Values (ppm)*	*Minimum Values (ppm)*
Iron	0.28	0
Chloride	14	1.0
Fluoride	.2	0
Nitrate	11	1.2
Dissolved Solids	209	52
Hardness as $CaCO_3$	89	23

It is reported by Powell and others (1954, p. 22-30) that some sewage and industrial pollution occurs in the river, but it is not commonly detected in the chemical analyses. Such pollution is in the form of bacteria, organic compounds, such as phenols, tastes, and odors. However, there is apparently no evidence that industrial waste or sewage have ever reached the wells in Burlington County that induce large amounts of recharge from the Delaware River. The chemical analyses of Delaware River water at Burlington for the water year October 1956 to September 1957, as reported by Love (1960, p. 85), generally fall within the range of concentrations presented in the preceding table, indicating little if any change in the chemistry of the river water from the time of the earlier study. It can be concluded that, with no quality of water evidence to the contrary, the Delaware River at Burlington County is presently a desirable source of induced recharge to the aquifers of the Raritan and Magothy Formations.

Merchantville Formation and Woodbury Clay

Stratigraphy.—The Merchantville Formation and the Woodbury Clay crops out in irregularly shaped belts southeast to the outcrop of the Raritan and Magothy Formations (fig. 3). The outcrop areas of the Merchantville Formation and the Woodbury Clay in Burlington County

are about 25 square miles and 44 square miles respectively. Much of the outcrop areas in Burlington County is overlain by a veneer of Pleistocene material.

The Merchantville Formation is characteristically a dark gray to black micaceous clay to clayey silt, but it includes beds and lenses of glauconite sand, especially near the top of the formation.

The Merchantville Formation thickens downdip to form a wedge-shaped unit. The thickness west of Jacksonville, near the outcrop area, is about 50 feet, whereas downdip near Harrisville the thickness is estimated to be 90 feet.

The Merchantville Formation unconformably overlies the Raritan and Magothy Formations and is conformably overlain by the Woodbury Clay. Fossils and glauconite found in the Merchantville Formation indicate that it is of marine origin.

The Woodbury Clay is characteristically a black, lignitic, micaceous clay with small amounts of glauconite sand near its base. It weathers to a light-chocolate color. The thickness of the Woodbury Clay west of Jacksonville, near the outcrop area, is approximately 80 feet. There appears to be little thickening of this formation downdip.

The Merchantville Formation grades upward into the Woodbury Clay with a decrease in quartz silt and glauconite sand. The difference between the formations, however, is small. The Woodbury Clay is unconformably overlain by the Englishtown Formation. Fossils and the glauconite found in the Woodbury Clay indicate that it is of marine origin.

Hydrology.—The Merchantville Formation and the Woodbury Clay function as confining beds separating the aquifer of the Raritan and Magothy Formations from that of the overlying Englishtown Formation. Recharge to the Raritan and Magothy Formations from the Englishtown Formation takes place as a result of vertical leakage through these formations. The combined thickness of the confining beds of these two formations ranges from 130 to 170 feet.

Englishtown Formation

Stratigraphy.—The Englishtown Formation crops out in an irregularly shaped belt southeast of the Woodbury Clay (fig. 3). The outcrop area in Burlington County is about 63 square miles. Southwest of Rancocas Creek, a veneer of Pleistocene material is found overlying much of the outcrop area.

In outcrop, the Englishtown Formation is characteristically a light gray to white, micaceous, lignitic, fine-grained quartz sand. Mechanical analysis

of a typical outcrop sample taken 1 mile north of Columbus, shows 79 percent fine sand, 15 percent very fine sand, 4 percent clay and silt, and 1 percent medium sand. The sand is well sorted. Local concentrations of ironstone, such as near Centerton and Hartford, may be found throughout the formation.

Downdip, clay beds rather than sand make up much of the formation. From the interpretation of electric well logs, the greatest aggregate thickness of sand in the formation appears to be in a narrow east-west trending facies extending from Moorestown to the Pemberton area (fig. 22). State Highway 38 coincides with the axis of the western part of this sand facies area.

North of Wrightstown, a second east-west trending sand facies is mapped in the subsurface. Owing to lack of subsurface control, its shape and thickness are not well defined.

To the south or southwest of these two sand facies areas, the Englishtown Formation becomes less sandy, with a corresponding increase in clay thickness. The Englishtown Formation thickens downdip; the thickness at Hartford, near the outcrop area, is about 50 feet, whereas downdip near Harrisville, it is about 75 feet.

The Englishtown Formation unconformably overlies the Woodbury Clay and is unconformably overlain by the Marshalltown Formation. The formation is apparently both marine and nonmarine in origin. Few fossils are found in the outcrop area, but downdip the formation is probably marine. Examination of well logs indicates minor amounts of glauconite and fossils are present in the formation at numerous locations, mostly downdip from the outcrop. The outcrop and the adjacent area seem to be free of any significant amounts of either glauconite or fossils.

The presence of glauconite and the absence of fossils in the formation are considered indicative of a transitional environment. Where the fossils and glauconite are present, the formation is considered marine (fig. 22). The east-west trending sand facies appear to be a linear beach or bar deposit of a shore environment. The sand has a high degree of sorting, as indicated by the Columbus sample. The formation in the area to the south is considered a deposit of a shallow marine environment.

Hydrology.—The Englishtown Formation has an aquifer that is commonly tapped for minor water supplies in Burlington County. Few industrial, public, or irrigation supplies obtain water from this formation. It is tapped primarily for domestic use. Wells tapping this formation yield up to 110 gpm with a specific capacity of 1.3 gpm per foot. The hydrologic characteristics and the thickness of the water-bearing zone vary as a result of the facies changes within the formation. The aquifer

ranges in thickness up to about 60 feet. In much of the county, not enough sand is present to be economically tapped for water.

In the outcrop area, water-table conditions prevail. In the areas where Pleistocene sand deposits overlie the formation, the Pleistocene deposits are in hydraulic continuity with the aquifer, resulting in a slightly increased saturated thickness.

To the southeast, beyond the Englishtown outcrop area, the aquifer is artesian. The only public water-supply wells tapping this formation are at Marlton and at Fort Dix. Two wells at Marlton yield about 100 gpm each with drawdowns of about 36 feet. At Fort Dix the two wells have an average yield of 45 and 60 gpm with drawdowns of 193 and 105 feet, respectively.

Permeability tests were made on two typical Englishtown Formation sand samples. These tests show a coefficient of permeability of 300 and 320 gpd per sq ft. The samples were from outcrops near Hartford and Columbus. Assuming an average coefficient of permeability of 300 gpd per sq ft, the aquifer at its maximum thickness would have a coefficient of transmissibility of about 18,000 gpd per ft.

Although, so far as known, no aquifer-tests of the Englishtown Formation have been made in Burlington County, a test was made at Lakewood, in Ocean County, in 1959. Results of this test gave a coefficient of transmissibility of about 10,000 to 18,000 gpd per ft, a coefficient of storage of 2.7×10^{-4} to 2.0×10^{-4}, and a coefficient of permeability of about 270 gpd per sq ft for an aquifer thickness of 52 feet.

It can be concluded from these permeability and aquifer test data that the formation probably has a maximum coefficient of transmissibility of about 18,000 gpd per ft in the area of maximum sand-facies development. However, lower coefficients of transmissibility can be anticipated for most of the county.

Most of the wells tapping the Englishtown Formation are located in the outcrop area or within a few miles of it. No wells tap the aquifer south of State Highway 70 in Burlington County. Because the sand facies is poorly developed in the southern half of the county, it is unlikely that any large amounts of water could be obtained in this area in the future. Only 5 percent of the total ground-water pumpage of Burlington County is from the Englishtown Formation.

Seaber (1962, p. 41) indicates that the Englishtown Formation does not receive its major recharge from the outcrop area as was formerly believed. Rather, the principal intake areas are several miles downdip where the formation is confined by overlying clays. The recharge mechanism is vertical leakage through the overlying Marshalltown Formation

from the Wenonah Formation and the Mount Laurel Sand. The two major areas of recharge center in Camden and Monmouth Counties.

With extensive development of the aquifer, the hydraulic gradients would be altered and additional recharge could be induced in the outcrop area. About 18 inches of runoff are available in the outcrop area for recharge. The rate of potential recharge from this source is 54 mgd or 0.85 mgd per square mile of outcrop, whereas that from vertical leakage is probably in the order of 69 mgd. This estimate is based on an average coefficient of permeability of 0.026 gpd per sq. ft. and a maximum thickness of 50 feet for the confining beds of the Marshalltown and Wenonah Formations that separate the aquifer of the Englishtown Formation from the aquifer of the Wenonah Formation and Mount Laurel Sand. The head difference between the two aquifers selected for this calculation is 10 feet although the range is from 10 to 40 feet over an area of 476 square miles.

The recharge available to Burlington County from Camden, Monmouth, and Ocean Counties—as a result of the flow due to the hydraulic gradients associated with the piezometric highs in Camden and Monmouth Counties—is indeterminate because of insufficient data. However, on the basis of the above assumption, a total of 123 mgd of ground water are potentially available from the Englishtown Formation without consideration of flow within the aquifer to Burlington County from adjacent counties. Only part of this 123 mgd actually will be available as long as there is any loss, through vertical leakage, to the aquifers of the Raritan and Magothy Formations, which have a lower hydraulic head.

It is estimated that only 1.3 mgd of ground water is obtained from the Englishtown by users in Burlington County.

It must be kept in mind, when considering these figures, that the aquifer in the Englishtown Formation has a low transmissibility, and therefore there is a need for wide distribution of moderate and low capacity wells to utilize fully the potential of this aquifer.

Quality of water.—The water from the Englishtown Formation is generally of fairly good chemical quality, except for hardness and high concentrations of iron. The concentrations of the remaining chemical constituents would not limit the use of the water for most purposes.

The water is soft to moderately hard in most of the county where data is available. However, hard water is found principally in the Moorestown and Marlton areas. (See fig. 23.)

The concentrations of iron in the water from many wells require treatment for removal to meet U. S. Public Health Service standards.

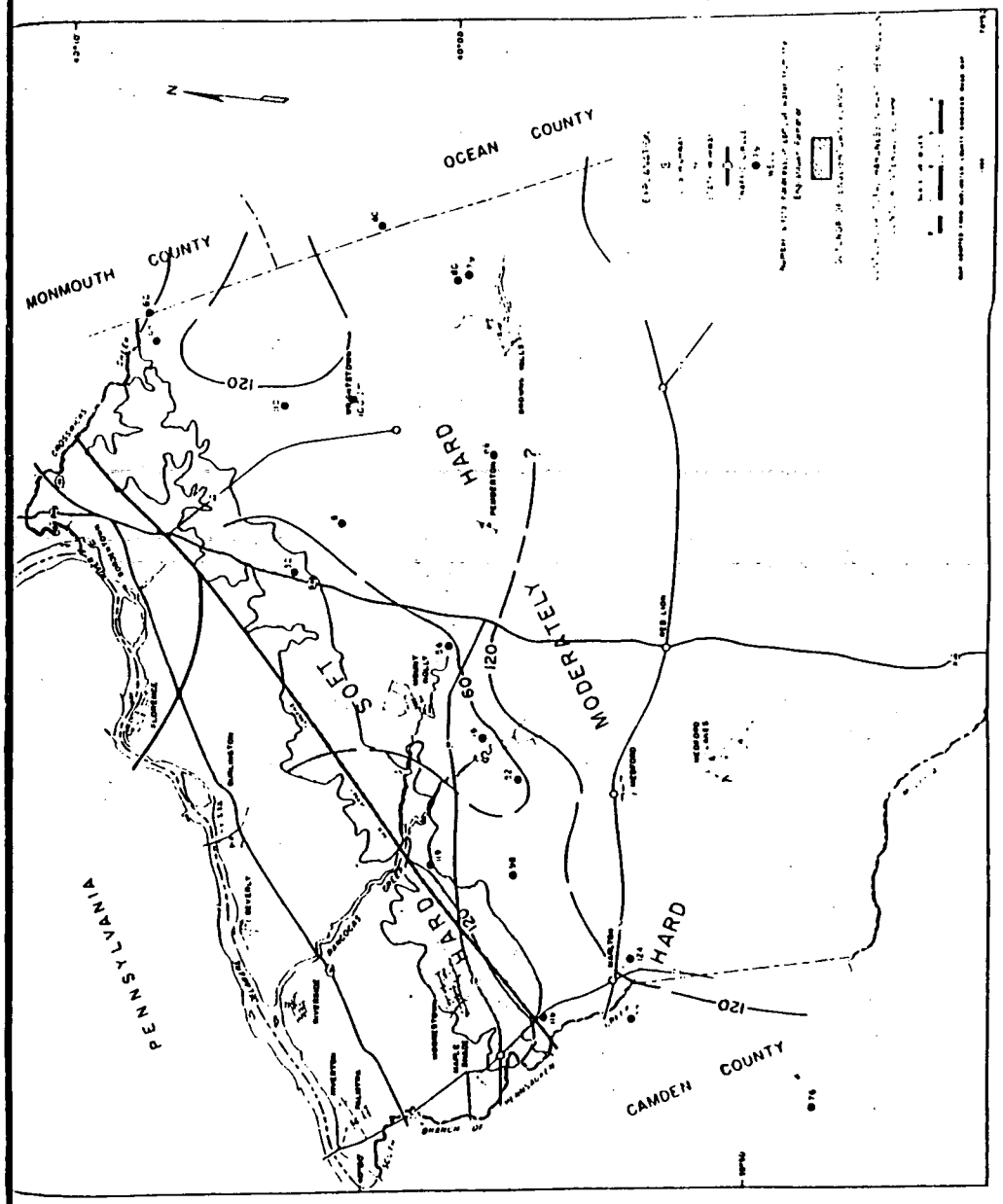

Figure 23.—Hardness of water from the Englishtown Formation in Burlington County, N. J.

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High iron concentrations are found in and near the outcrop area northeast of Rancocas Creek, where concentrations of iron in the water exceed 10 ppm. (See fig. 24.)

The concentration of dissolved solids is generally between 110 and 160 ppm, and ranges from 50 to 166 ppm for 12 samples.

Chloride concentration was less than 5 ppm in most wells, with concentrations ranging up to 31 ppm. These relatively low chloride concentrations indicate that there is no salt-water contamination in the Englishtown Formation where it is tapped for water supplies in Burlington County.

The recharge areas in Camden, Monmouth, and Burlington Counties yield hard water from the Englishtown Formation, whereas water from the discharge areas yield softer water. It is concluded by Seaber (1962, p. 57) that the hardness, attributed principally to dissolved calcium and magnesium, is derived from the overlying formation of the recharge areas; the hardness decreases as the water flows through the aquifer toward the discharge area.

Seaber (1962, p. 57) discussed the relationship between high iron concentration of Englishtown water and low pH. The available data indicate that a simple pH test can be made in the field in order to estimate the concentration of dissolved iron. If the water discharging from a well has a pH of 8 or above, the water will probably have low iron concentrations and meet the U. S. Public Health Service standards. This same test can be used on the water from the other aquifers of Burlington County with the same general degree of certainty.

Industrial waste and sewage does not appear to be a pollution problem for this aquifer in Burlington County.

Marshalltown Formation

Stratigraphy.—The Marshalltown Formation crops out in an irregularly shaped belt southeast of the Englishtown Formation (fig. 3). The outcrop area in Burlington County is about 21 square miles. Much of the outcrop area is covered with a veneer of Pleistocene material.

The Marshalltown Formation is characteristically a dark gray to black, micaceous, glauconitic, quartz sandy clay to very clayey sand. The occurrence of chlorite is a diagnostic feature of this formation. Lignite fragments are very abundant in the basal beds. The Marshalltown Formation does not appear to thicken downdip. At Mount Holly, near the outcrop area, its thickness is 40 feet; downdip, near Harrisville, it is 41 feet thick.

The Marshalltown Formation unconformably overlies the Englishtown Formation and is conformably overlain by the Wenonah Formation.

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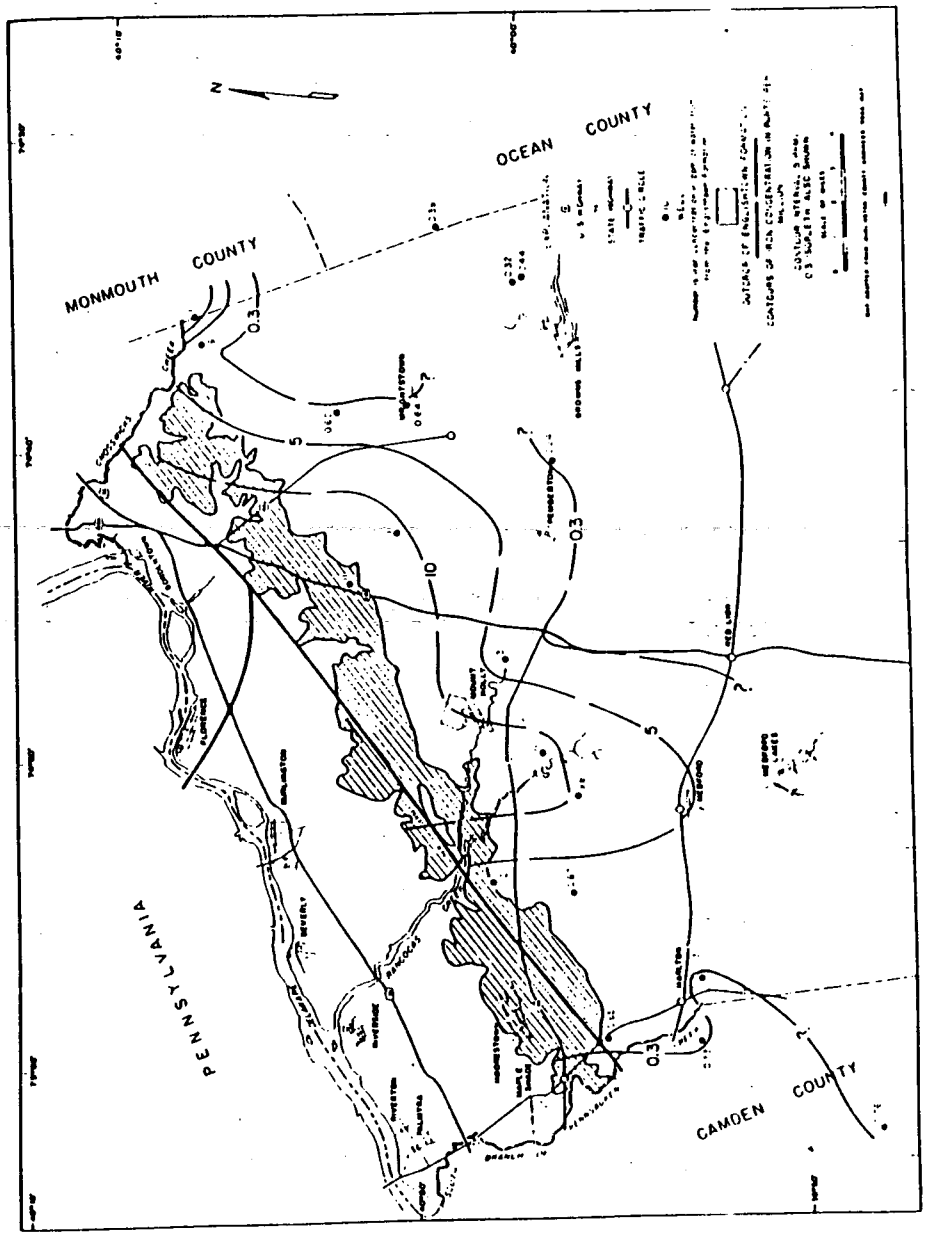

Figure 24.—Isopleths of iron concentration in water from the Englishtown Formation in Burlington County, N. J.

Fossils and glauconite found in the Marshalltown Formation indicate that it is of marine origin.

Hydrology.—The Marshalltown Formation functions as a confining layer between the Englishtown Formation and the overlying Wenonah Formation and Mount Laurel Sand. Recharge to the Englishtown Formation from the latter formations takes place as a result of vertical leakage through the Marshalltown. Where there are clay beds in the Wenonah Formation, the aggregate thickness of the relatively impermeable confining beds may be as much as 50 feet.

Laboratory analysis of two typical outcrop samples of the Marshalltown Formation indicated coefficients of permeability of 0.002 and 0.05 gpd per square foot.

Wenonah Formation and Mount Laurel Sand

Stratigraphy.—The Wenonah Formation and the Mount Laurel Sand crop out in a 2-mile wide belt southeast of the Marshalltown Formation (fig. 3). The outcrop area in Burlington County is about 48 square miles.

The Wenonah Formation and the Mount Laurel Sand, in Burlington County, are similar in lithology and are generally mapped as a geologic unit. It is characteristically a dark gray silt to medium quartz sand, with small amounts of glauconite, mica, and lignite. In general, the grain size and glauconite content increase upward in the unit, whereas the mica and lignite content decrease upward. The particle size distribution of the sand bed at the top of the unit, as exposed near Arneytown, is: sand, medium-grained, 58 percent; coarse-grained, 15 percent; fine-grained, 12 percent; very coarse-grained, 3 percent; and very fine-grained, 2 percent; very fine-grained gravel, 3 percent; and clay-silt, 7 percent.

The Wenonah Formation and Mount Laurel Sand is rather consistent in its thickness throughout Burlington County. The thickness of the unit at Birmingham is 94 feet, and at Marlton, 63 feet both near the outcrop area. Downdip, near Harrisville, the unit is about 100 feet thick.

The Wenonah Formation conformably overlies the Marshalltown Formation, and the Mount Laurel Sand is conformably overlain by the Navesink Formation. An unconformity separates Wenonah Formation and the Mount Laurel Sand (Minard and Owens, 1960). The abundance of shell fragments and glauconite found in the unit indicates that it is of marine origin.

Hydrology.—The undifferentiated Wenonah Formation and Mount Laurel Sand contain an important and rather productive aquifer. Most of the public water-supply wells southeast of a line connecting Fort Dix, Lumberton, Medford, and Marlton tap these formations, yielding up to 500 gpm. The specific capacities of 10 public-supply and irrigation wells range from 2.1 to 10.5 gpm per ft, and average 6.0 gpm per ft. The hydrologic character and aquifer thickness in this unit are rather consistent.

In the outcrop area, the aquifer is under water-table conditions. In the Lumberton-Mount Holly area and in the area west of Juliustown and southwest of Jobstown, Pleistocene deposits overlie the outcrop. These deposits are in hydraulic continuity with the aquifer and add to its saturated thickness. There is little development of the aquifer in its outcrop area.

Locally, a few miles downdip from the outcrop area, the unit is tapped by public irrigation and domestic water supplies. In the southeastern half of the county no wells tap the unit. The sand phase is well developed in this area, but the Cohansey Sand can be tapped for comparable supplies at a shallower depth.

Laboratory analysis was made on one outcrop sample from the Mount Laurel Sand. This sample had a coefficient of permeability of 160 gpd per sq ft. Assuming this coefficient of permeability for the aquifer, a coefficient of transmissibility of 9,000 to 16,000 gpd per ft. might be anticipated for an aquifer thickness of from 55 to 100 ft.

No aquifer tests, of the Wenonah Formation and Mount Laurel Sand, were made in Burlington County as part of this investigation or at any prior time. Results of pumping tests in Monmouth County indicate an average coefficient of transmissibility of 5,000 gpd per foot, an average coefficient of storage of 1.2×10^{-4}, and an average coefficient of permeability of 130 gpd per sq ft for 40 feet of sand. (Oral communication, Jablonski, 1962.) Because the aquifer averages about twice this thickness in Burlington County, the values for the coefficient of transmissibility, based on these Monmouth County aquifer tests, are about 10,000 gpd per foot. An estimate of the coefficient of transmissibility from the specific capacity of the large diameter wells is about 20,000 gpd per foot.

The various estimates of the coefficient of transmissibility range from 10,000 to 20,000 gpd per foot, with a safe assumed average coefficient of transmissibility of about 15,000 gpd per foot for this aquifer in Burlington County.

It is estimated that 3.3 mgd of water, or 13 percent of the total Burlington County pumpage, is taken from this unit. Nearly 60 percent of this 3.3 mgd is pumped in the Pemberton-Browns Mills area. Other locations of notable Wenonah Formation and Mount Laurel Sand pumpage are in the Vincentown-Medford Lakes area.

'he Wenonah Formation and Mount Laurel Sand appears to receive najor recharge from two sources. Vertical leakage from overlying nations is probably the most important source of recharge; however, ıcient data are lacking for an accurate estimate of this recharge.

small but distinct recharge area is located near the outcrop but ·red downdip in the Wrightstown-Jacobstown area (fig. 25). The ıble recharge in this high level intake area, as well as topographically area, is vertical leakage. Because of the low formation permeability, ıdditional recharge from this area to the low water-level areas to outh and southwest is probably less than 100,000 gpd.

igure 25 also shows an area of discharge. In this low-lying area ent to the tributaries of Rancocas Creek, the piezometric levels are ally 30 to 40 feet above sea level and above the land surface. ıse of this higher-than-land-surface piezometric surface, water will aking vertically upward to the low-lying areas and discharged to the ıce streams.

'he piezometric contours for the formation indicate that some parts he outcrop are recharge areas. Recharge takes place in the area of outcrop between Pennsauken Creek and Rancocas Creek.

must be kept in mind while analyzing these figures that the aquifer his unit has a moderately low coefficient of transmissibility. There- there will be a need for a wide distribution of moderate- and ield wells to fully utilize the potential of this aquifer.

ıth more extensive development, the hydraulic gradients will be al- and additional recharge will be induced in the outcrop area. The of potential recharge to the aquifer from this source is about 41 or .85 mgd per sq mi of outcrop. This is based on 18 inches of ıff available for recharge over 48 square miles of outcrop. Additional ırge will be induced from vertical leakage. However, it is not ıle to estimate the rate of recharge because of variations in the ıung bed thickness and permeability. In addition, sufficient water- data are not available for the overlying aquifers to determine the differential between aquifers.

he water-yield potential of the Wenonah Formation and Mount rel Sand is in excess of 41 mgd with only 3.3 mgd presently being ıed from the aquifer. Only part of this water-yield potential will ılly be available as long as there is maintained a hydraulic gradient g the flow of water, through vertical leakage, to the lower hydraulic quifer of the Englishtown Formation and to the surface and ıcas Creek tributaries.

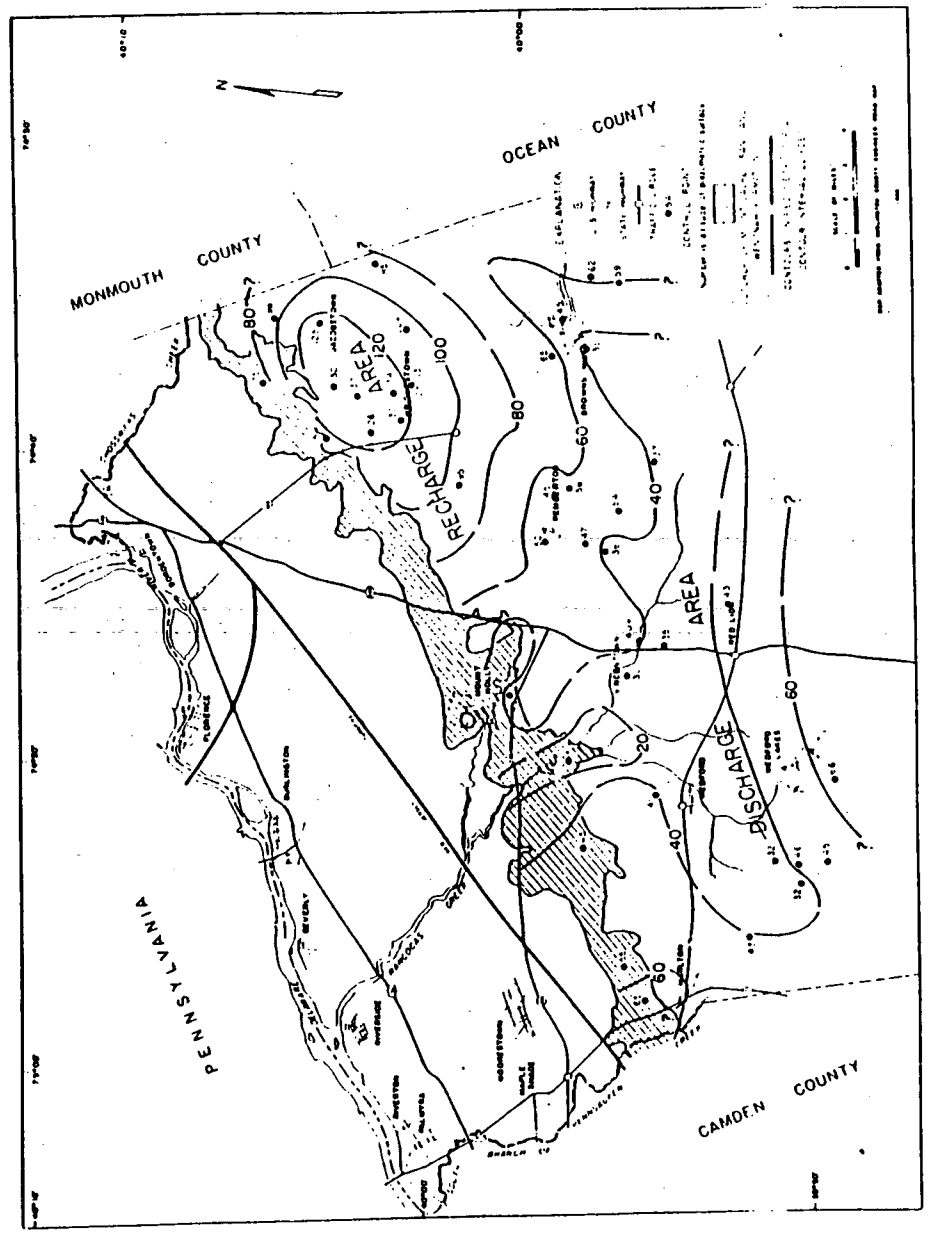

Figure 25.—Map of Burlington County, N. J. showing piezometric contours for the Wenonah Formation and Mount Laurel Sand, based upon the earliest record for each control point.

Quality of water.—The water from the Wenonah Formation and Mount Laurel Sand is generally of excellent chemical quality, except for hardness. The concentrations of remaining chemical constituents would not limit the use of the water for most purposes.

The water is generally hard at the outcrop, but the total hardness is believed to decrease in a downdip direction.

Iron concentrations in the water at the outcrop are high enough to require removal to meet U. S. Public Health Service standards. Two turbid-water samples, taken near Medford and north of Wrightstown, had high iron concentrations, but it is believed that this iron was in the form of suspended particles, adding to the turbidity, and not in solution.

The concentration of dissolved solids in most wells is generally less than 160 ppm, having a range from 100 to 205 ppm for 12 samples.

Chloride concentration was less than 5 ppm in most wells; concentrations ranged up to 25 ppm. These relatively low chloride concentrations indicate that there is no salt-water contamination in the Wenonah Formation and Mount Laurel Sand where it is tapped for water in Burlington County.

Industrial waste and sewage do not appear to be a pollution problem for this aquifer in Burlington County.

Navesink Formation

Stratigraphy.—The Navesink Formation crops out in an irregularly shaped belt southeast of the Mount Laurel Sand outcrop (fig. 3). The outcrop area, in Burlington County, is approximately 23 square miles. Only a small part of the formation outcrop, along the north and south branches of Rancocas Creek, is overlain with a veneer of Pleistocene material.

The Navesink Formation is characteristically a clayey glauconite sand to glauconitic, micaceous, sandy clay, having the mica and clay content of the formation increasing upward. The formation is very micaceous, and has a very prominent shell zone occurring at its base. This shell zone is one of the best marker horizons in Burlington County and the New Jersey Coastal Plain. Additional shells occur throughout the formation.

The Navesink Formation does not appear to thicken appreciably downdip. The thickness of the formation at Medford, near the outcrop area is 37 feet, and near Harrisville, 40 feet. The Navesink Formation conformably overlies the Mount Laurel Sand. The Navesink Formation in most of Burlington County is the uppermost unit of the Cretaceous System. However, in the Jacobstown-Arneytown area, the Red Bank

Formation of Cretaceous age is present and conformably overlies the Navesink Formation. Elsewhere, the Red Bank Formation is absent, and the Navesink Formation is unconformably overlain by the Hornerstown Formation of Tertiary age. Fossils and glauconite found in the Navesink Formation indicate that it is of marine origin.

Hydrology.—The Navesink Formation functions as a confining layer overlying the aquifer in the Wenonah Formation and Mount Laurel Sand. Recharge to the Wenonah Formation and Mount Laurel Sand takes place as a result of vertical leakage through this formation. Laboratory analysis of a typical outcrop sample taken near Arneytown gave a coefficient of permeability of 15 gpd per sq ft. Insofar as known, no wells in Burlington County tap this formation for a water supply.

Red Bank Sand

Stratigraphy.—The Red Bank Sand crops out in the Jacobstown-Arneytown area of Burlington County. Its outcrop extends northeastward from this area into Monmouth County where it is much thicker. The outcrop, in Burlington County, is an irregularly shaped area of about one to two square miles (fig. 3). The outcrop, in the county, is not overlain by any Pleistocene deposits.

The Red Bank Sand is characteristically composed of two unnamed units—a lower, thin, glauconite sandy clay having minor amounts of pyrite, lignite and mica, and an upper unit, a thicker quartz sand with small amounts of clay, glauconite and mica. From outcrop near Arneytown, a sample had the following particle size distribution: sand, medium-grained, 29 percent; fine-grained, 18 percent; very fine-grained, 16 percent; coarse-grained, 8 percent; and very coarse-grained, 2 percent; clay-silt, 27 percent. The thickness of the Red Bank Sand, as measured by Owens and Minard (1960, p. 9), in the Cookstown area ranges up to 50 feet.

The Red Bank Sand conformably overlies the Navesink Formation and is unconformably overlain by the Hornerstown Sand.

Hydrology.—The Red Bank Sand supplies many domestic wells with water in Monmouth County, but is there considered of only minor importance as an aquifer. Because of its very limited extent in Burlington County, it can be considered to be of practically no hydrologic significance. No wells are known to tap it in Burlington County. Laboratory analysis of an outcrop sample taken near Arneytown gave a permeability of 1 gpd per sq ft. Yields of wells, in Monmouth County, range up to 25 gpm. (Oral communication, Jablonski, 1962.)

CENOZOIC SEDIMENTS

Tertiary System-Paleocene Series

lornerstown Sand

Stratigraphy.—The Hornerstown Sand crops out in an irregularly aped belt southeast of the Red Bank Sand and the Navesink Forma- n (fig. 3). The outcrop area, in Burlington County, is approximately square miles. Only small areas of the outcrop are covered by Pleisto- e deposits. The greatest area of Pleistocene cover is southeast of umberton.

The Hornerstown Sand is characteristically a glauconite sand with a rk green clay matrix. It can be distinguished from the similar glauconite posits of Cretaceous age on the basis of the color of the clay matrix. he similar Cretaceous deposits, such as the Navesink Formation have lay matrix that is black.

The Hornerstown Sand appears to thicken downdip to form a wedge- aped unit. The formation thickness at Wrightstown is 29 feet and at edford 21 feet, both near the outcrop area, whereas 71 feet of Horners- wn Sand is encountered in the Transcontinental Gas Pipe Line Cor- ration well 1T near Chatsworth. This writer estimates that the rmation has a thickness of 65 feet at Harrisville.

The Hornerstown Sand unconformably overlies the Navesink Forma- on in most of Burlington County. However, in the vicinity of Arney- wn, the Hornerstown Sand unconformably overlies the Red Bank Sand. he Hornerstown Sand, in most of Burlington County, is overlain by e Vincentown Formation; however, in the Marlton area and the Sykes- lle-Cookstown area the onlapping Kirkwood Formation covers the Vin- ntown and Manasquan Formations and extends onto the Hornerstown nd, forming an unconformity. Fossils and the very high glauconite ntent, of the Hornerstown Sand, indicate it is of marine origin.

Hydrology.—The Hornerstown Sand functions as a confining layer in njunction with the adjacent formations. Recharge to the Wenonah ormation and Mount Laurel Sand takes place as a result of vertical akage through this formation. Laboratory analyses of two outcrop mples, taken between Arneytown and New Egypt, gave coefficients of rmeability of 0.7 and 0.02 gpm per sq ft. No wells in Burlington ounty are known to tap this formation for a water supply.

ncentown Formation

Stratigraphy.—The Vincentown Formation crops out generally in a mile to 2-mile wide belt immediately southeast of the outcrop of the lornerstown Sand (fig. 3). In the Marlton area and the Sykesville-

Cookstown area, the formation is covered by the onlapping Kirkwood Formation and is not exposed at the surface. The outcrop area is approximately 21 square miles. The outcrop is generally free of any Pleistocene cover except in the Medford and Vincentown area. Here, Pleistocene material covers some of the low lying area adjacent to the south branch of Rancocas Creek.

The Vincentown Formation has been divided into two members. The lower member is characteristically a gray, glauconitic, slightly clayey quartz sand with small amounts of mica. It can be described as a medium sand, but poorly sorted. From outcrop between Jacobstown and New Egypt in Ocean County, a typical sample had the following particle size distribution: sand, coarse-grained, 9 percent; medium-grained, 46 percent; fine-grained, 34 percent; very fine-grained, 3 percent; and clay-silt, 8 percent. Toward the southwest this member becomes more clayey. The upper member is characteristically a light brown to light gray, clayey calcarenite. This member is characterized by its abundant sand-size fragments of bryozoa, foraminifera, and corals.

The Vincentown Formation thickens downdip to form a wedge-shaped unit. The thickness at Wrightstown, near the outcrop area, is 30 feet; whereas, downdip near Harrisville, the thickness increases to about 185 feet.

The contact relationship of the Vincentown Formation to the underlying Hornerstown Sand and the overlying Manasquan Formation is indefinite. Minard and Owens (oral communication) suggest that the Vincentown Formation may rest unconformably on the Hornerstown Sand and that the Vincentown Formation is overlain unconformably(?) by the Manasquan Formation. Fossils and glauconite found in the Vincentown Formation indicate that it is of marine origin.

Hydrology.—The Vincentown Formation is of minor importance as an aquifer in Burlington County. Only a few wells tap this formation. Two of these wells are in the Browns Mills-Wrightstown area. The most recently drilled of the two, at McGuire Air Force Base, yields 35 gpm from an aquifer 25 feet thick. Downdip and to the southwest the permeability decreases, due to a reduction in the particle-size of the aquifer. In these nonproductive areas the formation can, at best, be considered marginal between an aquifer and an aquiclude, but it generally is considered a confining bed along with the underlying Navesink Formation and Hornerstown Sand and the overlying Manasquan Formation.

Laboratory analysis of a typical outcrop sample taken between Jacobstown and New Egypt gave a coefficient of permeability of 160 gpd per sq. ft. A sand 25 feet thick would have a coefficient of transmissibility of 4,000 gpd per ft.

Teritary System-Eocene Series

Manasquan Formation

Stratigraphy.—The Manasquan Formation crops out in an intermittent belt immediately southeast of the outcrop of the Vincentown Formation (fig. 3). The outcrop area of the Manasquan Formation in Burlington County is 18 square miles. The Manasquan Formation is mapped principally in the Burlington County area, being absent or covered by the Kirkwood Formation in most of the rest of the New Jersey Coastal Plain. The Manasquan Formation outcrop is covered by a Pleistocene veneer mainly in the Vincentown area; however most of the outcrop is free of Pleistocene cover.

The Manasquan Formation is described by Owens and Minard (1960, p. 25-26) as being a clayey, quartz-glauconite sand, similar to the Hornerstown Sand, except the latter has less clay and quartz sand. Manasquan Formation samples, taken from two test wells drilled as part of this county investigation, were olive-gray, glauconitic, clayey sand having small amounts of mica and shell fragments. Mechanical analyses were made on six samples. A typical sample gave the following percent particle-size distribution: gravel, 1 percent; sand, very coarse-grained, 3 percent; coarse-grained, 3 percent; medium-grained, 12 percent; fine-grained, 36 percent; very fine-grained, 20 percent; silt, 8 percent; and clay, 17 percent. Test wells were drilled, in 1961, at Coyle Airport, Woodland Township and at a location 3 miles southeast of Oswego Lake, Bass River Township (see fig. 4). The Manasquan Formation was encountered at a depth of 420 feet at Coyle Airport; the drilling stopped at 595 feet. The Manasquan Formation was encountered at 460 feet at the Oswego Lake well site, whereas the total drilling depth was 625 feet. The formation appears to have a moderate variation in lithology.

The Manasquan Formation thickens downdip to form a wedge-shaped unit. The formation thickness at Browns Mills, near the outcrop, is from 10 to 15 feet; whereas downdip, near Harrisville, it is about 270 feet thick.

The Manasquan Formation overlies the Vincentown Formation with a contact relationship of indefinite nature. The contact between the Manasquan Formation and the overlying Kirkwood Formation is unconformable. Fossils and glauconite found in the Manasquan Formation indicate that it is of marine origin.

Hydrology.—The Manasquan Formation functions as a confining layer, along with the Vincentown and Navesink Formations and the Hornerstown Sand, between the aquifer of the underlying Wenonah Formation and Mount Laurel Sand and the overlying aquifers of the Kirkwood

Formation and Cohansey Sand. Recharge to the Wenonah Formation and the Mount Laurel Sand takes place as a result of vertical leakage through this formation. Laboratory analyses, of 6 samples from 3 locations, gave a range for coefficients of permeability of from 0.3 to 120 gpd per sq ft with most grouped between 4 and 6 gpd per sq ft. Only a few wells are known to tap the Manasquan Formation for water in Burlington County.

Tertiary System-Miocene Series

Kirkwood Formation

Stratigraphy.—The Kirkwood Formation crops out in an irregularly shaped belt southeast of the Manasquan Formation, the Vincentown Formation, and the Hornerstown Sand (fig. 3). The outcrop area in Burlington County is approximately 110 square miles.

The Kirkwood Formation in outcrop in the Columbus quadrangle, as described by Owens and Minard (1962), is made up of two units, a basal unit of brownish-black clayey silt to very fine-grained quartz sand, and a thicker upper unit of very light gray to light yellow orange, very fine- to fine-grained well sorted quartz sand. Muscovite, ilmenite, and lignite are important, minor constituents of both units. Small amounts of glauconite were found in the basal unit.

In test wells drilled near Oswego Lake in Bass River Township and at Coyle Airport in Woodland Township, the Kirkwood was found to be made up of three units. The lower unit is characteristically a light olive-gray, very sandy silt having small amounts of muscovite, glauconite and chert as accessory minerals. Shell fragments were also observed. The middle unit is a light gray to yellowish-orange, coarse-grained quartz sand and gravel. Muscovite, lignite, and feldspar are accessary minerals. The upper unit is a light gray, very silty sand. Muscovite and lignite are accessory minerals.

The Kirkwood Formation thickens downdip to form a wedge-shaped unit. The thickness of the formation in the outcrop in the Columbus quadrangle, as reported by Minard and Owens (1962), is as much as 50 feet; the basal unit measuring as much as 15 feet. Downdip, at Coyle Airport, the thickness of the formation is 205 feet, at Oswego Lake well site 285 feet, and at Harrisville 250 feet.

The Kirkwood Formation unconformably overlaps the Hornerstown Sand, the Vincentown Formation, and the Manasquan Formation in Burlington County, and is unconformably overlain by the Cohansey Sand. Fossils and glauconite, found in the formation, indicate it is of marine origin.

Hydrology.—The Kirkwood Formation is of minor importance as a useful aquifer in Burlington County. It is tapped only by small diameter wells for domestic-water supplies, and then usually only in the formation outcrop area. Where it is covered by the overlying Cohansey Sand, the latter is utilized because of its shallower depth.

In summary, the laboratory analyses indicate that in the Coyle Airport and Oswego Lake areas the formation has high abilities to transmit water. In and near the outcrop, this ability appears to be lower. Water-level and recharge data are generally lacking, but the small amount of data indicates that recharge is principally from percolation into the formation in the upland areas from the overlying Cohansey Sand. Movement is probably toward the lowland areas where the water is discharged mostly to Rancocas Creek, Mullica River, and Bass River either directly or by vertical leakage upward through the overlying sediments.

No aquifer tests have been made on this formation in Burlington County. At Ancora State Hospital in Camden County, aquifer test data indicate an average coefficient of transmissibility of 10,500 gpd per foot, a coefficient of storage of 3×10^{-4}, and a coefficient of permeability of about 170 gpd per sq ft. It is assumed that the water-bearing properties of the formation at Ancora are better than those that generally exist near outcrop in Burlington County, but poorer than those downdip. The formation, at Coyle Airport and at the Oswego Lake test-well site, has a coefficient of transmissibility of about 130,000 gpd per ft.

The total ground-water pumpage from the Kirkwood Formation in Burlington County is estimated to be 63,000 gpd, or about one-fourth of one percent of the total pumpage in this county.

The Kirkwood Formation is capable of extensive development as a source of water in Burlington County. However, it has been found uneconomical to drill to the Wenonah Formation and Mount Laurel Sand in the Kirkwood Formation outcrop area where it has poor water-transmitting characteristics. In the area where the Cohansey Sand overlies the Kirkwood Formation, this upper formation is preferred to the Kirkwood Formation because all ground-water needs are very small and can be satisfied from a near-surface aquifer.

Quality of water.—The water from the Kirkwood Formation is generally of excellent chemical quality as indicated by analyses of water from eight scattered wells. However, iron concentration was high enough in one of the water samples to cause staining of laundry and plumbing fixtures. The concentrations of the remaining chemical constituents would not limit the use of the water for most purposes.

The concentrations of iron in the water from some wells require treatment for removal. Iron concentrations range from 0.02 to 2.9 ppm. The water is generally very soft; only one sample had a hardness in excess of 32 ppm. This sample, having a hardness of 86 ppm, was from a well at Browns Mills. The concentration of dissolved solids is usually less than 60 ppm with a range from 31 to 137 ppm.

Chloride concentrations were less than 4 ppm for all samples. There is probably no salt-water contamination in this aquifer anywhere in the county. The only anticipated place of possible salt-water contamination is the Green Bank-New Gretna area. However a well tapping the Kirkwood Formation at New Gretna yields water with a chloride concentration of only 4 ppm, indicating no known contamination from the nearby brackish and saline water of this marshy area.

Tertiary System-Miocene(?) and Pliocene(?) Series

Cohansey Sand and Beacon Hill Gravel

Stratigraphy.—The Cohansey Sand crops out in all of the southeastern half of Burlington County, to the southeast of the Kirkwood Formation (fig. 3). The outcrop area in Burlington County is approximately 380 square miles or 46 percent of the total county area.

The Cohansey Sand is described at outcrop in the Columbus quadrangle by Owens and Minard (1962) as being a light gray to yellowish brown, medium- to coarse-grained, ilmenitic, pebbly, quartz sand with local pink and white kaolinitic beds in the upper part of the formation. They found pebbles in the formation up to 4 inches in diameter. Ironstone is locally present, such as at Taylor Mountain and at Arneys Mount. A characteristic feature of the formation in outcrop is its common horizontal and cross stratification.

Previously little was known about the lithology of the Cohansey Sand downdip. Past workers have frequently underestimated the thickness of this formation in the downdip area of Burlington County. The test wells drilled at Coyle Airport and near Oswego Lake gave information of the lithology and thickness of the formation in an area where essentially no dependable subsurface geologic information was previously available. The information obtained from the two test wells drilled in this county, and the two drilled nearby, in Ocean County, was very useful in gaining a better understanding of the lithology of the Cohansey Sand. (See figure 4 for well locations.)

The lithology of the formation is variable, ranging from clayey quartz silts to gravelly quartz sand. At Coyle Airport the formation is 215 feet thick. The lower two-thirds of the formation is composed of thick

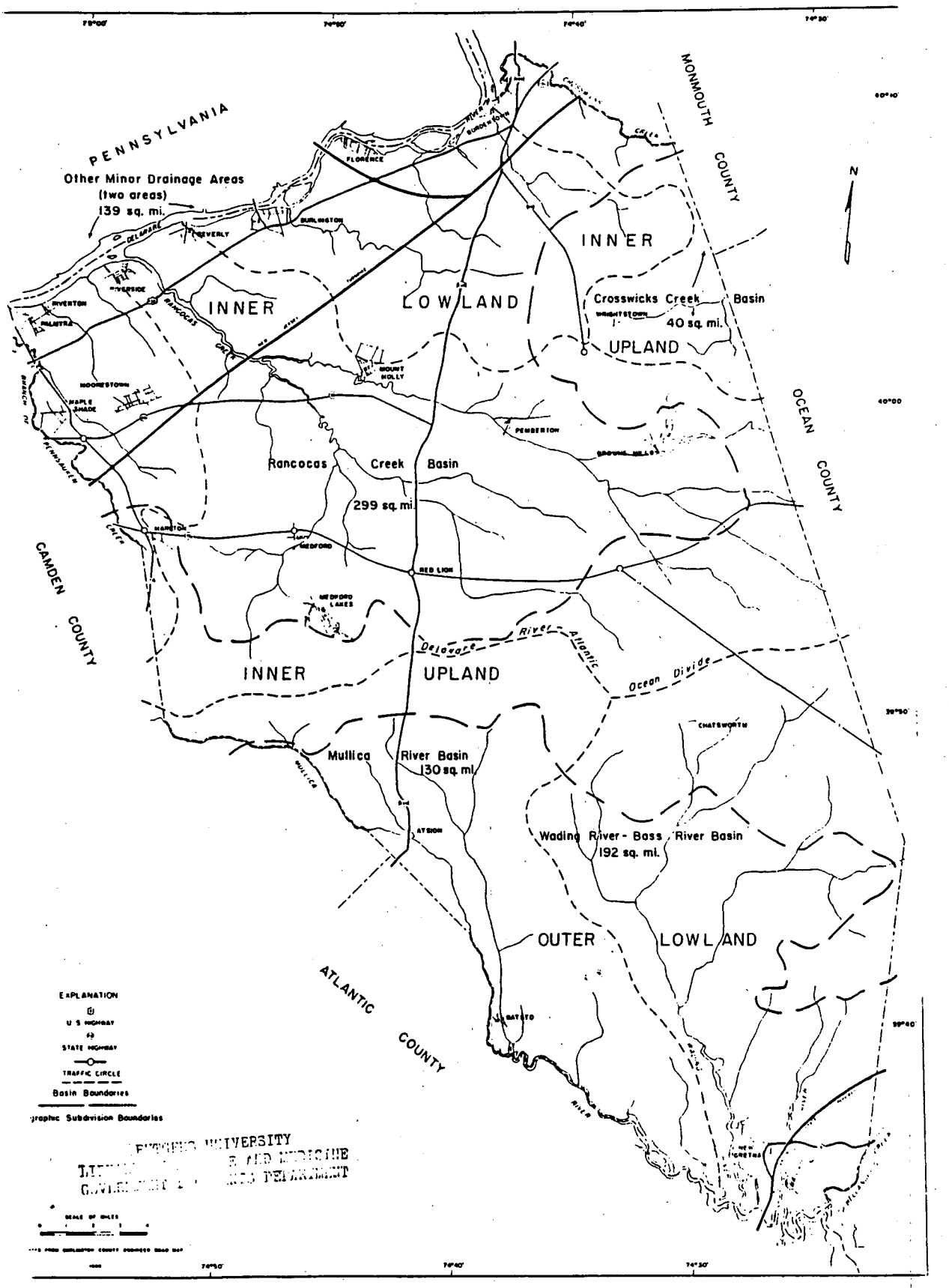

Figure 2.—Physiographic map of Burlington County, N. J.

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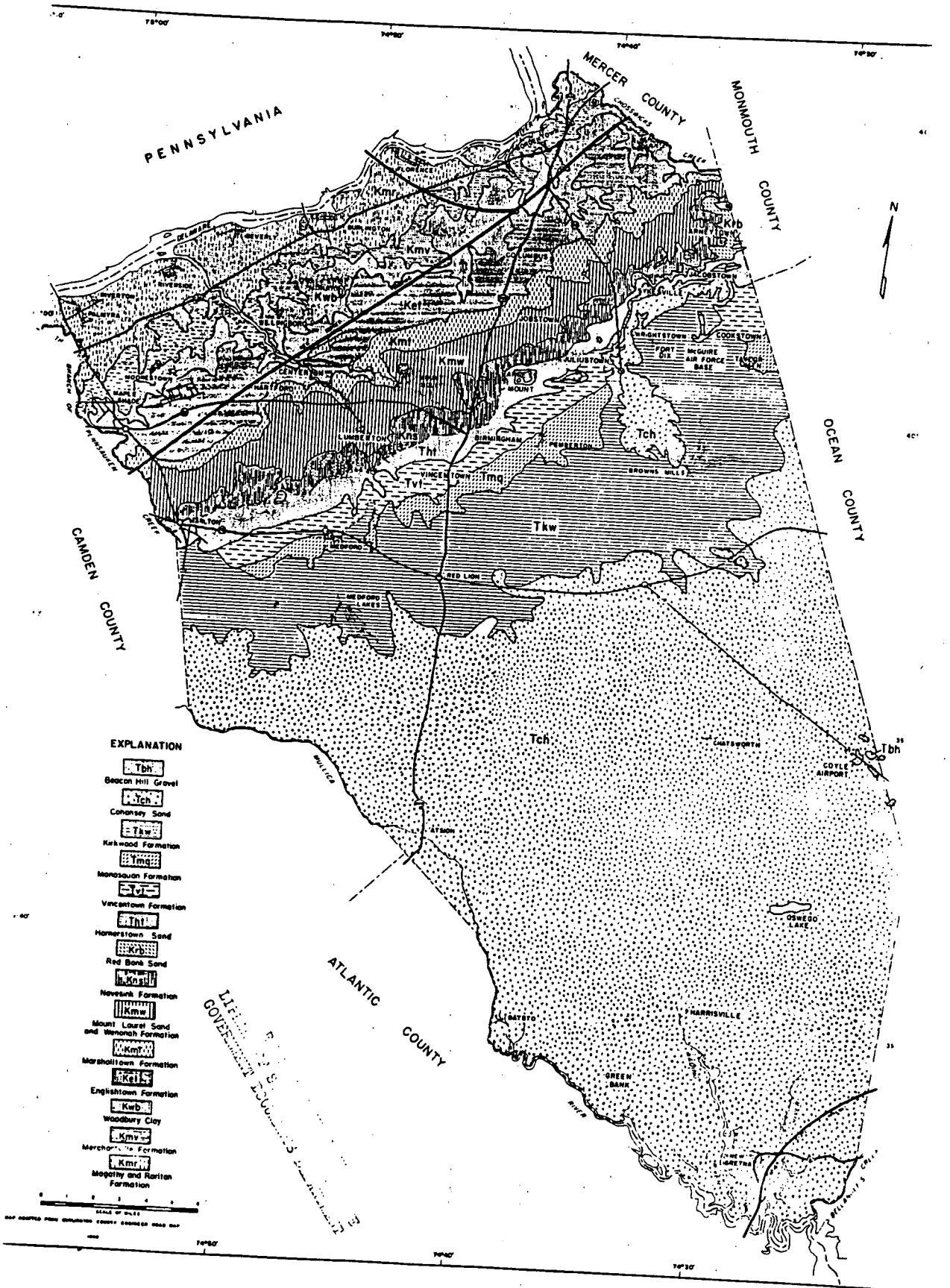

Figure 3.—Pre-Quaternary map of Burlington County.

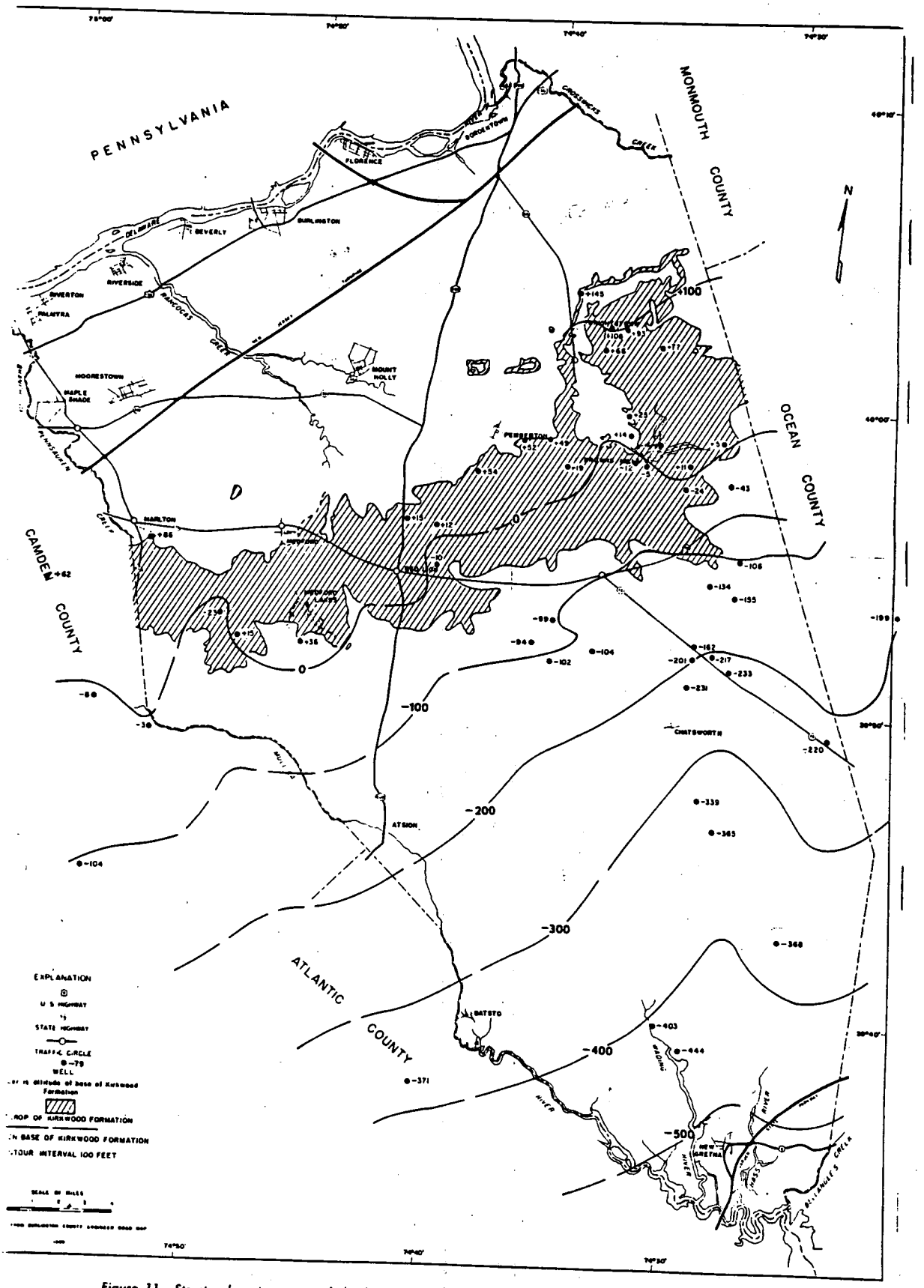

Figure 11.—Structural contour map of the base of the Kirkwood Formation in Burlington County, N. J.

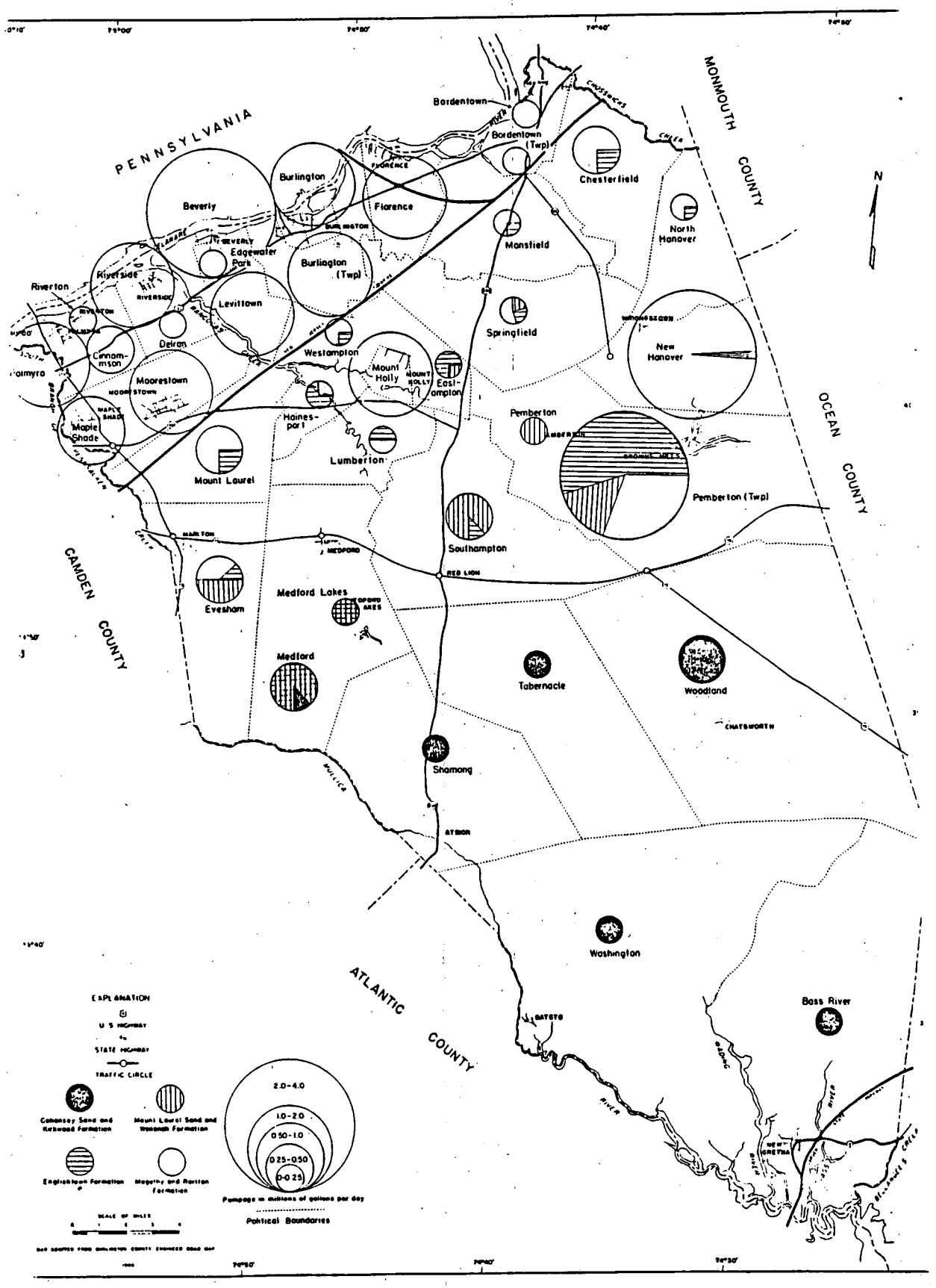

Figure 18.—Amount of ground-water pumpage from aquifers in the municipal units of Burlington County, N. J.

REFERENCE NO. 4

hibiting discharge from a vessel of any sewage, whether treated or not, into particular waters of the United States or specified portions thereof, which waters are located within the boundaries of such State. Such application shall specify with particularly the waters, or portions thereof, for which a complete prohibition is desired. The application shall include identification of water recreational areas, drinking water intakes, aquatic sanctuaries, identifiable fish-spawning and nursery areas, and areas of intensive boating activities. If, on the basis of the State's application and any other information available to him, the Administrator is unable to make a finding that the waters listed in the application require a complete prohibition of any discharge in the waters or portions thereof covered by the application, he shall state the reasons why he cannot make such a finding, and shall deny the application. If the Administrator makes a finding that the waters listed in the application require a complete prohibition of any discharge in all or any part of the waters or portions thereof covered by the State's application, he shall publish notice of such findings together with a notice of proposed rule making, and then shall proceed in accordance with 5 U.S.C. 553. If the Administrator's finding is that applicable water quality standards require a complete prohibition covering a more restricted or more expanded area than that applied for by the State, he shall state the reasons why his finding differs in scope from that requested in the State's application.

(1) For the following waters the discharge from a vessel of any sewage (whether treated or not) is completely prohibited:

Boundary Waters Canoe Area, formerly designated as the Superior, Little Indian Sioux, and Caribou Roadless Areas, in the Superior National Forest, Minnesota, as described in 16 U.S.C. 577-577d1.

[41 FR 4453, Jan. 29, 1976, as amended at 42 FR 43837, Aug. 31, 1977]

§ 140.5 Analytical procedures.

In determining the composition and quality of effluent discharge from marine sanitation devices, the procedures contained in 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants," or subsequent revisions or amendments thereto, shall be employed.

PART 141—NATIONAL INTERIM PRIMARY DRINKING WATER REGULATIONS

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Subpart B—Maximum Contaminant Levels

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141.29 Monitoring of consecutive public water systems.
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APPENDIX A—SUMMARY OF PUBLIC COMMENTS AND EPA RESPONSES ON PROPOSED AMENDMENTS TO THE NATIONAL INTERIM PRIMARY DRINKING WATER REGULATIONS FOR CONTROL OF TRIHALOMETHANES IN DRINKING WATER
APPENDIX B—SUMMARY OF MAJOR COMMENTS (FOR RESPONSES, SEE APPENDIX A)
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Subpart D—Reporting, Public Notification and Recordkeeping

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141.31 Reporting requirements.
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Subpart E—Special Monitoring Regulations for Organic Chemicals and Otherwise Unregulated Contaminants

141.40 Special monitoring for organic chemicals.
141.41 Special monitoring for sodium.
141.42 Special monitoring for corrosivity characteristics.

AUTHORITY: Secs. 1412, 1414, 1445, and 1450 of the Public Health Service Act, 88 Stat. 1660 (42 U.S.C. 300g-1, 300g-3, 300j-4, and 300j-9).

SOURCE: 40 FR 59570, Dec. 24, 1975, unless otherwise noted.

NOTE: For community water systems serving 75,000 or more persons, monitoring must begin 1 year following promulation and the effective date of the MCL is 2 years following promulgation. For community water systems serving 10,000 to 75,000 persons, monitoring must begin within 3 years from the date of promulgation and the effective date of the MCL is 4 years from the date of promulgation. Effective immediately, systems that plan to make significant modifications to their treatment processes for the purpose of complying with the TTHM MCL are required to seek and obtain State approval of their treatment modification plans. This note affects §§ 141.2, 141.6, 141.12, 141.24 and 141.30. For additional information see 44 FR 68641, Nov. 29, 1979.

Subpart A—General

§ 141.1 Applicability.

This part establishes primary drinking water regulations pursuant to section 1412 of the Public Health Service Act, as amended by the Safe Drinking Water Act (Pub. L. 93-523); and related regulations applicable to public water systems.

§ 141.2 Definitions.

As used in this part, the term:

(a) "Act" means the Public Health Service Act, as amended by the Safe Drinking Water Act, Pub. L. 93-523.

(b) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

(c) "Maximum contaminant level" means the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of a public water system, except in the case of turbidity where the maximum permissible level is measured at the point of entry to the distribution system. Contaminants added to the water under circumstances controlled by the user, except those resulting from corrosion of piping and plumbing caused by water quality, are excluded from this definition.

(d) "Person" means an individual, corporation, company, association, partnership, State, municipality, or Federal agency.

(e) "Public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (2) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. A public water system is either a "community water system" or a "noncommunity water system."

(i) "Community water system" means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

(ii) "Non-community water system" means a public water system that is not a community water system.

(f) "Sanitary survey" means an onsite review of the water source, facilities, equipment, operation and

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maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.

(g) "Standard sample" means the aliquot of finished drinking water that is examined for the presence of coliform bacteria.

(h) "State" means the agency of the State government which has jurisdiction over public water systems. During any period when a State does not have primary enforcement responsibility pursuant to section 1413 of the Act, the term "State" means the Regional Administrator, U.S. Environmental Protection Agency.

(i) "Supplier of water" means any person who owns or operates a public water system.

(j) "Dose equivalent" means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (ICRU).

(k) "Rem" means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A "millirem (mrem)" is 1/1000 of a rem.

(l) "Picocurie (pCi)" means the quantity of radioactive material producing 2.22 nuclear transformations per minute.

(m) "Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.

(n) "Man-made beta particle and photon emitters" means all radionuclides emitting beta particles and/or photons listed in Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure, NBS Handbook 69, except the daughter products of thorium-232, uranium-235 and uranium-238.

(o) "Gross boat particle activity" means the total radioactivity due to beta particle emission as inferred from measurements on a dry sample.

(p) "Halogen" means one of the chemical elements chlorine, bromine or iodine.

(q) "Trihalomethane" (THM) means one of the family of organic compounds, named as derivatives of methane, wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.

(r) "Total trihalomethanes" (TTHM) means the sum of the concentration in milligrams per liter of the trihalomethane compounds (trichloromethane [chloroform], dibromochloromethane, bromodichloromethane and tribromomethane [bromoform]), rounded to two significant figures.

(s) "Maximum Total Trihalomethane Potential (MTP)" means the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after 7 days at a temperature of 25° C or above.

(t) "Disinfectant" means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines, and ozone added to water in any part of the treatment or distribution process, that is intended to kill or inactivate pathogenic microorganisms.

[40 FR 59570, Dec. 24, 1975, as amended at 41 FR 28403, July 9, 1976; 44 FR 68641, Nov. 29, 1979]

§ 141.3 Coverage.

This part shall apply to each public water system, unless the public water system meets all of the following conditions:

(a) Consists only of distribution and storage facilities (and does not have any collection and treatment facilities);

(b) Obtains all of its water from, but is not owned or operated by, a public water system to which such regulations apply:

(c) Does not sell water to any person; and

(d) Is not a carrier which conveys passengers in interstate commerce.

§ 141.4 Variances and exemptions.

Variances or exemptions from certain provisions of these regulations

may be granted pursuant to sections 1415 and 1416 of the Act by the entity with primary enforcement responsibility. Provisions under Part 142, *National Interim Primary Drinking Water Regulations Implementation*—Subpart E (Variances) and Subpart F (Exemptions)—apply where EPA has primary enforcement responsibility.

§ 141.5 Siting requirements.

Before a person may enter into a financial commitment for or initiate construction of a new public water system or increase the capacity of an existing public water system, he shall notify the State and, to the extent practicable, avoid locating part or all of the new or expanded facility at a site which:

(a) Is subject to a significant risk from earthquakes, floods, fires or other disasters which could cause a breakdown of the public water system or a portion thereof; or

(b) Except for intake structures, is within the floodplain of a 100-year flood or is lower than any recorded high tide where appropriate records exist. The U.S. Environmental Protection Agency will not seek to override land use decisions affecting public water systems siting which are made at the State or local government levels.

§ 141.6 Effective dates.

(a) Except as provided in paragraph (b) of this section, the regulations set forth in this part shall take effect on June 24, 1977.

(b) The regulations for total trihalomethanes set forth in § 141.12(c) shall take effect 2 years after the date of promulgation of these regulations for community water systems serving 75,000 or more individuals, and 4 years after the date of promulgation for communities serving 10,000 to 74,999 individuals.

(c) The regulations set forth in §§ 141.11 (a), (d) and (e); 141.14(a)(1); 141.14(b)(1)(i); 141.14(b)(2)(i); 141.14(d); 141.21 (a), (c) and (i); 141.22 (a) and (e); 141.23 (a)(3) and (a)(4); 141.23(f); 141.24(a)(3); 141.24 (e) and (f); 141.25(e); 141.27(a); 141.28 (a) and (b); 141.31 (a), (d) and (e); 141.32(b)(3); and 141.32(d) shall take effect immediately upon promulgation.

(d) The regulations set forth in § 141.41 shall take effect 18 months from the date of promulgation. Suppliers must complete the first round of sampling and reporting within 12 months following the effective date.

(e) The regulations set forth in § 141.42 shall take effect 18 months from the date of promulgation. All requirements in § 141.42 must be completed within 12 months following the effective date.

[44 FR 68641, Nov. 29, 1979, as amended at 45 FR 57342, Aug. 27, 1980; 47 FR 10998, Mar. 12, 1982]

Subpart B—Maximum Contaminant Levels

§ 141.11 Maximum contaminant levels for inorganic chemicals.

(a) The MCL for nitrate is applicable to both community water systems and non-community water systems except as provided by in paragraph (d) of this section. The levels for the other inorganic chemicals apply only to community water systems. Compliance with MCLs for inorganic chemicals is calculated pursuant to § 141.23.

(b) The following are the maximum contaminant levels for inorganic chemicals other than fluoride:

Contaminant	Level, milligrams per liter
Arsenic	0.05
Barium	1
Cadmium	0.010
Chromium	0.05
Lead	0.05
Mercury	0.002
Nitrate (as N)	10
Selenium	0.01
Silver	0.05

(c) When the annual average of the maximum daily air temperatures for the location in which the community water system is situated is the following, the maximum contaminant levels for fluoride are:

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REFERENCE NO. 5

PART 143—NATIONAL SECONDARY DRINKING WATER REGULATIONS

Sec.
143.1 Purpose.
143.2 Definitions.
143.3 Secondary maximum contaminant levels.
143.4 Monitoring.

AUTHORITY: Sec. 1412(c) of the Safe Drinking Water Act, as amended (42 U.S.C. 300g-1(c)).

SOURCE: 44 FR 42198, July 19, 1979, unless otherwise noted.

§ 143.1 Purpose.

This part establishes National Secondary Drinking Water Regulations pursuant to section 1412 of the Safe Drinking Water Act, as amended (42 U.S.C. 300g-1). These regulations control contaminants in drinking water that primarily affect the aesthetic qualities relating to the public acceptance of drinking water. At considerably higher concentrations of these contaminants, health implications may also exist as well as aesthetic degradation. The regulations are not Federally enforceable but are intended as guidelines for the States.

§ 143.2 Definitions.

(a) "Act" means the Safe Drinking Water Act as amended (42 U.S.C. 300f *et seq.*).

(b) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

(c) "Public water system" means a system for the provision to the public of piped water for human consumption, if such a system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (2) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. A public water system is either a "community water system" or a "non-community water system."

(d) "State" means the agency of the State government which has jurisdiction over public water systems.

(e) "Supplier of water" means any person who owns or operates a public water system.

(f) "Secondary maximum contaminant levels" means SMCLs which apply to public water systems and which, in the judgement of the Administrator, are requisite to protect the public welfare. The SMCL means the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of public water system. Contamimants added to the water under circumstances controlled by the user, except those resulting from corrosion of piping and plumbing caused by water quality, are excluded from this definition.

§ 143.3 Secondary maximum contaminant levels.

The secondary maximum contaminant levels for public water systems are as follows:

Contaminant	Level
Chloride	250 mg/l.
Color	15 color units.
Copper	1 mg/l.
Corrosivity	Noncorrosive.
Foaming agents	0.5 mg/l.
Iron	0.3 mg/l.
Manganese	0.05 mg/l.
Odor	3 threshold odor number.
pH	6.5–8.5.
Sulfate	250 mg/l.
Total dissolved solids (TDS)	500 mg/l.
Zinc	5 mg/l.

These levels represent reasonable goals for drinking water quality. The States may establish higher or lower levels which may be appropriate dependent upon local conditions such as unavailability of alternate source waters or other compelling factors, provided that public health and welfare are not adversely affected.

§ 143.4 Monitoring.

(a) It is recommended that the parameters in these regulations should be monitored at intervals no less frequent than the monitoring performed for inorganic chemical contaminants

listed in the National Interim Primary Drinking Water Regulations as applicable to community water systems. More frequent monitoring would be appropriate for specific parameters such as pH, color, odor or others under certain circumstances as directed by the State.

(b) Analyses conducted to determine compliance with § 143.3 should be made in accordance with the following methods:

(1) Chloride—Potentiometric Method, "Standard Methods for the Examination of Water and Wastewater," 14th Edition, p. 306.

(2) Color—Platinum-Cobalt Method, "Methods for Chemical Analysis of Water and Wastes," p. 36-38, EPA, Office of Technology Transfer, Washington, DC. 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 160-162, 14th Edition, p. 64-66.

(3) Copper—Atomic Adsorption Method, "Methods for Chemical Analysis of Water and Wastes", pp. 108-109, EPA, Office of Technology Transfer, Washington, DC. 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, 14th Edition, p. 144-147.

(4) Foaming Agents—Methylene Blue Method, "Methods for Chemical Analysis of Water and Wastes," pp. 157-158, EPA, Office of Technology Transfer, Washington, DC. 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 339-342, 14th Edition, p. 600.

(5) Iron—Atomic Adsorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 110-111, EPA, Office of Technology Transfer, Washington, DC. 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, 14th Edition, p. 144-147.

(6) Manganese—Atomic Adsorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 116-117, EPA, Office of Technology Transfer, Washington, DC. 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, 14th Edition, p. 144-147.

(7) Odor—Consistent Series Method, "Methods for Chemical Analysis of Water and Wastes," pp. 287-294, EPA, Office of Technology Transfer, Washington, DC. 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 248-254, 14th Edition, p. 75-82.

(8) pH—Glass Electrode Method, "Methods for Chemical Analysis of Water and Wastes," pp. 239-240, EPA, Office of Technology Transfer, Washington, DC. 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 276-281, 14th Edition, pp. 460-465.

(9) Sulfate—Turbidimetric Method, "Methods for Chemical Analysis of Water and Wastes," pp. 277-278, EPA, Office of Technology Transfer, Washington, DC. 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 334-335, 14th Edition, p. 496-498.

(10) Total Dissolved Solids—Total Residue Methods, "Methods for Chemical Analysis of Water and Wastes," pp. 270-271, EPA, Office of Technology Transfer, Washington, DC. 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 288-290, 14th Edition, p. 91-92.

(11) Zinc—Atomic Adsorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 155-156, EPA, Office of Technology Transfer, Washington, DC. 20460, 1974, or "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210-215, 14th Edition, p. 144-147.

PART 144—UNDERGROUND INJECTION CONTROL PROGRAM

Subpart A—General Provisions

Sec.
144.1 Purpose and scope of Part 144.
144.2 Promulgation of Class II programs for Indian lands.
144.3 Definitions.
144.4 Considerations under Federal law.
144.5 Confidentiality of information.
144.6 Classification of wells.

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REFERENCE NO. 6

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: 02-8803-25-51

DATE: 14 Sept 1985

FROM: David Heim

COPIES:

SUBJECT: ref #6

REFERENCE:

Reference #6, the US GS Topo Quad "Browns Mills, NJ" map is located in the rear of this report, in a plastic sleeve.

David Heim
5.14.89

NUS 443A 58 1182

REFERENCE NO. 7

GO

GEMS Data (as of 3/16/88): Buster's Junkyard 02-8803-25/NJ55

Data List of Dataset: NJ55 Number of Records = 6

REC #	POP	HOUSE	DISTANCE	SECTOR	Distance (miles)	Total Population	Total No. of Houses
1	0	26	0.400000	1	0.25	99	26
2	706	223	0.810000	1	0.50	805	249
3	0	86	1.60000	1	1.0	1,132	335
4	3195	1059	3.20000	1	2.0	4,327	1,494
5	8176	2479	4.80000	1	3.0	12,503	3,973
6	5643	1836	6.40000	1	4.0	18,146	5,809

Press RETURN to page forward, enter Pnnn to position the starting record of the next page, enter BACK to reselect variables, or enter END to stop
?

Total population within:

0.25 mi: 26 houses X 3.8 persons/house = 99 (from U.S. Dept. of the Interior, U.S. Geological Survey, Topographic Map, 7.5 Minute Series, "Browns Mills, NJ" Quadrangle, 1957, photorevised 1971)

0.50 mi: 99 + 706 = 805 (from GEMS)

1.0 mi: 805 + (86 X 3.8) = 1,132 (from USGS Topographic map - see above)

2.0 mi: 1,132 + 3,195 = 4,327 (GEMS)

3.0 mi: 4,327 + 8,176 = 12,503 (GEMS)

4.0 mi: 12,503 + 5,643 = 18,146 (GEMS)

REFERENCE NO. 8

Uncontrolled Hazardous Waste Site Ranking System

A Users Manual

(HW-10)

Originally Published in
the July 16, 1982, *Federal Register*

United States
Environmental Protection
Agency

1984

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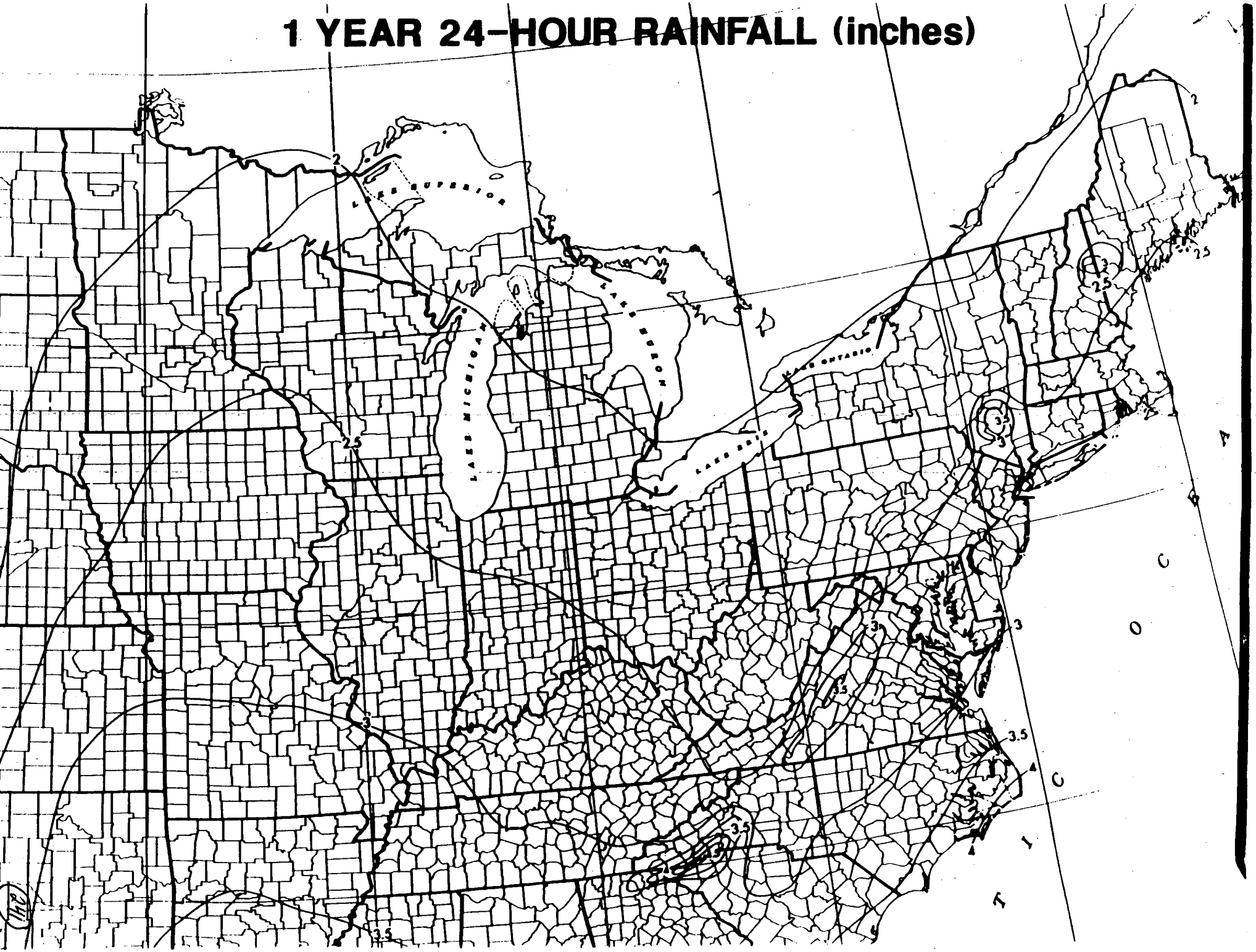
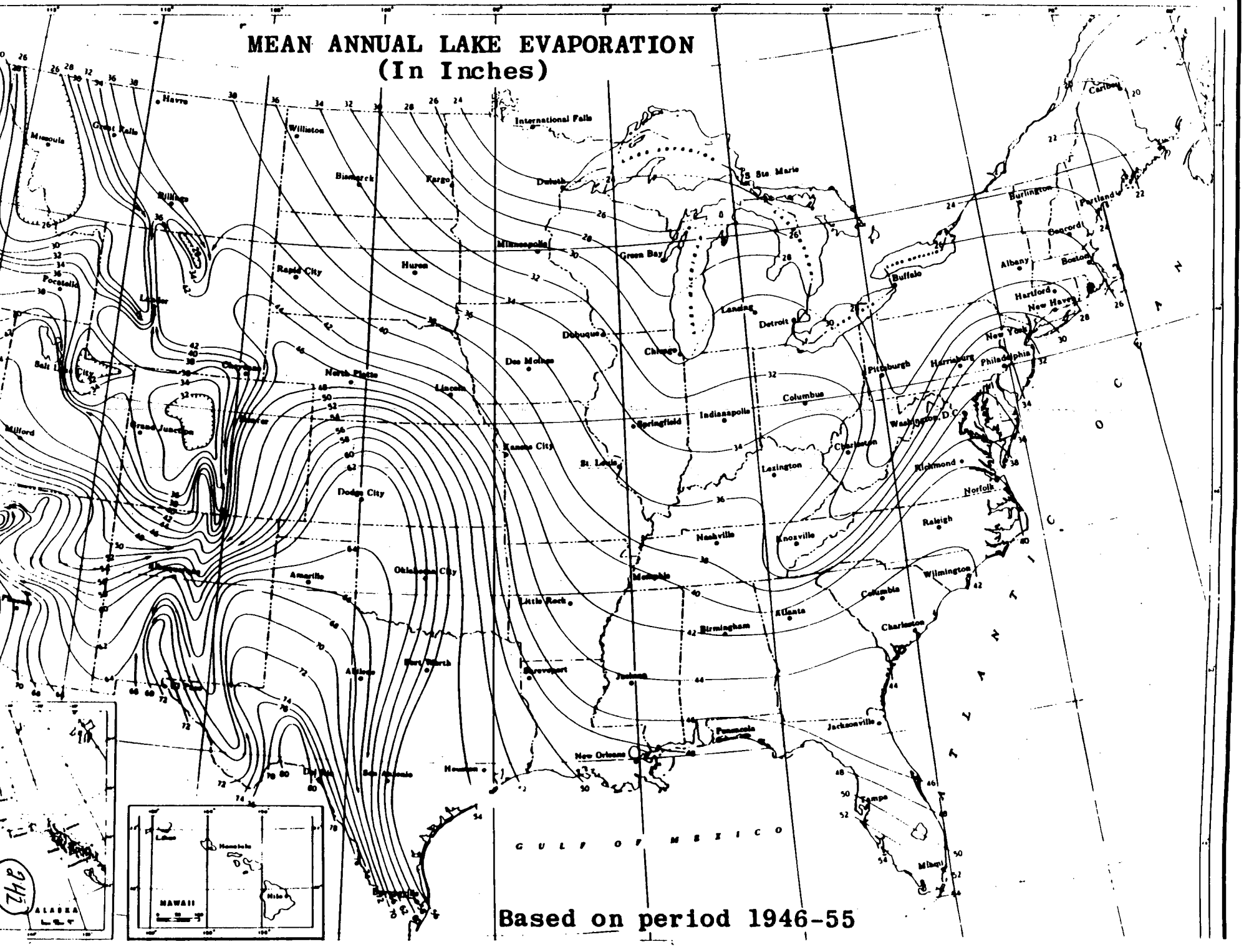
1 YEAR 24-HOUR RAINFALL (inches)

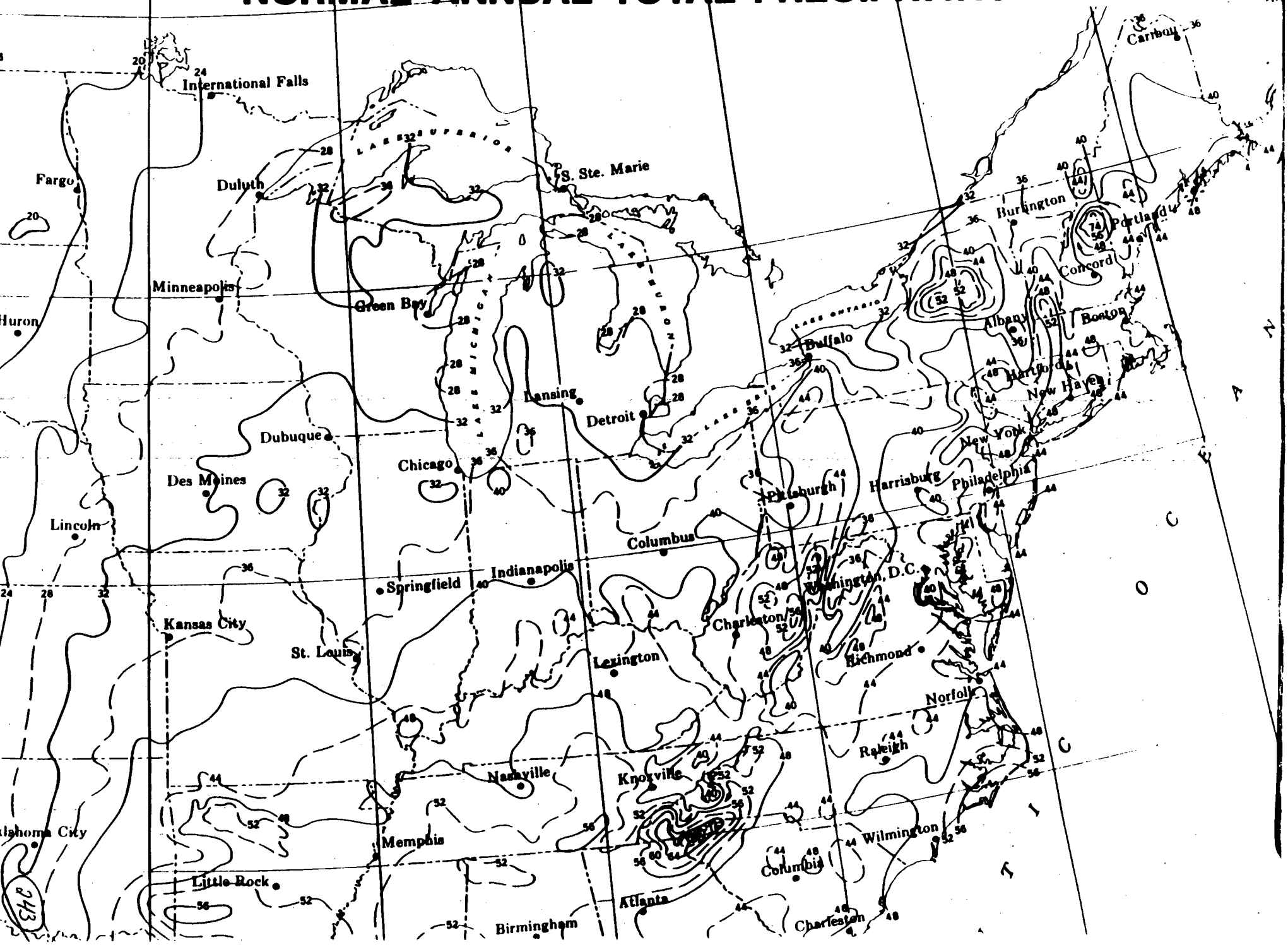


MEAN ANNUAL LAKE EVAPORATION
(In Inches)



Based on period 1946-55

NORMAL ANNUAL TOTAL PRECIPITATION (Inches)



REFERENCE NO. 9

NJD 981560949

Preliminary Assessment Review Form

Site Name: Busters Junkyard
Aliases:
Address: 1572F Pepper Road
City: Browns Mill
County: Burlington
State: NJ
Priority Rating Given: Medium
(By State or Contractor)

Agree:
Disagree:
(Check One)

If Disagree, Why?

Other Comments: Site inactive
Site Description: Busters Junkyard is a working junkyard w/ junked cars and even some household waste on site. There have been charges/claims of illegal dumping of 55 gallon drums which were supposedly buried on site. Local residents use ground water for drinking supply from wells which are only 20 ft. deep

Recommendation:
Final (By EPA)

medium Priority
10-1-87

need more proof or any proof that drums are buried here.

Reviewer: J Gaal
Date: 10-1-87

NUS CORPORATION
A Halliburton Company

02-8608-02-PA

POTENTIAL HAZARDOUS WASTE SITE

PRELIMINARY ASSESSMENT

Buster's Junkyard **Site Name**	NJ New **EPA Site ID Number**
1572F Pepper Road Browns Mills, NJ 08015 **Address**	02-8608-02 **TDD Number**

Date of Site Visit: Off-site Reconnaissance 8/19/86

SITE DESCRIPTION

Buster's Junkyard is located in a residential area of Browns Mills, New Jersey. A six foot stockade fence surrounds the site and two dogs guard the gate. Many junked cars and trucks were observed on the property within the fence.

Most residents in the area use groundwater for drinking. Blueberry fields and cranberry bogs are within 3 miles of the site.

Site history reveals alleged chemical wastes dumped on the property in 1975. The Burlington County Health Department (BCHD) and NJDEP investigated the site in 1975 and found drums buried onsite. These drums may have originated from the nearby Lang Property.

Also in 1975, the Pemberton Twp. fire department responded to a chemical fire involving drums.

In 1983, the NJDEP inspected the site again and cited the owner for illegally landfilling household garbage, demolition wastes, and bulky items. The owner was also cited by the Pinelands Commission for infractions.

PRIORITY FOR FURTHER ACTION: High___ Medium X Low___ None___

RECOMMENDATIONS

It is recommended that a site investigation be conducted as background information supports allegations of chemical dumping at the junkyard. Local residents have shallow wells, that should be sampled for potential contamination.

Prepared by: Laurie Gneiding of NUS Corporation **Date:** 8/21/86

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

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
NJ NEW

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Buster's Junkyard

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: 1572F Pepper Road

03 CITY: Browns Mills

04 STATE: NJ

05 ZIP CODE: 08015

06 COUNTY: Burlington

07 COUNTY CODE: 005

08 CONG DIST.: 04

09 COORDINATES

LATITUDE: 3 90 5 90 0 0". W

LONGITUDE: 0 7 40 3 2' 1 3". N

10 DIRECTIONS TO SITE (Starting from nearest public road)

County Rt. 530 (Lakehurst Road) south. Left on Ridge Road, left on Aspen Way, right on Pepper Road.

III. RESPONSIBLE PARTIES

01 OWNER (if known): Leonard Perrine

02 STREET (Business, mailing, residential): 1572F Pepper Road

03 CITY: Browns Mills

04 STATE: NJ

05 ZIP CODE: 08015

06 TELEPHONE NUMBER: (609) 393-5575

07 OPERATOR (if known and different from owner)

08 STREET (Business, mailing, residential)

09 CITY

10 STATE

11 ZIP CODE

12 TELEPHONE NUMBER ( )

13 TYPE OF OWNERSHIP (Check one)

X A. PRIVATE ___ B. FEDERAL: ___ (Agency name) ___ C. STATE ___ D. COUNTY ___ E. MUNICIPAL

___ F. OTHER: ___ (Specify) ___ G. UNKNOWN

14. OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

___ A. RCRA 3001 DATE RECEIVED: / / ___ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / /

X C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION BY (Check all that apply)

X YES DATE: 3 / 19 / 86 ___ A. EPA X B. EPA CONTRACTOR ___ C. STATE ___ D. OTHER CONTRACTOR

___ NO ___ E. LOCAL HEALTH OFFICIAL ___ F. OTHER: ___ (Specify)

CONTRACTOR NAME(S): NUS Corporation

02 SITE STATUS (Check one)

X A. ACTIVE ___ B. INACTIVE ___ C. UNKNOWN

03 YEARS OF OPERATION

Unknown (BEGINNING) N/A (ENDING) ___ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Gasoline and oil spills were noted onsite by NJDEP inspectors. Chemical wastes were allegedly dumped onsite in 1975.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

The site is located in a residential area where groundwater is used for drinking water. Blueberry and cranberry fields are located within a three mile radius.

IV. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste information and Part 3 - Description of Hazardous Conditions and Incidents)

___ A. HIGH (Inspection required promptly) X B. MEDIUM (Inspection required) ___ C. LOW (Inspection on time available basis) ___ D. NONE

(No further action needed. complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT: Diana Messina

02 OF (Agency/Organization): US EPA

03 TELEPHONE NUMBER: (201) 321-6685

04 PERSON RESPONSIBLE FOR ASSESSMENT: Laurie Spaulding

05 AGENCY: US EPA

06 ORGANIZATION

07 TELEPHONE NUMBER

08 DATE

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POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

1. IDENTIFICATION
01 STATE 02 SITE NUMBE
NJ NEW

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

02 WASTE QUANTITY AT SITE

(Measures of waste quantities must be independent)

TONS Unknown
CUBIC YARDS Unknown
NO. OF DRUMS Unknown

03 WASTE CHARACTERISTICS (Check all that apply)

- X A. TOXIC
- _ B. CORROSIVE
- _ C. RADIOACTIVE
- X D. PERSISTENT
- _ E. SOLUBLE
- _ F. INFECTIOUS
- X G. FLAMMABLE
- _ H. IGNITABLE
- _ I. HIGHLY VOL/
- _ J. EXPLOSIVE
- _ K. REACTIVE
- _ L. INCOMPATIBL
- _ M. NOT APPLIC/

III. WASTE TYPE

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

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEAS CONCENT
MES	Copper				
OLW	Crankcase Oil				

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS
FDS	Not applicable		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

NJDEP Files

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

I. IDENTIFICATION
01 STATE 02 SITE NUMB
NJ NEW

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUNDWATER CONTAMINATION — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ ALLE
03 POPULATION POTENTIALLY AFFECTED: Approx. 1300 04 NARRATIVE DESCRIPTION

The potential exists if leaking drums were buried onsite. Oil and gasoline were seen staining the soil and could also to the groundwater. Local residents use groundwater for drinking.

01. X B. SURFACE WATER CONTAMINATION — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ ALLE
03 POPULATION POTENTIALLY AFFECTED: Approx. 4700 04 NARRATIVE DESCRIPTION

The potential exists as a stream, connecting Hanover Lake and Mirror Lake, is located 700 feet from the site.

01 X C. CONTAMINATION OF AIR — 02 X OBSERVED (DATE: 1975) _ POTENTIAL _ ALLE
03 POPULATION POTENTIALLY AFFECTED: Approx. 1300 04 NARRATIVE DESCRIPTION

The Burlington County Health De... ...ent noticed odors of paint after a fire on the Perrine property.

01. X D. FIRE/EXPLOSIVE CONDITIONS — 02 X OBSERVED (DATE: 11/75) _ POTENTIAL _ ALLE
03 POPULATION POTENTIALLY AFFECTED: Approx. 1300 04 NARRATIVE DESCRIPTION

Pemberton Fire Department responded to a chemical fire involving 12 drums of unknown material on the Perrine property.

01. _ E. DIRECT CONTACT — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLE
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

No potential exists as the site is fenced and guarded by dogs.

01 X F. CONTAMINATION OF SOIL — 02 X OBSERVED (DATE: 1983) _ POTENTIAL _ ALLE
03 AREA POTENTIALLY AFFECTED: 0.5 (ACRES) 04 NARRATIVE DESCRIPTION

NJDEP investigated the soil and saw gasoline and oil spillage from junked cars.

01. X G. DRINKING WATER CONTAMINATION — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ ALLE
03 POPULATION POTENTIALLY AFFECTED: Approx. 1300 04 NARRATIVE DESCRIPTION

The potential exists as residences nearby use groundwater as potable water. The adjacent home has a 20 foot shallow we

01 X H. WORKER EXPOSURE/INJURY — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ ALLE
03 WORKERS POTENTIALLY AFFECTED: Unknown 04 NARRATIVE DESCRIPTION

The potential exists if hazardous waste were disposed of onsite.

01 X I. POPULATION EXPOSURE/INJURY — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ ALLE
03 POPULATION POTENTIALLY AFFECTED: Approx. 13,000 04 NARRATIVE DESCRIPTION

The potential exists if groundwater is contaminated or contaminated particulates become airborne.

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

1. IDENTIFICATION
01 STATE 02 SITE NUMB
NJ NEW

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X J. DAMAGE TO FLORA — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ AL
04 NARRATIVE DESCRIPTION

The potential exists for floral uptake of contaminants if soil is contaminated. Blueberry fields are located approxima 0.01 mile from the site and cranberry bogs are located approximately 4000 feet from the site.

01 X K. DAMAGE TO FAUNA — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ AL
04 NARRATIVE DESCRIPTION (Include name(s) of species)

The potential exists if contaminated flora are ingested.

01 X L. CONTAMINATION OF FOOD CHAIN — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ AL
04 NARRATIVE DESCRIPTION

The potential exists if flora and fauna become contaminated.

01 X M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 X OBSERVED (DATE: 1983) _ POTENTIAL X AL
03 POPULATION POTENTIALLY AFFECTED: Approx. 13,000 — 04 NARRATIVE DESCRIPTION

Drums from the nearby Lang property were allegedly buried on site. NJDEP observed spillage of gasoline and oil wastes a site inspection.

01 X N. DAMAGE TO OFFSITE PROPERTY — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ AL
04 NARRATIVE DESCRIPTION

The potential exists if groundwater becomes contaminated.

01 _ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ AL
04 NARRATIVE DESCRIPTION

No potential exists as there are no sewers, storm drains, or WWTP within the area.

01 X P. ILLEGAL/UNAUTHORIZED DUMPING — 02 _ OBSERVED (DATE: _____) _ POTENTIAL X AL
04 NARRATIVE DESCRIPTION

Mr. Perrine admitted to accepting chemical wastes in 1975. He also accepted solid waste (i.e. junked cars and househol wastes) without authorization from NJDEP.

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: Approx. 3000

IV. COMMENTS

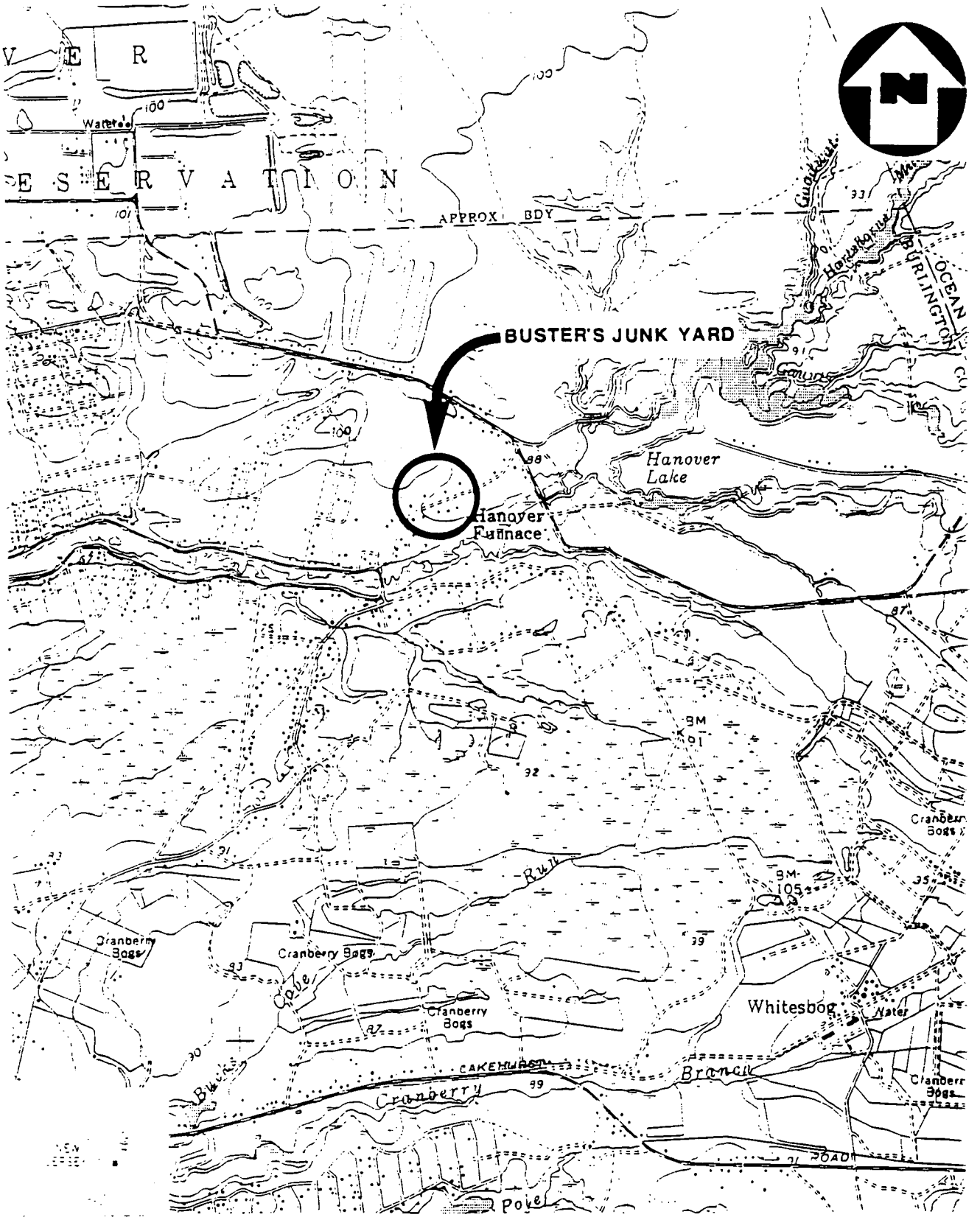
It is alleged that the drums buried onsite came from the Lang property.

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

NJDEP Files
Site Reconnaissance conducted by NUS Corporation FIT II on 3/15/86

APPENDIX A

MAPS



(QUAD) BROWNS MILLS, N.J.

FIGURE 1

SITE LOCATION MAP

BUSTER'S JUNKYARD, BROWNS MILLS, N.J.

SCALE 1" = 2000'

NUS CORPORATION

A Halliburton Company

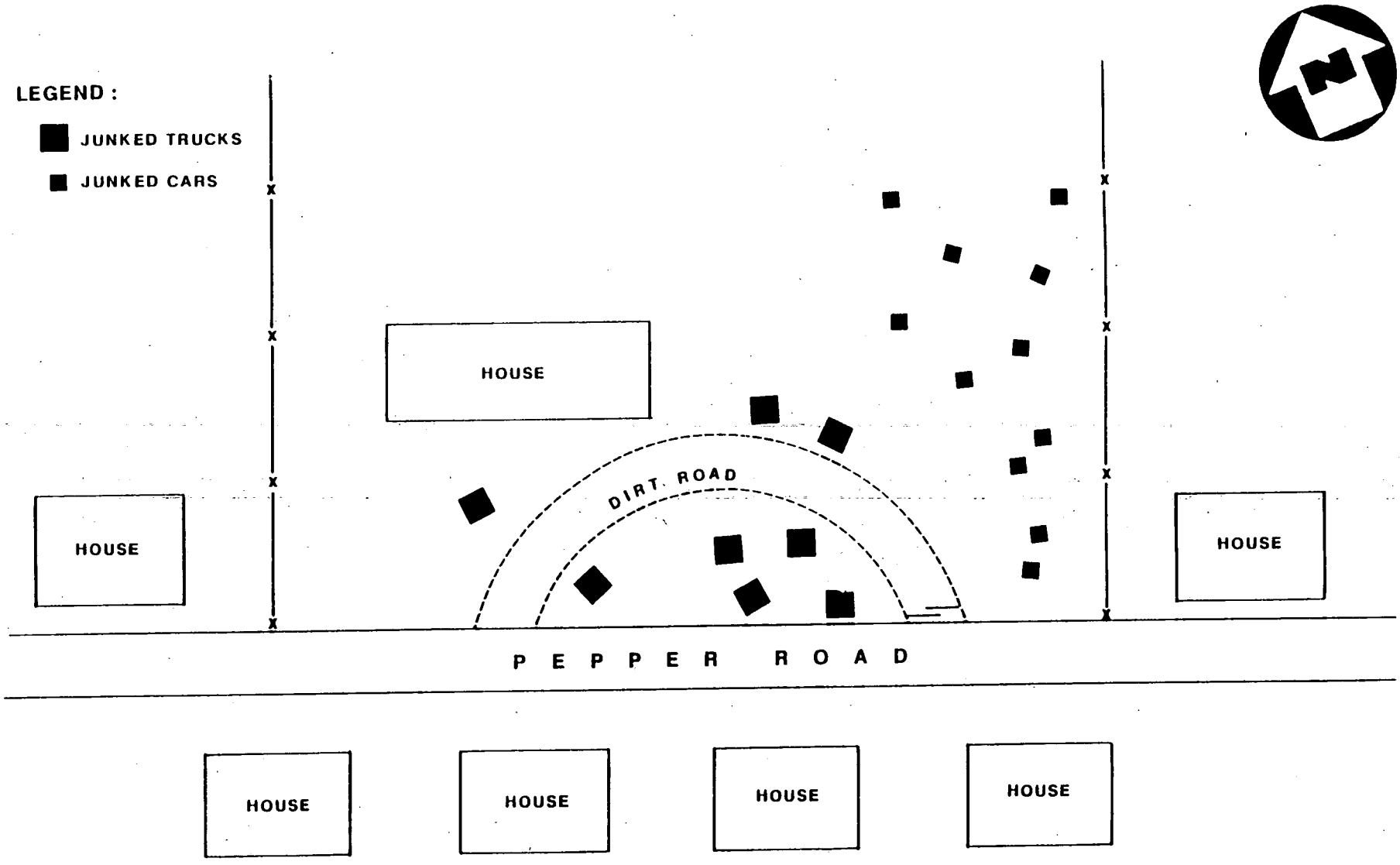


FIGURE 2

SITE MAP

BUSTER'S JUNKYARD, BROWNS MILLS, N.J.

(NOT TO SCALE)

NUS CORPORATION
A Halliburton Company

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APPENDIX B

BACKGROUND INFORMATION

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WASTE MANAGEMENT

[redacted]

RD 1 Route 70, Vincentown, NJ 08088

JACK STANTON
DIRECTOR

LINO F. PEREIRA
DEPUTY DIRECTOR

May 3, 1983

Burlington Co. Health Department
Walter Trommelen, H. O.
Raphael Meadow Health Center
Woodland Road
Mount Holly, NJ 08060

RE: Buster's Garage, 34 Pepper Rd., Browns Mills (tele. no. 893-5575) (Bl. 524, Lot 6) (Leonard and Pearl Perrine). Illegal landfilling of household garbage, demolition waste, bulky items. The area is approx. 75' x 150' and located in a swampy lowland environment.

Dear Mr. Trommelen:

The Department of Environmental Protection has done a preliminary investigation on 5/2/83 of the referenced location.

Our investigation indicates that there is a violation pertaining to the disposal of solid waste. Found were many cancelled checks in one load of refuse with the name of [redacted] (tele. no. [redacted]).

As you are aware, the Solid Waste Management Act (NJSA 13:1E-1) empowers local health departments to enforce the regulations promulgated under this Act pertaining to the proper disposal of solid waste; namely, NJAC 7:26-1 et seq.

The Department hereby notifies you that it will take no further action in this matter and the information is being supplied to you for review and any action you may deem necessary.

Should you have any questions concerning this matter, please feel free to contact Frank Hartman at 609-859-2958.

Very truly yours,

Charles E. Krauss
Acting Region Chief
Southern Region
Bureau of Field Operations

CEK:krb

New Jersey Is An Equal Opportunity Employer

3/83

DIVISION OF WASTE MANAGEMENT

INSPECTION REPORT

NARRATIVE

NAME OF FACILITY LEONARD PERRINE T/A BUSTER'S JUNKYARD DATE 09-25-84

1572 F PEPPER RD. PEMBERTON TWP. BURLINGTON Co.

CHAPTER CITATION	DESCRIPTION
	THIS INVESTIGATION WAS TO VERIFY COMPLIANCE WITH THE ATTACHED ADMINISTRATIVE ORDER DATED AUG. 16, 19
	ON THE ABOVE DATE THIS WRITER VISITED THE ABOV AREA AND NOTED NONE OF THE WASTE MATERIAL DES CRIBED IN MR. FRANK HARTMAN'S REPORT DATED 12-13-83 (ATTACHED). THEREFORE, IT IS THIS WRITER'S OPINION THA MR. LEONARD PERRINE HAS COMPLIED WITH THE ABOVE MENTIONED ADMINISTRATIVE ORDER.
	NOTE: MR. PERRINE WAS NOTIFIED OF THIS WRITERS FINDING

Inspector

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT

[ ] SF
[✓] SW
[ ] HW
[ ] OTHER

NJ ID _____ EPA ID N J _____

VIOLATOR INFORMATION

NAME Baker's Tankwash

ADDRESS 1972 Floral Ave

DATE (VIOLATION) 12/__/73

LOCATION OF VIOLATION

BLOCK 5[illegible] LOT 6

OTHER Roosevelt C/M 0[illegible]

DATE (FOLLOW UP EVAL.) __/__/__

TYPE EVAL. [✓] EVAL. INSP. [ ] SAMP. INSP. [ ] RECORD REV. [ ] SPEC. INSP. [ ] FOLLOW UP

VIOLATION(S)

REC.	CLASS	REC.	CLASS
[illegible](b)	IV		
[illegible](c)	IV		

VIOLATION SUMMARY

CLASS	GWM	C/PL	FR	Pe.B.	C.S.	M	OTHER
I							
II							
III							
IV							
V							

ENFORCEMENT ACTION: [✓] NEW [ ] AMEND [ ] RESCIND [ ] DWM ACTION NO. S[illegible]

AREA OF VIOLATION	TYPE ACTION TAKEN (CIRCLE ONE)	DATE OF ACTION	COMPLIANCE DATES SCHEDULED	ACTUAL
	WL/NOV (AO) ACO CivA CrA	05 16 84	05 30 84	
	WL/NOV AO ACO CivA CrA			
	WL/NOV AO ACO CivA CrA			
	WL/NOV AO ACO CivA CrA			
	WL/NOV AO ACO CivA CrA			
	WL/NOV AO ACO CivA CrA			

PENALTY: [ ] ASSESSED [ ] COLLECTED $ _____

REFERRALS: [ ] ORS [ ] LAW (AG) [ ] CJ [ ] DWR [ ] OTHER _____

DATE OF REFERRAL __/__/__ REQUESTED ACTION _____

ACTION TAKEN BY: [ ] ORS [ ] LAW (AG) [ ] CJ [ ] DWR [ ] OTHER _____

DATE OF ACTION __/__/__ ACTION TAKEN _____

COMMENTS: [illegible] as per ORS

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMO

TO Charles Krauss

FROM Karl Delaney DATE January 6, 1984

SUBJECT Buster's Garage, Pemberton Twp., file # 03-29-08 (aka Leonard "Buster" Perrine)

On December 12, 1983, this writer telephoned DAG Ann Simonoff and requested the status of the Lang Property investigation. Ther writer's concern was directed specifically towards the reported dumper [redacted] who is named in several court documents contained in the Lang Property file (#03-29-05). Speculation has been that since the alleged drums at the subject site, and other sites throughout the vicinity of Pemberton Twp., were discovered at the same time, that the dumper might be the same.

Ms. Simonoff stated that her office is not pursuing the [redacted] lead since there is not sufficient evidence to tie [redacted] into the case. Therefore, there is no attempt being made to obtain certification from [redacted] as to possible involvement with Buster's Garage.

Karl Delaney
Sr. Env. Spec.

FOS12:krb

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Ray Barg, Chief, Potable Water through Ronald T. Corcory

FROM Frank Hartman through Charles E. Krauss DATE February 29, 1984

SUBJECT Sampling at Buster's Junkyard (L. Perrine, owner) on Pepper Road, Pemberton Twp. Burlington Co.

In reference to our telephone conversation of February 27, 1984, please be advised that allegations have been made that Buster's Junkyard (Blk. 524, Lot 6) has taken and buried hazardous waste from the Lang Property in 1975. Because of the citizens and our own concern we would appreciate the DWR, Potable Water, to take and analyze water samples from the residents homes. As a coordinating effort we would supply a guide and anything else you would need pertaining to this matter. I will be waiting for your response.

Thank you for your help.

Frank Hartman
Sr. Env. Spec.

FOS3:krb
cc: file

TO:

Be advised that the undersigned has applied for the following license(s) from the Township of Pemberton, as marked by "X":

/ (1) Pre-existing nonconforming junkyard license (operating continuously prior to December, 1973)

and/or

____ (2) Auto Repair Facility Junkyard (25-car maximum)

As required by Pemberton Township Ordinance 23-1982, notice of a public hearing regarding such application(s) is hereby given:

Please be advised that a public hearing has been scheduled for Thursday, April 21, 1983, at 7:30 p. m. at the Pemberton Township Municipal Building, 500 Pemberton-Browns Mills Road in New Lisbon, New Jersey, with regard to application(s) submitted to the Township of Pemberton regarding one or both of the above-noted type licenses.

SIGNED: _____
(Name of applicant)

BUSINESS TRADE NAME: BUSTER'S GARAGE

BLOCK & LOT NUMBER(s) OF BUSINESS: _____

EXHIBIT "A"

THE PINELANDS COMMISSION
P.O. Box 7, New Lisbon, N.J. 08064 (609) 894-9342

April 20, 1983

Honorable Stephen Albano
Mayor, Pemberton Township
and Members of Township Committee
P.O. Box 175
New Lisbon, New Jersey 08064

Re: Scrap and Junk Yards

Dear Mayor Albano and Committee Members:

The Pinelands Commission recently has been contacted by residents of the Township concerning the position of the Pinelands Commission and the Pinelands Comprehensive Management Plan in relation to scrap and junk yards. Any existing operation that was operating on February 7, 1979 would not have to apply to the Pinelands Commission for the area of land actually used for a scrap or junk yard on that date. Any subsequent expansion of an existing operation or the opening of a new operation would need to file an application for development. The operator must obtain a Certificate of Filing from the Pinelands Commission prior to issuance of any township license, permit, or approval to operate a scrap or junk yard.

If you have any questions, please contact Richard Brown of the Commission staff.

Sincerely,

William F. Harrison
Assistant Director

WFH/scb
cc: Francis Banisch, III

EXHIBIT "B"

609-267-7410

VIOLATION NOTICE

TO: Mr. Leonard L. Perrine

MUNICIPALITY: Pemberton Township

PROJECT: Land Grading & Filling

APPLICATION NO: N/A

BLOCK NO. 524

LOT NO.(s) 38

You are hereby advised of your violation of N.J.S.A. 4:24-39 et seq., the Soil Ero and Sediment Control Act, Chapter 251, PL 1975. Said violation arises from your failure to comply with the requirements of the Soil Erosion and Sediment Control Pl certified by the Burlington County Soil Conservation District for the above project The deficiencies found by an inspection on May 20, 1983 are as follows

____ Construction entrance	____ Headwall stabilization	____ Certificate c Conditional Compliance e:
____ Inlet protection	____ Grading side slopes	
____ Sediment barrier	____ Temporary seeding	
____ Detention basin/ retention basin	____ Permanent seeding	X Disturbance to approval
____ Swales	____ Mulching	____ Failure to s Certificate Compliance
____ Outlet protection	____ Other _____	

REMARKS: A soil erosion and sediment control plan must be submitted immediately.

Your failure to take immediate corrective measures to resolve these violations wil result in the filing of a complaint against you under the provisions of N.J.S.A. 4 the Penalty Enforcement Law wherein you may be subject to fines of up to $3,000.00 each and every day during which said violation continues, each day constituting an additional separate and distinct offense. This notice requires your immediate att

DATE June 2, 1983

AUTHORIZED SIGNATURE

DONALD P. YARUS
DISTRICT MANAGER

DISTRIBUTION:

White - District Office
Green - District Solicitor
Yellow- Municipal Construction Official
Pink - Developer/Owner
Goldenrod - Contractor/Superintender

EXHIBIT "C"

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Charles Krauss

FROM Vincent Krisak DATE September 16, 1983

SUBJECT Buster's Garage - File no. 83-04-28-02S

On April 28, 1983, [redacted] notified the Red Lion Field Office and spoke to Vincent Krisak. [redacted] informed Mr. Krisak that the former co-owner of Buster's Garage had told her that the drums of chemicals from the Lang Property were buried on the property of Buster's Garage. [redacted] would not give the co-owner's name. David Bute and Brian Petitt were assigned to investigate the complaint. [redacted] also stated that in 1971, the local Fire Department was called upon to fight a fire at the junkyard. While proceeding to extinguish the blaze, the engine was engulfed by flames eminating from the soil.

[redacted] stated that several inspections were made at the site by local officials who stated to her that there are serious problems at the junkyard, but they would not elaborate on any specific details.

The inspection of the junkyard by David Bute did not reveal any hazardous material stored on-site. Inspectors' Bute and Petitt did note that an area of the junkyard did contain illegally disposed solid waste. Inspectors' Bute and Petitt did not discount the fact that hazardous materials may be buried, but the alleged burial could not be substantiated unless test excavations are conducted.

June, 1983, an inspection of Buster's junkyard was conducted to determine if the property owner, Mr. Leonard Perrine had exceeded the limitations of his permit with regards to the actual amount of space he is allowed to store junk cars. The inspection team included the following:

1) John Gillespi (Attorney)
2) Don Yaros (Soil Conversation)
3) Rick Brown (Pinelands)
4) Pemberton Township Committee

Mr. Gillespi and Mr. Brown did not detect any stored hazardous materials on-site. They did state that the ground in the areas where the junk cars are stored was contaminated with oils and fluids from the junk vehicles.

July, 1983, Vince Krisak requested the Lang Property files from Jim Croce, the case coordinator. Mr. Ted Metzger (D.E.P. Inspector) does not know the location where 1500 drums were dumped.

Subsequent interviews with various persons involved with the investigation at the site did not provide any details as to where the drums were taken when they were removed from the Lang Property.

The Lang Property file was reviewed, but did not reveal where the drums and contaminated soil were disposed of.

Vince Krisak
Principal Environmental

cc: file

SEVER & HARDT
COUNSELLORS AT LAW
THE WOODLANDS
JACKSONVILLE ROAD
P.O. BOX 605
BURLINGTON, N.J. 08016
(609) 387-0050

August 11, 1983

New Jersey Department of
Environmental Protection
RD #1
Route 70
Vincentown, New Jersey 08088

Att: Mr. Vincent Krasak

Re: Buster's Junkyard - Pepper Road
Browns Mills, New Jersey

Dear Mr. Krasak:

As you are aware, I represent a number of property owners along Pepper Road, Browns Mills, Pemberton Township, New Jersey, whose properties are situate beside or near the property owned by Leonard Perrine, t/a Buster's Junkyard. Thank you for talking to me today on the phone regarding this matter. I should like to reiterate my request that you keep me advised on behalf of my clients as to your progress in this case and whether or not there is anything that DEP would do. The matter is a very serious one, and the allegations of the toxic dumping seem to be too detailed to be fictitious. I believe there is a real need for not only the placement of monitor wells on both the Hendrickson and Lewis properties (both of which adjoin Buster's Junkyard on opposite sides), but an inspection of the property by one of your representatives would probably be even more beneficial.

Once again, thank you for contacting me and I look forward to hearing from you as the case progresses.

Very truly yours,

JOHN C. GILLESPIE

JCG:rp

cc: [redacted]

MEMORANDUM

Department of Environmental Protect

TO: File

INVESTIGATIVE REPORT

FROM: F. Hartman

DATE: 11/10/75

SUBJECT: Complaint concerning chemical waste in drums in a corral Perrine's junk yard (Bl 52 Lot 6) on Pepper Oak Rd 1572F, Browns Mills N.J. 08015
This area is in Pemberton twp, Burlington Co.
Current Status - 11/10/75
On the above date, I, Ed Harvey, and Mike Wardell (Burlington Co. H.D.) went the area in question.
we observed that:
① the area in the junk yard had been cleared of all drums. (Mike was stated that they had been buried (≈ 50'x
② a paint residue smell still was apparent.
③ There was no activity on the sit at the time of inspection.

cc. to Mike Wardell, Burlington Co. Health Dept.

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REFERENCE NO. 10

RAPHAEL MEADOW HEALTH CEN
WOODLA ROAD
MOUNT HOLLY, NEW JERSEY 08060

8

TO: Charles J. Schiers, Environmental Health Coordinator via John D. Bracy, Chief Sanitary Inspector

FROM: Robert Simkins and Mike Wardell

RE: Technical Report - Chemical Waste Pump in Pemberton Township

This report is to familiarize you with the geographical, geological and hydrological aspects of the dump site and contiguous areas. It also briefly entertains a discussion of the potential environmental impacts that this situation may create.

LOCATION:

The dump site under investigation is located (Block 907 Lot 8/9) in Pemberton Township at the end of Brown Boulevard. It lies approximately 1.5 miles west of the Burlington/Ocean County boundary and approximately 1200 feet north of the abandoned Pennsylvania Railroad line

GEOGRAPHIC SETTING:

Burlington County has all three major subdivisions (fig. 1) of the New Jersey Coastal Plains represented within its boundary. Between the inner lowlands of the north sector of the county and the outer lowlands of the southern sector lies the inner uplands. It is this upland region that forms the headwaters for all of the major streams of the county. The site in question is situated almost directly on the subdivision line of the inner lowlands and the inner uplands, within the Rancocas Creek Basin.

GEOHYDROLOGICAL SETTING:

The Cohansey Sand Formation, a medium - to coarse - grained pebbly quartz sand, outcrops (fig. 2) in the site area. In this immediate area the formation is around 50 feet thick. The Cohansey Sand unconformably overlies the Kirkwood Formation.

To the NW the Cohansey thins to a featheredge. Down dip, to the SE, its thickness depends greatly on the altitude of the land surface, but probably does not exceed a maximum of 250 feet in the county (fig. 3)

The Cohansey Sand is one of the important aquifers in Burlington County. It is essentially untapped, but is has a tremendous potential in some areas. This aquifer has no confining layer overlying it, so that most of the formation is under water table conditions.

Water enters this aquifer directly from precipitation in the topographic high areas of the inner uplands and moves toward low-level areas where it is ultimately discharged. In the dump site area this direction of discharge is to the NW towards the Rancocas headwaters.

Immediately underlying the Cohansey Sand is the Kirwood Formation, composed of a very fine to fine - grained well sorted quartz sand. The formation outcrops across the county in a belt [illegible] (SW-NE fig. 4). Like the Cohansey, it thickens down dip to approximately 280 feet.

The Kirkwood Formation unconformably overlaps the Hornerstown Sand, the Vincentown Formation and the Manasquan Formation in Burlington County. These three formations act as a confining layer between the Wenonah-Mt. Laurel aquifer and the overlying aquifers of the Kirkwood Formation and the Cohansey Sand. Recharge to the Wenonah-Mt. Laurel aquifer takes place as a result of vertical leakage through these three formations (fig. 3).

Recharge to the Kirkwood is principally from percolation into the formation in the upland area from the overlying Cohansey Sand. Movement again, in the site area, is probably towards the lowland areas where the water is discharged mostly to the Rancocas headwaters.

The Kirkwood is not of major importance in Burlington County as an aquifer. Most of its use is only by small diameter domestic wells and these, usually only in the formation outcrop area. When it is covered by the Cohansey Sand, the latter is utilized because of the shallower depth.

POTENTIAL ENVIRONMENTAL IMPACT:

Field study of the dump site area has shown it to have a very high water. Several soil borings conducted in the immeidate area of the drums, show the water table to be between 2 to 2.5 feet. A dug ditch, probably part of this former cranberry bog, drains the dump site by running along the perimeter of the area (fig. 5). Flow in this stream has been noted on all visits to the site and could be estimated at approximately 2 gallons per minute. According to the Burlington County Soil Survey and the U.S.G.S. topographic map, this drainage ditch is continuous with other cranberry bog ditch networks and eventually empties into Country Lakes, 2.5 miles to the NW via Baffin Creek. Country Lakes eventually empties into the Rancocas Creek (North Branch) but only after the water flows through more cranberry bogs via Pole Bridge Branch and then travels through the Greenwood Branch where it enters the Rancocas three miles below Mirror Lake.

Although the results of the chemical samples taken from this drainage stream are not yet available, it is the feeling of this writer that the stream is carrying a heavy load of chemical pollutants to its downstream destinations. I feel safe in making this judgement, since the preliminary organoliptic tests were so positive! Surely these pollutants will have some effect on the cranberry and blueberry crops via their destination.

Of tremendous importance to our department is the fate of the private domestic wells in the area. The Better Half Hunting & Fishing Club located 200 feet NW of the immediate site is in the most danger. It appears that they use a shallow well with a pitcher pump located inside the clubhouse. Homes along Brown Boulevard begin approximately 1/4 mile to the SE of the site and extend out to about 3/4 of a mile. Only one well, Myers, has had a complete chemical analysis performed. Results not in. According to Mrs. Myers, all the wells along Brown Boulevard are about 65 feet deep. Ground water, being under surface water table conditions in this area, will flow to the NW, seeking its lowest point for discharge into the Rancocas Creek Basin. This flow direction is away

rom these six priv wells, but rs well, n sampled, had a slightly positive organoliptic test.

In light of recent allegations that the Pemberton Township Landfill is receiving 20,000 gallons per day of septic wastes, and also that the landfill is located upgradiant and to the ESE of the seven wells in question, I feel special attention is warranted in their case.

The dangers of landfill leachete combining with these chemicals is unknown at this point. A thorough geohydrological study would be required to give a more exact definition of this potential danger.

REFERENCE NO. 11

MATHEWS & SITZLER
ATTORNEYS AND COUNSELORS AT LAW
PROFESSIONAL BUILDING
313 EAST BROAD STREET
PALMYRA, NEW JERSEY 08065

JOHN B. MATHEWS
JOHN O. SITZLER, JR.
JOHN S. SITZLER

AREA CODE
829-0000
829-0000

June 10, 1980

State of New Jersey
Department of Law and Public Safety
Division of Law
Environmental Protection Section
36 West State Street
Trenton, New Jersey 08625

Attn: Paul H. Schneider, Esquire
Deputy Attorney General

Re: State, DEP vs. Lang

Dear Paul:

Enclosed herewith please find a copy of my expert's report in the above captioned matter. Please review this matter at your earliest convenience and contact me so that we may proceed further.

Thank you for your cooperation in this case.

Very truly yours,

MATHEWS & SITZLER
John S. Sitzler

JSS:th
Enclosure

cc: Edward Lang

Geraghty & Miller, Inc.

CONSULTING GROUND-WATER GEOLOGISTS AND ENGINEERS

Telephone 516/921-0030

April 14, 1980

Mr. John S. Sitzler, Jr., Esq.
Mathews and Sitzler
313 East Broad Street
Palmyra, New Jersey 08065

Dear Mr. Sitzler:

On November 29, 1979, Geraghty & Miller, Inc. conducted field work on property belonging to your client (Lang) in Pemberton Township, Burlington County, New Jersey. This field work was undertaken at your request to determine ground-water quality conditions at your client's property where a number of drums containing chemical waste had been dumped.

The State of New Jersey learned of the drums through routine reconnaissance and ordered them removed. The drums were removed from the property; some had originally been buried; some apparently had leaked, and others possibly had their contents emptied on the ground. The State judged the soil and/or ground water to be contaminated and required further work to determine the extent of the contamination.

On November 29, 1979, Geraghty & Miller, Inc. installed 6 shallow wells by hand, measured water levels, and collected water samples for chemical analyses. Table 1 gives construction details of the wells, and Table 2 gives the results of chemical analyses. Samples from each of the 6 wells were sent to the New Jersey Department of Environmental Protection for analysis. Additionally, duplicate samples were obtained from 2 of the wells and sent to Penn Environmental Consultants of Pittsburgh, Pennsylvani for analysis..

Our site inspection on November 29, 1979 (in the presence of Mr. Paul Dahlgren, New Jersey Solid Waste Administration) revealed discolored soil and puddled water in the center of the area where the drums had been dumped. Locations for 2 background (upgradient from the disposal area) wells (Wells 1 and 2) were picked with Mr. Dahlgren, who was present during their installation. The locations for the remaining wells were generally discussed before Mr. Dahlgren's departure. Well 3 (see Figure 1) was located in the middle of the disposal area and Wells 4, 5, and 6 were located downgradient of the disposal area close to the stream that borders the property.

The wells were driven approximately 4-1/2 to 5 feet below the water

table. After measuring water levels in each well, several times the volume of water standing in the well was removed by bailing before collecting samples.

Although the wells were installed by driving a well point and pipe with a two-man hammer, the first foot or two of the hole at each site was hand augered to facilitate driving the well point and afford the opportunity to examine the upper layer of subsurface material. At sites 1, 2, and 3, the first few inches consist of topsoil above a fine to medium light gray sand of quartz lithology with a trace of black minerals. The soil at site 3 had a moderate solvent odor. At sites 4 and 5, a fine to medium, brown, silty sand of quartz lithology is located below 1/2 to 1 foot of dark brown, clayey muck. Augering was not done at site 6.

The water bailed from Well 3 had a strong chemical smell while water from Wells 4 and 5 had no odor but did have an oil sheen.

It is apparent from the field data and results of chemical analysis that the ground water from Well 3 is grossly contaminated with volatile organic compounds. The ground water from Wells 1 and 2 appears to be uncontaminated with the exception of chlorobenzene in Well 1. Considering its assumed upgradient location, and the apparent inconsistencies in analysis for some of the other wells, this may be a spurious result. Wells 5 and 6 show small amounts of Octane, Toluene, Trichloroethylene, and Methyl Isobutyl Ketone, which may indicate that contamination, or at least the edge of the plume, has migrated to this location. Water from Well 4 may or may not be contaminated depending on which chemical analysis (Penn or NJDEP) is to be believed.

Although it is obvious that water from Well 3 is grossly contaminated, there are significant discrepancies between the results obtained from the two analyzing laboratories. At present, these differences cannot be explained.

In summary, ground water beneath the disposal area is grossly contaminated with volatile organic compounds and apparently has moved some distance from the area of Well 3, although the areal extent of contamination appears to be small. If the major component of ground-water flow at the site is in a horizontal direction, then the stream that borders the site may be a natural discharge area for the contaminated ground water and may act to prevent its further spread. At this point, sufficient data are not available to determine if most of the contaminants have remained near Well 3 or whether they have moved vertically to deeper parts of the ground-water reservoir.

In order to answer the unresolved questions about the ultimate fate of the contaminants, it will be necessary to install wells across the stream

and also near Well 3 at greater depths than the existing wells. All new and existing wells should be surveyed to a common datum so the direction of ground-water flow can be determined.

Please call if you have any questions.

Sincerely,

GERAGHTY & MILLER, INC.

Michael F. Wolfert
Senior Scientist

MFW/mc

Enclosure

Table 1. Construction Details and Water Levels for Wells on the Long Property, Pemberton Township, Burlington County, New Jersey.

Well No.	Depth of Well (feet below land surface)	Screened Interval (feet below land surface)	Height of Measuring Point (feet above land surface)	Depth to Water (feet below measuring point)	Depth to Water (feet below land surface)
1	4.92	2.59 - 4.92	1.56	1.99	0.43
2	5.20	2.87 - 5.20	1.30	1.57	0.27
3	5.53	3.20 - 5.53	0.95	1.65	0.70
4	4.87	2.52 - 4.87	1.60	1.69	0.09
5	4.99	2.99 - 4.99	1.15	1.50	0.35
6	5.20	2.85 - 5.20	1.20	1.35	0.15

Note:

1) All wells installed, water samples collected, and water levels taken on November 29, 1979.

2) All wells consist of 1¼-inch diameter thread and coupling steel drive pipe and 1¼-inch diameter 2-foot long well point.

3) All wells installed by driving with a two-man drive weight.

4) Measuring point for all wells is top of threaded pipe.

Table 2. Results of Chemical Analyses of Water From Wells on the Lang Property, Pemberton Township, Burlington County, New Jersey. (Results in parts per billion except where noted. All results given as reported.)

Constituent	NJDEP Well 1	NJDEP Well 2	NJDEP Well 3	Penn Environmental Well 3	NJDEP Well 4	Penn Environmental Well 4	NJDEP Well 5	NJDEP Well [illegible]
Methylene Chloride	ND	ND	ND	212,800	ND	735	ND	ND
Chlorobenzene	78	ND	ND	-	ND	-	ND	ND
Trichloroethylene	ND	ND	5,600	-	ND	-	100	ND
Chloroform	ND	ND	ND	-	ND	-	ND	ND
Benzene	ND	ND	ND	-	ND	-	ND	ND
Trichloroethane	-	-	2,950	-	-	-	-	-
Octane	-	-	2,333	-	-	-	-	75
Methyl Isobutyl Ketone	-	-	2,500	-	-	-	27	-
Tetrachloroethylene	-	-	1,000	-	-	-	-	-
Toluene	-	-	50,000	123,840	-	-	-	29
Ethyl Benzene	-	-	2,000	-	-	-	-	-
Meta and Para Xylene	-	-	4,900	65,030	-	-	-	-
Ortho Xylene	-	-	1,750	-	-	-	-	-
Ptt units	-	-	-	5.3	-	5.2	-	-
Sulfate in mg/l	-	-	-	16	-	3	-	-
Specific conductance micromhos/centimeter	-	-	-	735	-	52	-	-
Cadmium in mg/l	-	-	-	0.01	-	< 0.01	-	-
Chromium in mg/l	-	-	-	1.30	-	< 0.01	-	-
Copper in mg/l	-	-	-	0.45	-	0.04	-	-
Iron in mg/l	-	-	-	6.6	-	< 0.1	-	-

Note: ND - Not detected

REFERENCE NO. 12

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Charles Krauss

FROM Karl J. Delaney DATE September 27, 1983

SUBJECT Buster's Garage - Alleged Disposal of Wastes from Lang Property

As discussed, I have reviewed the subject case file (#83-04-28-02S) including the allegations that the subject site received drums of waste from the Lang Property waste site, Pemberton (#81-12-02-005).

It is the writer's conclusion that it is unlikely that the subject site received the waste from the Lang Property surface drum cleanup, April 1976.

Several factors lead the writer to this conclusion as follows:

1) Cleanup involved an estimated 1500 fifty-five gallon drums (all or most of which were reported to have been punctured by gunshot or axe).

2) Various reports indicate that the drums were emptied on-site prior to removal.

3) The reported disposal contractor was a Mr. Delorenzo of Landfill and Development Corp. (L&D), Route 38, Mount Holly.

L&D Landfill is known to have received illegal shipments of hazardous waste during its operations.

It is, therefore, my contention that it would have been possible for the Delorenzo trucks to have transported the Lang Property drums (empty or with partial contents) to the L&D Landfill. If the drums had been emptied on-site, this landfilling may not have been a violation, however, the emptying would have been.

4) The site of the alleged drum burial, Buster's Garage, was inspected by David Bute and Brian Pettit in April or May 1983. Their observations were that an illegal solid waste disposal facility of very small scale was being operated. Their recommendation was for Solid Waste followup through Frank Hartman. Bureau policy would have been for referral to the County Health Department for enforcement, however, no enforcement referral was present in the file I reviewed. The site also exists as an auto junkyard. No drums were observed at the site. The reports of fire emanating from the soil would not be unpredictable considering the noted spillage of oils and gasoline as is common at auto junkyards.

- con't -

The lack of tangible evidence and probable reason lead the writer to recommend that the subject case be referred to the Burlington County Health Department for enforcement af Solid Waste Act violations.

Karl Delaney
Senior Environmental Specialist

FOC3:lk
cc:file

REFERENCE NO. 13

SEVER & HARDT
COUNSELLORS AT LAW
THE WOODLANDS
JACKSONVILLE ROAD
P.O. BOX 605
BURLINGTON, N.J. 08016
(609) 387-0050

RECEIVED
OCT 15 1983
Division of Waste Mgt.

October 13, 1983

Terrence B. Moore
Executive Director
Pinelands Commission
P.O. Box 7
New Lisbon, New Jersey 08064

Re: Block 524, Lots 5 through 10 and 60
Pemberton Township
Pinelands App. No. 83-10, 142(PB)

Dear Mr. Moore:

Please be advised that I represent a number of property owners who reside on Pepper Road, in the Browns Mills section of Pemberton Township. The above captioned property is familiarly known as Buster's Junkyard. It is surrounded by homes owned by my clients. Buster's Junkyard is operated by Leonard Perrine, who has filed an application with the Township of Pemberton to obtain a license for the use of the property as a junkyard facility. The application was filed on March 3, 1983; hearings were commenced in April, 1983 by the Township Committee. At the April meeting, my clients objected to the issuance of a license and the matter was adjourned to June, 1983. In the interim, I was retained to represent these property owners. The matter has been continually adjourned by the Township of Pemberton since that time and at the meeting last night, which was scheduled to be a public hearing on the issue, the Township Committee adjourned the matter again until December 20, 1983.

I bring this matter to your attention because of numerous violations existing at the site which fly in the face of Pinelands regulations. For example, since 1979, Mr. Perrine has expanded the junkyard considerably to make way for the placement of additional inoperable motor vehicles. Indeed, even the Burlington County Soil Conservation District has recognized that more than 5,000 square feet of soil has been disturbed at the location. Mr. Perrine has cleared a substantial portion of Lot 60 in the past couple of years and has cleared almost all of Lots 5 through 10, as well. Lots 5 through 10 are located in a "high fire hazard area" pursuant to the Pinelands Comprehensive Management Plan Section 6-1101 et seq. Lot 60 is designated as an extreme fire hazard area pursuant to the Management Plan. To my knowledge, Mr. Perrine does not have approval from the Pinelands Commission to develop this area in the manner in which he has chosen to do so. Indeed, my records reflect that on August 23, 1983 Mr. Perrine was advised that his application to the

Commission (#83-10, 142PB) was determined to be incomplete and that he was given thirty days to complete the application. (A copy of that letter is annexed hereto). To my knowledge, no new applications have been submitted; yet Mr. Perrine has been given an additional extension to October 27, 1983 to comply. It is beyond me how the Commission can continue to sit back and allow Mr. Perrine to continue to "develop" and violate the Plan so flagrantly. Indeed, as recently as this past weekend, a bulldozer was utilized by Mr. Perrine to clear even more of Lot 60. This was witnessed by Paul Leary, the Construction Code Official for Pemberton Township, as well as Clarence Davis, a Township Committeeman. It should also be pointed out that as of this morning, Mr. Perrine had 19 cars and 2 large tractor trailers (one loaded with tires and the other with lumber) in front of his property and along side the road. Clearly, this too violates Section 6-1009 of the Pinelands Comprehensive Plan. It should also be noted that on July 7, 1983, an inspection was made of the property by members of the Township Committee, the Burlington County Soil Conservation District and Mr. Richard Brown of your office which investigation revealed that many of the gasoline tanks of the vehicles stored on this property had not been drained. This too violates Section 6-1009 of the Comprehensive Plan.

Another reaon I bring this to your direct attention is because of the obvious unwillingness of Pemberton Township to do anything about this situation. It has been suggested that the Township itself stores many of its inoperable vehicles at Buster's Junkyard. It has been further suggested that Township trucks have provided landfill (possibly illegally) to Buster's Junkyard. Clearly, if the allegations are true, a conflict of interest would exist which would explain the failure of the Pemberton Township Committee to take any action in this case.

It has also been suggested, but not substantiated, that there are toxic wastes buried at this site. Rumors abound that the toxic chemicals removed from the "Lang property" on Route 70 in the early 1970's were indeed removed to this location. Indeed, the New Jersey Department of Environmental Protection has, with embarrassment, admitted to me that their files do not indicate where the wastes were removed to and in fact, DEP has no idea as to where the wastes were eventually disposed. This is of obvious concern to my clients who rely upon wells for their water supply.

I enclose herewith, to give you a better understanding of exactly what has transpired, a letter written by me on behalf of my clients to the Township Committee in June, 1983. This letter may well give you a better understanding of the situation.

I respectfully request that the Pinelands Commission take action immediately to cause Mr. Perrine to remove his vehicles from Lots 9, 19 and 60. My clients are obviously not receiving any satisfaction from the Township of Pemberton, which refuses to acknowledge its responsibilities and instead prefers to continue to postpone a hearing on the issue; nor from the Burlington County Soil Conservation

District which refuses to make good on its threats previously issued to place the matter in the County Solicitor's hands for further action. It is clear that the Pinelands Commission has jurisdiction over this matter; it is even clearer that violations of the Pinelands regulations not only have occurred but continue to occur. This situation is critical. A serious and thorough response to the situation is not only warranted, but necessary.

I would be most happy to discuss this matter with you at length and to provide any further insights that might assist you in reaching a decision. I look forward to hearing from you on this matter.

Very truly yours,

JOHN C. GILLESPIE

JCG:rp
Encl.

cc: [redacted]

Carrol Pickens, Administrator, Township of Pemberton
Francis J. Banisch, III, Pemberton Township Planner
Richard Brown, Staff Member, Pinelands Commission
Robert Shinn, Burlington County Freeholder
Donald Yarus, Burlington County Soil Conservation District
New Jersey Department of Environmental Protection

REFERENCE NO. 14

SEVER & HARDT
COUNSELLORS AT LAW
THE WOODLANDS
JACKSONVILLE ROAD
P.O. BOX 605
BURLINGTON, N.J. 08016
(609) 387-0050

June 24, 1983

Mayor Stephen Albano, Jr.
and Pemberton Township Committee
Pemberton Township Municipal Building
500 Pemberton-Browns Mills Road
New Lisbon, New Jersey 08064

Re: Buster's Junkyard - Pepper Road

Dear Mayor Albano and Committeemen:

Please be advised that this firm has been retained by six of the property owners on Pepper Road, Browns Mills, Pemberton Township, New Jersey, with regard to the existence of a junkyard owned and operated by one Leonard Perrine, t/a Buster's Junkyard. It appears that Mr. Perrine has made application to the Township of Pemberton for a junkyard license pursuant to the recently adopted Ordinance #23-1982. I am advised by my clients that Mr. Perrine has been expanding the junkyard over the past few years and indeed, has almost tripled the size of the junkyard as it existed prior to 1973. It further appears that Mr. Perrine's application filed with the Township of Pemberton, pursuant to Ordinance #23-1982 to maintain the junkyard which existed prior to December, 1973 might contain inaccuracies of fact regarding the maximum number of inoperable vehicles stored on the premises. It is further apparent that Mr. Perrine has not given proper notice to existing property owners that he intends to seek a license to operate on Lot 60, Block 524. Although it was stated by him at the meeting in April of 1983 that he wished to include Lot 60 as part of his operation, you will note from the notice attached hereto that Lot 60 is not included on his notice to property owners. Accordingly, it appears that even should the Township be predisposed to issue a license to Mr. Perrine, that same license cannot be issued to allow him to operate on Lot 60 (a copy of the notice is attached hereto as Exhibit "A").

Additionally, it appears that the Code Enforcement Official, Mr. Earl Piper refuses to enforce the Township Ordinances and has permitted Mr. Perrine to continue to expand his junkyard, which is obviously in violation of not only the newly enacted Ordinance #23-1982 and specifically, Section 9, but also violates the Township Zoning Ordinances, State and County Regulations and the Municipal Land Use Laws of the State of New Jersey. Specifically, Mr. Perrine has been expanding a non-conforming use and has not obtained site plan approval from the Township. Nor has Mr. Perrine obtained the necessary permits from the State of New Jersey Pinelands Commission or the Burlington County Soil Conservation District. The Committee should be aware of the problems experienced by the Pinelands Commission, particularly from the letter dated April 20, 1983 from William F. Harrison, the Assistant Director. I am enclosing herewith as Exhibit "B", a copy of Mr. Harrison's letter. I am advised by the Pinelands Commission and specifically, Mr. Richard Brown, a staff member on the Commission that the State is most displeased with Mr. Perrine's actions and has previously informed him that he must apply through the Pinelands for approval.

I am also advised by Mr. Brown, that Lots 5 through 10 on Block 524 are located on what is known as a high fire hazard area under the Pinelands Comprehensive Management Plan, Part 11, Section 6-1101, et seq. Lots 30 and 60 are in areas designated as extreme fire hazard areas pursuant to the Comprehensive Management Plan. Under Section 6-1103, this Plan states: "no application for development approval shall be granted in moderate high and extreme fire hazard areas and left unless the applicant demonstrates" a number of criteria. Based on conversations with Mr. Brown, Mr. Perrine has not even applied for development approval with the Pinelands Commission. Nevertheless, he has proceeded to cut down a substantial amount of the vegetation on all of these lots and has already placed automobiles on the entire area. Indeed, in some locations and particularly on Lot 60, the automobiles are stacked four to five high.

I am also informed by Mr. Donald Yarus from the Burlington County Soil Conservation District that an inspector was sent to the premises to determine if soil disturbance was occurring. It was learned that over 5,000 square feet of soil has been disturbed with the removal of vegetation to expand the junkyard and therefore, Mr. Perrine was required to file a soil erosion plan through the Burlington County Soil Conservation District. To date, he has not done so and he was served with a violation notice on June 2, 1983. Attached hereto a copy of that notice as Exhibit "C". Mr. Perrine is in violation of N.J.S.A. 4:24-39. I

spoke with Mr. Yarus again on Tuesday morning, June 21, 1983 and he informed me that Mr. Perrine has not complied with their requests and has not provided a soil erosion plan as required by the District. Mr. Yarus informs me that he has turned the matter over to the County Solicitor's Office for further action against Mr. Perrine.

This situation is obviously critical. Mr. Perrine's junkyard has now been expanded to within 102 feet of [redacted]'s property; Ordinance #23-1982, Section 9.4(c, 2) requires that no motor vehicle be stored within 200 feet of any dwelling house. Mr. Perrine has cut that distance in half in spite of the Ordinance; Mr. Piper has refused to enforce the Ordinance. Additionally, Section 9.4(a) requires a seven foot fence to be installed; Mr. Perrine has installed a five foot variance fence, but has elevated it one foot above the ground. Obviously, this is in violation of the Ordinance and its intentions; Mr. Piper, however, has advised my clients he will not consider the fence to be non-conforming.

It is believed that the automobiles stored by Mr. Perrine still contain a substantial amount of oil and gasoline and constitute not only a fire hazard in and of itself, but particularly in light of the designation by the Pinelands Commission of these areas as high and extreme fire hazards, this creates a serious and imminent danger to the surrounding property owners. Furthermore, it is believed that Mr. Perrine had applied for a junkyard license in 1973 at which time a number of my clients appeared at the Township Committee meeting to be heard on that matter. It is further believed that Mr. Perrine was denied a license in 1973 and there seems to be no reason for awarding one at this point. Indeed, all of the facts made are against the award of such a license, not only in and of themselves, but particularly in light of Mr. Perrine's blatant and willful disregard of not only the rights and liberties of adjoining property owners, but of State, Local and County Regulations and Requirements.

It is the desire of my clients that the following actions be taken by the Township Committee at its June 30, 1983 meeting:

(1) Order and direct an immediate cessation and termination of the expansion of the junkyard by Mr. Perrine;

(2) Immediately restrain Mr. Perrine from proceeding with any further expansion of the junkyard, via cutting down any more trees and storing any more vehicles, until he has complied with

Local, County and State requirements.

(3) Require that Mr. Perrine apply to the Pinelands Commission within thirty (30) days for the necessary approval from that agency and to the Burlington County Soil Conservation District within thirty (3) days for approval from that agency;

(4) Require that Mr. Perrine apply to the Zoning Board of Adjustment of the Township of Pemberton for permission to engage in the expansion of a non-conforming use and for site plan approval;

(5) Require that Mr. Perrine remove all automobiles which presently are within 200 feet for any dwelling house until such time that the above requirements have been met;

(6) Deny Mr. Perrine's application for a license to operate a junkyard on any of the lots which he did not own prior to 1973; and

(7) Ultimately, order that Mr. Perrine return the property to the status quo as existed in 1973, thereby requiring Mr. Perrine to reseed and revegetate the area; this of course, would also be some of the Pinelands Commission requirements which the Township also can require.

The situation at present has resulted in a diminution in value to the property owned by my clients. One real estate appraiser has already informed the [redacted] that the fair market value of their property as a result of Mr. Perrine's expansion of his junkyard has diminished the value of their property by $20,000.00. It is hoped that the Township will understand the plight of my clients and demand that Mr. Perrine comply with the local Ordinances and direct him to comply with the State and County Ordinances as well.

Additionally, Mr. Perrine has himself admitted that there were chemicals on the property which were placed there in 1973. It is of great concern to my clients that these chemicals might not be biodegradable, but might in fact be toxic and working their way into the water system below the properties. Furthermore, we are curious as to whether or not any other chemicals have been deposited recently on the property which would create a health danger to my clients. It has also been alleged that in order to erect his fence and to further expand the junkyard, Mr. Perrine moved the surveying peg onto [redacted]'s property and in fact the fence now encroaches on

her property. Although this question might be outside the jurisdiction of the Committee, it does serve to point out the seriousness of the matter and the blatant disregard Mr. Perrine has for the right of his neighbors and his obligations under the Township Ordinances and various other state laws.

We should like the opportunity to present the case to the Committee on June 30, 1983. We therefore respectfully request that we be permitted to discuss this with the Committee on that date and we shall appear with that purpose in mind. In the meantime, should you have any further questions or should we be of any assistance, please do not hesitate to contact me.

Very truly yours,

JOHN C. GILLESPIE

JCG:rp
Encl.

cc: Mr. Francis P. Bannish, III
William Harrison, Assistant Director, Pinelands Commission
Richard Brown, Staff Member, Pinelands Commission
Donald Yarus, Burlington County Soil Conservation District

[redacted]

REFFERENCE NO. 15

BOARD OF CHOSEN FREEHOLDERS
OF THE COUNTY OF BURLINGTON
MOUNT HOLLY, NEW JERSEY
08060

November 15, 1983

RECEIVED

NOV 22 1983

Division of Waste M[redacted]

OFFICE OF:
BURLINGTON COUNTY
HEALTH DEPARTMENT
Telephone 267-0631
Area Code 609

Mr. John Gillespie, Esquire
Severs and Hardt
P.O. Box 605
Burlington, NJ 08016

RE: Chemical Waste Dumping in
Pemberton Township -
Buster Perrine's Junkyard

Dear Mr. Gillespie:

I have enclosed my Affidavit setting forth the facts as I know them relating to a series of chemical waste dumping episodes in the Township of Pemberton during 1975, one of which occurred at property owned by Buster Perrine at the end of Pepper Oak Road in the vicinity of his junkyard. As you will notice in the Affidavit Michael Wardell is also familiar with the facts surrounding the chemical dumpings. While Mr. Wardell is not employed by the County Health Department any longer, he still resides in Burlington County and would probably be willing to submit an Affidavit as well.

I would also like to mention to you that an auto junkyard, by its very nature of operation, is also a real threat to groundwater quality. House-keeping is generally a problem at such facilities and spillage of used oils, transmission fluids, antifreeze and battery liquids is almost unavoidable. Thus, in addition to the chemical waste buried at the Perrine Site, it is reasonable to assume that the existing junkyard may also be affecting local groundwater quality.

our w
15 ft.
junky
(20 ft.

Given our current knowledge regarding the vulnurability of groundwater supplies to chemical contamination, the future location of facilities such as junkyards should be carefully considered by local governing bodies with a view towards aquifer protection.

If I may be of further assistance, please do not hesitate to call.

Yours truly,

Robert W. Simkins

Robert W. Simkins, Supervisor
Office of Waste Management Programs

RWS/bcd
Encls.
cc: [redacted]
Charles Juliana
Robert Shinn
Henry Metzger

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AFFIDAVIT OF ROBERT W. SIMKINS

STATE OF NEW JERSEY)
) SS.
COUNTY OF BURLINGTON)

I, ROBERT W. SIMKINS, of full age being duly sworn according to law, upon my oath do hereby dispose and say that:

1. I am the Supervisor of the Office of Waste Management Programs of the Burlington County Health Department. In this capacity I am the County Administrative Officer primarily in charge of all solid waste management planning and plan implementation activities performed by the County pursuant to the New Jersey Solid Waste Management Act, as Amended, N.J.S.A. 13:1E-1 et seq. I have been employed in this position since January of 1977.

2. I hold a Bachelor of Science Degree (1972) in Environmental Sciences from Rutgers University. My major area of study while attending Rutgers University was in the field of geology. Therefore, I have expertise in this area and I am quite familiar with the geology and hydrogeology of southern New Jersey and in particular of Burlington County.

3. Prior to my position as Supervisor of the Office of Waste Management Programs, I was employed as an Environmental Health Technician with the Burlington County Health Department since January of 1975. In that capacity, I held a license from the State of New Jersey as a Sanitary Inspector - First Grade. My responsibilities in this position included: a) assessment of the twenty-three existing solid waste disposal facilities within the County with primary emphasis on impacts of landfill-derived leachate and combustible gases; b) development, startup and supervision of a program for groundwater quality screening and monitoring in the vicinity of all active and known closed disposal facilities; c) establishment of a landfill enforcement and surveillance program; d) review of new engineering designs for disposal facilities; e) representing Burlington County during the

development of the 208 Water Quality Management Plan for the Tri-County Area of Burlington, Camden and Gloucester, and f) investigation of complaints related to unauthorized dumping of waste materials. Accordingly, I am familiar with the chemical drum dumping incidences which occurred in the Township of Pemberton during the period of 1975 to 1977.

4. On October 25, 1975, acting on information from a resident and municipal official of Pemberton Township, who wishes to remain anonymous, Michael Wardell, an Environmental Health Inspector with the Burlington County Health Department and myself, discovered approximately fourteen hundred (1,400) fifty-five (55) gallon drums of chemicals on property owned by Edward Lang at Block 907, Lots 8 and 9 (the "Lang Site").

5. After bringing this "discovery" to the attention of the New Jersey Department of Environmental Protection ("DEP") the County learned that DEP had earlier uncovered the site on July 2, 1975 and had already brought an action in Superior Court. At that time only 300 drums were on-site. Thus, between the time of initial discovery by DEP in July and the filing of the complaint and the second "discovery" in October, drum dumping continued.

6. The drums deposited at the Lang Site were obviously re-used drums with the original labels and marking obliterated with paint. Many of the drums were punctured open with one-inch diameter holes, allowing the contents to drain out onto the porous soils.

7. The Burlington County Times ran a front page story on the Lang Site shortly after it was discovered by the County along with large, wide angle photographs of the drums.

8. On October 28, 1975, Wardell and I responded to an anonymous telephone complaint regarding a second drum site in Pemberton Township. The anonymous caller had read the article in the Burlington County Times regarding the Lang Site and wished to bring our attention to another area of drum dumping.

The second site is located off Columbus Avenue at Block 893, Lot 3 on property owned by [redacted] of Lakehurst Road, Pemberton, NJ (the "Poinsett Site).

10. The Poinsett Site contained approximately forty (40) fifty-five (55) gallon drums. We suspected that the drums were from the same source as those deposited at the Lang Site since the drums were re-used, had been obliterated in a similar fashion, were punctured in a similar manner, and appeared to have similar variety of chemical waste contents.

11. On October 31, 1975, Wardell and I re-inspected the Poinsett Site and took photographs of the drums.

12. Dispite repeated attempts in person and by telephone, the owner of the Poinsett Site could not be contacted at his residence.

13. On November 5, 1975, Wardell and I re-inspected the Poinsett Site a second time to find to our dismay that the drums had either been removed or buried on-site. An area approximately 100'X55' showed evidence of bulldozer tracks and excavation which is evident in photographs of the site taken that date.

14. On November 10, 1975, Frank Hartman, representing the New Jersey Department of Environmental Protection inspected the Poinsett Site at the request of the County along with Wardell and Edward Harvey, Browns Mills Fire Chief. Mr. Hartman recommended that DEP take no further action dispite our concerns that the drums were either buried on-site or had been moved to some other location.

15. The Poinsett Site is extremely close to a highly populated area in Pemberton Township known as Browns Mills which relies entirely on individual water supply wells screened predominately in the shallow water table aquifer. On-site burial of the drums at this site would pose a hazard to these domestic water wells.

Evidence [illegible] 10/22 and 11/10 since both sites shown to Hartman on 11/10

16. Shortly after the discovery of the Poinsett Site, the County was alerted to a third site in Pemberton Township. Ed Harvey advised Wardell and I that

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responded to a chemical waste fire on Pepper Oak Road in the immediate vicinity of a junk yard on property owned by Buster Perrine of same address at Block Lot , (the "Perrine Site"). Harvey reported that twelve drums of chemicals were on fire in an excavation at the site.

17. On November 10, 1975, at the County's request, Hartman inspected the Perrine Site in the company of Harvey and Wardell. Upon re-inspection it was discovered that the excavation was filled in and the drums buried on-site. Wardell reported the area of excavation was approximately 50' X 75'. Hartman recommended no further action by DEP despite the fact that a) Hartman reported a paint residue smell even after the fire and burial, and b) Perrine and his neighbors were all on individual water supply wells screened in the shallow water table aquifer which would now be threatened by these buried chemical wastes.

18. On November 11, 1975, I inspected the Perrine Site along with Wardell. I observed obvious lingering chemical odors near the excavation area where the drums were buried. It was also obvious to me that the practice of burying drums of chemicals at the site could be easily concealed by the subsequent location of junk materials on the disposal areas.

19. On December 19, 1975, a Final Order of Judgement was issued by Honorable Alexander C. Wood, Superior Court, Chancery Division, in the State of New Jersey, Department of Environmental Protection v. Edward Lang et al. (Docket No. C-95-75) requiring the defendants Edward and Florence Lang to remove within 90 days "all of the chemical wastes, containers and contaminated soil and water from their property [the Lang Site] and dispose of said material at a site registered with the Department of Environmental Protection and approved for disposal of such materials".

20. By April of 1976, the Langs had removed the drums from the site. It was reported by Lang later in Court before Judge Wood that he had contracted with

enzo-Interstate Waste Removal to have the drums removed. Mr. Lang provided Court and DEP with a receipt from DeLorenzo for hauling and disposal. DEP has not been able to determine where DeLorenzo disposed of the chemical drums, even though DEP was supposed to have overseen the operations and designated an approved site or at least DeLorenzo was to have been required to produce a manifest for the waste certifying its proper place of disposal.

21. I suspect that some of the drums from the Lang Property were deposited at the Pemberton Township Landfill which was in operation at the time and located within a half mile of the Lang Site. The basis for this suspicion is that during DEP's investigation of groundwater quality at the Lang Site, similar organic contaminants were detected in the groundwater monitoring wells at the Pemberton Townsnip Landfill, which is hydraulically upgradient from the Lang property and therefore could not be cross-contaminated by the Lang Site.

22. I further suspect that the chemical drums at the three locations were from the same source (hauler) and that the individual property owners at each site were aware of all three drum dumpings. The basis for this suspicion is that a) all three site owners were reportedly -- "very close friends" according to public officials and residents of Pemberton Township, b) the drums were deposited on all three properties during the same six month period, July-December 1975, and c) the physical appearance of the drums and manner of puncturing was strikingly similar.

23. In my opinion, both the Poinsett Site and the Perrine Site should initially have several 1½" diameter well clusters (a cluster is two or more well located together which are screened at different elevations in the subsurface aquifer) installed to establish the groundwater flow regime and these wells should be sampled and analyses performed for priority pollutants. At the same time, any domestic wells in close proximity to these sites which are screened in the water table aquifer should also be sampled and similar analyses performed. Similar testing

rfund List. Further delays in documenting groundwater contamination at both sites and its extent of migration may result in substantial increases in clean-up cost or even eliminate the possibility of a reasonably effective clean-up entirely.

Robert W. Simkins

ROBERT W. SIMKINS

Sworn and subscribed to
before me this 13 day
of November, 1983.

Jean Lee Moore

JEAN LEE MOORE
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires Mar. 31, 1986

REFERENCE NO. 16

State of New Jersey

IRWIN I. KIMMELMAN
ATTORNEY GENERAL

THOMAS W. GREELISH
ASSISTANT ATTORNEY GENERAL

DEPARTMENT OF LAW AND PUBLIC SAFETY
DIVISION OF LAW
ENVIRONMENTAL PROTECTION SECTION
RICHARD J. HUGHES JUSTICE COMPLEX
CN 112
TRENTON 08625

MICHAEL R. COLE
ASSISTANT ATTORNEY GENERAL
DIRECTOR

LAWRENCE E. STANLEY
DEPUTY ATTORNEY GENERAL
SECTION CHIEF

JOHN M. VAN DALEN
DEPUTY ATTORNEY GENERAL
ASSISTANT SECTION CHIEF

TELEPHONE 609-292-6917

November 16, 1983
CERTIFIED MAIL R.R.R.

Jeffrey Snow, Esq.
200 Delaware Avenue
P.O. Box 195
Roebling, N.J. 08554

Re: Leonard Perrine t/a Buster's Junkyard
Pinelands application No. 83-10, 142PB

Dear Mr. Snow:

Please be advised that I represent the Pinelands Commission in the above-referenced matter.

Your client, Leonard Perrine, has cleared and used portions of his property in Pemberton Township without receiving Pinelands Commission approval, in violation of the Pinelands Protection Act, N.J.S.A. 13:18A-1, et seq. and the Comprehensive Management Plan promulgated thereunder.

Because of Mr. Perrine's failure to comply with the aforementioned statute and regulations, the Pinelands Commission has referred the matter to this office for appropriate action.

To avoid litigation in this case, I request that you contact this office within one week of receipt of this letter to verify that your client will comply with the Comprehensive Management Plan forthwith.

RECEIVED
from Doug He
NOV 22 1983
Division of Waste

Please take notice that unless you respond to this letter, litigation will be instituted without further notice for both injunctive relief under the Pinelands Protection Act and the maximum statutory penalties pursuant to the Environmental Rights Act, N.J.S.A. 2A:35A-1, et seq.

Very truly yours,

IRWIN I. KIMMELMAN
Attorney General

BY Anne R. Simonoff
Anne R. Simonoff
Deputy Attorney General

/gc

cc: Richard Brown
John Gillespie, Esq.

REFERENCE NO. 17

Nov 22. 1983

Dear Mr. Delaney,

I spoke with the A.G. office this morning. This case has been handed to Deputy Attorney Gen. Anne R. Simonoff. She stated you have the authority to put in the monitoring wells. She asked for your name & said she will be getting in touch with you & she said Rick Brown from the Pinelands is sending her a copy of the affidavit

Besides these drums that are buried on Buster's property I have heard that there are many more. ~~Buster's partner Ralph Pucell said Buster would let trucks go down track & dump & never check to see what they contai~~

I'm living every day in constant threa of my 20 ft shallow well being contaminate I also know that Buster had a new 150 ft well put in on his property, which also gets me very upset wondering what's wron with his old well? Plus I found out his wife has throat cancer & is now being treated for it with radiation treatments.

RECEIVED

NOV 22 1983

Division of Waste Mgt.

From [redacted]

302

I was wondering is there any way your office could make the township give us city water?

Custer even threatened me & my family with the Camden Mafia. I called the police & reported this. If it was only a junkyard. How & why does he have connection with the Mafia? Or is it a cover up for illegally dumping of Chemicals???

I cannot understand how the township would allow a junk yard in a residential area. The neighbors fought this junkyard back in 1971, but he always had the township on his side & was allowed to continue to operate a junk yard without a license or even a fire zone road. The area is also an extreme fire hazard area. There is documented evidence on record that the neighbors have tried for years to stop this junk yard. Now he is trying to get a licence. Mr Simkins stated, "a junkyard is very dangerous in a residential area."

Custer has never got a permit to do anything, putting up building, putting in a new well, putting up a 6 ft. fence, Law stated he had to have a 7 ft. fence be the township changed the ordinance becau the junkyard couldn't comply to the ordinances. They are going to make the ordinance comply to the junkyard. Now this is just a little of what I've come up against. He's expanded without any variance, cuts down acres of pine trees without Pinland approval. Burns Copp illegally. Lied to township officials at i 1st meeting. He did receive one fine f cutting down the trees ($300.00) behind s home. But was never cited for clearing lots 9+10. He has only 1 week left to rem all car + etc. off lots 9+10. Township gave him 45 days he never moved one. They now have given him 2 more w. He should of been cited + fined aft the 45 days.

He does not have cars screened from Public view. It is an eyesore wh you ride pass his place. He does ha a fence up but in front of his hou

there is always 15 or 20 cars sitting in open view at all times.

Our road is a disaster from dragging all these junk cars + trucks up & down every day.

But more than the junk yard I'm more concerned with the Chemicals, Please hurray & check our water,

God forbid if anything happens to our children from contaminated water like ours in Jackson.

Thanks in-advance for your help

Yours Truly

[redacted]

REFERENCE NO. 18

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Charles Krauss

FROM Karl J. Delaney DATE November 28, 1983

SUBJECT Buster's Garage - followup per your 9/29/83 Speedi-Memo - 83-04-28-02S

9/29/83 - 1150 hours:

Attempt to contact [redacted] via telephone - NO ANSWER ([redacted] 1530 hours. [redacted] was advised of need for more than hearsay or third hand statements from as yet unnamed parties as to existence of waste on-site. [redacted] then acquiesced and provided the following aprties as having advised her that "Lang Property waste" was taken to the site of Buster's Garage:

Lou Sprague - Pemberton Road
(former Pemberton Township Commission)

Ralph Powell - (Former partner of Leonard Perrine, owner of Buster's Garage)

No addresses or telephone numbers were available from [redacted]

[redacted] also stated that neither she nor any of the neighbors of Buster's Garage saw any Lang Property drums or waste disposed of on-site. This would have involved upwards of 75 large box trailer or dem trailer trips to haul the estimated 1500 drums. Also the writer state that since the reports indicated that virtually all of the drums were shot or otherwise breached and would have required repair prior to rem from the site. This would not seem reasonable considering the conditi of the drums, the party hired to perform the work (DeLorenzo, L&D Land Mount Holly), and the extreme bulk of the drums.

The writer will attempt to contact the above named individuals and, if they repeat their contentions, to have them prepare affidavits. Direc Letters would then be prepared.

[redacted] also stated that her attorney, John Gillespie, has copies of reports which may shed some light on the material disposed the subject site.

10/3/83:

Attempts to contact Mr. Gillespie.

10/5/83:

Same as above. Attempts to contact Mr. Sprague and Mr. Powell are unsuccessful to date.

10/14/83:

Telephone call to John Gillespie (387-0050). Gillespie advises that he was advised by a Bill Simpkins of the Burlington County Hazardous Waste Commission that Mr. Simpkins would be willing to prepare an affidavit verifying that Lang Property waste was transported to the subject site.

The writer will discuss with Charles Kruass the items necessary to pursue futher. Krauss advises to have them come in, prepare affidavit, and we will foward to the Attorney General's Office for consulation on the next step possible.

10/17/83:

Call to Gillespie. "Prepare affidavits and forward." Gillespie not available and message left with secretary.

11/22/83:

[redacted] telephones the writer and advises that [redacted] will transport Mr. Simpkins affidavit to Region I, Red Lion Office. At approximately 1600 hours, [redacted] and an unnamed female arrive and delivers a packet of materials containing:

1) Simpkins affidavit
2) [redacted] hand written letter to the writer
3) Copies of two (1975) Frank Hartman, NJDEP, SWA investigation's memos.
4) Copies of handwritten notes presumed to be by Wardell, former Burlington County Health Department employee.
5) Tax map of area in question.

CONCLUSION:

There appears to be sufficient testimony to warrant further investigation.

RECOMMENDATIONS:

I, therefore, recommend preparation of affidavits by Mr. Leonard "Buster" Perrine, Mr. Charles "Lou" Sprague, Mr. Ralph Powell.

The writer would also recommend that an official request be prepared to Ray Barg, Chief, Bureau of Potable Water, requesting volatile organic analysis of the [redacted] potable well.

- con't -

Recommendation's con't:

The writer additionally recommends that a copy of this file be forwarded to the Bureau of Enforcement and Compliance with an Enforcement Referral citing pertinent Solid Waste Act, and Spill Act violations. This will require at least one on-site inspection by a team of one Solid Waste investigator and one Spill investigator.

Karl J. Delaney
Senior Environmental Specialist

FOS12:lk
cc:file

REFERENCE NO. 19

120 ROUTE 156, YARDVILLE, N.J. 08620

NOTICE OF VIOLATION

ID NO. ——— DATE 12/13/83

NAME OF FACILITY Buster's Junkyard (Leonard Perrine)

LOCATION OF FACILITY Pepper Rd – Pemberton twp – Burlington Co.

NAME OF OPERATOR Leonard Perrine

You are hereby NOTIFIED that during my inspection of your facility on the above date, the following violation(s) of the Solid Waste Management Act, (N.J.S.A. 13:1E-1 et seq.) and Regulations (N.J.A.C. 7:26-1 et seq.) promulgated thereunder and/or the Spill Compensation and Control Act, (N.J.S.A. 58:10-23.11 et seq.) and Regulations (N.J.A.C. 7:1E-1 et seq.) promulgated thereunder were observed. These violation(s) have been recorded as part of the permanent enforcement history of your facility.

DESCRIPTION OF VIOLATION

7:26-2.2.B no approved registration

7:26-2.2.C no approved Engineering designs

Remedial action to correct these violations must be initiated immediately. Within fifteen (15) days of receipt of this Notice of Violation, you shall submit in writing, to the Bureau of Compliance and Enforcement, Attention Mr. David J. Shotwell, Chief, at the above address, the corrective measures you have taken to attain compliance. The issuance of this document serves as notice to you that a violation has occurred and does not preclude the State of New Jersey, or any of its agencies from initiating further administrative or legal action, or from assessing penalties, with respect to this or other violations. Violations of these regulations are punishable by penalties of $25,000 per violation.

Investigator, Division of Waste Management
Department of Environmental Protection

Form DWM-003 – 8/83

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT

INSPECTION REPORT

NARRATIVE

NAME OF FACILITY Buster's Junkyard on Pepper Rd (illegal L.F) in Pemberton twp. Burlington Co.

DATE 12/13/83

Present at time of Inspection 1. F. Hartman } DEP 2. D. Butz } DWM 3. J. Dalbia B.C.H.

CHAPTER CITATION	DESCRIPTION
	On the above date, we went to the above location and found that Mr. Perrine, L. (Bust had ceased all dumping of household gara bldg. demo, tires, matresses etc., and had covere approx. 80% of the refuse (see B. Pettit & D. Butz report). The other 20% was totally uncovered (area of approx (20' x 50'). We also noticed an area of approx 100' x 100' of a mixture of hous manure & hay mixed together & uncovered. Mr. Perrine stated that this manure was spread yesterday and would be disked in a few days. We observed no drums of Hazardous waste anywhere on the site. I explained to Mr. Perrine he was to cease dumping and co all solid waste.
	Violations of solid waste code
7:26-2.2.B	Disposing of solid waste without first obtaini a Dept. approved registration.
7:26-2.2.C	Disposing of solid waste with first obtaining approved engineering designs.
	Mailing
	Mailing address - (Bl 524 Lot 6)
	Leonard Perrine, Pepper Rd, 1572 F, Brown Mill
Note:	We talked to [redacted] to let her know our finding
Note:	No permit needed for Junkyard in Pemberton twp.
*N.J.T. Surveyors of Mr. Perrine prop.	Omega Engineering & Surveyors asa Columbus, N.J. (609) 267-3836
	(over)

Inspector

OWM-008 A
83

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT

INSPECTION REPORT

NARRATIVE

NAME OF FACILITY Buster Junkyard - cont - DATE 12/13/83

CHAPTER CITATION	DESCRIPTION
conclusions	As far as the alledged buried chemical drums are concerned, there is no concrete fact concerning this matter. There are only insinuations, hearsay & rumors circulating. There are no tangible facts.
recommendations	I suggest we run complete tests on ~~the~~ water. I suggest we contact potable water (DWR) to contact tests on residen well & Mr. Perrone shallow well (Buster's Junk

Inspector

Form DWM-008 A
9/83

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT

INSPECTION REPORT

NARRATIVE

NAME OF FACILITY BUSTER'S GARAGE - Leonard Perrine Property DATE 12/2/83
Browns Mills, Pemberton Twp. Burl. Co.

CHAPTER CITATION	DESCRIPTION
Note:	Report reconstructed from field notes taken on 5/2/83.
	On 4/26/82, a complaint from a confidential complainant was logged at the DEP/DWM Southern Field Office alleging that illegal disposal of chemical waste (drums) and solid waste occurred at the above referenced property. Dave Bute, the investigator assigned to this case, requested that I accompany him to ascertain if solid waste violations are existent.
	At approx 9:20 am on 5/2/83, Dave Bute and I entered the Perrine property. The following observations of solid waste disposal were noted (See attached sketch)
	#1. An area approx 75' x 150' consisting of scattered household garbage, bldg demo, bed mattresses, tires, discarded clothes, and junk ~~the~~ autos, was noted.
	#2. The dirt found in this area and the brown ~~[illegible]~~ nature are indicative of landfilling activities. (see photos)
	#3. Cancelled checks bearing the name "Jean or Robert G. Mowrey" were noted in refuse.

(cont'd)

Inspector

M-008 B

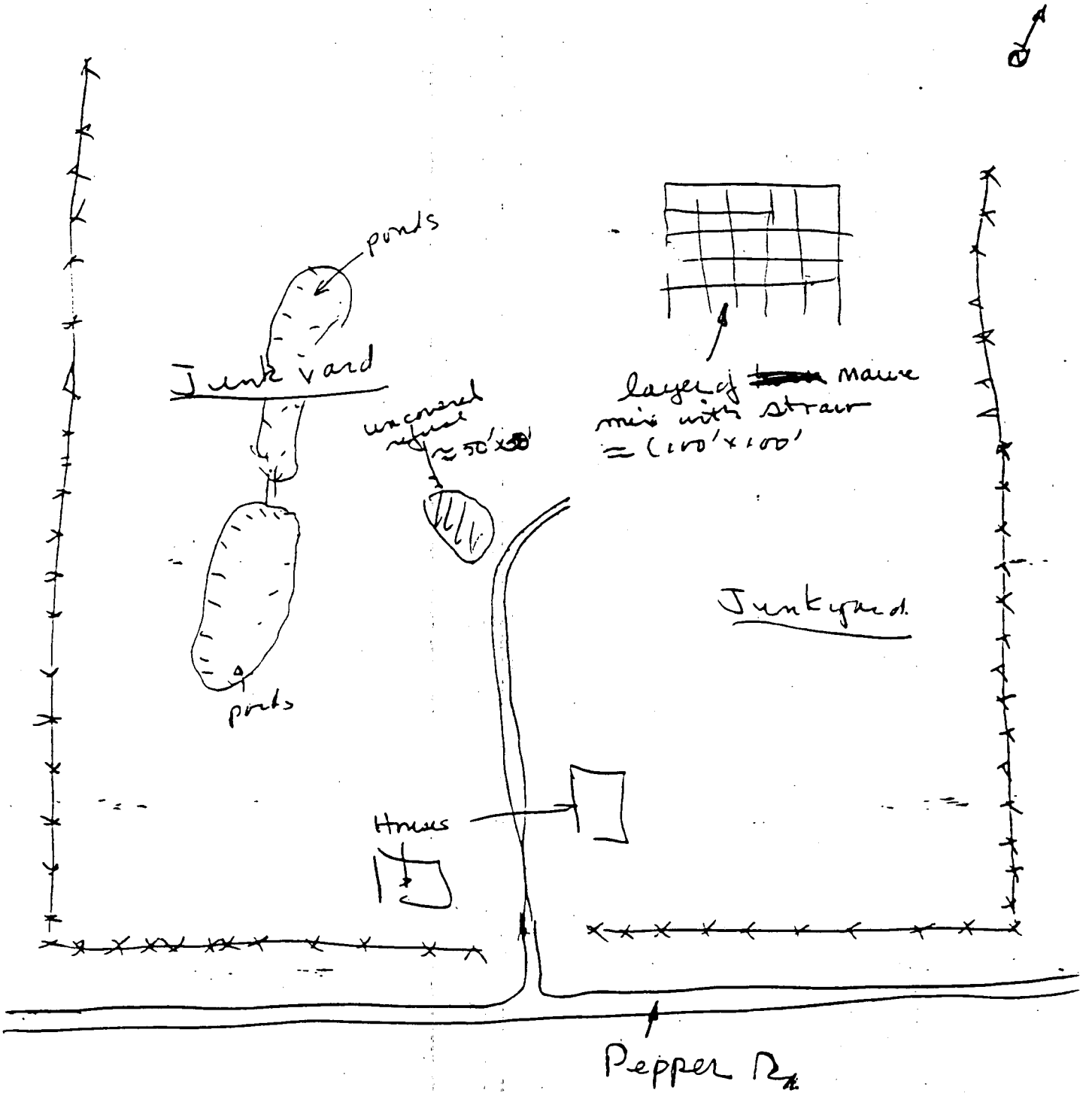
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT

INSPECTION REPORT

SKETCH

NAME OF FACILITY Buster Junkyard DATE 12/13/83

INSPECTOR



REFERENCE NO. 20

Surface Water Classifications

Surface Water Quality Standards
N.J.A.C. 7:9-4

May 1985

State of New Jersey, Department of Environmental Protection/Division of Water Resources

origin to their confluence with the Pequest River	
(Whittingham) - Stream and tributaries within the Whittingham tract, except those classified as FW1, above	FW2-TM(C1)
(Vienna) - Tranquility bridge to Townsbury bridge, except segment described below	FW2-NT
(Pequest) - Segment and tributaries within the boundaries of the Pequest Wildlife Management Area	FW2-NT(C1)
(Townsbury) - Townsbury bridge to Delaware River	FW2-TM
PIERSONS DITCH (Egg Island) - Entire length	FW2-NT/SE1(C1)
PINE BRANCH - See BUCKSHUTEM CREEK	
PLUM BROOK (Sergeantsville) - Entire length	FW2-TM
POHATCONG CREEK	
MAIN STEM	
(Mansfield) - Source to Karrsville bridge	FW2-TP(C1)
(Pohatcong) - Karrsville bridge to Delaware River	FW2-TM
TRIBUTARY	
(New Village) - Entire length	FW2-TP(C1)
POND BROOK (Middleville) - Swartswood Lake outlet to Trout Brook	FW2-NT
POPHANDUSING BROOK (Belvidere) - Entire length	FW2-TM
RACCOON CREEK (Logan) - Entire length	FW2-NT/SE2
RANCOCAS CREEK	
NORTH BRANCH	
(North Hanover) - Source to boundary of the Pinelands Protection and Preservation Area at Pemberton	PL
(Pemberton) - Boundary of the Pinelands Protection and Preservation Area to the Delaware River, except tributaries described below	FW2-NT
(Pemberton) - Tributaries within the boundaries of the Pinelands Protection and Preservation Areas	PL
SOUTH BRANCH RANCOCAS CREEK	
(Southhampton) - Source to Pinelands Protection and Preservation Area boundaries at Rt. 206 bridge south of Vincentown	PL
(Vincentown) - Vincentown to Delaware River, except tributaries described separately below	FW2-NT
(Vincentown) - All tributaries within the Pinelands Protection and Preservation Areas	PL
COOPER BRANCH RANCOCAS CREEK	
(Woodmansie) - Entire length, except portions described separately, below	PL
(Lebanon State Forest) - Branch and tributaries downstream to Pakim Pond, and tributaries to Cooper Branch located entirely within the Lebanon State Forest boundaries	FW1

REFERENCE NO. 21

Surface Water Quality Standards

SURFACE WATER QUALITY STANDARDS

N.J.A.C. 7:9–4.1 et seq.

May 1985

320

propagation of fish, shellfish, and wildlife, and recreation in and on the water, which are not included in the designated uses listed in this subchapter are attainable.

(f) A reclassification for more restrictive uses may be made when:

1. It is demonstrated to the satisfaction of the Department that the waters should be set aside to represent the natural aquatic environment and its associated biota; or

2. It is demonstrated to the satisfaction of the Department that a more restrictive use is necessary to protect a unique ecological system or threatened/endangered species.

(g) In those cases in which a thermal discharge is involved, the procedures for reclassifying segments for more restrictive uses shall be consistent with section 316 of the Federal Clean Water Act.

7:9-4.12 Designated uses of FW1, PL, FW2, SE1, SE2, SE3, and SC Waters

(a) In all FW1 waters the designated uses are:

1. Set aside for posterity to represent the natural aquatic environment and its associated biota;

2. Primary and secondary contact recreation;

3. Maintenance, migration and propagation of the natural and established aquatic biota; and

4. Any other reasonable uses.

(b) In all PL waters the designated uses are:

1. Cranberry bog water supply and other agricultural uses;

2. Maintenance, migration and propagation of the natural and established biota indigenous to this unique ecological system;

3. Public potable water supply after such treatment as required by law or regulations;

4. Primary and secondary contact recreation; and

5. Any other reasonable uses.

REFERENCE NO. 22

FEMBERTON-TWP., BURL

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMO

TO Karl J. Delaney

FROM David E. Bute DATE April 17, 1984

SUBJECT Sampling of the following locations on Pepper Road.

On April 17, 1984, I met with Jim Walters, Division of Water Resources, at the Red Lion office. We then proceeded to the home of [redacted], Pepper Road, where we met with her and requested to be allowed to enter her home and collect three water samples. Permission was granted, by [redacted], and three samples were taken from the kitchen sink faucet by Mr. Walters and sample number 26790.

We then went down the street on the other side of Buster's Junkyard to 40 Pepper Road. We knocked on the front door, no answer, and then went to the side door, knocked, but still no answer. We took a water sample from the outside faucet. After collecting this sample, we went back to Buster's Junkyard and met with Buster. We asked him to show us where the shallow well was located. After the well was located, it was opened and sampled with a non-dedicated bailer.

The sample taken at 40 Pepper Road was given sample number 26791 and the sample taken at Buster's Junkyard was given sample number 26792. All samples were under the custody of Mr. Jim Walters.

At 1210 hours, we secured from the area.

David E. Bute
Principal Environmental Technician

FOS8:lk
cc:file

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
SOUTHERN REGION
RD 1 Route 70, Vincentown, NJ 08088
(609) 859-2968

Marwan Sadat, P.E.
DIRECTOR

LINO F. PEREIRA
DEPUTY DIRECTOR

May 22, 1984

[redacted]
24 Pepper Road
Browns Mills, NJ 08015

RE: DWM #84-04-28-02S

Dear [redacted]

Enclosed you will find a copy of the Department of Environmental Protection's water analysis that was performed on your potable water supply.

The sample was collected on April 17, 1984 and a volatile organic scan was performed by the New Jersey Department of Health. The attached report indicates that no volatile organics were detected on the date that your potable well was tested.

Should you have any questions, please do not hesitate to call me.

Sincerely,

David E. Bute
Prin. Env. Technician

FOS8:krb
attachement
cc: Charles Krauss
Karl Delaney
Frank Hartman
Jim Daloia - Burlington County Health Dept.

New Jersey Is An Equal Opportunity Employer

WATER ANALYSES REPORT

Supply [illegible] County [illegible]

Municipality [illegible] Date Collected [illegible]

Collected by [illegible] Memo # [illegible] Project # W- _____

BACTERIOLOGICAL: Coliform organisms are reported in colonies per 100 ml. Chlorine residuals are reported in ppm.

SAMPLE NUMBER	POINT OF COLLECTION	TIME	WATER TEMP.	Chlorine Residual FREE	Chlorine Residual TOTAL	Coliform Organis FECAL	Coliform Organis TOTA
1L742	[illegible]	12:30					

PHYSICAL – CHEMICAL: Determinations are in ppm except color, odor, turbidity, pH, VO, and Pesticide. (N.J. Standards)

SAMPLE NUMBER					SAMPLE NUMBER	1L742		
Nitrate (as N)	(10)				Arsenic	(0.05)		
Color	(10)				Barium	(1.0)		
Odor	(III)				Cadmium	(0.010)		
Turbidity	(5)				Chromium	(0.05)		
Total Dis. Solids	(500)				Fluoride	(2.0)		
pH					Lead	(0.05)		
Alkalinity (as $CaCO_3$)					Mercury	(0.002)		
Chloride	(250)				Selenium	(0.01)		
ABS/LAS	(0.5)				Silver	(0.05)		
Hardness (as $CaCO_3$)	(250)				Iron	(0.03)		
Sulfate	(250)				Manganese	(0.05)		
Cyanide					Sodium	(50)		
Pesticide I, II, III					Copper	(1.0)		
Endrin	(0.0002)				Zinc	(5.0)		
Lindane	(0.004)				VO Scan (ppb)	✓	±	K
Methoxychlor	(0.1)							
Toxaphene	(0.005)							
2,4-D	(0.1)							
Silvex	(0.01)							

Remarks Blank 1053 Coliform [illegible]

[illegible]

COPIES: White - Bureau of Potable Water Green - Health Authority Pink - Bacteriological Lab Gold - Extra Blue - Water Purveyor

Page ____ of ____

WATER ANALYSES REPORT

Supply Pvt well's (Bustels Garage) 266 County Burlington
Municipality (Browns-mills) Pemberton Twp. Date Collected 4-17-84
Collected by Jami R Watson Memo # 84-58 Project # W-

BACTERIOLOGICAL: Coliform organisms are reported in colonies per 100 ml. Chlorine residuals are reported in ppm.

SAMPLE NUMBER	POINT OF COLLECTION	TIME	WATER TEMP.	Chlorine Residual FREE	Chlorine Residual TOTAL	Coliform Organisms FECAL	Coliform Organisms TOTA
26790	24 Pepper Rd – [redacted]	11:45	-	–	-	–	
26791	40 Pepper Rd –	12:25					

PHYSICAL – CHEMICAL: Determinations are in ppm except color, odor, turbidity, pH, VO, and Pesticide. (N.J. Standards)

SAMPLE NUMBER				SAMPLE NUMBER	26790	26791	
Nitrate (as N) (10)				Arsenic (0.05)			
Color (10)				Barium (1.0)			
Odor (III)				Cadmium (0.010)			
Turbidity (5)				Chromium (0.05)			
Total Dis. Solids (500)				Fluoride (2.0)			
pH				Lead (0.05)			
Alkalinity (as $CaCO_3$)				Mercury (0.002)			
Chloride (250)				Selenium (0.01)			
ABS/LAS (0.5)				Silver (0.05)			
Hardness (as $CaCO_3$) (250)				Iron (0.03)			
Sulfate (250)				Manganese (0.05)			
Cyanide				Sodium (50)			
Pesticide I, II, III				Copper (1.0)			
Endrin (0.0002)				Zinc (5.0)			
Lindane (0.004)				VO Scan (ppb)	/	2K /	2K /
Methoxychlor (0.1)							
Toxaphene (0.005)							
2,4-D (0.1)							
Silvex (0.01)							

REPORT SUBMITTED
MAY 11 1984
NJDOH Environmental Chemistry Laboratory

Remarks BLANK # 16586

COPIES: White - Bureau of Potable Water; Blue - Water Purveyor; Green - Health Authority; Canary - Chemistry Lab; Pink - Bacteriological Lab; Gold - Exam

Page ___ of ___

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REFERENCE NO. 23

Sub 1324

State of New Jer

DEPARTMENT OF ENVIRONMEN
DIVISION OF WASTE MANAG
120 Rt. 156, Yardville, N.J. 0

DR. MARWAN M. SADAT, P.E.
DIRECTOR

IN THE MATTER OF
LEONARD PERRINE
T/A BUSTER'S JUNKYARD
1572F PEPPER ROAD
BROWNS MILLS, NJ 08015

Attention: Leonard Perrine

The following FINDINGS are made and ORDER i authority vested in the Commissioner of the Environmental Protection (Department) and d Assistant Director for Enforcement and Field Operations, Division of Waste Management, under the Solid Waste Management Act, N.J.S.A. 13:1E et seq.

Form 3811, Dec. 1990 — RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, 3, and 4. Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
   - ☐ Show to whom and date delivered ..... ¢
   - ☐ Show to whom, date, and address of delivery .. ¢
2. ☐ RESTRICTED DELIVERY ¢
   (The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $

3. ARTICLE ADDRESSED TO:
Buster's Junkyard
1572 F Pepper Rd.
Browns Mills NJ 08015

4. TYPE OF SERVICE: ☐ REGISTERED ☐ INSURED ☑ CERTIFIED ☐ COD ☐ EXPRESS MAIL

ARTICLE NUMBER: P405 311 595

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☐ Authorized agent
X R. Perrine

5. DATE OF DELIVERY: 8-21

POSTMARK: MOUNT HOLLY NJ AUG 21 1994 USPS

6. ADDRESSEE'S ADDRESS (Only if requested)

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS: TN

FINDINGS

1) The New Jersey Department of Environmental Protection (hereinafter "the Department") has determined that Leonard Perrine, trading as Buster's Junkyard, is operating a solid waste disposal facility located at Pepper Road, Block 524, Lot 6, Pemberton Township, Burlington County, New Jersey.

2) During an inspection of the above stated facility, on December 13, 1983, by a Departmental representative, the following violations were noted:

   a. Disposal of solid waste without first obtaining a Department approved registration, a violation of N.J.A.C. 7:26-2.2(b).

   b. Disposal of solid waste without first obtaining an approved engineering design . violation of N.J.A.C. 7:26-2.2(c).

3) The New Jersey Administrative Code, specifically N.J.A.C. 7:26-2.2(b) and 7:26-2.2(c) states:

N.J.A.C. 7:26-2.2(b) - No person shall engage in disposal of solid waste in this State without having first obtained Departmental approval of the registration statement required under subsection (a) of this section.

N.J.A.C. 7:26-2.2(c) - No new facility shall begin operations without first obtaining Departmental approval of the engineering design submitted with the registration statement; nor shall any existing facility continue to operate subsequent to receiving notice that the Department has disapproved the engineering design for that facility. Failure to comply with the requirements of this subsection shall be cause for revocation of an approved registration for an existing facility or the denial of registration for a new installation.

ORDER

NOW, THEREFORE, IT IS HEREBY ORDERED that Buster's Junkyard, its principals, agents, employees, successors, assigns, tenants, and any receiver or trustee in bankruptcy, (should such an entity be appointed to take control of the facility which is the subject of this Order) shall:

1) Immediately cease and desist all solid waste disposal activities at the stated facility.

2) Within 15 days of receipt of this Order, Buster's Junkyard shall complete covering the remaining solid waste material which has been left exposed.

3) Upon completion of covering said solid waste material, immediately submit an affidavit verifying compliance to:

Mr. William Nehls
Division of Waste Management
Bureau of Compliance and Enforcement
120 Route 156
Yardville, NJ 08620

BE ON NOTICE that the maximum civil penalty for violations of the Solid Waste Management Act on an ORDER issued pursuant thereto is $25,000 per day.

Joseph A. Rogalski
Assistant Director

F01:F016:lmc
c Central File

REFERENCE NO. 24

United States of America

STATE OF NEW JERSEY } SS. AUGUST 29,1984

County of BURLINGTON

Be it known, That on the day of the date hereof, before me, the subscriber, a Notary Public for the State of NEW JERSEY, residing in the PEMBERTON TOWNSHIP personally appeared LEONARD PERRINE,T/A BUSTER JUNKYARD,and to me well known who being duly sworn, according to law, did depose and say, that he has complied as ORDERED by the DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF WASTE MANAGEMENT to;

1) Immediately cease and desist all solid waste disposal activities at the stated facility.

2) Within 15 days of receipt of this Order, Buster's Junkyard shall complete covering the remaining solid waste material, which has been left exposed.

3) Upon completion of covering said solid waste material, immediately submit an affidavit verifying compliance to:

Mr. William Nehls
Division of Waste Management
Bureau of Compliance and Enforcement
120 Route 156
Yardville, N.J. 08620

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

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Sworn and subscribed before me

this 29 *day of* August

A. D. 1984

LARRY P. GIBSON
Notary Public of New Jersey
My Commission Expires Feb. 16, 1987

REFERENCE NO. 25

NUS CORPORATION AND SUBSIDIARIES — **TELECON NOTE**

CONTROL NO:	DATE: 9/12/85	TIME: 1350

DISTRIBUTION: Buster's Junkyard

BETWEEN: Ray Williams	OF: Pemberton Twp. Water Dept.	PHONE: (609) 894-7522

AND: David Heim (NUS)

DISCUSSION:

Ms. Williams said that the Township collects all its water from municipal wells. There are no surface water intakes.

David Heim
9.12.85

ACTION ITEMS:

NUS 067 REVISED 0685

REFERENCE NO. 26

ERP No. D-MMS-A02224-00, Rating EO2, 1989 Central and Western Planning Areas Gulf of Mexico Outer Continental Shelf (OCS) Oil and Gas Sales No. 118 and 122, Lease Offerings offshore the coast of Alabama, Mississippi, Louisiana and Texas.

Summary

EPA expressed objections to the proposed action of unrestricted leasing in the Central and Western Gulf. EPA also expressed concern over the lack of any proposed mitigation for possible impacts to deep-water benthic communities. EPA also expressed concern that ozone modeling of the effect of offshore emission on onshore air quality be conducted.

ERP No. D-NPS-K61095-NV, Rating LO, Death Valley National Monument, General Management Plan, Implementation, Inyo and San Bernardino Counties, CA and Nye and Esmeralda Counties, NV.

Summary

EPA expressed a lack of objections to the proposed management plan but noted that future multiple use activities (mining, campgrounds) will require an assessment of air quality, surface water and ground water impacts.

Final EISs

ERP No. F-COE-H30000-IA, Des Moines Recreational River and Greenbelt Area, Development, Operation and Maintenance, Des Moines River, Webster, Hamilton, Boone, Dallas, Polk, and Warren Counties, IA.

Summary

EPA has no objections to this project with the understanding that each unit of the project will be evaluated separately for NEPA compliance at a later date.

ERP No. F-FHW-F40290-WI, WI-TH-83 Improvement, I-94 to Cardinal Lane/WI-TH-16, Funding and 404 Permit, Waukesha County, WI.

Summary

EPA has no objection to this project, long as a minimum of 0.8 acre of additional wetlands are created.

(Note: The above summary should have appeared in the 6-10-88 Federal Register Notice.)

ERP No. F-USN-C85041-NJ, Colts Neck, Naval Weapons Station Earle Family Housing Development, Construction, Mammouth County, NJ.

Summary

EPA's concern regarding the location of the mitigation site has been addressed in this document. In addition, information within the document clarified our questions with respect to the delineation of wetlands, and the point of discharge of the wastewater treatment plant. Accordingly, EPA has no unresolved concerns regarding the implementation of the project as proposed.

ERP No. F-USN-D84005-VA, Empress II Operation, Electromagnetic Pulse Radiation Environment Simulator for Ships, Chesapeake Bay (West of Bloodsworth Island) and Atlantic Ocean (Virginia Capes Operating Area), off the Coast of VA.

Summary

EPA expressed a preference for the proposed site and requested a thorough monitoring program for the project.

(Note: The above summary should have appeared in the 6-17-88 Federal Register Notice.)

Dated: June 21, 1988.

William D. Dickerson,

Deputy Director, Office of Federal Activities.

[FR Doc. 88-14353 Filed 6-23-88; 8:45 am]

BILLING CODE 6560-50-M

[ER-FRL-3404-3]

Environmental Impact Statements; Availability; Weekly Receipts

Responsible Agency: Office of Federal Activities, General Information (202) 382-5073 or (202) 382-5075. Availability of Environmental Impact Statements, Filed June 13, 1988 Through June 17, 1988. Pursuant to 40 CFR 1506.9.

EIS No. 880189, Draft, BLM, AZ, San Pedro River Riparian Resource Management Plan, Implementation, San Simon Resource Area, Safford District, Cochise County, AZ. Due: September 21, 1988. Contact: Jerrold Coolidge (602) 428-4040.

EIS No. 880190, Draft, DOE, ND, Charlie Creek-Belfield 345 kV Transmission Line Project, Construction, Operation and Maintenance, Implementation, Billings, Stark, McKenzie and Dunn Counties, ND. Due: August 8, 1988. Contact: James D. Davis (406) 657-5525.

EIS No. 880191, Draft, SCS, MD, East Yellow Creek Watershed, Soil Erosion and Flood Damage Reduction Plan, Funding and Implementation, Sullivan, Linn and Chariton Counties, MO. Due: August 8, 1988. Contact: Russell C. Mills (314) 875-5214.

EIS No. 880192, Draft, NPS, AK, Denali National Park and Preserve, Wilderness Recommendations, Designation or Nondesignation, AK. Due: August 29, 1988. Contact: Linda Nebel (907) 257-2654.

EIS No. 880193, Draft, AFS, WY, Little Bighorn River, Wild and Scenic River Study, National Wild and Scenic Rivers System, Designation, Bighorn National Forest, Sheridan County, WY. Due: September 22, 1988. Contact: Arthur Bauer (307) 672-6751.

EIS No. 880194, Draft, USN, PA, U.S. Navy Girard Point Site, Sale to the Philadelphia Muncipal Authority for the Establishment of a Steam Generation Facility that Produces Steam for Purchase by the U.S. Navy, City of Philadelphia, PA. Due: August 12, 1988. Contact: Kenneth Petrone (215) 897-6431.

EIS No. 880195, Final, FHW, PA, PA-23/New Holland Avenue/LR-1124, Section B01 Relocation, US 30 to Walnut and Chestnut Streets, Funding and 404 Permit, Manheim, East Lampeter and Lancaster Townships and the City of Lancaster, Lancaster County, PA. Due: July 25, 1988. Contact: Philibert A. Quellet (717) 782-4422.

EIS No. 880196, Draft, FRC, REG, Regulations Governing Independent Power Producers (RM88-4-000) and Regulations Governing Bidding Programs (RM88-5-000), Implementation. Due: August 15, 1988. Contact: Gilda Rodriquez (202) 357-9155.

EIS No. 880197, Draft, SCS, MS, Whites Creek, Watershed Protection and Flood Prevention Plan, Funding, Possible 404 Permit and Implementation, Webster County, MS. Due: August 8, 1988. Contact: L. Peter Heard (601) 965-5205.

EIS No. 880198, Draft, EPA, FL, CF Mining Complex II, Open Pit Phosphate Mine and Beneficiation Plan, Construction and Operation, NPDES and 404 Permits, Hardee County, FL. Due: August 8, 1988. Contact: Maryann Gerber (404) 347-3776.

Dated: June 21, 1988.

William D. Dickerson,

Deputy Director, Office of Federal Activities.

[FR Doc. 88-14352 Filed 6-23-88; 8:45 am]

BILLING CODE 6560-50-M

[FRL-3340-F]

[illegible] Coastal Plain Aquifer [illegible] Source [illegible] Final Determination

AGENCY: U.S. Environmental Protection Agency.

ACTION: Notice.

SUMMARY: Notice is hereby given that, pursuant to section 1424(e) of the Safe Drinking Water Act, the Administrator of the U.S. Environmental Protection Agency (EPA) has determined that the

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Jersey Coastal Plain Aquifer System, underlying the New Jersey Coastal Plan Area, is the sole or principal source of drinking water for the Counties of Monmouth, Burlington, Ocean, Camden, Gloucester, Atlantic, Salem, Cumberland, Cape May and portions of Mercer and Middlesex Counties, New Jersey, and that the acquifer, if contaminated, would create a significant hazard to public health. As a result of this action EPA will review Federally-assisted projects (projects which receive Federal financial assistance through a grant, contract, loan guarantee, or otherwise) proposed for construction in a project review area which includes the New Jersey Coastal Plain Area and a portion of the aquifer streamflow source zone. The streamflow source zone includes upstream portions of the Delaware River Basin in the States of Delaware, New Jersey, New York and Pennsylvania. Federally-assisted projects will be reviewed to ensure that they are designed and constructed so that they do not create a significant hazard to public health. Projects outside of the project review area but within the streamflow source zone will be reviewed if they require an Environmental Impact Statement (EIS).

DATES: This determination shall be promulgated for purposes of judicial review at 1:00 P.M. Eastern Time on July 7, 1988. This determination shall become effective on August 8, 1988.

ADDRESSES: The data on which these findings are based, detailed maps of the New Jersey Coastal Plain Area and the project review area, a compilation of public comments and the Agency's response to those comments, are available to the public and may be inspected during normal business hours at the U.S. Environmental Protection Agency, Water Management Division, 26 Federal Plaza, New York, New York 10278. In addition, copies of a map showing the designated area and a responsiveness summary to public comment are available upon request.

FOR FURTHER INFORMATION CONTACT: John Malleck, Chief, Office of Ground Water Management, Water Management Division, 26 Federal Plaza, New York, New York 10278 (212) 264-5635.

SUPPLEMENTARY INFORMATION: Notice is hereby given that pursuant to section 1424(e) of the Safe Drinking Water Act (42 U.S.C., 300f, 300h-3(e), Pub. L. 93-523), the Administrator of the U.S. Environmental Protection Agency (EPA) has determined that the New Jersey Coastal Plain Aquifer System, underlying the New Jersey Coastal Plain Area, is the sole or principal source of drinking water for the Counties of Monmouth, Burlington, Ocean, Camden, Gloucester, Atlantic, Salem, Cumberland, Cape May and portions of Mercer and Middlesex Counties, New Jersey. Pursuant to section 1424(e), Federally-assisted projects proposed for construction in the New Jersey Coastal Plain Area and the project review area within portions of its streamflow source zone will be subject to EPA review. The streamflow source zone for the New Jersey Coastal Plain Aquifer System includes upstream portions of the Delaware River Basin in the States of Delaware (New Castle County), New Jersey (Mercer-part, Hunterdon-part, Sussex-part, and Warren Counties), New York (Delaware, Orange, Sullivan and Ulster Counties), and Pennsylvania (Berks-part, Bucks, Carbon-part, Chester-part, Delaware, Lackawanna-part, Lancaster, Lehigh, Luzerne-part, Monroe Montgomery, Northampton, Philadelphia, Pike, Schuykill and Wayne Counties). The project review area includes that portion of the streamflow source zone which lies within two miles of the Delaware River in the States of New Jersey (in Mercer, Hunterdon, Sussex and Warren Counties), Delaware (in New Castle County), Pennsylvania (in Delaware, Philadelphia, Bucks, Monroe, Northampton, Pike and Wayne Counties) and New York (in Delaware, Orange and Sullivan Counties).

I. Background

Section 1424(e) of the Safe Drinking Water Act states: (e) If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register. After the publication of any such notice no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health, but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to a plan or design the project to assure that it will not so contaminate the aquifer.

On December 4, 1978 the Environmental Defense Fund, Inc. and the Sierra Club New Jersey Chapter petitioned the EPA Administrator to determine that the Counties of Monmouth, Burlington, Ocean, Camden, Gloucester, Atlantic, Salem, Cumberland, Cape May and portions of Mercer and Middlesex Counties, New Jersey, constitute an area whose aquifer system is "the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health." On March 21, 1979, EPA published the petition in the Federal Register. Public hearings on the petition request were held May 1, 15 and 17, 1979 in Lindenwold, Trenton, Freehold and Pomona, New Jersey. A May 19, 1983 Federal Register notice announced the availability of additional technical information and the extension of public comment period to July 15, 1983.

II. Basis for Determination

Among the factors to be considered by the Administrator in connection with the designation of an area under section 1424(e) are:

(1) Whether the aquifer is the area's sole or principal source of drinking water and (2) whether contamination of the aquifer would create a significant hazard to public health.

On the basis of information available to this Agency, the Administrator has made the following findings, which are the basis for the determination noted above:

(1) The New Jersey Coastal Plain Area depends upon the underlying Coastal Plain Aquifer System for seventy-five (75) per cent or more of its drinking water to serve 3 million people.

(2) Data show that the formations of the New Jersey Coastal Plain Area are hydrologically interconnected such that they respond collectively as an interrelated aquifer system.

(3) If the aquifer system were to become contaminated, exposure of the persons served by the system would constitute a significant hazard to public health.

(4) Alternative supplies capable of providing fifty (50) per cent or more of the drinking water to the designated area are not available at similar economic costs.

The New Jersey Coastal Plain Aquifer System is highly susceptible to contamination through its recharge zone from a number of sources, including but not limited to, chemical spills, leachate from landfills, stormwater runoff, highway de-icing, faulty septic systems wastewater treatment systems and waste disposal lagoons. The aquifer is also susceptible to contamination to a lesser degree from the same sources, through its streamflow source zone. Since ground-water contamination can be difficult or impossible to reverse

completely and since the acquifer in this area is solely or principally relied upon for drinking water purposes by the population of the New Jersey Coastal Plain Area, contamination of the aquifer could pose a significant hazard to public health.

III. Description of the New Jersey Coastal Plain Area Aquifer System, Its Recharge Zone and Its Streamflow Source Zone

The New Jersey Coastal Plain Aquifer System consists of a wedge-shaped mass of unconsolidated sediments composed of clay, silt, sand and gravel. The wedge thins to a feathered edge along the Fall Line and attains a thickness of over 6,000 feet at the tip of Cape May County, New Jersey.

These sediments range in age from Cretaceous to Holocene and can be classified as continental, coastal or marine deposits. There are five major aquifers within the Coastal Plain Aquifer System. They are the Potomac-Raritan-Magothy Aquifer System, Englishtown Aquifer, Wenonah-Mount Laurel Aquifer, Kirkwood Aquifer and the Cohansey Aquifer. Natural recharge to the New Jersey Coastal Plain Aquifer System occurs primarily through direct precipitation on the outcrop area of the geologic formations. A smaller component of natural recharge to the deeper layers of the system occurs by vertical leakage from the upper layers. This accounts for a small percentage of the total amount of recharge: however, over a large area and a long period of time the amount of water transmitted can be significant.

The New Jersey Coastal Plain Aquifer discharges to the surface through streams, springs and evapotranspiration. Many streams ultimately flow into bays or directly into the ocean. Development of the ground-water reservoir as a water supply source constitutes another discharge component which today accounts for a significant portion of discharge from the overall system. In certain areas (e.g. along the Delaware River) heavy pumping has caused a reversal in the normal discharge from the aquifer (Raritan-Magothy) such that the surface stream (Delaware River) now recharges the aquifer. This phenomenon implies that, in addition to the New Jersey Coastal Plain Area, the Delaware River Basin within Delaware, New Jersey, Pennsylvania and New York must be regarded as a streamflow source zone (an upstream headwaters area which drains into a recharge zone), which flows into the Coastal Plain Area.

IV. Information Utilized in Determination

The information utilized in this determination includes the petition, written and verbal comments submitted by the public, and various technical publications. The above data are available to the public and may be inspected during normal business hours at the U.S. Environmental Protection Agency, Region II, Water Management Division, 26 Federal Plaza, New York, New York 10278.

V. Project Review

When the EPA Administrator publishes his determination for a sole or principal drinking water source, no commitment for Federal financial assistance may be may if the Administrator finds that the Federally-assisted project may contaminate the aquifer through a recharge zone so as to create a significant hazard to public health . . . Safe Drinking Water Act section 1424(e), 42 U.S.C. 300h-3(e). In many cases, these Federally-assisted projects would also be analyzed in an "Environmental Impact Statement" (EIS) under the National Environmental Policy Act (NEPA), 42 U.S.C. 4332(2)(C). All EISs, as well as any other proposed Federal actions affecting an EPA program or responsibility, are required by Federal law (under the so-called "NEPA/309" process) [1] to be reviewed and commented upon by the EPA Administrator. Therefore, in order to streamline EPA's review of the possible environmental impacts on designated aquifers, when an action is analyzed in an EIS, the two reviews will be consolidated, and both authorities will be cited. The EPA review (under the Safe Drinking Water Act) of Federally-assisted projects potentially affecting sole or principal source aquifers, will be included in the EPA review (under the "NEPA/309" process) of any EIS accompanying the same Federally-assisted project. The letter transmitting EPA's comments on the final EIS to the lead agency will be the vehicle for informing the lead agency of EPA's actions under section 1424(e).

All Federally-assisted proposed projects will be reviewed, within the New Jersey Coastal Plain Area (Counties of Monmouth, Burlington, Ocean, Camden, Gloucester, Atlantic, Salem, Cumberland and Cape May, and portions of Mercer and Middlesex Counties, New Jersey (as delineated on maps included in the petition), and that portion of the streamflow source zone which lies within two miles of the Delaware River in the States of New Jersey (in Mercer, Hunterdon, Sussex and Warren Counties), Delaware (in New Castle County), Pennsylvania (in Delaware, Philadelphia, Bucks, Monroe, Northampton, Pike and Wayne Counties) and New York (in Delaware, Orange and Sullivan Counties) (as delineated on maps included in the public record). Outside the New Jersey Coastal Plain Area and further than two miles from the Delaware River in the streamflow source zone, only those Federally-assisted proposed projects requiring the preparation of an EIS will be reviewed. The Agency has chosen a two-mile limit for the project review area along the Delaware River based on the climate and hydrologic setting of the area. The two-mile distance is consistent with the two-mile review radius included in the EPA guidelines for Ground-Water Classification and is protective of human health.

VI. Summary and Discussion of Public Comments

There has been much controversy over the possible designation of this aquifer system. The majority of the comments from the original 1979 public hearings were in direct opposition to such a designation. More than half of all responses received were against designation. Several commenters felt constrained by the original comment period and thereby requested an extension. EPA complied with this request on two occasions, once by announcing at the four public hearings it held throughout the area under consideration that the agency had extended the formal comment period from May 14, 1979, to December 31, 1979, and again in a May 19, 1983 Federal Register Notice that announced the availability of additional information and extension of the public comment period to July 15, 1983. Although a number of ground-water protection measures are available at the Federal, State and local level, none of these, either individually or collectively, permit EPA to act as directly as would a sole source aquifer designation in the review and approval of Federally-assisted projects. In addition, EPA feels that the sole source project review process will foster integration rather than duplication of environmental review efforts. Memoranda of Understanding have been negotiated with various Federal agencies with the purpose of streamlining the review process and minimizing project delays. Most of the commenters expressed concern that a

[1] 42 U.S.C. § 7609 requires EPA to conduct this review. The "309" in a "NEPA/309" derives from the original source of this general requirement: Section 309 of the Clean Air Act.

ignation would be a duplication of forts already existing on the state and local levels. Some commenters felt that a sole source aquifer designation would give EPA the power to reject any applications for Federally-funded projects indiscriminately and to delay any project underway. Another main concern of many commenters was that a designation would cause a strong negative economic impact on the area in question and curtail needed development, thus eliminating jobs. EPA is sympathetic to the concerns of the commenters; however, the Agency feels that a sole source aquifer designation would not interfere with economic development. Federal financial assistance will be withheld only in those instances where it is determined that a proposed project may contaminate the aquifer so as to create a significant hazard to public health and no acceptable remedial measures are available to prevent the potential hazard.

Dated: June 16, 1988.

Lee M. Thomas,

Administrator.

[FR Doc. 88-14293 Filed 6-23-88; 8:45 am]

BILLING CODE 6560-50-M

[OPTS-59245; FRL-3404-5]

Toxic and Hazardous Substances; Certain Chemicals Premanufacture Notices

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: Section 5(a)(1) of the Toxic Substances Control Act (TSCA) requires any person who intends to manufacture or import a new chemical substance to submit a premanufacture notice (PMN) to EPA at least 90 days before manufacture or import commences. Statutory requirements for section 5(a)(1) premanufacture notices are discussed in the final rule published in the Federal Register of May 13, 1983 (48 FR 21722). In the Federal Register of November 12, 1984 (49 FR 46066) (40 CFR 723.250), EPA published a rule which granted a limited exemption from certain PMN requirements for certain types of polymers. Notices for such polymers are reviewed by EPA within 21 days of receipt. This notice announces receipt of nine such PMNs and provides a summary of each.

DATES: Close of Review Periods:

Y 88-192, 88-193—June 5, 1988.
Y 88-194—June 7, 1988.
Y 88-195—May 17, 1988.
Y 88-196—June 8, 1988.
Y 88-197—June 14, 1988.
Y 88-198—June 16, 1988.
Y 88-199—June 10, 1988.
Y 88-200—June 23, 1988.

FOR FURTHER INFORMATION CONTACT: Stephanie Roan, Premanufacture Notice Management Branch, Chemical Control Division (TS-794), Office of Toxic Substances, Environmental Protection Agency, Rm. E-611, 401 M Street SW., Washington, DC 20460 (202) 382-3725.

SUPPLEMENTARY INFORMATION: The following notice contains information extracted from the non-confidential version of the submission provided by the manufacturer on the PMNs received by EPA. The complete non-confidential document is available in the Public Reading Room NE-G004 at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, excluding legal holidays.

Y 88-192

Manufacturer. Confidential.
Chemical. (G) Hydroxy function acrylic resin.
Use/Production. (S) Coatings. Prod. range: Confidential.

Y 88-193

Manufacturer. Confidential.
Chemical. (G) Polyurethane resin.
Use/Production. (S) Coating. Prod. range: Confidential.

Y 88-194

Manufacturer. Sybron Chemicals Inc.
Chemical. (G) Copolymer of aliphatic esters of 2-propenoic acid with homocyclic and heterocyclic aromatic vinyl compounds, reaction production wiyh aliphatic polyam ne.
Use/Production. (G) Waste and process water purification. Prod. range: Confidential.

Y 88-195

Manufacturer. Confidential.
Chemical. (G) Dibasic acid polyol polyester.
Use/Production. (G) Used in coatings. Prod. range: Confidential.

Y 88-196

Manufacturer. Confidential.
Chemical. (S) Rosin, dicyclopentadiene, dimer fatty acid polymer.
Use/Production. (S) Printing ink vehicles. Prod. range: 1,000,000-3,700,000 kg/yr.

Y 88-197

Manufacturer. Reichhold Chemicals, Inc.
Chemical. (G) Sunflower oil alkyd.
Use/Production. (S) Architectural trade sales coating. Prod. range: Confidential.

Y 88-198

Manufacturer. Confidential.
Chemical. (G) Aliphatic polyester urethane.
Use/Production. (G) Coatings. Prod. range: Confidential.

Y 88-199

Manufacturer. C.J. Osborn.
Chemical. (G) Polyester.
Use/Production. (S) Pigmented and clear finish. Prod. range: Confidential.

Y 88-200

Manufacturer. Confidential.
Chemical. (G) Styrene/acrylic copolymer.
Use/Production. Coatings and inks. Prod. range: Confidential.

Date: June 13, 1988.

Steve Newburg-Rion,

Acting Chief, Public Data Branch, Information Management Division, Office of Toxic Substances.

[FR Doc. 88-14292 Filed 6-23-88; 8:45 am]

BILLING CODE 6560-50-M

FEDERAL COMMUNICATIONS COMMISSION

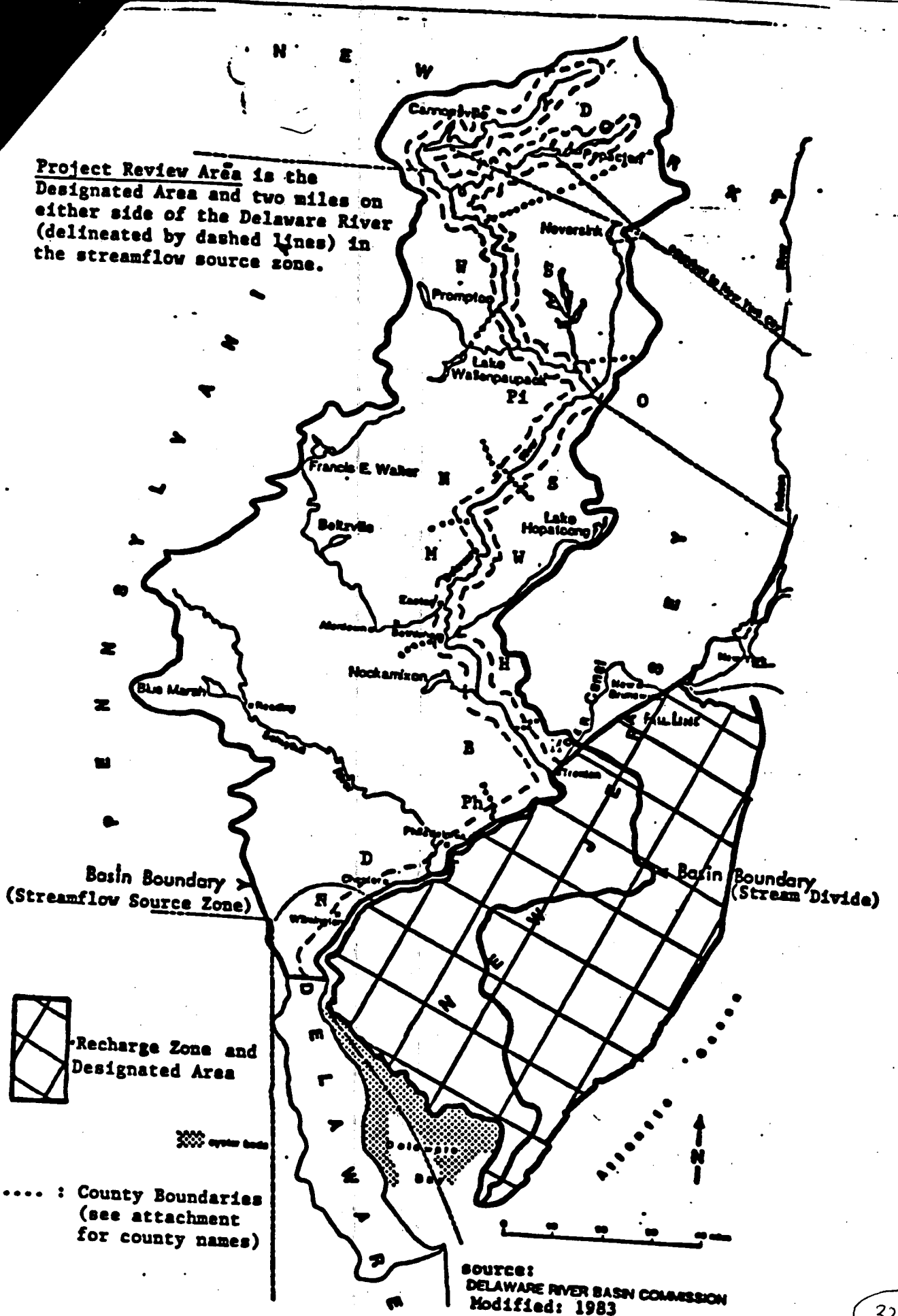
Public Information Collection Requirement Submitted to Office of Management and Budget for Review

June 16, 1988.

The Federal Communications Commission has submitted the following information collection requirement to OMB for review and clearance under the Paperwork Reduction Act of 1980 (44 U.S.C. 3507).

Copies of this submission may be purchased from the Commission's copy contractor, International Transcription Service, (202) 857-3800, 2100 M Street NW., Suite 140, Washington, DC 20037. For further information on this submission contact Judy Boley, Federal Communications Commission, (202) 632-7513. Persons wishing to comment on this information collection should contact Yvette Flynn, Office of Management and Budget, Room 3235 NEOB, Washington, DC 20503, (202) 395-3785.

OMB Number: 3060-0025.
Title: Application for Restricted Radiotelephone Operator Permit—Limited Use.
Form Number: FCC 755.
Action: Revision.
Respondents: Individuals or households.



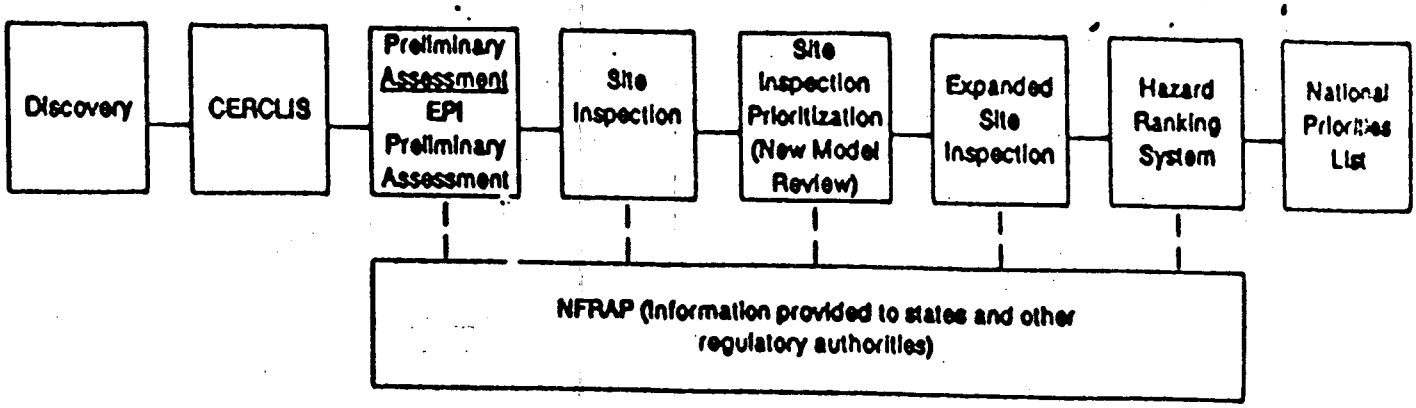
NEW JERSEY COASTAL PLAIN SOLE SOURCE AQUIFER

ATTACHMENT 2

Review of Analytical Data

If previous analytical data are available, they should be reviewed for information which supports the design of the sampling and analysis program, tests site hypotheses, and documents the site score. The SI investigator should review all previous analytical data. While analytical data collected for other purposes may not meet SI objectives, site-specific analytical data are generally helpful in better understanding the nature of the problem at the site, regardless of data sources or data quality. The depth of the review depends on the overall quality and quantity of data, the intended use of the data, and whether they are representative of current site conditions and comparable to SI data. Determining whether available data can be applied as SI-generated data requires the professional judgement of an experienced reviewer. Both validated and non-validated analytical data may be available. Previous SI data will be validated and of CLP-quality. Non-validated data may contain false positives and false negatives, as well as quantitation, transcription, and calculation errors. If data of unknown or questionable quality are used for decision-making, the investigator should review all available information to assess the level of certainty associated with the data. If these data are used for HRS documentation, data validation may be necessary. The investigator may be able to determine the general quality of the data set by reviewing QC data. False positives can occur when blanks are contaminated or spike recoveries are very high. False negatives can occur if spike recoveries are very low. If hazardous substances are found in one duplicate but not the other, results may be false positive or negative.

SUPERFUND SITE ASSESSMENT PROGRAM



SITE ASSESSMENT REPORTS

1. PRELIMINARY ASSESSMENT
   - Quick Review of Readily Accessible Records and Reports
   - Undertaken to Determine the Existence of a Problem and the Need for Further Action at a Site by Characterizing:
     - Magnitude of the Hazard
     - Source and Nature of the Release or Potential Release
     - Identification of Targets
   - Does Not Include Sample Collection
2. SITE INSPECTION
   - The Purpose of the Site Inspection is to:
     - Further Define and Characterize the Problem
     - Provide Data for the Hazard Ranking System (HRS) Scoring and Compute Initial Score
     - Identification of Targets
     - Determine the Necessity of Further Action
   - The Site Inspection Involves an On-Site Visit and Sampling (10+/- Samples)
   - A Site Inspection Is not an Extent of Contamination Study
3. SITE INSPECTION PRIORITIZATION
   - Quick Review of Readily Accessible Records and Reports
   - Undertaken to Determine the Validity and Update Background Conditions Under the New HRS Model, and the Need for Further Action at a Site by Characterizing:
     - Magnitude of the Hazard
     - Source and Nature of the Release or Potential Release
   - Included On-Site Visits or Sample Collection as needed
     - Analyze Samples/Limited Analytical Resources
     - Account for Significant Safety Hazards On-Site
4. EXPANDED SITE INSPECTION

   A Follow-Up Inspection May Be Recommended After the SI To:
   - Gather Additional Data Necessary to Strengthen or Substantiate the Initial HRS Score
     - Geophysical Surveys
     - Installation of Groundwater Monitoring Wells
     - Additional Sampling