NUS CORPORATION
A Halliburton Company

141987

FINAL DRAFT
SITE INSPECTION REPORT
D. AND J. TRUCKING
NEWARK, NEW JERSEY

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

NUS CORPORATION
SUPERFUND DIVISION

02-9005-05-SI
REV. NO. 0

FINAL DRAFT
SITE INSPECTION REPORT
D. AND J. TRUCKING
NEWARK, NEW JERSEY

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-9005-05
CONTRACT NO. 68-01-7346

FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

SEPTEMBER 26, 1990

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:

RICHARD L. FEINBERG
PROJECT MANAGER

DOROTHY PONTE
SITE MANAGER

REVIEWED/APPROVED BY:

RONALD M. NAMAN
FIT OFFICE MANAGER

LEVEL I SITE INSPECTION REPORT

PART I: SITE INFORMATION

1. **Site Name/Alias** D. and J. Trucking/D.& J. Trucking and Waste Co., Inc.

   Street 310-336 Avenue P

   City Newark **State** New Jersey **Zip** 07105

2. **County** Essex **County Code** 13 **Cong. Dist.** 10

3 **EPA ID No.** NJD980528962

4. **Block No.** 5060 **Lot No.** 149

5. **Latitude** 40° 43' 25" N **Longitude** 74° 07' 46" W

   USGS Quad. Elizabeth, New Jersey

6. **Owner** Housing Authority of the City of Newark **Tel. No.** (201) 430-2430

   Street 57 Sussex Avenue

   City Newark **State** New Jersey **Zip** 07103

7. **Operator** AFA Pallet Co., Inc. **Tel. No.** (201) 589-8336

   Street 514 Doremus Avenue

   City Newark **State** New Jersey **Zip** 07105

8. **Type of Ownership**

   ☐ Private ☐ Federal ☐ State
   ☐ County ☒ Municipal ☐ Unknown ☐ Other _____

9. **Owner/Operator Notification on File**

   ☐ RCRA 3001 Date _____ ☐ CERCLA 103c Date _____
   ☐ None ☒ Unknown

10. **Permit Information**

Permit	Permit No.	Date Issued	Expiration Date	Comments
SWA	2683	Unknown	Unknown	Registration revoked 1978

11. Site Status

☐ Active ☒ Inactive ☐ Unknown

12. Years of Operation 1923 to 1978

13. Identify the types of waste sources (e.g., landfill, surface impoundment, piles, stained soil, above- or below-ground tanks or containers, land treatment, etc.) on site. Initiate as many waste unit numbers as needed to identify all waste sources on site.

(a) Waste Sources

Waste Unit No.	Waste Unit Type	Facility Name for Unit
1	Drum/Paint Container	Container
2	Pit	Pit

(b) Other Areas of Concern

Identify any miscellaneous spills, dumping, etc. on site; describe the materials and identify their locations on site.

The D. and J. Trucking site is located in a heavily industrialized area of Newark, Essex County, New Jersey. The site is approximately 3.5 acres in size. Available background information indicates industrial activities were associated with the site prior to the purchase of the parcel by D. and J. Trucking and Waste Co., Inc. A dye/chemical company may have previously operated at the site. The quantity and type of process waste generated by this facility is unknown. Background information also does not indicate whether any materials were placed in storage tanks, or if these tanks were excavated and removed from the site when the factory was demolished. Illegal dumping of chemical wastes has occurred on site. A specific incident involving disposal of chemical wastes occurred on December 15, 1977. The Newark Police Department observed the illegal dumping of chemical wastes from 55-gallon drums into an unlined pit. Analysis of samples taken from the pit by the Passaic Valley Sewerage Commissioners indicated the waste was of a hazardous and flammable nature. There are no other known documented incidents of miscellaneous spills or dumping of liquid hazardous substances on site. The site has also operated as a junk-scrap yard. Solid wastes disposed on the property consist of construction debris, used tires, used commercial vehicles, paint cans, 55-gallon drums, roof shingles, and other debris. Hazardous substances suspected to be present in the soil and drainage ditch surface water/sediments of the site are base/neutral organic compounds, volatile organics, heavy metals, and petroleum hydrocarbons. These contaminants may be attributable to the illegal disposal activities conducted by D. and J. Trucking at the site.

14. Information available from

Contact Amy Brochu Agency U.S. EPA Tel. No. (201) 906-6802

Preparer Dorothy Ponte Agency NUS Corp. Region 2 FIT Date 09/26/90

property. A transient claims he lives on the premises. The site is mostly devoid of vegetation. Therefore, there is potential for humans and animals to come in direct contact with exposed contaminated surface soil and airborne contaminated soil particulates at the site (Ref. No. 2). Figures 1 and 2 provide a Site Location Map and Site Map, respectively.

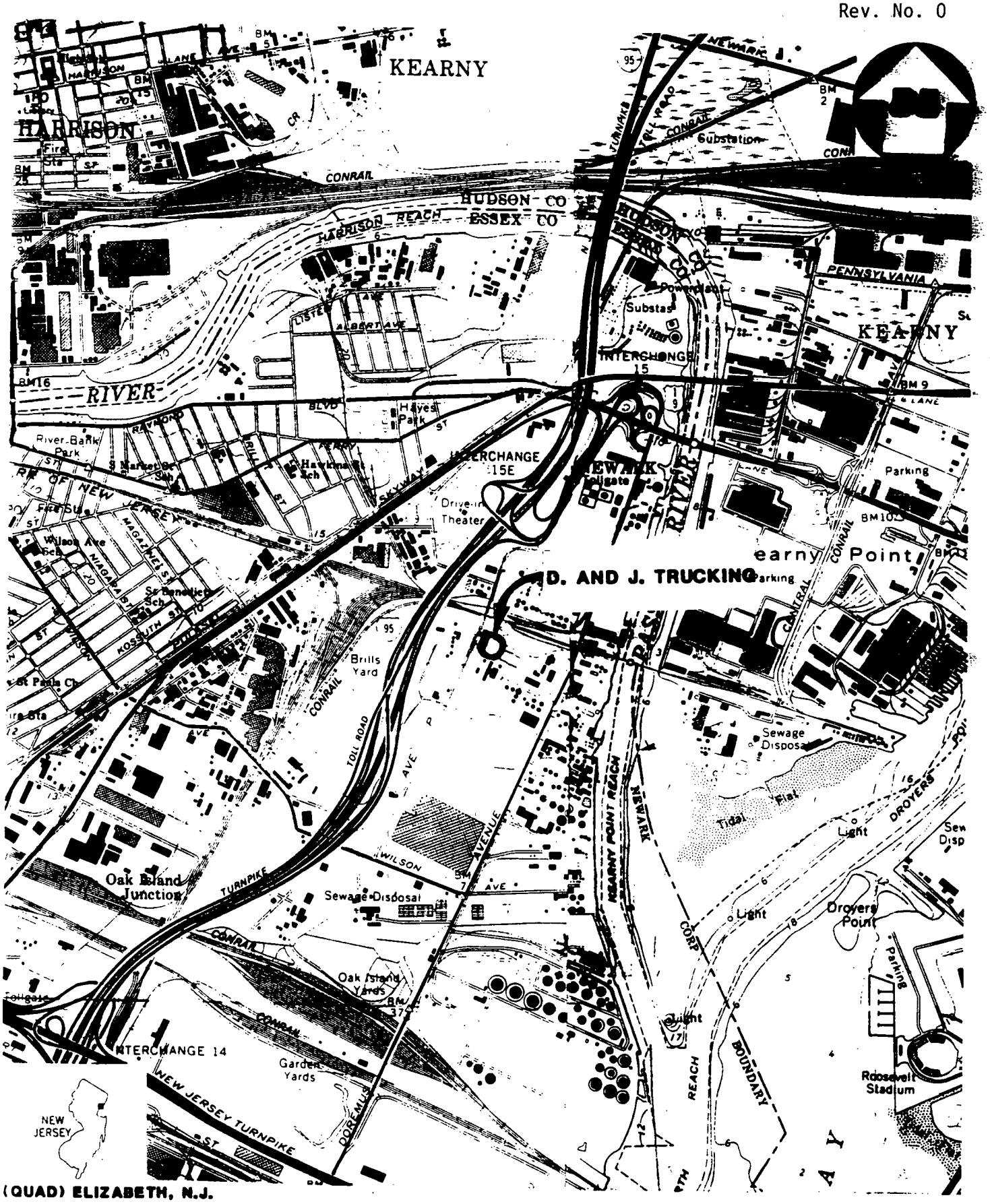
PART III: PRE-EXISTENT ANALYTICAL DATA

Previously collected analytical data are no longer available. The site was sampled by the City of Newark Department of Engineering on December 15, 1977, following the illegal disposal of chemical wastes on site. Results of an analysis by the Passaic Valley Sewerage Commissioners indicated the liquid waste was of a hazardous and flammable nature. The number of samples collected and the parameters for which these samples were analyzed is unknown. The location of the pit on the property is also unknown (Ref. Nos. 15 through 18).

PART IV: SITE INSPECTION SAMPLE RESULTS

NUS Corporation Region 2 FIT conducted sampling at the D. and J. Trucking Site on Tuesday June 26, 1990. A total of 14 environmental samples were collected and included three surface water, two sediment, and nine soil samples. Table 1 presents a summary of the analytical data. Figure 3 provides a Sample Location Map. Samples were analyzed under the Contract Laboratory Program (CLP) for Target Compound List (TCL) contaminants, excluding cyanide. A complete presentation of the analytical results can be found in Reference Number 1. Soil samples were collected to assess potential overland and downward migration of contaminants at the site, and to attempt to locate a former buried pit. Surface water/sediment samples were collected from a drainage ditch which runs parallel to the southwestern border of the property in order to assess the potential for a release of contaminants to surface water. Samples were collected to determine whether a release of contaminants at the site could be attributed to previous activities at the facility involving hazardous materials, and to assess whether a potential exists for direct contact with these contaminants.

A review of the organic data package and sampling trip report indicates the D. and J. Trucking Site should be resampled. Successful analysis was complicated by the highly organic nature of the soil samples. Most of the organic data results were therefore questionable. Many holding times were exceeded on the soil analyses, and several matrix spike recoveries were outside of recovery limits. The laboratory attributed these problems to the sample matrix. Identification of multipeak target chemicals was also difficult due to interferences. Repeat analyses of samples yielded



(QUAD) ELIZABETH, N.J.

FIGURE 1

SITE LOCATION MAP

D. AND J. TRUCKING, NEWARK, N.J.

SCALE: 1" = 2000'

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PART II: WASTE SOURCE INFORMATION

The D. and J. Trucking Site is located in a heavily industrialized area of Newark, Essex County, New Jersey. The site is approximately 3.5 acres in size. A preliminary site investigation of the area performed by Louis Berger and Associates, Inc., identified two areas of waste disposal on the D. and J. Trucking Site. One area is located along the property's northeastern perimeter. The other waste disposal area encompasses a large portion of the parcel and is located towards the rear of the property (Ref. Nos. 3, 8). A 1978 aerial photograph of the site obtained from Robinson Aerial Surveys reveals what appears to be drums or large containers scattered in various sections of the latter waste disposal area. Some of these drums/containers appear to be partially buried near the drainage ditch by the southern corner of the property (Ref. Nos 3, 40). During the 1970s there were several accounts of illegal dumping at the site as well as other properties in the area involving D. and J. Trucking and Waste Co., Inc. The New Jersey Department of Environmental Protection (NJDEP) and the Newark Department of Engineering identified an illegal paint dumping operation at the D. and J. Trucking Site. Much of the paint and associated paint products (varnish, lacquer, and solvents) discarded at the site may have been derived from Benjamin Moore & Co. and Sherwin-Williams Co. D. and J. Trucking had a disposal contract with these two paint manufacturers (Ref. Nos. 3, 6, 18, 20). On December 15, 1977, the president of D. and J. Trucking and Waste Co., Inc. and a truck driver were apprehended by the Newark police while in the act of dumping liquid chemical waste from 55-gallon drums into a pit on site. The police officers also observed 55-gallon drums in the rear of the abandoned truck and several empty 55-gallon drums scattered along the edge of the property's drainage ditch. The surface water of the ditch appeared polluted, and in the opinion of the officers this was attributable to the dumped contents of the drums. Subsequently, an administrative order was issued to the company in 1978 by the NJDEP revoking its authority to collect and haul solid waste in the State of New Jersey (Ref. Nos. 17, 18, 19). No known means of containment or diversion systems were used to contain potential spills and leaks from waste containers discarded at the site. The quantity of waste dumped at the site and into the unlined pit on the property is unknown (Ref. No. 41). A recent site investigation conducted by NUS Corporation Region 2 FIT was unable to ascertain the location of the waste pit (Ref. No. 2). The history of other properties in the Newark area owned by D. and J. Trucking and Waste Co., Inc. indicates improperly contained, incompatible, or highly reactive chemicals may be buried in drums beneath the D. and J. Trucking Site. A fire and explosion resulted when red phosphorous and numerous drums of flammable hazardous wastes were unearthed at the nearby Avenue P Site during remediation of a former property of the waste hauling firm (Ref. No. 3). The exact quantity of waste on site is unknown.

There is potential for direct contact with hazardous substances on site. A locked entrance gate can easily be pushed open by removing wire which holds the gate to the property's northwestern fenced perimeter. The southeastern fenced perimeter has a large hole in it which allows access to the

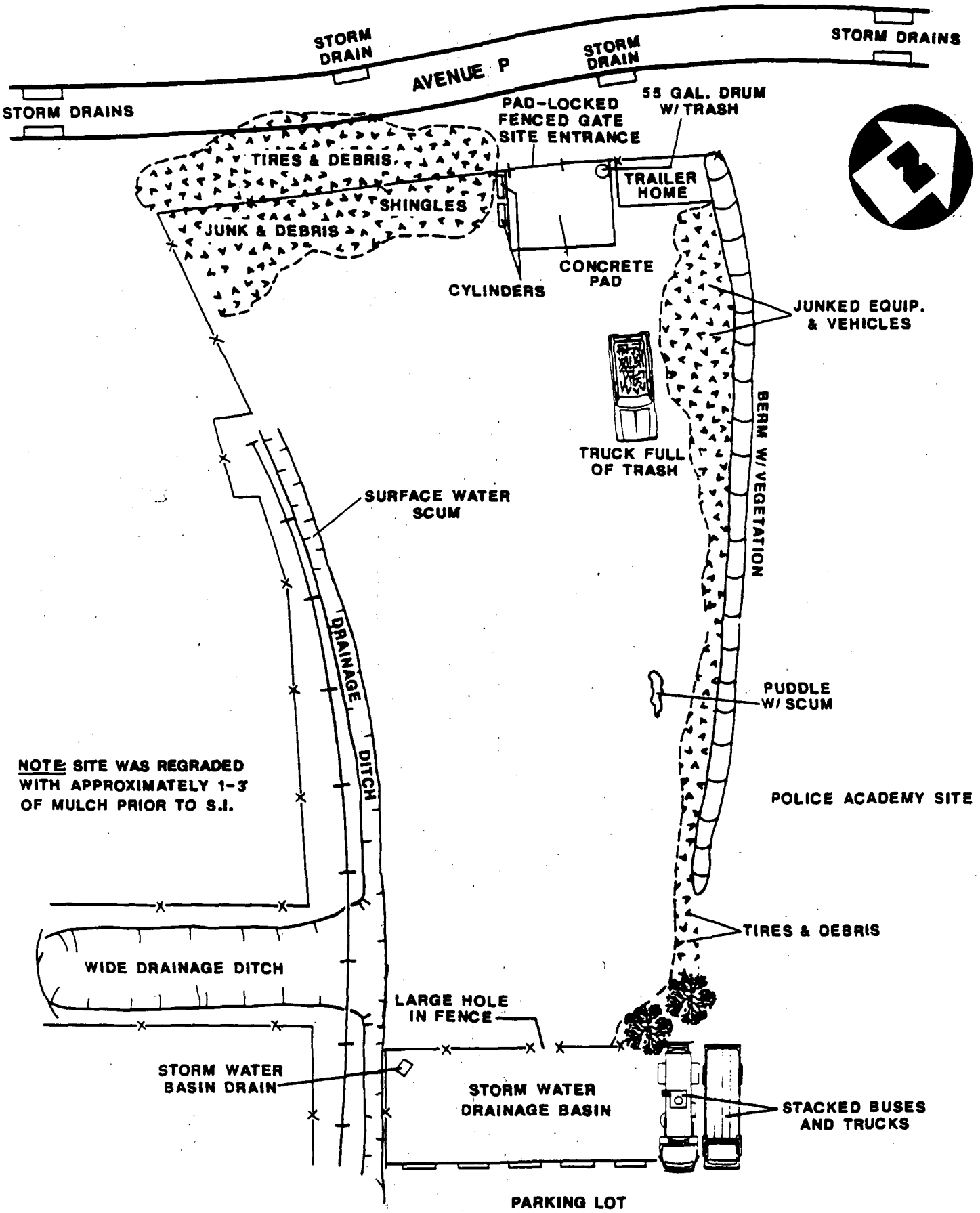

FIGURE 2

SAMPLE LOCATION MAP

D. AND J. TRUCKING, NEWARK, N.J.

NOT TO SCALE

NUS CORPORATION

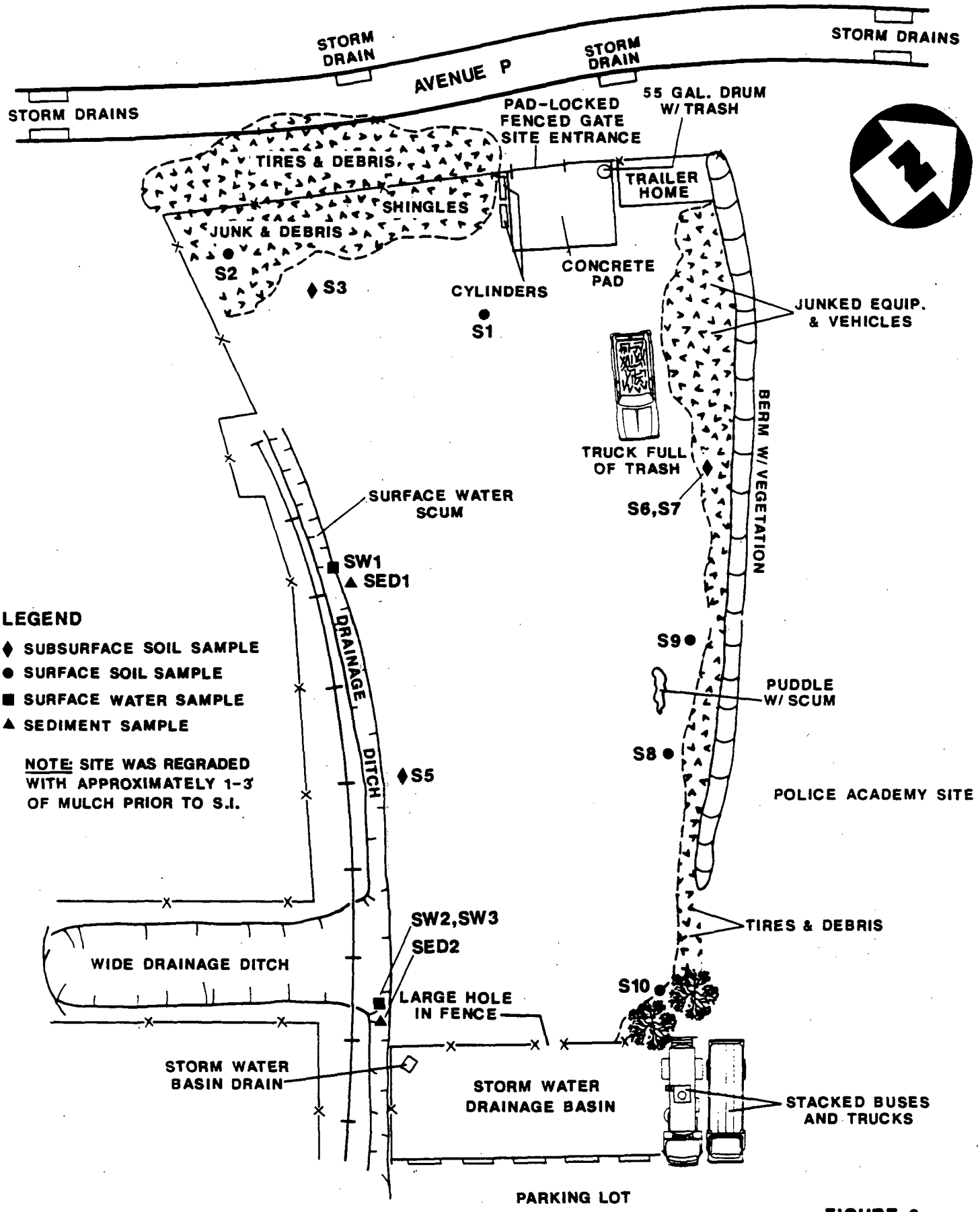

FIGURE 3

SAMPLE LOCATION MAP

D. AND J. TRUCKING, NEWARK, N.J.

NOT TO SCALE

NUS CORPORATION

TABLE 1

SITE NAME: D & J TRUCKING
IDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407
LAB NAME: CHEMTECH

SITE INSPECTION SAMPLE RESULTS
D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY

INORGANICS											
Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	MBDDE1	MBDDB2	MBDDB3	MBDDB4	MBDDB5	MBDDB6	MBDDB7	MBDDB8	MBDD90	MBDD91	MBDD92
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	275	427 E	3210 E	1380	6550 E	5590	8120	3120	10100	8440	8770
Antimony			J		55.9 E						J
Arsenic	15.5 E	21.6 E	36 E	12.1 E	61.2 E	12.5 E	14.8 E	8.9 E	12.9 E	36.4 E	111 E
Barium	284	J	350	392	304 E	111	287	61.2	335	159	181
Beryllium							J				12.4 E
Cadmium			15.6 E		8.8 E						
Calcium	134000	87100	119000	300000	76600 E	8270	3920	19700	21500	7160	10200
Chromium	R	R	112 E	37.8	236 E	15.7	54.3	163	42.2	47.4	81.6
Cobalt					J	J	J	J	J	J	13.2
Copper	53.7	53.4 E	302 E	43.7 E	613 E	223 E	62.2 E	130 E	104 E	123 E	166 E
Iron	3210	6830 E	25400 E	8750	46600 E	15300	17800	8910	22700	22300	22200
Lead		99 E	689 E	126	863 E	378	392	276	461	439	453
Magnesium	19200	18300	20600	4600	5490 E	1680	2010	5770	6650	3390	4280
Manganese	574	519	822	498	518 E	425	219	137	314	322	397
Mercury			0.57 E	0.51	1.1 E	0.39	0.81	0.84	2.5	1	1.2
Nickel	J	J	92.5 E	17.9 E	139 E	20 E	17.7 E	405	30.9 E	30 E	46.9
Potassium	55000	J	J		J	J	J		1280	J	J
Selenium				R	R	R	R	R	R	R	R
Silver											
Sodium	267000 E	161000 E	154000 E	J	2740 E	J	J	J	J	J	J
Thallium											
Vanadium	J	J	117 E	21.6	98.9 E	20.8	25.3	J	49.2	38.1	32.3
Zinc	138	244 E	1330 E	210	2930 E	438	265	165	373	380	642

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

TABLE 1 (Cont'd)

SITE NAME: D & J TRUCKING
TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407
LAB NAME: CHEMTECH

SITE INSPECTION SAMPLE RESULTS
D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY

INORGANICS								
Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TBLK1
Traffic Report No.	MBDD93	MBDD94	MBDD95	MBDD97	MBDD98	MBDD99	MBCY64	N/A
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	N/A
Units	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	7970	5850	11200	J				NR
Antimony	25.3 E	27.8 E	39.9 E					NR
Arsenic	13.4 E	21.5 E	27.3 E					NR
Barium	767	555	715					NR
Beryllium								NR
Cadmium	7.6	2.3	4.9					NR
Calcium	19900	23200	12000					NR
Chromium	167	74.6	259	11.2 E	J			NR
Cobalt	J	J	15.7					NR
Copper	222 E	125 E	364 E					NR
Iron	21200	15300	47200	136	J			NR
Lead	1270	619	1750	3.4 E		3.7 E	J	NR
Magnesium	3810	5280	3680					NR
Manganese	285	305	365					NR
Mercury	2.1	2	2.3					NR
Nickel	66.3	26.2 E	118					NR
Potassium	J	J	1700					NR
Selenium	R	R	R					NR
Silver		J						NR
Sodium	J	J	J					NR
Thallium								NR
Vanadium	37	28.5	90.8					NR
Zinc	934	561	1050				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: D. & J TRU[redacted]
TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS
D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY

VOLATILES											
Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BEZ67	BEZ68	BEZ69	BEZ70	BEZ71	BEZ72	BEZ73	BEZ74	BEZ76	BEZ77	BEZ78
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor	1	1	1	1	1	1	1	1	1	1	1
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
Chloromethane											
Bromomethane											
Vinyl Chloride											
Chloroethane											
Methylene Chloride											
Acetone	54	44	48	110 E							
Carbon Disulfide		J		40	19 E		23 E			72 E	42 E
1,1-Dichloroethene											
1,1-Dichloroethane											
Trans-1,2-Dichloroethene (total)											
Chloroform											
1,2-Dichloroethane											
2-Butanone								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					37 E						
trans-1,3-Dichloropropene											
Bromoform											
4-Methyl-2-Pentanone											
2-Hexanone											
Tetrachloroethene								J	6 E		
Toluene	J	J	J	29 E	120 E	J					
1,1,2,2-Tetrachloroethane											
Chlorobenzene					520 E	8 E					
Ethylbenzene		J		32 E	4000 E	31 E					
Styrene											
Xylenes (Total)	J	25	22	160 E	12000 E	47 E					

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination

[redacted] NAME: [redacted] J TRU[redacted]
TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS
D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY

VOLATILES								
Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TBLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/l	ug/l	ug/l
Dilution Factor	1	1	1	1	1	1	1	1
Percent Moisture	24	30	23	--	--	--	--	--
Chloromethane						J	J	J
Bromomethane								
Vinyl Chloride								
Chloroethane								
Methylene Chloride								
Acetone								
Carbon Disulfide	21 E	14 E						
1,1-Dichloroethene								
1,1-Dichloroethane								
Trans-1,2-Dichloroethene (total)								
Chloroform					J		J	J
1,2-Dichloroethane								
2-Butanone								
1,1,1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate								
Bromodichloromethane								
1,2-Dichloropropane								
cis-1,3-Dichloropropene								
Trichloroethene								
Dibromochloromethane								
1,1,2-Trichloroethane								
Benzene								
trans-1,3-Dichloropropene								
Bromoform								
4-Methyl-2-Pentanone								
2-Hexanone								
Tetrachloroethene	J		87 E					
Toluene	42 E	130 E	J					
1,1,2,2-Tetrachloroethane								
Chlorobenzene								
Ethylbenzene	8 E	J						
Styrene								
Xylenes (Total)	120 E	8 E						

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination

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[redacted]NAME: [redacted]J TRU[redacted]
TOD#: 02-9005-05
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TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS
D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY

SEMI-VOLATILES											
Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BEZ67	BEZ68	BEZ69	BEZ70	BEZ71	BEZ72	BEZ73	BEZ74	BEZ76	BEZ77	BEZ78
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	(MED)
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
Phenol			R								R
bis(2-Chloroethyl)ether			R								R
2-Chlorophenol			R								R
1,3-Dichlorobenzene			R		J						R
1,4-Dichlorobenzene			R		J						R
Benzyl alcohol			R								R
1,2-Dichlorobenzene			R		2500						R
2-Methylphenol			R								R
bis(2-Chloroisopropyl)ether		J	R								R
4-Methylphenol			R								R
N-Nitroso-di-n-dipropylamine			R		J						R
Hexachloroethane			R								R
Nitrobenzene			R								R
Isophorone			R							J	R
2-Nitrophenol			R								R
2,4-Dimethylphenol			R								R
Benzoic acid	J	J	R								R
bis(2-Chloroethoxy)methane			R								R
2,4-Dichlorophenol			R								R
1,2,4-Trichlorobenzene			R								R
Naphthalene			R		4400	J					R
4-Chloroaniline			R								R
Hexachlorobutadiene			R								R
4-Chloro-3-Methylphenol			R								R
2-Methylnaphthalene			R		J						R
Hexachlorocyclopentadiene			R								R
2,4,6-Trichlorophenol			R								R
2,4,5-Trichlorophenol			R								R
2-Chloronaphthalene			R								R
2-Nitroaniline			R								R
Dimethylphthalate			R								R
Acenaphthylene			R	J					J	J	R
2,6-Dinitrotoluene			R								R
3-Nitroaniline			R								R
Acenaphthene			R				J	J			R
2,4-Dinitrophenol			R								R
4-Nitrophenol			R								R
Dibenzofuran			R				J				R
2,4-Dinitrotoluene			R								R
Diethylphthalate			R		J		J		J	J	R
4-Chlorophenyl-phenyl ether			R								R

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SITE NAME: D & J TRUCKING
IDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS
D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY

SEMI-VOLATILES											
Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BEZ67	BEZ68	BEZ69	BEZ70	BEZ71	BEZ72	BEZ73	BEZ74	BEZ76	BEZ77	BEZ78
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	(MED)
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
Pentachlorophenol			R								R
Phenanthrene			R	J	J	1400	1200	2000	J	980	R
Anthracene			R	J	J	J	J	J	J	J	R
Di-n-butylphthalate			R	J					J		R
Fluoranthene			R	2100	J	2500	1500	2200	1600 E	2200	R
Pyrene			R	1900	J	1900	1200	1400	1700 E	1900	R
Butylbenzylphthalate			R	J	J				J	J	R
3,3'-Dichlorobenzidine			R								R
Benzo(a)anthracene			R	J	J	1200	J	J	830 E	1000	R
Chrysene			R	J	J	1400	J	810	840 E	1000	R
bis(2-Ethylhexyl)phthalate	J	38	J	2100	24000	J	J	J	7200 E	J	R
Di-n-octylphthalate			R		J				J		R
Benzo(b)fluoranthene			R	J	J	2800	790	J	1300 E	1300	R
Benzo(k)fluoranthene			R	J	J	1400 E	J	1100 E	1100 E	940	R
Benzo(a)pyrene			R	J	J	1400	J	780	1100 E	1200	R
Indeno(1,2,3-cd)pyrene			R	J		J	J	J	J	J	R
Dibenz(a,h)anthracene			R			J					R
Benzo(g,h,i)perylene			R			J	J			J	R

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

SITE NAME: D & J TRUCKING
[redacted] 02-9[redacted]5 [redacted]
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS
D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY

SEMI-VOLATILES								
Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TBLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	(MED)	(MED)	(MED)	1	1	1	1	N/A
Percent Moisture	24	30	23	--	--	--	--	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								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								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								NR
Acenaphthene								NR
2,4-Dinitrophenol								NR
4-Nitrophenol								NR
Dibenzofuran								NR
2,4-Dinitrotoluene								NR
Diethylphthalate								NR
4-Chlorophenyl-phenyl ether								NR

SITE NAME: D & J TRUCKING
TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS
D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY

SEMI-VOLATILES								
Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TBLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	(MED)	(MED)	(MED)	1	1	1	1	N/A
Percent Moisture	24	30	23	--	--	--	--	N/A
Pentachlorophenol								NR
Phenanthrene	J	65000 E	J					NR
Anthracene	J	J						NR
Di-n-butylphthalate								NR
Fluoranthene	J	99000 E	J					NR
Pyrene	J	55000 E	J					NR
Butylbenzylphthalate	J							NR
3,3'-Dichlorobenzidine								NR
Benzo(a)anthracene	J	J	J					NR
Chrysene	J	30000 E						NR
bis(2-Ethylhexyl)phthalate	51000 E	J	J					NR
Di-n-octylphthalate	J							NR
Benzo(b)fluoranthene	J	38000 E						NR
Benzo(k)fluoranthene	J	J						NR
Benzo(a)pyrene		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 >0%

SITE NAME: D & J TRUCKING
IDD[redacted]-9005[redacted]
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS
D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY

PESTICIDES											
Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BEJ67	BEJ68	BEJ69	BEJ70	BEJ71	BEJ72	BEJ73	BEJ74	BEJ76	BEJ77	BEJ78
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	1	1	1	1	1
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
alpha-BHC		0.08						330 E			
beta-BHC		1.2	0.46	42 E			17 E	2300 E		51 E	66 E
delta-BHC								99 E			
gamma-BHC (Lindane)								15 E			
Heptachlor	R										
Aldrin	R										
Heptachlor epoxide											
Endosulfan I											
Dieldrin	R						100 E	39 E			
4,4'-DDE		0.48	0.18	67 E			21 E	180 E	190 E	45 E	60 E
Endrin	R									J	24 E
Endosulfan II		0.26		58 E							
4,4'-DDD		0.72	0.13	36 E	1600 E			2300 E	52 E	35 E	67 E
Endosulfan sulfate											
4,4'-DDT							75 E	420 E	39 E		26 E
Methoxychlor											
Endrin ketone											
alpha-Chlordane		J						J	360 E		
gamma-Chlordane		J			440 E			J	350 E	J	
Toxaphene											
Aroclor-1016											
Aroclor-1221											
Aroclor-1232											
Aroclor-1242											
Aroclor-1248											
Aroclor-1254											
Aroclor-1260											

NOTES:
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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

SITE NAME: D & J TRUCKING
[redacted] 02-[redacted]5 [redacted]
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

TABLE 1 (Cont'd)

SITE INSPECTION SAMPLE RESULTS
D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY

PESTICIDES								
Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TBLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	1	N/A
Percent Moisture	24	30	23	--	--	--	--	N/A
alpha-BHC	28 E	42 E	11 E					NR
beta-BHC	730 E	330 E	88 E					NR
delta-BHC	100 E							NR
gamma-BHC (Lindane)								NR
Heptachlor	110 E			R	R	R	R	NR
Aldrin				R	R	R	R	NR
Heptachlor epoxide								NR
Endosulfan I								NR
Dieldrin				R	R	R	R	NR
4,4'-DDE	1800 E	560 E						NR
Endrin			39 E	R	R	R	R	NR
Endosulfan II	2900 E	430 E	120 E					NR
4,4'-DDD	330 E	150 E	54 E					NR
Endosulfan sulfate			50 E					NR
4,4'-DDT		110 E						NR
Methoxychlor								NR
Endrin ketone								NR
alpha-Chlordane		410 E						NR
gamma-Chlordane		300 E						NR
Toxaphene								NR
Aroclor-1016								NR
Aroclor-1221								NR
Aroclor-1232								NR
Aroclor-1242								NR
Aroclor-1248								NR
Aroclor-1254		5200 E						NR
Aroclor-1260	37000 E		1800 E					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
M - Presumptive evidence of the presence of the material
NR - analysis not required

conflicting results; this was attributed to a lack of homogeneity between sample aliquots. The site appears to be contaminated with a complex mixture of organic chemicals. However, more conclusive data are required to correctly identify the contaminants. The only data evaluated for the D. and J. Trucking Site will be the inorganic data results (Ref. No. 1). Many soil samples were collected by means of augering through several feet of wood chips on site, causing possible cross-contamination (Ref. No. 2).

PART V: HAZARD ASSESSMENT

GROUNDWATER ROUTE

1. **Describe the likelihood of a release of contaminant(s) to the groundwater as follows: observed, alleged, potential, or none. Identify the contaminant(s) detected or suspected, and provide a rationale for attributing the contaminant(s) to the facility.**

   There is potential for release of contaminants to the groundwater. Liquid contents of 55-gallon drums were emptied into an unlined pit at the site. No diversion or containment structures were in place to contain the waste. Analysis of samples taken from the pit in 1977 indicated the illegally disposed wastes were of a hazardous and flammable nature.

   On June 26, 1990, NUS Corporation Region 2 FIT conducted a sampling site inspection of the property. Analyses of the soil samples identified two areas of inorganic contamination on site. Notable concentrations of arsenic, barium, chromium, vanadium, zinc, and lead were detected along the site's northeastern perimeter towards the rear of the property. Surface soil sample NJGG-S10 detected some of the highest concentrations of these contaminants with zinc at 1,050 mg/kg, chromium at 259 mg/kg, vanadium at 90.8 mg/kg, lead at 1,750 mg/kg, and copper at an estimated 364 mg/kg. Surface soil sample NJGG-S8 detected barium at 767 mg/kg. During the 1970s, the New Jersey Department of Environmental Protection and the Newark Department of Engineering identified an illegal paint dumping operation at the D. and J. Trucking Site. Lead and zinc may be attributed to the paint products discarded at the site. A second area of concern is located near the western corner of the property at subsurface soil sample NJGG-S3, where nickel was detected at a notable concentration of 405 mg/kg. During the 1970s, D and J Trucking and Waste Co., Inc. also disposed of ferrous and nonferrous smelting wastes at other sites at which it operated in the Newark area. Nickel may be attributed to smelting wastes discarded at the site by the waste hauling firm. Other soil samples collected from the site and analyzed under the Contract Laboratory Program for Target Compound List contaminants also detected the aforementioned inorganic contaminants. However, the concentrations detected were notably lower than those encountered at the two cited soil sample locations.

   Ref. Nos. 1, 2, 3, 15 through 18, 33, 36, 39, 40

2. **Describe the aquifer of concern; include information such as depth, thickness, geologic composition, permeability, overlying strata, confining layers, interconnections, discontinuities, depth to water table, groundwater flow direction.**

   The aquifer of concern is the Passaic Formation, previously known as the Brunswick Formation, and specifically the Newark Group Brunswick Shale in the region surrounding the site. The Passaic Formation consists of red agrillaceous shale with interfingered local beds of fine-grained red sandstone; siltstone; and black, gray, or greenish shale. The Passaic Formation in the Newark area varies in thickness and may reach over 6,000 feet thick. Depth to the Passaic Formation in the vicinity of the site is approximately 50 feet. Groundwater is stored in a network of interconnected openings formed along near-vertical and bedding-plane joints and fractures, and in the available pore spaces present in the Passaic. Deposits overlying the bedrock consist of a mixture of unconsolidated glacial till and stratified drift, varved silt and clay, sand, and gravel. A 8- to 14-foot semiconfining layer of silty clay separates the surficial and bedrock aquifers in lowland areas of Newark. In the vicinity of the site this confining layer is not continuous. Therefore, the surficial and bedrock aquifers are hydraulically connected near the site. Groundwater movement in the upper unconfined aquifer of the Passaic Formation is tidally influenced, affected by local topography, and tends to flow in an easterly direction near the site. Most wells in the region are tapped into the extremely fractured upper portion of the aquifer, which is under modified water table conditions. Water

in this portion tends to move in any direction and is influenced by factors affecting recharge and discharge. Depth to the water table near the site is approximately 10 feet.

Ref. Nos. 14, 29 through 33, 36, 42

3. **Is a designated sole source aquifer within 3 miles of the site?**

There is no sole source aquifer within 3 miles of the site.

Ref. Nos. 30, 36

4. **What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern?**

The depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern is approximately 4 feet. The lowest point of waste storage is assumed to be 6 feet below ground surface, since the depth of the waste pit is unknown. The highest seasonal level of the saturated zone is estimated to be approximately 10 feet below ground surface.

Ref. Nos. 2, 3, 17, 18, 29, 33, 36

5. **What is the permeability value of the least permeable continuous intervening stratum between the ground surface and the aquifer of concern?**

The least permeable stratum above the aquifer of concern is the unconsolidated deposits. These deposits consist of a mixture of glacial till and stratified drift, varved silt and clay, sand, and gravel. The permeability of these deposits is 10^{-5} to 10^{-7} cm/sec.

Ref. Nos. 3, 29, 32, 33, 36

6. **What is the net precipitation for the area?**

The net annual precipitation for the region is approximately 13 inches.

Ref. No. 34

7. **Identify uses of groundwater within 3 miles of the site (i.e., private drinking source, municipal source, commercial, industrial, irrigation, unusable).**

Groundwater within 3 miles of the site is used for commercial and industrial purposes. Due to saltwater intrusion and contamination from several potential sources in the region, groundwater within 3 miles of the site is not used by municipally owned water service companies as a source of potable water for the public supply distribution network. Potable water is presently supplied to the City of Newark from reservoirs located in the Pequannock watershed of northern Passaic County. Jersey City receives its potable water supply from the Boonton and Split Rock reservoirs located in Morris County. These reservoirs are located more than 3 miles upstream of the site.

Ref. Nos. 3, 11 through 15, 31, 33, 36

8. **What is the distance to and depth of the nearest well that is currently used for drinking or irrigation purposes?**

The nearest known well that draws potable water from the aquifer of concern is located in Biase's Restaurant approximately 4 miles northwest of the site. The well is about 170 feet deep. Biase's Restaurant has a seating capacity of 600 and currently employs around 10 individuals. Water from this well is used as a drinking source.

Ref. Nos. 11, 12, 14, 36

9. **Identify the population served by the aquifer of concern within a 3-mile radius of the site.**

Groundwater from the aquifer of concern is not used for potable purposes within 3 miles of the site.

Ref. Nos. 11 through 14, 25, 33, 36

SURFACE WATER ROUTE

10. **Describe the likelihood of a release of contaminant(s) to surface water as follows: observed, alleged, potential, or none. Identify the contaminant(s) detected or suspected, and provide a rationale for attributing the contaminants to the facility.**

There is potential for release of contaminants to surface water. No liner or diversion system was used to contain potential spills and leaks of hazardous materials disposed of on site. Contaminants known or suspected to be present in the property's soil and surface drainage ditch water/sediments are base/neutral organic compounds, volatile organics, heavy metals pesticides, and petroleum hydrocarbons. Heavy metal contaminants may have been constituents of paint disposed of on site. During the 1970s, the New Jersey Department of Environmental Protection and the Newark Department of Engineering identified an illegal paint dumping operation at the D. and J. Trucking Site. Chromium, vanadium, lead, and zinc may be attributed to the paint products discarded at the site. Other contaminants may be attributable to illegal disposal practices involving hazardous materials on site. The site is located within a 100-year flood zone. Flooding results from tidal surges of the Atlantic Ocean and from storm runoff.

On June 26, 1990, NUS Corporation Region 2 FIT conducted a sampling site inspection of the property. Analyses of the surface water/sediment samples identified an area of inorganic sediment contamination in the drainage ditch near the property's southern corner. Sediment sample NJGG-SED2 detected lead, chromium, copper, vanadium, and zinc at estimated concentrations of 863 mg/kg, 236 mg/kg, 613 mg/kg, 98.9 mg/kg, and 2,930 mg/kg, respectively. These same contaminants were detected at lower concentrations at sediment sample NJGG-SED1: zinc was detected at 210 mg/kg, chromium at 37.8 mg/kg, vanadium at 21.6 mg/kg, lead at 126 mg/kg, and copper at an estimated 43.7 mg/kg. Surface water samples were also collected from the same sample locations as the sediment samples. The field duplicate pairs for the water matrix collected above sediment sample NJGG-SED2 produced absolute concentration differences. Zinc was detected at an estimated notable concentration of 1,330 ug/L at surface water sample NJGG-SW3. The corresponding field duplicate NJGG-SW2 detected an estimated concentration of 244 ug/L. These differences were attributed to a lack of laboratory analytical precision and not to poor sampling procedures. Surface water sample NJGG-SW1, collected from the same location as NJGG-SED1, detected zinc at a concentration of 138 ug/L. There appears to be a trend in the detection of lower concentrations of all inorganic Target Compound List contaminants at this location as compared with those encountered in the drainage ditch near the property's southern corner. However, samples collected from the tidally influenced drainage ditch cannot be categorized as either upgradient or downgradient environmental samples. During the site investigation conducted on June 26, 1990, the surface water drainage flow could not be determined as the water appeared stagnant.

The drainage ditch forms part of a larger manmade ditch system which connects with Plum Point Creek and eventually flows to Newark Bay. Besides experiencing tidal influences, surface water flow in the drainage ditch near the site may be influenced by storm runoff from properties located to the south. These properties have drainage ditches which also connect with the manmade ditch system near the southern corner of the D and J Trucking Site. Surface drainage patterns from these properties could influence the direction of flow in the drainage ditch located along the southwestern border of the D and J Trucking Site. Nevertheless, inorganic contaminants detected in the surface water/sediments of the drainage ditch near the site are the same as those detected in notable concentrations in the soil of the site.

Ref. Nos. 1, 2, 3, 6, 15 through 19, 24, 36, 40

11. **Identify and locate the nearest downslope surface water. If possible, include a description of possible surface drainage patterns from the site.**

The nearest downslope surface water is a drainage ditch located along the southwestern border of the property. This drainage ditch forms part of a larger manmade ditch system which connects with Plum Point Creek. Surface water runoff from the site would migrate overland to this drainage ditch, eventually enter Plum Point Creek, and subsequently flow into Newark Bay located approximately 0.5 mile to the east.

Ref. Nos. 2, 3, 6, 17, 36

12. **What is the facility slope in percent? (Facility slope is measured from the highest point of deposited hazardous waste to the most downhill point of the waste area or to where contamination is detected.)**

The facility slope is less than 3 percent.

Ref. Nos. 2, 15, 17, 36

13. **What is the slope of the intervening terrain in percent? (Intervening terrain slope is measured from the most downhill point of the waste area to the probable point of entry to surface water.)**

The slope of the intervening terrain is less than 3 percent.

Ref. Nos. 2, 3, 6

14. **What is the 1-year 24-hour rainfall?**

The 1-year-24-hour rainfall for the region is approximately 2.7 inches.

Ref. No. 34

15. What is the distance to the nearest downslope surface water? Measure the distance along a course that runoff can be expected to follow.

The course that runoff can be expected to follow is overland toward a drainage ditch located along the southwestern border of the property. This drainage ditch forms part of a larger manmade ditch system which connects with Plum Point Creek. Runoff transporting contaminants to the drainage ditch can be expected to eventually flow into Newark Bay, located approximately 0.5 mile east of the site.

Ref. Nos. 2, 3, 6, 18, 36

16. Identify uses of surface waters within 3 miles downstream of the site (i.e., drinking, irrigation, recreation, commercial, industrial, not used).

The tidal wetland and Newark Bay are designated for secondary contact recreation, the propagation and maintenance of natural biota, and migration of fish populations. The Newark Bay, within 3 miles downstream of the site is also used for commercial navigation and the discharge of effluent from wastewater treatment facilities. Surface water is not used for drinking within a 3-mile radius of the site.

Ref. Nos. 3, 11, 13, 25, 28, 31, 36

17. Describe any wetlands, greater than 5 acres in area, within 2 miles downstream of the site. Include whether it is a freshwater or coastal wetland.

The site is located in a built-up wetland area. Several coastal estuarine wetlands are located within 2 miles downstream of the site. An estuarine, intertidal, flat wetland is located approximately 0.7 mile to the southeast of the site.

Ref. Nos. 3, 21 through 23, 36

18. Describe any critical habitats of federally listed endangered species within 2 miles of the site along the migration path.

The least tern (Sterna antillarum) is a federally listed endangered species which has been identified within 2 miles downstream of the site along the migration path. This shorebird is known to breed during the summer months in parts of Essex County. An estuarine, intertidal, flat wetland may provide a breeding ground for this species and is located approximately 0.7 mile downstream of the site in Newark Bay.

Ref. Nos. 21 through 23, 36

19. What is the distance to the nearest sensitive environment along or contiguous to the migration path (if any exist within 2 miles)?

The nearest sensitive environment is the estuarine, intertidal, flat wetland located in Newark Bay approximately 0.7 mile downstream of the site.

Ref. Nos. 21 through 23, 36

20. Identify the population served or acres of food crops irrigated by surface water intakes within 3 miles downstream of the site and the distance to the intake(s).

There are no known surface water intakes used for potable and irrigation purposes within 3 miles downstream of the site.

Ref. Nos. 25, 36

21. What is the state water quality classification of the water body of concern?

The state water quality classification for the tidally influenced Newark Bay and the Passaic River is SE3.

Ref. No. 28

22. Describe any apparent biota contamination that is attributable to the site.

There is no known biota contamination attributable to the site.

Ref. Nos. 2, 3, 6

AIR ROUTE

23. Describe the likelihood of a release of contaminant(s) to the air as follows: observed, alleged, potential, none. Identify the contaminant(s) detected or suspected, and provide a rationale for attributing the contaminant(s) to the facility.

There is a low potential for release of contaminants to the air. During a sampling site investigation conducted by NUS Corporation Region 2 FIT on June 26, 1990, no air readings above background were detected in the breathing zone above sample locations on the Organic Vapor Analyzer (OVA) or the HNu photoionization detector, except at sample location NJGG-S1. The OVA detected air readings of 2 to 3 ppm above background in the breathing zone above this surface soil location. However, a thick layer of wood mulch currently covers the barren site soil. Should this mulch layer be removed, a potential may exist for contaminated soil particles to become airborne.

Ref. Nos. 2, 3

24. What is the population within a 4-mile radius of the site?

The population within a 4-mile radius of the site is approximately 421,900.

Ref. No. 35

FIRE AND EXPLOSION

25. Describe the potential for a fire or explosion to occur with respect to the hazardous substance(s) known or suspected to be present on site. Identify the hazardous substance(s) and the method of storage or containment associated with each.

Based on recent field observations, there is little potential for fire or explosion to occur on site. A thick layer of mulch presently covers contaminated soil on site. However, a concern with the site is the possibility of fire or explosion resulting from potentially hazardous and flammable chemicals which could be in pits on site.

Ref. Nos. 2, 3, 15 through 19

26. What is the population within a 2-mile radius of the hazardous substance(s) at the facility?

Approximately 50,100 people reside within a 2-mile radius of the site.

Ref. No. 35

DIRECT CONTACT/ON-SITE EXPOSURE

27. Describe the potential for direct contact with hazardous substance(s) stored in any of the waste units on site or deposited in on-site soils. Identify the hazardous substance(s) and the accessibility of the waste unit.

There is potential for direct contact with contaminants on site as access to the property is not restricted. The locked front gate entrance can easily be opened by removal of wire which holds the gate to the property's fenced perimeter. The site is not entirely fenced and the southeastern fenced perimeter has a large hole in it. A transient claims to have lived on the property for approximately 12 years. When it rains, the fur of six stray dogs living on site allegedly turns green and purple. This discoloration may be attributed to direct contact with green and purple colored patches of mulch on site. These patches of colored wood mulch were observed during an on-site inspection of the property conducted by NUS Corporation on June 26, 1990.

There is potential for worker exposure at the site if workers do not wear protective clothing to prevent direct contact with contaminated soil and airborne soil particulates on site.

Heavy metal soil contaminants detected in notable and significant concentrations at the site are arsenic, barium, chromium, copper, iron, lead, nickel, vanadium, and zinc. Significant concentrations of lead were detected near the property's northeastern perimeter. Sample locations NJGG-S8 and NJGG-S10 detected lead concentrations of 1,270 mg/kg and 1,750 mg/kg, respectively. Refer to question No. 1 for additional information concerning soil contaminants encountered on site.

Ref. No. 2

28. How many residents live on a property whose boundaries encompass any part of an area contaminated by the site?

There are no known residential properties bordering the facility that are contaminated by the site.

Ref. Nos. 2, 3

29. What is the population within a 1-mile radius of the site?

The population within a 1-mile radius of the site is approximately 7,200.

Ref. No. 35

PART VI: ACTUAL HAZARDOUS CONDITIONS

The actual hazardous conditions present on site are related to unsecured access to the property; the potential for direct physical contact with hazardous substances at the site involving humans and/or domestic animals; and the lack of containment of potentially hazardous materials which may have been buried at the site. The soil is contaminated with heavy metals that may be attributable to the site.

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 (not including occupational exposure) or a domestic animal. However, an investigation of the site conducted by NUS Corporation on June 26, 1990, revealed that a homeless individual and domestic dogs were living on the property.
- 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 the hazardous material at the site.
- There is no documented contamination of a sewer or storm drain without a point source to which the contamination can be attributed.
- Based on field observations, there is no significant threat of fire or explosion. However, hazardous and flammable chemicals may be buried beneath the soil in unlined pits.

PART VII: SITE SUMMARY AND RECOMMENDATIONS

D. and J. Trucking and Waste Co., Inc. was a privately owned company that owned property located in a heavily industrialized area of Newark, Essex County, New Jersey. The D. and J. Trucking Site is approximately 3.5 acres in size and is currently owned by the Housing Authority of the City of Newark (NHA), (Ref. Nos. 4, 7). The site is bordered by the City of Newark Police Academy Site to the northeast, by Avenue P to the northwest, and by industrial/chemical plants to the southeast and southwest. The site is approximately 0.3 mile east of the Passaic River. A drainage ditch runs along the property's southwestern border and connects into a larger manmade system that drains into nearby Plum Point Creek. Storm runoff flowing overland to the drainage channel would discharge to Plum Point Creek and eventually enter Newark Bay approximately 0.5 mile to

the southeast. Micellaneous fill, debris, and various other waste materials were placed over tidal marsh deposits in the area in order to build up the land in this section of the Newark Bay Meadowlands. Therefore, the topography of the site is relatively flat (Ref. Nos. 3, 16, 36).

During the late 1960s and early 1970s , the NHA purchased privately owned property along Avenue P for the purpose of redevelopment. On March 17, 1978, the NHA purchased lots located along the east side of Avenue P from D. and J. Trucking and Waste Co., Inc. (D. and J. Trucking). These same premises had been conveyed to the waste hauling firm by Sun Chemical Corporation in a deed dated April 9, 1974 (Ref. No. 4). Prior to 1961, the D. and J. Trucking Site was owned by Lincoln Farm Products Corporation. This corporation appears to have remained owner of record of the site until the property was transferred by deed to Sun Chemical Corporation in 1974 (Ref. No. 5). The site is presently being used as an operating base for AFA Pallet Co., Inc. (AFA). Under a contract signed with the previous administration of the NHA, AFA allegedly has a legal right to operate at the site as the designated redevelopers of the parcel. A major aspect of AFA operations at the site involves scrapping metal parts of junked vehicles, and grinding wood into mulch (Ref. No. 10). During a recent investigation of the property conducted by NUS Corporation Region 2 FIT on May 31, 1990, large piles of mulch were observed on the premises (Ref. No. 2).

D. and J. Trucking began operations at the site during the 1970s. The company had a New Jersey Solid Waste Administration Registration for the collection and haulage of solid waste in the State of New Jersey. Investigations conducted by the New Jersey Department of Environmental Protection (NJDEP) in the late 1970s disclosed that D. and J. Trucking had engaged in the disposal of chemical wastes at the site in violation of New Jersey law. As a result, an Administrative Order was issued to the president of the company in 1978 revoking the authority of D. and J. Trucking to collect and haul solid waste in the State of New Jersey (Ref. No. 18).

Background information indicates hazardous wastes present on site may be attributable to disposal of chemical wastes into pits on the property. During the 1970s there were several accounts of illegal dumping at the site involving D. and J. Trucking. The New Jersey Department of Environmental Protection and the Newark Department of Engineering identified an illegal paint dumping operation at the site. Much of the paint and associated paint products (varnish, lacquer, and solvents) discarded at the site may have been derived from Benjamin Moore & Co. and Sherwin-Williams Co. D. and J. Trucking had a disposal contract with these two paint manufacturers (Ref Nos. 3, 6, 19, 20). Heavy metal soil and surface water/sediment contamination detected at the site may be attributable to the paint dumped on the property. Specific priority pollutant metals detected at the site are arsenic, barium, lead, chromium vanadium, copper, nickel, and zinc. Other hazardous substances suspected or known to be present in the soil and surface water/sediments of the site are base/neutral organic compounds, volatile organics, pesticides, and petroleum hydrocarbons. These contaminants may be attributed to other industrial waste materials dumped by D. and J. Trucking at the site in violation of New Jersey law. In 1977, the Passaic Valley Sewerage Commissioners conducted an analysis of

samples obtained from an unlined pit containing liquid chemical wastes dumped at the site by D. and J. Trucking. The discarded material was identified as having a hazardous and flammable nature (Ref, Nos. 3, 16, 17, 18).

On June 26, 1990, NUS Corporation Region 2 FIT conducted a sampling site inspection of the property. Analyses of the soil samples identified two areas of inorganic contamination on site. Notable concentrations of arsenic, barium, chromium, vanadium, zinc, and lead were detected along the site's northeastern perimeter towards the rear of the property (Ref. No.1). During the 1970s, the New Jersey Department of Environmental Protection and the Newark Department of Engineering identified an illegal paint dumping operation at the D. and J. Trucking Site (Ref. No. 20). Lead and zinc may be attributed to the paint products discarded at the site. A second area of concern is located near the western corner of the property where nickel was detected at a notable concentration (Ref. No. 1). During the 1970s, D. and J. Trucking and Waste Co., Inc. also disposed of ferrous and nonferrous smelting wastes at other sites at which it operated in the Newark area (Ref. No. 39). Nickel therefore may be attributable to smelting wastes which may have been discarded at the site by the waste hauling firm. Other soil samples collected from the site and analyzed under the Contract Laboratory Program for Target Compound List contaminants also detected the aforementioned inorganic contaminants. However, the concentrations detected were notably lower than those encountered at the two soil sample locations. Samples collected from the drainage ditch surface water/sediments also detected many of the same inorganic contaminants found in the soils of the site. Therefore, a potential exists for a release of contaminants to surface water from contaminated soil on site.

Based on the following facts and the review of available background information, D. and J. Trucking Site is given a recommendation of a **LISTING SITE INSPECTION.** There is potential for direct contact with hazardous substances on site. A locked entrance gate can easily be pushed open by removing wire which holds the gate to the property's northwestern fenced perimeter. The southeastern fenced perimeter has a large hole in it which allows access to the property. There is potential for worker exposure at the site if workers do not wear protective clothing to prevent direct contact with contaminated soil and possibly airborne particulates on site. A transient claims he lives on the premises. The site is mostly devoid of vegetation. There is potential for humans and animals to come in direct contact with exposed contaminated surface soil and airborne contaminated soil particulates at the site (Ref. No. 2). There is no known containment of alleged buried hazardous materials on site (Ref. Nos. 16, 17, 18).

There are no target populations for the groundwater and surface water pathways within 3 miles of the site. The nearest known well that draws potable water from the aquifer of concern is located approximately 4 miles northwest of the site (Ref. Nos. 11 through 14, 36). The least tern, a federally listed endangered species, has been identified within 2 miles downstream of the site along the surface water migration path. This shorebird may breed during the summer months in a sensitive environment located approximately 0.7 mile downstream of the site in Newark Bay (Ref. Nos. 21, 22, 23, 36).

Considerations for further action should include more extensive surface and subsurface soil sampling to determine the areal extent of soil contamination, and the location of pits containing potentially hazardous waste dumped on site. Additional surface water/sediment samples should be collected from the drainage ditch to ascertain if a documented release of contaminants to these media can be established, and to assess the potential for off-site contaminant migration via surface water drainage pathways. A review of the organic data package and sampling trip report indicates the D. and J. Trucking Site should be resampled for organics. The site appears to be contaminated with a complex mixture of organic chemicals. However, more conclusive data are required to correctly identify the contaminants. The site should also be secured to prevent direct contact with hazardous substances on site by transients and domestic animals in the area.

ATTACHMENT 1

D. AND J. TRUCKING

NEWARK, ESSEX COUNTY, NEW JERSEY

CONTENTS

Exhibit A: Reconnaissance Photograph Log

Exhibit B: Site Inspection Photograph Log

EXHIBIT A

PHOTOGRAPH LOG

D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY

SITE RECONNAISSANCE: MAY 31, 1990

D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY
MAY 31, 1990

PHOTOGRAPH INDEX

ALL PHOTOGRAPHS TAKEN BY DOROTHY PONTE

Photo Number	Description	Time
1P-1	Photo looking southwest at standing pool of water. Note greenish tinge and petroleum sheen.	1135
1P-2	Photo looking northeast at truck loaded with junk. Note trailer home and junked equipment.	1140
1P-3	Photo looking north at junked equipment and debris. Note bulldozer and flat bed truck.	1140
1P-4	Photo looking northwest at fence near property line. Note debris.	1140
1P-5	Photo looking towards southeast at standing water in drainage ditch near southwest property line. Note scum on surface.	1145
1P-6	Photo looking east at woodchip mulch piles. Note recent tire tracks.	1146
1P-7	Photo looking southeast at drainage ditch located along southwest perimeter of property. Note debris and junk.	1150
1P-8	Photo looking northeast along southeast perimeter of property. Note hole in fence.	1153
1P-9	Photo looking southeast at storm water drainage basin.	1153
1P-10	Photo looking northeast at standing pool of water where readings on the OVA were obtained.	1155
1P-11	Photo looking northeast at junk and debris along northeast perimeter of property in the vicinity of the standing water. Note the berm.	1155
1P-12	Photo looking east at junk and debris in eastern corner of property. Note no berm or fence.	1200
1P-13	Looking east at berm erected between the Police Academy Site and the northeastern perimeter of the D. and J. Trucking Site.	1200
1P-14	Looking southwest along northwest perimeter of property near entrance to the site. Note roof shingles, tires, and debris.	1206
1P-15	Looking west at cylinders near site's entrance at property's northwest perimeter. Note storm drain across street on Avenue P.	1206

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-1 May 31, 1990 1135
Photo looking southwest at standing pool of water.
Note greenish tinge and petroleum sheen.

1P-2 May 31, 1990 1140
Photo looking northeast at truck loaded with junk.
Note trailer home and junked equipment.

D.AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-3 May 31, 1990 1140
Photo looking north at junked equipment and debris.
Note bulldozer and flat bed truck.

1P-4 May 31, 1990 1140
Photo looking northwest at fence near property line.
Note debris.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-5

May 31, 1990 1145
Photo looking towards southeast at standing water in drainage ditch near southwest property line. Note scum on surface.

1P-6

May 31, 1990 1146
Photo looking east at woodchip mulch piles. Note recent tire tracks.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-7 May 31, 1990 1150
Photo looking southeast at drainage ditch located along southwest perimeter of property. Note debris and junk.

1P-8 May 31, 1990 1153
Photo looking northeast along southeast perimeter of property. Note hole in fence.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-9 May 31, 1990 1153
Photo looking southeast at storm water drainage basin.

1P-10 May 31, 1990 1155
Photo looking northeast at standing pool of water where readings on the OVA were obtained.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-11 May 31, 1990 1155
Photo looking northeast at junk and debris along northeast perimeter of property in the vicinity of the standing water. Note the berm.

1P-12 May 31, 1990 1200
Photo looking east at junk and debris in eastern corner of property. Note no berm or fence.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-13 May 31, 1990 1200
Looking east at berm erected between the Police Academy Site and the northeastern perimeter of the D. and J. Trucking Site.

1P-14 May 31, 1990 1206
Looking southwest along northwest perimeter of property near entrance to the site. Note roof shingles, tires, and debris.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-15 May 31, 1990 1206

Looking west at cylinders near site's entrance at property's northwest perimeter. Note storm drain across street on Avenue P.

EXHIBIT B

PHOTOGRAPH LOG

D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY

SITE INSPECTION: JUNE 26, 1990

D. AND J. TRUCKING
NEWARK ESSEX COUNTY, NEW JERSEY
JUNE 26, 1990

PHOTOGRAPH INDEX

ALL PHOTOGRAPHS TAKEN BY DOROTHY PONTE

Photo Number	Description	Time
1P-1	Photo of Brian Farrell collecting surface water sample SW1 from a drainage ditch located along the southwest perimeter of the site. Sample located at a bearing of 117° and a distance of 71 feet 2 inches, as measured from a metal pole to the sampling point.	1055
1P-2	Photo of Brian Farrell collecting surface water sediment sample SED1 from the same drainage ditch location as sample SW1. Sample SED1 is also located at the same bearing and distance as sample SW1.	1116
1P-3	Photo of Bruce Sanders collecting surface water samples SW2 and SW3. Samples were located in a drainage ditch near the southern corner of the property. SW3 is a duplicate of SW2 and was collected from the same location and depth. These samples were located at a bearing of 247° and a distance of 20 feet, as measured from a chainlink fence corner pole to the sampling point.	1140
1P-4	Photo of Bruce Sanders collecting surface water sediment sample SED2 from the same drainage ditch location as SW2/SW3. Sample SED2 is also located at the same bearing and distance as samples SW2/SW3.	1142
1P-5	Photo of Brian Farrell collecting surface soil sample S1 from a depth of 0 to 6 inches. Sample was collected near the front entrance at a bearing of 110° and a a distance of 94 feet, 2 inches, as measured from a pole to the sampling point.	1302
1P-6	Photo of Bruce Sanders collecting surface soil sample S2 near the western corner of the property from a depth of 0 to 6 inches. Sample was collected at a bearing of 45° and a distance of 21 feet 3 inches, as measured from a chainlink fence pole to the sampling point.	1327
1P-7	Photo of Brian Farrell collecting subsurface soil sample S3 near the western corner of the site from a depth of 10 to 14 inches. Sample was collected at a bearing of 70° and a distance of 119 feet, as measured from a telephone pole to sampling point.	1340
1P-8	Photo of auger soil sample location S4, located near the drainage ditch along the southwestern property line. Note bubbles of gas rising from the water. Samplers were unable to collect a soil sample at this location.	1400

D. AND J. TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY
JUNE 26, 1990

PHOTOGRAPH INDEX
(cont'd)

Photo Number	Description	Time
1P-9	Photo of Bruce Sanders collecting surface soil sample S5 from a depth of 0 to 16 inches below an overlying foot of mulch. Sample was collected near the drainage ditch along the property's southwestern perimeter at a bearing of 115° and a distance of 120 feet, as measured from a metal pole to the sampling point.	1450
1P-10	Photo of Brian Farrell digging a hole through the mulch in an unsuccessful attempt to reach soil required for collection of subsurface soil sample S11, located at a bearing of 109°, as measured from the same pole as that used for sample S5. Sample location was in the center of what previously was a large mulch pile located near the southeastern end of the property.	1515
1P-11	Photo of Bruce Sanders collecting surface soil sample S8 from a depth of 0 to 6 inches. Sample was located near the northeastern border of the property at a bearing of 315° and a distance of 165 feet, as measured from a pole of the property's southeastern chainlink fence to the sampling point. The fence pole was located 60 feet to the south of the chainlink fence corner.	1525
1P-12	Photo of Bruce Sanders collecting surface soil sample S9 from a depth of 12 to 15 inches, located near debris along the northeastern perimeter of the property. Sample S9 was located at a bearing of 140° and a distance of 197 feet 1inch, as measured from a pole near weeds.	1603
1P-13	Photo of Bruce Sanders collecting subsurface soil samples S6 and S7 from a depth of 6 to 18 inches. Sample S7 is a duplicate of S6 and was collected from the same location and depth as S6. These samples were located near the property's northeast perimeter at a bearing of 91° and a distance of 34 feet 9 inches, as measured from a pole on the property to the sample location.	1650
1P-14	Photo of Brian Farrell collecting background surface soil sample S10 from the eastern corner of the property where trees are growing. Sample S10 was located at a bearing of 9° and a distance of 72 feet 4 inches from the same fence pole used as a reference point for sample S8.	1705
1P-15	Photo looking at thickness of mulch covering the site's soil surface, which was regraded since an on-site reconnaissance conducted by NUS personnel on May 31, 1990.	1707
1P-16	Photo looking at a trailer filled with large paint cans. Trailer located in east corner of property.	1708

D.AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-1 June 26, 1990 1055

Photo of Brian Farrell collecting surface water sample SW1 from a drainage ditch located along the southwest perimeter of the site. Sample located at a bearing of 117° and a distance of 71 feet 2 inches, as measured from a metal pole to the sampling point.

1P-2 June 26, 1990 1116

Photo of Brian Farrell collecting surface water sediment sample SED1 from the same drainage ditch location as sample SW1. Sample SED1 is also located at the same bearing and distance as sample SW1.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-3 June 26, 1990 1140

Photo of Bruce Sanders collecting surface water samples SW2 and SW3. Samples were located in a drainage ditch near the southern corner of the property. SW3 is a duplicate of SW2 and was collected from the same location and depth. These samples were located at a bearing of 247° and a distance of 20 feet, as measured from a chainlink fence corner pole to the sampling point.

1P-4 June 26, 1990 1142

Photo of Bruce Sanders collecting surface water sediment sample SED2 from the same drainage ditch location as SW2/SW3. Sample SED2 is also located at the same bearing and distance as samples SW2/SW3.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-5 June 26, 1990 1302

Photo of Brian Farrell collecting surface soil sample S1 from a depth of 0 to 6 inches. Sample was collected near the front entrance at a bearing of 110° and a distance of 94 feet, 2 inches, as measured from a pole to the sampling point.

1P-6 June 26, 1990 1327

Photo of Bruce Sanders collecting surface soil sample S2 near the western corner of the property from a depth of 0 to 6 inches. Sample was collected at bearing of 45° and a distance of 21 feet 3 inches, as measured from a chainlink fence pole to the sampling point.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-7 June 26, 1990 1340

Photo of Brian Farrell collecting subsurface soil sample S3 near the western corner of the site from a depth of 10 to 14 inches. Sample was collected at a bearing of 70° and a distance of 119 feet, as measured from a telephone pole to sampling point.

1P-8 June 26, 1990 1400

Photo of auger soil sample location S4, located near the drainage ditch along the southwestern property line. Note bubbles of gas rising from the water. Samplers were unable to collect a soil sample at this location.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-9 June 26, 1990 1450

Photo of Bruce Sanders collecting surface soil sample S5 from a depth of 0 to 16 inches below an overlying foot of mulch. Sample was collected near the drainage ditch along the property's southwestern perimeter at a bearing of 115° and a distance of 120 feet, as measured from a metal pole to the sampling point.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-10 June 26, 1990 1515

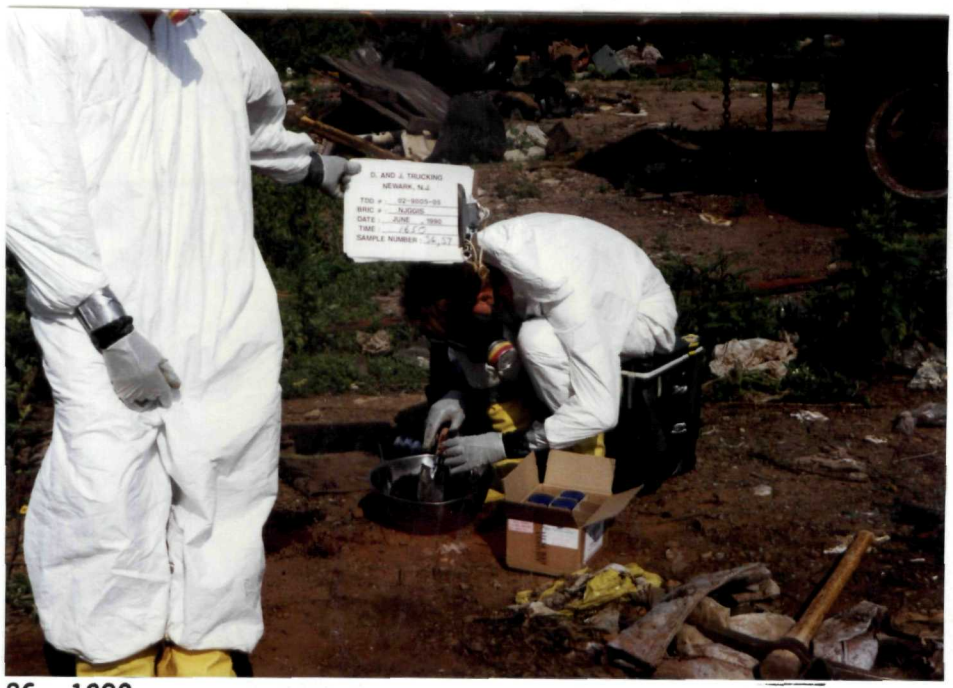
Photo of Brian Farrell digging a hole through the mulch in an unsuccessful attempt to reach soil required for collection of subsurface soil sample S11, located at a bearing of 109°, as measured from the same pole as that used for sample S5. Sample location was in the center of what previously was a large mulch pile located near the southeastern end of the property.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-11 June 26, 1990 1525
Photo of Bruce Sanders collecting surface soil sample S8 from a depth of 0 to 6 inches. Sample was located near the northeastern border of the property, at a bearing of 315° and a distance of 165 feet, as measured from a pole of the property's southeastern chainlink fence to the sampling point. The fence pole was located 60 feet to the south of the chainlink fence corner.

1P-12 June 26, 1990 1603
Photo of Bruce Sanders collecting surface soil sample S9 from a depth of 12 to 15 inches, located near debris along the northeastern perimeter of the property. Sample S9 was located at a bearing of 140° and a distance of 197 feet 1 inch, as measured from a pole near weeds.

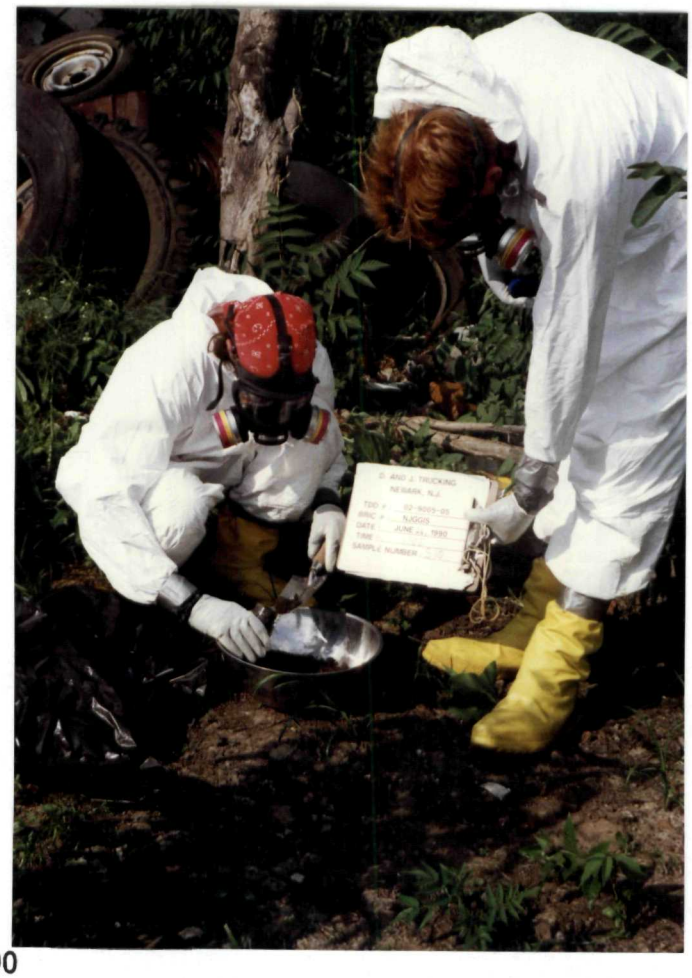
D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-13 June 26, 1990 1650

Photo of Bruce Sanders collecting subsurface soil samples S6 and S7 from a depth of 6 to 18 inches. Sample S7 is a duplicate of S6 and was collected from the same location and depth as S6. These samples were located near the property's northeast perimeter at a bearing of 91° and a distance of 34 feet 9 inches, as measured from a pole on the property to the sample location.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY



1P-14 June 26, 1990 1705

Photo of Brian Farrell collecting background surface soil sample S10 from the eastern corner of the property where trees are growing. Sample S10 was located at a bearing of 9° and a distance of 72 feet 4 inches from the same fence pole used as a reference point for sample S8.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-15 June 26, 1990 1707

Photo looking at thickness of mulch covering the site's soil surface, which was regraded since an on-site reconnaissance conducted by NUS personnel on May 31, 1990.

D. AND J. TRUCKING, NEWARK, ESSEX COUNTY, NEW JERSEY

1P-16 June 26, 1990 1708

Photo looking at a trailer filled with large paint cans.
Trailer located in east corner of property.

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2. Field Notebook No. 0583, D. and J. Trucking Site, TDD No. 02-9005-05, On-Site Reconnaissance on May 31, 1990, and Site Inspection on June 26, 1990, NUS Corporation Region 2 FIT, Edison, New Jersey.

3. Preliminary Assessment Report, Avenue P Site, U.S. EPA ID No. NJD980504831, prepared by Dennis Gray of the Division of Hazardous Waste Management, New Jersey Department of Environmental Protection, January 11, 1988.

4. Deed book records. Sun Chemical Corporation deed record from book 4472, page 673; and D. and J. Trucking and Waste Co., Inc. deed record from book 4600, pages 69, 75 - 83, Hall of Records, City of Newark, Essex County, New Jersey.

5. Telecon Note: Conversation between a tax surveyor, Tax Assessment Surveyor's Office, Newark, and Dorothy Ponte, NUS Corporation, July 18, 1990.

6. Telecon Note: Conversation between Paul Butler, Department of Engineering, Newark, Bill Staehle, Dresdner and Robin Associates, and Dorothy Ponte, NUS Corporation, May 22, 1990.

7. Telecon Note: Conversation between a tax assessor, Tax Assessment Office, Newark, and Dorothy Ponte, NUS Corporation, May 11, 1990.

8. Telecon Note: Conversation between Tony Massi, Tax Assessment Surveyor's Office, Newark, and Dorothy Ponte, NUS Corporation, May 31, 1990.

9. Telecon Note: Conversation between George Chranewycz, Redevelopment Department, Newark Housing Authority, and Dorothy Ponte, NUS Corporation, June 18, 1990.

10. Telecon Note: Conversation between Tony Peterpaul, AFA Pallet Co., Inc., and Dorothy Ponte, NUS Corporation, July 17, 1990.

11. Telecon Note: Conversation between Anthony DeBarros, Principal Engineer Hydraulics, City of Newark Water Supply, Department of Engineering, Newark, and Dorothy Ponte, NUS Corporation, May 15, 1990.

12. Telecon Note: Conversation between Larry Biase, Owner, Biase's Restaurant, Newark, and Dorothy Ponte, NUS Corporation, May 17, 1990.

13. Telecon Note: Conversation between Anthony DeBarros, Principal Engineer Hydraulics, City of Newark Water Supply, Department of Engineering, Newark, and Dorothy Ponte, NUS Corporation, May 23, 1990.

14. Letter from Anthony DeBarros, Principal Engineer Hydraulics, City of Newark Water Supply, Department of Engineering, Newark, to Dorothy Ponte, NUS Corporation Region 2 FIT, May 23, 1990.

15. Project Note: To D. and J. Trucking File, TDD No. 02-9005-05, from Dorothy Ponte, NUS Corporation, Subject: possible sources of contamination at the D. and J. Trucking Site, August 3, 1990.

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17. Incident report from the Newark Police Department detailing the arrest of a truck driver and the president of D. and J. Trucking and Waste Co., Inc., December 15, 1977.

18. Letter from Beatrice S. Tylutki, Director, Solid Waste Administration, New Jersey Department of Environmental Protection, to Dominick Attanasi, President, D. and J. Trucking and Waste Co. Inc., February 14, 1978.

19. Letter from Michael Rosenberg, Assistant Environmental Engineer, Solid Waste Administration, New Jersey Department of Environmental Protection, to Mark Ippolito, Sherwin-Williams Co., March 14, 1978.

20. Preliminary Site Investigations: New Jersey Turnpike 1985-90 Widening from Passaic River to Milepost 105; submitted by Louis Berger and Associates, Inc., to New Jersey Turnpike Authority, December 1986.

21. NJDEP, Division of Parks and Forestry, Natural Lands Management, New Jersey Natural Heritage Program, Potential Threatened and Endangered Vertebrate Species in Essex County, May 18, 1987.

22. Atlantic Coast Ecological Inventory, U.S. Department of the Interior, Fish and Wildlife Service, Newark, NJ-NY-PA, 1980.

23. Atlas of National Wetlands Inventory Maps, U.S. Department of the Interior, Fish and Wildlife Service of New Jersey, 1984.

24. National Flood Insurance Program, Flood Insurance Rate Map, City of Newark, Essex County, New Jersey, Community Panel No. 3401890008B, Federal Emergency Management Agency, March 28, 1980.

25. Water Supply Overlay, Sheet 26, NJDEP, Bureau of Geology and Topography, New Jersey Geological Survey, August 1975.

26. Land Use Overlay, Sheet 26, NJDEP, Bureau of Geology and Topography, New Jersey Geological Survey, 1976.

27. Election Division, New Jersey Department of State, CN304, Trenton, NJ, Congressional Districts, January 1987.

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29. Nemickas, Bronius. Bedrock Topography and Thickness of Pleistocene Deposits in Union County and Adjacent Areas, New Jersey, U.S. Department of the Interior, 1974.

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41. Preliminary Assessment Report, D and J. Trucking Site, U.S. EPA ID No. NJD980528962, prepared by Martin J. O'Neill, NUS Corporation Region 2 FIT, March 23, 1983.

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REFERENCE NO. 1

- COPY OF CLP DATA

(REDLINED AND MARKED)

- COMPUTER QA'd PRINTOUT

SITE NAME: D&J Trucking

CASE# AND/OR SAS#: 14407

BRICS#: ~~NJG6~~ 9/12/90 NJG6

TDD#: 02-9005-05

SITE NAME: D & J TRUCKING
TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407
LAB NAME: CHEMTECH

INORGANICS											
Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	MBDD81	MBDD82	MBDD83	MBDD84	MBDD85	MBDD86	MBDD87	MBDD88	MBDD90	MBDD91	MBDD92
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	275	427 E	3210 E	1380	6550 E	5590	8120	3120	10100	8440	8770
Antimony			J		55.9 E						J
Arsenic	15.5 E	21.6 E	36 E	12.1 E	61.2 E	12.5 E	14.8 E	8.9 E	12.9 E	36.4 E	111 E
Barium	284	J	350	392	304 E	111	287	61.2	335	159	181
Beryllium							J				12.4 E
Cadmium			15.6 E		8.8 E						
Calcium	134000	87100	119000	300000	76600 E	8270	3920	19700	21500	7160	10200
Chromium	R	R	112 E	37.8	236 E	15.7	54.3	163	42.2	47.4	81.6
Cobalt					J	J	J	J	J	J	13.2
Copper	53.7	53.4 E	302 E	43.7 E	613 E	223 E	62.2 E	130 E	104 E	123 E	166 E
Iron	3210	6830 E	25400 E	8750	46600 E	15300	17900	8910	22700	22300	22200
Lead		99 E	689 E	126	863 E	378	392	276	461	439	453
Magnesium	19200	18300	20600	4600	5490 E	1680	2010	5770	6650	3290	4280
Manganese	574	519	822	498	518 E	425	219	137	314	322	397
Mercury			0.57 E	0.51	1.1 E	0.39	0.81	0.84	2.5	1	1.2
Nickel	J	J	92.5 E	17.9 E	139 E	20 E	17.7 E	405	30.9 E	30 E	46.9
Potassium	55000	J	J		J	J	J		1280	J	J
Selenium				R	R	R	R	R	R	R	R
Silver											
Sodium	267000 E	161000 E	154000 E	J	2740 E	J	J	J	J	J	J
Thallium											
Vanadium	J	J	117 E	21.6	98.9 E	20.8	25.3	J	49.2	38.1	32.3
Zinc	138	244 E	1330 E	210	2930 E	438	265	165	373	380	642

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

SITE NAME: D & J TRUCKING
TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407
LAB NAME: CHEMTECH

INORGANICS								
Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TBLK1
Traffic Report No.	MBDD93	MBDD94	MBDD95	MBDD97	MBDD98	MBDD99	MBCY64	N/A
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	N/A
Units	mg/kg	mg/kg	mg/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	7970	5850	11200	J				NR
Antimony	25.3 E	27.8 E	39.9 E					NR
Arsenic	13.4 E	21.5 E	27.3 E					NR
Barium	767	555	715					NR
Beryllium								NR
Cadmium	7.6	2.3	4.9					NR
Calcium	19900	23200	12000					NR
Chromium	167	74.6	259	11.2 E	J			NR
Cobalt	J	J	15.7					NR
Copper	222 E	125 E	364 E					NR
Iron	21200	15300	47200	136	J			NR
Lead	1270	619	1750	3.4 E		3.7 E	J	NR
Magnesium	3810	5280	3680					NR
Manganese	285	305	365					NR
Mercury	2.1	2	2.3					NR
Nickel	66.3	26.2 E	118					NR
Potassium	J	J	1700					NR
Selenium	R	R	R					NR
Silver		J						NR
Sodium	J	J	J					NR
Thallium								NR
Vanadium	37	28.5	90.8					NR
Zinc	934	561	1050				J	NR

NOTES:
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NR - analysis not required

SITE NAME: [redacted] J T[redacted]G
TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

VOLATILES											
Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BEZ67	BEZ68	BEZ69	BEZ70	BEZ71	BEZ72	BEZ73	BEZ74	BEZ76	BEZ77	BEZ78
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor	1	1	1	1	1	1	1	1	1	1	1
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
Chloromethane											
Bromomethane											
Vinyl Chloride											
Chloroethane											
Methylene Chloride											
Acetone	54	44	48	110 E							
Carbon Disulfide		J		40	19 E		23 E			72 E	42 E
1,1-Dichloroethene											
1,1-Dichloroethane											
Trans-1,2-Dichloroethene (total)											
Chloroform											
1,2-Dichloroethane											
2-Butanone								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					37 E						
trans-1,3-Dichloropropene											
Bromoform											
4-Methyl-2-Pentanone											
2-Hexanone											
Tetrachloroethene								J	6 E		
Toluene	J	J	J	29 E	120 E	J					
1,1,2,2-Tetrachloroethane											
Chlorobenzene					520 E	8 E					
Ethylbenzene		J		32 E	4000 E	31 E					
Styrene											
Xylenes (Total)	J	25	22	160 E	12000 E	47 E					

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination

SITE NAME: [redacted] J TR[redacted]
TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

VOLATILES								
Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TBLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor	1	1	1	1	1	1	1	1
Percent Moisture	24	30	23	--	--	--	--	--
Chloromethane						J	J	J
Bromomethane								
Vinyl Chloride								
Chloroethane								
Methylene Chloride								
Acetone								
Carbon Disulfide	21 E	14 E						
1,1-Dichloroethene								
1,1-Dichloroethane								
Trans-1,2-Dichloroethene (total)								
Chloroform					J		J	J
1,2-Dichloroethane								
2-Butanone								
1,1,1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate								
Bromodichloromethane								
1,2-Dichloropropane								
cis-1,3-Dichloropropene								
Trichloroethene								
Dibromochloromethane								
1,1,2-Trichloroethane								
Benzene								
trans-1,3-Dichloropropene								
Bromoform								
4-Methyl-2-Pentanone								
2-Hexanone								
Tetrachloroethene	J		87 E					
Toluene	42 E	130 E	J					
1,1,2,2-Tetrachloroethane								
Chlorobenzene								
Ethylbenzene	8 E	J						
Styrene								
Xylenes (Total)	120 E	8 E						

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination

[redacted] NAME [redacted] J TR[redacted]
TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

SEMI-VOLATILES											
Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BEZ67	BEZ68	BEZ69	BEZ70	BEZ71	BEZ72	BEZ73	BEZ74	BEZ76	BEZ77	BEZ78
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	(MED)
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
Phenol			R								R
bis(2-Chloroethyl)ether			R								R
2-Chlorophenol			R								R
1,3-Dichlorobenzene			R		J						R
1,4-Dichlorobenzene			R		J						R
Benzyl alcohol			R								R
1,2-Dichlorobenzene			R		2500						R
2-Methylphenol			R								R
bis(2-Chloroisopropyl)ether		J	R								R
4-Methylphenol			R								R
N-Nitroso-di-n-dipropylamine			R		J						R
Hexachloroethane			R								R
Nitrobenzene			R								R
Isophorone			R							J	R
2-Nitrophenol			R								R
2,4-Dimethylphenol			R								R
Benzoic acid	J	J	R								R
bis(2-Chloroethoxy)methane			R								R
2,4-Dichlorophenol			R								R
1,2,4-Trichlorobenzene			R								R
Naphthalene			R		4400	J					R
4-Chloroaniline			R								R
Hexachlorobutadiene			R								R
4-Chloro-3-Methylphenol			R								R
2-Methylnaphthalene			R		J						R
Hexachlorocyclopentadiene			R								R
2,4,6-Trichlorophenol			R								R
2,4,5-Trichlorophenol			R								R
2-Chloronaphthalene			R								R
2-Nitroaniline			R								R
Dimethylphthalate			R								R
Acenaphthylene			R	J					J	J	R
2,6-Dinitrotoluene			R								R
3-Nitroaniline			R								R
Acenaphthene			R				J	J			R
2,4-Dinitrophenol			R								R
4-Nitrophenol			R								R
Dibenzofuran			R				J				R
2,4-Dinitrotoluene			R								R
Diethylphthalate			R		J		J		J	J	R
4-Chlorophenyl-phenyl ether			R								R

SITE NAME: D & J TRUCKING
TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

SEMI-VOLATILES

Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BEZ67	BEZ68	BEZ69	BEZ70	BEZ71	BEZ72	BEZ73	BEZ74	BEZ76	BEZ77	BEZ78
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	1/Y	(MED)
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
Pentachlorophenol			R								R
Phenanthrene			R	J	J	1400	1200	2000	J	980	R
Anthracene			R	J	J	J	J	J	J	J	R
Di-n-butylphthalate			R	J					J		R
Fluoranthene			R	2100	J	2500	1500	2200	1600 E	2200	R
Pyrene			R	1900	J	1900	1200	1400	1700 E	1900	R
Butylbenzylphthalate			R	J	J				J	J	R
3,3'-Dichlorobenzidine			R								R
Benzo(a)anthracene			R	J	J	1200	J	J	830 E	1000	R
Chrysene			R	J	J	1400	J	810	840 E	1000	R
bis(2-Ethylhexyl)phthalate	J	38	J	2100	24000	J	J	J	7200 E	J	R
Di-n-octylphthalate			R		J				J		R
Benzo(b)fluoranthene			R	J	J	2800	790	J	1300 E	1300	R
Benzo(k)fluoranthene			R	J	J	1400 E	J	1100 E	1100 E	940	R
Benzo(a)pyrene			R	J	J	1400	J	780	1100 E	1200	R
Indeno(1,2,3-cd)pyrene			R	J		J	J	J	J	J	R
Dibenz(a,h)anthracene			R			J					R
Benzo(g,h,i)perylene			R			J	J			J	R

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

[redacted] & J [redacted]
TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

SEMI-VOLATILES								
Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TBLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	(MED)	(MED)	(MED)	1	1	1	1	N/A
Percent Moisture	24	30	23	--	--	--	--	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								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								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								NR
Acenaphthene								NR
2,4-Dinitrophenol								NR
4-Nitrophenol								NR
Dibenzofuran								NR
2,4-Dinitrotoluene								NR
Diethylphthalate								NR
4-Chlorophenyl-phenyl ether								NR

SITE NAME: [redacted] TRUCKING
TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

SEMI-VOLATILES

Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TBLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	(MED)	(MED)	(MED)	1	1	1	1	N/A
Percent Moisture	24	30	23	--	--	--	--	N/A
Pentachlorophenol								NR
Phenanthrene	J	65000 E	J					NR
Anthracene	J	J						NR
Di-n-butylphthalate								NR
Fluoranthene	J	99000 E	J					NR
Pyrene	J	55000 E	J					NR
Butylbenzylphthalate	J							NR
3,3'-Dichlorobenzidine								NR
Benzo(a)anthracene	J	J	J					NR
Chrysene	J	30000 E						NR
bis(2-Ethylhexyl)phthalate	51000 E	J	J					NR
Di-n-octylphthalate	J							NR
Benzo(b)fluoranthene	J	38000 E						NR
Benzo(k)fluoranthene	J	J						NR
Benzo(a)pyrene		J						NR
Indeno(1,2,3-cd)pyrene		J						NR
Dibenz(a,h)anthracene								NR
Benzo(g,h,i)perylene		J						NR

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

[redacted]ITE [redacted]D & [redacted]KING [redacted]

TDD#: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

PESTICIDES								
Sample ID No.	NJGG-S8	NJGG-S9	NJGG-S10	NJGG-RIN1	NJGG-RIN2	NJGG-RIN3	NJGG-RIN4	NJGG-TBLK1
Traffic Report No.	BEZ79	BEZ80	BEZ81	BEZ83	BEZ84	BEZ85	BEZ86	BEZ87
Matrix	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	1	N/A
Percent Moisture	24	30	23	--	--	--	--	N/A
alpha-BHC	28 E	42 E	11 E					NR
beta-BHC	730 E	330 E	88 E					NR
delta-BHC	100 E							NR
gamma-BHC (Lindane)								NR
Heptachlor	110 E			R	R	R	R	NR
Aldrin				R	R	R	R	NR
Heptachlor epoxide								NR
Endosulfan I								NR
Dieldrin				R	R	R	R	NR
4,4'-DDE	1800 E	560 E						NR
Endrin			39 E	R	R	R	R	NR
Endosulfan II	2900 E	430 E	120 E					NR
4,4'-DDD	330 E	150 E	54 E					NR
Endosulfan sulfate			50 E					NR
4,4'-DDT		110 E						NR
Methoxychlor								NR
Endrin ketone								NR
alpha-Chlordane		410 E						NR
gamma-Chlordane		300 E						NR
Toxaphene								NR
Aroclor-1016								NR
Aroclor-1221								NR
Aroclor-1232								NR
Aroclor-1242								NR
Aroclor-1248								NR
Aroclor-1254		5200 E						NR
Aroclor-1260	37000 E		1800 E					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

SAMPLING TRIP REPORT

SITE NAME: D and J Trucking

TDD #: 02-9005-05

SAMPLING DATE: June 26, 1990

EPA CASE NO: 14407

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

Sample Type	Name and Address of Laboratory
Organics	S-Cubed 3398 Carmel Mtn. Road San Diego, CA 92121
Inorganics	Chemtech Consulting Group 360 West 11th Street New York, NY 10014

5. Sample Dispatch Data:

A total eight aqueous and eleven soil/sediment samples for organic analysis were shipped by FIT 2 personel via Federal Express under Airbill No. 7212650616 on June 26, 1990 at approximately 1930 hours.

A total of seven aqueous and eleven soil/sediment samples for inorganic analysis were shipped by FIT 2 personnel via Federal Express under Airbill No. 7212650631 to Chemtech Consulting Group on June 26, 1990, at approximately 1930 hours.

[redacted]AME: [redacted] TRU[redacted]
IDDD: 02-9005-05
SAMPLING DATE: 6/26/90
EPA CASE NO.: 14407 LAB: S-CUBED

PESTICIDES											
Sample ID No.	NJGG-SW1(MS/MSD)	NJGG-SW2	NJGG-SW3(DUP)	NJGG-SED1	NJGG-SED2	NJGG-S1(MS/MSD)	NJGG-S2	NJGG-S3	NJGG-S5	NJGG-S6	NJGG-S7(DUP)
Traffic Report No.	BEZ67	BEZ68	BEZ69	BEZ70	BEZ71	BEZ72	BEZ73	BEZ74	BEZ76	BEZ77	BEZ78
Matrix	WATER	WATER	WATER	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	1	1	1	1	1	1	1	1
Percent Moisture	--	--	--	46	72	21	11	13	20	13	13
alpha-BHC		0.08						330 E			
beta-BHC		1.2	0.46	42 E			17 E	2300 E		51 E	66 E
delta-BHC								99 E			
gamma-BHC (Lindane)								15 E			
Heptachlor	R										
Aldrin	R										
Heptachlor epoxide											
Endosulfan I											
Dieldrin	R						100 E	39 E			
4,4'-DDE		0.48	0.18	67 E			21 E	180 E	190 E	45 E	60 E
Endrin	R									J	24 E
Endosulfan II		0.26		58 E							
4,4'-DDD		0.72	0.13	36 E	1600 E			2300 E	52 E	35 E	67 E
Endosulfan sulfate											
4,4'-DDT							75 E	420 E	39 E		26 E
Methoxychlor											
Endrin ketone											
alpha-Chlordane		J						J	360 E		
gamma-Chlordane		J			440 E			J	350 E	J	
Toxaphene											
Aroclor-1016											
Aroclor-1221											
Aroclor-1232											
Aroclor-1242											
Aroclor-1248											
Aroclor-1254											
Aroclor-1260											

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
E - estimated value
J - estimated value, compound present below CRQL but above IDL
R - analysis did not pass EPA QA/QC
N - Presumptive evidence of the presence of the material
NR - analysis not required

6. Sampling Personnel:

Name	Organization	Duties on Site
Dorothy Ponte	NUS Corporation, FIT 2	Site Manager, Written and Photographic Documentation
Edmund Knyfd	NUS Corporation, FIT 2	Site Safety Officer
Bill Foss	NUS Corporation, FIT 2	Sample Management Officer
Brian Farrell	NUS Corporation, FIT 2	Sampler
Bruce Sanders	NUS Corporation, FIT 2	Sampler

7. Weather Conditions:

Sunny, 68° F early morning rising to 84° F, winds from the southwest at approximately 5-7 mph.

8. Additional Comments:

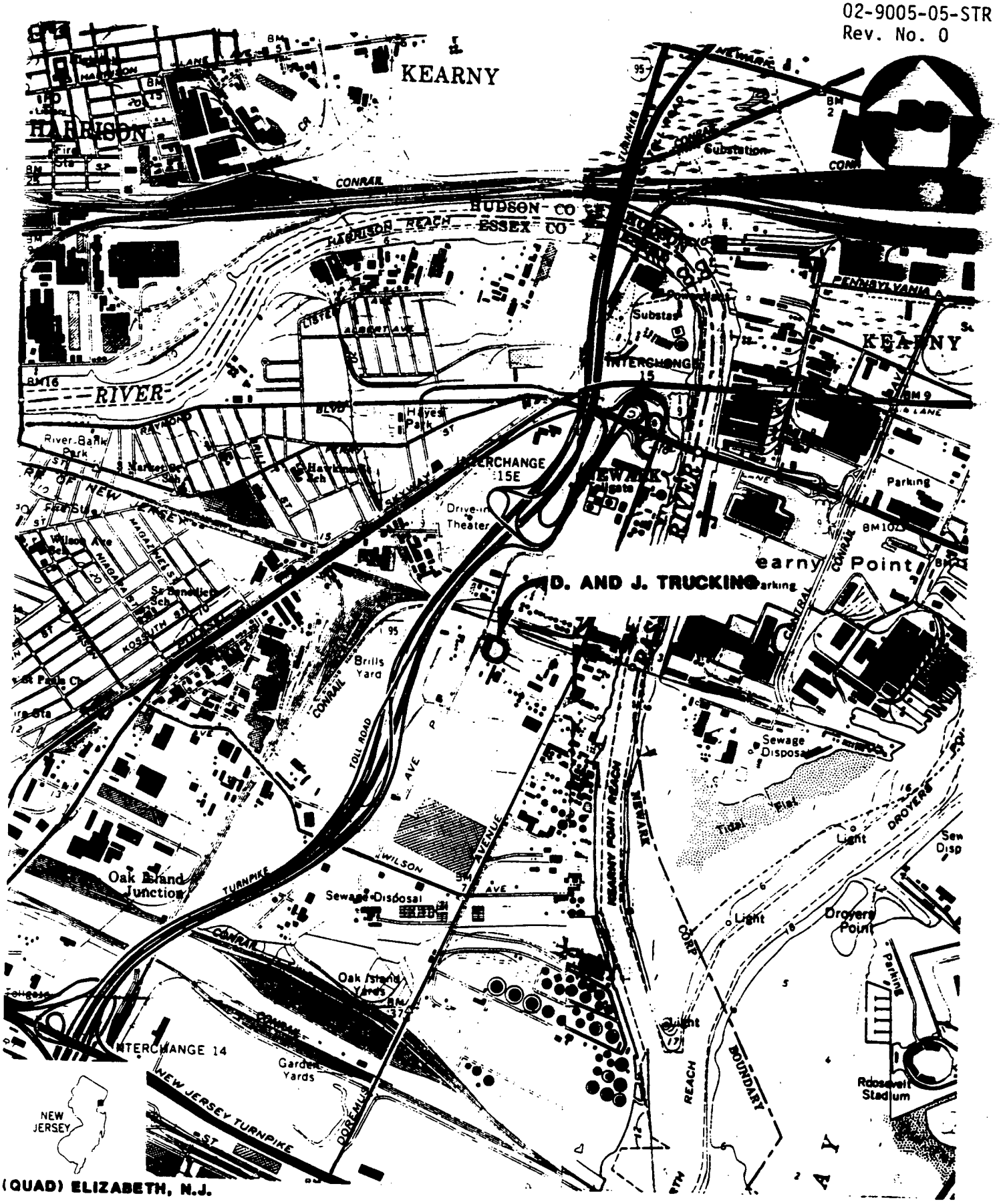
All samples except for the trip blank will be analyzed for Target Compound List (TCL) organic and inorganic compounds, excluding cyanide. The trip blank will be analyzed for volatile organic compounds only.

During the sampling event, difficulties were encountered when attempting to collect surface and subsurface soil samples due to a thick layer of mulch on site. The site had been regraded since an on-site reconnaissance conducted by NUS Corporation on May 31, 1990. Large piles of mulch present during the on-site reconnaissance had since been removed and/or leveled. Mulch was spread out over the entire site's soil surface, and in several areas was over 3 feet thick. The mulch tended to retain water which also interfered with the collection of soil samples. As a result two subsurface soil samples, NJGG-S4 and NJGG-S11, were not collected.

During collection of soil samples the Organic Vapor Analyzer (OVA) detected air readings of 50 to 100 parts per million (ppm) at the mulch surface. No readings above background were detected in the breathing zone above sample locations, except at sample location NJGG-S1. The OVA detected air readings of 2 to 3 ppm above background in the breathing zone above this surface soil sample location. The OVA detected air readings above background levels for the following samples: 1 to 3 ppm above the drainage ditch near surface water sample NJGG-SW1, 10 to 20 ppm above sediment sample NJGG-SED1, 10 to 30 ppm above the drainage ditch at surface water sample NJGG-SW2/SW3, 2 to 15 ppm above sediment sample NJGG-SED2, 4 to 10 ppm above surface soil sample NJGG-S1, 0.4 ppm above surface soil sample NJGG-S2, 1 to 2 ppm above surface soil sample NJGG-S5, and 5 to 14 ppm above surface soil sample NJGG-S9. No readings above background were detected in the breathing zone above sample locations on the HNu photoionization detector.

9. Report Prepared By: Dorothy Ponte Date: June 28, 1990

10. Approved By: [signature] Date: 7/11/90



SITE LOCATION MAP

D. AND J. TRUCKING, NEWARK, N.J.

SCALE: 1" = 2000'

FIGURE 1

NUS CORPORATION

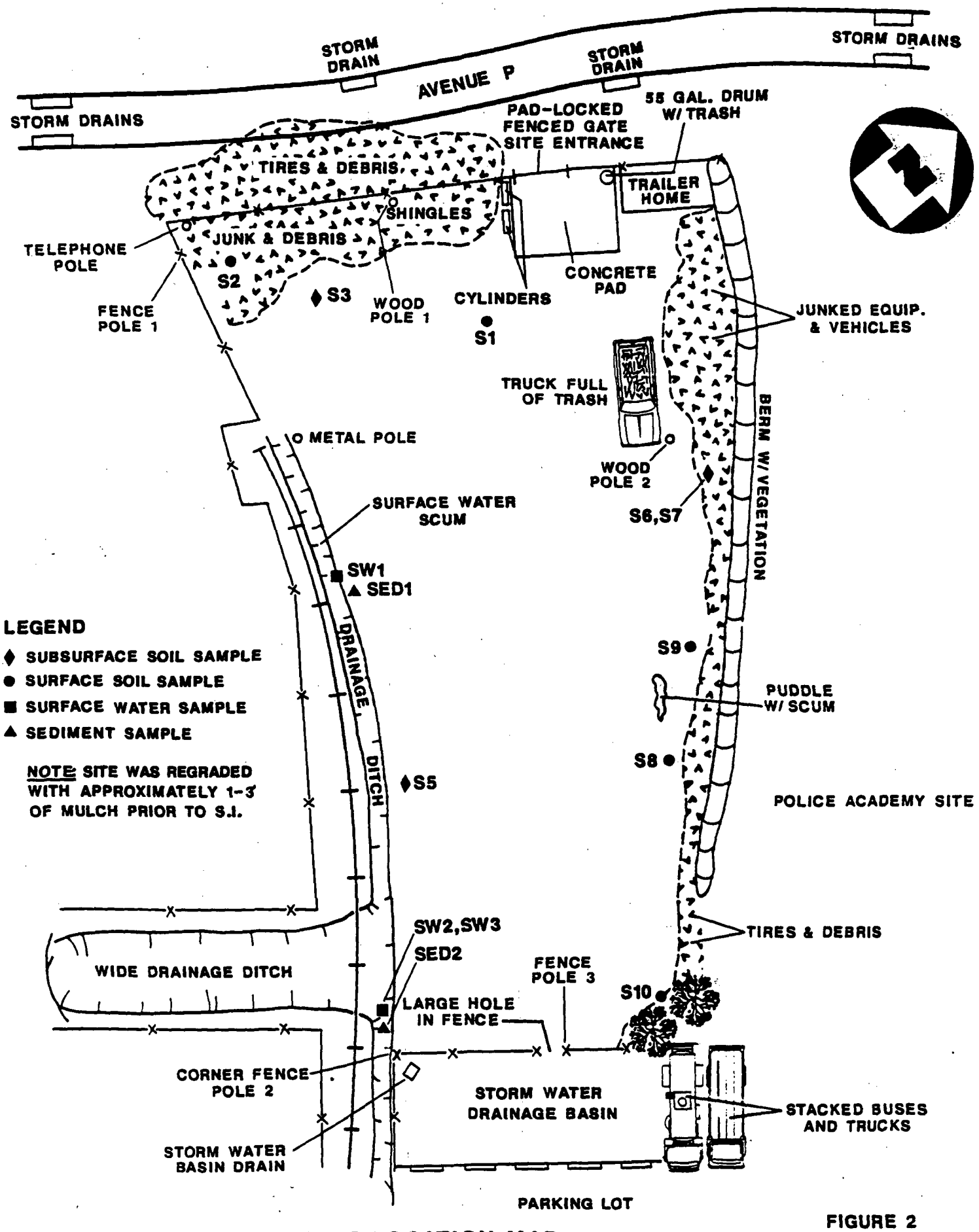


FIGURE 2

SAMPLE LOCATION MAP

D. AND J. TRUCKING, NEWARK, N.J.

NOT TO SCALE

NUS CORPORATION

TABLE I
SAMPLE DESCRIPTIONS
D AND J TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY
CASE #14407

Sample ID Number	Organic Traffic Number	Inorganic Traffic Number	Time Hours	Sample Type	Sample Location
NJGG-SW1*	BEZ67 1-1-1	MBDD81 —	1055	Surface Water	Surface water sample was collected from a drainage ditch located at a bearing of 117° and a distance of 71 feet, 2 inches from a metal pole near the property's southwestern perimeter
NJGG-SW2	BEZ68 1-1-1	MBDD82 —	1140	Surface Water	Surface water sample was collected from a drainage ditch located at a bearing of 247° and a distance of 20 feet from fence pole 2 at the corner of the southwestern part of the site.
NJGG-SW3**	BEZ69 1-1-1	MBDD83 —	1140	Surface Water	Same location a NJGG-SW2.
NJGG-SED1	BEZ70 1-1y-1	MBDD84 70	1116	Sediment	Same location as NJGG-SW1.
NJGG-SED2	BEZ71 1-1y-1	MBDD85 72	1142	Sediment	Same location as NJGG-SW2.
NJGG-S1*	BEZ72 1-1y-1	MBDD86 21	1302	Soil	Surface soil sample located at a bearing of 110° and a distance of 94 feet, 2 inches from wood pole 1 near the property's northwest perimeter fence, collected from a depth of 0 to 6 inches.

Note:

* MS/MSD- Indicated 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 (CONT'D)
SAMPLE DESCRIPTIONS
D AND J TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY
CASE 14407

Sample ID Number	Organic Traffic Number	Inorganic Traffic Number	Time Hours	Sample Type	Sample Location
NJGG-S2	BEZ73 1-1y-1	MBDD87 11	1327	Soil	Surface soil sample located at a bearing of 45° and a distance of 21 feet, 3 inches from fence pole 1 near the western corner of the property, collected from a depth of 0 to 6 inches.
NJGG-S3	BEZ74 1-1y-1	MBDD88 13	1340	Soil	Subsurface soil sample located at a bearing of 70° and a distance of 119 feet from a telephone pole near the western corner of the property, collected from a depth of 10 to 14 inches.
NJGG-S5	BEZ76 1-1y-1	MBDD90 20	1450	Soil	Surface soil sample located at a bearing of 115° and a distance of 120 feet from a metal pole near southwestern drainage ditch, collected from a depth of 0 to 4 inches.
NJGG-S6	BEZ77 1-1y-1	MBDD91 13	1650	Soil	Subsurface soil sample, located at a bearing of 91° and a distance of 34 feet, 9 inches from wood pole 2 near the northeastern corner of property, collected from a depth of 6 to 18 inches.
NJGG-S7**	BEZ78 1-1(med)-1	MBDD92 13	1650	Soil	Same location as NJGG-S6.
NJGG-S8	BEZ79 1-1(med)-1	MBDD93 24	1525	Soil	Surface soil sample located at a bearing of 315° and a distance of 165 feet from fence pole 3 at the southeastern portion of the property, collected from a depth of 0 to 6 inches.

Note:

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

TABLE I (CONT'D)
SAMPLE DESCRIPTIONS
D AND J TRUCKING
NEWARK, ESSEX COUNTY, NEW JERSEY
CASE 14407

Sample ID Number	Organic Traffic Number	Inorganic Traffic Number	Time Hours	Sample Type	Sample Location
NJGG-S9	BEZ80 1-1 med-1	MBDD94 30	1603	Soil	Surface soil sample located at a bearing of 140° and a distance of 197 feet from wood pole 2 near the northeastern corner of the property, collected from a depth of 0 to 5 inches.
NJGG-S10	BEZ81 1-1 med	MBDD95 23	1705	Soil	Surface soil sample located at a bearing of 9° and a distance of 72 feet, 4 inches from fence pole 3 at the southeastern portion of the property, collected from a depth of 0 to 6 inches.
NJGG-RIN1	BEZ83 1-1-1	MBDD97 —	1152	Aqueous Rinsate Blank	Bowl Rinsate collected in the field.
NJGG-RIN2	BEZ84 1-1-1	MBDD98 —	1232	Aqueous Rinsate Blank	Trowel Rinsate collected in the field.
NJGG-RIN3	BEZ85 1-1-1	MBDD99 —	1125	Aqueous Rinsate Blank	Auger Rinsate collected in the field.
NJGG-RIN4	BEZ86 1-1-1	MBCY64 —	1020	Aqueous Rinsate Blank	Scoop Rinsate collected in the field.
NJGG-TBLK1	BEZ87 1NA	NA — NA	0934	Aqueous Trip Blank	Aqueous Trip Blank; demonstrated analyte-free water obtained from NUS Corporation, Edison, NJ.

Note:

NA - Not Applicable

ATTACHMENT 1
SOP NO. HW-6

PAGE __OF__

TOTAL REVIEW

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organics Analysis

Case No. 14407 SDG No. BE267 LABORATORY S-Cubed SITE D. and J. Trucking

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: Dorothy Pinto Date: 08 / 28 /1990

Verified By: Pamela Greenlaw Date: 9 / 7 /1990

see attached note

ATTACHMENT 1
SOP NO. HW-6

PAGE__OF__

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.

VOA - soil - samples BE274 and 76 exceeded the holding time by 1 day. No action was taken in these samples - professional (Analytes in these samples were qualified due to other judgme data assessment violations.)

- analytes ethylbenzene and xylene (total) of sample BE271 were flagged estimated 'J' because these analytes values were transferred from sample BE271DL which exceeded holding times.

SVA - soil - sample BE278 exceeded the holding time by more than 2 weeks. Therefore all analytes were rejected 'R'.

- Samples BE279, and 80 exceeded the holding time by less than two weeks. Therefore all analytes were qualified estimated 'J' or 'UJ' in these samples.

- sample BE216 exceeded the holding time by 15 days. Professional judgement determined this sample should be validated by the criteria indicated for samples exceeding holding times by less than two weeks. All analytes were flagged estimated 'J' or 'UJ'.

- samples BE270, 71, 72, 73, 74, 77 exceeded the holding time by 8 days. Professional judgement determined these samples need not be validated due to excessive holding times.

water - sample BE269 exceeded the holding time by more than 2 weeks. All but one analyte was rejected 'R'. Bis (2-Ethylhexyl) phthalate was estimated previously 'J' by the lab

Pest./PCB - soil - All analytes were flagged estimated ('J' or 'UJ') in samples BE270, 71, 72, 73, 74, 76, 77, 78, 79, 80, and 81, as the extraction date was more than 7 days (but less than 14 days) after the date of collection.

ATTACHMENT 1
SOP NO. HW-6

DATA ASSESSMENT:

2. BLANK CONTAMINATION:

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

A) Method blank contamination The following analytes were flagged because they were also present in the method blank.

VOA - methylene chloride was flagged non detect 'U' in samples BEZ70, 71, 72, 73, 74, 76, 77, 78, 79, 80, 81

- 2-Butanone was flagged non detect 'U' in samples BEZ70, 71, 72, 77, 80

- 1,1,2,2-Tetrachloroethane JF 8/24/90

- Trichloroethene was flagged non detect 'U' in samples BEZ68, 69

BNA - Diethylphthalate was flagged non detect 'U' in samples BEZ78, 69. (This analyte was later flagged 'R', rejected due to excessive holding times in these samples.)

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

C) Trip blank contamination

ATTACHMENT 1
SOP NO. HW-6

DATA ASSESSMENT:

3. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is bromofluorobenzene (BFB) and for semi-volatiles is decafluorotriphenyl- phosphine (DFTPP).

If the mass calibration is in error, all associated data will be classified as unusable, "R".

DATA ASSESSMENT:

4. CALIBRATION:

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

A) RESPONSE FACTOR:

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

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 - 2-Butanone was flagged rejected 'R' in samples BEZ14 and 76 due to the %D exceeding 90% as calculated from the continuing calibration.

- acetone was flagged estimated 'J' in sample BEZ70 due to the %RSD exceeding 30% (>30% but <50%) as calculated from the initial calibration.

- 1,2-Dichloroethane was flagged estimated 'J' in samples BEZ 70, 71, 72, 73, 74, 76, 77, 78, 79, 80, 81 due to the % RSD exceeding 50% (>50% but <90%) as calculated from the initial calibration.

BNA - Benzo(k) fluoranthene was flagged estimated 'J' in samples BEZ72, and 74 due to the %D exceeding 25% (>25% but <50%) as calculated from the continuing calibration.

DATA ASSESSMENT:

6. SURROGATES:

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

Pest./PCB - water pesticide surrogate recovery (Form II Pest 3)
Dibutylchlorendate (DBC) had low recoveries in samples BE 267, 33, 34 and 35. No explanation was provided in the case narrative.
Soil pesticide surrogate recovery (Form II Pest 2)
DBC had high recoveries in samples BE279 and 31. The case narrative indicated low internal standard areas apparently caused the high DBC recoveries in these samples. Low recovery (DBC recovery) was also associated in the method blank correspond. to these soil samples.

- samples BE267, 33, 34 and 35, all analytes in these samples were quantified estimated 'J' due to low surrogate recovery. (Analytes heptachlor, aldrin, dieldrin and endrin were subsequently flagged 'R' rejected due to ms/msD recovery being outside QC limits).

DATA ASSESSMENT:

7. INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

VOA - soil - In sample BEZ70, 72, ~~1,1,1-trichloroethane~~ 2-butanone through xylene total analytes were flagged estimated 'J' because internal standards I32 (chlorobenzene-d5) and I33 (Bromochloromethane were outside limits

- In samples BEZ74, 75, 73, 76, 77, 78, 79, 80, 81 all analytes were flagged estimated 'J' (chloromethane through xylene total) because all three internal standards were outside limits. (Some analytes in these samples were qualified estimated 'J' previously due to other data assessment violations. In sample BEZ76, analyte 2-Butanone was qualified rejected 'R' previously due to another data assessment violation).

DATA ASSESSMENT:

8. COMPOUND IDENTIFICATION:

A) VOLATILE AND SEMI-VOLATILE FRACTIONS:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

B) PESTICIDE FRACTION:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10 ng/ml in the final sample extract.

Pest./PCB - The retention time (RT) of the analyte endrin was outside the RT window of the standard for column 2 DB-608. This analyte would therefore be qualified estimated 'J' in sample BE291. However, endrin was previously validated estimated 'J' due to excessive holding time, therefore no action was taken.

DATA ASSESSMENT:

9. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for some additional qualification of the data.

Pest/PCB-water-In samples BE2L7, 68, 69, ~~83, 84 and 85~~ the analytes heptachlor, aldrin, dieldrin and endrin were rejected because the water pesticide matrix spike matrix spike duplicate recovery for these analytes were both zero.

DATA ASSESSMENT:

10. OTHER QC DATA OUT OF SPECIFICATION:

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

12. CONTRACT PROBLEMS____NON-COMPLIANCE:

VOA - methylene chloride was not flagged 'B' in samples BE274 and 76 This analyte was present in the corresponding method blank (VBLK02).

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.

VOA - samples BE270, 71, 73, 76, 77, 78, 79, 80, 81 were reanalyzed due to internal standards associated with the data being outside limits. The reanalysis provided similar results and were not reanalyzed within the required 10 days holding time, therefore the original data was used.

- samples BE271 and 79 had high levels of ethyl benzene, toluene and xylenes necessitating dilution of these samples. However holding times were exceeded and the original data was used instead.

Pest./PCB - samples BE268, 74 and 79 were reanalyzed (dilutions) due to high levels of ethylbenzene, toluene and xylenes as noted in the case narrative. The original data was used, however

DATA ASSESSMENT:

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT (continued):

DPO: [ ] ACTION [ ] FYI

Report 2

ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE NO. 14467

SDG NO. BEZ67

SOW

NO. OF SAMPLES 8 WATER 11 SOIL OTHER

LABORATORY S-Cubed

DATA USER FIT2

REVIEW COMPLETION DATE 08/28/90

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

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

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:

Type of Review: total Date: 08/28/90 Case #: 14407

Project: D and J Trucking Lab Name: S-Curved

Reviewer's Initials: [illegible] Number of Samples: 11 soil, 8 water

Analytes Rejected Due to Exceeding Review Criteria:

	Surrogates	Holding Time	Calibration	Contamination	ID	Other	Total # Samples	Total # Rejected/ Total # in all Samples
Acids (15)		1/2					18	1/270
B/N (50)		1/2	2/2				18	101/900
VOA (35)			2/2	18/13			19	20/665
PEST (20)						24/[illegible]	[illegible]	24/360
PCB (7)							18	0/126
TCDD (1)							8	0/[illegible]

Analytes Estimated Due to Exceeding Review Criteria for:

Acids (15)		45/3					1[illegible]	45/270
B/N (50)		150/3		1/1			1[illegible]	150/[illegible]
VOA (35)		[illegible]	1[illegible]/11			327/[illegible]	1[illegible]	321/665
PEST (20)	[illegible]	[illegible]/11					12	300/[illegible]
PCB (7)	[illegible]	77/11					[illegible]	105/126
TCDD (1)							1[illegible]	/[illegible]

Upon review of this data package and further review of the sampling trip report it is recommend that this site be resampled with additional attention to sample matrix. The problems created by the sample matrix made much if not all of the data questionable. The laboratory exceeded holding times on many of the samples which may have been due to the samples. Matrix spike recoveries were questionable in many cases. Identification of multipeak target chemicals was virtually impossible due to interferences. Repeat analyses of samples yielded conflicting results. This site appears to be contaminated with a complex mixture of organic chemicals but more conclusive data is required to correctly identify the contaminants

Pamela Greenlaw 9/7/90

S-CUBED
A Division of Maxwell Laboratories, Inc.

RECEIVE
AUG 0 1 1990

July 31,1990 Vol 1 of 3

Narrative Case: 14407
S-CUBED Contract No. 68D90027

This case consists of the following samples reported under SDG : BEZ67

BEZ67(w)	BEZ71(s)	BEZ76(s)	BEZ80(s)	BEZ85(w)
BEZ68(w)	BEZ72(s)	BEZ77(s)	BEZ81(s)	BEZ86(w)
BEZ69(w)	BEZ73(s)	BEZ78(s)	BEZ83(w)	BEZ87(w)*
BEZ70(s)	BEZ74(s)	BEZ79(s)	BEZ84(w)	

*VOA only

Matrix: BEZ67(w)
BEZ72(low soil)
BEZ81(medium soil ABN)

VOA Reanalyses:	BEZ70RE	BEZ76RE	BEZ79RE
	BEZ71RE	BEZ77RE	BEZ80RE
	BEZ73RE	BEZ78RE	BEZ81RE

VOA Dilutions:	BEZ71DL	BEZ79DL	

Pesticide Dilutions:	BEZ68DL	BEZ71DL	BEZ79DL

The soil samples were very complex necessitating reanalyses on almost all samples due to consistently low internal standard areas. These low areas also caused apparently high surrogate recoveries on many samples. The samples were characterized by high levels of substituted benzenes. The high levels of ethyl benzene, toluene and xylenes required the dilutions listed above. In general the data between the original and reanalyzed samples were consistent. However in several instance there was an evident lack of sample homogeneity between sample aliquots. This problem is most readily apparent in the three analyses of BEZ79 where varying amount of toluene were detected. Many holding times were missed on the soil analyses due to problems inherent to analyzing such complex samples. Most original analyses were within holding times, however it was not possible to reanalyze these samples within the required 10 days.

Water VOA analyses were uncomplicated with low levels of substituted benzenes

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found in several samples. The major QC problem was a soil lab blank on July 17 which contained carbon disulfide at a level of 7 ppb. Also the matrix analysis of BEZ72 yielded inconsistent results for toluene, due to the varying amount of this compound native to the sample.

BNA analyses were carried out by medium level techniques for samples BEZ78,BEZ79,BEZ80 and BEZ81. Samples were characterized by high levels of substituted benzenes, hydrocarbons and polynuclear aromatic hydrocarbons. Reextractions (outside of holding times) were necessary for BEZ69,BEZ76,and BEZ78 due to low surrogate recoveries in the original analyses.

Pesticide analyses were also complicated by the highly organic nature of the soil samples. Dilutions (1:10) were necessary for BEZ67,BEZ71 and BEZ79.Numerous single component pesticides were detected in most sample. Most could not be confirmed by GC-MS, probably due to interferences. Samples BEZ79, BEZ80, and BEZ81 contained Aroclors. Other samples seemed to contain degraded Aroclor patterns. The matrix compounds in the spiked water samples were outside of the windows due to the sample matrix, thus no data are reported for most of these compounds. The soil matrix results were more normal. These complex samples precluded successful analyses of the close out EVAL and IND standards in the first 72 hour sequence. Please note that Forms IX could not be numbered correctly because there were more than nine forms.

Please note that S-CUBED uses megabore capillary for pesticide analysis, thus the action limit for DBC percent difference is 1.5 % rather than 0.3 %. S-CUBED also experiences interferences with the benzoic acid quantitation mass of 122 from 2,4 dimethyl phenol. Although the top of the chromatographic peak of these compounds are separated by about a minute, benzoic acid exhibits a high level of "fronting" which causes coelution of these two compounds. Consequently it is considerably more accurate to use the base peak of 105 for the quantitation of benzoic acid. Also note that S-CUBED uses a "X" flag to indicate the matrix spiked compounds.

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.

J Wilkinson

Date: 7/31/90
JoAnn Wilkinson, Project Manager

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ67

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ67

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ67

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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	54	
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
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	1	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	2	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ67

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ67

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ67

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ68

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ68

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ68

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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	44	
75-15-0	Carbon Disulfide	1	J
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (Total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
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
10061-02-6	trans-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	53	~~B~~ U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	3	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	3	J
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	25	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ68

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ68

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ68

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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.

BEZ69

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ69

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ69

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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	48	
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
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
10061-02-6	trans-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	1	BJ
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	22	

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ69

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ69

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ69

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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.

BEZ70

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ70

Sample wt/vol: 4.993 (g/mL) G Lab File ID: BEZ70

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 46 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	18	U
74-83-9	Bromomethane	18	U
75-01-4	Vinyl Chloride	18	U
75-00-3	Chloroethane	18	U
75-09-2	Methylene Chloride	31	~~B~~ U
67-64-1	Acetone	110	J
75-15-0	Carbon Disulfide	40	
75-35-4	1,1-Dichloroethene	9	U
75-34-3	1,1-Dichloroethane	9	U
540-59-0	1,2-Dichloroethene (Total)	9	U
67-66-3	Chloroform	9	U
107-06-2	1,2-Dichloroethane	9	U J
78-93-3	2-Butanone	55	~~B~~ J
71-55-6	1,1,1-Trichloroethane	9	U
56-23-5	Carbon Tetrachloride	9	U
108-05-4	Vinyl Acetate	18	U
75-27-4	Bromodichloromethane	9	U
78-87-5	1,2-Dichloropropane	9	U
10061-02-6	trans-1,3-Dichloropropene	9	U
79-01-6	Trichloroethene	9	U
124-48-1	Dibromochloromethane	9	U
79-00-5	1,1,2-Trichloroethane	9	U
71-43-2	Benzene	9	U
10061-01-5	cis-1,3-Dichloropropene	9	U
75-25-2	Bromoform	9	U
591-78-6	2-Hexanone	18	U
108-10-1	4-Methyl-2-Pentanone	18	U
127-18-4	Tetrachloroethene	9	U
79-34-5	1,1,2,2-Tetrachloroethane	9	U
108-88-3	Toluene	29	
108-90-7	Chlorobenzene	9	U
100-41-4	Ethylbenzene	32	
100-42-5	Styrene	9	U
1330-20-7	Xylene (total)	160	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ70

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ70

Sample wt/vol: 4.993 (g/mL) G Lab File ID: BEZ70

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 46 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ70RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ70

Sample wt/vol: 5.015 (g/mL) G Lab File ID: REZ70

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 46 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	18	U
74-83-9	Bromomethane	18	U
75-01-4	Vinyl Chloride	18	U
75-00-3	Chloroethane	18	U
75-09-2	Methylene Chloride	23	B
67-64-1	Acetone	18	U
75-15-0	Carbon Disulfide	9	U
75-35-4	1,1-Dichloroethene	9	U
75-34-3	1,1-Dichloroethane	9	U
540-59-0	1,2-Dichloroethene (Total)	9	U
67-66-3	Chloroform	9	U
107-06-2	1,2-Dichloroethane	9	U
78-93-3	2-Butanone	18	U
71-55-6	1,1,1-Trichloroethane	9	U
56-23-5	Carbon Tetrachloride	9	U
108-05-4	Vinyl Acetate	18	U
75-27-4	Bromodichloromethane	9	U
78-87-5	1,2-Dichloropropane	9	U
10061-02-6	trans-1,3-Dichloropropene	9	U
79-01-6	Trichloroethene	9	U
124-48-1	Dibromochloromethane	9	U
79-00-5	1,1,2-Trichloroethane	9	U
71-43-2	Benzene	9	U
10061-01-5	cis-1,3-Dichloropropene	9	U
75-25-2	Bromoform	9	U
591-78-6	2-Hexanone	18	U
108-10-1	4-Methyl-2-Pentanone	18	U
127-18-4	Tetrachloroethene	9	U
79-34-5	1,1,2,2-Tetrachloroethane	9	U
108-88-3	Toluene	28	
108-90-7	Chlorobenzene	9	U
100-41-4	Ethylbenzene	56	
100-42-5	Styrene	9	U
1330-20-7	Xylene (total)	300	

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ70RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ70

Sample wt/vol: 5.015 (g/mL) G Lab File ID: REZ70

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 46 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 00000-08-7	METHANE, DICHLORODIFLUORO-	2.80	20	J
2.	UNKNOWN	6.48	16	J
3.	UNKNOWN C10H16	24.81	55	J
4.	UNKNOWN	31.16	30	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ71

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ71

Sample wt/vol: 5.005 (g/mL) G Lab File ID: BEZ71

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 72 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	35	U
74-83-9	Bromomethane	35	U
75-01-4	Vinyl Chloride	35	U
75-00-3	Chloroethane	35	U
75-09-2	Methylene Chloride	74	B
67-64-1	Acetone	35	U
75-15-0	Carbon Disulfide	19	
75-35-4	1,1-Dichloroethene	18	U
75-34-3	1,1-Dichloroethane	18	U
540-59-0	1,2-Dichloroethene (Total)	18	U
67-66-3	Chloroform	18	U
107-06-2	1,2-Dichloroethane	18	U
78-93-3	2-Butanone	29	~~BJ~~
71-55-6	1,1,1-Trichloroethane	18	U
56-23-5	Carbon Tetrachloride	18	U
108-05-4	Vinyl Acetate	35	U
75-27-4	Bromodichloromethane	18	U
78-87-5	1,2-Dichloropropane	18	U
10061-02-6	trans-1,3-Dichloropropene	18	U
79-01-6	Trichloroethene	18	U
124-48-1	Dibromochloromethane	18	U
79-00-5	1,1,2-Trichloroethane	18	U
71-43-2	Benzene	37	
10061-01-5	cis-1,3-Dichloropropene	18	U
75-25-2	Bromoform	18	U
591-78-6	2-Hexanone	35	U
108-10-1	4-Methyl-2-Pentanone	35	U
127-18-4	Tetrachloroethene	18	U
79-34-5	1,1,2,2-Tetrachloroethane	18	U
108-88-3	Toluene	120	
108-90-7	Chlorobenzene	520	
100-41-4	Ethylbenzene	~~2000~~	~~E~~
100-42-5	Styrene	18	U
1330-20-7	Xylene (total)	~~3400~~	~~E~~

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ71

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ71

Sample wt/vol: 5.005 (g/mL) G Lab File ID: BEZ71

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 72 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 9

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 00110-82-7	CYCLOHEXANE(DOT (8C19C1)	13.22	28	J
2. 00096-37-7	CYCLOPENTANE, METHYL- (8C19C	13.99	61	J
3.	UNKNOWN	16.09	25	J
4.	UNKNOWN C6H14	18.06	51	J
5.	UNKNOWN	18.68	38	J
6. 00589-34-4	HEXANE, 3-METHYL- (8C19C1)	21.08	80	J
7.	UNKNOWN	22.32	8	J
8.	UNKNOWN	24.88	13	J
9.	UNKNOWN	26.67	11	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ71RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ71

Sample wt/vol: 5.010 (g/mL) G Lab File ID: REZ71

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 72 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	35	U
74-83-9	Bromomethane	35	U
75-01-4	Vinyl Chloride	35	U
75-00-3	Chloroethane	35	U
75-09-2	Methylene Chloride	37	B
67-64-1	Acetone	150	
75-15-0	Carbon Disulfide	7	J
75-35-4	1,1-Dichloroethene	18	U
75-34-3	1,1-Dichloroethane	18	U
540-59-0	1,2-Dichloroethene (Total)	18	U
67-66-3	Chloroform	18	U
107-06-2	1,2-Dichloroethane	18	U
78-93-3	2-Butanone	35	U
71-55-6	1,1,1-Trichloroethane	18	U
56-23-5	Carbon Tetrachloride	18	U
108-05-4	Vinyl Acetate	35	U
75-27-4	Bromodichloromethane	18	U
78-87-5	1,2-Dichloropropane	18	U
10061-02-6	trans-1,3-Dichloropropene	18	U
79-01-6	Trichloroethene	18	U
124-48-1	Dibromochloromethane	18	U
79-00-5	1,1,2-Trichloroethane	18	U
71-43-2	Benzene	20	
10061-01-5	cis-1,3-Dichloropropene	18	U
75-25-2	Bromoform	18	U
591-78-6	2-Hexanone	35	U
108-10-1	4-Methyl-2-Pentanone	35	U
127-18-4	Tetrachloroethene	18	U
79-34-5	1,1,2,2-Tetrachloroethane	18	U
108-88-3	Toluene	120	
108-90-7	Chlorobenzene	240	
100-41-4	Ethylbenzene	930	E
100-42-5	Styrene	18	U
1330-20-7	Xylene (total)	2800	E

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ71RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ71

Sample wt/vol: 5.010 (g/mL) G Lab File ID: REZ71

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 72 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.00110-82-7	CYCLOHEXANE(DOT (8C19C1)	13.19	49	J
2.00096-37-7	CYCLOPENTANE, METHYL- (8C19C	14.04	60	J
3.	UNKNOWN	16.09	26	J
4.	UNKNOWN C6H14	18.07	51	J
5.	UNKNOWN	18.69	40	J
6.00589-34-4	HEXANE, 3 METHYL- (8C19C1)	21.09	80	J
7.	UNKNOWN	21.59	17	J
8.	UNKNOWN	24.89	23	J
9.	UNKNOWN	25.28	13	J
10.	UNKNOWN	26.71	14	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ71DL

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: DLZ71

Sample wt/vol: 1.004 (g/mL) G Lab File ID: DLZ71

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 72 Date Analyzed: 07/17/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	180	U
74-83-9	Bromomethane	180	U
75-01-4	Vinyl Chloride	180	U
75-00-3	Chloroethane	180	U
75-09-2	Methylene Chloride	240	B
67-64-1	Acetone	180	U
75-15-0	Carbon Disulfide	160	B
75-35-4	1,1-Dichloroethene	88	U
75-34-3	1,1-Dichloroethane	88	U
540-59-0	1,2-Dichloroethene (Total)	88	U
67-66-3	Chloroform	88	U
107-06-2	1,2-Dichloroethane	88	U
78-93-3	2-Butanone	180	U
71-55-6	1,1,1-Trichloroethane	88	U
56-23-5	Carbon Tetrachloride	88	U
108-05-4	Vinyl Acetate	180	U
75-27-4	Bromodichloromethane	88	U
78-87-5	1,2-Dichloropropane	88	U
10061-02-6	trans-1,3-Dichloropropene	88	U
79-01-6	Trichloroethene	88	U
124-48-1	Dibromochloromethane	88	U
79-00-5	1,1,2-Trichloroethane	88	U
71-43-2	Benzene	88	U
10061-01-5	cis-1,3-Dichloropropene	88	U
75-25-2	Bromoform	88	U
591-78-6	2-Hexanone	180	U
108-10-1	4-Methyl-2-Pentanone	180	U
127-18-4	Tetrachloroethene	88	U
79-34-5	1,1,2,2-Tetrachloroethane	88	U
108-88-3	Toluene	390	
108-90-7	Chlorobenzene	930	
100-41-4	Ethylbenzene	4000	D
100-42-5	Styrene	88	U
1330-20-7	Xylene (total)	12000	D

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ71DL

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: DLZ71

Sample wt/vol: 1.004 (g/mL) G Lab File ID: DLZ71

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 72 Date Analyzed: 07/17/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ72

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ72

Sample wt/vol: 5.004 (g/mL) G Lab File ID: BEZ72

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 21 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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	19	~~B~~ U
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U J
78-93-3	2-Butanone	35	~~B~~ U
71-55-6	1,1,1-Trichloroethane	6	U J
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U J
108-88-3	Toluene	4	J
108-90-7	Chlorobenzene	8	J
100-41-4	Ethylbenzene	31	J
100-42-5	Styrene	6	U J
1330-20-7	Xylene (total)	47	J

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ72

ab Name: S-CUBED Contract: 68-D9-0027

b Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

atrix: (soil/water) SOIL Lab Sample ID: BEZ72

mple wt/vol: 5.004 (g/mL) G Lab File ID: BEZ72

evel: (low/med) LOW Date Received: 06/27/90

Moisture: not dec. 21 Date Analyzed: 07/06/90

olumn: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	21.55	31	J
2.		UNKNOWN	22.05	11	J
3.		UNKNOWN	23.37	8	J
4.		UNKNOWN BENZENE, METHYLETHYL	25.04	120	J
5.		UNKNOWN BENZENE, METHYLETHYL	26.79	13	J
6.		UNKNOWN	29.03	9	J
7.		UNKNOWN	30.94	16	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ73

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ73

Sample wt/vol: 5.007 (g/mL) G Lab File ID: BEZ73

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 11 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U J
74-83-9	Bromomethane	11	U J
75-01-4	Vinyl Chloride	11	U J
75-00-3	Chloroethane	11	U J
75-09-2	Methylene Chloride	21	~~B~~ U J
67-64-1	Acetone	11	U J
75-15-0	Carbon Disulfide	23	J
75-35-4	1,1-Dichloroethene	6	U J
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 J
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ73

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ73

Sample wt/vol: 5.007 (g/mL) G Lab File ID: BEZ73

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 11 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	22.40	14	J
2.	UNKNOWN	23.64	5	J
3.	UNKNOWN	28.57	230	J
4.	UNKNOWN	31.09	43	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ73RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ73

Sample wt/vol: 5.005 (g/mL) G Lab File ID: REZ73

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 11 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ73RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ73

Sample wt/vol: 5.005 (g/mL) G Lab File ID: REZ73

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 11 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.78	9	J
2.	UNKNOWN	28.91	15	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ74

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ74

Sample wt/vol: 4.998 (g/mL) G Lab File ID: REZ74

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 Date Analyzed: 07/11/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	39	~~U~~
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U J
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
127-18-4	Tetrachloroethene	2	J
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ74

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ74

Sample wt/vol: 4.998 (g/mL) G Lab File ID: REZ74

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 Date Analyzed: 07/11/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ76

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ76

Sample wt/vol: 4.997 (g/mL) G Lab File ID: REZ76

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 20 Date Analyzed: 07/11/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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	53	
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
127-18-4	Tetrachloroethene	6	
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ76

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ76

Sample wt/vol: 4.997 (g/mL) G Lab File ID: REZ76

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 20 Date Analyzed: 07/11/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ76RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: RRZ76

Sample wt/vol: 5.003 (g/mL) G Lab File ID: RRZ76

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 20 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	16	B
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	2	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	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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ76RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: RRZ76

Sample wt/vol: 5.003 (g/mL) G Lab File ID: RRZ76

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 20 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	25.24	10	J
2.	UNKNOWN	26.67	7	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ77

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ77

Sample wt/vol: 4.999 (g/mL) G Lab File ID: REZ77

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	14	~~B~~ U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	72	
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	~~B~~
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ77

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ77

Sample wt/vol: 4.999 (g/mL) G Lab File ID: REZ77

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ77RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: RXZ77

Sample wt/vol: 5.010 (g/mL) G Lab File ID: RXZ77

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ77RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: RXZ77

Sample wt/vol: 5.010 (g/mL) G Lab File ID: RXZ77

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.05	8	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ78

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ78

Sample wt/vol: 4.999 (g/mL) G Lab File ID: BEZ78

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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

ATTACHMENT 2

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ78

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ78

Sample wt/vol: 4.999 (g/mL) G Lab File ID: BEZ78

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ78RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ78

Sample wt/vol: 4.999 (g/mL) G Lab File ID: REZ78

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	22	B
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ78RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ78

Sample wt/vol: 4.999 (g/mL) G Lab File ID: REZ78

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ79

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ79

Sample wt/vol: 5.009 (g/mL) G Lab File ID: BEZ79

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 24 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	20	~~8~~
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	21	
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (Total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
591-78-6	2-Hexanone	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
127-18-4	Tetrachloroethene	5	J
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	42	
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	8	
100-42-5	Styrene	7	U
1330-20-7	Xylene (total)	120	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ79

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ79

Sample wt/vol: 5.009 (g/mL) G Lab File ID: BEZ79

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 24 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN C10H16	24.85	39	J
2.	UNKNOWN	26.63	5	J
3.	UNKNOWN	31.09	17	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ79RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ79

Sample wt/vol: 4.998 (g/mL) G Lab File ID: REZ79

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 24 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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	34	B
67-64-1	Acetone	420	E
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)	2	J
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	41	
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-02-6	trans-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	3	J
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	
10061-01-5	cis-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
591-78-6	2-Hexanone	13	U
108-10-1	4-Methyl-2-Pentanone	72	
127-18-4	Tetrachloroethene	9	
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	540	E
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	80	
100-42-5	Styrene	7	U
1330-20-7	Xylene (total)	260	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ79RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ79

Sample wt/vol: 4.998 (g/mL) G Lab File ID: REZ79

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 24 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 9

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	1.79	29	J
2.00075-43-4	METHANE, DICHLORODIFLUORO-	4.97	55	J
3.00000-12-6	METHANE, TRICHLOROFLUORO-	7.72	51	J
4.	UNKNOWN	13.22	18	J
5.	UNKNOWN C6H14	18.07	10	J
6.	UNKNOWN	22.21	14	J
7.	UNKNOWN C10H16	24.81	77	J
8.	UNKNOWN	25.39	21	J
9.	UNKNOWN	31.13	22	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ79DL

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: DLZ79

Sample wt/vol: 1.009 (g/mL) G Lab File ID: DLZ79

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 24 Date Analyzed: 07/17/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	66	U
74-83-9	Bromomethane	66	U
75-01-4	Vinyl Chloride	66	U
75-00-3	Chloroethane	66	U
75-09-2	Methylene Chloride	79	B
67-64-1	Acetone	720	D
75-15-0	Carbon Disulfide	69	B
75-35-4	1,1-Dichloroethene	33	U
75-34-3	1,1-Dichloroethane	33	U
540-59-0	1,2-Dichloroethene (Total)	33	U
67-66-3	Chloroform	33	U
107-06-2	1,2-Dichloroethane	33	U
78-93-3	2-Butanone	66	U
71-55-6	1,1,1-Trichloroethane	33	U
56-23-5	Carbon Tetrachloride	33	U
108-05-4	Vinyl Acetate	66	U
75-27-4	Bromodichloromethane	33	U
78-87-5	1,2-Dichloropropane	33	U
10061-02-6	trans-1,3-Dichloropropene	33	U
79-01-6	Trichloroethene	33	U
124-48-1	Dibromochloromethane	33	U
79-00-5	1,1,2-Trichloroethane	33	U
71-43-2	Benzene	33	U
10061-01-5	cis-1,3-Dichloropropene	33	U
75-25-2	Bromoform	33	U
591-78-6	2-Hexanone	66	U
108-10-1	4-Methyl-2-Pentanone	66	U
127-18-4	Tetrachloroethene	14	J
79-34-5	1,1,2,2-Tetrachloroethane	33	U
108-88-3	Toluene	370	D
108-90-7	Chlorobenzene	18	J
100-41-4	Ethylbenzene	120	
100-42-5	Styrene	33	U
1330-20-7	Xylene (total)	390	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ79DL

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: DLZ79

Sample wt/vol: 1.009 (g/mL) G Lab File ID: DLZ79

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 24 Date Analyzed: 07/17/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ80

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ80

Sample wt/vol: 5.016 (g/mL) G Lab File ID: BEZ80

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 30 Date Analyzed: 07/06/90

Column. (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U J
74-83-9	Bromomethane	14	U J
75-01-4	Vinyl Chloride	14	U J
75-00-3	Chloroethane	14	U J
75-09-2	Methylene Chloride	16	~~B~~ U J
67-64-1	Acetone	14	U J
75-15-0	Carbon Disulfide	14	J
75-35-4	1,1-Dichloroethene	7	U J
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (Total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U J
78-93-3	2-Butanone	27	~~B~~ U J
71-55-6	1,1,1-Trichloroethane	7	U J
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
591-78-6	2-Hexanone	14	U
108-10-1	4-Methyl-2-Pentanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U J
108-88-3	Toluene	130	J
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	3	J
100-42-5	Styrene	7	U
1330-20-7	Xylene (total)	8	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ80

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ80

Sample wt/vol: 5.016 (g/mL) G Lab File ID: BEZ80

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 30 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	24.89	13	J
2.	UNKNOWN	28.53	11	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ80RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ80

Sample wt/vol: 5.006 (g/mL) G Lab File ID: REZ80

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 30 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	28	B
67-64-1	Acetone	100	
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (Total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	7	J
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
591-78-6	2-Hexanone	14	U
108-10-1	4-Methyl-2-Pentanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	110	
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	3	J
100-42-5	Styrene	7	U
1330-20-7	Xylene (total)	4	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ80RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ80

Sample wt/vol: 5.006 (g/mL) G Lab File ID: REZ80

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 30 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	24.79	21	J
2.	UNKNOWN	31.38	13	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ81

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ81

Sample wt/vol: 5.009 (g/mL) G Lab File ID: BEZ81

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 23 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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	30	~~B~~
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
127-18-4	Tetrachloroethene	87	
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	3	J
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ81

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ81

Sample wt/vol: 5.009 (g/mL) G Lab File ID: BEZ81

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 23 Date Analyzed: 07/06/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	28.68	100	J N
2.	UNKNOWN	31.01	14	J N
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ81RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ81

Sample wt/vol: 5.007 (g/mL) G Lab File ID: REZ81

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 23 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (Total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
591-78-6	2-Hexanone	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
127-18-4	Tetrachloroethene	87	
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	4	J
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ81RE

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: REZ81

Sample wt/vol: 5.007 (g/mL) G Lab File ID: REZ81

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 23 Date Analyzed: 07/12/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	31.35	14	J
2.					
3.					
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ83

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ83

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ83

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ83

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ83

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ83

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ84

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ84

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ84

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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	1	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ84

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ84

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ84

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. ____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ85

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ85

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ85

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	2	J
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (Total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ85

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ85

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ85

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. ____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ86

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ86

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ86

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	3	J
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	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	1	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ86

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ86

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ86

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ87

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ87

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ87

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. ____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	3	J
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	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
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ87

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ87

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: BEZ87

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. _____ Date Analyzed: 07/05/90

Column: (pack/cap) PACK Dilution Factor: 1.000

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.

BEZ67

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ67

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ67

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ dec._____ Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	7	J
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ67

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ67

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ67

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ dec._____ Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

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

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BEZ67

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ67

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ67

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ dec._____ Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/25/90

GPC Cleanup : (Y/N) N pH: 0.0 Dilution Factor: 1.000

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.36	26	J N
2.	UNKNOWN	10.62	85	J
3.	UNKNOWN C7H8S	13.18	50	J
4.	UNKNOWN C7H8S	13.23	31	J
5.	UNKNOWN	18.39	8	J
6.	UNKNOWN	19.47	6	J
7.	UNKNOWN	23.89	8	J
8.	UNKNOWN	24.67	21	JB
9.	UNKNOWN	25.26	13	JB
10.	UNKNOWN	26.29	7	J
11.	UNKNOWN	26.71	11	JB
12.	UNKNOWN C18H22	27.37	18	JB
13.	UNKNOWN	27.81	22	J
14.	UNKNOWN	33.43	9	J
15.	UNKNOWN	33.97	9	J
16.	UNKNOWN	36.04	12	JB
17.	UNKNOWN	37.31	29	JB
18.	UNKNOWN	38.52	28	JB
19.	UNKNOWN	39.87	24	JB
20.	UNKNOWN	41.44	16	JB
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ68

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ68

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ68

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	5	J
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	8	J
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ68

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ68

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ68

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenapthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	38	
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ68

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ68

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ68

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ dec._____ Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/25/90

GPC Cleanup : (Y/N) N pH: 0.0 Dilution Factor: 1.000

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.34	17	J
2.	UNKNOWN C6H6S	10.60	30	J
3.	UNKNOWN	11.60	33	J
4.	UNKNOWN	12.17	16	J
5.00137-06-4	BENZENETHIOL, 2-METHYL-	13.16	19	J
6.	UNKNOWN	23.89	11	J
7.	UNKNOWN HYDROCARBON	24.32	15	J
8.	UNKNOWN	24.67	31	JB
9.	UNKNOWN	25.24	18	JB
10.	UNKNOWN	25.92	10	J
11.	UNKNOWN	26.30	16	J
12.	UNKNOWN C18H22	26.71	15	JB
13.	UNKNOWN C18H22	27.36	22	JB
14.	UNKNOWN	27.78	16	J
15.	UNKNOWN ACID	28.04	37	J
16.	UNKNOWN	36.03	15	JB
17.	UNKNOWN	37.29	30	JB
18.	UNKNOWN HYDROCARBON	37.84	20	J
19.	UNKNOWN	38.52	29	JB
20.	UNKNOWN	39.86	24	JB
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ69

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ69

Sample wt/vol: 1000 (g/mL) ML Lab File ID: RRZ69

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 07/27/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ69

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ69

Sample wt/vol: 1000 (g/mL) ML Lab File ID: RRZ69

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 07/27/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenapthene	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	~~8~~	~~BJ~~
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (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	7	J
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ69

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ69

Sample wt/vol: 1000 (g/mL) ML Lab File ID: RRZ69

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ dec._____ Date Extracted: 07/27/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/27/90

GPC Cleanup : (Y/N) N pH: 0.0 Dilution Factor: 1.000

Number TICs found: 12

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.23	9	J
2.	UNKNOWN	11.46	11	J
3.	UNKNOWN	29.07	15	JB
4.	UNKNOWN	31.56	5	JB
5.	UNKNOWN	33.12	15	JB
6.	UNKNOWN	35.92	39	JB
7.	UNKNOWN	37.19	49	JB
8.	UNKNOWN	38.39	48	JB
9.	UNKNOWN	39.71	38	JB
10.	UNKNOWN	41.26	27	JB
11.	UNKNOWN	43.14	14	JB
12.	UNKNOWN	45.47	7	JB

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ70

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ70

Sample wt/vol: 30.3 (g/mL) G Lab File ID: RRZ70

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 46 dec. Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 8.6 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
95-48-7	2-Methylphenol	1200	U
108-60-1	bis(2-Chloroisopropyl)ether	1200	U
106-44-5	4-Methylphenol	1200	U
621-64-7	N-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
65-85-0	Benzoic acid	5800	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
95-95-4	2,4,5-Trichlorophenol	5800	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	5800	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	270	J
606-20-2	2,6-Dinitrotoluene	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ70

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ70

Sample wt/vol: 30.3 (g/mL) G Lab File ID: RRZ70

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 46 dec. Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 8.6 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	5800	U
83-32-9	Acenapthene	1200	U
51-28-5	2,4-Dinitrophenol	5800	U
100-02-7	4-Nitrophenol	5800	U
132-64-9	Dibenzofuran	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
86-73-7	Fluorene	1200	U
100-01-6	4-Nitroaniline	5800	U
534-52-1	4,6-Dinitro-2-methylphenol	5800	U
86-30-6	N-Nitrosodiphenylamine (1)	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	5800	U
85-01-8	Phenanthrene	1100	J
120-12-7	Anthracene	200	J
84-74-2	Di-n-butylphthalate	710	J
206-44-0	Fluoranthene	2100	
129-00-0	Pyrene	1900	
85-68-7	Butylbenzylphthalate	470	J
91-94-1	3,3'-Dichlorobenzidine	2400	U
56-55-3	Benzo(a)anthracene	840	J
218-01-9	Chrysene	530	J
117-81-7	bis(2-Ethylhexyl)phthalate	2100	
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo(b)fluoranthene	1000	J
207-08-9	Benzo(k)fluoranthene	660	J
50-32-8	Benzo(a)pyrene	790	J
193-39-5	Indeno(1,2,3-cd)pyrene	140	J
53-70-3	Dibenz(a,h)anthracene	1200	U
191-24-2	Benzo(g,h,i)perylene	1200	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ70

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ70

Sample wt/vol: 30.3 (g/mL) G Lab File ID: RRZ70

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 46 dec._____ Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/28/90

GPC Cleanup : (Y/N) Y pH: 8.6 Dilution Factor: 1.000

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.25	900	J
2.	UNKNOWN	25.21	400	J
3.	UNKNOWN C15H12	27.24	320	J
4.	UNKNOWN HYDROCARBON	28.29	340	J
5.	UNKNOWN	30:29	380	J
6.	UNKNOWN C17H12, PAH	31.29	590	J
7.	UNKNOWN HYDROCARBON	32.96	450	J
8.	UNKNOWN	33.14	400	J
9.	UNKNOWN HYDROCARBON	35.00	2400	J
10.	UNKNOWN	35.07	1000	J
11.	UNKNOWN	35.57	500	J
12.	UNKNOWN HYDROCARBON	35.98	3000	J
13.	UNKNOWN HYDROCARBON	36.92	5900	J
14.	UNKNOWN HYDROCARBON	37.82	6200	J
15.	UNKNOWN HYDROCARBON	38.71	4000	J
16.	UNKNOWN HYDROCARBON	39.71	3500	J
17.	UNKNOWN	40.01	1200	J
18.	UNKNOWN HYDROCARBON	40.83	1200	J
19.	UNKNOWN	41.00	1100	J
20.	UNKNOWN	41.27	910	JB
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ71

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ71

Sample wt/vol: 29.8 (g/mL) G Lab File ID: REZ71

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 72 dec. Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2400	U
111-44-4	bis(2-Chloroethyl)ether	2400	U
95-57-8	2-Chlorophenol	2400	U
541-73-1	1,3-Dichlorobenzene	520	J
106-46-7	1,4-Dichlorobenzene	510	J
100-51-6	Benzyl alcohol	2400	U
95-50-1	1,2-Dichlorobenzene	2500	
95-48-7	2-Methylphenol	2400	U
108-60-1	bis(2-Chloroisopropyl)ether	2400	U
106-44-5	4-Methylphenol	2400	U
621-64-7	N-Nitroso-di-n-propylamine	2200	J
67-72-1	Hexachloroethane	2400	U
98-95-3	Nitrobenzene	2400	U
78-59-1	Isophorone	2400	U
88-75-5	2-Nitrophenol	2400	U
105-67-9	2,4-Dimethylphenol	2400	U
65-85-0	Benzoic acid	11000	U
111-91-1	bis(2-Chloroethoxy)methane	2400	U
120-83-2	2,4-Dichlorophenol	2400	U
120-82-1	1,2,4-Trichlorobenzene	2400	U
91-20-3	Naphthalene	4400	
106-47-8	4-Chloroaniline	2400	U
87-68-3	Hexachlorobutadiene	2400	U
59-50-7	4-Chloro-3-methylphenol	2400	U
91-57-6	2-Methylnaphthalene	820	J
77-47-4	Hexachlorocyclopentadiene	2400	U
88-06-2	2,4,6-Trichlorophenol	2400	U
95-95-4	2,4,5-Trichlorophenol	11000	U
91-58-7	2-Chloronaphthalene	2400	U
88-74-4	2-Nitroaniline	11000	U
131-11-3	Dimethylphthalate	2400	U
208-96-8	Acenaphthylene	2400	U
606-20-2	2,6-Dinitrotoluene	2400	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ71

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ71

Sample wt/vol: 29.8 (g/mL) G Lab File ID: BEZ71

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 72 dec. Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	11000	U
83-32-9	Acenapthene	2400	U
51-28-5	2,4-Dinitrophenol	11000	U
100-02-7	4-Nitrophenol	11000	U
132-64-9	Dibenzofuran	2400	U
121-14-2	2,4-Dinitrotoluene	2400	U
84-66-2	Diethylphthalate	320	J
7005-72-3	4-Chlorophenyl-phenylether	2400	U
86-73-7	Fluorene	350	J
100-01-6	4-Nitroaniline	11000	U
534-52-1	4,6-Dinitro-2-methylphenol	11000	U
86-30-6	N-Nitrosodiphenylamine (1)	2400	U
101-55-3	4-Bromophenyl-phenylether	2400	U
118-74-1	Hexachlorobenzene	2400	U
87-86-5	Pentachlorophenol	11000	U
85-01-8	Phenanthrene	1400	J
120-12-7	Anthracene	320	J
84-74-2	Di-n-butylphthalate	2400	U
206-44-0	Fluoranthene	1600	J
129-00-0	Pyrene	1500	J
85-68-7	Butylbenzylphthalate	280	J
91-94-1	3,3'-Dichlorobenzidine	4700	U
56-55-3	Benzo(a)anthracene	660	J
218-01-9	Chrysene	820	J
117-81-7	bis(2-Ethylhexyl)phthalate	24000	
117-84-0	Di-n-octylphthalate	540	J
205-99-2	Benzo(b)fluoranthene	1200	J
207-08-9	Benzo(k)fluoranthene	810	J
50-32-8	Benzo(a)pyrene	830	J
193-39-5	Indeno(1,2,3-cd)pyrene	2400	U
53-70-3	Dibenz(a,h)anthracene	2400	U
191-24-2	Benzo(g,h,i)perylene	2400	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.

BEZ71

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ71

Sample wt/vol: 29.8 (g/mL) G Lab File ID: REZ71

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 72 dec. ____ Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/28/90

GPC Cleanup : (Y/N) Y pH: 7.6 Dilution Factor: 1.000

Number TICs found: 18

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	10.53	370	J
2.	UNKNOWN BENZENE, TRIMETHYL-	11.28	430	J
3.	UNKNOWN HYDROCARBON	12.02	600	J
4.	UNKNOWN HYDROCARBON	12.30	270	J
5.	UNKNOWN	12.37	400	J
6.	UNKNOWN	12.74	430	J
7.	UNKNOWN	12.81	370	J
8.	UNKNOWN HYDROCARBON	12.88	370	J
9.	UNKNOWN HYDROCARBON	12.96	500	J
10.	UNKNOWN HYDROCARBON	13.11	430	J
11.	UNKNOWN BENZENE, TETRAMETHYL	14.11	290	J
12.	UNKNOWN BENZENE, TETRAMETHYL	14.19	210	J
13.	UNKNOWN HYDROCARBON	14.32	190	J
14.	UNKNOWN	14.88	21	J
15.	UNKNOWN	17.86	600	J
16.	UNKNOWN HYDROCARBON	24.23	180	J
17.	UNKNOWN HYDROCARBON	24.32	240	J
18.	UNKNOWN C18H22	29.87	80	J
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ72

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ72

Sample wt/vol: 29.9 (g/mL) G Lab File ID: BEZ72

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 21 dec. Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) Y pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	840	U
111-44-4	bis(2-Chloroethyl)ether	840	U
95-57-8	2-Chlorophenol	840	U
541-73-1	1,3-Dichlorobenzene	840	U
106-46-7	1,4-Dichlorobenzene	840	U
100-51-6	Benzyl alcohol	840	U
95-50-1	1,2-Dichlorobenzene	840	U
95-48-7	2-Methylphenol	840	U
108-60-1	bis(2-Chloroisopropyl)ether	840	U
106-44-5	4-Methylphenol	840	U
621-64-7	N-Nitroso-di-n-propylamine	840	U
67-72-1	Hexachloroethane	840	U
98-95-3	Nitrobenzene	840	U
78-59-1	Isophorone	840	U
88-75-5	2-Nitrophenol	840	U
105-67-9	2,4-Dimethylphenol	840	U
65-85-0	Benzoic acid	4100	U
111-91-1	bis(2-Chloroethoxy)methane	840	U
120-83-2	2,4-Dichlorophenol	840	U
120-82-1	1,2,4-Trichlorobenzene	840	U
91-20-3	Naphthalene	200	J
106-47-8	4-Chloroaniline	840	U
87-68-3	Hexachlorobutadiene	840	U
59-50-7	4-Chloro-3-methylphenol	840	U
91-57-6	2-Methylnaphthalene	840	U
77-47-4	Hexachlorocyclopentadiene	840	U
88-06-2	2,4,6-Trichlorophenol	840	U
95-95-4	2,4,5-Trichlorophenol	4100	U
91-58-7	2-Chloronaphthalene	840	U
88-74-4	2-Nitroaniline	4100	U
131-11-3	Dimethylphthalate	840	U
208-96-8	Acenaphthylene	840	U
606-20-2	2,6-Dinitrotoluene	840	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ72

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ72

Sample wt/vol: 29.9 (g/mL) G Lab File ID: BEZ72

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 21 dec. Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) Y pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4100	U
83-32-9	Acenapthene	840	U
51-28-5	2,4-Dinitrophenol	4100	U
100-02-7	4-Nitrophenol	4100	U
132-64-9	Dibenzofuran	840	U
121-14-2	2,4-Dinitrotoluene	840	U
84-66-2	Diethylphthalate	840	U
7005-72-3	4-Chlorophenyl-phenylether	840	U
86-73-7	Fluorene	840	U
100-01-6	4-Nitroaniline	4100	U
534-52-1	4,6-Dinitro-2-methylphenol	4100	U
86-30-6	N-Nitrosodiphenylamine (1)	840	U
101-55-3	4-Bromophenyl-phenylether	840	U
118-74-1	Hexachlorobenzene	840	U
87-86-5	Pentachlorophenol	4100	U
85-01-8	Phenanthrene	1400	
120-12-7	Anthracene	290	J
84-74-2	Di-n-butylphthalate	840	U
206-44-0	Fluoranthene	2500	
129-00-0	Pyrene	1900	
85-68-7	Butylbenzylphthalate	840	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
56-55-3	Benzo(a)anthracene	1200	
218-01-9	Chrysene	1400	
117-81-7	bis(2-Ethylhexyl)phthalate	230	J
117-84-0	Di-n-octylphthalate	840	U
205-99-2	Benzo(b)fluoranthene	2800	
207-08-9	Benzo(k)fluoranthene	1400	J
50-32-8	Benzo(a)pyrene	1400	
193-39-5	Indeno(1,2,3-cd)pyrene	650	J
53-70-3	Dibenz(a,h)anthracene	290	J
191-24-2	Benzo(g,h,i)perylene	630	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ72

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ72

Sample wt/vol: 29.9 (g/mL) G Lab File ID: BEZ72

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 21 dec._____ Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/24/90

GPC Cleanup : (Y/N) Y pH: 8.1 Dilution Factor: 1.000

Number TICs found: 17

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.33	630	J
2.	UNKNOWN PAH	27.68	340	J
3.	UNKNOWN C17H12, PAH	31.36	440	J
4.	UNKNOWN C17H12, PAH	31.94	320	J
5.	UNKNOWN PAH	34.43	340	J
6.	UNKNOWN C19H14, PAH	35.40	340	J
7.	UNKNOWN	36.06	870	JB
8.	UNKNOWN HYDROCARBON	36.97	370	J
9.	UNKNOWN C20H12, PAH	37.34	2100	J
10.	UNKNOWN C20H12, PAH	37.56	360	J
11.	UNKNOWN HYDROCARBON	37.86	560	J
12.	UNKNOWN C20H12, PAH	38.02	1200	J
13.	UNKNOWN	38.54	1400	JB
14.	UNKNOWN HYDROCARBON	39.82	320	J
15.	UNKNOWN	39.89	1200	JB
16.	UNKNOWN	41.47	740	JB
17.	UNKNOWN	43.39	500	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ73

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ73

Sample wt/vol: 30.1 (g/mL) G Lab File ID: BEZ73

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 11 dec. Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 8.2 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	740	U
111-44-4	bis(2-Chloroethyl)ether	740	U
95-57-8	2-Chlorophenol	740	U
541-73-1	1,3-Dichlorobenzene	740	U
106-46-7	1,4-Dichlorobenzene	740	U
100-51-6	Benzyl alcohol	740	U
95-50-1	1,2-Dichlorobenzene	740	U
95-48-7	2-Methylphenol	740	U
108-60-1	bis(2-Chloroisopropyl)ether	740	U
106-44-5	4-Methylphenol	740	U
621-64-7	N-Nitroso-di-n-propylamine	740	U
67-72-1	Hexachloroethane	740	U
98-95-3	Nitrobenzene	740	U
78-59-1	Isophorone	740	U
88-75-5	2-Nitrophenol	740	U
105-67-9	2,4-Dimethylphenol	740	U
65-85-0	Benzoic acid	3600	U
111-91-1	bis(2-Chloroethoxy)methane	740	U
120-83-2	2,4-Dichlorophenol	740	U
120-82-1	1,2,4-Trichlorobenzene	740	U
91-20-3	Naphthalene	740	U
106-47-8	4-Chloroaniline	740	U
87-68-3	Hexachlorobutadiene	740	U
59-50-7	4-Chloro-3-methylphenol	740	U
91-57-6	2-Methylnaphthalene	740	U
77-47-4	Hexachlorocyclopentadiene	740	U
88-06-2	2,4,6-Trichlorophenol	740	U
95-95-4	2,4,5-Trichlorophenol	3600	U
91-58-7	2-Chloronaphthalene	740	U
88-74-4	2-Nitroaniline	3600	U
131-11-3	Dimethylphthalate	740	U
208-96-8	Acenaphthylene	740	U
606-20-2	2,6-Dinitrotoluene	740	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ73

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ73

Sample wt/vol: 30.1 (g/mL) G Lab File ID: REZ73

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 11 dec. Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) Y pH: 8.2 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3600	U
83-32-9	Acenapthene	79	J
51-28-5	2,4-Dinitrophenol	3600	U
100-02-7	4-Nitrophenol	3600	U
132-64-9	Dibenzofuran	97	J
121-14-2	2,4-Dinitrotoluene	740	U
84-66-2	Diethylphthalate	85	J
7005-72-3	4-Chlorophenyl-phenylether	740	U
86-73-7	Fluorene	83	J
100-01-6	4-Nitroaniline	3600	U
534-52-1	4,6-Dinitro-2-methylphenol	3600	U
86-30-6	N-Nitrosodiphenylamine (1)	740	U
101-55-3	4-Bromophenyl-phenylether	740	U
118-74-1	Hexachlorobenzene	740	U
87-86-5	Pentachlorophenol	3600	U
85-01-8	Phenanthrene	1200	
120-12-7	Anthracene	190	J
84-74-2	Di-n-butylphthalate	740	U
206-44-0	Fluoranthene	1500	
129-00-0	Pyrene	1200	
85-68-7	Butylbenzylphthalate	740	U
91-94-1	3,3'-Dichlorobenzidine	1500	U
56-55-3	Benzo(a)anthracene	600	J
218-01-9	Chrysene	620	J
117-81-7	bis(2-Ethylhexyl)phthalate	290	J
117-84-0	Di-n-octylphthalate	740	U
205-99-2	Benzo(b)fluoranthene	790	
207-08-9	Benzo(k)fluoranthene	500	J
50-32-8	Benzo(a)pyrene	640	J
193-39-5	Indeno(1,2,3-cd)pyrene	230	J
53-70-3	Dibenz(a,h)anthracene	740	U
191-24-2	Benzo(g,h,i)perylene	200	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ73

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ73

Sample wt/vol: 30.1 (g/mL) G Lab File ID: BEZ73

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 11 dec._____ Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/28/90

GPC Cleanup : (Y/N) Y pH: 8.2 Dilution Factor: 1.000

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.22	760	J
2.	UNKNOWN C15H12, PAH	27.21	260	J
3.	UNKNOWN C15H12, PAH	27.29	290	J
4.	UNKNOWN C15H12, PAH	27.55	290	J
5.	UNKNOWN	28.21	260	J
6.	UNKNOWN C17H12, PAH	31.23	310	J
7.	UNKNOWN C17H12, PAH	31.56	290	J
8.	UNKNOWN C17H12, PAH	31.82	310	J
9.	UNKNOWN	32.91	240	J
10.	UNKNOWN	33.12	380	JB
11.	UNKNOWN	35.93	1100	JB
12.	UNKNOWN	36.95	280	J
13.	UNKNOWN C20H12, PAH	37.21	2000	J
14.	UNKNOWN	38.41	1500	JB
15.	UNKNOWN	39.72	1400	JB
16.	UNKNOWN	39.94	330	JB
17.	UNKNOWN	40.94	380	J
18.	UNKNOWN	41.26	950	JB
19.	UNKNOWN	43.14	500	J
20.	UNKNOWN	45.46	280	J
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ74

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ74

Sample wt/vol: 30.1 (g/mL) G Lab File ID: BEZ74

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 dec. Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) Y pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	750	U
111-44-4	bis(2-Chloroethyl)ether	750	U
95-57-8	2-Chlorophenol	750	U
541-73-1	1,3-Dichlorobenzene	750	U
106-46-7	1,4-Dichlorobenzene	750	U
100-51-6	Benzyl alcohol	750	U
95-50-1	1,2-Dichlorobenzene	750	U
95-48-7	2-Methylphenol	750	U
108-60-1	bis(2-Chloroisopropyl)ether	750	U
106-44-5	4-Methylphenol	750	U
621-64-7	N-Nitroso-di-n-propylamine	750	U
67-72-1	Hexachloroethane	750	U
98-95-3	Nitrobenzene	750	U
78-59-1	Isophorone	750	U
88-75-5	2-Nitrophenol	750	U
105-67-9	2,4-Dimethylphenol	750	U
65-85-0	Benzoic acid	3700	U
111-91-1	bis(2-Chloroethoxy)methane	750	U
120-83-2	2,4-Dichlorophenol	750	U
120-82-1	1,2,4-Trichlorobenzene	750	U
91-20-3	Naphthalene	750	U
106-47-8	4-Chloroaniline	750	U
87-68-3	Hexachlorobutadiene	750	U
59-50-7	4-Chloro-3-methylphenol	750	U
91-57-6	2-Methylnaphthalene	750	U
77-47-4	Hexachlorocyclopentadiene	750	U
88-06-2	2,4,6-Trichlorophenol	750	U
95-95-4	2,4,5-Trichlorophenol	3700	U
91-58-7	2-Chloronaphthalene	750	U
88-74-4	2-Nitroaniline	3700	U
131-11-3	Dimethylphthalate	750	U
208-96-8	Acenaphthylene	750	U
606-20-2	2,6-Dinitrotoluene	750	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ74

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ74

Sample wt/vol: 30.1 (g/mL) G Lab File ID: BEZ74

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 dec. Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) Y pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3700	U
83-32-9	Acenapthene	180	J
51-28-5	2,4-Dinitrophenol	3700	U
100-02-7	4-Nitrophenol	3700	U
132-64-9	Dibenzofuran	750	U
121-14-2	2,4-Dinitrotoluene	750	U
84-66-2	Diethylphthalate	750	U
7005-72-3	4-Chlorophenyl-phenylether	750	U
86-73-7	Fluorene	180	J
100-01-6	4-Nitroaniline	3700	U
534-52-1	4,6-Dinitro-2-methylphenol	3700	U
86-30-6	N-Nitrosodiphenylamine (1)	750	U
101-55-3	4-Bromophenyl-phenylether	750	U
118-74-1	Hexachlorobenzene	1100	
87-86-5	Pentachlorophenol	3700	U
85-01-8	Phenanthrene	2000	
120-12-7	Anthracene	320	J
84-74-2	Di-n-butylphthalate	750	U
206-44-0	Fluoranthene	2200	
129-00-0	Pyrene	1400	
85-68-7	Butylbenzylphthalate	750	U
91-94-1	3,3'-Dichlorobenzidine	1500	U
56-55-3	Benzo(a)anthracene	730	J
218-01-9	Chrysene	810	
117-81-7	bis(2-Ethylhexyl)phthalate	280	J
117-84-0	Di-n-octylphthalate	750	U
205-99-2	Benzo(b)fluoranthene	570	J
207-08-9	Benzo(k)fluoranthene	1100	J
50-32-8	Benzo(a)pyrene	780	
193-39-5	Indeno(1,2,3-cd)pyrene	210	J
53-70-3	Dibenz(a,h)anthracene	750	U
191-24-2	Benzo(g,h,i)perylene	750	U

(1) - Cannot be separated from Diphenylamine

300

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ74

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ74

Sample wt/vol: 30.1 (g/mL) G Lab File ID: BEZ74

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 dec.____ Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/24/90

GPC Cleanup : (Y/N) Y pH: 8.1 Dilution Factor: 1.000

Number TICs found: 13

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.33	640	J
2.00058-89-9	LINDANE	25.38	4000	J
3.	UNKNOWN PAH	27.35	370	J
4.	UNKNOWN PAH	27.70	330	J
5.	UNKNOWN ISOMER OF DDD	31.11	540	J
6.	UNKNOWN C17H12, PAH	31.38	350	J
7.	UNKNOWN	31.51	690	J
8.	UNKNOWN ISOMER OF DDD	31.93	1700	J
9.	UNKNOWN	35.88	870	J
10.	UNKNOWN	36.06	620	JB
11.	UNKNOWN C20H12, PAH	37.33	1700	J
12.	UNKNOWN HYDROCARBON	37.87	500	J
13.	UNKNOWN C20H12, PAH	38.02	560	J
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ76

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ76

Sample wt/vol: 30.1 (g/mL) G Lab File ID: RRR76

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 20 dec. Date Extracted: 07/11/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/30/90

GPC Cleanup: (Y/N) Y pH: 8.2 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	830	U
111-44-4	bis(2-Chloroethyl)ether	830	U
95-57-8	2-Chlorophenol	830	U
541-73-1	1,3-Dichlorobenzene	830	U
106-46-7	1,4-Dichlorobenzene	830	U
100-51-6	Benzyl alcohol	830	U
95-50-1	1,2-Dichlorobenzene	830	U
95-48-7	2-Methylphenol	830	U
108-60-1	bis(2-Chloroisopropyl)ether	830	U
106-44-5	4-Methylphenol	830	U
621-64-7	N-Nitroso-di-n-propylamine	830	U
67-72-1	Hexachloroethane	830	U
98-95-3	Nitrobenzene	830	U
78-59-1	Isophorone	830	U
88-75-5	2-Nitrophenol	830	U
105-67-9	2,4-Dimethylphenol	830	U
65-85-0	Benzoic acid	4000	U
111-91-1	bis(2-Chloroethoxy)methane	830	U
120-83-2	2,4-Dichlorophenol	830	U
120-82-1	1,2,4-Trichlorobenzene	830	U
91-20-3	Naphthalene	830	U
106-47-8	4-Chloroaniline	830	U
87-68-3	Hexachlorobutadiene	830	U
59-50-7	4-Chloro-3-methylphenol	830	U
91-57-6	2-Methylnaphthalene	830	U
77-47-4	Hexachlorocyclopentadiene	830	U
88-06-2	2,4,6-Trichlorophenol	830	U
95-95-4	2,4,5-Trichlorophenol	4000	U
91-58-7	2-Chloronaphthalene	830	U
88-74-4	2-Nitroaniline	4000	U
131-11-3	Dimethylphthalate	830	U
208-96-8	Acenaphthylene	240	J
606-20-2	2,6-Dinitrotoluene	830	U

336

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ76

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ76

Sample wt/vol: 30.1 (g/mL) G Lab File ID: RRR76

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 20 dec. Date Extracted: 07/11/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/30/90

GPC Cleanup: (Y/N) Y pH: 8.2 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4000	U
83-32-9	Acenapthene	830	U
51-28-5	2,4-Dinitrophenol	4000	U
100-02-7	4-Nitrophenol	4000	U
132-64-9	Dibenzofuran	830	U
121-14-2	2,4-Dinitrotoluene	830	U
84-66-2	Diethylphthalate	150	J
7005-72-3	4-Chlorophenyl-phenylether	830	U
86-73-7	Fluorene	830	U
100-01-6	4-Nitroaniline	4000	U
534-52-1	4,6-Dinitro-2-methylphenol	4000	U
86-30-6	N-Nitrosodiphenylamine (1)	830	U
101-55-3	4-Bromophenyl-phenylether	830	U
118-74-1	Hexachlorobenzene	830	U
87-86-5	Pentachlorophenol	4000	U
85-01-8	Phenanthrene	730	J
120-12-7	Anthracene	240	J
84-74-2	Di-n-butylphthalate	500	J
206-44-0	Fluoranthene	1600	J
129-00-0	Pyrene	1700	J
85-68-7	Butylbenzylphthalate	770	J
91-94-1	3,3'-Dichlorobenzidine	1700	U
56-55-3	Benzo(a)anthracene	830	[illegible]
218-01-9	Chrysene	840	[illegible]
117-81-7	bis(2-Ethylhexyl)phthalate	7200	[illegible]
117-84-0	Di-n-octylphthalate	140	J
205-99-2	Benzo(b)fluoranthene	1300	[illegible]
207-08-9	Benzo(k)fluoranthene	1100	[illegible]
50-32-8	Benzo(a)pyrene	1100	[illegible]
193-39-5	Indeno(1,2,3-cd)pyrene	240	J
53-70-3	Dibenz(a,h)anthracene	830	U
191-24-2	Benzo(g,h,i)perylene	830	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.

BEZ76

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ76

Sample wt/vol: 30.1 (g/mL) G Lab File ID: RRR76

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 20 dec.____ Date Extracted: 07/11/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/30/90

GPC Cleanup : (Y/N) Y pH: 8.2 Dilution Factor: 1.000

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.24	1300	~~JB~~
2.00015-96-8	ETHANOL, 2-CHLORO-, PHOSPHAT	25.21	600	J
3.	UNKNOWN	27.24	480	J
4.	UNKNOWN	27.57	390	J
5.	UNKNOWN HYDROCARBON	28.30	430	J
6.	UNKNOWN	28.41	460	J
7.	UNKNOWN HYDROCARBON	29.53	540	J
8.	UNKNOWN	30.29	450	J
9.	UNKNOWN PYRENE, METHYL	31.85	770	J
10.	UNKNOWN HYDROCARBON	32.95	1600	J
11.	UNKNOWN HYDROCARBON	35.01	3000	J
12.	UNKNOWN HYDROCARBON	35.98	3700	J
13.	UNKNOWN HYDROCARBON	36.92	18000	J
14.	UNKNOWN HYDROCARBON	37.82	21000	J
15.	UNKNOWN	38.42	3300	J
16.	UNKNOWN HYDROCARBON	38.71	14000	J
17.	UNKNOWN HYDROCARBON	39.71	9800	J
18.	UNKNOWN	40.01	4000	J
19.	UNKNOWN HYDROCARBON	40.83	3800	J
20.	UNKNOWN	40.99	2700	J
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ77

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ77

Sample wt/vol: 30.2 (g/mL) G Lab File ID: REZ77

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 dec. Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) Y pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	750	U
111-44-4	bis(2-Chloroethyl)ether	750	U
95-57-8	2-Chlorophenol	750	U
541-73-1	1,3-Dichlorobenzene	750	U
106-46-7	1,4-Dichlorobenzene	750	U
100-51-6	Benzyl alcohol	750	U
95-50-1	1,2-Dichlorobenzene	750	U
95-48-7	2-Methylphenol	750	U
108-60-1	bis(2-Chloroisopropyl)ether	750	U
106-44-5	4-Methylphenol	750	U
621-64-7	N-Nitroso-di-n-propylamine	750	U
67-72-1	Hexachloroethane	750	U
98-95-3	Nitrobenzene	750	U
78-59-1	Isophorone	620	J
88-75-5	2-Nitrophenol	750	U
105-67-9	2,4-Dimethylphenol	750	U
65-85-0	Benzoic acid	3700	U
111-91-1	bis(2-Chloroethoxy)methane	750	U
120-83-2	2,4-Dichlorophenol	750	U
120-82-1	1,2,4-Trichlorobenzene	750	U
91-20-3	Naphthalene	750	U
106-47-8	4-Chloroaniline	750	U
87-68-3	Hexachlorobutadiene	750	U
59-50-7	4-Chloro-3-methylphenol	750	U
91-57-6	2-Methylnaphthalene	750	U
77-47-4	Hexachlorocyclopentadiene	750	U
88-06-2	2,4,6-Trichlorophenol	750	U
95-95-4	2,4,5-Trichlorophenol	3700	U
91-58-7	2-Chloronaphthalene	750	U
88-74-4	2-Nitroaniline	3700	U
131-11-3	Dimethylphthalate	750	U
208-96-8	Acenaphthylene	93	J
606-20-2	2,6-Dinitrotoluene	750	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ77

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ77

Sample wt/vol: 30.2 (g/mL) G Lab File ID: REZ77

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 dec. Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) Y pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3700	U
83-32-9	Acenapthene	750	U
51-28-5	2,4-Dinitrophenol	3700	U
100-02-7	4-Nitrophenol	3700	U
132-64-9	Dibenzofuran	750	U
121-14-2	2,4-Dinitrotoluene	750	U
84-66-2	Diethylphthalate	550	J
7005-72-3	4-Chlorophenyl-phenylether	750	U
86-73-7	Fluorene	750	U
100-01-6	4-Nitroaniline	3700	U
534-52-1	4,6-Dinitro-2-methylphenol	3700	U
86-30-6	N-Nitrosodiphenylamine (1)	750	U
101-55-3	4-Bromophenyl-phenylether	750	U
118-74-1	Hexachlorobenzene	750	U
87-86-5	Pentachlorophenol	3700	U
85-01-8	Phenanthrene	980	
120-12-7	Anthracene	220	J
84-74-2	Di-n-butylphthalate	750	U
206-44-0	Fluoranthene	2200	
129-00-0	Pyrene	1900	
85-68-7	Butylbenzylphthalate	250	J
91-94-1	3,3'-Dichlorobenzidine	1500	U
56-55-3	Benzo(a)anthracene	1000	
218-01-9	Chrysene	1000	
117-81-7	bis(2-Ethylhexyl)phthalate	680	J
117-84-0	Di-n-octylphthalate	750	U
205-99-2	Benzo(b)fluoranthene	1300	
207-08-9	Benzo(k)fluoranthene	940	
50-32-8	Benzo(a)pyrene	1200	
193-39-5	Indeno(1,2,3-cd)pyrene	370	J
53-70-3	Dibenz(a,h)anthracene	750	U
191-24-2	Benzo(g,h,i)perylene	300	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ77

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ77

Sample wt/vol: 30.2 (g/mL) G Lab File ID: REZ77

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 dec.____ Date Extracted: 07/05/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/27/90

GPC Cleanup : (Y/N) Y pH: 8.1 Dilution Factor: 1.000

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	17.25	1500	J
2.	UNKNOWN HYDROCARBON	17.76	2700	J
3.	UNKNOWN HYDROCARBON	19.14	2500	J
4.	UNKNOWN HYDROCARBON	19.55	4600	J
5.	UNKNOWN HYDROCARBON	20.61	3700	J
6.	UNKNOWN HYDROCARBON	21.22	5700	J
7.	UNKNOWN HYDROCARBON	22.09	1200	J
8.	UNKNOWN HYDROCARBON	24.29	4200	J
9.	UNKNOWN HYDROCARBON	24.39	3700	J
10.	UNKNOWN HYDROCARBON	27.06	2600	J
11.	UNKNOWN HYDROCARBON	28.35	1900	J
12.	UNKNOWN HYDROCARBON	29.58	1400	J
13.	UNKNOWN HYDROCARBON	30.76	840	J
14.	UNKNOWN	33.20	960	JB
15.	UNKNOWN	36.01	2300	JB
16.	UNKNOWN C20H12, PAH	37.29	3600	J
17.	UNKNOWN	38.48	3200	JB
18.	UNKNOWN	39.81	2600	JB
19.	UNKNOWN	41.34	1900	JB
20.	UNKNOWN	43.21	1100	JB
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ78

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ78

Sample wt/vol: 1.0 (g/mL) G Lab File ID: RRZ78

Level: (low/med) MED Date Received: 06/27/90

% Moisture: not dec. 13 dec. Date Extracted: 07/27/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/30/90

GPC Cleanup: (Y/N) N pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	23000	U R
111-44-4	bis(2-Chloroethyl)ether	23000	U
95-57-8	2-Chlorophenol	23000	U
541-73-1	1,3-Dichlorobenzene	23000	U
106-46-7	1,4-Dichlorobenzene	23000	U
100-51-6	Benzyl alcohol	23000	U
95-50-1	1,2-Dichlorobenzene	23000	U
95-48-7	2-Methylphenol	23000	U
108-60-1	bis(2-Chloroisopropyl)ether	23000	U
106-44-5	4-Methylphenol	23000	U
621-64-7	N-Nitroso-di-n-propylamine	23000	U
67-72-1	Hexachloroethane	23000	U
98-95-3	Nitrobenzene	23000	U
78-59-1	Isophorone	23000	U
88-75-5	2-Nitrophenol	23000	U
105-67-9	2,4-Dimethylphenol	23000	U
65-85-0	Benzoic acid	110000	U
111-91-1	bis(2-Chloroethoxy)methane	23000	U
120-83-2	2,4-Dichlorophenol	23000	U
120-82-1	1,2,4-Trichlorobenzene	23000	U
91-20-3	Naphthalene	23000	U
106-47-8	4-Chloroaniline	23000	U
87-68-3	Hexachlorobutadiene	23000	U
59-50-7	4-Chloro-3-methylphenol	23000	U
91-57-6	2-Methylnaphthalene	23000	U
77-47-4	Hexachlorocyclopentadiene	23000	U
88-06-2	2,4,6-Trichlorophenol	23000	U
95-95-4	2,4,5-Trichlorophenol	110000	U
91-58-7	2-Chloronaphthalene	23000	U
88-74-4	2-Nitroaniline	110000	U
131-11-3	Dimethylphthalate	23000	U
208-96-8	Acenaphthylene	23000	U
606-20-2	2,6-Dinitrotoluene	23000	U

427

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ78

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ78

Sample wt/vol: 1.0 (g/mL) G Lab File ID: RRZ78

Level: (low/med) MED Date Received: 06/27/90

% Moisture: not dec. 13 dec. Date Extracted: 07/27/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/30/90

GPC Cleanup: (Y/N) N pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	110000	U R
83-32-9	Acenapthene	23000	U
51-28-5	2,4-Dinitrophenol	110000	U
100-02-7	4-Nitrophenol	110000	U
132-64-9	Dibenzofuran	23000	U
121-14-2	2,4-Dinitrotoluene	23000	U
84-66-2	Diethylphthalate	5600	J UR
7005-72-3	4-Chlorophenyl-phenylether	23000	U
86-73-7	Fluorene	23000	U
100-01-6	4-Nitroaniline	110000	U
534-52-1	4,6-Dinitro-2-methylphenol	110000	U
86-30-6	N-Nitrosodiphenylamine (1)	23000	U
101-55-3	4-Bromophenyl-phenylether	23000	U
118-74-1	Hexachlorobenzene	23000	U
87-86-5	Pentachlorophenol	110000	U
85-01-8	Phenanthrene	23000	U
120-12-7	Anthracene	23000	U
84-74-2	Di-n-butylphthalate	23000	U
206-44-0	Fluoranthene	23000	U
129-00-0	Pyrene	23000	U
85-68-7	Butylbenzylphthalate	23000	U
91-94-1	3,3'-Dichlorobenzidine	46000	U
56-55-3	Benzo(a)anthracene	23000	U
218-01-9	Chrysene	23000	U
117-81-7	bis(2-Ethylhexyl)phthalate	23000	U
117-84-0	Di-n-octylphthalate	23000	U
205-99-2	Benzo(b)fluoranthene	23000	U
207-08-9	Benzo(k)fluoranthene	23000	U
50-32-8	Benzo(a)pyrene	23000	U
193-39-5	Indeno(1,2,3-cd)pyrene	23000	U
53-70-3	Dibenz(a,h)anthracene	23000	U
191-24-2	Benzo(g,h,i)perylene	23000	U

(1) - Cannot be separated from Diphenylamine

428

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ78

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ78

Sample wt/vol: 1.0 (g/mL) G Lab File ID: RRZ78

Level: (low/med) MED Date Received: 06/27/90

% Moisture: not dec. 13 dec._____ Date Extracted: 07/27/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/30/90

GPC Cleanup : (Y/N) N pH: 8.1 Dilution Factor: 1.000

Number TICs found: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	33.11	10000	JB
2.	UNKNOWN	34.56	19000	JB
3.	UNKNOWN	35.92	31000	JB
4.	UNKNOWN	37.18	47000	JB
5.	UNKNOWN	38.38	43000	JB
6.	UNKNOWN	39.71	26000	JB
7.	UNKNOWN	41.25	12000	JB
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ79

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ79

Sample wt/vol: 1.0 (g/mL) G Lab File ID: BEZ79

Level: (low/med) MED Date Received: 06/27/90

% Moisture: not dec. 24 dec. Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	26000	U
111-44-4	bis(2-Chloroethyl)ether	26000	U
95-57-8	2-Chlorophenol	26000	U
541-73-1	1,3-Dichlorobenzene	26000	U
106-46-7	1,4-Dichlorobenzene	26000	U
100-51-6	Benzyl alcohol	26000	U
95-50-1	1,2-Dichlorobenzene	26000	U
95-48-7	2-Methylphenol	26000	U
108-60-1	bis(2-Chloroisopropyl)ether	26000	U
106-44-5	4-Methylphenol	26000	U
621-64-7	N-Nitroso-di-n-propylamine	26000	U
67-72-1	Hexachloroethane	26000	U
98-95-3	Nitrobenzene	26000	U
78-59-1	Isophorone	26000	U
88-75-5	2-Nitrophenol	26000	U
105-67-9	2,4-Dimethylphenol	26000	U
65-85-0	Benzoic acid	130000	U
111-91-1	bis(2-Chloroethoxy)methane	26000	U
120-83-2	2,4-Dichlorophenol	26000	U
120-82-1	1,2,4-Trichlorobenzene	26000	U
91-20-3	Naphthalene	26000	U
106-47-8	4-Chloroaniline	26000	U
87-68-3	Hexachlorobutadiene	26000	U
59-50-7	4-Chloro-3-methylphenol	26000	U
91-57-6	2-Methylnaphthalene	26000	U
77-47-4	Hexachlorocyclopentadiene	26000	U
88-06-2	2,4,6-Trichlorophenol	26000	U
95-95-4	2,4,5-Trichlorophenol	130000	U
91-58-7	2-Chloronaphthalene	26000	U
88-74-4	2-Nitroaniline	130000	U
131-11-3	Dimethylphthalate	26000	U
208-96-8	Acenaphthylene	26000	U
606-20-2	2,6-Dinitrotoluene	26000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ79

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ79

Sample wt/vol: 1.0 (g/mL) G Lab File ID: BEZ79

Level: (low/med) MED Date Received: 06/27/90

% Moisture: not dec. 24 dec. Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	130000	U
83-32-9	Acenapthene	26000	U
51-28-5	2,4-Dinitrophenol	130000	U
100-02-7	4-Nitrophenol	130000	U
132-64-9	Dibenzofuran	26000	U
121-14-2	2,4-Dinitrotoluene	26000	U
84-66-2	Diethylphthalate	26000	U
7005-72-3	4-Chlorophenyl-phenylether	26000	U
86-73-7	Fluorene	26000	U
100-01-6	4-Nitroaniline	130000	U
534-52-1	4,6-Dinitro-2-methylphenol	130000	U
86-30-6	N-Nitrosodiphenylamine (1)	26000	U
101-55-3	4-Bromophenyl-phenylether	26000	U
118-74-1	Hexachlorobenzene	26000	U
87-86-5	Pentachlorophenol	130000	U
85-01-8	Phenanthrene	7900	J
120-12-7	Anthracene	7900	J
84-74-2	Di-n-butylphthalate	26000	U
206-44-0	Fluoranthene	12000	J
129-00-0	Pyrene	8000	J
85-68-7	Butylbenzylphthalate	4000	J
91-94-1	3,3'-Dichlorobenzidine	52000	U
56-55-3	Benzo(a)anthracene	3700	J
218-01-9	Chrysene	3700	J
117-81-7	bis(2-Ethylhexyl)phthalate	51000	
117-84-0	Di-n-octylphthalate	9600	J
205-99-2	Benzo(b)fluoranthene	5300	J
207-08-9	Benzo(k)fluoranthene	5300	J
50-32-8	Benzo(a)pyrene	26000	U
193-39-5	Indeno(1,2,3-cd)pyrene	26000	U
53-70-3	Dibenz(a,h)anthracene	26000	U
191-24-2	Benzo(g,h,i)perylene	26000	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ79

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ79

Sample wt/vol: 1.0 (g/mL) G Lab File ID: BEZ79

Level: (low/med) MED Date Received: 06/27/90

% Moisture: not dec. 24 dec.____ Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/25/90

GPC Cleanup : (Y/N) N pH: 8.3 Dilution Factor: 1.000

Number TICs found: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.03	17000	J
2.00115-96-8	ETHANOL, 2-CHLORO-, PHOSPHAT	25.38	120000	J
3.	UNKNOWN	36.04	18000	JB
4.	UNKNOWN	38.51	37000	JB
5.	UNKNOWN	39.85	28000	JB
6.	UNKNOWN	41.44	20000	JB
7.	UNKNOWN	43.35	11000	JB
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ80

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ80

Sample wt/vol: 1.0 (g/mL) G Lab File ID: BEZ80

Level: (low/med) MED Date Received: 06/27/90

% Moisture: not dec. 30 dec. ____ Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 8.6 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	28000	U
111-44-4	bis(2-Chloroethyl)ether	28000	U
95-57-8	2-Chlorophenol	28000	U
541-73-1	1,3-Dichlorobenzene	28000	U
106-46-7	1,4-Dichlorobenzene	28000	U
100-51-6	Benzyl alcohol	28000	U
95-50-1	1,2-Dichlorobenzene	28000	U
95-48-7	2-Methylphenol	28000	U
108-60-1	bis(2-Chloroisopropyl)ether	28000	U
106-44-5	4-Methylphenol	28000	U
621-64-7	N-Nitroso-di-n-propylamine	28000	U
67-72-1	Hexachloroethane	28000	U
98-95-3	Nitrobenzene	28000	U
78-59-1	Isophorone	28000	U
88-75-5	2-Nitrophenol	28000	U
105-67-9	2,4-Dimethylphenol	28000	U
65-85-0	Benzoic acid	140000	U
111-91-1	bis(2-Chloroethoxy)methane	28000	U
120-83-2	2,4-Dichlorophenol	28000	U
120-82-1	1,2,4-Trichlorobenzene	28000	U
91-20-3	Naphthalene	28000	U
106-47-8	4-Chloroaniline	28000	U
87-68-3	Hexachlorobutadiene	28000	U
59-50-7	4-Chloro-3-methylphenol	28000	U
91-57-6	2-Methylnaphthalene	28000	U
77-47-4	Hexachlorocyclopentadiene	28000	U
88-06-2	2,4,6-Trichlorophenol	28000	U
95-95-4	2,4,5-Trichlorophenol	140000	U
91-58-7	2-Chloronaphthalene	28000	U
88-74-4	2-Nitroaniline	140000	U
131-11-3	Dimethylphthalate	28000	U
208-96-8	Acenaphthylene	28000	U
606-20-2	2,6-Dinitrotoluene	28000	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ80

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ80

Sample wt/vol: 1.0 (g/mL) G Lab File ID: BEZ80

Level: (low/med) MED Date Received: 06/27/90

% Moisture: not dec. 30 dec. Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 8.6 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	140000	U
83-32-9	Acenapthene	28000	U
51-28-5	2,4-Dinitrophenol	140000	U
100-02-7	4-Nitrophenol	140000	U
132-64-9	Dibenzofuran	28000	U
121-14-2	2,4-Dinitrotoluene	28000	U
84-66-2	Diethylphthalate	28000	U
7005-72-3	4-Chlorophenyl-phenylether	28000	U
86-73-7	Fluorene	28000	U
100-01-6	4-Nitroaniline	140000	U
534-52-1	4,6-Dinitro-2-methylphenol	140000	U
86-30-6	N-Nitrosodiphenylamine (1)	28000	U
101-55-3	4-Bromophenyl-phenylether	28000	U
118-74-1	Hexachlorobenzene	28000	U
87-86-5	Pentachlorophenol	140000	U
85-01-8	Phenanthrene	65000	
120-12-7	Anthracene	4300	J
84-74-2	Di-n-butylphthalate	28000	U
206-44-0	Fluoranthene	99000	
129-00-0	Pyrene	55000	
85-68-7	Butylbenzylphthalate	28000	U
91-94-1	3,3'-Dichlorobenzidine	57000	U
56-55-3	Benzo(a)anthracene	20000	J
218-01-9	Chrysene	30000	
117-81-7	bis(2-Ethylhexyl)phthalate	7000	J
117-84-0	Di-n-octylphthalate	28000	U
205-99-2	Benzo(b)fluoranthene	38000	
207-08-9	Benzo(k)fluoranthene	25000	J
50-32-8	Benzo(a)pyrene	27000	J
193-39-5	Indeno(1,2,3-cd)pyrene	10000	J
53-70-3	Dibenz(a,h)anthracene	28000	U
191-24-2	Benzo(g,h,i)perylene	9100	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ80

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ80

Sample wt/vol: 1.0 (g/mL) G Lab File ID: BEZ80

Level: (low/med) MED Date Received: 06/27/90

% Moisture: not dec. 30 dec. ____ Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/25/90

GPC Cleanup : (Y/N) N pH: 8.6 Dilution Factor: 1.000

Number TICs found: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	36.03	17000	JB
2.	UNKNOWN C20H12, PAH	37.30	74000	J
3.	UNKNOWN C20H12, PAH	37.99	23000	J
4.	UNKNOWN	38.51	39000	JB
5.	UNKNOWN	39.86	29000	JB
6.	UNKNOWN	41.43	21000	JB
7.	UNKNOWN	43.34	11000	JB
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ81

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ81

Sample wt/vol: 1.0 (g/mL) G Lab File ID: BEZ81

Level: (low/med) MED Date Received: 06/27/90

% Moisture: not dec. 23 dec._____ Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	26000	U
111-44-4	bis(2-Chloroethyl)ether	26000	U
95-57-8	2-Chlorophenol	26000	U
541-73-1	1,3-Dichlorobenzene	26000	U
106-46-7	1,4-Dichlorobenzene	26000	U
100-51-6	Benzyl alcohol	26000	U
95-50-1	1,2-Dichlorobenzene	26000	U
95-48-7	2-Methylphenol	26000	U
108-60-1	bis(2-Chloroisopropyl)ether	26000	U
106-44-5	4-Methylphenol	26000	U
621-64-7	N-Nitroso-di-n-propylamine	26000	U
67-72-1	Hexachloroethane	26000	U
98-95-3	Nitrobenzene	26000	U
78-59-1	Isophorone	26000	U
88-75-5	2-Nitrophenol	26000	U
105-67-9	2,4-Dimethylphenol	26000	U
65-85-0	Benzoic acid	120000	U
111-91-1	bis(2-Chloroethoxy)methane	26000	U
120-83-2	2,4-Dichlorophenol	26000	U
120-82-1	1,2,4-Trichlorobenzene	26000	U
91-20-3	Naphthalene	26000	U
106-47-8	4-Chloroaniline	26000	U
87-68-3	Hexachlorobutadiene	26000	U
59-50-7	4-Chloro-3-methylphenol	26000	U
91-57-6	2-Methylnaphthalene	26000	U
77-47-4	Hexachlorocyclopentadiene	26000	U
88-06-2	2,4,6-Trichlorophenol	26000	U
95-95-4	2,4,5-Trichlorophenol	120000	U
91-58-7	2-Chloronaphthalene	26000	U
88-74-4	2-Nitroaniline	120000	U
131-11-3	Dimethylphthalate	26000	U
208-96-8	Acenaphthylene	26000	U
606-20-2	2,6-Dinitrotoluene	26000	U

J

409

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ81

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ81

Sample wt/vol: 1.0 (g/mL) G Lab File ID: BEZ81

Level: (low/med) MED Date Received: 06/27/90

% Moisture: not dec. 23 dec.____ Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	120000	U J
83-32-9	Acenapthene	26000	U
51-28-5	2,4-Dinitrophenol	120000	U
100-02-7	4-Nitrophenol	120000	U
132-64-9	Dibenzofuran	26000	U
121-14-2	2,4-Dinitrotoluene	26000	U
84-66-2	Diethylphthalate	26000	U
7005-72-3	4-Chlorophenyl-phenylether	26000	U
86-73-7	Fluorene	26000	U
100-01-6	4-Nitroaniline	120000	U
534-52-1	4,6-Dinitro-2-methylphenol	120000	U
86-30-6	N-Nitrosodiphenylamine (1)	26000	U
101-55-3	4-Bromophenyl-phenylether	26000	U
118-74-1	Hexachlorobenzene	26000	U
87-86-5	Pentachlorophenol	120000	U
85-01-8	Phenanthrene	8300	J
120-12-7	Anthracene	26000	U
84-74-2	Di-n-butylphthalate	26000	U
206-44-0	Fluoranthene	8000	J
129-00-0	Pyrene	5700	J
85-68-7	Butylbenzylphthalate	26000	U
91-94-1	3,3'-Dichlorobenzidine	51000	U
56-55-3	Benzo(a)anthracene	3400	J
218-01-9	Chrysene	26000	U
117-81-7	bis(2-Ethylhexyl)phthalate	4600	J
117-84-0	Di-n-octylphthalate	26000	U
205-99-2	Benzo(b)fluoranthene	26000	U
207-08-9	Benzo(k)fluoranthene	26000	U
50-32-8	Benzo(a)pyrene	26000	U
193-39-5	Indeno(1,2,3-cd)pyrene	26000	U
53-70-3	Dibenz(a,h)anthracene	26000	U
191-24-2	Benzo(g,h,i)perylene	26000	U

500

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ81

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ81

Sample wt/vol: 1.0 (g/mL) G Lab File ID: BEZ81

Level: (low/med) MED Date Received: 06/27/90

% Moisture: not dec. 23 dec._____ Date Extracted: 07/07/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/25/90

GPC Cleanup : (Y/N) N pH: 7.5 Dilution Factor: 1.000

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	36.03	17000	JB
2.	UNKNOWN	37.30	36000	JB
3.	UNKNOWN	38.52	35000	JB
4.	UNKNOWN	39.86	27000	JB
5.	UNKNOWN	41.43	18000	JB
6.	UNKNOWN	43.35	11000	JB
7.				
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ83

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ83

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ83

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ83

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ83

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ83

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. ___ dec.___ Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

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

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ83

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ83

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ83

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/24/90

GPC Cleanup : (Y/N) N pH: 0.0 Dilution Factor: 1.000

Number TICs found: 12

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	7.33	16	JB
2.		UNKNOWN	24.66	22	JB
3.		UNKNOWN	25.24	14	JB
4.		UNKNOWN	25.92	7	J
5.		UNKNOWN	26.69	12	JB
6.		UNKNOWN C12H22	27.34	20	JB
7.		UNKNOWN	34.68	8	JB
8.		UNKNOWN	36.04	12	JB
9.		UNKNOWN	37.31	18	JB
10.		UNKNOWN	38.52	20	JB
11.		UNKNOWN	39.87	16	JB
12.		UNKNOWN	41.44	11	JB
13.					
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ84

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ84

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ84

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

540

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ84

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ84

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ84

Level: (low/med) LOW Date Recei ed: 06/27/90

% Moisture: not dec. dec. Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

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

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ84

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ84

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ84

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/24/90

GPC Cleanup : (Y/N) N pH: 0.0 Dilution Factor: 1.000

Number TICs found: 12

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.35	12	JB
2.	UNKNOWN	24.69	15	JB
3.	UNKNOWN	25.26	10	JB
4.	UNKNOWN	36.72	8	JB
5.	UNKNOWN C18H22	27.38	15	JB
6.	UNKNOWN	34.72	7	JB
7.	UNKNOWN	36.07	14	JB
8.	UNKNOWN	27.34	20	JB
9.	UNKNOWN	38.55	20	JB
10.	UNKNOWN	39.90	17	JB
11.	UNKNOWN	41.47	11	JB
12.	UNKNOWN	43.39	6	JB
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ85

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ85

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ85

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ85

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ85

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ85

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

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

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ85

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ85

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ85

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec.____ dec.____ Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/25/90

GPC Cleanup : (Y/N) N pH: 0.0 Dilution Factor: 1.000

Number TICs found: 11

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.34	19	JB
2.	UNKNOWN	24.65	19	JB
3.	UNKNOWN	25.23	12	JB
4.	UNKNOWN	26.69	8	JB
5.	UNKNOWN	27.34	13	JB
6.	UNKNOWN	34.68	7	JB
7.	UNKNOWN	36.04	13	JB
8.	UNKNOWN	37.31	18	JB
9.	UNKNOWN	38.52	19	JB
10.	UNKNOWN	39.87	15	JB
11.	UNKNOWN	41.44	11	JB
12.				
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ86

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ86

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ86

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ86

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ86

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ86

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

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

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BEZ86

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ86

Sample wt/vol: 1000 (g/mL) ML Lab File ID: BEZ86

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ dec._____ Date Extracted: 07/01/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 07/25/90

GPC Cleanup : (Y/N) N pH: 0.0 Dilution Factor: 1.000

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	24.69	21	JB
2.	UNKNOWN	25.26	14	JB
3.	UNKNOWN	26.71	7	JB
4.	UNKNOWN C18H22	27.36	10	JB
5.	UNKNOWN	34.71	8	JB
6.	UNKNOWN	36.06	14	JB
7.	UNKNOWN	37.32	20	JB
8.	UNKNOWN	38.54	23	JB
9.	UNKNOWN	39.89	18	JB
10.	UNKNOWN	41.47	12	JB
11.				
12.				
13.				
14.				
15.				
16.				
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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ67

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ67

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F0724021

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec._____ dec._____ Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/24/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	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	1.00	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	1.00	U
11096-82-5	Aroclor-1260	1.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ68

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ68

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F0724078

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec.____ dec.____ Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.08	
319-85-7	beta-BHC	1.20	
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.48	
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.26	
72-54-8	4,4'-DDD	0.72	
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	0.28	J
5103-74-2	gamma-Chlordane	0.24	J
8001-35-2	Toxaphene	1.00	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	1.00	U
11096-82-5	Aroclor-1260	1.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ68DL

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: DLZ68

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F0724032

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec.____ dec.____ Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 10.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.50	U
319-85-7	beta-BHC	0.50	U
319-86-8	delta-BHC	0.50	U
58-89-9	gamma-BHC (Lindane)	0.50	U
76-44-8	Heptachlor	0.50	U
309-00-2	Aldrin	0.50	U
1024-57-3	Heptachlor epoxide	0.50	U
959-98-8	Endosulfan I	0.50	U
60-57-1	Dieldrin	1.00	U
72-55-9	4,4'-DDE	1.00	U
72-20-8	Endrin	1.00	U
33213-65-9	Endosulfan II	1.00	U
72-54-8	4,4'-DDD	1.00	U
1031-07-8	Endosulfan sulfate	1.00	U
50-29-3	4,4'-DDT	1.00	U
72-43-5	Methoxychlor	5.00	U
53494-70-5	Endrin ketone	1.00	U
5103-71-9	alpha-Chlordane	5.00	U
5103-74-2	gamma-Chlordane	5.00	U
8001-35-2	Toxaphene	10.00	U
12674-11-2	Aroclor-1016	5.00	U
11104-28-2	Aroclor-1221	5.00	U
11141-16-5	Aroclor-1232	5.00	U
53469-21-9	Aroclor-1242	5.00	U
12672-29-6	Aroclor-1248	5.00	U
11097-69-1	Aroclor-1254	10.00	U
11096-82-5	Aroclor-1260	10.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ69

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ69

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F0724079

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.46	
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.18	
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.13	
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	1.00	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	1.00	U
11096-82-5	Aroclor-1260	1.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ70

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ70

Sample wt/vol: 29.9 (g/mL) G Lab File ID: F0727020

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 46 dec. ____ Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) N pH: 8.6 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	15.00	U
319-85-7	beta-BHC	42.00	
319-86-8	delta-BHC	15.00	U
58-89-9	gamma-BHC (Lindane)	15.00	U
76-44-8	Heptachlor	15.00	U
309-00-2	Aldrin	15.00	U
1024-57-3	Heptachlor epoxide	15.00	U
959-98-8	Endosulfan I	15.00	U
60-57-1	Dieldrin	30.00	U
72-55-9	4,4'-DDE	67.00	
72-20-8	Endrin	30.00	U
33213-65-9	Endosulfan II	58.00	
72-54-8	4,4'-DDD	36.00	
1031-07-8	Endosulfan sulfate	30.00	U
50-29-3	4,4'-DDT	30.00	U
72-43-5	Methoxychlor	150.00	U
53494-70-5	Endrin ketone	30.00	U
5103-71-9	alpha-Chlordane	150.00	U
5103-74-2	gamma-Chlordane	150.00	U
8001-35-2	Toxaphene	300.00	U
12674-11-2	Aroclor-1016	150.00	U
11104-28-2	Aroclor-1221	150.00	U
11141-16-5	Aroclor-1232	150.00	U
53469-21-9	Aroclor-1242	150.00	U
12672-29-6	Aroclor-1248	150.00	U
11097-69-1	Aroclor-1254	300.00	U
11096-82-5	Aroclor-1260	300.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ71

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ71

Sample wt/vol: 30.3 (g/mL) G Lab File ID: F0724063

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 72 dec. ____ Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/26/90

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	28.00	U
319-85-7	beta-BHC	28.00	U
319-86-8	delta-BHC	28.00	U
58-89-9	gamma-BHC (Lindane)	28.00	U
76-44-8	Heptachlor	28.00	U
309-00-2	Aldrin	28.00	U
1024-57-3	Heptachlor epoxide	28.00	U
959-98-8	Endosulfan I	28.00	U
60-57-1	Dieldrin	56.00	U
72-55-9	4,4'-DDE	56.00	U
72-20-8	Endrin	56.00	U
33213-65-9	Endosulfan II	56.00	U
72-54-8	4,4'-DDD	1600.00	-
1031-07-8	Endosulfan sulfate	56.00	U
50-29-3	4,4'-DDT	56.00	U
72-43-5	Methoxychlor	280.00	U
53494-70-5	Endrin ketone	56.00	U
5103-71-9	alpha-Chlordane	280.00	U
5103-74-2	gamma-Chlordane	440.00	
8001-35-2	Toxaphene	560.00	U
12674-11-2	Aroclor-1016	280.00	U
11104-28-2	Aroclor-1221	280.00	U
11141-16-5	Aroclor-1232	280.00	U
53469-21-9	Aroclor-1242	280.00	U
12672-29-6	Aroclor-1248	280.00	U
11097-69-1	Aroclor-1254	560.00	U
11096-82-5	Aroclor-1260	560.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ72

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ72

Sample wt/vol: 30.1 (g/mL) G Lab File ID: F0724064

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 21 dec. Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/26/90

GPC Cleanup: (Y/N) N pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10.00	U J
319-85-7	beta-BHC	10.00	U
319-86-8	delta-BHC	10.00	U
58-89-9	gamma-BHC (Lindane)	10.00	U
76-44-8	Heptachlor	10.00	U
309-00-2	Aldrin	10.00	U
1024-57-3	Heptachlor epoxide	10.00	U
959-98-8	Endosulfan I	10.00	U
60-57-1	Dieldrin	20.00	U
72-55-9	4,4'-DDE	20.00	U
72-20-8	Endrin	20.00	U
33213-65-9	Endosulfan II	20.00	U
72-54-8	4,4'-DDD	20.00	U
1031-07-8	Endosulfan sulfate	20.00	U
50-29-3	4,4'-DDT	20.00	U
72-43-5	Methoxychlor	100.00	U
53494-70-5	Endrin ketone	20.00	U
5103-71-9	alpha-Chlordane	100.00	U
5103-74-2	gamma-Chlordane	100.00	U
8001-35-2	Toxaphene	200.00	U
12674-11-2	Aroclor-1016	100.00	U
11104-28-2	Aroclor-1221	100.00	U
11141-16-5	Aroclor-1232	100.00	U
53469-21-9	Aroclor-1242	100.00	U
12672-29-6	Aroclor-1248	100.00	U
11097-69-1	Aroclor-1254	200.00	U
11096-82-5	Aroclor-1260	200.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ73

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ73

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0724067

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 11 dec. Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/26/90

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.00	U J
319-85-7	beta-BHC	17.00	J
319-86-8	delta-BHC	9.00	U J
58-89-9	gamma-BHC (Lindane)	9.00	U
76-44-8	Heptachlor	9.00	U
309-00-2	Aldrin	9.00	U
1024-57-3	Heptachlor epoxide	9.00	U
959-98-8	Endosulfan I	9.00	U
60-57-1	Dieldrin	100.00	J
72-55-9	4,4'-DDE	21.00	J
72-20-8	Endrin	18.00	U
33213-65-9	Endosulfan II	18.00	U
72-54-8	4,4'-DDD	18.00	U
1031-07-8	Endosulfan sulfate	18.00	U
50-29-3	4,4'-DDT	75.00	J
72-43-5	Methoxychlor	90.00	U
53494-70-5	Endrin ketone	18.00	U
5103-71-9	alpha-Chlordane	90.00	U
5103-74-2	gamma-Chlordane	90.00	U
8001-35-2	Toxaphene	180.00	U
12674-11-2	Aroclor-1016	90.00	U
11104-28-2	Aroclor-1221	90.00	U
11141-16-5	Aroclor-1232	90.00	U
53469-21-9	Aroclor-1242	90.00	U
12672-29-6	Aroclor-1248	90.00	U
11097-69-1	Aroclor-1254	180.00	U
11096-82-5	Aroclor-1260	180.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ74

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ74

Sample wt/vol: 30.4 (g/mL) G Lab File ID: F0727021

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 dec.____ Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) N pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	330.00	
319-85-7	beta-BHC	2300.00	
319-86-8	delta-BHC	99.00	J
58-89-9	gamma-BHC (Lindane)	~~16.00~~	~~U~~
76-44-8	Heptachlor	9.10	U
309-00-2	Aldrin	9.10	U
1024-57-3	Heptachlor epoxide	9.10	U
959-98-8	Endosulfan I	9.10	U
60-57-1	Dieldrin	39.00	
72-55-9	4,4'-DDE	180.00	
72-20-8	Endrin	18.00	U
33213-65-9	Endosulfan II	18.00	U
72-54-8	4,4'-DDD	~~1700.00~~	~~C~~
1031-07-8	Endosulfan sulfate	18.00	U
50-29-3	4,4'-DDT	420.00	
72-43-5	Methoxychlor	91.00	U
53494-70-5	Endrin ketone	18.00	U
5103-71-9	alpha-Chlordane	60.00	J
5103-74-2	gamma-Chlordane	21.00	J
8001-35-2	Toxaphene	180.00	U
12674-11-2	Aroclor-1016	91.00	U
11104-28-2	Aroclor-1221	91.00	U
11141-16-5	Aroclor-1232	91.00	U
53469-21-9	Aroclor-1242	91.00	U
12672-29-6	Aroclor-1248	91.00	U
11097-69-1	Aroclor-1254	180.00	U
11096-82-5	Aroclor-1260	180.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ74DL

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: DLZ74

Sample wt/vol: 30.4 (g/mL) G Lab File ID: F0724080

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 dec. ____ Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 8.1 Dilution Factor: 10.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	170.00	
319-85-7	beta-BHC	7500.00	
319-86-8	delta-BHC	96.00	
58-89-9	gamma-BHC (Lindane)	15.00	J
76-44-8	Heptachlor	91.00	U
309-00-2	Aldrin	91.00	U
1024-57-3	Heptachlor epoxide	91.00	U
959-98-8	Endosulfan I	91.00	U
60-57-1	Dieldrin	39.00	J
72-55-9	4,4'-DDE	170.00	J
72-20-8	Endrin	180.00	U
33213-65-9	Endosulfan II	67.00	J
72-54-8	4,4'-DDD	2300.00	
1031-07-8	Endosulfan sulfate	180.00	U
50-29-3	4,4'-DDT	130.00	J
72-43-5	Methoxychlor	910.00	U
53494-70-5	Endrin ketone	180.00	U
5103-71-9	alpha-Chlordane	910.00	U
5103-74-2	gamma-Chlordane	18.00	J
8001-35-2	Toxaphene	1800.00	U
12674-11-2	Aroclor-1016	910.00	U
11104-28-2	Aroclor-1221	910.00	U
11141-16-5	Aroclor-1232	910.00	U
53469-21-9	Aroclor-1242	910.00	U
12672-29-6	Aroclor-1248	910.00	U
11097-69-1	Aroclor-1254	1800.00	U
11096-82-5	Aroclor-1260	1800.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ76

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ76

Sample wt/vol: 30.1 (g/mL) G Lab File ID: F0724071

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 20 dec._____ Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10.00	U
319-85-7	beta-BHC	10.00	U
319-86-8	delta-BHC	10.00	U
58-89-9	gamma-BHC (Lindane)	10.00	U
76-44-8	Heptachlor	10.00	U
309-00-2	Aldrin	10.00	U
1024-57-3	Heptachlor epoxide	10.00	U
959-98-8	Endosulfan I	10.00	U
60-57-1	Dieldrin	20.00	U
72-55-9	4,4'-DDE	190.00	
72-20-8	Endrin	20.00	U
33213-65-9	Endosulfan II	20.00	U
72-54-8	4,4'-DDD	52.00	
1031-07-8	Endosulfan sulfate	20.00	U
50-29-3	4,4'-DDT	39.00	
72-43-5	Methoxychlor	100.00	U
53494-70-5	Endrin ketone	20.00	U
5103-71-9	alpha-Chlordane	360.00	
5103-74-2	gamma-Chlordane	350.00	
8001-35-2	Toxaphene	200.00	U
12674-11-2	Aroclor-1016	100.00	U
11104-28-2	Aroclor-1221	100.00	U
11141-16-5	Aroclor-1232	100.00	U
53469-21-9	Aroclor-1242	100.00	U
12672-29-6	Aroclor-1248	100.00	U
11097-69-1	Aroclor-1254	200.00	U
11096-82-5	Aroclor-1260	200.00	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ77

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ77

Sample wt/vol: 29.8 (g/mL) G Lab File ID: F0724072

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 dec.____ Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.30	U J
319-85-7	beta-BHC	51.00	J
319-86-8	delta-BHC	9.30	U J
58-89-9	gamma-BHC (Lindane)	9.30	U
76-44-8	Heptachlor	9.30	U
309-00-2	Aldrin	9.30	U
1024-57-3	Heptachlor epoxide	9.30	U
959-98-8	Endosulfan I	9.30	U J
60-57-1	Dieldrin	19.00	U J
72-55-9	4,4'-DDE	45.00	J
72-20-8	Endrin	16.00	J
33213-65-9	Endosulfan II	19.00	U J
72-54-8	4,4'-DDD	35.00	J
1031-07-8	Endosulfan sulfate	19.00	U J
50-29-3	4,4'-DDT	19.00	U
72-43-5	Methoxychlor	93.00	U
53494-70-5	Endrin ketone	19.00	U
5103-71-9	alpha-Chlordane	93.00	U
5103-74-2	gamma-Chlordane	2.10	J
8001-35-2	Toxaphene	190.00	U
12674-11-2	Aroclor-1016	93.00	U
11104-28-2	Aroclor-1221	93.00	U
11141-16-5	Aroclor-1232	93.00	U
53469-21-9	Aroclor-1242	93.00	U
12672-29-6	Aroclor-1248	93.00	U
11097-69-1	Aroclor-1254	190.00	U
11096-82-5	Aroclor-1260	190.00	U J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ78

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ78

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0724073

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 13 dec. Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.30	U
319-85-7	beta-BHC	66.00	U
319-86-8	delta-BHC	9.30	U
58-89-9	gamma-BHC (Lindane)	9.30	U
76-44-8	Heptachlor	9.30	U
309-00-2	Aldrin	9.30	U
1024-57-3	Heptachlor epoxide	9.30	U
959-98-8	Endosulfan I	9.30	U
60-57-1	Dieldrin	18.00	U
72-55-9	4,4'-DDE	60.00	U
72-20-8	Endrin	24.00	U
33213-65-9	Endosulfan II	18.00	U
72-54-8	4,4'-DDD	67.00	U
1031-07-8	Endosulfan sulfate	18.00	U
50-29-3	4,4'-DDT	26.00	U
72-43-5	Methoxychlor	92.00	U
53494-70-5	Endrin ketone	18.00	U
5103-71-9	alpha-Chlordane	92.00	U
5103-74-2	gamma-Chlordane	92.00	U
8001-35-2	Toxaphene	180.00	U
12674-11-2	Aroclor-1016	92.00	U
11104-28-2	Aroclor-1221	92.00	U
11141-16-5	Aroclor-1232	92.00	U
53469-21-9	Aroclor-1242	92.00	U
12672-29-6	Aroclor-1248	92.00	U
11097-69-1	Aroclor-1254	180.00	U
11096-82-5	Aroclor-1260	180.00	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ79

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ79

Sample wt/vol: 30.1 (g/mL) G Lab File ID: F0727022

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 24 dec. Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/28/90

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	28.00	J
319-85-7	beta-BHC	730.00	J
319-86-8	delta-BHC	100.00	J
58-89-9	gamma-BHC (Lindane)	11.00	U J
76-44-8	Heptachlor	110.00	J
309-00-2	Aldrin	11.00	U
1024-57-3	Heptachlor epoxide	11.00	U
959-98-8	Endosulfan I	11.00	U
60-57-1	Dieldrin	21.00	U
72-55-9	4,4'-DDE	1800.00	J
72-20-8	Endrin	21.00	U J
33213-65-9	Endosulfan II	2900.00	J
72-54-8	4,4'-DDD	330.00	J
1031-07-8	Endosulfan sulfate	21.00	U
50-29-3	4,4'-DDT	21.00	U
72-43-5	Methoxychlor	110.00	U
53494-70-5	Endrin ketone	21.00	U
5103-71-9	alpha-Chlordane	110.00	U
5103-74-2	gamma-Chlordane	110.00	U
8001-35-2	Toxaphene	210.00	U
12674-11-2	Aroclor-1016	110.00	U
11104-28-2	Aroclor-1221	110.00	U
11141-16-5	Aroclor-1232	110.00	U
53469-21-9	Aroclor-1242	110.00	U
12672-29-6	Aroclor-1248	110.00	U
11097-69-1	Aroclor-1254	210.00	U
11096-82-5	Aroclor-1260	37000.00	J

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ79DL

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: DLZ79

Sample wt/vol: 30.1 (g/mL) G Lab File ID: F0724058

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 24 dec.____ Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/26/90

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 10.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	110.00	U
319-85-7	beta-BHC	1400.00	
319-86-8	delta-BHC	110.00	U
58-89-9	gamma-BHC (Lindane)	32.00	J
76-44-8	Heptachlor	120.00	
309-00-2	Aldrin	110.00	U
1024-57-3	Heptachlor epoxide	110.00	U
959-98-8	Endosulfan I	110.00	U
60-57-1	Dieldrin	210.00	U
72-55-9	4,4'-DDE	1800.00	
72-20-8	Endrin	210.00	U
33213-65-9	Endosulfan II	6900.00	
72-54-8	4,4'-DDD	310.00	
1031-07-8	Endosulfan sulfate	210.00	U
50-29-3	4,4'-DDT	2700.00	
72-43-5	Methoxychlor	1100.00	U
53494-70-5	Endrin ketone	210.00	U
5103-71-9	alpha-Chlordane	3800.00	
5103-74-2	gamma-Chlordane	3500.00	
8001-35-2	Toxaphene	2100.00	U
12674-11-2	Aroclor-1016	1100.00	U
11104-28-2	Aroclor-1221	1100.00	U
11141-16-5	Aroclor-1232	1100.00	U
53469-21-9	Aroclor-1242	1100.00	U
12672-29-6	Aroclor-1248	1100.00	U
11097-69-1	Aroclor-1254	2100.00	U
11096-82-5	Aroclor-1260	87000.00	

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ80

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ80

Sample wt/vol: 29.8 (g/mL) G Lab File ID: F0724075

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 30 dec. Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 8.6 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	42.00	J
319-85-7	beta-BHC	330.00	J
319-86-8	delta-BHC	12.00	U
58-89-9	gamma-BHC (Lindane)	12.00	U
76-44-8	Heptachlor	12.00	U
309-00-2	Aldrin	12.00	U
1024-57-3	Heptachlor epoxide	12.00	U
959-98-8	Endosulfan I	12.00	U
60-57-1	Dieldrin	23.00	U
72-55-9	4,4'-DDE	560.00	J
72-20-8	Endrin	23.00	U
33213-65-9	Endosulfan II	430.00	
72-54-8	4,4'-DDD	150.00	
1031-07-8	Endosulfan sulfate	23.00	U
50-29-3	4,4'-DDT	110.00	J
72-43-5	Methoxychlor	120.00	U
53494-70-5	Endrin ketone	23.00	U
5103-71-9	alpha-Chlordane	410.00	J
5103-74-2	gamma-Chlordane	300.00	J
8001-35-2	Toxaphene	230.00	U
12674-11-2	Aroclor-1016	120.00	U
11104-28-2	Aroclor-1221	120.00	U
11141-16-5	Aroclor-1232	120.00	U
53469-21-9	Aroclor-1242	120.00	U
12672-29-6	Aroclor-1248	120.00	U
11097-69-1	Aroclor-1254	5200.00	
11096-82-5	Aroclor-1260	230.00	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ81

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) SOIL Lab Sample ID: BEZ81

Sample wt/vol: 30.3 (g/mL) G Lab File ID: F0724077

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. 23 dec. Date Extracted: 07/06/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 07/27/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11.00	J
319-85-7	beta-BHC	88.00	J
319-86-8	delta-BHC	10.00	U
58-89-9	gamma-BHC (Lindane)	10.00	U
76-44-8	Heptachlor	10.00	U
309-00-2	Aldrin	10.00	U
1024-57-3	Heptachlor epoxide	10.00	U
959-98-8	Endosulfan I	10.00	U
60-57-1	Dieldrin	21.00	U
72-55-9	4,4'-DDE	21.00	U
72-20-8	Endrin	39.00	
33213-65-9	Endosulfan II	120.00	
72-54-8	4,4'-DDD	54.00	J
1031-07-8	Endosulfan sulfate	50.00	J
50-29-3	4,4'-DDT	21.00	U
72-43-5	Methoxychlor	100.00	U
53494-70-5	Endrin ketone	21.00	U
5103-71-9	alpha-Chlordane	100.00	U
5103-74-2	gamma-Chlordane	100.00	U
8001-35-2	Toxaphene	210.00	U
12674-11-2	Aroclor-1016	100.00	U
11104-28-2	Aroclor-1221	100.00	U
11141-16-5	Aroclor-1232	100.00	U
53469-21-9	Aroclor-1242	100.00	U
12672-29-6	Aroclor-1248	100.00	U
11097-69-1	Aroclor-1254	210.00	U
11096-82-5	Aroclor-1260	1800.00	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ83

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ83

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F0724028

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	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	1.00	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	1.00	U
11096-82-5	Aroclor-1260	1.00	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ84

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ84

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F0724029

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	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	1.00	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	1.00	U
11096-82-5	Aroclor-1260	1.00	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ85

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ85

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F0724030

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U J
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U J
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U J
959-98-8	Endosulfan I	0.05	U J
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	1.00	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	1.00	U
11096-82-5	Aroclor-1260	1.00	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEZ86

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 14407 SAS No.: SDG No.: BEZ67

Matrix: (soil/water) WATER Lab Sample ID: BEZ86

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F0724031

Level: (low/med) LOW Date Received: 06/27/90

% Moisture: not dec. dec. Date Extracted: 06/30/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/25/90

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	~~U~~
309-00-2	Aldrin	0.05	~~U~~
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	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	1.00	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	1.00	U
11096-82-5	Aroclor-1260	1.00	U

Case# 14407 Site D & I Trucking Matrix: Soil 11

SDG# MBCY-64 Lab CHEMTECH Water 87

Contractor WESTON-ESAT Reviewer Smita Other —

A.2.1 The case description and exceptions, if any, are noted below with reason(s) for rejection or qualification as estimated value(s) J.

I) Field Blank Contamination:-
The Cr level in Rinsate Blank MBDD-97 was greater than CRDL (when IDL<CRDL, Therefore following Samples were rejected for Cr because these results were detected above the Instrument Detection limit and less than Five times the Field Blank.
"Rejected" Cr → MBDD-81 & MBDD-82.

II) Matrix Spike recovery:-
a) Soil matrix Spiked Sample recovery for Se was less than 10% (0.07%). Therefore all Soil Sample results for Se have been rejected due to very low recovery. Under ideal Condition of analysis these results Could have been reported much higher.
"Rejected" Se → MBDD-84; 85; 86; 87; 88; MBDD-90; 91; 92; 93; 94 & 95.

A.2.1 (continuation) b) Soil matrix Spiked Sample recoveries for Sb and Cu were between 125-200%. Therefore all positive Soil Sample results for Sb and Cu were Considered estimated and flagged "J".

"J" Sb → MBDD-85; 92; 93; 94 & 95.
"J" Cu → MBDD-84; 85; 86; 87; 88; 90; 91; 92; 93; 94;

c) Water matrix Spiked Sample recoveries for Sb and Se were between 30-75% and for Pb(F) was greater than 125%. Therefore all Water Samples for Sb & Se and positive sample results for Pb(F) were Considered estimated and flagged "J".

"J" Sb & Se → MBCY-64; MBDD-81; 82; 83; 97; 98 & 99.
"J" Pb(F) → MBCY-64; MBDD-82; 83; 97 & 99.

III) ICP Serial Dilution & Analysis yielded % Concentration differences >10% between undiluted and diluted (5x) ICP Water Digestates for Na. (concentration

A.2.1 (continuation) differences of this magnitude may indicate a chemical or physical interference in the ICP measurment of this analyte. For this reason Na for water matrix (>10 x IDL's) in the following samples have been estimated as "J".

"J" Na → MBDD-81; 82 & 83.

IV) CRDL Standards

Analysis of the CRDL standards yielded % recoveries less than 80% for Mn; Ni; Ag and As and greater than 120 % for Cr. Therefore the following samples which these analytes in the concentration range of 0-4xCRDL for Mn, Ni and Ag; 0-2xCRDL for As and IDL-4xCRDL for Cr were considered estimated and flagged "J".

"J" As → MBCY-64; MBDD-81; 97; 98 & 99.
"J" Cr → MBDD-97 & 98. (82 was previously qualified)
"J" Mn → MBCY-64; MBDD-97; 98 and 99.
"J" Ni → MBCY-64; MBDD-81; 82; 83; 84; 86; 87; MBDD-90; 91; 94; 97; 98 & 99.
"J" Ag → MBCY-64; MBDD-81; 82; 83; 84; 85; 86; MBDD-87; 88; 90; 91; 92; 93; 94; MBDD-95; 97; 98 and 99.

A.2.1 (continuation) V) Field Duplicate Analysis:-

The Field duplicate Pairs (MBDD-82 & 83) for Water matrix and (MBDD-91 & 92) for soil matrix Produced absolute concentration differences > CRDL for AL, AS, Cd, CU; Cr; Hg, V and > 2xCRDL for Be. Also RPDs were greater than 50% for Fe & Zn and greater than 100% For AS. This Lack OF Laboratory analytical Precision between these two Samples caused their analytes values to be estimated "J".

"J" AL, AS, Cd, CU, Hg, V; Fe & Zn. } MBDD-82 & 83.

"J" Cr → MBDD-83. (MBDD-82 was previously rejected due to other QC criteria.)

"J" AS & Be → MBDD-91 & 92.

VI) Percent Solids OF Sediments:-

The soil content in Sediment Sample MBDD-85 was less than 50%. For this reason the following analyte values have been estimated as "J". (only these values which were previously not rejected or qualified due to other QC criteria.)

A.2.1 (continuation)

"J" AL; Ba, Be; Cd; Ca; Cr; Co; Fe; Pb; Mg; Mn; Hg; Ni; K; Na; Tl; V and Zn. } → MBDD-85.

VII) Calibration Standard:
A 50.2 µg AS/L STD. was injected and read 57.8 µg AS/L, 15.1 percent difference from the nominal value. Therefore all AS- values (Except MBDD-91 & 92 because AS-MBDD-91 & 92 were previously qualified) greater than CRDL were qualified as estimated "J".
"J" AS → MBDD-84; 85; 86; 87; 88; 90; MBDD-93; 94 and 95.

(Note: Pb(F) 50 µg Pb/L STD was not within ±10% true value) but Affected Pb(F) values were previously estimated and therefore were not further qualified here.)

A.2.2 Contract-Problems/Non-Compliance

1) K; As and Pb were diluted beyond the Contract requirements but Lab failed to report dilution Factor's on Form I's.

2) Be → All Sample results were less than IDL (Except MBDD-92 & 87) but Lab failed to flag with 'U'. Be-MBDD-87 required 'B' flag.

A.2.2 Contract-Problems/Non-Compliance

3) The Hg results were Calculated incorrectly but Validator Corrected the Laboratory's miscalculation. The Lab Subtracted the Cal. Blank Absorbance from the Absorbances of the Other Calibration Standards and this led to the quantitation errors.

MMB Reviewer: _____ Date: _____
Signature

Contractor Reviewer: Smita Sumbaly Date: 08-08-90
Signature

Verified by: Dale S. Brashart Date: 8/16/90

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD81

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): WATER Lab Sample ID: 00386-02S

Level (low/med): LOW Date Received: 6/27/90

% 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	275.00			P
7440-36-0	Antimony	42.00	U	N J	P
7440-38-2	Arsenic	15.50		J	F
7440-39-3	Barium	284.00			P
7440-41-7	Beryllium	4.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	134000.00			P
7440-47-3	Chromium	~~44.30~~			P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	53.70			P
7439-89-6	Iron	3210.00			P
7439-92-1	Lead	20.00	U	NW	F
7439-95-4	Magnesium	19200.00			P
7439-96-5	Manganese	574.00			P
7439-97-6	Mercury	0.2 ~~21~~	U		CV
7440-02-0	Nickel	27.30	B	J	P
7440-09-7	Potassium	55000.00			A
7782-49-2	Selenium	5.00	U	N J	F
7440-22-4	Silver	8.00	U	J	P
7440-23-5	Sodium	267000.00		E J	P
7440-28-0	Thallium	5.00	U		F
7440-62-2	Vanadium	28.80	B		P
7440-66-6	Zinc	138.00			P
	Cyanide				NR

Color Before: YELLOW Clarity Before: OPAQUE Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD82

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): WATER Lab Sample ID: 00386-03S

Level (low/med): LOW Date Received: 6/27/90

% 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	427.00		J	P
7440-36-0	Antimony	42.00	U	NJ	P
7440-38-2	Arsenic	21.60		J	F
7440-39-3	Barium	196.00	B		P
7440-41-7	Beryllium	4.00	~~B~~	U	P
7440-43-9	Cadmium	5.00	U	J	P
7440-70-2	Calcium	87100.00			P
7440-47-3	Chromium	~~30.00~~			P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	53.40		J	P
7439-89-6	Iron	6830.00		J	P
7439-92-1	Lead	99.00		NJ	F
7439-95-4	Magnesium	18300.00			P
7439-96-5	Manganese	519.00			P
7439-97-6	Mercury	.20	U	J	CV
7440-02-0	Nickel	34.50	B	J	P
7440-09-7	Potassium	37000.00	B		A
7782-49-2	Selenium	5.00	U	NWJ	F
7440-22-4	Silver	8.00	U	J	P
7440-23-5	Sodium	161000.00		EJ	P
7440-28-0	Thallium	5.00	U		F
7440-62-2	Vanadium	38.70	B	J	P
7440-66-6	Zinc	244.00		J	P
	Cyanide				NR

Color Before: YELLOW Clarity Before: OPAQUE Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD83

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): WATER Lab Sample ID: 00386-04S

Level (low/med): LOW Date Received: 6/27/90

% 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	3210.00		J	P
7440-36-0	Antimony	42.90	B	N J	P
7440-38-2	Arsenic	36.00		J	F
7440-39-3	Barium	350.00			P
7440-41-7	Beryllium	4.00	U		P
7440-43-9	Cadmium	15.60		J	P
7440-70-2	Calcium	119000.00			P
7440-47-3	Chromium	112.00		J	P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	302.00		J	P
7439-89-6	Iron	25400.00		J	P
7439-92-1	Lead	689.00		N J	F
7439-95-4	Magnesium	20600.00			P
7439-96-5	Manganese	822.00			P
7439-97-6	Mercury	0.5729		J	CV
7440-02-0	Nickel	82.50		J	P
7440-09-7	Potassium	35000.00	B		A
7782-49-2	Selenium	50.00	U	N J	F
7440-22-4	Silver	8.00	U	J	P
7440-23-5	Sodium	154000.00		E J	P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	117.00		J	P
7440-66-6	Zinc	1330.00		J	P
	Cyanide				NR

Color Before: GREY Clarity Before: OPAQUE Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD84

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL Lab Sample ID: 00386-05S

Level (low/med): LOW Date Received: 6/27/90

% Solids: 61.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1380.00			P
7440-36-0	Antimony	13.70	U	N	P
7440-38-2	Arsenic	12.10		J	F
7440-39-3	Barium	392.00			P
7440-41-7	Beryllium	1.30	U		P
7440-43-9	Cadmium	1.60	U		P
7440-70-2	Calcium	300000.00			P
7440-47-3	Chromium	37.80			P
7440-48-4	Cobalt	4.20	U		P
7440-50-8	Copper	43.70		N J	P
7439-89-6	Iron	8750.00			P
7439-92-1	Lead	126.00			P
7439-95-4	Magnesium	4600.00			P
7439-96-5	Manganese	498.00			P
7439-97-6	Mercury	0.51 ~~.69~~			CV
7440-02-0	Nickel	17.90		J	P
7440-09-7	Potassium	326.00	U		A
7782-49-2	Selenium	~~16.30~~	~~U~~	~~NW~~	~~F~~
7440-22-4	Silver	2.60	U	J	P
7440-23-5	Sodium	1390.00	B		P
7440-28-0	Thallium	1.60	U		F
7440-62-2	Vanadium	21.60			P
7440-66-6	Zinc	210.00			P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD85

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL Lab Sample ID: 00386-06S

Level (low/med): LOW Date Received: 6/27/90

% Solids: 40.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6550.00			P
7440-36-0	Antimony	55.90		N	P
7440-38-2	Arsenic	61.20			F
7440-39-3	Barium	304.00			P
7440-41-7	Beryllium	2.00			P
7440-43-9	Cadmium	8.80			P
7440-70-2	Calcium	76600.00			P
7440-47-3	Chromium	236.00			P
7440-48-4	Cobalt	16.50	B		P
7440-50-8	Copper	613.00		N	P
7439-89-6	Iron	46600.00			P
7439-92-1	Lead	863.00			P
7439-95-4	Magnesium	5490.00			P
7439-96-5	Manganese	518.00			P
7439-97-6	Mercury	1.40			CV
7440-02-0	Nickel	130.00			P
7440-09-7	Potassium	950.00	B		A
7782-49-2	Selenium	~~25.00~~	~~U~~	~~NW~~	~~F~~
7440-22-4	Silver	4.00	U		P
7440-23-5	Sodium	2740.00			P
7440-28-0	Thallium	2.50	U	W	F
7440-62-2	Vanadium	98.90			P
7440-66-6	Zinc	2930.00			P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD86

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL Lab Sample ID: 00386-07S

Level (low/med): LOW Date Received: 6/27/90

% Solids: 83.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5590.00			P
7440-36-0	Antimony	10.10	U	N	P
7440-38-2	Arsenic	12.50		J	F
7440-39-3	Barium	111.00			P
7440-41-7	Beryllium	.96	U		P
7440-43-9	Cadmium	1.20	U		P
7440-70-2	Calcium	8270.00			P
7440-47-3	Chromium	15.70			P
7440-48-4	Cobalt	4.50	B		P
7440-50-8	Copper	223.00		N J	P
7439-89-6	Iron	15300.00			P
7439-92-1	Lead	378.00			P
7439-95-4	Magnesium	1680.00			P
7439-96-5	Manganese	425.00			P
7439-97-6	Mercury	0.39 ~~.46~~			CV
7440-02-0	Nickel	20.00		J	P
7440-09-7	Potassium	719.00	B		A
7782-49-2	Selenium	~~12.00~~	~~U~~	~~N~~	~~F~~
7440-22-4	Silver	1.90	U	J	P
7440-23-5	Sodium	538.00	B		P
7440-28-0	Thallium	1.20	U		F
7440-62-2	Vanadium	20.80			P
7440-66-6	Zinc	438.00			P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD87

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL Lab Sample ID: 00386-08S

Level (low/med): LOW Date Received: 6/27/90

% Solids: 89.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8120.00			P
7440-36-0	Antimony	9.40	U	N	P
7440-38-2	Arsenic	14.80		J	F
7440-39-3	Barium	287.00			P
7440-41-7	Beryllium	1.00	B		P
7440-43-9	Cadmium	1.10	U		P
7440-70-2	Calcium	3920.00			P
7440-47-3	Chromium	54.30			P
7440-48-4	Cobalt	5.30	B		P
7440-50-8	Copper	62.20		N J	P
7439-89-6	Iron	17800.00			P
7439-92-1	Lead	392.00			P
7439-95-4	Magnesium	2010.00			P
7439-96-5	Manganese	219.00			P
7439-97-6	Mercury	.81 .87			CV
7440-02-0	Nickel	17.70		J	P
7440-09-7	Potassium	785.00	B		A
7782-49-2	Selenium	11.20	U	N	F
7440-22-4	Silver	1.80	U	J	P
7440-23-5	Sodium	333.00	B		P
7440-28-0	Thallium	1.10	U		F
7440-62-2	Vanadium	25.30			P
7440-66-6	Zinc	265.00			P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD88

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL Lab Sample ID: 00386-09S

Level (low/med): LOW Date Received: 6/27/90

% Solids: 88.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3120.00			P
7440-36-0	Antimony	9.50	U	N	P
7440-38-2	Arsenic	8.90		J	F
7440-39-3	Barium	61.20			P
7440-41-7	Beryllium	.90	U		P
7440-43-9	Cadmium	1.10	U		P
7440-70-2	Calcium	19700.00			P
7440-47-3	Chromium	168.00			P
7440-48-4	Cobalt	5.30	B		P
7440-50-8	Copper	130.00		N J	P
7439-89-6	Iron	8910.00			P
7439-92-1	Lead	276.00			P
7439-95-4	Magnesium	5770.00			P
7439-96-5	Manganese	137.00			P
7439-97-6	Mercury	.84 ~~.90~~			CV
7440-02-0	Nickel	405.00			P
7440-09-7	Potassium	225.00	U		A
7782-49-2	Selenium	~~11.30~~	~~U~~	~~N~~	F
7440-22-4	Silver	1.80	U	J	P
7440-23-5	Sodium	396.00	B		P
7440-28-0	Thallium	1.10	U		F
7440-62-2	Vanadium	10.60	B		P
7440-66-6	Zinc	165.00			P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD90

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL Lab Sample ID: 00386-10S

Level (low/med): LOW Date Received: 6/27/90

% Solids: 85.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10100.00			P
7440-36-0	Antimony	9.80	U	N	P
7440-38-2	Arsenic	12.90		J	F
7440-39-3	Barium	335.00			P
7440-41-7	Beryllium	.93	U		P
7440-43-9	Cadmium	1.20	U		P
7440-70-2	Calcium	21500.00			P
7440-47-3	Chromium	42.20			P
7440-48-4	Cobalt	8.80	B		P
7440-50-8	Copper	104.00		N J	P
7439-89-6	Iron	22700.00			P
7439-92-1	Lead	461.00			P
7439-95-4	Magnesium	6650.00			P
7439-96-5	Manganese	314.00			P
7439-97-6	Mercury	2.5 ~~2.60~~			CV
7440-02-0	Nickel	30.90		J	P
7440-09-7	Potassium	1280.00			A
7782-49-2	Selenium	11.60	~~U~~	~~N~~	F
7440-22-4	Silver	1.90	U	J	P
7440-23-5	Sodium	959.00	B		P
7440-28-0	Thallium	1.20	U		F
7440-62-2	Vanadium	49.20			P
7440-66-6	Zinc	373.00			P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD91

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL Lab Sample ID: 00386-11S

Level (low/med): LOW Date Received: 6/27/90

% Solids: 87.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8440.00			P
7440-36-0	Antimony	9.60	U	N	P
7440-38-2	Arsenic	36.40		J	F
7440-39-3	Barium	159.00			P
7440-41-7	Beryllium	.92	U	J	P
7440-43-9	Cadmium	1.10	U		P
7440-70-2	Calcium	7160.00			P
7440-47-3	Chromium	47.40			P
7440-48-4	Cobalt	8.20	B		P
7440-50-8	Copper	123.00		N J	P
7439-89-6	Iron	22300.00			P
7439-92-1	Lead	439.00			P
7439-95-4	Magnesium	3390.00			P
7439-96-5	Manganese	322.00			P
7439-97-6	Mercury	1.0 ~~1.10~~			CV
7440-02-0	Nickel	30.00		J	P
7440-09-7	Potassium	1120.00	B		A
7782-49-2	Selenium	11.50	U	N	F
7440-22-4	Silver	1.80	U	J	P
7440-23-5	Sodium	570.00	B		P
7440-28-0	Thallium	1.10	U		F
7440-62-2	Vanadium	38.10			P
7440-66-6	Zinc	380.00			P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD92

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL Lab Sample ID: 00386-12S

Level (low/med): LOW Date Received: 6/27/90

% Solids: 86.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8770.00			P
7440-36-0	Antimony	10.40	B	N J	P
7440-38-2	Arsenic	111.00		J	F
7440-39-3	Barium	181.00			P
7440-41-7	Beryllium	12.40		J	P
7440-43-9	Cadmium	1.20	U		P
7440-70-2	Calcium	10200.00			P
7440-47-3	Chromium	81.60			P
7440-48-4	Cobalt	13.20			P
7440-50-8	Copper	166.00		N J	P
7439-89-6	Iron	22200.00			P
7439-92-1	Lead	453.00			P
7439-95-4	Magnesium	4280.00			P
7439-96-5	Manganese	397.00			P
7439-97-6	Mercury	1.20			CV
7440-02-0	Nickel	46.90			P
7440-09-7	Potassium	1040.00	B		A
7782-49-2	Selenium	~~11.50~~	~~U~~	~~N~~	F
7440-22-4	Silver	1.80	U	J	P
7440-23-5	Sodium	594.00	B		P
7440-28-0	Thallium	1.20	U		F
7440-62-2	Vanadium	32.30			P
7440-66-6	Zinc	642.00			P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD93

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL Lab Sample ID: 00386-13S

Level (low/med): LOW Date Received: 6/27/90

% Solids: 87.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7970.00			P
7440-36-0	Antimony	25.30		N J	P
7440-38-2	Arsenic	13.40		J	F
7440-39-3	Barium	767.00			P
7440-41-7	Beryllium	.92	U		P
7440-43-9	Cadmium	7.60			P
7440-70-2	Calcium	19900.00			P
7440-47-3	Chromium	167.00			P
7440-48-4	Cobalt	9.50	B		P
7440-50-8	Copper	222.00		N J	P
7439-89-6	Iron	21200.00			P
7439-92-1	Lead	1270.00			P
7439-95-4	Magnesium	3810.00			P
7439-96-5	Manganese	285.00			P
7439-97-6	Mercury	2.1 ~~2.20~~			CV
7440-02-0	Nickel	66.30			P
7440-09-7	Potassium	1080.00	B		A
7782-49-2	Selenium	~~11.50~~	~~U~~	~~N~~	F
7440-22-4	Silver	1.80	U	J	P
7440-23-5	Sodium	663.00	B		P
7440-28-0	Thallium	1.10	U		F
7440-62-2	Vanadium	37.00			P
7440-66-6	Zinc	934.00			P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD94

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL Lab Sample ID: 00386-14S

Level (low/med): LOW Date Received: 6/27/90

% Solids: 63.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5850.00			P
7440-36-0	Antimony	27.80		N J	P
7440-38-2	Arsenic	21.50		J	F
7440-39-3	Barium	555.00			P
7440-41-7	Beryllium	1.30	U		P
7440-43-9	Cadmium	2.30			P
7440-70-2	Calcium	23200.00			P
7440-47-3	Chromium	74.60			P
7440-48-4	Cobalt	4.90	B		P
7440-50-8	Copper	125.00		N J	P
7439-89-6	Iron	15300.00			P
7439-92-1	Lead	619.00			P
7439-95-4	Magnesium	5280.00			P
7439-96-5	Manganese	305.00			P
7439-97-6	Mercury	0.0 ~~2.10~~			CV
7440-02-0	Nickel	26.20		J	P
7440-09-7	Potassium	820.00	B		A
7782-49-2	Selenium	~~15.80~~	~~U~~	~~N~~	F
7440-22-4	Silver	3.00	B	J	P
7440-23-5	Sodium	742.00	B		P
7440-28-0	Thallium	1.60	U		F
7440-62-2	Vanadium	28.50			P
7440-66-6	Zinc	561.00			P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD95

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): SOIL Lab Sample ID: 00386-15S

Level (low/med): LOW Date Received: 6/27/90

% Solids: 76.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11200.00			P
7440-36-0	Antimony	39.90		NJ	P
7440-38-2	Arsenic	27.30		J	F
7440-39-3	Barium	715.00			P
7440-41-7	Beryllium	1.00	U		P
7440-43-9	Cadmium	4.90			P
7440-70-2	Calcium	12000.00			P
7440-47-3	Chromium	259.00			P
7440-48-4	Cobalt	15.70			P
7440-50-8	Copper	364.00		NJ	P
7439-89-6	Iron	47200.00			P
7439-92-1	Lead	1750.00			P
7439-95-4	Magnesium	3680.00			P
7439-96-5	Manganese	365.00			P
7439-97-6	Mercury	2.8 ~~2.90~~			CV
7440-02-0	Nickel	118.00			P
7440-09-7	Potassium	1700.00			A
7782-49-2	Selenium	~~13.10~~	~~U~~	~~NW~~	F
7440-22-4	Silver	2.10	U	J	P
7440-23-5	Sodium	638.00	B		P
7440-28-0	Thallium	1.30	U		F
7440-62-2	Vanadium	90.80			P
7440-66-6	Zinc	1050.00			P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD97

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): WATER Lab Sample ID: 00386-16S

Level (low/med): LOW Date Received: 6/27/90

% 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	95.40	B		P
7440-36-0	Antimony	42.00	U	N J	P
7440-38-2	Arsenic	5.00	U	J	F
7440-39-3	Barium	14.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	570.00	U		P
7440-47-3	Chromium	11.20		J	P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	17.00	U		P
7439-89-6	Iron	136.00			P
7439-92-1	Lead	3.40		N J	F
7439-95-4	Magnesium	400.00	U		P
7439-96-5	Manganese	11.00	U	J	P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	24.00	U	J	P
7440-09-7	Potassium	1000.00	U		A
7782-49-2	Selenium	5.00	U	N J	F
7440-22-4	Silver	8.00	U	J	P
7440-23-5	Sodium	580.00	U	E	P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	22.00	U		P
7440-66-6	Zinc	14.00	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD98

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): WATER Lab Sample ID: 00386-17S

Level (low/med): LOW Date Received: 6/27/90

% 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	44.00	U		P
7440-36-0	Antimony	42.00	U	NJ	P
7440-38-2	Arsenic	5.00	U	J	F
7440-39-3	Barium	14.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	570.00	U		P
7440-47-3	Chromium	7.80	B	J	P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	17.00	U		P
7439-89-6	Iron	33.10	B		P
7439-92-1	Lead	2.00	U	NW	F
7439-95-4	Magnesium	400.00	U		P
7439-96-5	Manganese	11.00	U	J	P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	24.00	U	J	P
7440-09-7	Potassium	1000.00	U		A
7782-49-2	Selenium	5.00	U	NJ	F
7440-22-4	Silver	8.00	U	J	P
7440-23-5	Sodium	580.00	U	E	P
7440-28-0	Thallium	5.00	U		F
7440-62-2	Vanadium	22.00	U		P
7440-66-6	Zinc	14.00	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBDD99

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): WATER Lab Sample ID: 00386-18S

Level (low/med): LOW Date Received: 6/27/90

% 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	44.00	U		P
7440-36-0	Antimony	42.00	U	N J	P
7440-38-2	Arsenic	5.00	U	J	F
7440-39-3	Barium	14.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	570.00	U		P
7440-47-3	Chromium	7.00	U		P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	17.00	U		P
7439-89-6	Iron	26.00	U		P
7439-92-1	Lead	3.70		N J	F
7439-95-4	Magnesium	400.00	U		P
7439-96-5	Manganese	11.00	U	J	P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	24.00	U	J	P
7440-09-7	Potassium	1000.00	U		A
7782-49-2	Selenium	5.00	U	NW J	F
7440-22-4	Silver	8.00	U	J	P
7440-23-5	Sodium	580.00	U	E	P
7440-28-0	Thallium	5.00	U		F
7440-62-2	Vanadium	22.00	U		P
7440-66-6	Zinc	14.00	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MBCY64

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68-W8-0061

Lab Code: CHEM Case No.: 14407 SAS No.: SDG No.: MBCY64

Matrix (soil/water): WATER Lab Sample ID: 00386-01S

Level (low/med): LOW Date Received: 6/27/90

% 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	44.00	U		P
7440-36-0	Antimony	42.00	U	NJ	P
7440-38-2	Arsenic	5.00	U	UJ	F
7440-39-3	Barium	14.00	U		P
7440-41-7	Beryllium	4.00	U		P
7440-43-9	Cadmium	5.00	U		P
7440-70-2	Calcium	570.00	U		P
7440-47-3	Chromium	7.00	U		P
7440-48-4	Cobalt	13.00	U		P
7440-50-8	Copper	17.00	U		P
7439-89-6	Iron	26.00	U		P
7439-92-1	Lead	2.90	B	NJ	F
7439-95-4	Magnesium	400.00	U		P
7439-96-5	Manganese	11.00	U	J	P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	24.00	U	J	P
7440-09-7	Potassium	1000.00	U		A
7782-49-2	Selenium	5.00	U	NJ	F
7440-22-4	Silver	8.00	U	UJ	P
7440-23-5	Sodium	580.00	U	E	P
7440-28-0	Thallium	5.00	U	W	F
7440-62-2	Vanadium	22.00	U		P
7440-66-6	Zinc	19.97	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

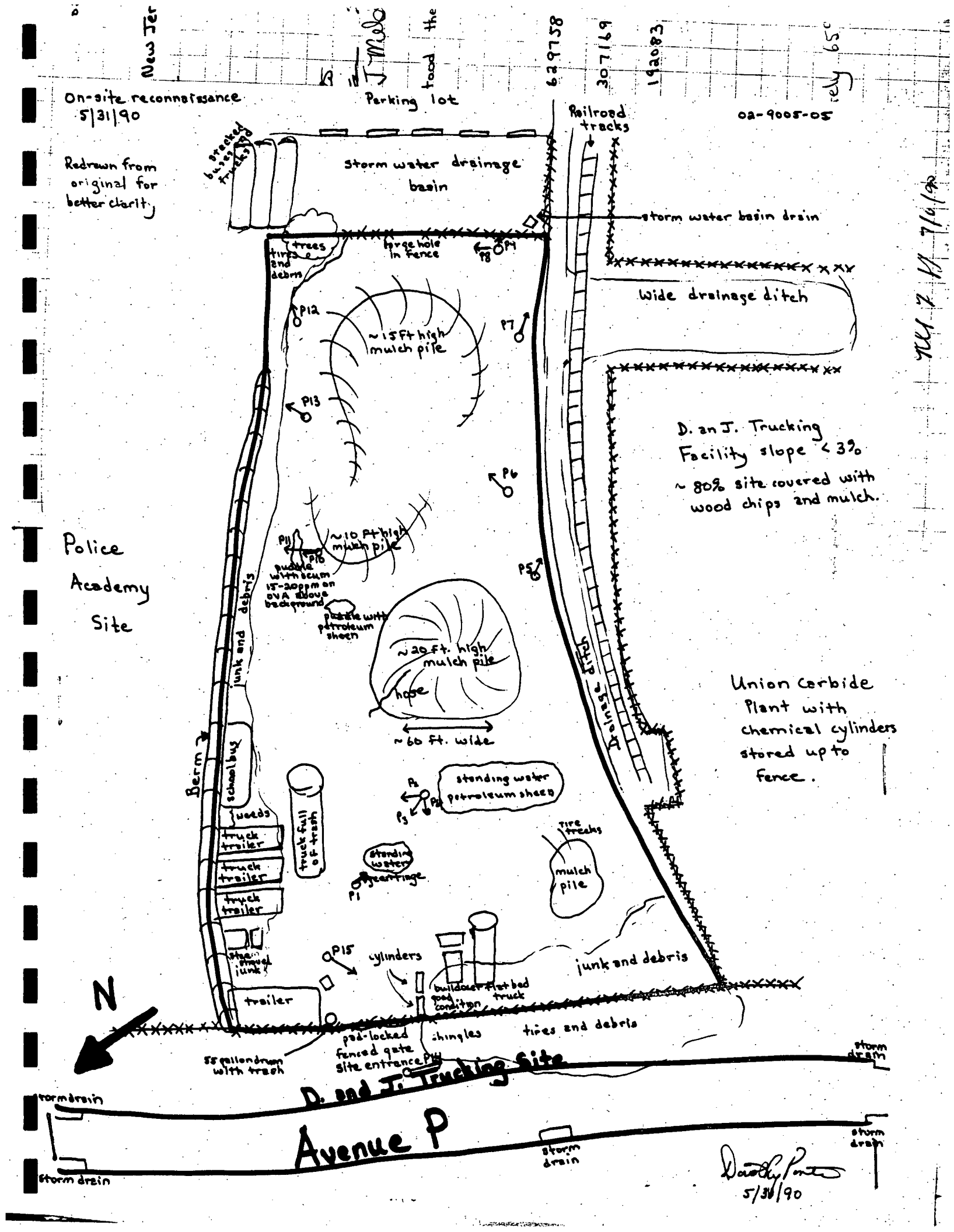
REFERENCE NO. 2

NUS CORPORATION

II

0583

D & J TRUCKING
02-9005-05
TDD MANAGER-D. PONTE
LOGBOOK #0583
MAY 10, 1990


New Jer
Parking lot
629758
307169
192083
02-9005-05
On-site reconnaissance
5/31/90
Redrawn from original for better clarity
stacked buses and trucks
storm water drainage basin
Railroad tracks
storm water basin drain
trees
tires and debris
large hole in fence
P4
P8
Wide drainage ditch
P12
~15 Ft high mulch pile
P7
P13
D. an J. Trucking Facility slope < 3%
~80% site covered with wood chips and mulch.
P6
Police Academy Site
P11
P10
~10 Ft high mulch pile
puddle with scum 15-20ppm on OVA above background
P5
puddle with petroleum sheen
junk and debris
~20 ft. high mulch pile
hose
~60 ft. wide
Delaware ditch
Union Carbide Plant with chemical cylinders stored up to fence.
Berm
schoolbus
weeds
truck full of trash
P2
P3
standing water petroleum sheen
truck trailer
truck trailer
truck trailer
standing water
P1
tire tracks
mulch pile
P15
cylinders
junk and debris
trailer
bulldozer
flat bed truck
poor condition
shingles
tires and debris
55 gallon drum with trash
post-locked fenced gate site entrance
P14
storm drain
D. and J. Trucking Site
storm drain
Avenue P
storm drain
storm drain
5/30/90

02-9005-05 / 113663

D. and J. Trucking

TABLE OF CONTENTS

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10-25	On-site inspection
26-28	Photograph log (on-site inspection

[signature] 7/6/90

Dorothy Ponce 7/03/90

02-9005-05

02-9005-05/NJGGJ
5/31/90

D. and J. Trucking
Newark, Essex County, New Jersey
310-328 Avenue P site

ON-SITE RECONNAISSANCE

NUS Personnel:

Dorothy Ponte sm Dorothy Ponte
Paul Bauer SSO Paul Bauer 5/31/90
Mathew Meldrim Support Matthew J Meldrim 5-31-90

The above personnel have read and understood the workplan and QA/QC procedures.

Equipment Numbers:

OVA F	# 307137	SCBA	# 629758	Dorothy	Did not use
HNu J	# 469745	SCBA	# 307169	Matt	
Probe J	# 469751	SCBA	# 192083	Paul	

10.2 V.

Cameras: # 469776 (Canon)
469756 (Canon)

Rad detector: # 192089

Weather conditions: sunny, approximately 65°F, light breeze coming from the west.

Dorothy Ponte
5/31/90

[illegible] 7/6/90

D and I. Trucking 02-9005-05
5/31/90

0915 Arrived at 310 Avenue P site waiting to meet up with Michael Chambers of the Newark Housing Authority.

Site entrance is fenced, ~~and link-chained~~ DP 5/31/90 and padlocked.
A pack of 6 ~~wild~~ stray DP 5/31/90 dogs are at the site.
View of site through entrance:
Heavy equipment (junk yard) is to the left of gate as well as a mobile type home or office unit.
A dog house is also near this unit.
Heavy equipment is also to the right of the entrance.
Two piles of ~~dirt or sludge~~ tree mulch DP 5/31/90 are located on the property, with no growth apparent.

0945 Drove to 309-~~365~~ 465 DP 5/31/90 Avenue P Site, to request Cavanaugh people DP 5/31/90 to direct Mr. Chambers to 310 Ave. P site, if he mistakenly ~~went~~ goes to their site

1035 Drove to 309-~~365~~ 465 DP 5/31/90 Avenue P site to access a phone to call Mr. Chranewycz (201) 430-2276. Paul asked him about Michael Chambers, and Mr. Chranewycz said he was on his way to 310 Avenue P site.

1045 A bulldozer and ~~tractor~~ trailer truck arrive at site.
Atlantic Transit Trans, Newark, N.J. is written on door of truck.
Fellow in bulldozer mentioned Mr. Chambers had been at site 5/30/90. The bulldozer driver mentioned he was at the site to pick up mulch from the piles. The site may therefore be an active staging area for mulch. [signature] 5/31/90

[signature] 7/6/90

D. and J. Trucking 02-9005-05
5/31/90

10:55 Permission was given to open gates to allow us access to site by mulching operation company - name unknown 6/29/90 DP. Fellow in bulldozer opened gates and told us to lock up when we finished. He left site then.

11:00 set up decon area near front entrance to site.
Paul took background readings. For HNu and OVA, the background readings were zero. ~~Rad meter had no readings above background either~~ DP 5/31/90 Background reading for Rad meter: .02-.04 mr/hr. DP 7/09/90

11:10 Paul Bauer and Matt Mellrim entered property to make a surveillance of air along the perimeter of the site, and in the vicinity of the mulch piles and junk debris located on the property. Both wore level B protective clothing and equipment. Went on air at this time, too.

11:15 Discussed readings taken along the mulch piles, no hits above background in breathing zone. Pond with liquid on ground 15-20 ppm at surface of water. OVA.

11:20 Returned from surveillance of site, went off air in decon area.

11:25 PPE downgraded to level C, using MSA combination cartridges GMC-H type.

11:27 Paul, Matt and Dorothy DP 5/31/90 went to enter site to make readings. All went on level C at this time, also.

11:32 PB, MM, DP enter site through front gate entrance heading SE.

1-P1, S1, 11:35 Photo looking ~~south~~ southwest DP 6/05/90 at standing water with greenish tint & petroleum sheen.

1-P2, S2 11:40 Looking ~~south~~ northeast DP 6/05/90 at truck with debris.

1-P3-S3 11:40 Looking North at trailer home near entrance to facility.

1-P4-S4 11:40 Looking NW at fence near ~~[illegible]~~ DP 5/31/90 property line. ~~[illegible]~~ DP 5/31/90 Note debris.

[illegible] 7/6/90

[illegible] 5/31/90

D. and J. Trucking 02-9005-05
5/31/90

11:45 1 - P_5, S_5 ~~11:45 pm~~ DP 5/31/90 Looking SE at standing water near SW property line. White scum on surface DP 7/02/90

11:46 1 P_6, S_6 ~~11:46~~ DP 5/31/90 Looking ~~east~~ east ~~southeast~~ at wood chipping mulch piles. DP 5/31/90

11:50 1 - P_7, ~~P_8~~ S_7 DP 5/31/90 Looking SE at ~~creek~~ drainage ditch along ~~SE~~ SW perimeter of property. Note debris. DP 7/01/90 DP 5/31/90 DP 5/31/90

11:52 No readings above background with monitoring equipment.

11:53 1 - P_8, ~~P_{10}~~ S_8 DP 5/31/90 Looking NE along ~~east~~ southeast perimeter of property. Note hole in fence. DP 5/31/90

11:53 DP 5/31/90 DP 5/31/90

1 - P_9, S_9 DP 5/31/90 Looking SE at holding pond, or storm water drainage basin.

11:55 1 - P_{10}, S_{10} Looking NE at ~~north~~ northeast perimeter and standing water wherever readings were obtained. Paul gets readings on OVA of 15-20 ppm in area of standing water. No readings on HNu. DP 5/31/90

11:55 1 - P_{11}, S_{11} DP 5/31/90 Looking NE at ~~north~~ northeast perimeter of property, at debris and junk in vicinity of standing water. DP 5/31/90

12:00 1 - P_{12}, S_{12} Looking east at debris at east corner ~~of north & east~~ DP 5/31/90 DP 5/31/90 ~~perimeter~~ of property. Note no berm or fence for 100 feet along NE perimeter. DP 5/31/90

12:00 1 - P_{13}, S_{13} DP 5/31/90 Looking E at berm erected between Police Range and site property along northern perimeter. Note no berm or fence along 100 ft of NE perimeter.

[signature] 5/31/90

[signature] 7/6/90

02-9005-05
5/31/90

D. and J. Truckins

7

~~12:05~~ Leaving property through front entrance. ~~Dorothy reenters through same gate~~ DP 5/31/90

~~12:09~~ ~~PB MM DP all off level C cartridge protection~~ DP 5/31/90

12:06 Looking ~~sk~~ southwest DP 5/31/90 along ~~eastern~~ northwestern DP 5/05/90 perimeter at debris outside fence. Dorothy reenters through front gate.
1-P, S 14, 14 DP 5/31/90

12:06 Looking east at cylinders near facility's ~~eastern~~ northwest DP 5/31/90 perimeter. Dorothy leaves property through front entrance to decontamination area.
1-P, S 15, 15 DP 5/31/90

12:08 All commencing decontamination procedures of clothing.

12:09 All go off level C cartridge protection.

12:09 PB turns off equipment and begins to pack equipment away. Matt helping out.

12:10 Pick-A-Part truck arrives and asks about site activity. Fellow on passenger side mentions AEA Pallet Co., Inc. is involved in the mulching activities at the site. He also mentioned the site was a dye factory before it became a junk yard.

12:20 Paul locks front entrance gate to facility

12:25 Truck is completely packed, all solid waste is packed in a garbage bag; tyvex, booties, plastic wrap is solid wastes, to be disposed of off site

[signature] 7/6/90

Dorothy Ponce
5/31/90

02-9005-05 D. and J. Trucking NJGGI$

5/31/90

Photograph Log

All photographs taken by Dorothy Ponte

Photo No.	Description	Time
1-P1, S1 DP 6/04/90	Photo looking southwest at standing pool of water. Note greenish tinge and petroleum sheen.	1135
1-P2, S2 DP 6/04/90	Photo looking northeast at truck loaded with junk. Note trailer home and junked equipment.	1140
1-P3, S3 DP 6/04/90	Photo looking north at junked equipment and debris. Note bulldozer and flat bed truck.	1140
1-P4, S4 DP 6/04/90	Photo looking northwest at fence near property line. Note debris.	1140
1-P5, S5 DP 6/04/90	Photo looking towards southeast at standing water in drainage ditch near southwest property line. Note scum on surface.	1145
1-P6, S6	Photo looking east at woodchip mulch piles. Note recent tire tracks.	1146
1-P7, S7	Photo looking southeast at drainage ditch located along southwest perimeter of property. Note debris and junk.	1150
1-P8, S8	Photo looking northeast along southeast perimeter of property. Note hole in fence.	1153
1-P9, S9	Photo looking southeast at storm water drainage basin.	1153

[signature] 7/6/90

Dorothy Ponte 6/04/90

02-9005-05 D. and J. Trucking NJ6618

5/31/90

Photograph log continued

All photographs taken by Dorothy Ponte

Photo No.	Description	Time
1-P10, S10	Photo looking northeast at standing pool of water where readings on the OVA were obtained.	1155
1-P11, S11	Photo looking northeast at junk and debris along northeast perimeter of property in the vicinity of the standing water. Note the berm.	1155
1-P12, S12	Photo looking east at junk an debris in eastern corner of property. Note no berm or fence.	1200
1-P13, S13	Looking east at berm erected between the Police Academy Site and the northeastern perimeter of the D. and J. Trucking Site.	1200
1-P14, S14	Looking southwest along northwest perimeter of property near entrance to the site. Note roof shingles, tires and debris.	1206
1-P15, S15	Looking west at cylinders near site entrance along northwest perimeter. Note storm drain across Avenue P.	1206

[illegible] 7/6/90

Dorothy Ponte
6/04/90

D. and J. Trucking 02-9005-05
310-328 Avenue P
Newark, Essex County, New Jersey

June 26, 1990

On-site inspection

NUS Personnel:

Dorothy Ponte	SM	Dorothy Ponte
Edmund Knyfd	SSO	Ed Knyfd
William Foss	SMO	William Foss
Brian Farrell	Sampler	
Bruce Sanders	sampler	Bruce Sanders

The above personnel have read and understand the workplan and QA/QC procedures.

Sampling equipment was decontaminated and properly stored, to avoid recontamination before sampling actwities, off site at the EPA, Edison, New Jersey on June 25, 1990 (time 930 - 1245).

Weather: Sunny, approximately 68° F, Light breeze from west. A few scattered high clouds.

0845 Above NUS personnel arrived at site at 0845 in a cube truck and Suburban. Mulching piles previously on site (during 5/31/90 reconnaissance) have been removed.

Dorothy Ponte 6/26/90

7/6/90

D and J. Trucking 02-9005-05
6/26/90

Equipment Numbers:

OVA J 469759
HNu A 192120
Probe A 307147 10.2eV
Minirad 428604
Explosimeter > B 307150
O2 meter
Cannon cameras 428512 307126

0900 Began to set up decon area near a storm drain by front entrance to site. Ed setting up monitoring instruments.

0905 Mr. Calvin Chambers arrived at site. He unlocked the front entrance, however the mulching company ped lock remained. The gate was opened by Mr. Chambers by removing wire which held the top right gate to the fence. His car is parked on the site's concrete pad.

Six dogs are on site.

0930 Background readings for OVA and HNu are 0 ppm.
Background reading for minirad 10 cpm.
% oxygen is set at 20.8% on O2/Explosimeter
% LEL has been calibrated to zero.

0934 Bill Foss prepared the trip blank. Dorothy Ponte is to be carrying it on her person during sampling of surface water.

Bill L F 7/6/90

Dorothy Ponte 6/26/90

D. and J. Trucking
6/26/90

02-9005-05

Rinsate samples collected:

time	collection tool
1020	Scoop
1125	Auger
1152	bowl
1232	trowel

[illegible] 2/2/90

[illegible] Pinto
6/28/90

D. and J. Trucking 02-9005-05
6/26/90

0940 Ed Knyfd held a safety briefing. The following NUS personnel attended:

Dorothy Ponte
Ed Knyfd
Brian Farrell
Bruce Sanders
William Foss

0940 Mr Chambers left site and will return about noon. He gave us permission, when asked by Ed, to use water from a faucet on site for decon purposes.

0950 Ed Kryfd and Dorothy Ponte go on Level C and enter property to do a quick reconnaissance of the site and ascertain if indeed a scoop is necessary to obtain surface water samples as SW1 and SW2/SW3 sample locations.

1000 Ed and Dorothy return to decon area and go off level C. They discuss sampling strategies with other NUS team members. They also concur from monitoring instrument readings and slight breeze, that level 'C' need be worn only by samples, goggles for others.

1030 Leave decon area, enter site (Ed, Dorothy, Brian and Bruce) and head to location SW1/SED1. Brian and Bruce go on level 'C'. Dorothy and Ed use level 'D' with safety goggles.

1035 Brian and Bruce on level 'C'. Brian preparing test bottle with HCL and SW1 sample water. Ed using monitoring instruments. No reading, 6/28/90 DP levels above background in breathing zone were noted at this location.

7/6/90

Dorothy Ponte 6/26/90

D and J. Trucking 02-9005-05
6/26/90

1036 The OVA fluctuated between 1-3 ppm near SW1/SED drainage ditch location near water.

1040 15 drops HCL to bring pH test SW1/SED DP 6/26/90 solution down to pH 2 from original pH of 8/10. DP 6/26/90
VOAs were preserved with 15 drops HCL accordingly.

1050 No readings above backgrounds in breathing zone. Water turbid in color. DP 6/27/90
Readings were taken in breathing zone. Water also very scummy in appearance

1055 1-P, S. Photo of Brian Ferrell taking SW1 from drainage ditch. DP 6/27/90
at a bearing of 117° and a distance of 71 feet 2 inches.
Distance and bearing measured from a metal pole near the property's SW perimeter to sampling point.
SW1 is also designated as the MS/MSD sample for this matrix = water.

1115 Spoke with Bill Foss back at the command post. Mr. Ed Dunning (owner of heavy equipment near gate) arrived. DP 6/27/90 Mr. Dunning mentioned the dogs on site turn green or purple during rain storms.

1116 1-P2, S2 Photo of Brian taking SED 1 from drainage ditch at a bearing of 117° and a distance of 71 feet 2 inches. DP 7/05/90
Distance and bearing measured from a metal pole to sampling location. Same reference point of SW1. DP 6/27/90
SED-1 appearance - sample is organic mulch, rather decayed.
OVA readings: 10-20 ppm for SED 1 directly above bowl, otherwise no readings above background in breathing zone. 7/02/90 DP

1135 Moving to SW2/SED2, SW3 location near property corner by drainage ditch, directly across from wide drainage ditch on adjacent property. Sample SW3 is a duplicate of surface water sample SW2. Sample SW3 will be collected from the same location and depth as sample SW2.

Rel L D 7/6/90

[illegible] 6/26/90

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6/26/90

1136 OVA 10-30 ppm, right at undisturbed water surface.
No readings from HNu at same level above water surface.
pH of water is 8.
No readings above background in breathing zone.

1138 6 drops HCL brings pH of surface water in test
VOA bottle down to < 2 pH.

1140 P-3 S3 samples being taken near a growth of algae in drainage ditch.
Photo of Bruce taking SW2/SW3 from drainage
ditch at a bearing of 247° and a distance of 20 feet.
Bearing & Distance measured from fence south corner pole of the southern chainlink fence to sample point.

1142 P-4, S4 Photo of Bruce Sanders taking SE2-2 from drainage
ditch located across from wide drainage ditch on
adjacent property at a bearing of 247° and a distance of
20 feet same location as SW2/SW3 reference point.
2-15 ppm OVA near sed sample
0 ppm HNU near sed sample
No readings above background in breathing zone.

DP 6/26/90

1207 Bruce, Ed, Dorothy and Brian return to decon area. Bruce and Brian go off level 'C'.
Brian and Bruce commence to decon sample
bottles

1209 Bill mentions that Mr. Chambers will have us lock up
after 4:30, should our site sampling extend past
this hour as per earlier conversation with Mr. Chambers
while we were collecting surface water samples.

1210 Spoke with a vagrant who claims to have lived on the
site property for 12 years. He lives in the mobile home and
other junked trailers. He also mentioned the site had been a
dye factory at one time in the past.

Rill [illegible] 7/6/90

Dorothy Pinto
6/26/90

D. and J. Trucking 02-9005-05 15
6/26/90

1255 Brian, Ed, Dorothy and Bruce enter site after a short break, heading for surface soil location by front entrance. No readings above background in breathing zone. Brian and Bruce on level 'C' at this time too.

1300 (pm) Brian and Bruce have dug into mulch to soil at S1. Soil is extremely compacted and dark from the organic layer of overlying mulch. Coarse, gravely in texture beneath the thin organic layer. Bricks and large pebbles are encountered within a few inches.

4-10 ppm on OVA } readings just above soil sample
0 ppm on HNu
2-3 ppm on OVA in air breathing zone of samplers.

1302 1-P5 S5 photo of DP 6/27/90 Brian collecting surface soil sample S1 near northwestern perimeter DP 6/29/90 front entrance at a bearing of 110° and a distance of 94 feet 2 inches. Distance and compass bearing measured from wood pole 1 DP 7/05/90 with 55 gallon drum on top, to sample location along NW fence. DP 7/02/90
S1 is also designated as a MS/MSD sample for soil matrix. Standing pool of green tinged water was covered over with fresh mulch since on site reconnaissance conducted by NUS personnel on 5/31/90.
Sample S1 collected from a depth of 0 to 6 inches.

1325 Arrived at sample location S2 near corner of fence.

1327 1-P5 S6 photo of 6/27/90 D.P. Bruce collecting surface soil sample S2 near southwestern DP 6/29/90 property line near western corner. Soil has a nice brown texture. Sandy medium grained texture S2 located at a bearing of 45° and a distance of 21 feet 3 inches from chainlink DP 6/29/90 pole 1 on fence. Sample collected from a depth of 0 to 6 inches.

[signature] 7/6/90

[signature] 6/26/90

1337 arrived at sample location S3
Soil profile: 0-6" organic layer
6"-10" clay sandy fill, until bricks were found.
OVA fluctuated in the breeze from 10-100 ppm at sample surface hole near mulch 0.4 ppm; from sample collected in bowl; reading obtained on OVA directly over sample. DP 7/05/90

1340 1-P-5 Photo of Brian Farrel taking an auger soil sample - S3 at a bearing of 70° and a distance of 119 feet from telephone pole at the western property corner. DP 6/29/90
Sample collected from a depth of 10 to 14 inches.
No air readings above background in air breathing zone.
Soil profile same as SW3.

1350 Arrived at sample location S4. Soil profile:
0-10" mulch layer followed by water and large pepples with more mulch. Moved auger hole location found same thing.

1400 1-P-8 Photo of S4 location with bubbles of gases coming from water. Sample location near drainage ditch along southwestern property border.

1420 Returned to decon area with surface soil samples and auger samples S2 and S3. Dorothy to call Rich Feinberg and inform him of our situation in regards to soil samples and problem of overlying mulch. Brian and Bruce off level 'C'.

1425 Dorothy spoke to Rich Feinberg by phone informing him of our situation. She mentioned the site had been regraded and the large piles of mulch removed from site. The remaining mulch was regraded and the site now appears flat. A layer of 12-18 inches of mulch lies above the surface soil. Within a foot of the surface of the mulch water is encountered making augering for soil samples next to impossible. Some areas mulch appears to be over a yard thick.

Rill [signature] 7/6/90 [signature] 6/26/90

D. and J. Trucking 02-9005-05
6/26/90

1425 (continued conversation between Dorothy and Rich Feinberg)
I mentioned we were unable to get auger samples, Rich told me to get what we could get, even if we were only able to obtain surface soil samples from beneath the mulch.
I also mentioned about Mr. Dunnigan's conversation with Bill in which he stated stray dogs on site turn green and purple in color during the rain. Rich requested I note this in the log book.
Patches of green and purple colored mulch were noted on site. The discoloration of the dogs fur may be attributable to the mulch on site. DP 6/29/90

1443 Weather conditions: Sunny, light breeze from south west at about 5-7 mph. High scattered clouds. About 84° F. patches of green and purple DP 7/04/90

1445 Brian, Bruce back on level 'C'. Ed, Dorothy, Brian and Bruce return to site towards sample location S5.

1446 Arrive at sample location S5 directly across from loading dock of adjacent industry (Union Carbide)
No readings above background in breathing zone.
1-2 ppm on OVA directly above surface soil sample.
No readings on the HNu above background.

1450 Pg, Sq Photo of Bruce Sanders collecting surface soil S5 collected from a depth of 12 to 16 inches beneath mulch.
Soil brown and sandy in texture.
Soil depth measured from a depth below at least 1 foot of overlying mulch.
Sample S5 collected at a bearing of 115° and a distance of 120 feet, as measured from a metal pole to the sampling point near the southwestern drainage ditch. DP 6/29/90
Soil sample collected from a depth of 0 to 4 inches below soil.
No readings above background in breathing zone.

Rich L D 7/6/90

Dorothy Pinto 6/26/90

6/26/90

1507 Arrived at sample location ~~S6, S7 (Dup of S6)~~ S11 DP 6/26/90. This was former location near a huge mulch pile which has since been removed and graded over with remaining mulch.

Brian dug at least 2 feet into the mulch, with mulch at least one foot beneath his feet.

No readings above background in breathing zone. DP 6/26/90

1550 DP 6/26/90 Photo of Brian digging hole at location ~~S6, S7~~ S11, DP 6/26/90 197 feet from same pole as sample reference point S5, and at a bearing of 109°. Spoke with Bill Fogs at command post by walk-talk to inform him ~~S6, S7~~ S11 DP 6/26/90 ~~were~~ was being scratched from sampling list at this location.

1520 Arrived at new location for sample S8, more toward NE perimeter of property by debris near ~~berm~~ DP 6/26/90 berm. Previous location was covered over by what appeared to be as much mulch as sample location ~~S6, S7~~. S11 DP 6/26/90.

1525 HPS Photo of Bruce obtaining sample S8 (Fogs berm) Photo taken at a bearing of 315° southwestern and a distance of 165 feet to pole in chainlink fence located 60 feet south from east corner of property. DP 6/29/90 DP 6/29/90

S8 was collected from a depth of 0 to 6 inches.

No readings above background in breathing zone.

[illegible] 7/6/90

[illegible] 7/26/90

1540 Arrived at sample location 59.
Brian dug down approximately 18 inches through the mulch. Water was encountered 12 inches beneath the surface of the mulch layer.

No readings above background in breathing zone.
5-6 ppm on OVA near surface soil sample collected by Bruce in bowl, so far.

1600 Bruce bailed out more water to reach soil available near mulch. 14 ppm on OVA near the surface soil sample collected by Bruce in bowl.

1603 HP12 S12 photo of Bruce taking surface soil sample 59 below mulch surface DP 6/20/90
from a depth of 12-15 inches, at a bearing of 140° and a distance of 197 feet from a pole near weed growth. Soil collected from a depth of 0 to 5 inches below soil surface.
Wood Pole 2 located near the northeastern corner of the property, and is treated wood. DP 6/29/90

1604 Mr. Chambers, site contact, has returned to the site. Bill Foss advised us of this from the command post via walkietalkie.

1608 Dorothy, Ed, Bruce and Brian return to decon area. Bruce and Brian off level 'C'.

[illegible] 7/6/90 Dorothy Porter 6/28/90

D. and J. Trucking 02-9005-05

6/26/90

1609 Dorothy discusses sampling strategy with Bill Foss. They concur that sampling map should be redone to reflect changes made in sampling locations instead of alter Bill's labeling strategy. These changes will be corrected in log book to reflect changes in map.

1635 Ed, Dorothy, Brian and Bruce re enter site to sample location S11 which has been swapped "numberwise" with former sampling location S6, S7. Sample S6, S7 is now located near northeast perimeter of property approximately 20 feet from the berm separating the site and the Police Academy site pistol range. Former site S6, S7 will now be known as sample location S11 on the map and notations in log book referring to this location have appropriately been relabeled. Bruce and ~~Ed~~ Brian 6/26/90 go on level C ~~at~~ this time.

1650 H13 S13 Photo of Bruce Sanders taking auger soil sample S6, S7 from a depth of 6 to 18 inches. Sample taken at a bearing of 91° and a distance of 34 feet 9 inches from ~~pole~~ woodpole 2 DP 7/05/90 on property near northern corner. DP

Soil is sandy in texture and brown in color.

No readings above background in breathing zone.
No readings directly above auger soil sample either, on OVA or HNu.

Wood Pole 2 located near northeastern ~~corner~~ berm DP 7/05/90 of property. DP 6/29/

[signature] 7/6/90

[signature] 6/26/90

D. and J. Trucking
6/26/90

1700 Arrive at sample location S10 which is being used as a background sample due to the trees growing nearby. (The rest of the site is covered with mulch or is fairly barren)

1705 1P.S. Photo of Brian Ferrell collecting sample S10 from depth of 0 to 6 inches at a bearing of 90, and a distance of 30 of the property's southeastern chainlink fence from 70 feet 4 inches from pole with fence. DP 6/26/90
DP 6/26/90 No readings above background in breathing zone.

1707 1P.S. Photo looking at thickness of mulch pile recently regraded over entire site since site reconnaissance on 5/21/90, conducted by NUS personnel.

1708 DP 6/26/90 1P.S. Photo looking at trailer filled with large paint cans. Trailer located in eastern corner of property in close proximity to sample location S10.

DP 6/26/90
1720 Leave site and commence decon procedures of personal clothing and equipment. Brian and Bruce off level 'C'.

DP 6/26/90
1740 Decon of equipment complete. Packing of equipment into Suburban vehicle. Bill filling out paperwork for shipping samples via Federal Express.

[signature] 7/6/90

[signature] 6/26/90

Drand J Trucking 82-9005-03 22

6/26/90

1845 Completed packing samples and equipment into vehicles. All solid waste was double bagged to be disposed of in dumpster at NUS Edison.
Decon water was disposed down a nearby sewer drain as prearranged by the Passaic Valley Sewerage Commissioners (PVSC). Sewer drain located just off site's front entrance on Ave. P. Paint can containing Hexane was brought back to NUS as requested by PVSC.
Decon water consisted of a mild soap (Alconox) and tap water.

1900 Leave site and head toward Newark International Airport to drop off samples contained in coolers (5 of them) at a Federal Express, for shipment to the labs for analysis as prearranged by NUS.

1915 Arrive at Federal Express. Encounter difficulties in shipping coolers as Federal Express will not ship any container they observe to appear to be leaking. One cooler we repacked into another cooler, which was in better condition, to verify that samples inside were not leaking in the first. Samples were properly packed and not leaking, nor was the double bagged ice from this cooler. Therefore we determined leakage was from another source, and noted water on the floor of the Cube truck. The contents of the cooler were repacked into the other

[illegible] 7/6/90

Dorothy Ponte 6/26/90

cooler as a precaution anyhow, to ensure shipment. The other four coolers NUS personnel were able to wipe dry with paper towels. It appears damaged corners to the coolers permitted water off the cube truck floor to seep in. Therefore when tipped on end, some of this water would drip out onto the Federal Express scale. The coolers, properly dried off, were shipped off
1930 by Federal Express to their prearranged lab destinations.

2016 Arrive back at NUS, Edison to unload equipment from vehicles. Monitoring instruments are plugged into the electricity to be recharged.

2045 Vehicles are returned to EPA, Edison.

[illegible] 7/1/90

[illegible] 6/26/90

D. and J. Trucking 02-9005-05
6/26/90

Notes:

During the sampling event, difficulties were encountered when attempting to collect surface and subsurface soil samples due to a thick layer of mulch on site. The site had been regraded since an onsite reconnaissance conducted by NUS Corporation on Thursday, May 31, 1990. Large piles of mulch present during the on-site reconnaissance had since been removed and/or leveled. Mulch was spread out over the entire site's soil surface, and in several areas was over 3 feet thick. The mulch tended to retain water which also interfered with the collection of soil samples. As a result, two soil subsurface samples, S4 and S11, were not collected.

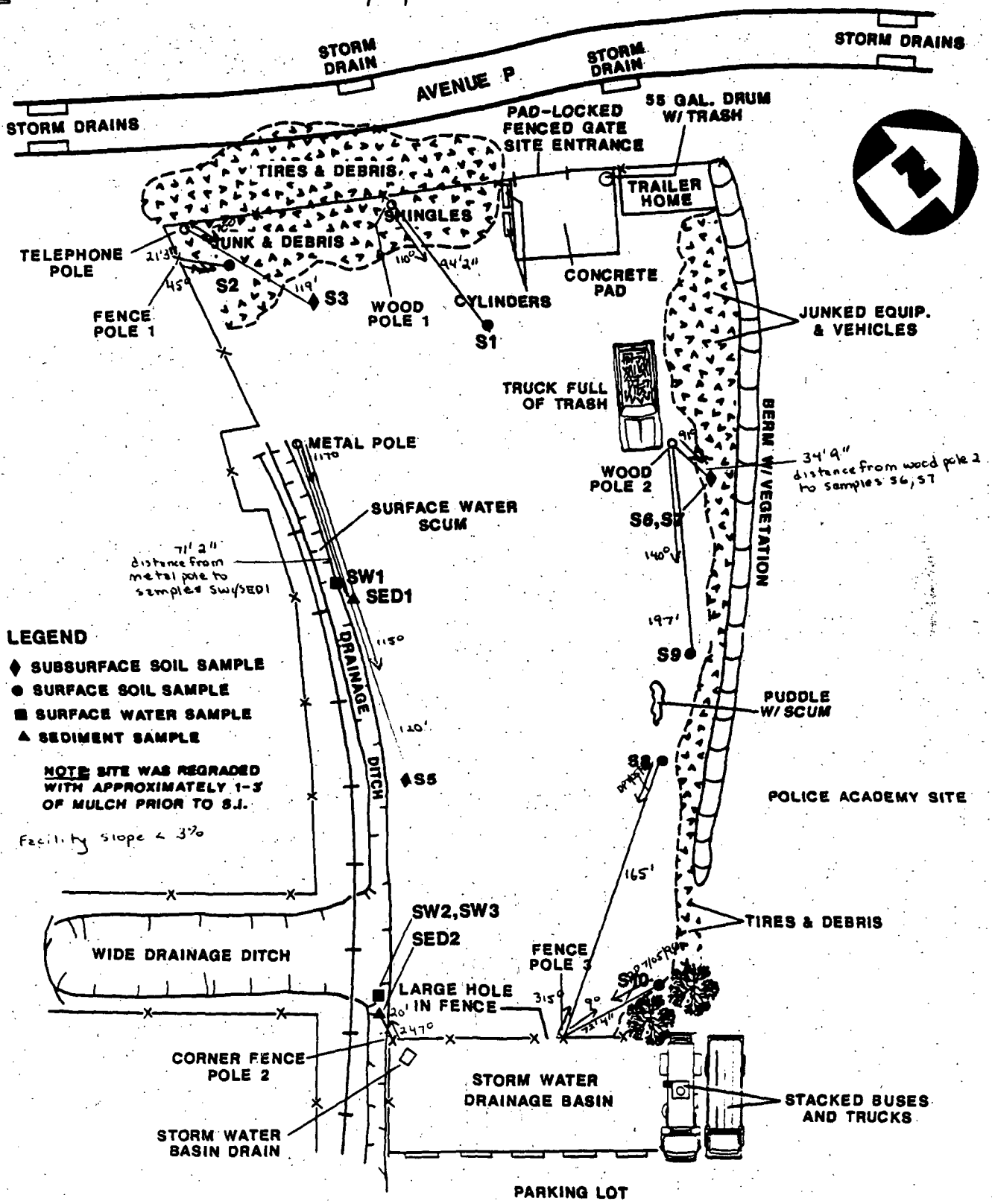
Construction debris, consisting mainly of bricks were also encountered when obtaining subsurface soil samples. As a result, auger samples were restricted to the upper foot of the soil profile. No readings above background were detected by the OVA in the breathing zone nor above environmental samples collected.

Readings above the mulch surface during the sampling event ranged from 50 to 100 ppm on the OVA at the various soil sampling locations. All soil sample readings recorded in the log book reflect readings detected by the OVA of the sample itself in the stainless steel bowl, with the exception of one reading obtained from a hole at sample location S2. This procedure eliminated the background mulch reading and provided a true reading of the soil sample collected. DP 6/29/90

7/6/90

D. and J. Trucking
6/26/90

02-9005-05



SAMPLE LOCATION MAP

D. AND J. TRUCKING, NEWARK, N.J.

NOT TO SCALE

FIGURE 2

NUS CORPORATION

Nicolly Pinto 7/05/90

6/26/90

Photograph Log

All photographs taken by Dorothy Ponte

Photo No	Description	Time
1-P_1, S_1	Photo of Brian Farrell collecting surface water sample SW1 from a drainage ditch located along the southwest perimeter of the site.	1055
1-P_2, S_2	Photo of Brian Farrell collecting surface water sediment sample SED 1 from the same drainage ditch location as sample SW1.	1116
1-P_3, S_3	Photo of Bruce Sanders collecting surface water samples SW2 and SW3. Samples are located in a drainage ditch near the southern corner of the property. SW3 is a duplicate sample of SW2, and was collected from the same location and depth as SW2.	1140
1-P_5, S_5	Photo of ~~Bruce~~ Brian Farrell ~~Sanders~~ DP 7/03/90 collecting surface soil sample S1 near the front entrance of the site.	1302
1-P_4, S_4	Photo of Bruce Sanders collecting surface water sediment sample SED 2 from the same drainage ditch location as samples SW2/SW3.	1142
1-P_6, S_6	Photo of Bruce Sanders collecting surface soil sample S2 near the western corner of the property.	1327

[signature] 7/8/90 [signature] 7/03/90

02-9005-05 D. and J. Trucking NJ[illegible]

6/26/90

Photograph Log continued

All photographs taken by Dorothy Ponte

Photo No.	Description	Time
1-P_7, S_7	Photo of Brian Farrell collecting subsurface soil sample S3 near the western corner of the site.	1340
1-P_8, S_8	Photo of auger soil sample location S_4, located near the drainage ditch along the southwestern property line. Note bubbles of gas rising from the water. Samplers were unable to collect a soil sample at this location.	1400
1-P_9, S_9	Photo of Bruce Sanders collecting surface soil sample S5 from a depth of 0 to 16 inches below an overlying foot of mulch. Sample was collected near the drainage ditch along the property's southwestern perimeter.	1450
1-P_{10}, S_{10}	Photo of Brian Farrell digging a hole through the mulch in an unsuccessful attempt to reach soil required for collection of subsurface soil sample S11. Sample location was in the center of what previously was a large mulch pile located near the southeastern end of the property.	1515
1-P_{11}, S_{11}	Photo of Bruce Sanders collecting surface soil sample S8 located near the northeastern border of the property.	1525

[illegible] 7/9/90 [illegible] 7/[illegible]/90

02-9005-05 D. and J. Trucking NJ[illegible]

6/26/90

Photograph log continued

All photographs taken by Dorothy Ponte

Photo	Description	Time
1-P_{12} S_{12}	Photo of Bruce Sanders collecting surface soil sample S9 from soil located near debris along the northeastern perimeter of the property.	1603
1-P_{13}, S_{13}	Photo of Bruce Sanders collecting subsurface soil samples S6, S7 located near the property's northeast perimeter. Sample S7 is a duplicate subsurface soil sample collected from the same location and depth as S6.	1650
1-P_{14}, S_{14}	Photo of Brian Farrell collecting background surface soil sample S10 from eastern corner of property near live trees.	1705
1-P_{15}, S_{15}	Photo looking at thickness of mulch covering the site's soil surface, which was regraded since an on-site reconnaissance conducted by NUS personnel on May 31, 1990.	1707
1-P_{16}, S_{16}	Photo looking at a trailer filled with large paint cans. Trailer located in east corner of property.	1708

[illegible] 7/9/90 Dorothy Ponte 7/03/90

REFERENCE NO. 3

Preliminary Assessment

Avenue P Site
309-465 Avenue P
Newark, Essex County

NJD 980504831

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D980504831

II. SITE NAME AND LOCATION

01 SITE NAME	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Avenue P Site	309-465 Avenue P

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Newark	NJ	07105	Essex	07	14

09 COORDINATES LATITUDE	LONGITUDE	
40 43 18	74 07 53	Block 5020 Lots 14-16, 20-24, 32

10 DIRECTIONS TO SITE

From NJTPK Exit #14 take Rt. 22 East towards 1 & 9 North, take Delancy St. Exit. Turn left onto Delancy and immediate right onto Stockton. Turn right onto Wilson Ave. Turn left onto Avenue P. Site is on left between White Rose Meat Corp and

III. RESPONSIBLE PARTIES Abandoned Alliance Chem Whse.

01 OWNER	02 STREET		
Newark Redevelopment & Housing Authority	57 Sussex Avenue		
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 TELEPHONE NUMBER**
Newark	NJ	07103	(201) 430-2430
07 OPERATOR	**08 STREET**		
Same			
09 CITY	**10 STATE**	**11 ZIP CODE**	**12 TELEPHONE NUMBER**
			( )

13 TYPE OF OWNERSHIP

☐ A. PRIVATE ☐ B. FEDERAL _____ ☐ C. STATE ☐ D. COUNTY ☒ E. MUNICIPAL

☐ F. OTHER _____ ☐ G. UNKNOWN

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION	02 DATE	03
☒ YES ☐ NO	12 8 82 (MONTH DAY YEAR)	☒ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR ☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ CONTRACTOR NAME(S): _____

04 SITE STATUS	05 YEARS OF OPERATION
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN	_____ (BEGINNING YEAR) _____ (ENDING YEAR) ☒ UNKNOWN

06 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Numerous metals, volatile organic compounds, petroleum compounds, cyanide and sulfides have been identified in the soil and in drums unearthed at the site. The stream adjoining the site when sampled contained volatile organics and epoxy metals.

07 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Large quantities of hazardous wastes have been found at the site. No subsurface explorations have been conducted to determine the nature or extent of subsurface contamination. Wastes presumably burried at the site threaten the area with the possibility of fire or gas release.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION

☒ A. HIGH ☐ B. MEDIUM ☐ C. LOW ☐ D. NONE

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (AGENCY/ORGANIZATION)	03 TELEPHONE NUMBER
Mark Gruzlovic	NJDEP/DHWM/BFO, Central	(609) 426-0700

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Dennis Gray	NJDEP	DHWM/BPA	(609) 292-4206	1 11 88 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [x] 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 _____

CUBIC YARDS _____

NO. OF DRUMS 2000

03 WASTE CHARACTERISTICS (Check all that apply)

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

III. WASTE TYPE

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

IV. HAZARDOUS SUBSTANCES (See appendix for most frequently used CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Arsenic	7440-38-2	Soil samples	86703	mg/kg
MES	Cadmium	7440-43-9	Soil samples	43.3	mg/kg
MES	Chromium	7440-47-3	Soil samples	3763.6	mg/kg
MES	Lead	7439-92-1	Soil samples	63007	mg/kg
MES	Mercury	7439-97-6	Soil samples	137.5	mg/kg
MES	Zinc	7440-66-6	Soil samples	4674	mg/kg
OCC	Toluene	108-88-3	Soil samples	2.76	mg/kg
OCC	Total Xylenes	1330-20-7	Soil samples	2.63	mg/kg
OLW	Naphta	803-306	Soil samples	21.00	mg/kg
SOL	Chlorobenzene	108-90-7	Plum Creek Water	.412	mg/kg
SOL	Trans Dichloroethene	156-60-5	Plum Creek Water	.155	mg/kg
SOL	Trichloroethylene	79-01-6	Plum Creek Water	.022	mg/kg
OCC	Benzene	71-13-1	Plum Creek Water	.015	mg/kg
OLW	Petroleum Hydrocarbons		Soil composite	10300	mg/kg
IOC	Sulfide		Soil composite	1080	mg/kg
OCC	Cyanide		Soil composite	3620	mg/kg

V. FEEDSTOCKS (See appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

Reference V

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — X POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Although there has been no subsurface examination it is quite probable that groundwater is contaminated. The groundwater is at a depth of fifteen feet, and soil borings conducted in the 1970's reveal landfilled waste to a depth of 11-55 feet across the site. Ref. VII

01 X B. SURFACE WATER CONTAMINATION — 02 X OBSERVED (DATE: 9/87) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Leachate from contaminated soil has been observed entering the Adjacent Plum Creek. At present the oily contaminants are restricted to the creek by a containment structure put in place by the NR & HA environmental consultant. Ref. IV, VI

01 X C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) — X POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION Ref. I, IV, V

Reaction of incompatable chemicals buried beneath the site could possibly result in the contamination of the air by cyanide gas, heavy metal particulates or volatile gases, all of which have been identified in the waste already excavated at the site.

01 X D. FIRE/EXPLOSIVE CONDITIONS — 02 X OBSERVED (DATE: 1985) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Fire and explosiion has resulted from unearthing of red phosphorous and numerous drums of flammable hazardous wastes have also been unearthed. Type or quantity of wastes still buried beneath the site is unknown. Ref. IV, I, II

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

The site is under security patrol and the workers at the site wear protective clothing. Direct contact with wastes at this site is unlikely, however the history of property ownership and aerial photography suggests that the contamination may not be limited to this site. Ref. V, VI

01 X F. CONTAMINATION OF SOIL — 02 X OBSERVED (DATE: 1983) — ☐ POTENTIAL — ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

There is significant documentation of soil contamination but the depth of this contamination is not known. The history of ownership and aeral photography suggest that the contamination may not be restricted to this site. Ref. I, V

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

There are no drinking water sources downgradient of the site. The City of Newark utilizes a water source greater than 20 miles from Avenue P.
Ref. I

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

Worker exposure at the site is unlikely; however the history of property ownership and aerial photography suggests that the contamination may extend into neighboring properties, consequently workers at these sites may be at risk.
Ref. V, VIII

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

The greatest threat to population exposure is the potential for fire or the release of poisonous gases due to the reaction of improper contained, incompatable or highly reactive chemicals burried beneath the site.
Ref. I, II, IV, V, VI

EPA

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

01 STATE | 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Chemicals hazardous to the growth of plant life have been excavated from the site. At present the site is largely devoid of vegetation.
Ref. I, II, IV

01 ☒ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Chemicals hazardous to animal life have been excavated from the site. Wastes escaping the site via the Plum Creek may have adversely impacted fauna in this stream and the Newark Bay. Ref. I, II, IV

01 ☒ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Wastes such as heavy metals, which by bioaccumulation adversely affect the food chain, have been identified at the site.
Ref. IV, V, VI

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES — 02 ☒ OBSERVED (DATE: 1983) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
Thousands of leaking drums and contaminated soil has been escavated, but the extent of subsurface contamination has yet to be determined. Ref. I, II, IV, VI

01 ☒ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☒ ALLEGED
04 NARRATIVE DESCRIPTION
Leachate exiting the site via the Plum Creek may have affected the Newark Bay. The history of property ownership and aerial photography suggest that there may be extensive contamination of offsite properties. Map A Ref. I, IV, VI

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
It is unlikely that wastes exiting the site will adversely affect the nearby Passaic Valley Sewerage Authority.
Map A,B Ref VI

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☒ ALLEGED
04 NARRATIVE DESCRIPTION
This site, as well as numerous nearby properties, were utilized for illegal dumping of wastes for many years.
Ref. V

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
In the event of fire or the release of poisonous gasses motorists on the nearby New Jersey Turnpike would be at risk.
Maps A,B Ref. IV

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS
The NJDEP Division of Water Resources should be made aware of the hazard to surface water and groundwater. The Bureau of Compliance and Technical Services should be requested to conduct a PRP search and based on the historical evidence investigate nearby properties for hazardous waste.

V. SOURCES OF INFORMATION

Map A	USGS, Elizabeth QUAD	Ref. I	Site Inspections, DHSM, DHWM/ Central BFO
Map B	Newark Hagstrom Co.		
Map C	Newark Tax Map	Ref. II	EPA Pollution Report DHWM/ Central BFO
Map D	Site Map, DHWM/ BFO		
Map E	Historical Maps, NJTPK Authority	Ref. III	Administrative Consent Order
		Ref. IV	Memo, DHWM/Central BFO, Metro BFO, BPA
		Ref. V	Site History & Work Plan DHWM/ Central BFO, Metro BFO
		Ref. VI	Correspondence DHSM, DHWM Central BFO, Metro BFO
		Ref. VII	Disruption Request SWA 0714K
		Ref. VIII	D&J Trucking DHWM/BPA

FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)
☐ A. SURFACE IMPOUNDMENT	~~unknown~~		☐ A. INCENERATION
☐ B. PILES	unknown		☐ B. UNDERGROUND INJECTION
☐ C. DRUMS, ABOVE GROUND	unknown		☐ C. CHEMICAL/PHYSICAL
☐ D. TANK, ABOVE GROUND			☐ D. BIOLOGICAL
☐ E. TANK, BELOW GROUND	~~unknown~~		☐ E. WASTE OIL PROCESSING
☐ F. LANDFILL	unknown		☐ F. SOLVENT RECOVERY
☐ G. LANDFARM	unknown		☐ G. OTHER RECYCLING/RECOVERY
☐ H. OPEN DUMP			☐ H. OTHER (Specify)
☐ I. OTHER (Specify)			

05 OTHER
☐ A. BUILDINGS ON SITE
None

06 AREA OF SITE
approx 8 (Acres)

07 COMMENTS

The site was utilized for unpermitted dumping of various wastes for a great number of years.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☒ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☐ NO

02 COMMENTS

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

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D980789796

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☒	B. ☐
NON-COMMUNITY	C. ☐	D. ☐

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☒
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE

A. 25 (mi)

B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☒ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 0

03 DISTANCE TO NEAREST DRINKING WATER WELL 3 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
15 (ft)	East	15-20 (ft)	NA (gpd)	☐ YES ☒ NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

Wells in the area are used for industrial purposes.

10 RECHARGE AREA

☐ YES ☒ NO

COMMENTS

11 DISCHARGE AREA

☒ YES ☐ NO

COMMENTS The site is .5 mile from the Passaic River

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☒ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED, POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Passaic River	☐	0.5 (mi)
Newark Bay	☐	0.5 (mi)
Plum Creek	☐	On site (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 20000 NO. OF PERSONS	B. 100000 NO. OF PERSONS	C. 250000 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION 0.5 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE 15500

04 DISTANCE TO NEAREST OFF-SITE BUILDING 0.1 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

The Ironbound section of Newark is west of the site. The site is in an industrial section of the city which has nemerous workers on site during operating hours.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D980789796

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-4} - 10^{-6}$ cm/sec ☒ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
65 (ft)	Unknown (ft)	Unknown

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
12 (in)	2.5-3.0 (in)	5 %	West	0 %

09 FLOOD POTENTIAL

SITE IS IN 100 YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. 0.5 (mi)

OTHER: B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

_____ (mi)

ENDANGERED SPECIES. NA

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL INDUSTRIAL	RESIDENTIAL AREAS, NATIONAL STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. On-site (mi)	B. 0.5 (mi)	C. >3 (mi)	D. >3 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site is in a landfilled section of the Newark Bay Meadows. The underlying formation is the Brunswick sandstone and shale which is the emergent formation immediately west of the site.

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

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER		Soil, water and drum samples were taken	
SURFACE WATER		at the time of a drum removal operation	
WASTE		by the Cavanaugh Group on behalf of the	
AIR		NHRA.	
RUNOFF		Heavy metals, volatiles and	
SPILL		semi volatile compounds have been	
SOIL		identified in the waste..	
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☐ AERIAL

02 IN CUSTODY OF _____
Name of organization or individual

03 MAPS
☐ YES
☐ NO

04 LOCATION OF MAPS _____

V. OTHER FIELD DATA COLLECTED (Provide narrative description.)

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

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. CURRENT OWNER(S) / PARENT COMPANY (If applicable)

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
NRHA			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
57 Sussexx Ave.			

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
Newark	NJ	07103			

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

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

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. CURRENT OPERATOR (Provide if different from owner)			OPERATOR'S PARENT COMPANY (If applicable)		
01 NAME		02 D+B NUMBER	10 NAME		11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER				

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)			PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)		
01 NAME		02 D+B NUMBER	10 NAME		11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				
01 NAME		02 D+B NUMBER	10 NAME		11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				
01 NAME		02 D+B NUMBER	10 NAME		11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				

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

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

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

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

Heavily contaminated surface soils have been removed.

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

Many drums were overpacked to facilitate removal.

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

A security service maintains a presence at the site

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

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

HARRISON
ERIE-LACKAWANNA
HUDSON
ESSEX
TRANS-HUDSON
HARRISON REACH
PASSAIC
RIVER
Newark Col of Engr
Rutgers Univ (Newark Campus)
Military Park
St Johns Ch
Courthouse
City Hall
Fire Sta
Police Sta
Quitman St Sch
Lincoln Park
St Columbus Sch
Oliver St Sch
South St Sch
Mt Carmel Sch
Lafayette Sch
St James Sch
Wilson Ave Sch
East Side High Sch
St Benedicts Sch
St Pauls Ch
River Bank Park
S Market St Sch
Hawkins St Sch
Hayes Park
Drive-in Theater
Brills Yard
AVENUE "P" SITE
Memorial Stadium
PENN CENTRAL
LEHIGH
Oak Island Junction
Sewage Disposal
DITCH
UNDER CONSTRUCTION
Tollgate
Parking
Oak Island Yards
PENN CENTRAL
Garden Yards
INTERCHANGE 14
NEW JERSEY TURNPIKE
EXTENSION
TRANSIT
PORT NEWARK CHANNEL
Radio Tower
Control Tower
NEWARK AIRPORT
(Under Construction)
Radio Towers
Tidal Flat
Port Newark
SCALE 1:24 000
1 MILE

Geo-Tech Associates
CONSULTING ENGINEERS
43 SOUTH AVENUE, P. O. BOX 129
FANWOOD, NEW JERSEY 07023
(201) 232 2008

TEST BORING DATA

Project: Industrial River Urban Renewal Project — TEST HOLE NO. B-6

Location: Avenue "P" Newark, New Jersey — Sheet 1 of

Boring Contractor: Wilscore Core Boring Co. — Surface Elevation: 16.0

Inspector: PT — Ground water observations

Date Started: 6/17/74 — Depth: 12' — Date: 6/17/74

Date Completed: 6/17/74 — Depth: — Date:

Casing Blows	SAMPLE NO.	DEPTH		BLOWS ON SPOON 0/6	6/12	12/18	REC.	SAMPLE IDENTIFICATION AND PROFILE CHANGE	D
								TRASH FILL including paper, rags, wood, **chemical waste**, cans, cardboard barrels, glass, rubber hoses, electrical wire, rubber tires, **paint waste** & plastic bags	
5									
10									
15									
20									23
25								Brn coarse to fine SAND, little medium to fine Gravel, trace Silty Clay (Till)	
	S-1	25.0	26.0	9	65		12"		26
	D-1	26.0	29.0					Red-Brn Shale	
	D-2	29.0	30.0						
30									30
								Bottom of Hole	
35								Legend: S-X - Split Spoon Sample; D-X - Rotary Drilling	
40									

O. Casing	3"	Wgt. Hammer on Casing	300#	Symbol	a.	s.	l.	t.
O. Spoon	2"	Wgt. Hammer on Spoon	140#	Proportions	and	some	little	trace
Size Core Drill	AW	Drop Hammer on Casing	24"	% By Wgt.	35 to 50	20 to 35	10 to 20	1 to 10
Core Dia.		Drop Hammer on Spoon	30"					

REFERENCE NO. 4

THIS INDENTURE, made the 9th day of April, 1974 between SUN CHEMICAL CORPORATION, a Delaware corporation, having its principal business office at 200 Park Avenue, in the Borough of Manhattan, County and State of New York, party of the first part, and D & J TRUCKING & WASTE CO., INC., a New Jersey corporation, having a place of business at 387 Avenue P, in the City of Newark, County of Essex and State of New Jersey, party of the second part,

W I T N E S S E T H:

That said party of the first part, for and in consideration of ONE HUNDRED THIRTY FIVE THOUSAND ($135,000.00) DOLLARS, lawful money of the United States of America to it in hand well and truly paid by party of the second part at or before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, and the said party of the first part being therewith fully satisfied, contented and paid, has given, granted, bargained, sold, conveyed and quitclaimed and by these presents does give, grant, bargain, sell, convey and quitclaim to the party of the second part and to its successors and assigns forever all those tracts or parcels of land and premises situate, lying and being in the City of Newark, County of Essex, State of New Jersey, and more particularly described in the Schedule hereto annexed and made part hereof.

COUNTY OF ESSEX
CONSIDERATION 135,000
REALTY TAX
DATE

REGISTER'S OFFICE
ESSEX COUNTY, N.J.
APR 17 1 34 PM '74

BOOK 4472 PAGE 673

109—DEED-WARRANTY, FULL COVENANT CORP. TO IND. OR CORP. G R V S T COPYRIGHT © 1966 BY ALL-STATE LEGAL SUPPLY CO. 269 SHEFFIELD STREET, MOUNTAINSIDE, N.J. 07092

This Deed, *made the* 17th *day of* March 19 78 .

Between D & J TRUCKING & WASTE CO., INC.,

a corporation existing under and by virtue of the laws of the State of
having its principal office at
in the *of* *in the County of*
and State of *herein designated as the Grantor,*

And HOUSING AUTHORITY OF THE CITY OF NEWARK
a body corporate and politic,

~~residence~~ *located at* 57 Sussex Avenue
in the City *of* Newark *in the County of*
Essex *and State of* New Jersey *herein designated as the Grantees:*

Witnesseth, *that the Grantor, for and in consideration of* TWO HUNDRED TWENTY-FIVE THOUSAND ($225,000.00) DOLLARS----------

lawful money of the United States of America, to it in hand well and truly paid by the Grantees, at or before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, and the Grantor being therewith fully satisfied, does by these presents grant, bargain, sell and convey unto the Grantees forever,

All those *tract* s *or parcel* *of land and premises, situate, lying and being in the*
City *of* Newark *in the*
County of Essex *and State of New Jersey, more particularly described as follows:*

BEING the four tracts described and set forth in the Exhibits A, B, C and D attached hereto and made part hereof.

BEING the same premises conveyed to grantor herein by Sun Chemical Corporation by deed dated April 9, 1974 and recorded April 17, 1974 in the Register's Office of the County of Essex in Book 4472 of Deeds for said County at Page 673.

RECEIVED & RECORDED

EXHIBIT C

DESCRIPTION

THIRD TRACT:

Lot 10, Block 5020, Tax Maps, City of Newark, N. J.:

BEGINNING at a point in the westerly line of Avenue P, distant southerly along the same 618.86 feet from the southerly right of way line of the Newark and New York Branch of the Central Railroad of New Jersey;

Thence (1) along said line of Avenue P South 24 degrees, 01 minutes 40 seconds West, 41.85 feet;

Thence (2) North 4 degrees, 31 minutes 40 seconds East, 38.92 feet; and

Thence (3) South 87 degrees, 39 minutes 20 seconds East, 13.98 feet to the point and place of BEGINNING.

BEING commonly known and designated as No. 341-343 Avenue P, City of Newark, New Jersey and being Lot 10 in Block 5020 Tax Maps of the City of Newark and Parcel 24 in Block 5020, Project N.J. R-121, Industrial River Urban Renewal Project, Maps of the Housing Authority of the City of Newark.

BEING part of the same premises conveyed to D & J Trucking & Waste Co., Inc., a New Jersey corporation, by Sun Chemical Corporation by deed dated April 9, 1974 and recorded April 17, 1974 in the Register's Office of the County of Essex in Book 4472 of Deeds for said County at Page 673.

EXHIBIT D

DESCRIPTION

FOURTH TRACT:

Lots 120, 122, 126, Block 5060, Tax Maps, Newark, N. J.:

PARCEL NO. I:

BEGINNING at a point in the Northeasterly line of lands conveyed by Joseph T. Castle and others to Consolidated Products Company, Inc. by deed dated May 7, 1926, and recorded in Deed Book G-74 page 440, distant therein Northwesterly measured along the said Northeasterly line of said tract of land six hundred eighty-five feet and sixty hundredths of a foot (685.60') from the Northwesterly line of Doremus Avenue; and from thence running (1) along said Northeasterly line of lands of Consolidated Products Company, Inc. and in continuation thereof North fifty-seven (57) degrees fifty-three (53) minutes West two hundred sixteen feet and seventeen hundredths of a foot (216.17'); and thence (2) North fifty-seven (57) degrees thirty (30) minutes West three hundred sixty-four feet and thirty-two hundredths of a foot, (364.32') to the line of lands now or formerly of David Cook; and thence (3) along said line of lands of said Cook North twenty-three (23) degrees fifty-five (55) minutes East two hundred forty-seven feet and sixty hundredths of a foot (247.60') to the line of lands now or formerly of Joseph Condit; and thence (4) along said line of lands of said Condit South fifty-five (55) degrees four (4) minutes East six hundred thirty-seven feet and sixty hundredths of a foot (637.60') to the line of lands now or formerly of Abigail Baldwin; and thence (5) along said last mentioned lands South thirty-seven (37)

degrees forty (40) minutes West two hundred seventeen feet and fifty hundredths of a foot (217.50') to the line of lands of the said Consolidated Products Company, Inc. and the point or place of Beginning, containing 3.24 acres more or less.

PARCEL NO. II:

BEGINNING at a point in the East right of way line of Avenue P one hundred twelve feet and forty-six hundredths of a foot (112.46') North fifty-seven (57) degrees thirty-six (36) minutes West from the Southwest corner of Parcel No. 1 above; thence in a Southerly direction along the East right of way line of Avenue P, one hundred feet and thirty-four hundredths of a foot (100.34') to a point where said line is intersected by the North line of a tract of land now or formerly belonging to the Central Railroad of New Jersey; thence South seventy-nine (79) degrees six (06) minutes East one hundred sixty-four and fifty-five hundredths of a foot (164.55') more or less along said North line of the Central Railroad of New Jersey; thence on a curve to the right with a radius of five hundred eighty-one feet and nineteen hundredths of a foot (581.19') for a distance of two hundred eighteen feed and nine hundredths of a foot (218.09') measured on the arc of said curve to a point in the South boundary line of Parcel No. I above; thence North fifty-seven (57) degrees thirty-six (36) minutes West three hundred sixty-four and seventy-four hundredths of a foot (364.74') more or less to the point of Beginning.

Lots 120, 122, 126, Block 5060 (continued)

PARCEL NO. III:

BEGINNING at a point which in deed from Emile F. Kick to Peter A. Bothner, Jr. dated November 6, 1915 recorded in Deed Book V-56 page 80 is described as being at a stake set in a large ditch which said stake is at the most northwesterly corner of lands herein described, and thence along lands of the Central Railroad Company of New Jersey, the following courses and distances through the ditch and crossing Plum Point Lane, South 57 degrees 05 minutes East, 103.88 feet; thence still through the ditch South 51 degrees 50 minutes East, 80.25 feet; thence running still through the ditch, South 10 degrees 51 minutes East, 44.63 feet; thence running still through the ditch South 80 degrees 36 minutes East 48.20 feet; thence running still through the ditch, South 49 degrees 02 minutes East, 57.57 feet; thence running still through the ditch, South 63 degrees 18 minutes East 38.40 feet; thence running still through the ditch, South 39 degrees 02 minutes East 71.50 feet; thence running still through the ditch, South 80 degrees 55 minutes East 48.16 feet; thence running still through the ditch, South 69 degrees 26 minutes East, 70.40 feet; thence running still through the ditch, South 54 degrees 31 minutes East 66.50 feet to a ditch between the premises herein described and premises formerly of F. Millering bounding the premises herein described on the southeast; thence through said ditch and along line of land of said Millering, South 23 degrees 44 minutes West 269.70 feet to an old ditch lying between premises herein described and premises formerly of Williams

P.J.H. 73

Lots 120, 122, 126, Block 5060 (continued)

bounding the same, on the southwest; thence North 57 degrees 36 minutes West, 254.80 feet; thence South 13 degrees 03 minutes West 136.58 feet; thence North 57 degrees 36 minutes West 315.96 feet; thence North 17 degrees 11 minutes East 408.68 feet; thence North 9 degrees 43 minutes East, 23.25 feet to the point or place of Beginning.

Excepting therefrom however, so much of said tract as was granted to City of Newark by Deed Book S-78 page 405, and being described as follows:

BEGINNING at a point of intersection of the north line of Award #15 with the west line of Avenue "P" as recently opened and widened, said point of intersection being 3577.12 feet north from the north line of Wilson Avenue, and as shown on a map in a report of Commissioner of Assessments for Local Improvements of the "opening and widening of Avenue "P" between Delancy St. and Ferry Street, also known as Lincoln H'way" adopted November 12, 1924; thence North along said west line of Avenue "P" as shown on said map; thence East along formerly southerly terminus line of Avenue "P" 7.07 feet to an angle in same shown on said map; thence still easterly along said formerly southerly terminus line of Avenue "P" 48.16 feet to another angle in the same as shown on said map; thence still East along said formerly southerly terminus line of Avenue "P" and South line of Award #13 22.06 feet to East line of Avenue "P" as shown on said map; thence South along said East line of Avenue "P" 262.71 feet to an angle in

S.J.H.

Lots 120, 122, 126, Block 5060 (continued)

same as shown on said map; thence still South along said East line of Avenue "P" 1.161 feet to the North line of Award #15 as shown on said Map; thence West along same, 75.64 feet to the place of Beginning.

Also excepting from Parcel III all that part thereof which lies west of Avenue "P".

All of the above described premises being also known and designated as Lot Nos. 120, 122 and 126 in Block No. 5060 on the official Tax Map of the City of Newark and more particularly described as follows:

BEGINNING at a point in the northeasterly line of lands conveyed by Joseph T. Castle and others to Consolidated Products Company, Inc. by deed dated May 7, 1926, and recorded in Deed Book G-74 page 440, distant therein Northwesterly measured along the said Northeasterly line of said tract of land six hundred eighty-five feet and sixty hundredths of a foot (685.60') from the Northwesterly line of Doremus Avenue, said point being also in the dividing line between lands now or formerly Abigail Baldwin on the north and lands now or formerly Consolidated Products Company on the south, and from thence running:

1. along said northwesterly line of lands of Consolidated Products Company, North 57 degrees 53 minutes West, 216.37 feet to a point; thence

2. still along the same, North 57 degrees 30 minues West, 113.64 feet to a point of curvature; thence

Lots 120, 122, 126, Block 5060 (continued)

3. on a curve to the left with a radius of 581.19 feet, an arc length of 219.10 feet to a point; thence

4. along the line of lands now or formerly Central Railroad of New Jersey, North 79 degrees 06 minutes West, 162.48 feet to a point in the easterly line of Avenue P; thence

5. along said easterly line of Avenue P, North 32 degrees 37 minutes East, 100.37 feet to a point; thence

6. still along the same, North 23 degrees 35 minutes East, 264.31 feet to a point; thence

7. along the northeasterly line of lands now or formerly David Cook, South 69 degrees 26 minutes East, 46.82 feet to a point; thence

8. still along the same, South 54 degrees 31 minutes East, 69.12 feet to a point; thence

9. south 23 degrees 55 minutes West, 22.33 feet to a point in the dividing line between lands now or formerly Millering on the south and lands now or formerly Joseph Condit on the north; thence

10. along said dividing line, South 55 degrees 04 minutes East, 637.60 feet to a point in the dividing line between lands now or formerly Condit on the north, lands now or formerly Baldwin on southeast and lands now or formerly Millering on the northwest; thence

11. along the dividing line between lands now or formerly Baldwin on the east and lands now or formerly Millering on the west, South 37 degrees 40 minutes West, 217.50 feet to a point which is the point or place of beginning.

BEING commonly known and designated as No. 306-336 Avenue P,

Lots 120, 122, 126, Block 5060 (continued)

City of Newark, New Jersey, and being Lots 120, 122, and 126 in Block 5060, Tax Maps of the City of Newark, and Parcel 1A in Block 5060, Project N.J. R-121, Industrial River Urban Renewal Project, Maps of the Housing Authority of the City of Newark.

BEING part of the same premises conveyed to D & J Trucking & Waste Co., Inc., a New Jersey corporation, by Sun Chemical Corporation by deed dated April 9, 1974 and recorded April 17, 1974 in the Register's Office of the County of Essex in Book 4472 of Deeds for said County at Page 673.

Together with all and singular the buildings, improvements, ways, woods, waters, watercourses, rights, liberties, privileges, hereditaments and appurtenances to the same belonging or in anywise appertaining; and the reversion and reversions, remainder and remainders, rents, issues and profits thereof, and of every part and parcel thereof; **And also** all the estate, right, title, interest, use, possession, property, claim and demand whatsoever, of the Grantor both in law and in equity, of, in and to the premises herein described, and every part and parcel thereof, with the appurtenances. **To Have and to Hold** all and singular, the premises herein described, together with the appurtenances, unto the Grantees and to Grantees' proper use and benefit forever.

And the Grantor covenants to and with the Grantees that at the time of the sealing and delivery of these presents, Grantor is lawfully seized of an absolute and indefeasible estate of inheritance in fee simple, of and in all and singular the premises hereby conveyed, with all the buildings thereon and the privileges and appurtenances thereunto belonging; **And** has good right, full power and absolute authority to grant, sell and convey the same to the Grantees in the manner and form hereof. **And** that the Grantees shall and may at all times hereafter, peaceably and quietly enter upon and have, hold, use and occupy, possess and enjoy the premises hereby conveyed and every part and parcel thereof, with all the buildings thereon and the privileges and appurtenances thereunto belonging, to and for Grantees' use and benefit without any let, suit, eviction, interruption, claim or demand whatsoever, of the Grantor or of any other persons whomsoever lawfully claiming or to claim the same. **And** that the said lands and premises are now free and clear, acquitted and discharged of and from all limitations, grants, estates, mortgages, judgments, executions, taxes, assessments, encumbrances and liens of any nature and kind whatsoever, except as herein set forth. **And** that the Grantor and every person whomsoever, lawfully or equitably deriving any estate, right, title or interest through, from or for the Grantor, in trust or otherwise, in or to the premises described herein, the buildings thereon and the privileges and appurtenances thereunto belonging, shall and will, at all times hereafter upon the reasonable request and at the expense of the Grantees, do or execute or cause to be done or executed, all such further acts, deeds and things for the better, more perfectly and absolutely conveying and assuring the said lands and premises hereby conveyed, as by the Grantees or Grantees' counsel in law, shall be reasonably advised or required. **And also**, that the Grantor by these presents does and will **forever warrant** and **defend** the lands and premises described herein and every part and parcel thereof, with all the buildings thereon and the privileges and appurtenances thereunto belonging, unto the Grantees, against the Grantor and against all persons lawfully claiming or to claim the same.

In all references herein to any parties, persons, entities or corporations, the use of any particular gender or the plural or singular number is intended to include the appropriate gender or number as the text of the within instrument may require.

Wherever in this instrument any party shall be designated or referred to by name or general reference, such designation is intended to and shall have the same effect as if the words "heirs, executors, administrators, personal or legal representatives, successors and assigns" had been inserted after each and every such designation.

In Witness Whereof, the Grantor has caused these presents to be signed and attested by its proper corporate officers and its corporate seal to be hereto affixed the day and year first above written.

D & J TRUCKING & WAST CO., INC.

ATTEST:

JOSEPH ATTANASI, Secretary

By: DOMINICK J. ATTANASI, President

State of New Jersey, County of ESSEX | ss.: **Be it Remembered,** that on March 17, 1978, before me, the subscriber, an Attorney at Law of New Jersey personally appeared JOSEPH ATTANASI

who, being by me duly sworn on his oath, deposes and makes proof to my satisfaction, that he is the Secretary of D & J TRUCKING & WASTE CO., INC. the Corporation named in the within Instrument; that DOMINICK J. ATTANASI is the President of said Corporation; that the execution, as well as the making of this Instrument, has been duly authorized by a proper resolution of the Board of Directors of the said Corporation; that deponent well knows the corporate seal of said Corporation; and that the seal affixed to said Instrument is the proper corporate seal and was thereto affixed and said Instrument signed and delivered by said President as and for the voluntary act and deed of said Corporation, in presence of deponent, who thereupon subscribed his name thereto as attesting witness. and that the full and actual consideration paid or to be paid for the transfer of title to realty evidenced by the within deed, as such consideration is defined in P.L. 1968, c. 49, Sec. 1(c), is $225,000.00

Sworn to and subscribed before me, the date aforesaid.

AARON DINES
An Attorney at Law of New Jersey

JOSEPH ATTANASI

Prepared by: FERDINAND J. BIUNNO, ESQ.

REFERENCE NO. 5

NUS CORPORATION TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-9005-05	7/18/90	1015

DISTRIBUTION:

D. and J. Trucking

BETWEEN:	OF:	PHONE:
Tax surveyor	City of Newark Tax assessment surveyors office	(201) 733-6569

AND:

Dorothy Ponte (NUS)

DISCUSSION:

Requested information concerning previous owners of the D. and J. Trucking site, Block 5060, lot, 149.

Deed cards available from the tax surveyors office indicate the property belonged to Lincoln Farm Products Corp., prior to 1961. Deed cards for subsequent years (1961-1978) are either misplaced or lost.

ACTION ITEMS:

Go to City of Newark, Hall of Records, 130 1st Floor, 465 Martin Luther King Blvd., Newark to research site property ownership prior to purchase by the Newark Housing Authority.

NUS 067 REVISED 0581

REFERENCE NO. 6

NUS CORPORATION

TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-9005-05	5/22/90	1030

DISTRIBUTION:

D. and J. Trucking

BETWEEN:	OF:	PHONE:
Paul Butler Bill Staehle - consultant for the City of Newark	Dept. of Engineering City of Newark Dresdner and Robin Asso.	201 733-4300 (201) 432-9800

AND:

Dorothy Ponte (NUS)

DISCUSSION:

A threeway conversation was held between Paul, Bill and Dorothy. The following information was obtained: 310 Avenue P is bordered to the north by a site presently under investigation by the City of Newark. The site is referred to as the Police Academy Site. Prior to construction of a Police Academy Training building, an assessment of the site was conducted. No groundwater testing was done, however several surficial test pits were dug and analyzed. Results from the site analysis indicate the property is contaminated by a broad range of contaminants. The contamination at the site cannot be associated with one particular waste stream. However, there is a possibility that some of the contamination at the Police Academy site resulted from illegal dumping practices by D. and J. Trucking before a berm was erected by the Police in order to deter further illegal dumping on the property. Bill has conducted an extensive historical review of the area along Avenue P. The

ACTION ITEMS:

current lot number of 310-328 Avenue P is listed as block 5060 lot 149 at the City of Newark tax office. Lot 149 was previously known as lots 120, 122, 126 and 128. Later these lots became incorporated into a larger lot by the Newark Housing Authority. Lot 150, to the north of the D. and J. Trucking site was formerly known as lots 132 and 138. According to Bill, the D. and J. Trucking site was a very active junk yard up until

NUS 067 REVISED 0581

NUS CORPORATION

TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-9005-05	5/22/90	1030

DISTRIBUTION:

D. and J. Trucking

BETWEEN:	OF:	PHONE:
		( )

AND:

(NUS)

DISCUSSION: cont'd:

about one year ago. The site is mostly barren, and devoid of vegetation. A storm drainage ditch is located near the eastern edge of the property line. A creek also appears to run along the southwestern edge of the site according to Bill. D. and J. Trucking had a twelve year contract with paint manufacturers in the area, specifically Benjamin Moore and Sherwin Williams. A lot of material derived from these paint manufacturers was dumped on the site, as well as neighboring lots along Avenue P. The trucking company apparently did not respect property lines. According to Bill's historical review of the area, lot 150 to the north of the D. and J. Trucking site shows a likelihood of being one of the cleaner sites along Avenue P. This is due in part to the berm which was erected to separate the Police Academy range from surrounding properties. Bill provided data from typical samples taken from his site - the Police Academy Site. He cautioned that one should be aware that the soil forming the berm came in part from

ACTION ITEMS:

surface soil scrapped off his site (possibly up to 2 feet), most of the soil forming the berm, however, was derived from other sources. He stated that results of soil samples taken of the berm indicated they were not as contaminated as surficial soil samples taken from lot 150. Site wide concentration ranges for the following priority pollutants at lot 150 were as follows: Base/neutrals ranged from 4-78 ppm, 38 ppm average; lead ranged from 21-590 ppm, 427 ppm average;

NUS 087 REVISED 0581

NUS CORPORATION

TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-9005-05	5/22/90	1030

DISTRIBUTION:

D. and J. Trucking

BETWEEN:	OF:	PHONE:
		( )

AND:

(NUS)

DISCUSSION: cont'd.:

chromium ranged from 11-205 ppm, 107 ppm average; mercury ranged from .2 - 9.3 ppm, 4.4 ppm average; and volatile organics ranged from .0 - 35 ppm. The purpose of this data was to demonstrate to the NJDEP that the site was typical of the general area along Avenue P. Soil samples were sent to an outside lab for analysis, Enseco - Boston office, due to the presence of dioxin. Other priority pollutant results were as follows: priority pollutant pesticides ranged from .23 - 53 ppm, PCBs from non-detectable to 35 ppm and TCE from non-detectable to 71 ppb. Bill suggested that Bob Caledre (201) 344-4611, a contractor for the Newark Housing Authority, 309-465 Avenue P site, may be able to provide additional information relating to contamination in the area. He also suggested I contact Ed Ryg for further information concerning 310 Avenue P. Also, the city of Newark should have a comprehensive file on the D. and J. Trucking site, located at 309-465 Avenue P.

ACTION ITEMS:

One specific surficial sample, TP-60, had the following contaminant concentrations:

	total
petroleum hydrocarbons	960 ppm
base/neutral organics	39 ppm
lead	526 ppm
chromium	136 ppm
mercury	7 ppm
volatile organics	.03 ppm
pesticides	53 ppm
dioxin	.21 ppt

Bill will be sending a copy of their report in the next couple weeks.

NUS 067 REVISED 0581

REFERENCE NO. 7

NUS CORPORATION TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-9005-05	5/11/90	11:17

DISTRIBUTION:

D. and J. Trucking

BETWEEN:	OF:	PHONE:
Tax assessor	City of Newark Tax assessment office	(201) 733-6566

AND:

Dorothy Ponte

NUSI

DISCUSSION:

Property located on block 5060, lot 149 is currently owned by the Newark Housing Authority. The address for this lot listed at the tax assessors office is 310-336 Avenue P.

ACTION ITEMS:

NUS 067 REVISED 0581

REFERENCE NO. 8

NUS CORPORATION TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-9005-05	5/31/90	4 pm ≡ 16:00

DISTRIBUTION:

D. and J. Trucking

BETWEEN:	OF:	PHONE:
Tony Massi	City of Newark Tax assessment surveyor's office	(201) 733-6569

AND:

Dorothy Ponte

NUSI

DISCUSSION:

Address listed at 309-465 Avenue P. pertains to Block 5020. Present owners and addresses, and relevant lot numbers are as follows:

309-327	Avenue P.	lots #3 and #4 combined into 1 lot #3	Pfister Urban Renewal
309-337	Avenue P	lot #6	Pfister Urban Renewal
339-355	Avenue P	lot #136	Pfister Urban Renewal
357-405	Avenue P	lot #14	Newark Housing Authority
407-439	Avenue P	lot #131	Newark Economic Development Center
441-459	Avenue P	lot #132	Synfax Urban Renewal Corp.
461-549	Avenue P	lot #133	Newark Housing Authority

All the above lots front Avenue P.

ACTION ITEMS:

NUS 087 REVISED 0581

REFERENCE NO. 9

CLECON NOTE

CONTROL NO:	DATE:	TIME:
02-9005-05	6/18/90	1620

DISTRIBUTION:

D. and J. Trucking

BETWEEN:	OF:	PHONE:
George Chranewycz	Newark Housing Authority Redevelopment Department	(201) 430-2276

AND:

Dorothy Ponte

NUSI

DISCUSSION:

Mr. Chranewycz returned my call (6/18/90, 1020) to inform me that he is unable to allow access to 310 Avenue P for a sampling site inspection by NUS due to the fact he is waiting for a copy of the EPA-NUS "contract, to secure information under the Freedom of Information Act." He mentioned that earlier this month he had spoken to Mr. Ted Reversa of NY EPA, from the address cited in Paul Bauer's letter dated May 22, 1990. Ted referred Mr. Chranewycz to the procurement office in Washington. He spoke with a Lorraine Middleton who informed him about Superfund. He has received no confirmation to date from EPA concerning our authority to perform an inspection of the site.

When I asked him who was presently operating at the site, as the property is presently being used as a staging area for mulch, he informed me that the Newark Housing Authority has granted no permission to store mulch on the site. He also stated he would

ACTION ITEMS:

replace the lock presently used by whoever has access to the property with one belonging to the Newark Housing Authority (NHA). He also mentioned that the NHA is currently pending purchase of the site to an unnamed buyer.

NUS 067 REVISED 0581

REFERENCE NO. 10

NUS CORPORATION — **TELECON NOTE**

CONTROL NO:	DATE:	TIME:
02-9005-05	07/17/90	1415

DISTRIBUTION:

D. and J. Trucking

BETWEEN:	OF:	PHONE:
Tony Peterpaul	AFA Pallet Co., Inc 514 Doremus Ave. Newark, New Jersey	(201) 589-8336

AND: Dorothy Ponte (NUS)

DISCUSSION:

I called mr. Peterpaul to determine if AFA Pallet Co., Inc (AFA) was operating at 310 Avenue P, Newark. Tony requested how I came to knowledge of AFA operations at the site, and I told him how a passing individual mentioned his company's name. The conversation quickley became a discussion of the site's past history.

According to Tony, the City of Newark Housing Authority purchased the property approximately 15 years ago from Sun Chemical Corporation. This previous owner allegedly operated a dye manufacturing business at the site. Tony mentioned that to his knowledge, the facility's underground storage tanks were not removed when the building was demolished. These tanks possibly contained dye from the manufacturing process. After this industry was dismantled, the site operated for several years as a junkyard, and was also utilized for the repeated unpermitted disposal of various wastes.

ACTION ITEMS:

After the Newark Housing Authority (NHA) purchased the property, the site was leased to various tenants. In 1979, AFA signed a contract with the previous administration of the NHA with the intent of redeveloping the property in order to place a building on the site. The original contract was signed before the Environmental Cleanup Responsibility Act (ECRA) became law in 1983. Conditions set forth in the contract negotiated between AFA and NHA granted

CONTROL NO:	DATE:	TIME:
02-9005-05	07/17/90	1415

DISTRIBUTION:

D. and J. Trucking

BETWEEN:	OF:	PHONE:
		( )

AND:

(NUS)

DISCUSSION:

AFA Pallet Co., Inc. the legal right to operate at the site as the designated redevelopers of the parcel. During this time, AFA also entered into negotiations with NHA in order to have a tenant removed from the site for the purpose of facilitating redevelopment of the parcel. Shortly thereafter, ECRA became law. Perhaps due to NHA's interpretation of this law, a change in NHA policy resulted with the effect of slowing down AFA's redevelopment phase of the property according to Tony. The NHA also made alterations to the parcel without prior approval from AFA, too. A specific example given by Tony was that of the installation of a catch basin along the property's southeastern border by the NHA without the approval of AFA.

Subsequent to this, a new administration came into power at the NHA. This present administration (NHA) does not acknowledge the previous arrangement terms of the contract signed between AFA and the former NHA administration. According to Tony, AFA is the "legal and rightful developers of the parcel." Under the previous agreement the company was to deduct the price of cleanup from the purchase price of the property. AFA is presently undergoing negotiations with the present NHA administration to either proceed with the cleanup of the property for their subsequent use, or charge the NHA for the

ACTION ITEMS:

CONTROL NO:	DATE:	TIME:
02-9005-05	07/17/90	1415

DISTRIBUTION:

Dand J. Trucking

BETWEEN:	OF:	PHONE:
		( )

AND: (NUS)

DISCUSSION:

cost of cleaning up and redeveloping the parcel.

Tony also described the site to me as it appeared when his company first commenced redevelopment of the property. Lots of tires and junked auto and truck bodies were on site. Tony does not recall seeing any drums or large paint containers on site, even though I mentioned areal photographs of the site indicate their presence around the late 1970s. The junked autobodies were scrapped and ground up into reusable metal. Other debris, mostly remnants of AFA's cleanup activities, were pushed to the property's perimeter. Wood and wood containers stored on site, as well as the 3 to 4 inch thick hardwood planks from truck bodies were also ground up to form mulch. According to Tony, a major aspect of AFA operations at the site involved taking in truck bodies, scraping the metal, and grinding up the remaining wood planks. When I mentioned to Mr. Peterpaul that a September 1989 areal photograph of the site indicated it had been regraded before any mulch activity had commenced at the property, he insisted that any mulch encountered at the site had been derived solely from the bottom wood planks of truck bodies. He also denied that the property had been regraded. Tony also recollected that from previous site plans of the parcel, an underground riparian stream traverses the property.

ACTION ITEMS:

REFERENCE NO. 11

NUS CORPORATION TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-9005-05	5/15/90	12:00 p.m.

DISTRIBUTION:

D. and J. Trucking

BETWEEN:	OF:	PHONE:
Anthony Debarros	Principal Engineer Hydraulics City of Newark Water Dept.	(201) 256-4965

AND:

Dorothy Ponte NUSI

DISCUSSION:

The City of Newark is serviced by two water suppliers which receive water from watershed reservoirs located in Passaic, Morris and Sussex Counties, New Jersey. The north section of Newark is serviced by the North Jersey District Water Supply, commonly referred to as the Wanague Water Supply. Areas serviced by the North Jersey District Water Supply are: part of the City of Newark, Paterson, Montclair, Bayonne, Cedar Grove, and parts of Wayne, New Jersey. Wayne is also serviced by water from the Pequannock watershed and well water. The Jersey City Water Department receives its potable water supply from Boonton and Split Rock Reservoirs, located in Morris County. The Jersey City Water Department services Jersey City, Lyndhurst and Harrison. Tony referred me to Mr. Robert Lorfink, Jersey City Water Department (201) 547-4414 or 4598 for further information concerning the Jersey City Water Department.

ACTION ITEMS:

Tony mentioned that offhand he was aware of only one business in the area using groundwater as a potable water supply ... Biase's Restaurent. Other wells in the City of Newark utilize groundwater for industrial purposes, specifically cooling.

Action: Call Biase's Restaurent

NUS 087 REVISED 0881

REFERENCE NO. 12

NUS CORPORATION TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-9005-05	5/17/90	1520

DISTRIBUTION:

D. and J. Trucking

BETWEEN:	OF:	PHONE:
Larry Biase	Owner of Biase's Restaurant	(201) 483-3980

AND:

Dorothy Ponte (NUS)

DISCUSSION:

A private well in the City of Newark is located at Biase's Restaurant, 451 Bloomfield Avenue, Newark (between 8th and 9th streets). The depth of the well is approximately 170 feet according to Mr. Biase. The restaurant employs between 25 and 30 people, and has a seating capacity of about 600 people. Because the well water contains too much calcium for use as a hot water supply for the restaurant's dishwasher, Biase's Restaurant utilizes the North Jersey District Water Supply for this purpose. The well water is used as a drinking water source and for other cold water uses. The well is tested annually by the City of Newark.

ACTION ITEMS:

NUS 087 REVISED 0581

REFERENCE NO. 13

NUS CORPORATION TELECON NOTE

CONTROL NO:	DATE:	TIME:
02-9005-05	5/23/90	1510

DISTRIBUTION:

D. and J. Trucking

BETWEEN:	OF:	PHONE:
Anthony Debarros	Principal Engineer Hydraulics Newark Water Supply	(201) 256-4965

AND:

Dorothy Ponte (NUS)

DISCUSSION:

Discussed contigency plan, should an emergency occur. Newark Water Supply has capabilities of obtaining water from Passaic and Jersey City Water Departments. In their contingency plan, water can be obtained from lakes in the Branch Brook Park and Weequahic Park in an emergency situation too. Only very limited quantities could be obtained from city wells. None of these wells are tapped into the water distribution system.

Anthony will be mailing out well data information for the City of Newark to NUS FIT 2 office in Edison this week.

ACTION ITEMS:

NUS 087 REVISED 0881

REFERENCE NO. 14

Newark

Sharpe James
Mayor

Alvin L. Zach, P.E.;L.S. Director
Department of Engineering

Division of Water/Sewer Utility
Daniel Berardinelli, P.E., Manager
1294 McBride Avenue
Little Falls, New Jersey 07424
(201) 256-4965,

May 23, 1990

Ms. Dorothy Ponte
NUS Corp. Suite 1103
1090 King Georges Post Road
Edison, N.J. 08837

RE: PRIVATE WELLS IN THE CITY OF NEWARK

Dear Ms. Ponte:

As per our recent telephone conversation, please find enclosed information on the above captioned wells.

Premise	Occupant	Tel. No. (201)
37-39 Backus St.	Northern Feather Works	344-2262
250 Badger Ave.	Rubel Corp.	824-2905
451 Bloomfield Ave.	Biase's Restaurant	483-3980
93-105 Chestnut St.	Morris Machinery	344-1977
274 1/2 Heller Parkway	Foamy Car Wash	759-9691
792-850 Highland Ave.	Tiffany Co.	HU3-0140
30-44 Passaic St.	Napp-Greco	482-3500
353-355 5th St.	Hooton Chocalate	485-5385
495 N. 13th St.	Columbus Hospital	485-3400

Information on the above 9 wells indicate the wells are potable, however, ownership or occupancy may have changed since the "in use" date of 1981.

The following information comes from records also noted as "in use as of 1981" but these wells are either not potable or have not been tested.

Premises	Occupant	Tel. No. (201)
324 Astor St.	Linden Packing	243-1930
117 Blanchard St.	Fairmount Chemical	344-5790
37 Empire St.	Crown Plastics	248-8383
408 Frelinghuysen Ave.	Circle Rubber	824-5576
55 Manufacturers Pl.	Ronson Metals	589-1380
131 Market St.	Macy's	565-5244
158 Mt. Olivet Ave.	Penick Corp.	242-4001
95 Orange St.	Westinghouse	465-2466
240 Park Ave.	Park Ave. Car Wash	483-3883
2-20 E. Peddie St.	Jeryco Plastics Co.	243-3410
200 Pulaski St.	Chem-Fleur	589-4266
62 Verona Ave.	Seton Leather	485-4800
2 Heller Parkway	Branch Brook Park (Essex County Park Comm.)	482-6400

Additional information on private wells can be obtained from Mr. Al Crenshaw or Mr. Joe Zaro at our Distribution Headquarters, 239 Central Ave., Newark or by telephoning (201) 733-5360.

Very truly yours,

Anthony DeBarros,
Principal Engineer Hydraulics

ADB/bm

REFERENCE NO. 15

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: File

DATE: 08/03/90

FROM: Dorothy Ponte

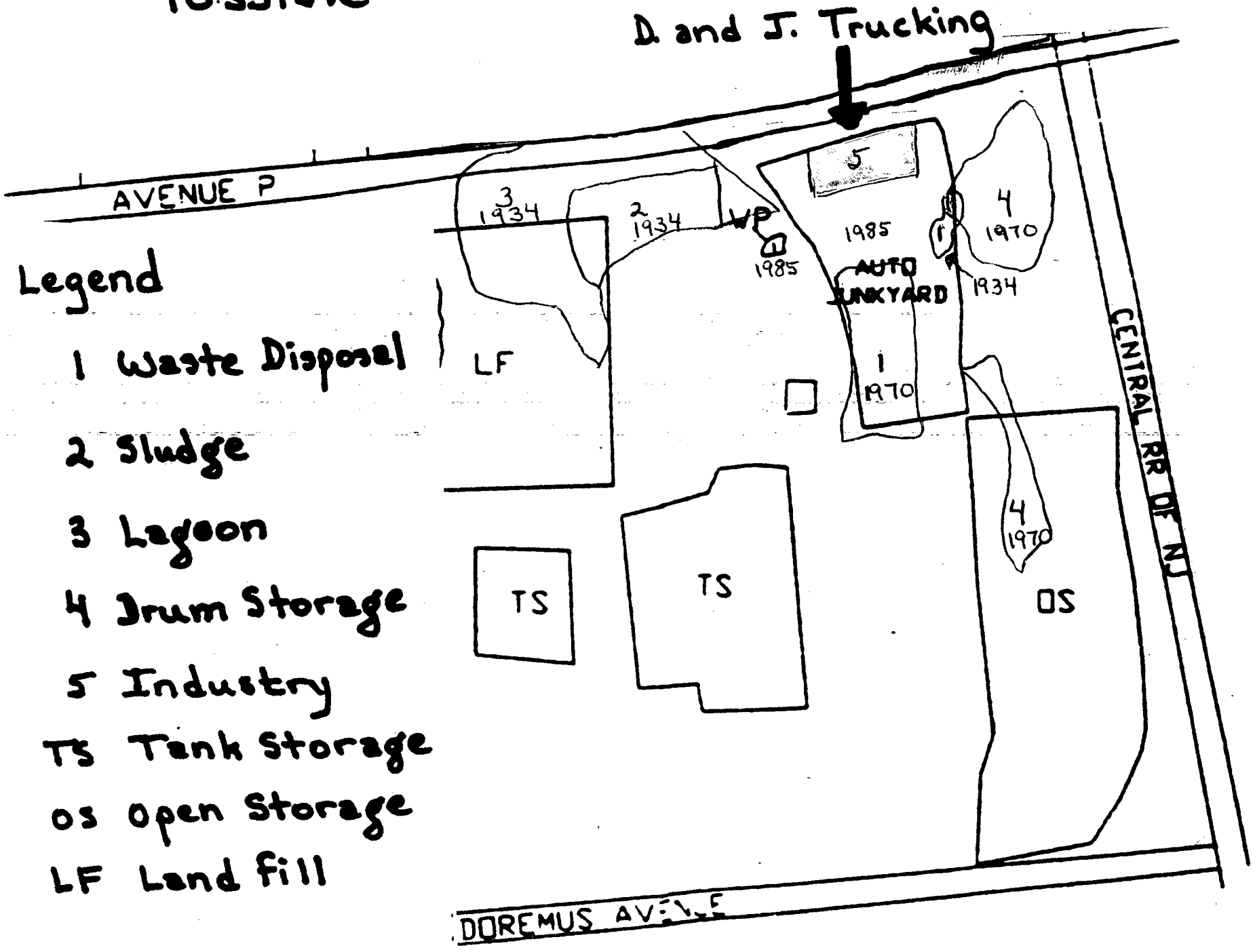
COPIES:

SUBJECT: Possible sources of contamination at the D. and J. Trucking Site.

REFERENCE:

An historical survey of possible sources of contamination within and adjacent to the proposed Right-of-Way for the New Jersey Turnpike Widening Project was submitted by Louis Berger and Associates, Inc. to the New Jersey Turnpike Authority in a preliminary site investigation. I acquired several south maps, eastside of the proposed Right-of-Way, and compiled relevent data concerning the D. and J. Trucking Site into one map spanning the years 1934 to 1985. This map identifies possible sources of contamination at the site and in the surrounding region.

Possible sources of contamination.



Legend

1 Waste Disposal

2 Sludge

3 Lagoon

4 Drum Storage

5 Industry

TS Tank Storage

OS Open Storage

LF Land fill

Preliminary Site Investigations: New Jersey Turnpike 1985 - 90 Widening from Passaic River to Milepost 105

Historical Survey of Possible Sources of Contamination within and adjacent to the Proposed Turnpike Right-Of-Way

Submitted to:

New Jersey Turnpike Authority

New Brunswick, New Jersey

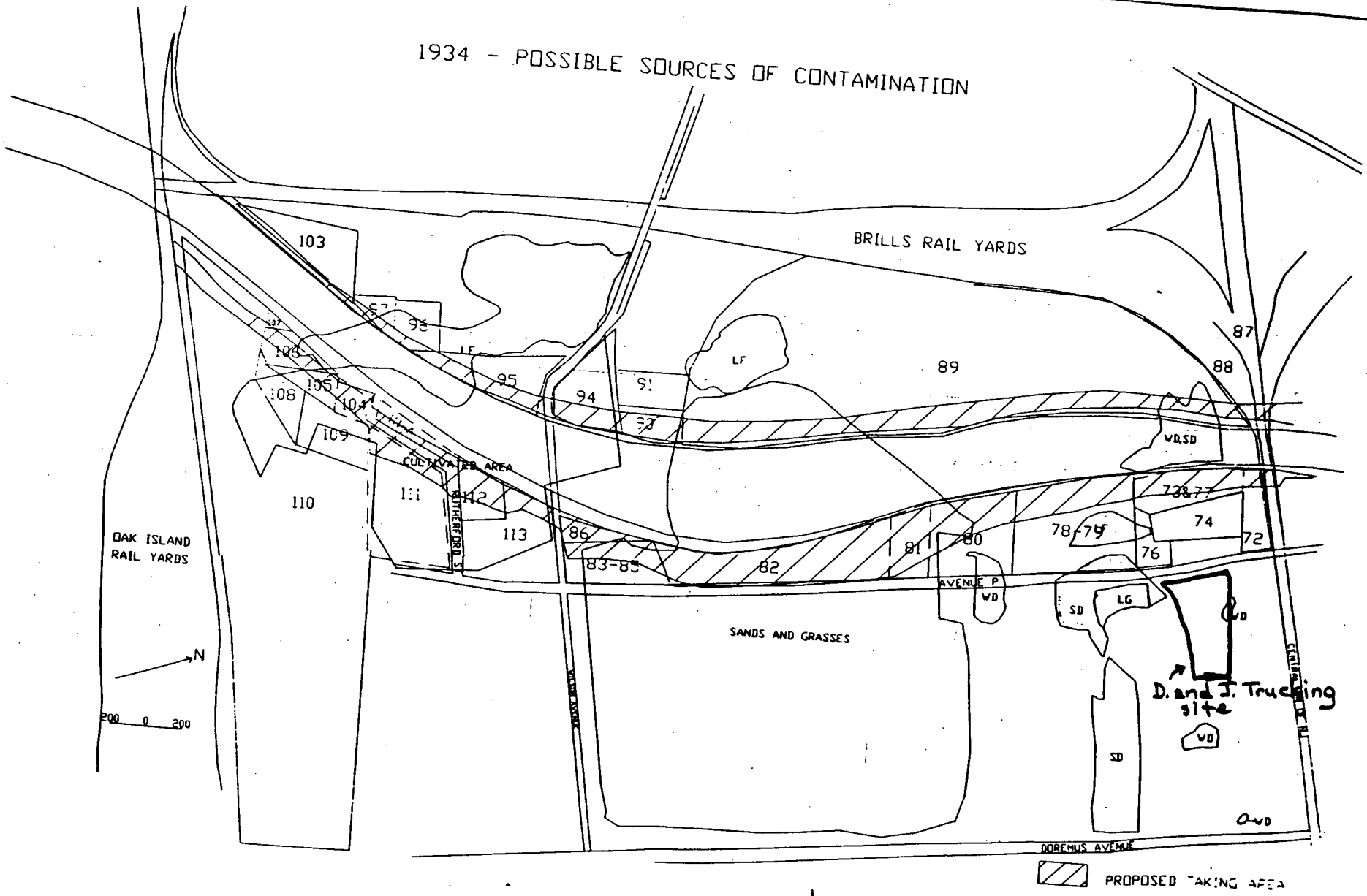
Submitted by:

Louis Berger & Associates, Inc.
East Orange, New Jersey

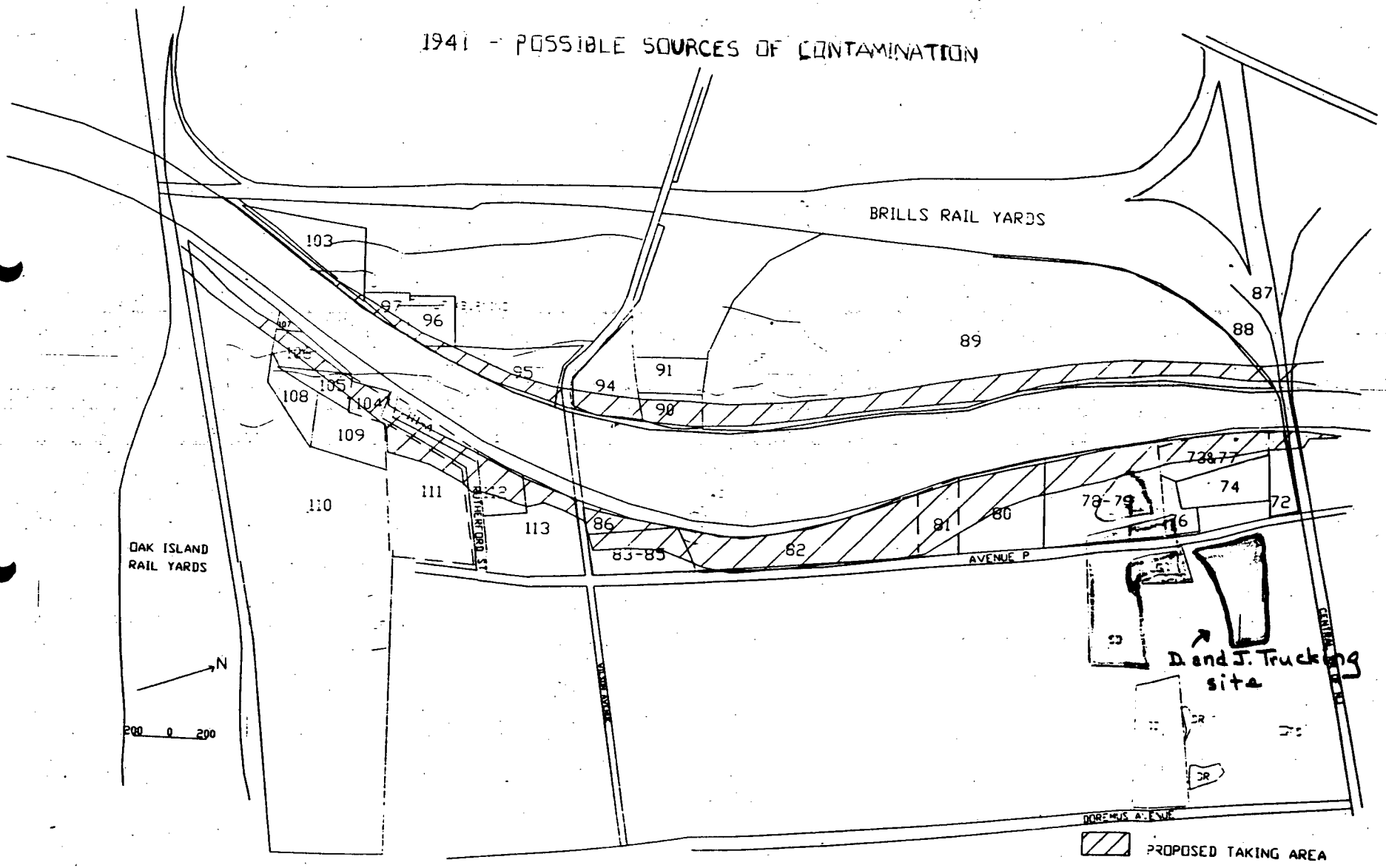
December 1986

— Legend —

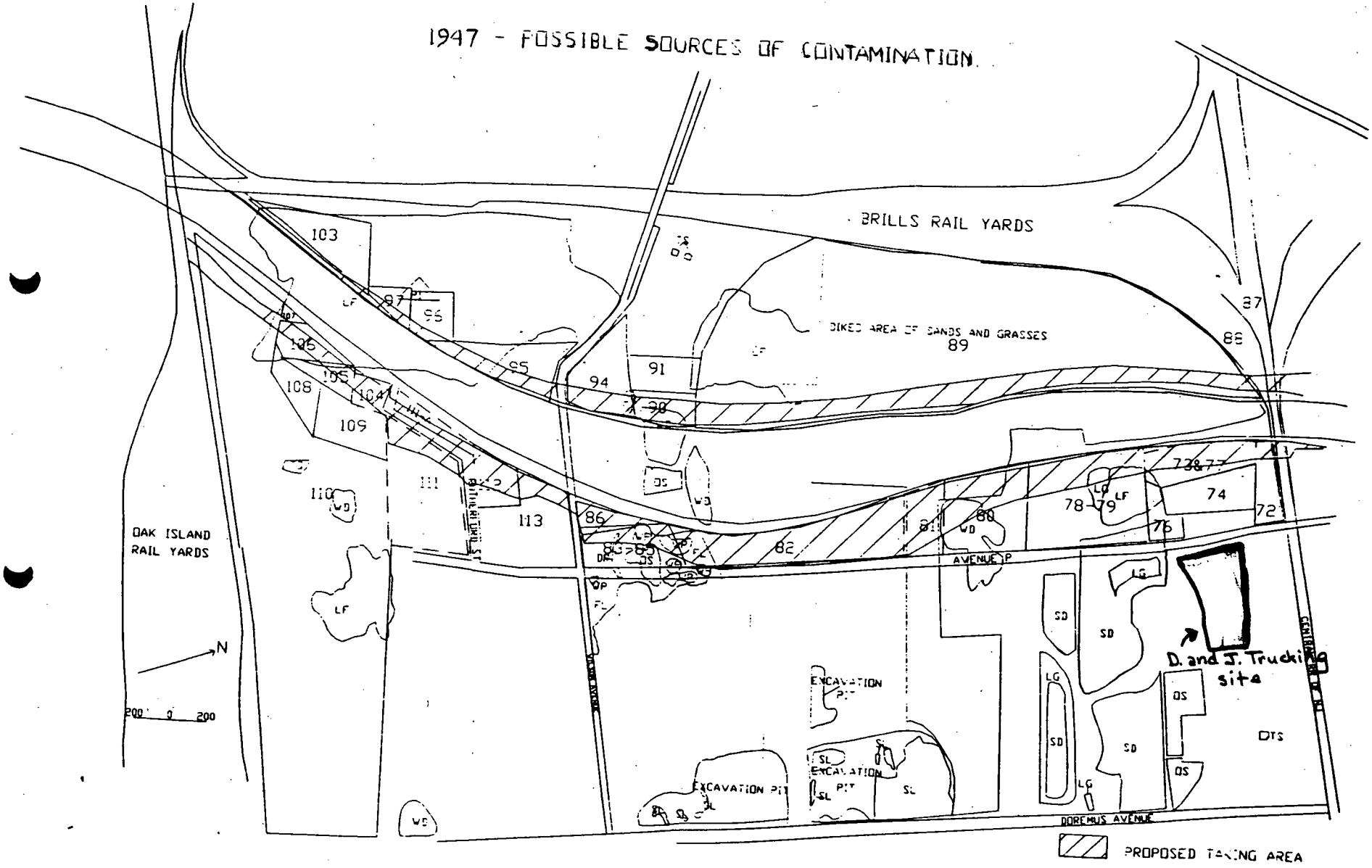
1934 - POSSIBLE SOURCES OF CONTAMINATION



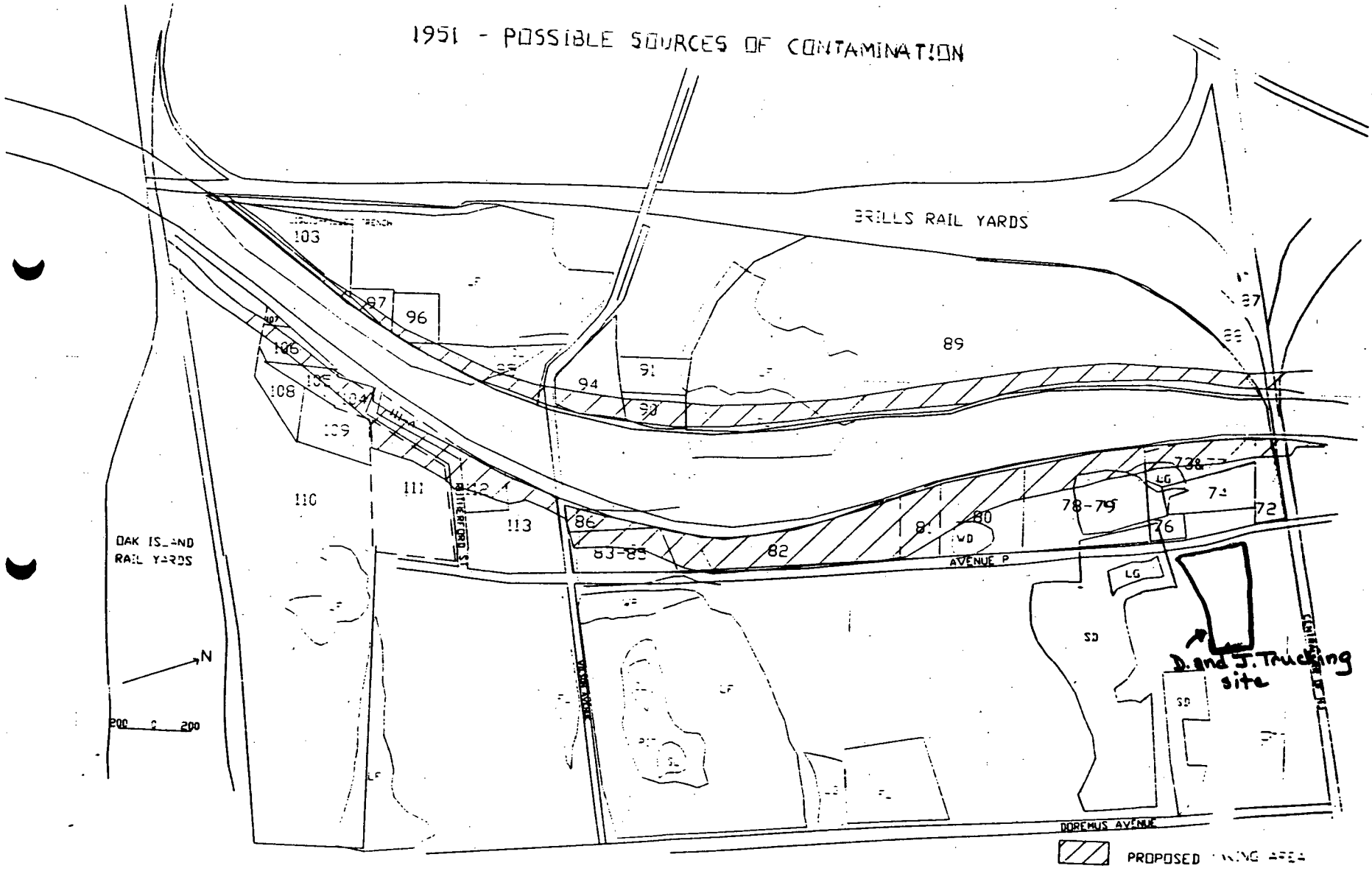
1941 - POSSIBLE SOURCES OF CONTAMINATION



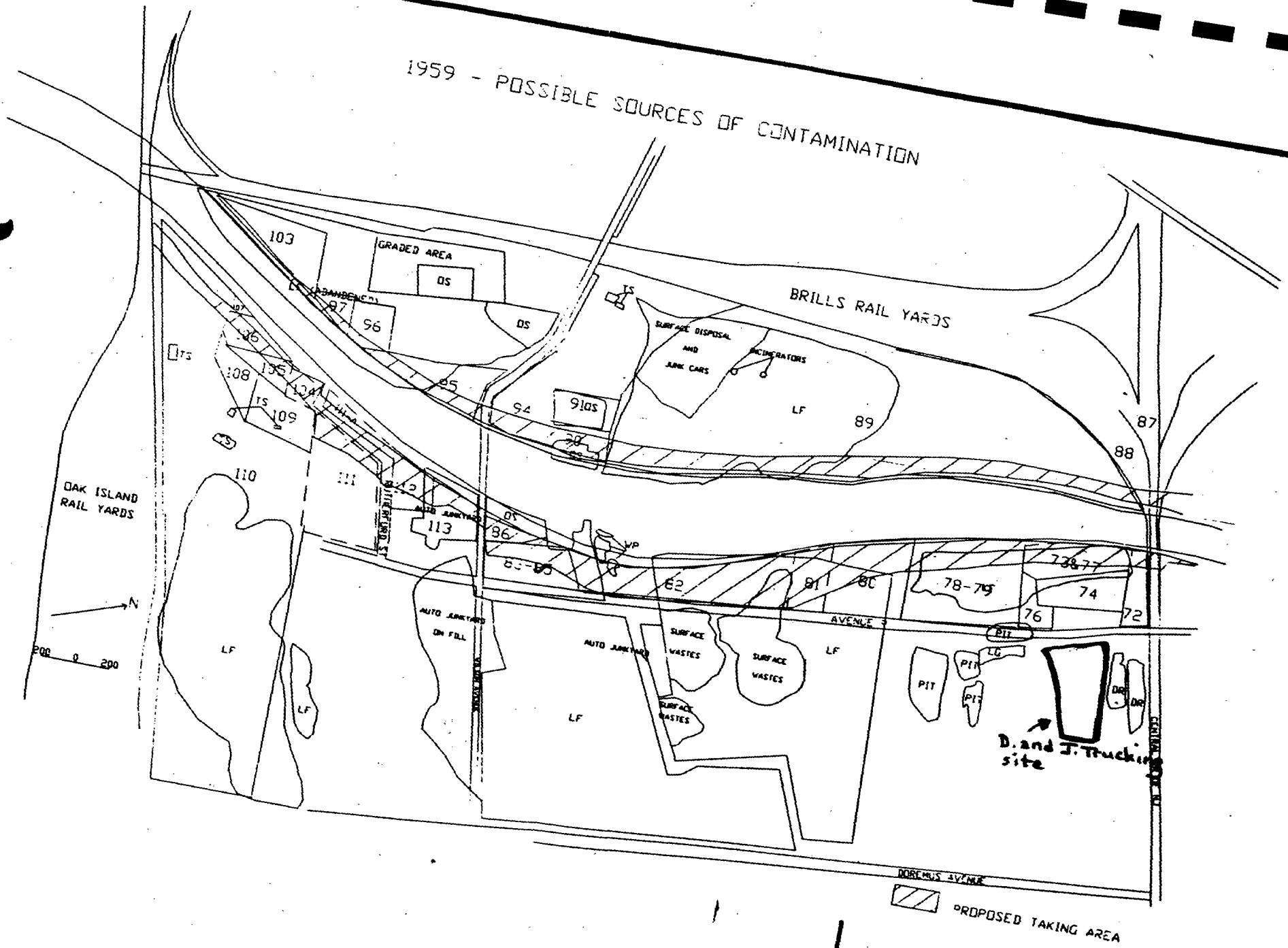
1947 - POSSIBLE SOURCES OF CONTAMINATION



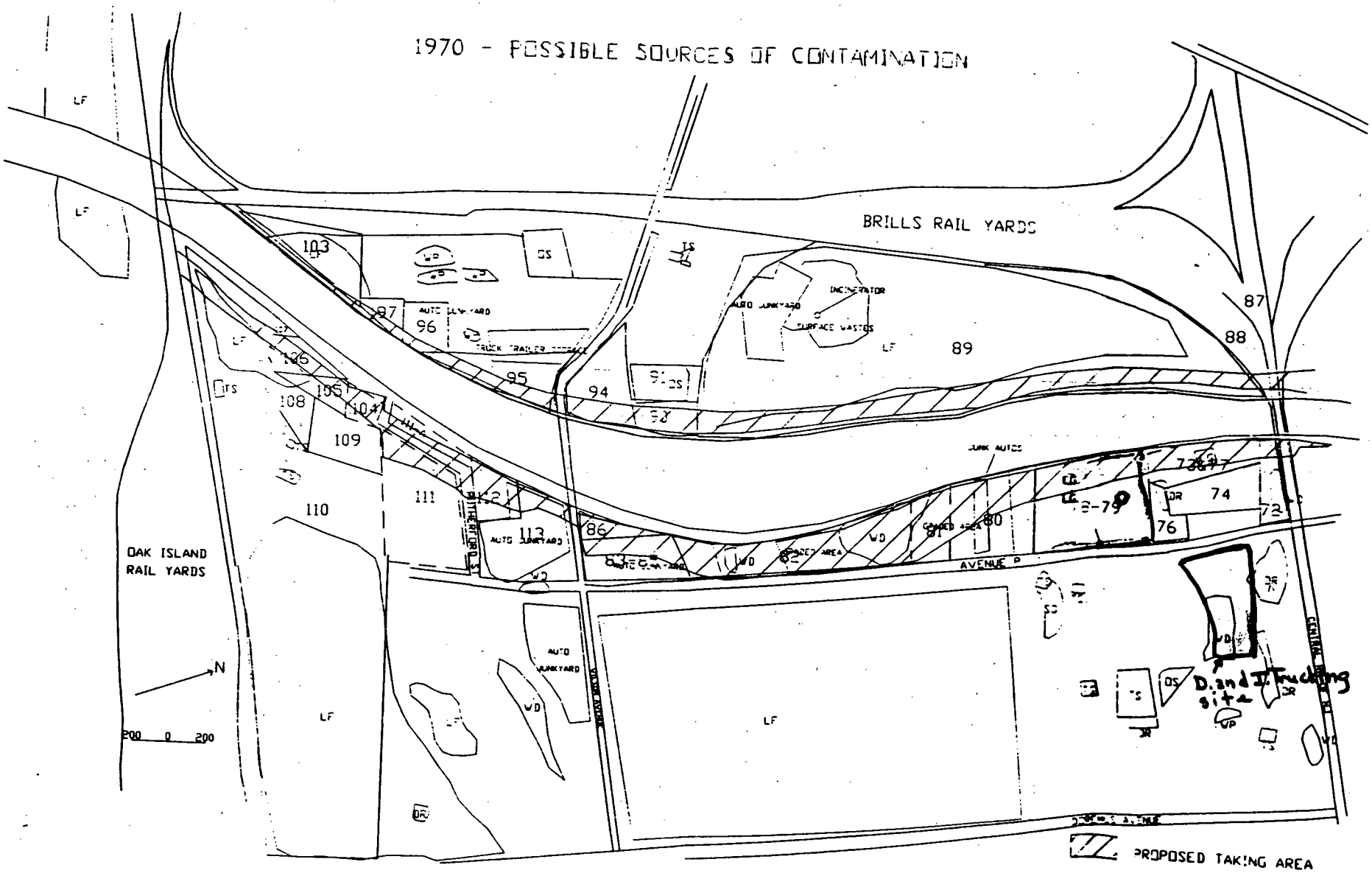
1951 - POSSIBLE SOURCES OF CONTAMINATION



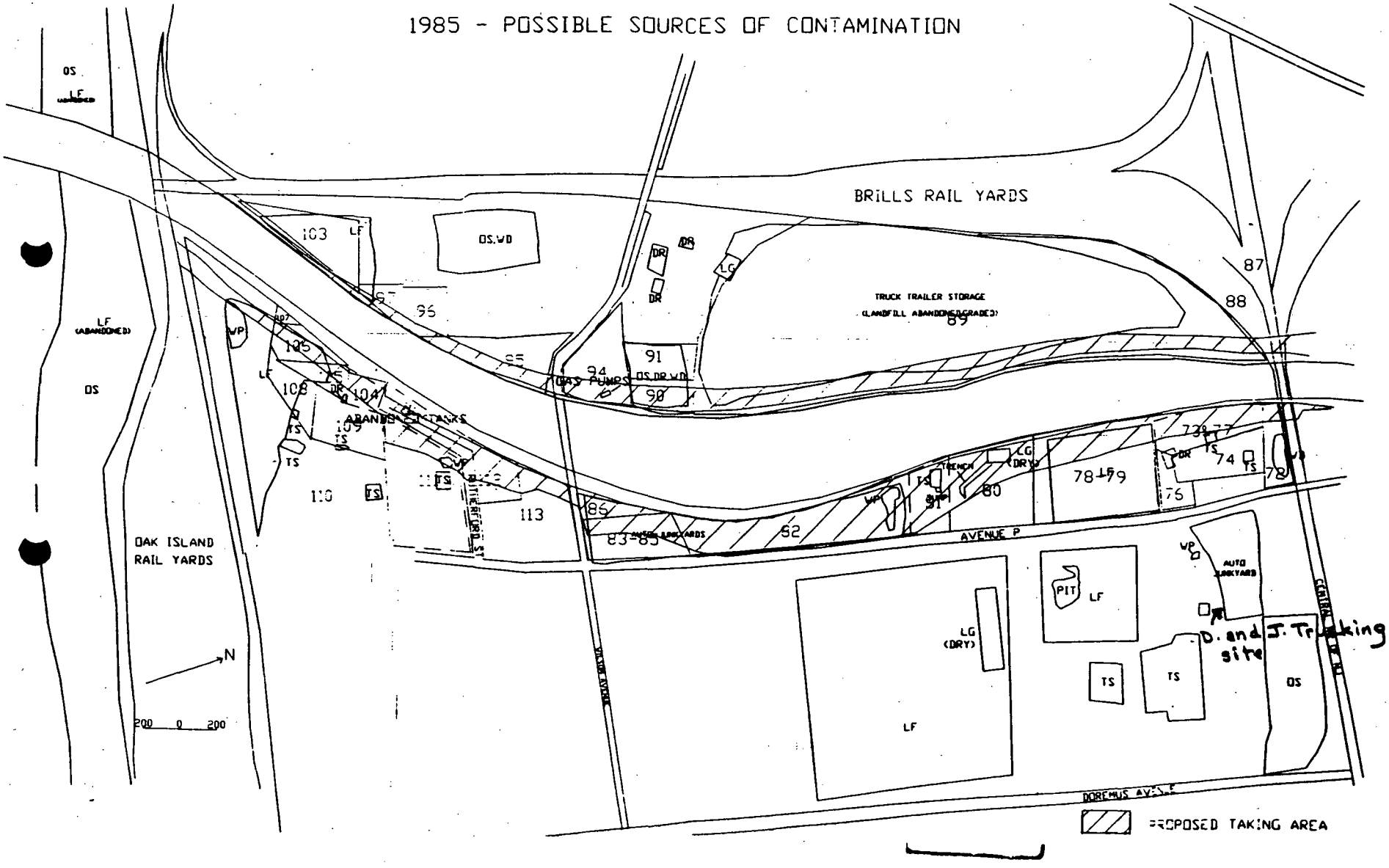
1959 - POSSIBLE SOURCES OF CONTAMINATION



1970 - POSSIBLE SOURCES OF CONTAMINATION



1985 - POSSIBLE SOURCES OF CONTAMINATION



* SITE 94
Property: Industrial Activity-(1947; 1951,1959,1970,1985: M&M Transport Motor Freight/Courtesy Container Service(low risk)). Drum Storage-(1947).
ROW: Industrial Activity-(1947; 1951,1959,1970,1985: M&M Transport Motor Freight/Courtesy Container Service(low risk)). Drum Storage-(1947).

* SITE 95
Property: Industrial Activity-(1959,1970,1985: Roy Stone Transfer Corp./Junkyard). Landfill-(1934,1940,1947,1951,1959). Standing Liquid-(1951).
ROW: Industrial Activity-(1959,1970,1985: Roy Stone Transfer Corp./Junkyard). Landfill-(1934,1940,1947,1951,1959). Standing Liquid-(1951).

* SITE 96
Property: Industrial Activity-(1970,1985: Imperial Urban Renewal/Ironbound Transport Park/Junkyard). Landfill-(1934,1940,1947,1951,1959). Waste Disposal-(1970).
ROW: Industrial Activity-(1970,1985: Imperial Urban Renewal/Ironbound Transport Park/Junkyard). Landfill-(1934,1940,1947,1951,1959).

* SITE 97
Property: Industrial Activity-(1970,1985: Imperial Urban Renewal/Ironbound Transport Park/Junkyard). Landfill-(1934,1940,1947,1951,1959).
ROW: Industrial Activity-(1970,1985: Imperial Urban Renewal/Ironbound Transport Park/Junkyard). Landfill-(1934,1940,1947,1951,1959).

* SITE 103
Property: Landfill-(1940,1947,1951,1959,1970,1985).
ROW: Landfill-(1940,1947,1951,1959,1970,1985).

D. South Map - East Side of Turnpike

* SITE 72
Property: Waste Disposal-(1970,1985).

* SITES 73 & 77
Property: Industrial Activity-(1934: Mertz Rendering Plant; 1940,1947,1951,1959,1970; 1985: Pfister Chemical/Alliance Color & Chemical). Lagoon-(1951,1970). Landfill-(1959). Tank Storage-(1985). Drum Storage-(1985).
ROW: Industrial Activity-(1934: Mertz Rendering Plant; 1940,1947,1951,1959). Lagoon-(1951,1970). Landfill-(1959).

* SITES 78-79
  Property: Industrial Activity-(1934,1940,1947,1951,1959,1970,1985). Landfill-(1934,1940,1947,1951,1959,1970,1985). Sludge-(1940). Lagoon-(1947,1970).
  ROW: Landfill-(1940,1947,1951,1959,1970,1985). Lagoon-(1947,1970).

* SITE 80
  Property: Industrial Activity-(1934,1940; 1970: Junkyards; 1985: White Rose Meats{low risk}). Waste Disposal-(1934,1947,1951). Landfill-(1959,1970). Lagoon-(1985).
  ROW: Industrial Activity-(1970: Junkyards). Waste Disposal-(1947,1951). Landfill-(1959,1970). Lagoon-(1985).

* SITE 81
  Property: Landfill-(1959,1970). Waste Disposal-(1970). Tank Storage-(1985).
  ROW: Landfill-(1959,1970). Waste Disposal-(1970). Tank Storage-(1985).

* SITES 82 & 83-85
  Property: Industrial Activity-(1934,1940,1947,1951; 1970,1985: Junkyards). Waste Disposal-(1940,1947,1951,1970,1985). Landfill-(1947,1959,1970). Drum Storage-(1947). Open Storage-(1947). Fill-(1947).
  ROW: Industrial Activity-(1934,1940,1947,1951; 1970,1985: Junkyards). Waste Disposal-(1940,1947,1951,1970,1985). Landfill-(1947,1959,1970). Drum Storage-(1947). Fill-(1947).

* SITE 86
  Property: Industrial Activity-(1934,1940,1947,1951,1959; 1970,1985: Junkyards). Open Storage-(1959).
  ROW: Industrial Activity-(1934,1940,1947,1951,1959; 1970,1985: Junkyards). Open Storage-(1959).

* SITE 113
  Property: Industrial Activity-(1959,1970: Junkyards; 1985).
  ROW: Industrial Activity-(1959,1970: Junkyards; 1985).

* SITE 112
  Property: Industrial Activity-(1959:Junkyards; 1985: Jet Urban Renewal Corp./Circle Air Freight {low risk}).
  ROW: Industrial Activity-(1959:Junkyards; 1985: Jet Urban Renewal Corp./Circle Air Freight {low risk}).

* SITES 111 & 109
  Property: Industrial Activity-(1934-1950: Beckwith Chandler Paints; 1950-?: Devoe & Reynolds; 1951,1959,1970; 1985: ADCO Chemical). Tank Storage-(1959,1985). Waste Disposal-(1985).

TABLE 4

HISTORICAL SURVEY - POSSIBLE SOURCES OF CONTAMINATION (SOUTH MAP/EASTSIDE OF TURNPIKE)

Site #	Present Owner/Occupant	1934	1940	1947	1951	1959	1970	1985	Previous Owner/Occupant
72	Conrail	-	-	-	-	-	WD	WD	
73 77	Pfister Chemical/Alliance Alliance Color & Chemical	IA	IA	IA	IA,LG	IA,LF	IA,LG	IA,TS,DR	Mertz Rendering Plant 1934
78-79	Newark Housing Authority	IA,LF	IA,LF,SD	IA,LF,LG	IA,LF	IA,LF	IA,LF,LG	IA,LF	
80	Newark Economic Development White Rose Meats	IA,WD	IA	WD	WD	LF	IA,LF	IA,LG	
81	Synfax Urban Renewal Corp.	-	-	-	-	LF	LF,WD	TS	
82	Newark Housing Author./ Junkyard	IA	IA,WD	IA,LF,DR, OS,FL,WD	IA,WD	LF	IA,WD,LF	IA,WD	
83-85	Federal Storage Warehouse/ Junkyards								
86	Stephanie Kiena/Diner	IA	IA	IA	IA	IA,OS	IA	IA	Junkyards
113	Passaic Valley Sewerage Comm.	-	-	-	-	IA	IA	IA	
112	Jet Urban Renewal Corp./ Circle Air Freight	-	-	-	-	IA	-	IA	
111 109	Ridge Equities/ADCO Chem. " " "	IA	IA	IA	IA	IA,TS	IA	IA,TS,WD	Beckwith Chandler (Mfg. Paints) 1934-50 Devoe & Reynolds 1950-
104	Newark Housing Authority/ Monoplast Chemical Corp.	-	-	-	-	IA	IA	IA	
105	Passaic Valley Sewerage Comm.	-	-	-	-	-	LF	LF,DR	
106	City of Newark	LF	LF	LF	-	-	LF	LF	
107	Passaic Valley Sewerage Comm.	-	-	LF	-	-	-	-	

LEGEND

C - Coal Storage
DR - Drum Storage
FL - Fill
IA - Industrial Activity
LF - Landfill
LG - Lagoon
LS - Liquid Storage
OS - Open Storage
SD - Sludge
SL - Standing Liquid
TS - Tank Storage
WD - Waste Disposal

FIGURE 6

South Map showing Roads, Proposed Turnpike ROW, Properties and Historic Industrial Facilities

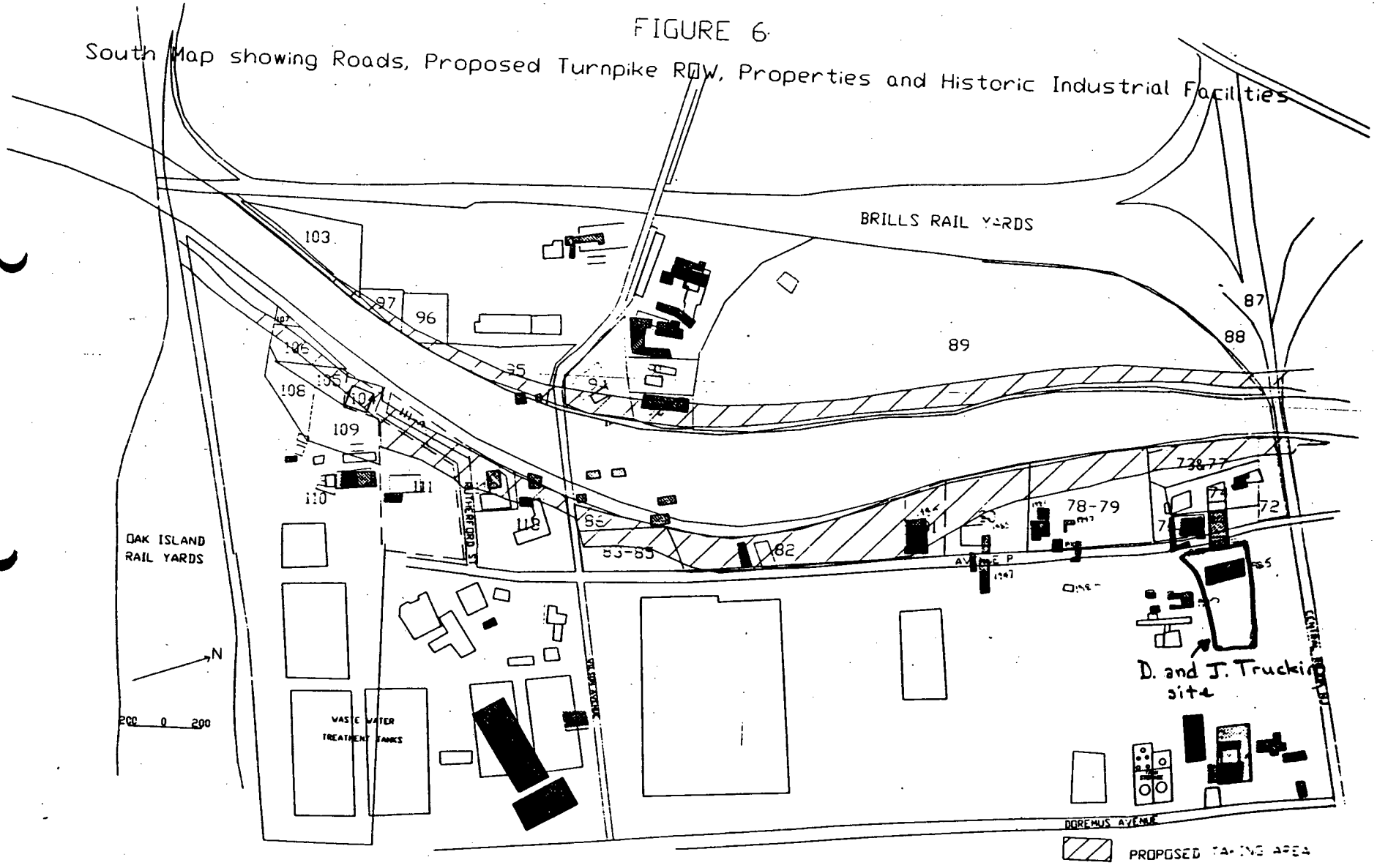
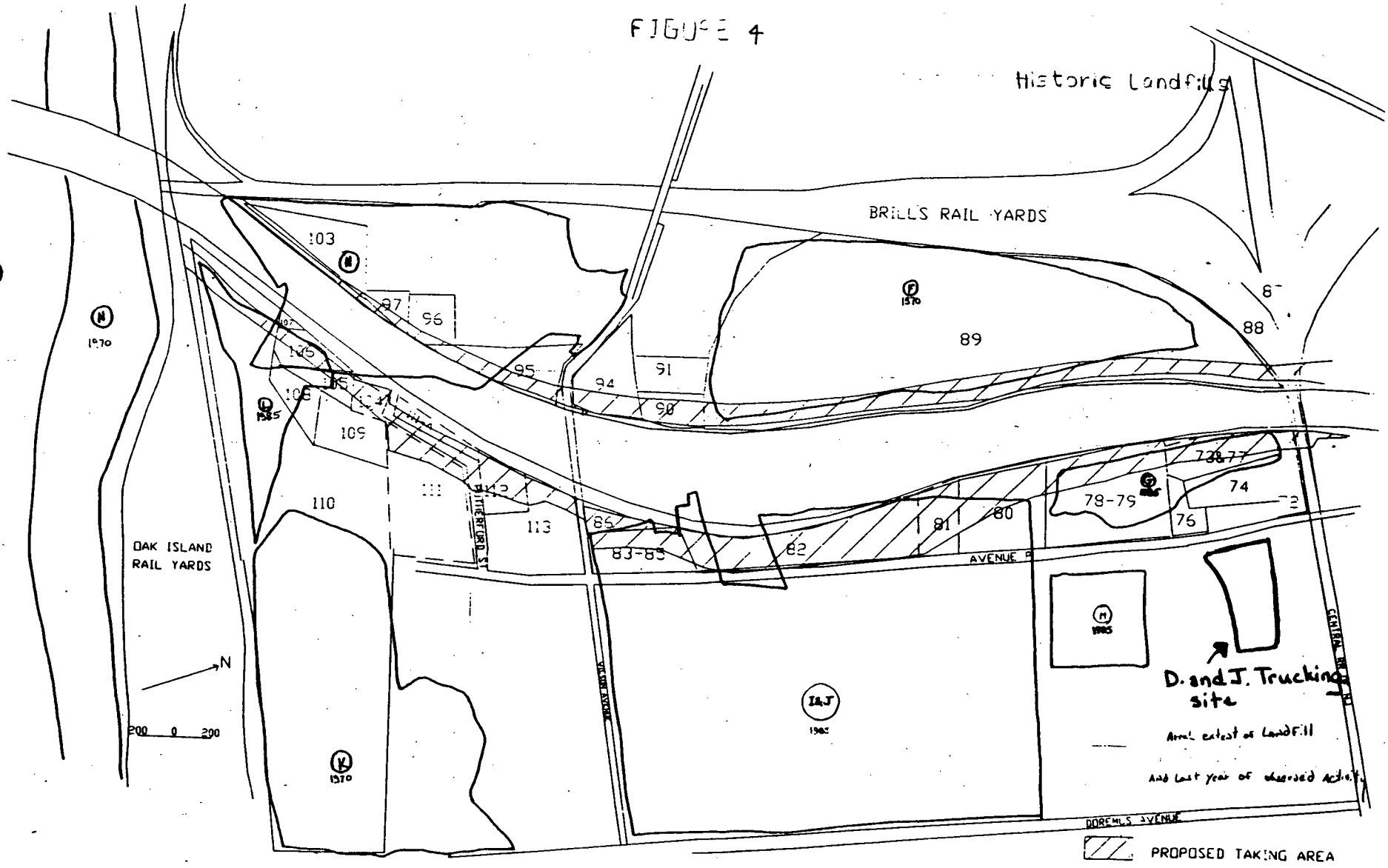


FIGURE 4



Historic Landfills
BRILLS RAIL YARDS
OAK ISLAND RAIL YARDS
103
97
96
95
94
91
90
89
88
87
106
108
109
110
111
112
113
86
83-85
82
81
80
78-79
73&77
74
76
72
PITTERFORD ST
AVENUE P
VILSON AVENUE
CENTRAL RR NJ
DOREMUS AVENUE
N
200 0 200
D. and J. Trucking site
Areal extent of Landfill
And last year of observed Activity
PROPOSED TAKING AREA

REFERENCE NO. 16

Newark

Kenneth A. Gibson
Mayor

Department of Engineering

920 Broad Street
Newark, New Jersey 07102
201 733-8523

Alvin L. Zach, P.E.; L.S.
Director

January 9, 1978

Carmine Perrapata, Executive Director
Passaic Valley Sewerage Commissioners
600 Wilson Avenue
Newark, New Jersey 07105

Dear Mr. Perrapata;

~~On December 15, 1977 the Newark Police Department observed the promiscuous dumping of chemical wastes in a pit adjacent to a branch of Plum Creek located at D & J Trucking and Waste Co. 310 Ave. P, Newark.~~ Two suspects were apprehended for violation of N.J.S.A. 14:13A-12, not possessing a P.U.C. Certificate of Public Convenience and Necessity. Immediately following these arrests, the Newark Police contacted our office and requested that we send a representative to the site to sample the dumped chemical wastes. ~~A representative from our office immediately responded and collected several samples from the pit and the adjacent branch of Plum Creek.~~ The samples were then delivered to Mr. Goldberg of the P.V.S.C. for analysis. The results of the P.V.S.C. analysis showed ~~the samples to be of a hazardous and flammable nature.~~ The ~~above referenced property is a barren wasteland devoid of vegetation, the substrate contains physical evidence from years of chemical waste dumping. Since this site is adjacent to Plum Creek, we believe the leachate and surface run off will be a future hazard to the abuting surface waters~~ and persons utilizing the neighboring areas.

As seen in the above paragraph, the City of Newark is most concerned with the long term pollution of the above noted parcel property with hazardous polluting materials. As previously mentioned, your laboratory analyzed samples taken from this property and from the adjacent Plum Creek. Mr. Frank J. Cupo, Superintendant of River Inspection Department, has recently informed me, however, that despite the fact that the materials are polluting a branch of Plum Creek, PVSC will take no part in abating this grave problem.

PVSC's enabling legislations, specifically delineats that the PVSC is responsible for controlling polluting matter"discharged directly or indirectly, into the waters of the Passaic River... or into the waters of any of the tributaries of said river..."

VIII

It is a concern of my office that PVSC act to require the removal of said pollutants in order to avoid future environmental problems.

I am most disappointed with the response received from Mr. Cupo that PVSC will not follow-up in requiring the removal of the above noted pollutants. Your assistance in assuring an expeditious abatement of this problem, will be most appreciated.

Thanking you in advance for your anticipated cooperation, I remain

Sincerely yours,

Alvin L. Zach, P.E.
Director of Engineering

ALZ/jf

cc: Seymour Lubetkin

VIII-a2

REFERENCE NO. 17

YOU ARE MAKING FOUR COPIES, A BALL POINT PEN
PRESS HARD, WRITE ON A HARD SURFACE

DETAILED INSTRUCTIONS ON BACK OF FORM

POLICE DEPARTMENT — INCIDENT REPORT — NEWARK, N.J.

FILL OUT COMPLETE REPORT WHEN LISTED IN CLASSIFICATION LIST AND REPORT GUIDE AS 802 (NO ASTERISK).
DO NOT FILL OUT SHADED PORTION WHEN LISTED 802* (WITH ASTERISK).

1. VICTIM'S OR COMPLAINANT'S NAME: P/O Wayne Smith P/O Zariczny
2. TELEPHONE NO.: 733-6190
3. RESIDENCE NUMBER (STREET) (FLOOR OR APT.): EAST District
4. SEX | 5. RACE | 6. AGE | 7. OCCUPATION
8. INJURY: ☐ YES ☐ NO
9. SOBRIETY OF VICTIM: ☐ SOBER ☐ HAD BEEN DRINKING ☐ INTOXICATED
10. CAN VICT. IDENT. OFFENDER: ☐ YES ☐ NO
11. PERSON REPORTING CRIME: Officers Unit 317
12. TELEPHONE NO.: 733-6190
13. RESIDENCE OF PERSON REPORTING CRIME: EAST District
14. TIME REPT.: 0820
15. MONTH: 12 DAY: 15 YEAR: 77
16. OCCURRED ON VIEW: ☒ YES ☐ NO
18. HOW ATTACKED: Hole in ground
30. OBJECT OF ATTACK: disposal of chemicals

17. STATUTE OR ORDINANCE
18. MCRU: 317
19. DISTRICT NO.
20. CENT. COMPLT. NO.: 76493
21. REPORTING OFFICER (NAME) (BADGE NO.) (COMM.): P/O Wayne H Smith 1432 East
22. INCIDENT
22A. OCCURRED ON PUBLIC HOUSING PROPERTY? ☒ YES ☐ NO
23. LOCATION: 310 Ave P
24. TIME OF OCCURRENCE (ON OR BET.): HOUR 0820 | DAY OF WEEK Thurs | MONTH 12 | DAY 15 | YEAR 77
25. WAS FORCE USED? ☐ YES ☒ NO ☐ NOT KNOWN
26. WAS A WEAPON USED? ☐ YES ☒ NO ☐ NOT KNOWN
27. TYPE OF PREMISES OR PROPERTY ATTACKED: Lot Nowark Housing Property
29. MEANS OF ATTACK: TRUCK, DRUMS Liquid
31. MODUS OPERANDI: N/A

32. VEHICLE INVOLVED IN CRIME: ☐ STOLEN ☒ USED BY OFFENDER

YEAR	MAKE	LIC. NUMBER	COLOR	BODY TYPE	SERIAL NUMBER
64	Ford	XDZ 45W		TRUCK	T7KU501236

33. NAME OF SUSPECT (ALIAS) (RESIDENCE): Ralph Smith — 68 Myrtle Ave Irvington

SEX	RACE	AGE	HEIGHT	WEIGHT	COLOR OF HAIR	COLOR OF EYES	DESCRIBE CLOTHING WORN AND PECULIARITIES
M	BLK	67					

34. ADDITIONAL INFORMATION. (DO NOT REPEAT INFORMATION LISTED IN NUMBERED BLOCKS)

34A. STRANGER TO STRANGER OR ME: ☐ YES ☐ NO ☐ UNKNOWN

Officers of Unit 317 observed at 0820 at 310 ave P the above truck drive to the rear of this address. The gates to this address were just locked. Officers observed the truck from an adjacent property drive to an area that had a dirt removal shovel used to dig holes. P/O Wayne Smith observed the above suspect pour the contents of fifty five gallon drums into the ground. The contents appeared to be liquid in nature. Unit 301 Lt Nevarez responded and entered the premises after he was notified of the situation. Officers were met by Dominick Attanasi who said he was the president of the corporation at that location. D J Trucking And Junto Co. 310 Ave P. This location is presently owned by the Newark Housing Authority. The truck started to drive back to the location where where officers were waiting. The truck stopped halfway and officers approached the truck. When we arrived at the truck the driver had fled the area on foot. In the rear of the truck was 55 gallon drums. Officers approached the area where the material was dumped and found a large hole filled with an unknown liquid substance. Officers also observed tire tracks of

35. ESTIMATED LOSS BY TYPE PROPERTY

A. CURRENCY	B. JEWELRY	C. FURS	D. CLOTHING	E. LOCAL AUTOS	F. MISCELLANEOUS	G. TOTAL

36. OTHER OFFICERS AT SCENE (NAME) | VER. NO. | COMMAND | BADGE NO.

37. OTHER REPORTS SUBMITTED:
☐ DP 1:152 PROPERTY
☐ DP 1:152-1 AUTO
☐ DP 1:225A STATEMENT
☐ DP 1:795 CONT.
☐ DP 1:800 ARREST

PERSONS ARRESTED (NAME): Dominick J. Attanasi — CENT. ARR. NO.: 23915
Ralph Smith

39. WITNESSES (NAME AND RESIDENCE) (TELEPHONE NO.)

TELETYPE ALARM NUMBER
41. NAME OF DETECTIVE NOTIFIED
42. SIGNATURE OF REPORTING OFFICER

STATUS OF OFFENSE: ☐ UNFOUNDED ☐ CLEARED BY ARREST ☐ NOT CLEARED ☐ EXCEPTIONAL CLEARANCE
☐ CLASS. CRIM. ACT. ☐ PENDING ACTIVE ☐ PENDING INACTIVE ☐ CLOSED
40. CLEAR.
44. CLEARED BY ARREST OF: ☐ ADULT ☐ JUVENILE ☐ ADULT AND JUVENILE ☐ NAMED OFFENDER
47. HOW CLEAR.
48. BY APPROVED BY
49. TIME IN MO.
SUPERVISOR APPROVING & CLASSIFYING (DATE)

HARD Use black reproducing ball point.
You are making 3 copies.

POLICE DEPARTMENT — CONTINUATION REPORT — NEWARK, N. J.

SPECIFIC OFFENSE	DIST COMPLT. NO.	CENTRAL COMPLAINT NO
		76-493

STATUTE OR ORDINANCE (R.S., N.J.S., REV. ORD.)	LOCATION OF OFFENSE	DATE OF OCCURRENCE

a truck that end at the edge of a stream. This stream was polluted with an unknown substance whose source came from the bank at the end of the tire tracks.
There was also various amounts of empty 55 gallon drums laying around the area.

Mr. Walter Janicek of the Newark Department of Engineering responded and took samples from the hole and stream.

A Police photographer responded and took photos of the area.
Mr. Dominick Attanasi of 432 Colonial Ave Union N.J. was arrested. He was advised of his rights at the scene and allowed to call his Lawyer.
The truck used to dump the material was a 1964 Ford N.J. Reg XDZ 15W. This is registered to D&J Trucking Oil and Waste Co. 310 Ave P. Thsi

AMENDED PROPERTY VALUATION	A CURRENCY	B JEWELRY	C FURS	D CLOTHING	E LOCAL AUTO	F MISCELLANEOUS	G TOTALS

RANK | SIGNATURE OF OFFICER SUBMITTING REPORT | COMMAND | BADGE NUMBER

STATUS OF OFFENSE: [ ] UNFOUNDED [ ] CLEARED BY ARREST [ ] NOT CLEARED [ ] EXCEPTIONALLY CLEARED

STATUS OF CASE: [ ] PENDING ACTIVE [ ] PENDING INACTIVE [ ] CLOSED

CLEARED BY ARREST OF: [ ] JUV [ ] ADULT [ ] JUV & ADULT [ ] NARCOTIC OFFENDER

CLASSIFICATION | RECLASSIFICATION

CASE CLASSIFIED AND APPROVED BY | DATE | TALLIED BY | INDEXED BY

REFERENCE NO. 18

Pon
Corcory

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOLID WASTE ADMINISTRATION
TRENTON, 08625

BEATRICE S. TYLUTKI
DIRECTOR

~~December~~ FEB 14, 1978

Mr. Dominick Attanasi
D & J Trucking and Waste Co., Inc.
387 Avenue F
Newark, NJ 07102

Dear Mr. Attanasi:

Enclosed please find an Administrative Order revoking your authority to collect and haul solid waste in the State of New Jersey. Continued operation will be considered a violation of N.J.S.A. 13:1E-5 and N.J.S.A. 13:1E-12, subjecting you to penalties of up to $3,000 per offense.

Any further communication concerning this matter should be made to William Stohler, Deputy Attorney General, 36 West State Street, Trenton, New Jersey 08625.

Very truly yours,

Beatrice S. Tylutki

Beatrice S. Tylutki
Director
Solid Waste Administration

bcc: Steven Gray, DAG
Joseph Coronato, DAG
James P. Lordi
Bruce Schwartz, Div. of Water Resources
Tom Salagaj, PUC
Henry A. Jatczak
Ronald Corcory
Ronald Buchanan
Charles Gingrich
Central File

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOLID WASTE ADMINISTRATION

TRENTON, 08625

BEATRICE S. TYLUTKI
DIRECTOR

IN THE MATTER OF D & J TRUCKING AND WASTE CO., INC. VIOLATION OF STATUTES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION	ADMINISTRATIVE ORDER REVOCATION OF REGISTRATION

WHEREAS, D & J Trucking and Waste Co., Inc. (D & J) has a New Jersey Solid Waste Administration Registration for the collection and haulage of solid waste in the State of New Jersey, specifically, No. 2683; and

WHEREAS, investigations by this Department on April 2, 1977, and August 1, 1977, disclosed that D & J engaged in the disposal of solid waste on a property known as 310 Avenue "P", Newark, New Jersey, in violation of N.J.S.A. 13:1E-5, N.J.S.A. 13:1E-12, N.J.A.C. 7:26-2.2.1, N.J.A.C. 7:26-2.2.2 and N.J.A.C. 7:26-3.4.2; and

WHEREAS, on December 15, 1977, Dominick J. Attanasi, president of D & J, and Ralph J. Smith, driver of the truck, were apprehended by the Newark police while in the act of dumping chemical waste in a pit on the property known as 310 Avenue "P", Newark, New Jersey; and

WHEREAS, the property known as 310 Avenue "P", Newark, New Jersey reveals evidence of chemical dumping having occurred on the site for some time, during which D & J was in open and notorious possession of said property; and

WHEREAS, as a result of these facts, there have occurred willful and negligent illegal discharges in violation of N.J.S.A. 58:10A-6, N.J.S.A. 58:10-23.11c and N.J.S.A. 23:5-28; and

WHEREAS, on June 2, 1975, a Departmental Order was issued to D & J Trucking and Waste Co., Inc. requiring cessation of disposal operations at the site involved herein; and

WHEREAS, a Notice of Prosecution was issued to D & J Trucking and Waste Co., Inc. on August 30, 1977, wherein penalties were assessed against D & J for additional illegal disposal activities on the site involved herein.

NOW, THEREFORE:

1. D & J Trucking and Waste Co., Inc. is HEREBY NOTIFIED that its registration, No. 2683, to operate in the State of New Jersey is REVOKED: and

2. D & J Trucking and Waste Co., Inc. is HEREBY NOTIFIED that any continued collection or haulage of solid, liquid or chemical waste in the State of New Jersey will be considered a violation of N.J.S.A. 13:1E-1 et seq., subjecting D & J to a maximum penalty of $3,000 per violation.

3. D & J Trucking and Waste Co., Inc. is HEREBY NOTIFIED that an administrative hearing may be had in the aforementioned matter, and that the New Jersey Department of Environmental Protection will provide such a hearing upon written request received no later than fifteen (15) days from the date of this Order. Said request shall specify (a) wherein the Department's action aggrieves D & J, (b) which findings of fact are challenged; and (c) which conclusions of law (including those not articulated) are challenged. Time and place of the hearing will be designated by the Department of Environmental Protection.

Beatrice S. Tylutki

Beatrice S. Tylutki, Director
Solid Waste Administration

~~December~~ FEB 14, 1978

Date

REFERENCE NO. 19

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOLID WASTE ADMINISTRATION
TRENTON, 08625

BEATRICE S. TYLUTKI
DIRECTOR

March 14, 1978

Mr. Mark Ippolito
Sherwin-Williams Co.
P.O. Box 717
Newark, NJ 07101

Dear Mr. Ippolito:

Attached for your information is a copy of an Administrative Order revoking the registration of D&J Trucking Company to collect and haul solid waste in the State of New Jersey. In addition, Rahway Trucking is not registered with the Solid Waste Administration to collect or haul solid waste within the State. Any waste collection or haulage by either of these companies is in violation of N.J.A.C. 7:26-1 et seq. and may result in penalties to both generator and hauler of the waste.

Should you have any questions concerning this matter, please call me at (609) 292-9877.

Sincerely,

Michael Rosenberg

Michael Rosenberg
Assistant Environmental Engineer

MR:hjg

Attach.

REFERENCE NO. 20

Preliminary Site Investigations: New Jersey Turnpike 1985 - 90 Widening from Passaic River to Milepost 105

Historical Survey of Possible Sources of Contamination within and adjacent to the Proposed Turnpike Right-Of-Way

Submitted to:

New Jersey Turnpike Authority

New Brunswick, New Jersey

Submitted by:

Louis Berger & Associates, Inc.
East Orange, New Jersey

December 1986

— Legend —

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Company of New Jersey (est. 1869) in 1915 and the Communipaw Central Land Company as of 1905. Private land owners apparently of this and/or nearby land parcels also included John F. Morton, Peter A. Bothner Jr., and James Flockhard. Premises were conveyed to Lewis New York Terminals for two months by two deeds in 1926.

Industrial activities were also associated with the Avenue P site for the first time by a deed which identified Lacquer Specialties as owners of the site in 1926. Amalgamated Dye and Chemical Company also appeared at the site in a 1927 survey map.

Generally speaking, the records available during this time frame are generally incomplete and it is not always clear whether the site was leased or owned by the various parties identified or whether the various parties were actively engaged in on-site activites.

3.2 Middle "Industrial" Phase

From the deed records, it appears that Lacquer Specialties remained owner of record of the site until 1946, when that property as well as other adjacent tracts were transferred to Lasp Realty. There is some indication in the deed book that the Lasp property was subsequently leased to Reilly Tar and Chemical Company.

Martin Laboratories, Inc. appears in the deed book to have been associated with the property potentially through 1951 when the property was transferred to Plum Point Realty.

Another industry potentially associated in the deed book with the property is the Sun Chemical Company; however the deed book does not indicate when they acquired the land. Survey records from the firm of Borrie MacDonald and Watson place the Americal Tallow Company on the site in 1948. The same firm has surveyed that area at five distinct times; and by 1957 a company representative described the site as "vacant lots, a dumpsite".

3.3 Late "Deterioration" Phase

Three surveys made by the Borrie, MacDonald and Watson firm between the years 1960 and 1973 described the site as a paint dump at which was located several sheds filled with paint and associated products (varnish, remover, lacquer, etc.). These discarded materials apparently bore labels from Sherman Williams and Benjamin Moore. The surveyor specifically noted between 500 and 600 cases of pint cans of paint which appeared to be a bad colour run. Quantities of gas and oil wastes were noted as well. The same surveyor in the 1960's described the general vicinity of the dump as desolate (Avenue P was a dirt road) and indicated that there were several junk yards nearby which "people didn't own". The surveyor also placed Alliance Colour and Chemical Company adjacent to the Avenue P site in 1960. By 1972, the surveyor described the site as "loaded with debris and junk" including thousands of paint cans. Photographs are available of the site at this stage.

Apparently, it was ring the 1970's that mu of the property in this area was transferred to the New Jersey Turnpike Authority or to the Newark Renewal and Housing Authority. However, two tracts of Lot 15 were transferred to Ashland Oil and Refining Company and D and J Trucking and Waste Company was granted Lots 6 & 9 including parts of Lots 10, 11, 14 and 15 according to the deed book. Some of the Housing Authority's property was transferred to Pfister Urban Renewal Company in 1982.

During the 1970's there were also several accounts of illegal dumping in the area of this site. An account by the Chief Environmental Specialist of the Newark Department of Engineering describes an illegal paint dumping operation on an adjacent property involving D and J Trucking and Waste Company in 1977. D and J Trucking and Waste Company had a disposal contract with Sherman Williams and Benjamin Moore for twelve years. The department was also cognizant of illegal dumping along Plum Point Creek (1977-1979) by Chemical Control Company (see Appendix 4). A limited photographic record of the site for this time period is also available from the Newark Department of Engineering and the New Jersey Turnpike Authority (see Appendix 5).

In 1980, the NJDEP issued landfill disruption permits, due to the potential hazards involved with use of this land by Schnool Poulty Company and the Synfax Company. Apparently there has been much concern with potential methane gas accumulation at this site on the part of the Engineering Department. Operations of the Synfax Company were later disrupted by a fire. The Newark Fire Department and the New Jersey Department of Environmental Protection corroborate much of the information gleaned from the Newark Department of Engineering and the New Jersey Turnpike Authority during this period. The Fire Department also noted that the Newark Housing Authority applied for a certificate of occupancy, but it was denied.

Of note, there is also an extensive aerial photographic record available for the years 1961 to 1982. A general overview of twelve available photographs is as follows:

1961 Two sets of stereo pairs were reviewed for 1961. Both depicted a full scale industrial operation present on the site and possibly extending onto the property which is now east of Avenue P. These two properties were encircled by what appears to be a drainage or irrigation system. Avenue P was not established at this time, however, a dirt path did exist. A more established road, parallel to Avenue P, bisected the present site. Buildings were evident in the southern portion. In the northeast section of the present day site, a structure resembling a sludge pond or tar pit is bordered by a large "sand" pile and drums and small sheds are apparent in the northwest section. The southwest section is characterized by what appears to be waste piles.

1966 A blueprint of the photo from 1966 reveals an ongoing operation similar to 1961, however the "sludge pond" is no longer apparent and "Avenue P" has become more defined. Also, the aerial appears to link activities ongoing between the north portion of the site and the adjacent property.

REFERENCE NO. 21

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF PARKS AND FORESTRY
OFFICE OF NATURAL LANDS MANAGEMENT
CN-404
TRENTON, N.J. 08625
(609) 984-1339

October 10, 1989

John D. Rieckhoff
NUS Corporation
1090 King Georges Post Road
Suite 1103
Edison, NJ 08837

Re: Purchase Order Number 22154

Dear Mr. Rieckhoff:

Thank you for your data request regarding county lists for threatened and endangered vertebrate species. Enclosed are vertebrate lists for all the counties in the state. The fee to cover the cost of providing these lists is $20.00. Payment should be made payable to Treasurer, State of New Jersey. Please provide a copy of this letter with your remittance. Please feel free to contact us again regarding any future data requests.

Sincerely,

Thomas F. Breden
Coordinator/Ecologist
Natural Heritage Program

cc: JoAnn Frier-Murza
Thomas Hampton

NATURAL LANDS MANAGEMENT

CAUTIONS AND RESTRICTIONS ON NATURAL HERITAGE DATA

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the data base. Since data acquisition is a dynamic, ongoing process, this Office cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey. Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or location in question. The information should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

This office cannot provide a letter of interpretation or a statement addressing the classification of wetlands as defined by the Freshwater Wetlands Act. Requests for such determination should be sent to the DEP Division of Coastal Resources, Bureau of Freshwater Wetlands, CN 402, Trenton, NJ 08625.

Information provided by this database may not be published without first obtaining the written permission of the Office of Natural Lands Management. In addition, the Natural Heritage Program must be credited as an information source in any publication of data.

5/18/87

NEW JERSEY NATURAL HERITAGE PROGRAM
POTENTIAL THREATENED AND ENDANGERED VERTEBRATE SPECIES
IN ESSEX COUNTY

AMERICAN BITTERN BOTAURUS LENTIGINOSUS	FEDERAL STATUS: STATE STATUS: LT	COUNTY OCCURRENCE: ?

HABITAT COMMENTS
Fresh water bogs, swamps, wet fields, cattail and bulrush marshes, brackish and saltwater marshes and meadows.

BARRED OWL STRIX VARIA	FEDERAL STATUS: STATE STATUS: LT	COUNTY OCCURRENCE: ?

HABITAT COMMENTS
Dense woodland and forest (conif. or hardwood), swamps, wooded river valleys, cabbage palm-live oak hammocks, especially where bordering streams, marshes, and meadows.

BLUE-SPOTTED SALAMANDER AMBYSTOMA LATERALE	FEDERAL STATUS: STATE STATUS: LE	COUNTY OCCURRENCE: Y

HABITAT COMMENTS
Sometimes in overgrown pastures. Sometimes hibernates under rocks or logs near breeding pools. Often found in areas with sandy soil. Adults usually under objects or underground.

BOG TURTLE CLEMMYS MUHLENBERGII	FEDERAL STATUS: C2 STATE STATUS: LE	COUNTY OCCURRENCE: ?

HABITAT COMMENTS
Slow, shallow rivulets of sphagnum bogs, swamps, and marshy meadows; sea level to 1200 m in Appalachians. Commonly basks on tussocks in morning in spring and early summer. Hibernates in subterreanean rivulet or seepage area.

COOPER'S HAWK ACCIPITER COOPERII	FEDERAL STATUS: STATE STATUS: LE	COUNTY OCCURRENCE: Y

HABITAT COMMENTS
Primarily mature forest, either broadleaf or coniferous, mostly the former; also open woodland and forest edge.

GREAT BLUE HERON ARDEA HERODIAS	FEDERAL STATUS: STATE STATUS: LT	COUNTY OCCURRENCE: N*

HABITAT COMMENTS
Freshwater and brackish marshes, along lakes, rivers, bays, lagoons, ocean beaches, mangroves, fields, and meadows.

5/18/87

LEAST TERN
STERNA ANTILLARUM

FEDERAL STATUS:
STATE STATUS: LE

COUNTY
OCCURRENCE: B

HABITAT COMMENTS
Seacoasts, beaches, bays, estuaries, lagoons, lakes, and rivers.

LONGTAIL SALAMANDER
EURYCEA LONGICAUDA

FEDERAL STATUS:
STATE STATUS: LT

COUNTY
OCCURRENCE: ?

HABITAT COMMENTS
Streamsides, spring runs, cave mouths, forested floodplains in South. May disperse into wooded terrestrial habitats in wet weather. Hides under rocks, logs, and other debris.

NORTHERN HARRIER
CIRCUS CYANEUS

FEDERAL STATUS:
STATE STATUS: LE

COUNTY
OCCURRENCE: W*

HABITAT COMMENTS
Marshes, meadows, grasslands, and cultivated fields. Perches on ground or on stumps or posts.

PIED-BILLED GREBE
PODILYMBUS PODICEPS

FEDERAL STATUS:
STATE STATUS: LE

COUNTY
OCCURRENCE: ?

HABITAT COMMENTS
Lakes, ponds, sluggish streams, and marshes; in migration and in winter also in brackish bays and estuaries.

RED-SHOULDERED HAWK
BUTEO LINEATUS

FEDERAL STATUS:
STATE STATUS: LT

COUNTY
OCCURRENCE: Y

HABITAT COMMENTS
Moist and riverine forest, and in e. N. Am. in wooded swamps, foraging in forest edge and open woodland.

SAVANNAH SPARROW
PASSERCULUS SANDWICHENSIS

FEDERAL STATUS:
STATE STATUS: LT

COUNTY
OCCURRENCE: Y

HABITAT COMMENTS
"Open areas, especially grasslands, tundra, meadows, bogs, farmlands, grassy areas with scattered bushes, and marshes, including salt marshes in the BELDINGI and ROSTRATUS groups."

SHORT-EARED OWL
ASIO FLAMMEUS

FEDERAL STATUS:
STATE STATUS: LE/S

COUNTY
OCCURRENCE: ?

HABITAT COMMENTS
Open country, including prairie, meadows, tundra, moorlands, marshes, savanna, dunes, fields, and open woodland. Roosts by day on ground or on low open perches.

5/18/87

TREMBLAY'S SALAMANDER AMBYSTOMA TREMBLAYI	FEDERAL STATUS: STATE STATUS: LE	COUNTY OCCURRENCE: ?

HABITAT COMMENTS
Habitat requirements similar to those exhibited by the blue-spotted salamander (AMBYSTOMA LATERALE)

UPLAND SANDPIPER BARTRAMIA LONGICAUDA	FEDERAL STATUS: STATE STATUS: LE	COUNTY OCCURRENCE: B

HABITAT COMMENTS
Grasslands, especially prairies, dry meadows, pastures, and (in Alaska) scattered woodlands at timberline; very rarely in migration along shores and mudflats.

WOOD TURTLE CLEMMYS INSCULPTA	FEDERAL STATUS: STATE STATUS: LT	COUNTY OCCURRENCE: Y

HABITAT COMMENTS
Vicinity of streams and rivers. In streams and in wooded areas and fields adjacent to streams in summer. In streams in spring and fall. Hibernates in banks or bottoms of streams in winter.

DEFINITION OF ACRONYMS

FEDERAL STATUS

LE=listed endangered.
LT=listed threatened.
PE=proposed endangered.
PT=proposed threatened.
C2=candidate for listing.

STATE STATUS

LE=listed as endangered. (short-eared owl winter pop. listed as stable:S)
LT=listed as threatened.

COUNTY OCCURRENCE

Y=present year-round, breeds.
N=present year-round, not recorded breeding.
B=present during the summer, breeds.
W=present during the winter.
T=present as a transient.
?=present status undetermined.
*=indicates that the county is within the species known breeding range.

REFERENCE NO. 22

SYMBOL SPECIES

PLANTS (301–350)

301 Eastern hemlock
302 Spleenwort (S)
303 Spider lily (S)
304 Pond bush (S)
305 Watermilfoil (S)
306 Hooded pitcher plant (S)
307 Tree
308 Prickly pear cactus (S)
309 Trailing arbutus (S)
310 Eastern bumelia
311 Pitcher plant
312 Baldcypress
313 Redbay
314 Seaside alder
315 Box huckleberry
316 Purple fringeless orchid
317 Pink lady's slipper
318 Ebony spleenwort (S)
319 Orchids (S)
320 Golden club (S)
321 Florida beargrass
322 East-coast coontie
323 Fall-flowering ixia
324 Jackson-vine
325 Spoon-flower
326 Curtiss milkweed
327 Sea lavender
328 Hand fern
329 Needle palm
330 Yellow squirrel-banana
331 Beach creeper
332 Florida coontie
333 Four-petal pawpaw
334 Bird's nest spleenwort
335 Burrowing four-o'clock
336 Beach star
337 Silver palm
338 Dancing lady orchid
339 Tamarinditto
340 Fuch's bromeliad
341 Everglades peperomia
342 Buccaneer palm
343 Slender spleenwort
344 Pineland jacquemontia
345 Mahogany mistletoe
346 Florida thatch
347 Twisted air plant
348 Long's bittercress
349 Venus's flytrap

INVERTEBRATES (351–400)

351 Monarch butterfly
352 Zebra butterfly

BIRDS (401–600)

SHOREBIRDS (401–430)

401 Shorebirds
402 Terns
403 Gulls
404 Forster's tern
405 Arctic tern
406 Least tern (S)
407 Roseate tern (S)
408 Common tern
409 Great black-backed gull
410 Herring gull
411 Laughing gull
412 Black skimmer (S)
413 Turnstones
414 Plovers
415 Piping plover
416 American oystercatcher (S)

WADING BIRDS (431–460)

431 Wading birds
432 Herons
433 Egrets
434 Rails
435 Ibises
436 Bitterns
437 Great blue heron (S)
438 Wood ibis (S)
439 Anhinga
440 Little blue heron (S)
441 Yellow-crowned night heron (S)
442 Black-crowned night heron
443 Florida sandhill crane (S)
444 Louisiana heron (S)
445 Limpkin (S)
446 Roseate spoonbill (S)
447 Snowy egret (S)
448 Magnificent frigate-bird (S)
449 Reddish egret (S)
450 Clapper rail
451 King rail
452 Virginia rail
453 Sora rail

WATERFOWL (461–500)

461 Waterfowl
462 Swans
463 Geese
464 Dabbling ducks
465 Diving ducks
466 Common eider
467 Harlequin duck
468 Wood duck
469 Fulvous tree duck
470 Loons
471 Grebes
472 Brant geese
473 Snow goose
474 Gadwall
475 Black duck

RAPTORS (501–530)

501 Raptors
502 Owls

N. J.—N. Y.—PA.

1:250 000-scale map of

Atlantic Coast Ecological Inventory

Produced by

U. S. FISH AND WILDLIFE SERVICE

1980

AQUATIC ORGANISMS

Shown in BLUE; species with special status shown in RED-(F) or (S) indicates species protected by Federal or State Legislation (see text)

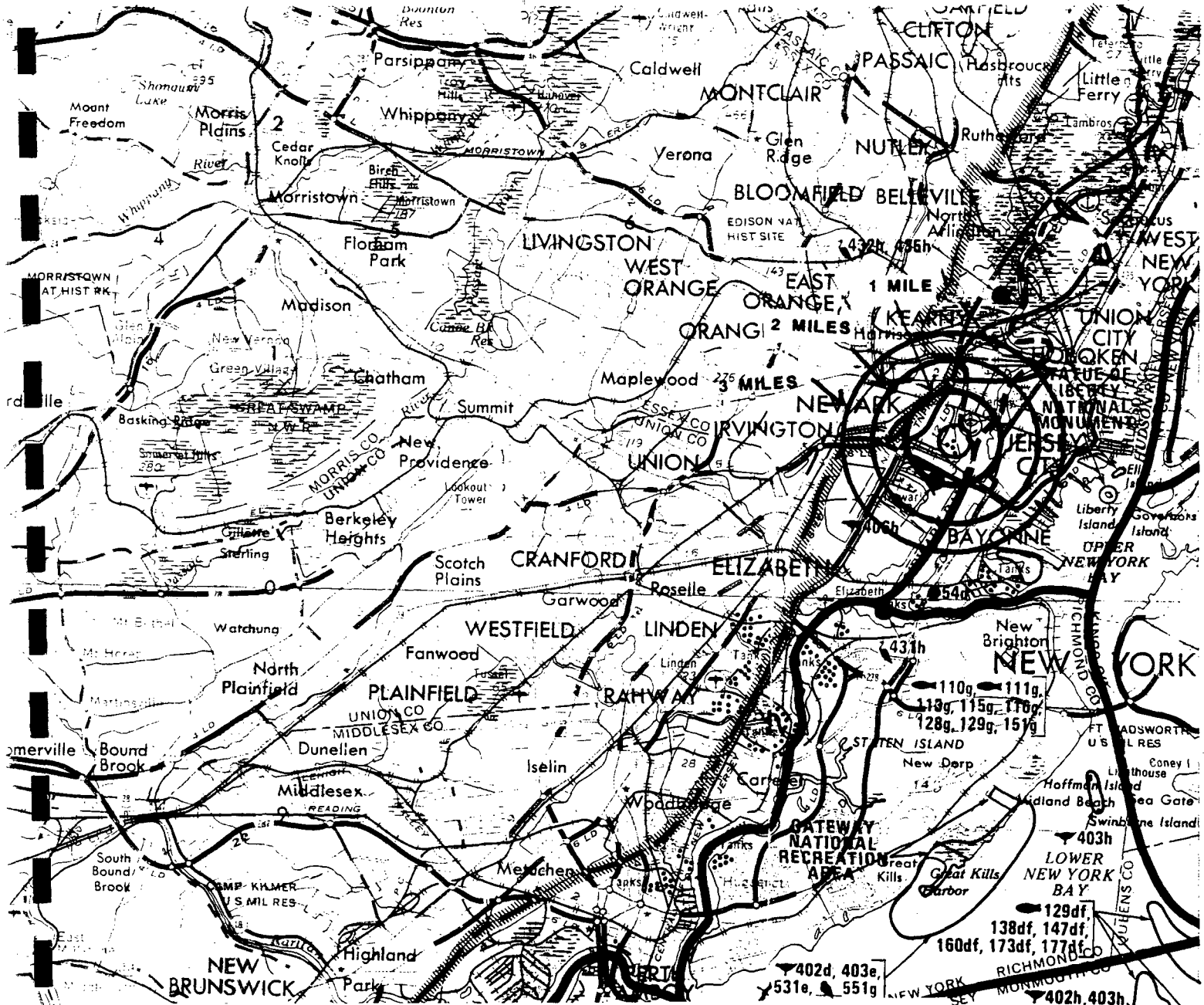
SYMBOL SPECIES

PLANTS (1–50)

1 Irish moss
2 Rockweed

INVERTEBRATES (51–100)

51 Crabs
52 Mussels
53 Oysters
54 Scallops
55 Clams
56 Worms
57 Shrimp
58 American lobster
59 Blue crab
60 Eastern oyster
61 European oyster
62 Bay scallop
63 Deep-sea scallop
64 Calico scallop
65 Surf clam
66 Hard clam
67 Soft shell clam
68 Brackish-water clam
69 Bloodworm
70 Sandworm
71 White shrimp
72 Brown shrimp
73 Northern shrimp
74 Rock crab
75 Jonah crab
76 Whelk



LEGEND

POPULATED PLACES
- Over 500,000 — BOSTON
- 100,000 to 500,000 — RICHMOND
- 25,000 to 100,000 — EVANSTON
- 5,000 to 25,000 — Hialeah
- 1,000 to 5,000 — Bar Harbor
- Less than 1,000

RAILROADS (Single track, Double or Multiple)
- Normal gauge
- Narrow gauge

BOUNDARIES
- International
- State
- County
- Park or reservation
- Mine
- Spot elevation in feet

- Landplane airport
- Landing area
- Seaplane airport
- Seaplane anchorage
- Power line
- Woods-brushwood

ROADS
- Primary, all-weather, hard surface
- Secondary, all-weather, hard surface
- Light-duty, all-weather, improved surface
- Fair or dry weather, unimproved surface
- Trail
- Interchange

Route markers: Interstate, U.S., State

- Landmark: School, Church: Other
- Depth curve in feet
- Limit of danger; Reef
- Rocks: Awash
- Foreshore flat
- Intermittent or dry stream
- Marsh or swamp

Scale 1:250,000

5 0 5 10 15 20 Statute Miles

5 0 5 10 15 20 25 30 Kilometers

5 0 5 10 15 Nautical Miles

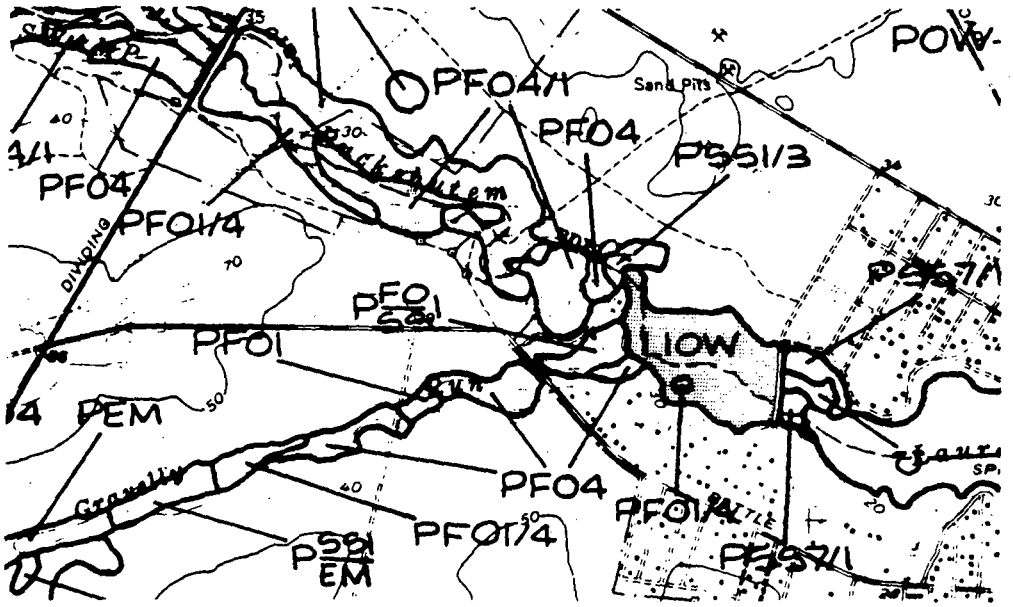
TRANSVERSE MERCATOR PROJECTION

BLACK NUMBERED LINES INDICATE THE 10,000 METER UNIVERSAL TRANSVERSE MERCATOR GRID, ZONE 18

FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092, OR DENVER, COLORADO 80225

REFERENCE NO. 23

ATLAS
OF
NATIONAL WETLANDS INVENTORY MAPS
FOR
NEW JERSEY



PORTION OF DIVIDING CREEK MAP SCALE: 1:24,000

UNITED STATES
DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Region Five
Habitat Resources
One Gateway Center, Suite 700
Newton Corner, Massachusetts

1984

HOW TO USE THIS ATLAS

The Atlas contains reductions of all 1:24,000 National Wetlands Inventory maps. Maps appear in alphabetical order. Map names can be located on the index map (Figure 2). Each map shows the configuration, location and type of wetlands and deepwater habitats found within a given area.

WETLAND LEGEND

Wetland data are displayed on maps by a series of letters and numbers (alpha-numerics). Mixing of classes and subclasses are represented by a diagonal line. The more common symbols are shown below; less common symbols have been omitted for simplicity. For identifying these latter symbols, the reader should refer to an actual NWI map legend.

Examples of Alpha-numerics:

E2EMN6	=	Estuarine (E), Intertidal(2), Emergent Wetland(EM), Regularly Flooded(N), Oligohaline(6)
E2FL	=	Estuarine(E), Intertidal(2), Flat(FL)
PF01	=	Palustrine(P), Forested Wetland(FO), Broad-leaved Deciduous(1)
PEM/OW	=	Palustrine(P), Emergent Wetland/Open Water(EM/OW)
PFO/SS1	=	Palustrine(P), Forested Wetland/Scrub-Shrub Wetland(FO/SS), Broad-leaved Deceduous(1)

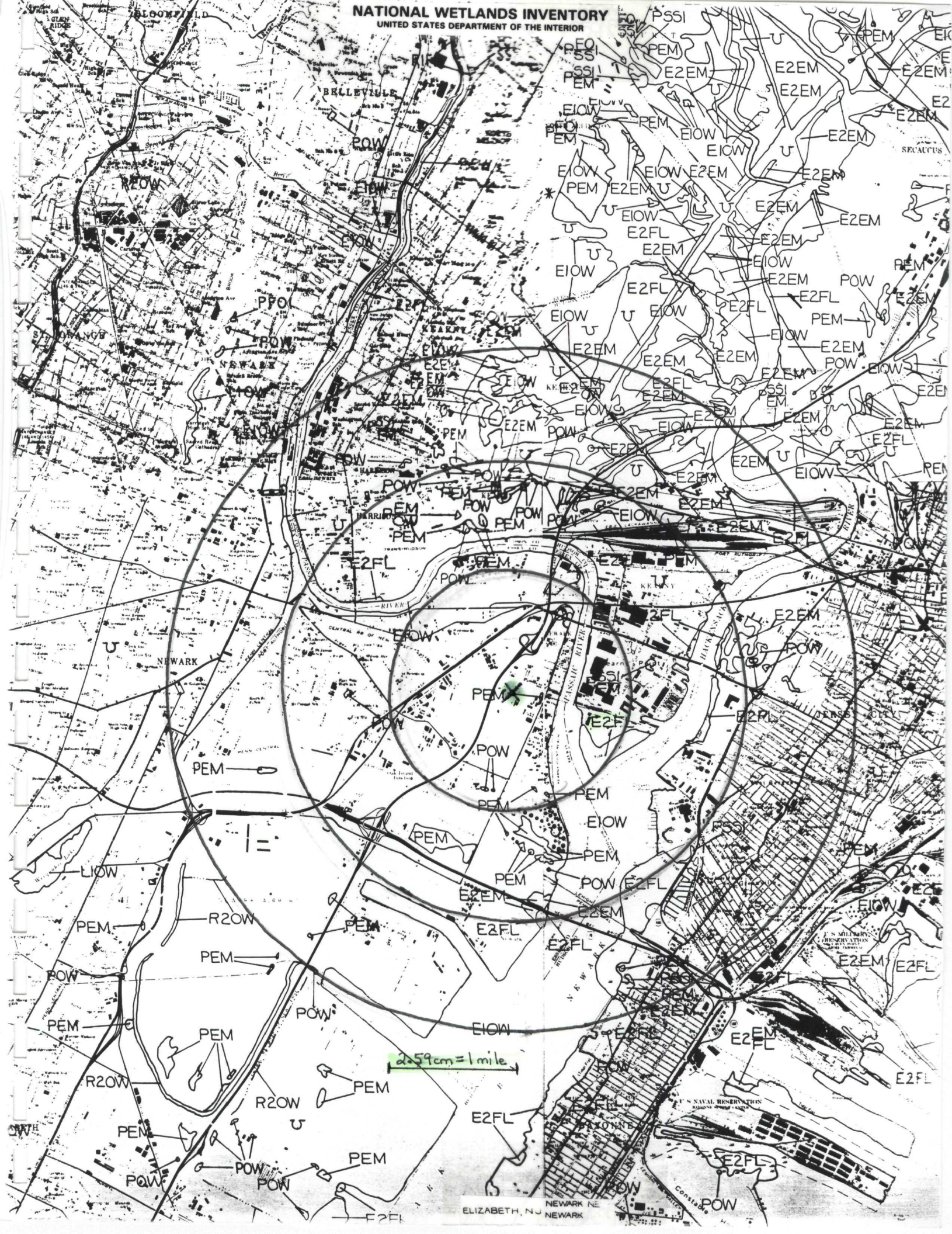
SYMBOLOGY

Systems and Subsystems:

M 1	=	Marine Subtidal	R 3	=	Riverine Upper Perennial
M 2	=	Marine Intertidal	R 4	=	Riverine Intermittent
E 1	=	Estuarine Subtidal	L 1	=	Lacustrine Limnetic
E 2	=	Estuarine Intertidal	L 2	=	Lacustrine Littoral
R 1	=	Riverine Tidal	P	=	Palustrine
R 2	=	Riverine Lower Perennial	U	=	Upland

Classes (subclasses and modifers designated where appropriate):

AB	=	Aquatic Bed
BB	=	Beach/Bar
EM	=	Emergent Wetland
EMN6	=	Emergent Wetland, Regularly Flooded, Oligohaline
EMP6	=	Emergent Wetland, Irregularly Flooded, Oligohaline
EMR	=	Emergent Wetland, Seasonally Flooded-Tidal
FL	=	Flat
FO1	=	Forested Wetland, Broad-leaved Deciduous
FO2	=	Forested Wetland, Needle-leaved Deciduous
FO4	=	Forested Wetland, Needle-leaved Evergreen
OW	=	Open Water/Unknown Bottom
SS1	=	Scrub=Shrub Wetland, Broad-leaved Deciduous
SS3	=	Scrub-Shrub Wetland, Broad-leaved Evergreen
SS4	=	Scrub-Shrub Wetland, Needle-leaved Evergreen
SS5	=	Scrub-Shrub Wetland, Dead
SS7	=	Scrub-Shrub Wetland, Evergreen


NATIONAL WETLANDS INVENTORY
UNITED STATES DEPARTMENT OF THE INTERIOR
BLOOMFIELD
BELLEVILLE
NEWARK
KEARNY
SECAUCUS
ELIZABETH, NJ
NEWARK NE
NEWARK
2.59cm = 1 mile

REFERENCE NO. 24

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620, or (800) 424-8872.

APPROXIMATE SCALE

400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
NEWARK, NEW JERSEY
ESSEX COUNTY

PANEL 8 OF 12
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
340189 0008 B

EFFECTIVE DATE:
MARCH 28, 1980

U.S. DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION

KEY TO MAP

500-Year Flood Boundary

100-Year Flood Boundary

Zone Designations* With Date of Identification e.g., 12/2/74

100-Year Flood Boundary

500-Year Flood Boundary

Base Flood Elevation Line With Elevation In Feet** — 513

Base Flood Elevation in Feet Where Uniform Within Zone** (EL 987)

Elevation Reference Mark RM7 ×

River Mile • M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:
MARCH 15, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:
SEPTEMBER 24, 1976

ZONE B

REFERENCE NO. 25

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DAVID J. BARDIN, COMMISSIONER

CATION AND OWNERS OF PUBLIC SUPPLY WELLS

26-01-218	Lincoln Park Water Company
26-01-153	Evans Water Company
26-01-168	Lincoln Park, Boro of
26-01-259	Mountain View Water Company
26-01-265	Twp. of Wayne
26-01-268	Boro of Lincoln Park
26-01-338	Twp. of Wayne
26-01-339	Twp. of Wayne
26-01-371	Twp. of Wayne
26-01-373	Twp. of Wayne
26-01-517	Boro of Fairfield
26-01-541	Boro of Fairfield
26-01-728	Twp. of Fairfield
26-01-849	Essex Fells, Boro of
26-01-849	Essex Fells, Boro of
26-01-849	Essex Fells, Boro of
26-01-854	Essex Fells, Boro of
26-02-142	Twp. of Wayne
26-02-234	Fair Lawn Dept. of Public Works
26-02-334	Fair Lawn Dept. of Public Works
26-02-335	Boro of Fair Lawn
26-02-335	Boro of Fair Lawn
26-02-335	Fair Lawn Dept. of Public Works
26-02-335	Fair Lawn Dept. of Public Works
26-02-381	Paterson Board of Education
26-02-887	Essex Co. Park Commission
26-03-111	Boro of Fair Lawn
26-03-111	Boro of Fair Lawn
26-03-112	Boro of Fair Lawn
26-03-124	Fair Lawn Water Dept.
26-03-127	Fair Lawn Dept. of Public Works
26-03-127	Boro of Fair Lawn
26-03-161	Boro of Wallington
26-03-171	Boro of Garfield Water
26-03-211	Boro of Fair Lawn
26-03-256	Hackensack Water Company
26-03-355	Hackensack Water Company
26-03-382	Lodi Dept. of Public Works
26-03-426	East Paterson, Borough of
26-03-427	Borough of Wallington
26-03-453	City of Garfield
26-03-456	City of Garfield
26-03-456	City of Garfield
26-03-469	City of Garfield
26-03-469	City of Garfield
26-03-469	City of Garfield
26-03-483	City of Garfield
26-03-489	City of Garfield
26-03-493	City of Garfield
26-03-538	Lodi, Borough of
26-03-542	City of Garfield
26-03-546	Lodi, Borough of
26-03-548	Lodi, Borough of
26-03-548	Lodi, Borough of
26-03-554	Lodi Dept. of Public Works
26-03-561	Boro of Lodi
26-03-575	Boro of Lodi
26-03-581	Boro of Lodi
26-03-582	Lodi Dept. of Public Works
26-03-586	Boro of Lodi
26-03-591	Boro of Lodi
26-03-594	Boro of Lodi
26-03-623	Hackensack Water Company
26-03-632	Hackensack Water Company
26-03-632	Hackensack Water Company
26-03-756	Boro of Wallington
26-03-768	Boro of Wallington
26-03-793	Boro of Wallington
26-03-888	Hackensack Water Company
26-03-888	Hackensack Water Company
26-03-894	Hackensack Water Company
26-04-474	Bogota Water Co.
26-04-816	Leonia Bd. of Education
26-11-118	Boro of Essex Fells
26-11-134	Boro of Essex Fells
26-11-142	Boro of Essex Fells
26-11-185	Twp. of Livingston
26-11-185	Twp. of Livingston
26-11-186	Twp. of Livingston
26-11-211	Boro of Essex Fells
26-11-212	Boro of Essex Fells
26-11-213	Boro of Essex Fells
26-11-221	Boro of Essex Fells
26-11-224	Boro of Essex Fells
26-11-225	Boro of Essex Fells
26-11-259	Boro of Essex Fells
26-11-451	Twp. of Livingston
26-11-464	Twp. of Livingston
26-11-546	Rahway Water Dept.
26-11-713	East Orange, City of
26-11-717	East Orange, City of
26-11-717	East Orange, City of
26-11-728	East Orange, City of
26-11-793	City of Orange
26-11-796	City of Orange
26-11-797	City of Orange
26-11-819	City of Orange
26-11-847	City of Orange
26-11-896	Village of South Orange
26-11-933	Orange Water Dept.
26-11-939	City of Orange
26-11-943	Village of South Orange
26-11-945	Village of South Orange
26-11-957	Village of South Orange
26-11-971	Village of South Orange
26-12-194	Town of Montclair
26-12-194	Montclair Water Bureau
26-12-449	City of Orange
26-12-729	Vinton Apartments, Inc.
26-13-226	Hackensack Water Company
26-21-131	City of Orange
26-21-138	Township of Millburn
26-21-155	Short Hills Water Company
26-21-159	Short Hills Water Company
26-21-246	Elizabethtown Water Company
26-21-247	Elizabethtown Water Company
26-21-364	Irvington, City of
26-21-484	Plainfield-Union Water Co.
26-21-491	Elizabethtown Water Company
26-21-538	Union County Park Commission
26-21-573	Plainfield-Union Water Co.
26-21-663	Elizabethtown Water Co.
26-21-834	Plainfield-Union Water Co.
26-22-134	U. S. Navy
26-22-293	New York Port Authority
26-22-449	Elizabethtown Water Company
26-31-243	Rahway, City of
26-31-274	Rahway, City of
26-31-465	Middlesex Water Company
26-41-133	N. J. Highway Authority
26-41-578	City of South Amboy
26-41-594	City of South Amboy

Scale: 1:63,360

Kilometers

Miles

SURFACE WATER INTAKES

26-02-445	Passaic Valley Water Commission
26-11-819	Orange City Water Dept.
26-31-168	Middlesex Water Co. (Robinson's)
26-31-246	Rahway Water Dept.

SOURCES

1. MIDDLESEX COUNTY PLANNING BOARD, COMPREHENSIVE WATER PLAN PHASE ONE; APPENDIX: COMPREHENSIVE WATER PLAN PHASE ONE; COMPREHENSIVE WATER PLAN PHASES TWO AND THREE; RECOMMENDED WATER AND SEWER SERVICE: PLANS AND PROGRAMS, 1968, 1969, 1970, 1971 CONSECUTIVELY.
2. UNION COUNTY MASTER PLAN PROGRAM, SUMMARY - SEWER AND WATER PLAN, 1971.
3. PASSAIC COUNTY WATER STUDY, 1969.
4. MORRIS COUNTY MASTER PLAN WATER SUPPLY ELEMENT, 1971.
5. INFORMATION SUPPLIED BY ESSEX COUNTY DEPARTMENT OF PLANNING.
6. HUDSON COUNTY MASTER PLAN ON LAND USE - SEWAGE AND WATER, 1969.
7. BERGEN COUNTY COMPREHENSIVE PLAN WATER FACILITIES, FINAL REPORT, 1970.
8. INFORMATION SUPPLIED BY BUREAU OF POTABLE WATER.

LEGEND

AREA SERVED BY PRIVATE WATER SERVICE COMPANIES

AREA SERVED BY REGIONALLY OWNED WATER SERVICE COMPANIES

AREA SERVED BY MUNICIPALLY OWNED WATER SERVICE COMPANIES

AREA NOT PRESENTLY SERVED BY WATER SERVICE

PUBLIC SUPPLY WELLS

SURFACE WATER INTAKE

—W— MAJOR WATER MAINS

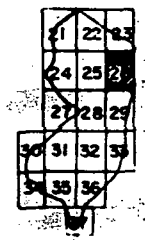
TOWNSHIP BOUNDARIES

COUNTY BOUNDARIES

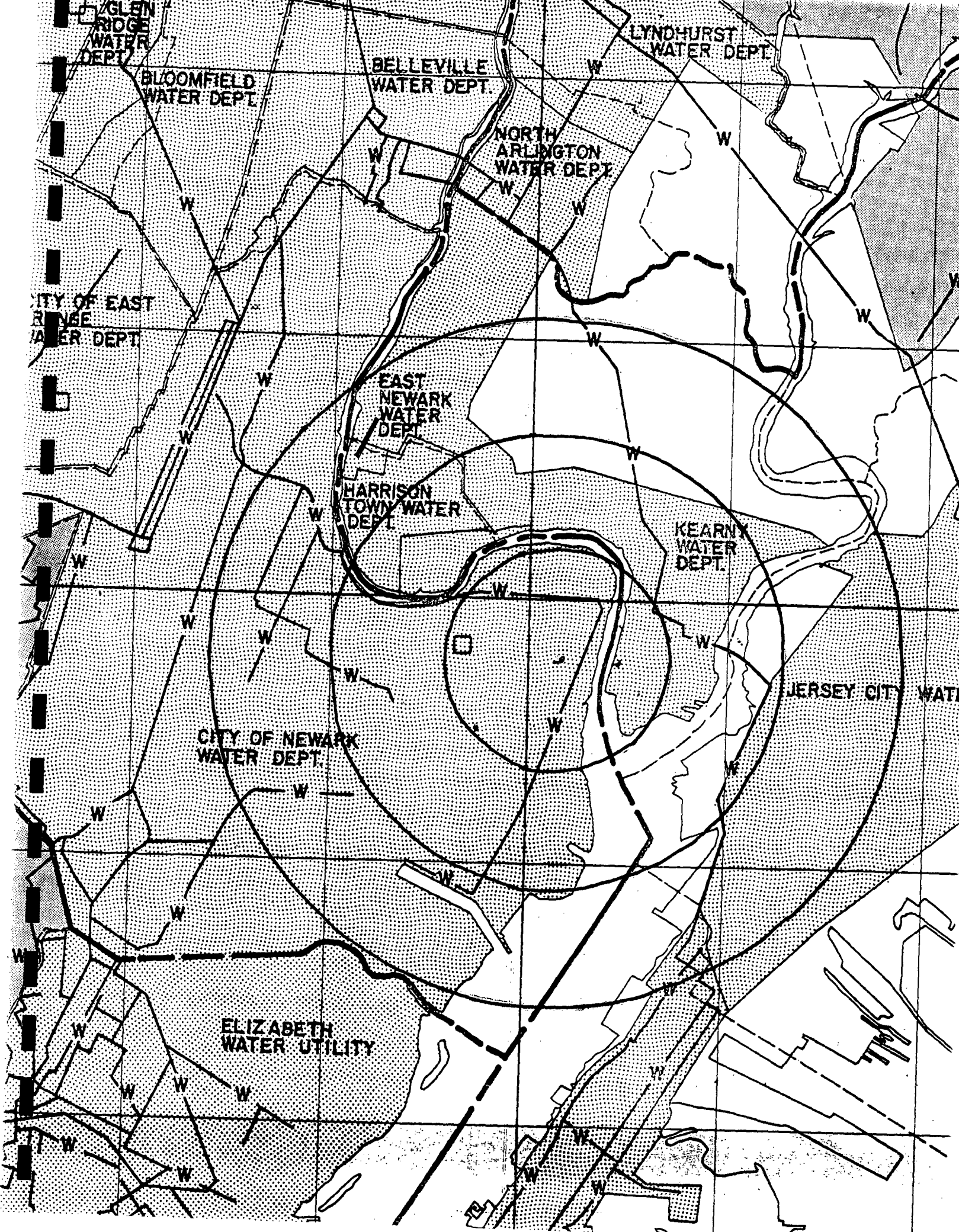
STATE BOUNDARIES

ALL MAP COORDINATES ARE FOR THE LOWER LEFT HAND CORNER.

KEY TO ADJOINING SHEETS



WATER SUPPLY OVERLAY
SHEET 26


GLEN RIDGE WATER DEPT.
BLOOMFIELD WATER DEPT.
BELLEVILLE WATER DEPT.
LYNDHURST WATER DEPT.
NORTH ARLINGTON WATER DEPT.
CITY OF EAST ORANGE WATER DEPT.
EAST NEWARK WATER DEPT.
HARRISON TOWN WATER DEPT.
KEARNY WATER DEPT.
JERSEY CITY WATER
CITY OF NEWARK WATER DEPT.
ELIZABETH WATER UTILITY

REFERENCE NO. 26

DEPARTMENT OF ENVIRONMENTAL PROTECTION

LAND USE OVERLAY
SHEET 26

Scale 1: 63,360

1 ½ 0 1 2 3 Kilometers

1 ¾ ½ ¼ 0 1 2 3 Miles

LEGEND

URBAN AND BUILT-UP LAND

11 RESIDENTIAL
12 COMMERCIAL & SERVICES
13 INDUSTRIAL
14 TRANSPORTATION, COMMUNICATION & UTILITIES
15 INDUSTRIAL & COMMERCIAL COMPLEXES
16 MIXED URBAN & BUILT-UP LAND
17 OTHER URBAN OR BUILT-UP LAND

AGRICULTURAL LAND

21 CROPLAND & PASTURE
22 ORCHARDS & HORTICULTURAL AREAS

FOREST LAND

41 DECIDUOUS
42 EVERGREEN
43 MIXED

WATER

51 STREAMS & CANALS
52 LAKES
53 RESERVOIRS
54 BAYS & ESTUARIES

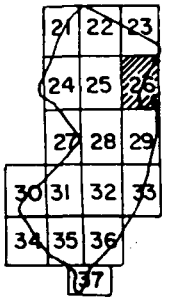
WETLAND

61 FORESTED WETLAND
62 NONFORESTED WETLAND

BARREN LAND

72 BEACHES
73 SAND OTHER THAN BEACHES
74 BARE EXPOSED ROCK
75 STRIP MINES, QUARRIES, & GRAVEL PITS

KEY TO ADJOINING SHEETS



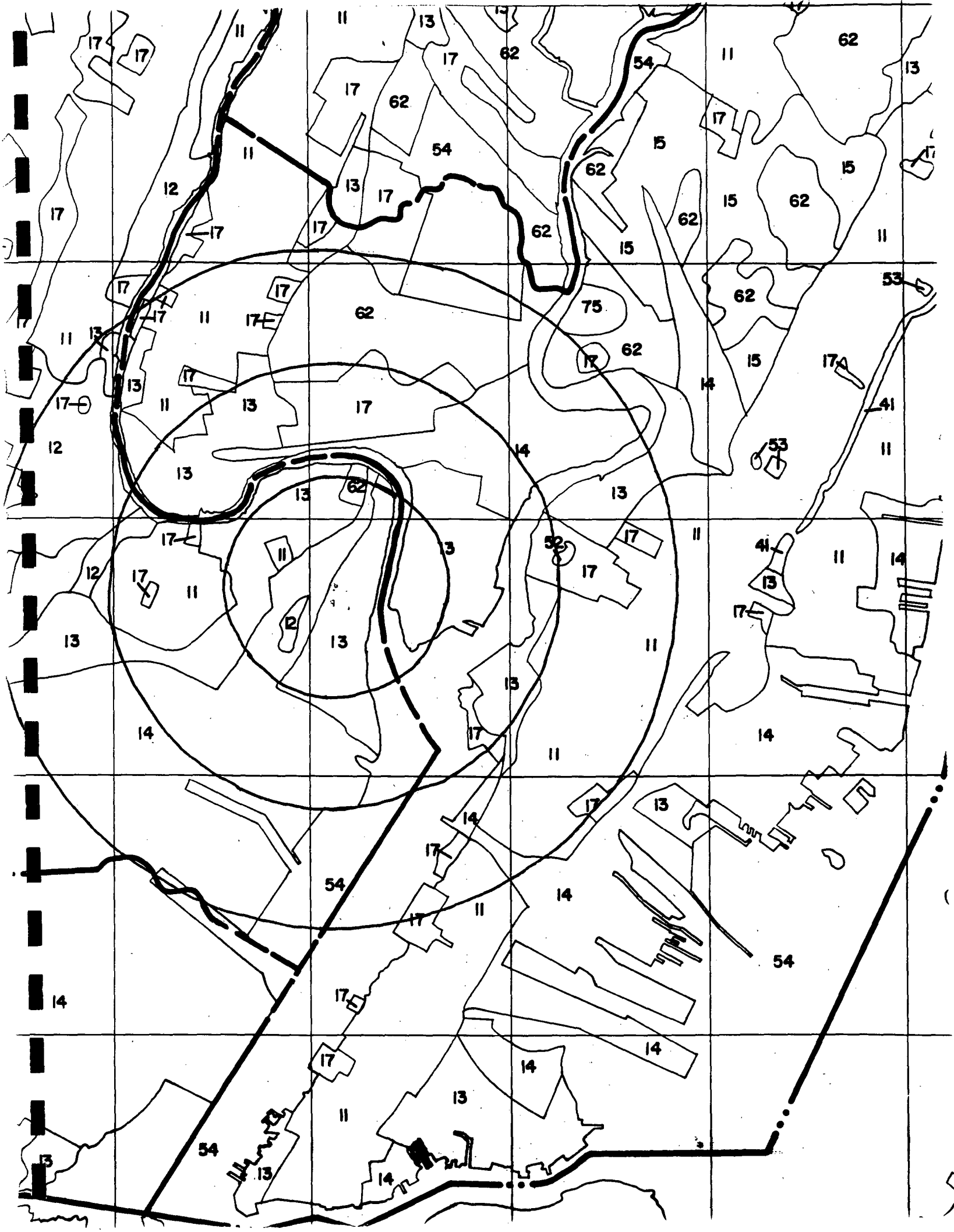
SOURCE

A. EROS IMAGE G30806729B, 9/21/73, ALTITUDE 250 MILES (AVAILABLE FROM EROS DATA CENTER, SIOUX FALLS, S. DAKOTA, 57 198)

B. ANDERSON et al, A LAND USE CLASSIFICATION SYSTEM FOR USE WITH REMOTE-SENSOR DATA, U.S.G.S. PROF. PAPER 964, WASH. D.C., 1976

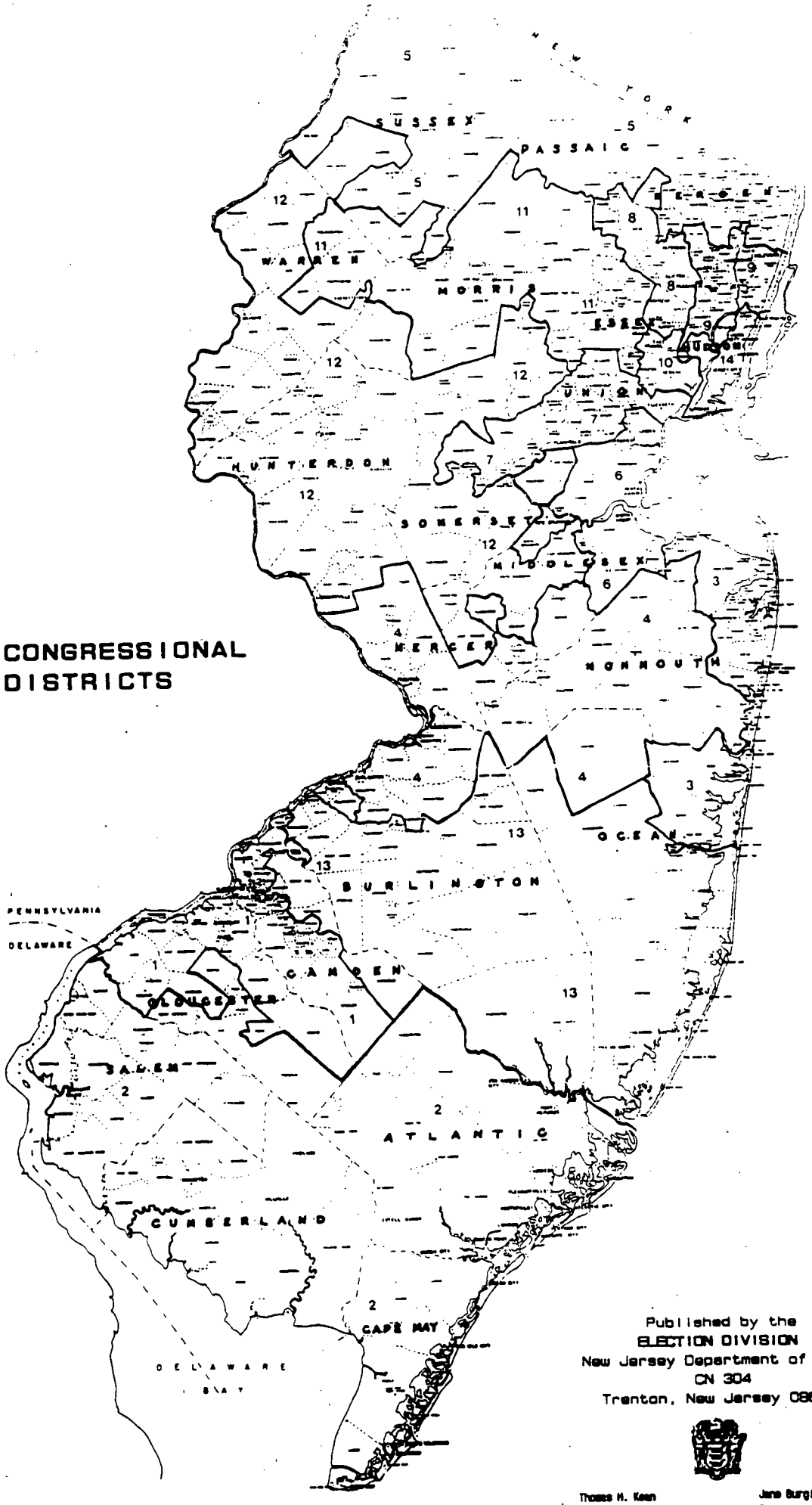
C. AERIAL PHOTO MAPS 1:24000 BY MARK HURD, AERIAL SURVEY INC., MINNEAPOLIS, MINN., MARCH-APRIL 1972

BUREAU OF GEOLOGY AND TOPOGRAPHY
KEMBLE WIDMER, STATE GEOLOGIST
1976



REFERENCE NO. 27

CONGRESSIONAL DISTRICTS



Published by the
ELECTION DIVISION
New Jersey Department of State
CN 304
Trenton, New Jersey 08625

Thomas H. Kean
Governor

Jane Burgio
Secretary of State

CONGRESSIONAL DISTRICTS

DISTRICT ONE: **Part of Burlington County** (Maple Shade Twp., Palmyra Borough, Riverton Borough), **Part of Camden County** (Audubon Park Borough, Barrington Borough, Bellmawr Borough, Berlin Borough, Berlin Twp., Brooklawn Borough, Camden City, Chesilhurst Borough, Clementon Borough, Collingswood Borough, Gibbsboro Borough, Gloucester City, Gloucester Twp., Haddon Twp., Hi-Nella Borough, Laurel Springs Borough, Lawnside Borough, Lindenwold Borough, Magnolia Borough, Mount Ephraim Borough, Oaklyn Borough, Pennsauken Twp., Pine Hill Borough, Pine Valley Borough, Runnemede Borough, Somerdale Borough, Stratford Borough, Tavistock Borough, Winslow Twp. and Woodlynne Borough), and **Part of Gloucester County** (Clayton Borough, Deptford Twp., East Greenwich Twp., Greenwich Twp., Harrison Twp., Logan Twp., Monroe Twp., National Park Borough, Paulsboro Borough, Swedesboro Borough, Washington Twp., Wenonah Borough, West Deptford Twp., Westville Borough, Woodbury City, Woodbury Hts. Borough and Woolwich Twp.).

DISTRICT TWO: **Atlantic County, Cape May County, Cumberland County, Salem County** and **Part of Gloucester County** (Elk Twp., Franklin Twp., Glassboro Borough, Mantua Twp., Newfield Borough, Pitman Borough and South Harrison Twp.).

DISTRICT THREE: **Part Of Monmouth County** (Allenhurst Borough, Asbury Park City, Atlantic Highlands, Borough, Avon-by-the-Sea Borough, Belmar Borough, Bradley Beach Borough, Deal Borough, Eatontown Borough, Fair Haven Borough, Haziet Twp., Highlands Borough, Interlaken Borough, Keansburg Borough, Keyport Borough, Little Silver Borough, Loch Arbour Village, Long Branch City, Manasquan Borough, Middletown Twp., Monmouth Beach Boro, Neptune City Borough, Neptune Twp., Oceanport Borough, Ocean Twp., Red Bank Borough, Rumson Borough, Sea Bright Borough, Sea Girt Borough, Shrewsbury Borough, Shrewsbury Twp., Spring Lake Borough, Spring Lake Heights Borough, South Belmar Borough, Tinton Falls Borough, Union Beach Borough and West Long Branch Borough) and **Part of Ocean County** (Bay Head Borough, Brick Twp., Dover Twp., Island Heights Borough, Lakewood Twp., Lavallette Borough, Mantoloking Borough, Point Pleasant Beach Borough, Point Pleasant Borough, Seaside Heights Borough and South Toms River Borough).

DISTRICT FOUR: **Part of Burlington County** (Bordentown City, Bordentown Twp., Burlington City, Burlington Twp., Chesterfield Twp., Eastampton Twp., Fieldsboro Borough, Florence Twp., Mansfield Twp., Springfield Twp. and Westampton Twp.) **Part of Mercer County** (East Windsor Twp., Ewing Twp., Hamilton Twp., Hightstown Borough, Hopewell Borough, Hopewell Twp., Lawrence Twp., Pennington Borough, Trenton City and Washington Twp.), **Part of Middlesex County** (Jamesburg Borough, Monroe Twp. and Plainsboro Twp.), **Part of Monmouth County** (Allentown Borough, Brielle Borough, Colts Neck Twp., Englishtown Borough, Farmingdale Borough, Freehold Borough, Freehold Twp., Holmdel Twp., Howell Twp., Manalapan Twp., Marlboro Twp., Millstone Twp., Roosevelt Borough, Upper Freehold Twp. and Wall Twp.), and **Part of Ocean County** (Jackson Twp.).

DISTRICT FIVE: **Part of Bergen County** (Allendale Borough, Alpine Borough, Bergenfield Borough, Closter Borough, Cresskill Borough, Demarest Borough, Dumont Borough, Emerson Borough, Glen Rock Borough, Harrington Park Borough, Haworth Borough, Hillsdale Borough, Ho-Ho-Kus Borough, Mahwah Twp., Midland Park Borough, Montvale Borough, Northvale Borough, Norwood Borough, Oakland Borough, Old Tappan Borough, Oradell Borough, Paramus Borough, Park Ridge Borough, Ramsey Borough, Ridgewood Village, River Vale Twp., Rochelle Park Twp., Rockleigh Borough, Saddle River Borough, Tenafly Borough, Upper Saddle River Borough, Waldwick Borough, Washington Twp., Westwood Borough, Woodcliff Lake Borough and Wyckoff Twp.), **Part of Passaic County** (Bloomingdale Borough, Haledon Borough, Hawthorne Borough, North Haledon Borough, Ringwood Borough, Wanaque Borough and West Milford Twp.), and **Part of Sussex County** (Andover Borough, Andover Twp., Branchville Borough, Frankford Twp., Franklin Borough, Fredon Twp., Hamburg Borough, Hardyston Twp., Hopatcong Borough, Lafayette Twp., Montague Twp., Newton Town, Ogdensburg Borough, Sandyston Twp., Sparta Twp., Stanhope Borough, Sussex Borough, Vernon Twp., Walpack Twp. and Wantage Twp.).

DISTRICT SIX: **Part of Middlesex County** (Carteret Borough, Edison Twp., Highland Park Borough, Metuchen Borough, New Brunswick City, North Brunswick Twp., Old Bridge Twp., Perth Amboy City, Sayreville Borough, South Amboy City, South River Borough and Woodbridge Twp.), **Part of Monmouth County** (Aberdeen Twp. and Matawan Borough), and **Part of Union County** (Linden City, Rahway City and Roselle Borough).

DISTRICT SEVEN: **Part of Essex County** (Millburn Twp.), **Part of Middlesex County** (Dunellen Borough and Middlesex Borough), **Part of Somerset County** (Bound Brook Borough, Bridgewater Twp., Green Brook Twp., Manville Borough, North Plainfield Borough, Warren Twp. and Watchung Borough) and **Part of Union County** (Berkeley Heights Twp., Clark Twp., Cranford Twp., Elizabeth City, Fanwood Borough, Garwood Borough, Kenilworth Borough, Mountainside Borough, New Providence Borough, Plainfield City, Roselle Park Borough, Scotch Plains Twp., Springfield Twp., Summit City, Union Twp., Westfield Town and Winfield Twp.).

DISTRICT EIGHT: **Part of Bergen County** (Franklin Lakes Borough), **Part of Essex County** (Part of Belleville Town, Bloomfield Town, Glen Ridge Borough, Montclair Town and Nutley Town), **Part of Morris County** (Riverdale Borough) and **Part of Passaic County** (Clifton City, Little Falls Twp., Passaic City, Paterson City, Pompton Lakes Borough, Prospect Park Borough, Totowa Borough, Wayne Twp. and West Paterson Borough).

DISTRICT NINE: **Part of Bergen County** (Bogota Borough, Carlstadt Borough, Cliffside Park Borough, East Rutherford Borough, Edgewater Borough, Elmwood Park Borough, Englewood City, Englewood Cliffs Borough, Fair Lawn Borough, Fairview Borough, Fort Lee Borough, Garfield City, Hackensack City, Hasbrouck Heights Borough, Leonia Borough, Little Ferry Borough, Lodi Borough, Lyndhurst Twp., Maywood Borough, Moonachie Borough, New Milford Borough, North Arlington Borough, Palisades Park Borough, Ridgefield Borough, Ridgefield Park Village, River Edge Borough, Rutherford Borough, Saddle Brook Twp., South Hackensack Twp., Teaneck Twp., Teterboro Borough, Wallington Borough and Wood-Ridge Borough) and **Part of Hudson County** (East Newark Borough, Part of Kearny Town, and Secaucus Town).

→ **DISTRICT TEN:** **Part of Essex County** (Part of Belleville Town, East Orange City, Irvington Town, Newark City and Orange City) and **Part of Union County** (Hillside Township).

DISTRICT ELEVEN: **Part of Essex County** (Caldwell Borough, Cedar Grove Twp., Essex Fells Borough, Fairfield Borough, Livingston Twp., Maplewood Twp., North Caldwell Borough, Roseland Borough, South Orange Village, Verona Borough, West Caldwell Borough and West Orange Town), **Part of Morris County** (Boonton Town, Boonton Twp., Butler Borough, Chatham Borough, Chester Borough, Chester Twp., Denville Twp., Dover Town, East Hanover Twp., Florham Park Borough, Hanover Twp., Jefferson Twp., Kinnelon Borough, Lincoln Park Borough, Madison Borough, Mendham Borough, Mendham Twp., Mine Hill Twp., Montville Twp., Mountain Lakes Borough, Mount Arlington Borough, Mount Olive Twp., Netcong Borough, Parsippany-Troy Hills Twp., Pequannock Twp., Randolph Twp., Rockaway Borough, Rockaway Twp., Roxbury Twp., Victory Gardens Borough and Wharton Borough), **Part of Sussex County** (Byram Twp. and Green Twp.) and **Part of Warren County** (Allamuchy Twp., Frelinghysen Twp., Independence Twp. and Liberty Twp.).

DISTRICT TWELVE: **Hunterdon County, Part of Mercer County** (Princeton Borough, Princeton Twp. and West Windsor Twp.) **Part of Middlesex County** (Cranbury Twp., East Brunswick Twp., Helmetta Borough, Milltown Borough, Piscataway Twp., South Brunswick Twp., South Plainfield Borough and Spotswood Borough), **Part of Morris County** (Chatham Twp., Harding Twp., Morris Plains Borough, Morristown Town, Morris Twp., Passaic Twp. and Washington Twp.), **Part of Somerset County** (Bedminster Twp., Bernards Twp., Bernardsville Borough, Branchburg Twp., Far Hills Borough, Franklin Twp., Hillsborough Twp., Millstone Borough, Montgomery Twp., Peapack-Gladstone Borough, Raritan Borough, Rocky Hill Borough, Somerville Borough and South Bound Brook Borough), **Part of Sussex County** (Hampton Twp. and Stillwater Twp.) and **Part of Warren County** (Alpha Borough, Belvidere Town, Blairstown Twp., Franklin Twp., Greenwich Twp., Hackettstown Town, Hardwick Twp., Harmony Twp., Hope Twp., Knowlton Twp., Lopatcong Twp., Mansfield Twp., Oxford Twp., Pahaquarry Twp., Phillipsburg Town, Pohatcong Twp., Washington Borough, Washington Twp. and White Twp.).

DISTRICT THIRTEEN: **Part of Burlington County** (Bass River Twp., Beverly City, Cinnaminson Twp., Delanco Twp., Delran Twp., Edgewater Park Twp., Evesham Twp., Hainsport Twp., Lumberton Twp., Medford Lakes Borough, Medford Twp., Moorestown Twp., Mount Holly Twp., Mount Laurel Twp., New Hanover Twp., North Hanover Twp., Pemberton Borough, Pemberton Twp., Riverside Twp., Shamong Twp., Southampton Twp., Tabernacle Twp., Washington Twp., Willingboro Twp., Woodland Twp. and Wrightstown Borough), **Part of Camden County** (Audubon Borough, Cherry Hill Twp., Haddonfield Borough, Haddon Heights Borough, Merchantville Borough, Voorhees Twp. and Waterford Twp.) and **Part of Ocean County** (Barnegat Light Borough, Barnegat Twp., Beach Haven Borough, Beachwood Borough, Berkeley Twp., Eagleswood Twp., Harvey Cedars Borough, Lacey Twp., Lakehurst Borough, Little Egg Harbor Twp., Long Beach Twp., Manchester Twp., Ocean Gate Borough, Ocean Township, Pine Beach Borough, Plumstead Twp., Seaside Park Borough, Ship Bottom Borough, Stafford Twp., Surf City Borough and Tuckerton Borough).

DISTRICT FOURTEEN: **Part of Hudson County** (Bayonne City, Guttenberg Town, Harrison Town, Hoboken City, Jersey City, Part of Kearny Town, North Bergen Twp., Union City, Weehawken Twp. and West New York Town).

Published by: **ELECTION DIVISION, NEW JERSEY DEPARTMENT OF STATE**
CN 304 Trenton, New Jersey 08625

January 1987

REFERENCE NO. 28

Surface Water Classifications

Surface Water Quality Standards
N.J.A.C. 7:9-4

Index D-
Surface Water Classifications of the Passaic, Hackensack and N.Y. Harbor Complex Basin

July 1985

State of New Jersey Department of Environmental Protection/Division of Water Resources

(Stockholm) - Brook between Hamburg Turnpike and Williamsville-Stockholm Rd. to its confluence with Lake Stockholm Brook, north of Rt. 23	FW1 [tm]
LITTLE POND BROOK (Oakland) - Entire length	FW2-TP(C1)
LOANTAKA BROOK	
(Green Village) - Entire length, except segment described below	FW2-NT
(Great Swamp) - Brook and all tributaries within the boundaries of Great Swamp National Wildlife Refuge	FW2-NT(C1)
LUD-DAY BROOK	
(Camp Garfield) - Source to confluence with a tributary from Camp Garfield	FW1
MACOPIN RIVER	
(Newfoundland) - Source to Echo Lake dam	FW2-NT
(Newfoundland) - Echo Lake dam to Pequannock River	FW2-TM
MEADOW BROOK (Wanaque) - Skyline Lake to Wanaque River	FW2-NT
MILL BROOK	
(Randolph) - Source to Rt. 10 bridge	FW2-TP(C1)
(Randolph) - Rt. 10 bridge to Rockaway River	FW2-NT
MORSES CREEK - Entire length	FW2-NT/SE3
MOSSMAN'S BROOK - See CLINTON BROOK	
MT. TABOR BROOK (Morris Plains) - Entire length	FW2-NT
NEWARK BAY (Newark) - North of an east-west line connecting Elizabethport with Bergen Pt., Bayonne up to the mouths of the Passaic and Hackensack Rivers	SE3
NOSENZO POND (Upper Macopin)	FW2-NT(C1)
OAK RIDGE RESERVOIR (Oak Ridge)	FW2-TM
OAK RIDGE RESERVOIR (Oak Ridge) - Northwestern tributary to Reservoir	FW1 [tm]
OVERPECK CREEK (Palisades Park) - Entire length	FW2-NT/SE2
PECKMAN RIVER (Verona) - Entire length	FW2-NT
PACACK BROOK	
(Stockholm) - Source to Pequannock River, excluding Canistear Reservoir, except segments described separately below	FW2-NT
(Canistear) - Brook and tributaries upstream of Canistear Reservoir located entirely within the boundaries of the Newark Watershed	FW1
PASSAIC RIVER	
(Mendham) - Source to Rt. 202 bridge (Van Doren's Mill), except tributaries described separately below	FW2-TM
(Paterson) - Rt. 202 bridge to Dundee Lake dam	FW2-NT
(Little Falls) - Dundee Lake dam to confluence with Second River	FW2-NT/SE2
(Newark) - Confluence with Second River to mouth	SE3

(c) In all FW2 waters the designated uses are:

1. Maintenance, migration and propagation of the natural and established biota;

2. Primary and secondary contact recreation;

3. Industrial and agricultural water supply;

4. Public potable water supply after such treatment as required by law or regulation; and

5. Any other reasonable uses.

(d) In all SE1 waters the designated uses are:

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;

2. Maintenance, migration and propagation of the natural and established biota;

3. Primary and secondary contact recreation; and

4. Any other reasonable uses.

(e) In all SE2 waters the designated uses are:

1. Maintenance, migration and propagation of the natural and established biota;

2. Migration of diadromous fish;

3. Maintenance of wildlife;

4. Secondary contact recreation; and

5. Any other reasonable uses.

(f) In all SE3 waters the designated uses are:

1. Secondary contact recreation;

2. Maintenance and migration of fish populations;

3. Migration of diadromous fish;

4. Maintenance of wildlife; and

5. Any other reasonable uses.

(g) In all SC waters the designated uses are:

1. Shellfish harvesting in accordance with N.J.A.C. 7:12;

REFERENCE NO. 29

BEDROCK TOPOGRAPHY AND THICKNESS OF PLEISTOCENE DEPOSITS IN UNION COUNTY AND ADJACENT AREAS, NEW JERSEY

By
Bronius Nemickas
1974

SCALE 1:24 000

1 ½ 0 1 MILE

1 .5 0 1 KILOMETER

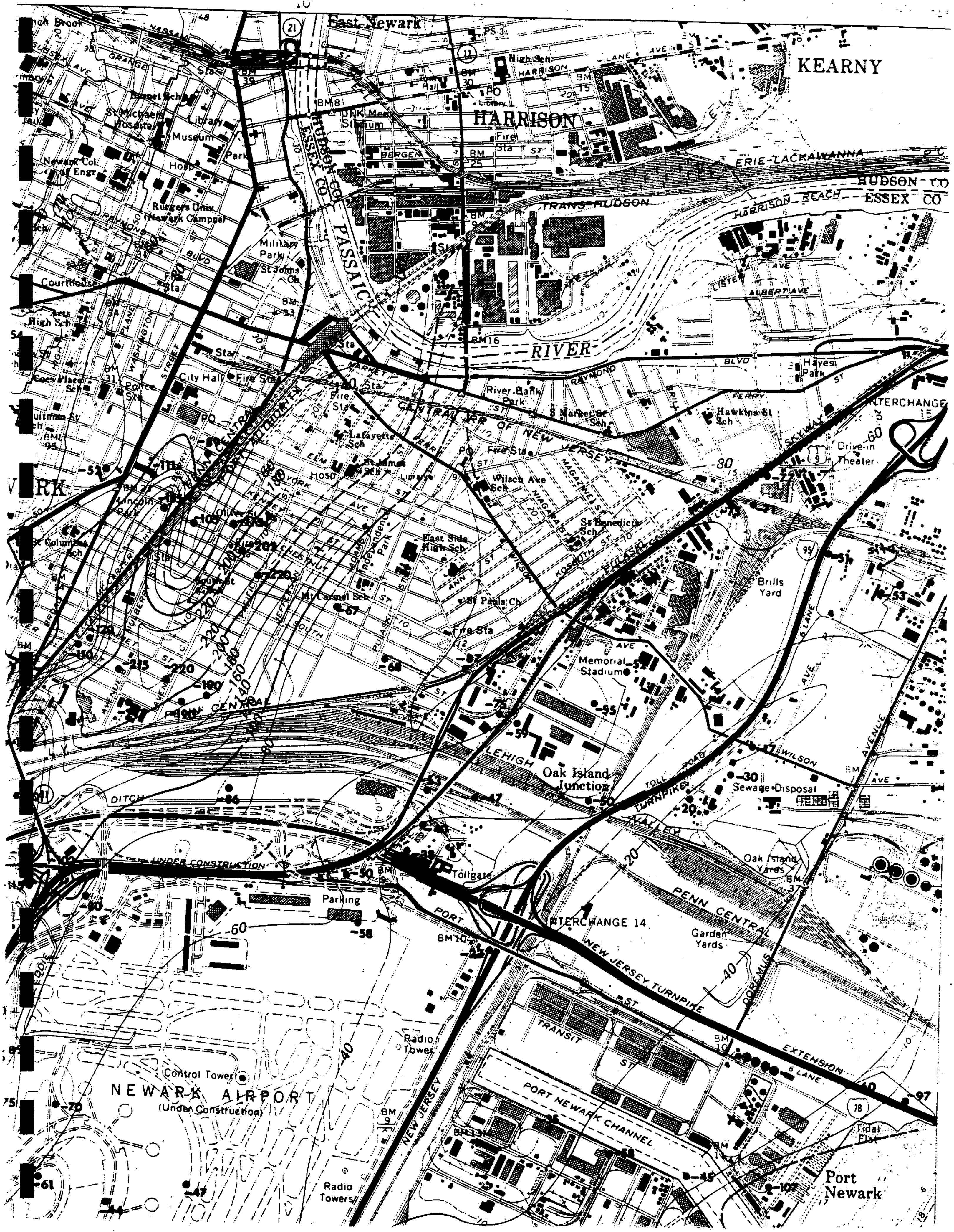
CONTOUR INTERVALS 10 AND 20 FEET
DEPTH CURVE AND SOUNDINGS IN FEET—DATUM IS MEAN LOW WATER
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATELY 5.3 FEET

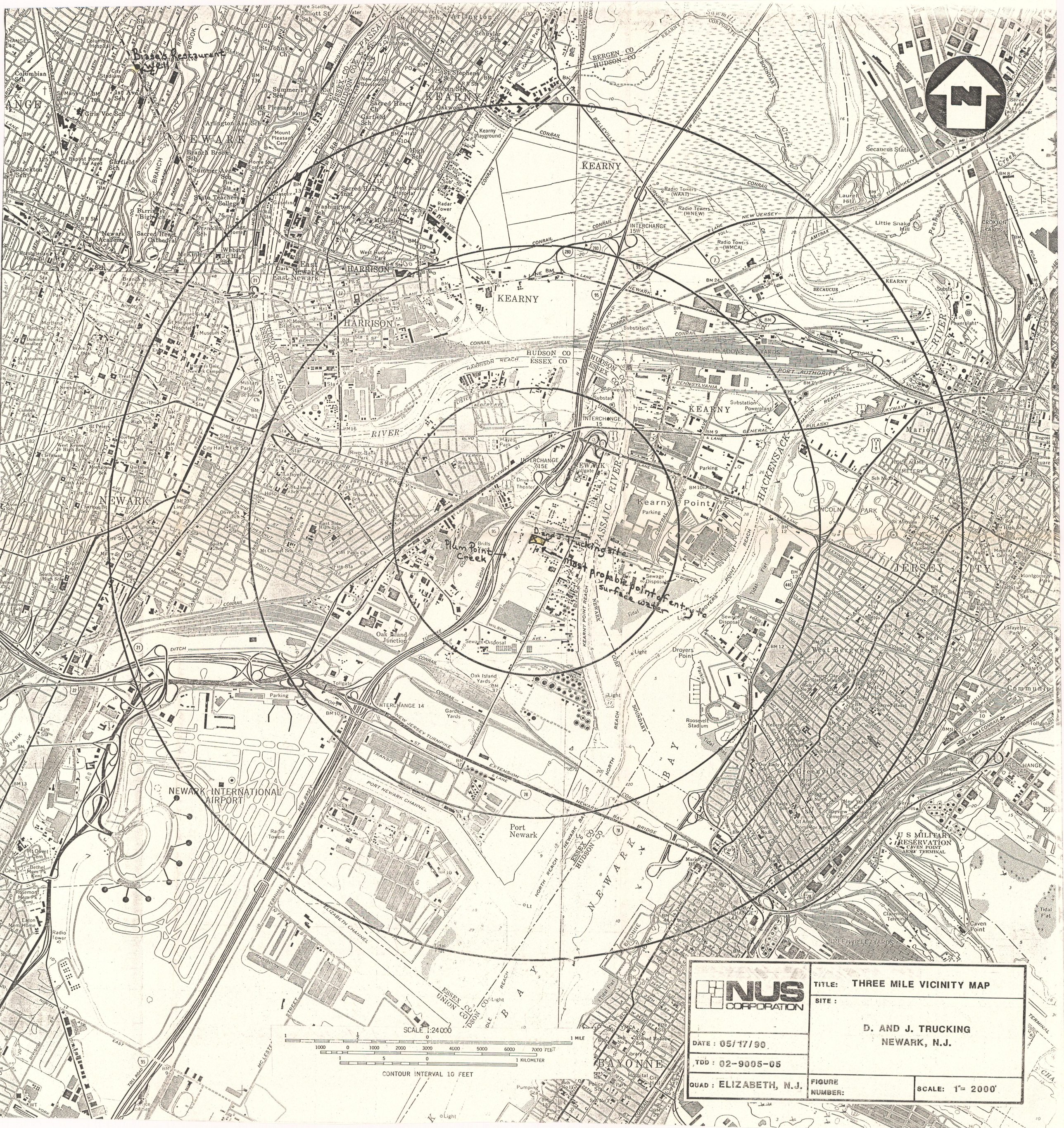
MAP LOCATION

EXPLANATION

•27 **WELL OR BORING** – Number indicates altitude of bedrock surface, in feet above or (– below) mean sea level

—— 0 —— **BEDROCK CONTOUR** – Shows altitude of bedrock surface. Dashed where approximately located. Contour interval 20 feet. Datum is mean sea level


East Newark
KEARNY
HARRISON
High Sch
Library
Museum
Park
St Michaels Hospital
Newark Col of Engr
Rutgers Univ (Newark Campus)
Courthouse
Military Park
St Johns Ch
HUDSON CO
ESSEX CO
PASSAIC
RIVER
ERIE-LACKAWANNA
TRANS-HUDSON
HARRISON REACH
LISTER AVE
ALBERT AVE
City Hall
Fire Sta
Police Sta
Market St
CENTRAL RR OF NEW JERSEY
River Bank Park
S Market St Sch
Hayes Park
RAYMOND BLVD
FERRY ST
Hawkins St Sch
INTERCHANGE 15
SKYWAY
Drive-in Theater
Lafayette Sch
St James Sch
Wilson Ave Sch
St Benedicts Sch
East Side High Sch
Independence Park
Mt Carmel Sch
St Pauls Ch
Fire Sta
Lincoln Park
Oliver St Sch
Memorial Stadium
Brills Yard
LEHIGH VALLEY
Oak Island Junction
Sewage Disposal
TOLL ROAD
TURNPIKE
Oak Island Yards
PENN CENTRAL
Garden Yards
DITCH
UNDER CONSTRUCTION
Parking
Tollgate
INTERCHANGE 14
NEW JERSEY TURNPIKE
PORT ST
TRANSIT ST
PORT NEWARK CHANNEL
EXTENSION
Radio Tower
Control Tower
NEWARK AIRPORT
(Under Construction)
Radio Towers
NEW JERSEY
DOREMUS AVENUE
WILSON AVE
Tidal Flat
Port Newark



NUS CORPORATION

TITLE: THREE MILE VICINITY MAP

SITE: D. AND J. TRUCKING NEWARK, N.J.

DATE: 05/17/90

TDD: 02-9005-05

QUAD: ELIZABETH, N.J.

FIGURE NUMBER:

SCALE: 1"= 2000'

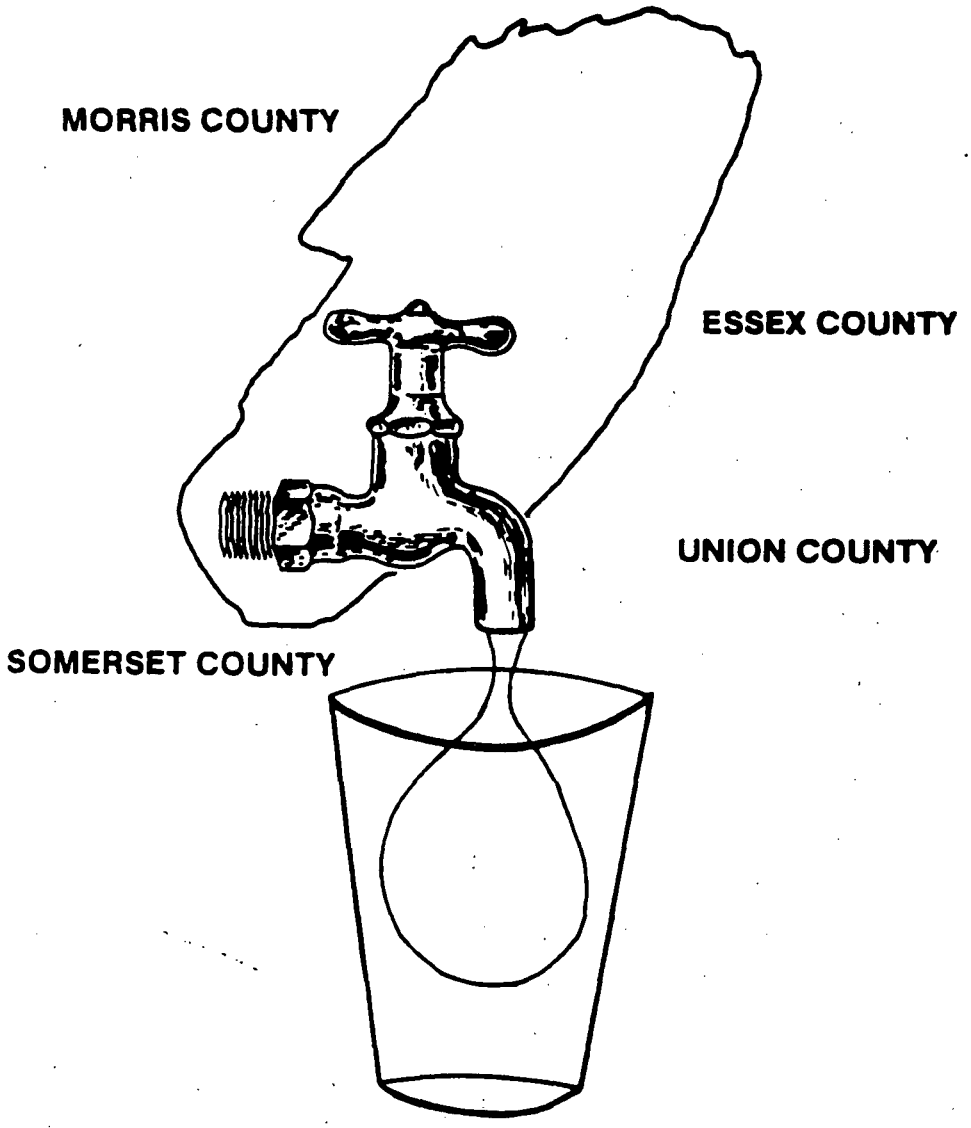
REFERENCE NO. 30

STATE
127/3
2
:H99

THE HYDROGEOLOGY OF THE BURIED VALLEY AQUIFER SYSTEM

RUTGERS UNIVERSITY
LIBRARY OF SCIENCE AND MEDICINE
GOVERNMENT DOCUMENTS DEPARTMENT

FEB 14 1983



PASSAIC RIVER COALITION

246 Madisonville Road
Basking Ridge, New Jersey 07920
(201) 766-7550

1983

size and number of the intersecting fractures. The yield of such rocks can vary considerably within a short distance, both horizontally and vertically. Because fractures are wider toward the surface due to weathering, a well in Precambrian rock is unlikely to supply much water below 300 feet. The 79 large-diameter public supply, industrial, and commercial wells operating in 1965 throughout Morris County yielded an approximate average of 121 gallons per minute (gpm), and the maximum and minimum yields were 400 and 5 gpm respectively. The larger amounts are usually associated with fault zones. (Gill and Vecchioli, 1965).

Water quality from Precambrian wells is generally good. Hardness ranges from soft (less than 50 ppm) to moderately hard (60-120 ppm); pH ranges from slightly acidic to slightly alkaline; and iron occurs in objectionable quantities in some areas (Gill and Vecchioli, 1965).

Newark Group: Brunswick Formation

The Brunswick Formation serves an an aquifer in the following communities: Chatham Borough, East Hanover Township, Florham Park Borough, Hanover Township, Harding Township, Lincoln Park Borough, Montville Township, Morris Township, Town of Morristown, Parsippany-Troy Hills Township, and Passaic Township in Morris County; Caldwell Borough, Fairfield Borough, Livingston Township, Millburn Township, North Caldwell Borough, Roseland Borough, West Caldwell Borough, and West Orange Town in Essex County; and Berkeley Heights Township, New Providence Borough, and Summit City in Union County (Gill and Vecchioli, 1965; Nichols, 1968a; Nemickas, 1976).

Table 2. Municipalities Entirely or Partially Within the Sole Source Aquifer Designated Area

Somerset County

Bernards Township
Bernardsville
Warren Township

Union County

Berkeley Heights
New Providence
Summit

Essex County

Caldwell
Essex Fells
Fairfield
Livingston
Millburn
North Caldwell
Roseland
West Caldwell

Morris County

Boonton
Boonton Township
Chatham
Chatham Township
Denville
Dover
East Hanover Township
Florham Park

Morris County (Cont'd)

Hanover Township
Harding Township
Jefferson Township
Kinnelon
Lincoln Park
Madison
Mendham
Mendham Township
Mine Hill
Montville Township
Morris Plains
Morristown
Morris Township
Mountain Lakes
Mt. Arlington
Passaic Township
Parsippany-Troy Hills Township
Randolph Township
Rockaway
Rockaway Township
Roxbury
Sparta
Victory Gardens
Wharton

Source: Federal Register Vol. 45, No. 91:30537.

REFERENCE NO. 31

SEDIMENTOLOGY OF NEWARK BAY, NEW JERSEY:

AN URBAN ESTUARINE BAY

BY

Dennis John Suszkowski

A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Marine Studies.

June, 1978

composed of fine sand, silt and clay (Schuberth, 1968). The sea level eventually rose high enough from the melting ice to breach the terminal morraine and flood Lake Hackensack. As the glaciers finally wasted away, the lands beneath it were uplifted, the streams were rejuvenated and deposited gravel, sand, and coarse silt over the varved clay beds (Schuberth, 1968). Recent sediments in Newark Bay overlie the post glacial outwash deposits.

C. Waterway Usage

Newark Bay is situated in one of the most industrialized and populated areas in the eastern United States. The New York Metropolitan region has a population of over 14 million people. Principal manufactured products in the Newark Bay area are textiles, chemicals rubber products, electrical machinery and supplies. Petroleum products and building materials, brought to the waterfront terminals by vessel, are distributed throughout the area. Newark Bay and the Hackensack and Passaic Rivers are used by a variety of commercial and recreational vessels. The commercial deep-draft vessels include oil tankers and general cargo vessels, many of which are containerized cargo vessels having drafts in excess of 10 meters, lengths of over 250 meters, and beam widths greater than 30 meters. At Port Newark and Port Elizabeth, the Port of New York Authority maintains two of the largest marine transfer facilities in the world. Shallow draft vessels utilizing Newark Bay include all types of recreational vessels, barges and

tugs. In the Kill Van Kull, Newark Bay, and the Hackensack and Passaic Rivers, the U.S. Army Corps of Engineers maintains approximately 35 kilometers of navigation channels

Since the Newark Bay region is extremely populated and heavily industrialized, it has only been natural that the waters of this region be used for industrial and municipal waste disposal. Leighton (1902) stated that the natural resources of the Passaic River were severely damaged due to water pollution 75 years ago. Suszkowski (1973) showed that dissolved oxygen levels in all sections of New York Harbor declined dramatically at the turn of the century due to the increased organic loadings of a growing populous. Mueller et al.(1976) indicate that at present, Newark Bay and the Hackensack and Passaic Rivers receive discharges of domestic and industrial wastewater amounting to 6.6 m^3/sec. This is approximately 13% of the total fresh water input into Newark Bay.

REFERENCE NO. 32

THE LATEST TRIASSIC AND EARLY JURASSIC FORMATIONS OF THE NEWARK BASIN (EASTERN NORTH AMERICA, NEWARK SUPERGROUP): STRATIGRAPHY, STRUCTURE, AND CORRELATION

PAUL E. OLSEN

Bingham Laboratories, Department of Biology
Yale University
New Haven, Connecticut 06520

ABSTRACT. *Newark Supergroup deposits of the Newark Basin (New York, New Jersey, and Pennsylvania) are here divided into nine formations called (from the bottom up): Stockton Formation (maximum 1800 m); Lockatong Formation (maximum 1150 m); Passaic Formation (maximum 6000 m); Orange Mountain Basalt (maximum 200 m); Feltville Formation (maximum 600 m); Preakness Basalt (maximum +300 m); Towaco Formation (maximum 340 m); Hook Mountain Basalt (maximum 110 m); and Boonton Formation (maximum +500 m). The latter seven formations are new and result from subdividing the Brunswick Formation and Watchung Basalt of Kümmel and Darton. Each formation is characterized by its own suite of lithologies, the differences being especially obvious in the number, thickness, and nature of their gray and black sedimentary cycles (or lack thereof).*

Newark Basin structure still escapes comprehensive understanding, although it is clear that faults (predominantly normal) and onlaps bound both the eastern and western edges of the basin. The cumulative thickness of formations and the apparent movement of the faults is greater on the western than the eastern side, however.

Fossils are abundant in the sedimentary formations of the Newark Basin and provide a means of correlating the sequence with other early Mesozoic areas. The Stockton, Lockatong, and most of the Passaic Formation are Late Triassic (?Middle and Late Carnian — Rhaetic) while the uppermost Passaic Formation (at least locally) and younger beds appear to be Early Jurassic (Hettangian and Sinemurian) in age. The distribution of kinds of fossils is intimately related to sequences of lithologies in sedimentary cycles.

Manuscript received 2 Jan 1980.
Manuscript accepted 14 Jan 1980
Revised manuscript received 16 Sep 1980.

INTRODUCTION

Despite well over a century of interest in the early Mesozoic Newark Supergroup of eastern North America, many fundamental aspects of its historical and structural geology remain unexplored. In part, this is due to the complexity of stratigraphic and structural relations in the individual basins, coupled with the rarity of continuous exposures. As a result, much of our accepted understanding of the Newark Supergroup has been based on incomplete observations and opinion. The purpose of this paper is to provide a more thorough observational foundation against which past hypotheses may be assessed and on which future work may be based. Emphasis is placed on the younger beds of the Newark Basin, for they have never been examined in detail, and a new stratigraphic framework is proposed. These younger Newark Basin beds provide us with a key to understanding the entire basin column, which in turn is crucial to the context in which early Mesozoic organic evolution, continental sedimentation, and tectonic development are to be studied.

REGIONAL SETTING

Triassic and Jurassic Newark Supergroup rocks (Figure 1) (Olsen, 1978; Van Houten, 1977) occupy numerous elongate basins in eastern North America and consist of predominantly detrital fill locally more than 10,000 m thick. In most

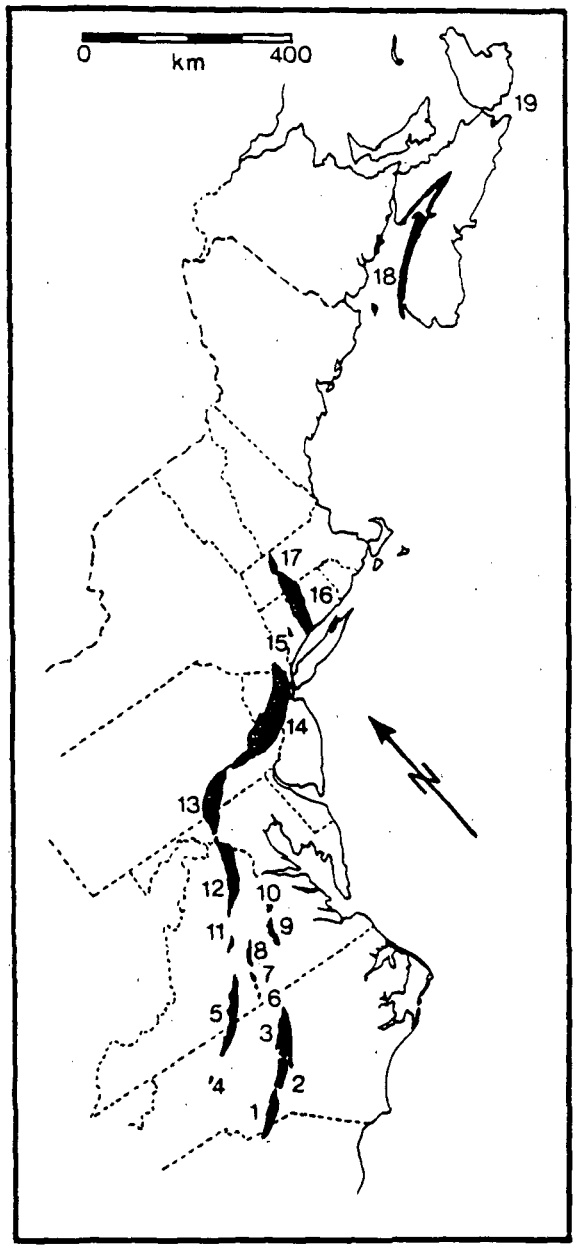


FIG. 1. Newark Supergroup deposits exposed in eastern North America: 1. Wadesboro Basin of Chatham Group; 2. Sanford Basin of Chatham Group; 3. Durham Basin of Chatham Group; 4. Davie County Basin; 5. Dan River — Danville Basins of Dan River Group; 6. Scottsburg Basin; 7. Basins south of the Farmville Basin; 8. Farmville Basin. 9. Richmond Basin; 10. Taylorsville Basin; 11. Scotsville Basin; 12. Culpeper Basin (Culpeper Group; 13. Gettysburg Basin; 14. Newark Basin; 15. Pomperaug Basin; 16. Hartford Basin; 17. Deerfield Basin; 18. Fundy Basin (Fundy Group); 19. Chedabucto Basin (= Orpheus Graben?). Data primarily from Calver, 1963, King, *et al.*, 1944; Van Houten, 1977; and Olsen, 1978.

areas, red clastics are the dominant sedimentary rocks and tholeiitic, intrusive and extrusive diabases and basalts are the most common volcanics. These unconformably overlie (or rarely intrude) Precambrian and Palaeozoic rocks and are overlain by post-Jurassic rocks of the Coastal Plain, or alluvium and soils.

The Newark Basin is the most northerly of three Newark Supergroup basins lying in an arcuate belt stretching from southern New York to central Virginia (Figure 2). The region has attracted the attention of researchers since the beginnings of North American geological work (Kalm, 1753-1761; Schopf, 1783-1784); by about 1890 the deposit had been mapped out (Lyman, 1895; Cook, 1868) and by 1900 the currently used rock-stratigraphic framework was established (Table 1). Kümmel (1897) divided the Newark Basin sequence into three formations: the Stockton, Lockatong, and Brunswick. As recognized by Kümmel, the Stockton Formation (maximum thickness 1800 m) is the basal deposit consisting of thick beds of buff or cream colored conglomerate and sandstone, and red siltstone and sandstone. Throughout the exposed central portion of the Newark Basin, Kümmel recognized the Lockatong Formation (maximum thickness 1150 m) which is made up of gray and black siltstone arranged, as later shown by Van Houten (1969), in distinctive sedimentary cycles (Figure 4). The youngest formation Kümmel called the Brunswick. Throughout the Newark Basin, the lower Brunswick consists of sandstone and conglomerate and clusters of laterally persistent cycles of gray and black siltstone similar to the Lockatong Formation (Kümmel, 1897, 1898; McLaughlin, 1943; Van Houten, 1969). The upper Brunswick, on the other hand, is made up of three major extrusive basalt sheets which Darton (1890) called the Watchung Basalt, two major interbedded sedimentary units, and a thick overlying sedimentary unit. The latter sedimentary sequences have escaped even preliminary lithologic description.

Field work by this author during the past few years has shown that Kümmel's Brunswick For-

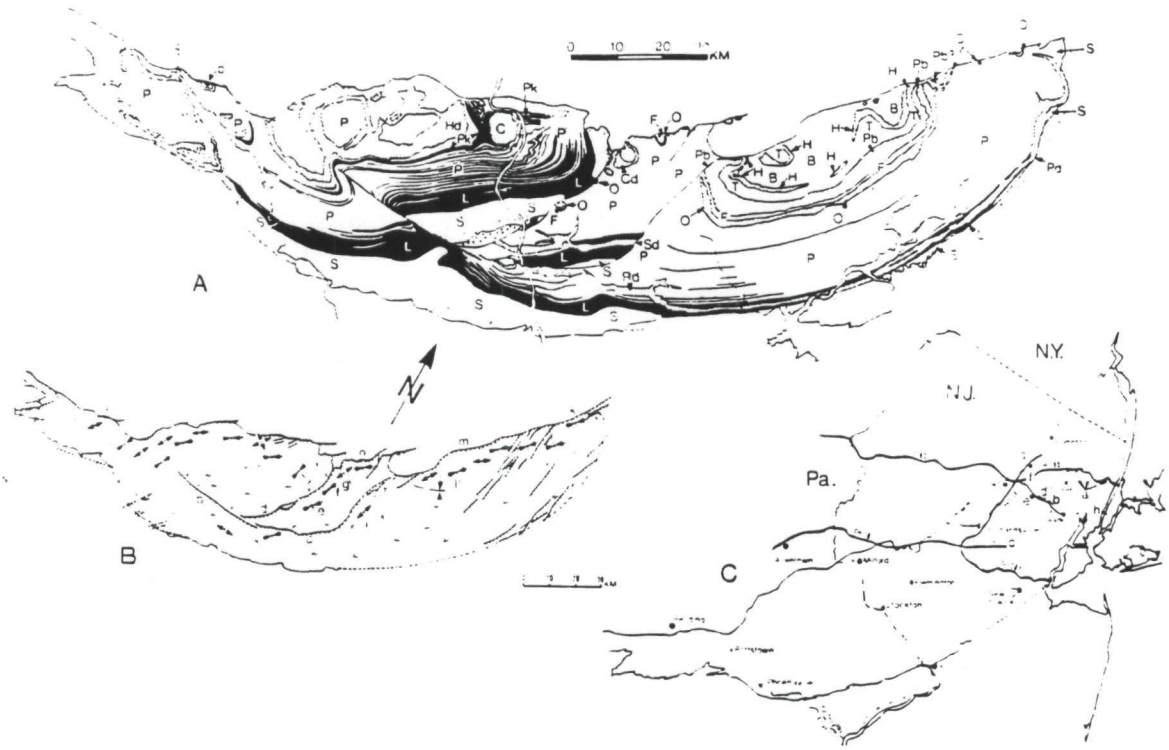


FIG. 2. The Newark Basin. A. geologic map showing distribution of formations, conglomerate facies (irregular stipple), and major clusters of detrital cycles in Passaic Formation (black lines). Abbreviations of formations and intrusive bodies as follows: B. Boonton Formation; C, Coffman Hill Diabase; Cd, Cushetunk Mountain Diabase; F, Feltville Formation; H, Hook Mountain Basalt; Hd, Haycock Mountain Diabase; Jb, Jacksonwald Basalt, L, Lockatong Formation; O, Orange Mountain Basalt; P, Passaic Formation; Pb, Preakness Basalt; Pd, Palisade Diabase; Pk, Perkasie Member of Passaic Formation; Rd, Rocky Hill Diabase; S, Stockton Formation; Sd, Sourland Mountain Diabase; T, Towaco Formation.

B, Structural diagram of Newark Basin (note — parts of basin margin not mapped as faults should be regarded as onlaps, faults with teeth on downthrown side): a, Jacksonwald Syncline; b, Chalfont Fault; c, Hopewell Fault; d, Flemington Fault; e, Sand Brook Syncline; f, Flemington Syncline; g, Cushetunk Mountain Anticline; h, New Germantown Syncline; i, Somerville Anticline; j, New Vernon Anticline; K, Ladentown Syncline; l, Watchung Syncline; m, Ramapo Fault.

C, Geographic map of Newark Basin showing locations of type sections of formations proposed in this paper: a, type section of Passaic Formation; b, type section of Orange Mountain Basalt; c, type section of Feltville Formation; d, type section of Preakness Basalt; e, type section of Towaco Formation in Roseland, New Jersey; f, type section of Hook Mountain Basalt in Pine Brook, New Jersey; g, type section of Boonton Formation in Boonton, New Jersey; h, Lincoln Tunnel, Weehawken, New Jersey.

Data for A, B, and C from original observation and Kümmel, 1897, 1898; Lewis and Kümmel, 1910-1912; Darton, 1890, 1902; Darton *et al.*, 1908; Glaeser, 1963; Sanders, 1962; Van Houten, 1969; McLaughlin, 1941, 1943, 1944, 1945, 1946a, 1946b; Bascom *et al.*, 1909a, 1909b; Bailey *et al.*, 1914; Willard *et al.*, 1959; Manspiezer; pers. comm.

mation consists of a heterogenous mix of major units of differing and distinctive lithology, each as distinct and perhaps originally as widespread as the Stockton or Lockatong; further, each "Watchung Basalt" and the interbedded and overlying sedimentary beds are lithologically distinct from the lower Brunswick. In addition, Cornet, McDonald, and Traverse (1973), Cornet and Traverse (1975), Cornet (1977), and Olsen and Galton (1977) have shown that much of the

upper Brunswick is Early Jurassic rather than Late Triassic as had been assumed. It now seems clear that these Jurassic rocks are in many ways different from the Late Triassic lower Brunswick, Lockatong, or Stockton formations. For these reasons, I propose the terms Brunswick Formation (Kümmel, 1897) and Watchung Basalt (Darton, 1890) be dropped and their components subdivided to form seven new formations (Table 1) in parallel with Lehmann's (1959) widely used divisions of the Hartford Basin and Klein's (1962) divisions of the Fundy Group in accord with the American Code of Stratigraphic Nomenclature and the International Stratigraphic

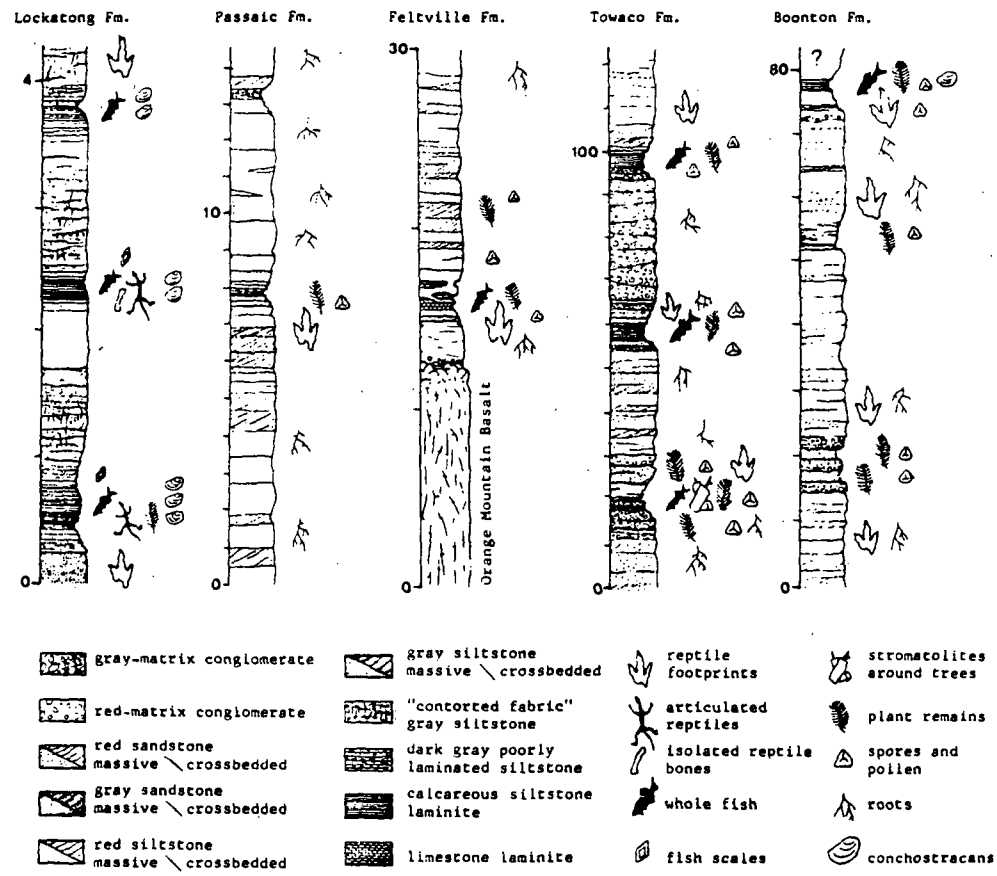


FIG. 3. Major types of sedimentary cycles of the formations of the Newark Basin. Note that the approximate center of the symbols for the major types of fossils is placed about where they occur in the section to the left. Note the change in scale (in meters) from section to section.

Lockatong Formation section measured at Kings Bluff, Weehawken, New Jersey, and represents three detrital cycles. The Passaic Formation section measured along Nishisakawick Creek and Little Nishisakawick Creek, northeast of Frenchtown, New Jersey; the two cycles shown represent the lower portion of McLaughlin's Graters Member (i.e., Member G) and are characteristic of most of the detrital cycles of the Passaic Formation. The upper cycle develops a dark gray siltstone a kilometer to the south. Feltville Formation section measured along East Branch of Middle Brook, Martinsville, New Jersey — there is only one such "cycle" in the Feltville Formation. Towaco Formation section measured along stream 2 km southwest of Oakland, New Jersey; three cycles are shown. Boonton Formation section is upper part of type section (see Figure 12); section not clearly cyclic.

Guide. In this way, nominal status is given to beds critical to the overall pattern of Newark Basin historical geology.

DESCRIPTIVE STRATIGRAPHY OF THE POST-LOCKATONG FORMATIONS

The Passaic Formation

The name Passaic Formation is proposed for the predominantly red siltstone, sandstone, and conglomerate which conformably overlie the Lockatong Formation and which underlie the Orange Mountain and Jacksonwald basalts. It is equivalent to the pre-basalt part of Kümmel's Brunswick Formation (Table 1). The type section (Figure 4) consists of intermittent exposures of red siltstone and sandstone along interstate Route 80 near Passaic, New Jersey (Figure 2 and Appendix).

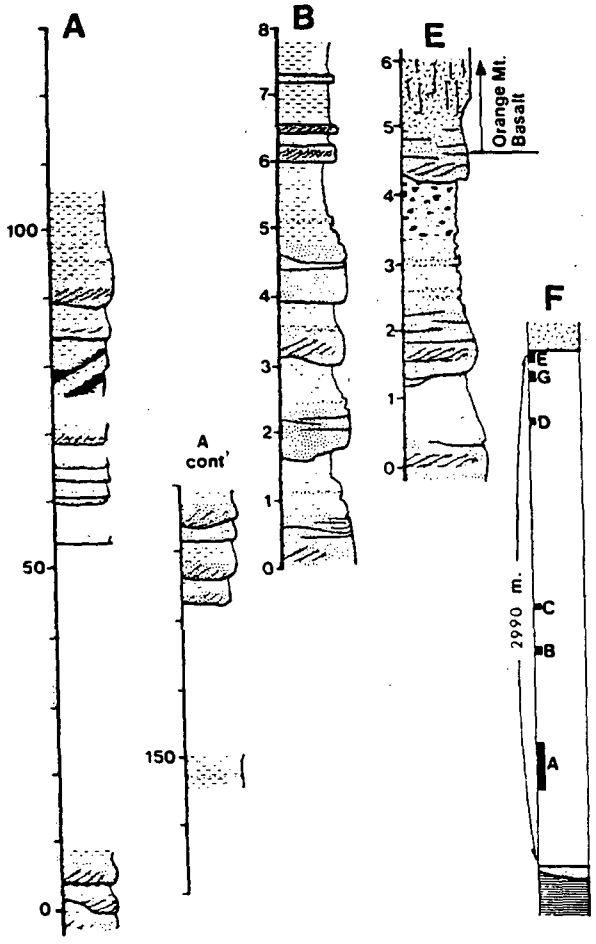


FIG. 4. A - E, type section of Passaic Formation (see Appendix for description); F, diagram showing positions of sections A - E in Passaic Formation.

As is the case for all Newark formations, the estimation of stratigraphic thicknesses in the Passaic Formation is hampered by the presence of a series of faults with variable amounts of dip-slip displacement cutting much of the Newark Basin. The exact distribution of these faults is poorly known and thus many trigonometrically computed thicknesses in the Passaic Formation are probably overestimations. This is especially true in the northern and southern portions of the Newark Basin. The field relationship of mapped gray siltstones in the central Newark Basin, however, shows that in broad areas these smaller faults are missing and the calculated stratigraphic thickness is probably correct (McLaughlin, 1943). Instead of a large number of small faults, the central Newark Basin is cut by several very large faults (Figure 2).

In spite of these mensuration problems, it is clear that the Passaic Formation is the thickest, coherent lithologic unit in the Newark Basin, reaching a maximum calculated stratigraphic thickness of over 6,000 m (Jacksonwald Syncline). The formation outcrops throughout the Newark Basin although its upper beds are preserved only in the Watchung Syncline (Figure 2), in the smaller synclines preserved along the eastern side of the Flemington Fault, and in the Jacksonwald Syncline. In all other areas, the upper Passaic Formation has been removed by post-Newark erosion.

While in most areas the Passaic Formation rests conformably on Lockatong Formation, in several areas on the western margin of the Newark Basin, the Passaic directly onlaps the step-faulted basement without any intervening Stockton or Lockatong. In these areas (see Figure 5), the thickness of upper Passaic Formation present below the Orange Mountain Basalt is comparatively slight. One area where these relationships can be clearly seen is near Cushetunk Mountain (Figure 5) in central New Jersey. In the New Germantown Syncline, the stratigraphic distance from the Palaeozoic basement to the Orange Mountain Basalt is about 800 m. Less than 30 km to the southwest, over 1,000 m of Passaic is

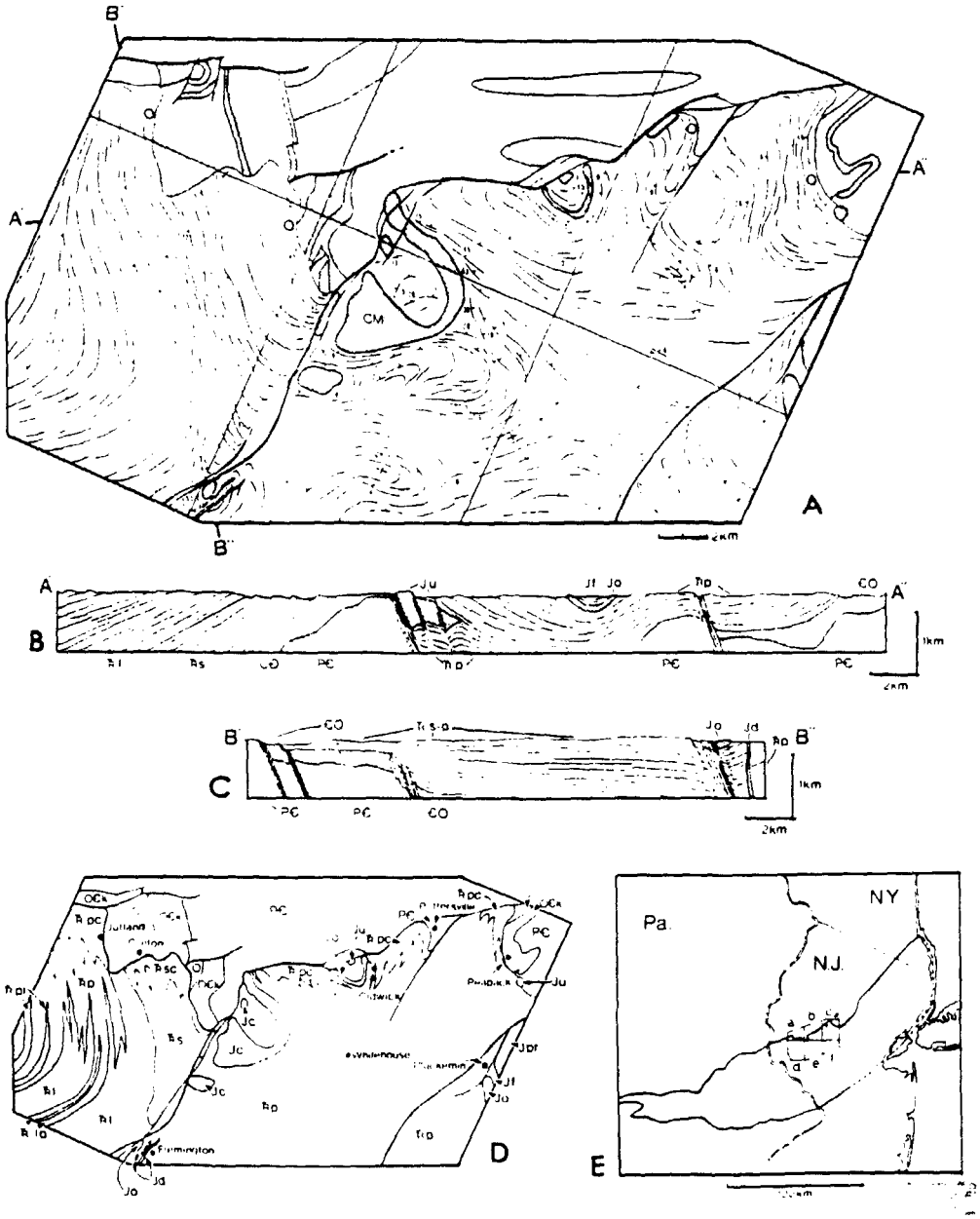


FIG. 5. Cushetunk Mountain area: A, map showing strike lines, degree of dip, major faults and onlaps (o) — diabase and basalt represented by dark gray shading while light gray shading represents Palaeozoic and PreCambrian basement rocks — CM is Cushetunk Mountain; B, cross section of area in A (above) along line A'-A" — note vertical exaggeration; C, section of area in A (above) along B'-B"; D, geologic map of Cushetunk Mountain area (Oek, Cambrian and Ordovician sedimentary rocks of the Kittatinny carbonate terrane) O, allochthonous peltic and minor carbonate rocks; eO, combined Oek and O; Pe, Precambrian crystalline rocks: T lp, tongues of Triassic Passaic Formation lithology within main mass of Lockatong Formation; T pc, Triassic Passaic Formation, conglomeratic facies; T p, Triassic Passaic Formation; T pl, Triassic Passaic Formation, Lockatong-like clusters of detrital sedimentary cycles; T s, Triassic Stockton Formation; T sc, Triassic Stockton Formation, a conglomeratic facies identical to T pc; JF, Jurassic Feltville Formation; Jc, Jurassic Cushetunk Mountain

present above 2,000 m of Stockton plus Lockatong, and in the latter area the top of the Passaic Formation is not preserved. In less well exposed areas, or where the strike parallels the basin margin, such onlap and step-faulted relationships cannot be observed without geophysical techniques or analysis of well records (McLaughlin, 1943, 1944; Dunleavy, 1975).

Facies patterns of the Passaic Formation are a modified continuation of those of the Lockatong, and different from all younger Newark Basin deposits. Laterally persistent and periodically spaced clusters of gray and black siltstone cycles characterize both formations, the Lockatong being composed almost entirely of such repetitive units (see Figure 3). According to Van Houten (1962, 1964, 1965, 1969), the great majority of the Lockatong cycles fall into two broad classes which he terms chemical and detrital (Figure 3). The most laterally continuous are detrital and these generally occur in bundles. Each bundle is separated from the next (in vertical succession) by a series of chemical cycles; the distance from the center of one detrital cycle bundle to the next being about 110-125 m in the central Newark Basin (Van Houten, 1969). This figure decreases to the basin margins. Chemical cycles are characterized by the presence of abundant analcime and are for the most part restricted to the center of the basin, giving way in all directions to red clastics.. The lateral edges of the Lockatong thus consist of bundles of detrital cycles separated by red siltstone and sandstone. It follows that the boundary between the Passaic Formation and the Lockatong can be operationally defined (both horizontally and vertically) as where the thicknesses of beds of red clastics dominate gray and black. It further follows that where gray and black detrital cycle clusters do not occur, as in Rockland County, New York, the Passaic Formation rests directly on the Stockton.

Bundles of detrital cycles occur through most of the thickness of the Passaic Formation, periodically spaced, as in the Lockatong. The great majority of these cyclic non-red units, however, are not as laterally continuous as those of at least the lower Lockatong, and generally the number of cycles involved in these clusters decrease in frequency through the Passaic Formation. For the lower and middle Passaic, McLaughlin (1933, 1943, 1945, 1946, 1948) has succeeded in mapping out the distribution of these non-red units over most of the central Newark Basin. A detailed stratigraphic framework has developed around these beds, each detrital cycle bundle being designated by a letter (A, B. C. . . . .). The extension of McLaughlin's units outside of the areas he mapped is a principle aim of ongoing research (Figure 2).

The highest of McLaughlin's mapped units (134 m above members L and M) join with other cycles to the southwest to form a large body of gray and black siltstone called the Perkasie Member (McLaughlin, 1946). Unlike the Lockatong Formation, however, the thickest section of the Perkasie Member is in the southwestern portion of the Newark Basin rather than near its geographic center. Due to repetition by major faults (Figure 2) and changes in strike along folds, the broader aspects of the three-dimensional relationships of most Passaic dark clastic units can be observed. Looking over the bulk of the Passaic Formation (Figure 2), there is no evidence that the rest of the detrital cycle clusters of the Passaic (i.e., other than lateral equivalents of the Lockatong Formation or Perkasie Member) represent the remnants of a large, now eroded, gray and black siltstone body as Glaeser (1963) has suggested.

There are major masses of red-matrix conglomerate at both the northern and southern ends of the Newark Basin (Figure 2). These grade nearly imperceptively into the red clastics of the Passaic Formation and are here considered facies of it. Other much smaller areas of conglomerate occur along the western border of the Newark Basin; these are especially prevalent where Passaic

Diabase; Jd, Jurassic diabase dikes; Jo, Jurassic Orange Mountain Basalt; Jpr, Jurassic Preakness Mountain Basalt; Ju, Jurassic basalt, undefined; E, geographic position and quadrangle maps of Cushetunk Mountain area (a, High Bridge Quadrangle; b, Califon Quadrangle; c, Gladstone Quadrangle; d, Pittstown Quadrangle; e, Flemington Quadrangle; f, Raritan Quadrangle).

Formation onlaps basement rocks (Figures 2 and 5).

A point of general applicability to perhaps most Newark Supergroup deposits and particularly relevant to Passaic Formation conglomerates is the lack of objective lithologic distinction between basal and border conglomerates. The small bodies of conglomerate present along the western border of the Newark Basin (so called fanglomerates) have traditionally been interpreted as genetically related to the presence of border faults and the presence of such conglomerates was often used as evidence for the faults themselves (Russell, 1922; Barrell, 1915; Sanders, 1963; Van Houten, 1969). It appears from relations presented in Figure 5 and geophysical evidence (Dunleavy, 1975) that many of these "border conglomerates" are in fact basal (see Sanders, 1974 and Faill, 1973). Conglomerates present in the basal Stockton Formation in the same area (west of Cushetunk Mountain, Figure 5) are lithologically indistinguishable from these Passaic conglomerates. The relationship of these conglomerates to the inferred syndepositional topography of the basin is not at all obvious and, thus, for the present, interpretive designations such as fanglomerate, basal conglomerate, and border conglomerate should probably be avoided.

Massive diabase intrusions are implaced through the upper Passaic Formation in the west central portions of the Newark Basin and in the lower Passaic Formation in the northern Newark Basin. These intrusions generally parallel the distribution of major bodies of gray and black siltstone: thus, the largest intrusions are broadly concordant (but locally discordant) with the Lockatong Formation (i.e., Palisades, Rocky Hill, and Sourland Mountain Sills) or the Perkasie Member of the Passaic (Haycock Mountain, Coffman Hill, and possibly Cushetunk Mountain diabases; see Figure 5). The general pattern seems to be for these intrusions to be implaced progressively higher in the Newark Basin section from east to west.

The Passaic Formation, like most Newark Supergroup deposits, is cut by a series of narrow, often nearly straight and vertical diabase dikes trending north and northeast. The mapping of the distribution of these intrusives is still very incomplete.

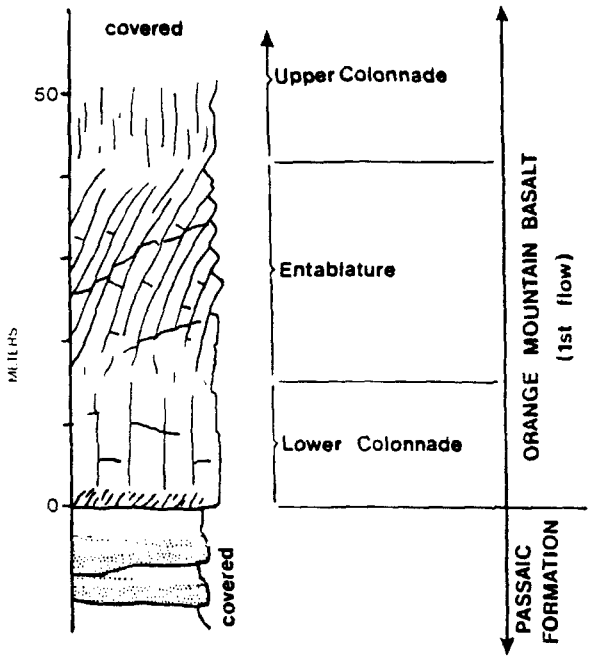


FIG. 6. Type section of the Orange Mountain Basalt; exposure along Interstate Route 280 in East Orange, New Jersey. In Passaic Formation, stipple represents red sandstone and plain area represents red sandstone.

Orange Mountain Basalt

Orange Mountain is the local name of the First Watchung Mountain in Essex County, New Jersey, long known for its spectacular exposures of columnar basalt (Cook, 1884); the name Orange Mountain is, therefore, suggested for these multiple (at least two), tholeiitic, basalt flows and interbedded volcanoclastic units above the Passaic Formation and below the Feltville Formation. The type section, exposing about 40% (50 m) of the formation's total thickness, is along Interstate Route 280 at its cut through Orange Mountain in East Orange, New Jersey (Figure 7). According to Puffer and Lechler (1980) the Orange Mountain Basalt belongs to the high-TiO_2 type of basalt of Weigand and Ragland (1970) and is chemically very similar to the Palisade Diabase.

The Orange Mountain Basalt is the oldest Newark Basin Formation thought to be wholly

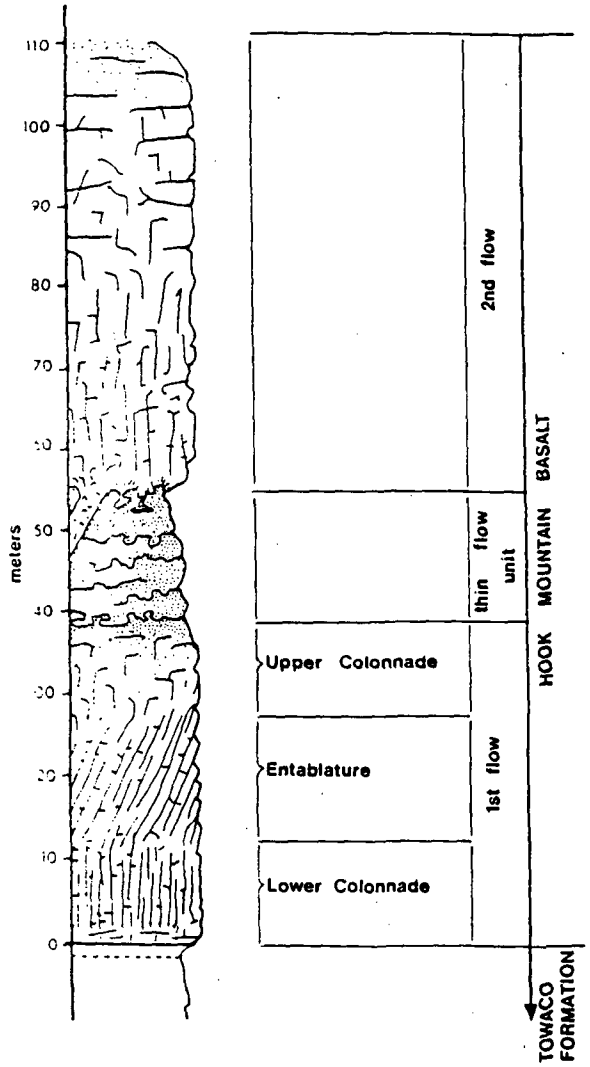


FIG. 11. Type section of the Hook Mountain Basalt. Note two major flow units and interbedded thin pahoehoe flows and possible feeder dike. Section exposed along Interstate Route 80 near Pine Brook, New Jersey.

The uppermost cycle is well exposed in the Roseland Quarry. Formerly another cycle was exposed in an adjacent area (Olsen, 1975), and yet another was located in a nearby well boring. In total, six successive cycles have been identified in the upper half of the Towaco Formation, and most of these have been traced throughout the Watchung Syncline.

There is a thin brown volcanoclastic unit at the top of the Towaco Formation. It is about 1 m thick and occurs at most exposures of the upper Towaco Formation from at least Pompton to Roseland. It is especially well exposed at the Towaco type exposure. Lewis (1908) described unweathered samples of this unit and noted that it consists of altered volcanic glass with inclusions of feldspar and augite and pseudomorphs after olivine in a matrix of brown radial natrolite. Small blocks of vesicular basalt are occasionally present and at Pompton very thin vesicular "flow breccias" are included in the unit (Faust, 1978).

The Hook Mountain Basalt

The uppermost extrusive volcanic unit in the Watchung Syncline is here formally designated the Hook Mountain Basalt (Baird and Take,

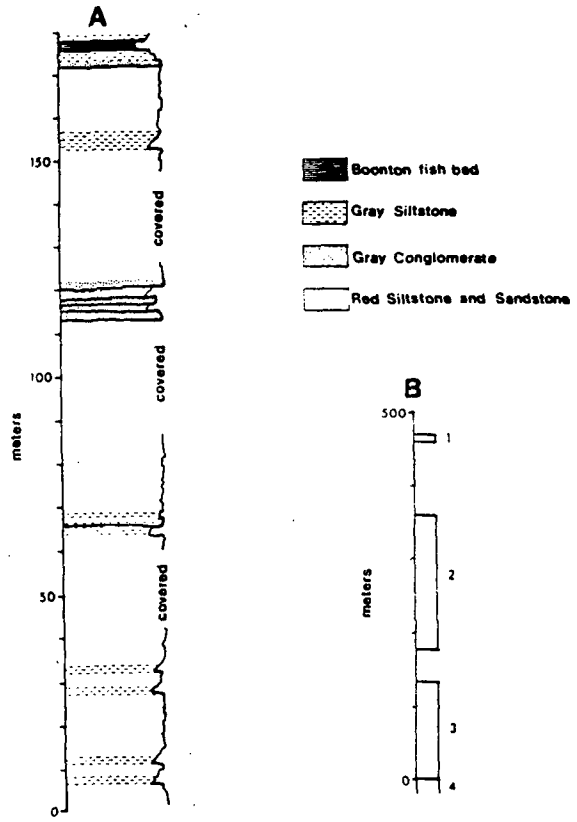


FIG. 12. Type section of the Boonton Formation; A, section exposed along Rockaway River in Boonton, New Jersey; B, composite section of entire preserved Boonton Formation — 1, red matrix conglomerate exposed at Chestnut Hill, Morristown, New Jersey, 2 beds making up the type section, 3, gray, black, brown and red siltstones exposed near Bernardsville, New Jersey, 4, Hook Mountain Basalt.

1959). This formation takes its name from the location of the type section (Figure 12) which cuts along Hook Mountain Road and Interstate Route 80 through the southern terminus of Hook Mountain near Pine Brook, New Jersey. About 80% of the total formation is exposed here. The Hook Mountain Basalt differs markedly in trace element composition from the older basalt formations of the Newark Basin with half as much K_2O and Sr, 20% less Rb, and with a much greater FeO/MgO ratio than the Orange Mountain Basalt (Puffer and Lechler, 1980).

The Hook Mountain Basalt is the thinnest of the three major extrusive formations of the Newark Basin; at its type section it is 110 m thick and it retains this thickness throughout the Watchung Syncline. There are gaps in the ridge made by this basalt between Hook Mountain and Riker Hill, and Riker Hill and Long Hill (see Figure 2). That the basalt extends subsurface across these gaps is shown by the bedrock topography as mapped by Nichols (1968) and aeromagnetic data (Henderson, et al., 1966). The maps of Lewis and Kümmel (1910-1912) and all maps since have omitted the Hook Mountain Basalt in the town of Bernardsville, New Jersey, and this is corrected here (Figure 2).

Two flows have been recognized through most of the Watchung Syncline. At the type section, the lower flow is 57 m thick and shows a complete Tomkeiff structural sequence (Figure 12), while the upper flow is 40 m thick but more massive, without clear columnar jointing. As is the case for the flows which make up the two older basalt formations of the Newark Basin, it is not definitely known whether the upper and lower flows of the Hook Mountain Basalt represent continuous sheets over the extent of the whole formation.

The Boonton Formation

Overlying the Hook Mountain Basalt are sedimentary rocks (Baird and Take, 1959) termed the Boonton and Whitehall beds of the Brunswick Formation. The formal name Boonton Formation is suggested for these beds, the type exposure (Figure 13) being along the Rockaway River near Boonton, New Jersey. The Boonton Formation is the youngest sedimentary unit in the Newark Basin and consists of at least 500 m of red, brown, gray, and black fine-to-coarse clastics and minor evaporitic beds.

The stratigraphically lowest beds in the Boonton Formation are well exposed near Bernardsville, New Jersey. Here the formation consists of blocky to finely bedded red, gray, brown, and black, often dolomitic, siltstone. Thin (1 - 4 m) beds riddled with "hopper casts" (pseudomorphs after gypsum, glauberite, and ?halite) are common in sequences of all colors. The different colors or textures of beds do not seem to be arranged in any obvious or consistent cyclic pattern and do not resemble other units in the Newark Basin. Stratigraphically above these beds is a sequence of well bedded red siltstones and sandstone beds (mean thickness 35 m) alternating with thinner beds of gray and gray-green siltstones (mean thickness 2 m). The longest continuous section of these beds is the type section (Figures 3 and 12). The uppermost beds at the type section include a fossil fish-bearing calcareous gray siltstone laminite at least 1 m thick. This is the famous Boonton Fish Bed (Smith, 1900; Schaeffer and McDonald, 1978). Also in this section are gray and brown conglomerate units up to 0.5 m thick. Along the western edge of the Watchung Syncline the Boonton Formation contains thick sequences of red- and gray-matrix conglomerate and breccia. The relationship of these units to the finer portions of the formation is unclear.

NOTES ON THE STRUCTURAL GEOLOGY OF THE NEWARK BASIN

There are very few generalities which can be applied with confidence to Newark Basin structure. It is generally conceded, however, that: 1, Newark sediments rest with a profound unconformity on the basement rocks; 2, Newark rocks are overlain with an angular unconformity by post-Jurassic rocks; 3, most Newark beds dip to the northwest 10° - 20°; 4, there are a series of faults of large displacement which cut the Newark deposits into a series of major fault blocks; 5, there are at least some smaller faults; 6, beds of the west side of fault blocks tend to be folded into a series of anticlines and synclines with their axes perpendicular to the long axes of fault

will serve as a reference standard for comparison with other early Mesozoic areas.

The basic biostratigraphic framework for Newark Basin deposits has been outlined by Olsen and Galton (1977) and Cornet (1977) and the details of this correlation will be given elsewhere (Olsen, McCune, and Thomson, in press; Olsen, Baird, and Salvia, MS; and Colbert and Olsen, MS). At this time it is necessary to present the distribution of taxa within the Passaic through Boonton formations and tie these in with the regional correlation (Figure 15).

For regional correlation, relatively strong emphasis has been placed on the distribution of palynomorph taxa (Cornet, 1977, and pers. comm.). This reliance has been especially strong for correlation between the upper Newark and the European Early Jurassic (see Figure 15). Tetrapod data, both in the form of skeletal remains and footprints, parallel the palynomorph data, and have been essential in correlating regions from which floral data is not available (such as the upper Stormberg — J. M. Anderson, pers. comm.). For fine internal correlation of the Early Jurassic portions of the Newark, however, the biostratigraphic subdivisions based on pollen and spores have proved too broad (Cornet, 1977). In these areas, fossil fish have provided a means of correlation (Olsen, McCune, and Thomson, in press).

The broad aspects of this biostratigraphic correlation are in agreement with most geophysical data, significantly the paleomagnetic work of McIntosh (1976) and Reeve and Helsley (1972) on the Newark Basin section and the Chinle Formation (southwestern United States), as well as with the paleomagnetic work of DeBoer (1968). In addition, radiometric dates available for Newark Basin basalts are in agreement with a Jurassic age for these units (Armstrong and Besancon, 1970; Dallmeyer, 1975; Sutter and Smith, 1979; W. D. Masterson and K. K. Turekian, pers. comm.). It must be noted, however, that the geophysical techniques used to date may be too inconsistent for the data to be used in fine scale correlation among the various individual formations of the Newark Supergroup.

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APPENDIX

Type Section of the Passaic Formation

Thickness (m)	Description
Section A	Base of section A is 427 m above and 3.4 km west of last exposures of Lockatong along Rt. 80 (all sections measured from top down).
1.2	red blocky siltstone
1.8	red massive feldspathic sandstone
.6	red siltstone
1.2	red massive feldspathic sandstone, fining-upwards
3.1	red blocky siltstone
3.0	red fine feldspathic sandstone, fining-upwards
1.5	red blocky siltstone
1.8	red cross-bedded feldspathic sandstone, fining-upwards
26.0	covered
4.6	red siltstone
41.0	covered
6.1	red fissile siltstone
4.6	red interbedded sandstone and siltstone
3.0	red siltstone
0.6	red feldspathic sandstone, fining-upwards
0.3	red blocky siltstone
1.8	red feldspathic sandstone, white near diabase, fining upwards
1.5	diabase dike
+3	red blocky siltstone, black near diabase
5.0	covered

Thickness (m)	Description
.9	red cross-bedded sandstone and siltstone, fining-upwards
.8	red planer, thin-bedded sandstone
4.0	covered
4.6	red interbedded siltstone and sandstone
2.0	covered
1.2	red burrowed sandstone and siltstone
48.0	covered
.8	red blocky siltstone
1.5	red feldspathic sandstone, strongly downcutting, fining-upwards
3.4	red blocky siltstone
.7	red feldspathic sandstone, fining-upwards, deeply downcutting
.3	red blocky siltstone, covered in places
+1	red fine feldspathic sandstone
Section B	Base of exposure 488 m above and 3.4 km west of top of section A, along Rt. 80 (section measured from top down).
.61	red fissile siltstone
.15	yellow-orange planer-bedded coarse siltstone
.91	red blocky siltstone
.15	yellow-orange cross-bedded base, planer-bedded top, fine sandstone
.20	red blocky siltstone
.30	yellow-orange cross-bedded base, planer-bedded top, fine sandstone
.90	red fissile siltstone
.93	red blocky siltstone, fining-upwards
.32	red fissile siltstone
.60	red siltstone
.76	red fissile siltstone
.60	red coarse feldspathic sandstone, fining-upwards
.30	red blocky siltstone
1.32	red very fine sandstone, fining-upwards
+1.52	red blocky siltstone
Section C	Base of exposure 244 m above and 1.8 km west of top of section B, along Rt. 80 (sections measured from top down).
1.5	red, very irregular, trough cross-bedded sandstone grading upwards into siltstones, laminated carbonate-rich oblong chips and concentric accretions at base
1.5	same as above
Section D	Base of exposure 1320 m above and 6.9 km west of top of section C (section measured from top down).
3.0	red massive, cross-bedded sandstone
Section E	Base of exposure 554 m above and 2.9 km west of top of section D (section measured from top down).
+10.0	massive basalt — base of Orange Mountain Basalt
.9	brown massive sandstone welded to basalt
1.8	red siltstone with numerous small carbonate nodules
.93	red siltstone
1.5	red sandstone, fining-upwards

Type section of the Feltville Formation and key to figure 7. Section exposed along Blue Brook about 1 km southwest of the dam for Lake Surprise in Watchung Reservation, Union County, New Jersey (sections measured from top down).

Unit letter in Figure 7	Thickness (m)	Description
Section A of Figure 7		
a	+1	buff to pink, cross and planer-bedded feldspathic sandstone with interbeds of red siltstone upward grading into
b	+1	red siltstone in thin beds, upper contact sharp
c	+1	same as unit a
d	+1	same as unit b
e	9	< 1 meter thick beds of buff and red sandstone, grading upwards into red blocky siltstone
f	1.5	beds of red siltstone and sandstone with varying amounts of basalt breccia
Section B of Figure 7		
a	.5	greenish-red, slightly micaceous with small scale ripple-bedded siltstone
b	.05	gray, aphanitic, calcareous siltstone
c	.08	same as above with a thin unit of red siltstone between it and unit b
d	.25	red and green, fine bedded siltstone
e	.20	reddish green fine bedded siltstone
f	.05	gray indistinctly bedded very calcareous siltstone
g	.02	gray well bedded calcareous siltstone
h	.08	gray well bedded limestone laminae alternating with siltstone to form 5 mm thick couplets. *Semionotus* common
i	.06	gray aphanitic limestone
j	.05	gray graded beds (1010 mm) of calcareous siltstone
k	.05	similar to unit h, but couplets 2-3 mm. *Semionotus* common
l	.06	similar to above but more silty
m	.08	gray laminated siltstone with limestone laminae present occasionally
n	.46	mottled gray and red clayey siltstone with thin fossil roots. Palyniferous (W. B. Cornet, pers. comm.)
o	.03	gray coarse siltstone
p	.18	gray small scale cross-bedded coarse siltstone with numerous natural casts of reptile footprints on lower contact
q	.18	gray ripple-bedded fine siltstone with numerous reptile footprints
r	.31	gray ripple-bedded coarse siltstone grading into unit q. Reptile footprints common.
s	.08	same as p
t	.14	gray and reddish siltstone with numerous reptile footprints
u	.44	red and gray claystone
v	.05	gray and red siltstone with large dinosaur footprints
w	.13	gray and red siltstone with numerous reptile footprints

Type Section of the Towaco Formation
(measured from top down)
(see Figure 11)

Basal Hook Mountain Basalt and cycle A of Towaco Formation exposed in the "Dinosaur Tract" of the Essex County Park Commission adjacent to the "Nob Hill" condominium project, where cycle B and the upper part of cycle C were exposed prior to 1977 (Olsen, 1975). All these exposures were part of the Roseland Quarry, Roseland, New Jersey.

Unit letter from Figure 16	Thickness	Description
Hook Mountain Basalt, 1st flow	35.0	Tholeiitic Basalt. Massive at base, columnar jointed in middle, vesicular at top.
Towaco Formation Volcanoclastic bed		
a	.9	Brown, badly weathered palagonitic unit consisting of shards of altered glass in a matrix of brown ?radial natrolite when fresh.
Upper Cycle (A)		
b	.5	Light gray and lavender siltstone, locally laminated with small scale crossbedding. May contain volcanoclastic component.
c	1.2	Dark lavender and maroon siltstone with small scale crossbedding. Small orange crystals (weathered) along fracture planes.
d	1.8	Deep red, hard siltstone grading into units above and below. Contains one fining-upwards cycle with reptile footprints common.
e	29.3	10 red fining-upwards cycles, each a mean of 2.9 m thick and composed of thick beds of red sandstone or coarse siltstone with prominent slip-off surfaces grading up into beds of ripple-bedded siltstone and blocky siltstone. Lowest cycle contains buff intraformational breccia with coprolites, reptile bone fragments, and fish scales. Lower cycles contain numerous calcareous lenticular concretions most common in coarse parts of cycles. Fine parts of middle cycles contain numerous small dolomitic concretions and deep mud cracks. Reptile footprints common in lower and upper cycles, as are root casts.
f	3.4	Gray and buff fining-upwards cycles consisting of a lower, cross-bedded sandstone grading up into lavender and gray siltstone. Reptile footprints and carbonized plants common.
g	1.1	Gray-green fine siltstone massive and indistinctly bedded. Small bits of carbonized stems and leafy twigs common. Palyniferous (Cornet, 1977).
h	.6	Dark to light gray, very fine and fine siltstone with massive to fine bedding and local load casts and ?gypsum crystal impressions. Good plant fragments including several conifer species, *Semionotus* scales and bones, and a single beetle elytron.
i	.4	Black, slickensided very fine siltstone with common chert nodules with a globular fabric.
j	.2	Black laminate. Black carbonaceous siltstone and white carbonate couplets .42 mm thick. Upper part of unit has several 5 mm thick graded, black siltstone layers. Grades into unit i.
k	.3	Light gray clayey siltstone, soft with black laminae becoming common upwards. Grades into unit j.
l	2.5	Gray fining-upward cycle composed of a lower cross-bedded sandstone containing numerous tree limbs, branches and roots grading upwards into a fine, well-bedded siltstone, locally ripple-bedded with numerous reptile footprints. Uppermost portion contains gray-green massive siltstone.
m	.9	Gray-buff, well bedded siltstone with dinosaur footprints and plant roots preserved both as carbonized impressions and natural casts.
Cycle B		
n	4.2	Red, thick fining-upward cycle. Lower part consists of thick beds of red sandstone with slip-off surfaces, local intraformational conglomerates and natural casts of large tree limbs or roots and a possible large reptile jaw. Middle part composed of 5 cm ± fine graded beds with very rare bone fragments and ?dinosaur teeth and exceptionally good reptile footprints. Plant fragments common and preserved as impressions or natural casts. Upper part is fine siltstone and plant remains present either as natural casts or carbonized compressions surrounded by gray-green halos. Grades upward into unit m.

Unit letter from Figure 16	Thickness	Description
All but the top of the following are no longer exposed.		
o	16.8	6. red fining-upwards cycles. Each cycle similar to unit n but a mean thickness of less than 1 meter. Middle 3 cycles contain numerous round dolomitic concretions and deep mudcracks in the fine portions. Reptile footprints common: plant remains (twigs and roots) present as impressions and natural casts.
p	5.2	2 or 3 gray fining-upwards cycles pinching out to the south where only one remains. Lower part of cycle consists of gray and buff cross-bedded sandstone grading upward into fine gray-blue or gray-green siltstone. Uppermost cycle composed of gray sandstones and red siltstones. Plant remains common as carbonized compressions. fine units palyniferous and reptile footprints common.
q	.8	Basal portion is a laminate composed of laminae of dark organic-rich siltstone alternating with light carbonate laminae forming couplets 0.4 mm thick. Upper part of laminate has 5 mm black graded beds. Upper part of unit consists of beds of graded sandstones and siltstones with minor intraformational conglomerate made up of the laminite. *Semionotus* abundantly preserved as articulated compressions in laminite and in three dimensions in the sandstones. Carbonized plant compressions common.
r	.2	Black indistinctly-bedded siltstone. Gradational with unit s.
s	4.9	Olive massive slurried and convoluted bedded coarse poorly sorted siltstones grading upwards into poorly bedded gray-blue siltstones with numerous clasts of unit t throughout. Some recumbent folds over a meter between limbs.
t	.5	Black laminite very similar to laminite of unit q but without *Semionotus*.
u	.6	Light gray or buff clayey siltstone grading into units t and v. Black laminae common upward.
v	3.0	Gray fining-upwards cycle composed of basal coarse. cross-bedded siltstone grading up into fine siltstone. Carbonized fragments of plants present.
w	1.0	Gray small-scale cross-bedded siltstone, grades downward into unit x.
Cycle C		
X	4.3	Red small-scale cross-bedded siltstone.

Table 6

Type section of the Boonton Formation

Top of section exposed just east of the dam for the Jersey City Reservoir in Boonton, New Jersey. Section measured from top down (see Figure 20).

Thickness (m)	Description
+1	Gray coarse to fine siltstone and sandstone (now covered)
+1	Gray laminite composed of laminae of gray siltstone alternating with laminae of carbonate forming couplets of a mean of 2.5 mm. Unit also contains coarse to fine graded siltstones 1 mm to 2.5 cm thick. Fossil fish of 4 genera (see Figure 15) present along with numerous carbonized plant compressions and conchostracans. This is the famous Boonton Fish Bed (unit now covered).
.5	Gray clayey siltstone with common carbonized plant compressions (mostly conifers). Unit palyniferous (Cornet, 1977).
1.2	Gray fining-upwards cycle made up of coarse to fine cross-bedded sandstone grading up into small-scale cross-bedded siltstone. Reptile footprints common.
15.7	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding common. Dolomitic concretions and reptile footprints present.
3.4	Gray coarse siltstone grading up into fine gray siltstone. Carbonized plant compressions present. Unit palyniferous.
+5	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding common. Dolomitic concretions present.
ca.20	covered

Thickness (m)	Description
+5	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding common (mostly covered).
1.1	Gray fine sandstone to fine conglomerate. Cross-bedded (tongue of Morristown facies).
2.6	Gray clayey siltstone with carbonized plant fragments.
1.4	Gray fine sandstone to conglomerate, cross-bedded with fine siltstone interbeds and carbonized plant fragments (tongue of Morristown facies).
1.6	Gray clayey siltstone with groove casts. Carbonized plant remains present.
+1.5	Gray sandstone and conglomerate, cross-bedded (tongue of Morristown facies).
ca.30	covered
+17.0	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding common. Dolomitic concretions and reptile footprints present.
.9	Red and gray fine siltstone.
.9	Gray fine siltstone.
1.4	Gray fine sandstone and coarse siltstone: small-scale cross-bedding and carbonized plant fragments present.
+.9	Gray fine siltstone with carbonized plant fragments.
ca.20	covered
+7.9	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding common. Dolomitic concretions and reptile footprints present.
1.5	Gray fine siltstone with carbonized plant fragments.
3.1	Red siltstone with dolomitic concretions and small-scale cross-bedding.
ca.1	Gray fine siltstone (poorly exposed).
13.8	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding common. Dolomitic concretions present.
ca.1	Gray fine siltstone (poorly exposed).
1.5	Red siltstone with small-scale cross-bedding.
.8	Gray coarsening upwards siltstone.
6.1	Red sandstone and siltstone in indistinct fining-upwards cycles. Small-scale cross-bedding and dolomitic concretions common.

REFERENCE NO. 33

STATE OF NEW JERSEY
DEPARTMENT OF CONSERVATION
AND ECONOMIC DEVELOPMENT

DIVISION OF WATER POLICY
AND SUPPLY

SPECIAL REPORT NO. 28

GROUND-WATER RESOURCES OF ESSEX COUNTY, NEW JERSEY

Prepared in cooperation with
United States Department of the Interior
Geological Survey

1968

ILLUSTRATIONS

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LETTER OF TRANSMITTAL

HONORABLE ROBERT A. ROE, *Commissioner*
Department of Conservation and
Economic Development
John Fitch Plaza
Trenton, New Jersey

Dear Sir:

I am transmitting a report entitled "Ground Water Resources of Essex County, New Jersey," which was completed by the Ground Water Branch, Water Resources Division, U. S. Geological Survey, in cooperation with the New Jersey Division of Water Policy and Supply, as part of the state-wide program authorized by the 1958 Water Supply Law.

The report evaluates the relative importance of the aquifers of Essex County as to their present use and suitability for future development. It indicates which areas are being overpumped and those areas where further ground water exploration would be profitable.

The information in this report is of vital interest and importance to the growth of the county and provides a basis for the protection and safe development of the ground water resources essential for such growth. I, *therefore*, recommend that this report be published as a Special Report of the Division of Water Policy and Supply.

Respectfully submitted,
George R. Shanklin
Director and Chief Engineer

September 9, 1968

GROUND-WATER RESOURCES OF ESSEX COUNTY, NEW JERSEY

By William D. Nichols

ABSTRACT

Ground water in Essex County occurs in joints and fractures in consolidated rocks and in the voids of unconsolidated statified drift deposits. Wells in sandstone and shale of the Brunswick Formation of Triassic age yield from 35 to 820 gpm; the most productive water-bearing zones are commonly between depths of 300 to 400 feet. Drawdown due to pumping is greatest in the direction of strike of the formation (about N 30° E in Essex County) and least in the direction perpendicular to strike. Wells in the Watchung basalt, which is intercalated with rocks of the Brunswick Formation commonly yield small to moderate supplies but may occasionally yield up to 400 gpm. Large yields, ranging from 410 to 1,593 gpm, are common from wells tapping the stratified drift deposits in the western part of the county.

Quality of ground water is acceptable for most uses throughout the county. However, heavy pumpage in the Newark area has lowered water levels to more than 100 feet below sea level. The low water levels have reversed the natural gradient and induced the flow of salt water into the bedrock aquifer, seriously impairing ground-water quality there. Recent analyses of ground-water samples from Newark indicate that the chloride concentration in the aquifer has increased since the preliminary study of the problem by Herpers and Barksdale in 1951.

Highly productive stratified drift deposits are found primarily in that part of the county west of Second Watchung Mountain. They occur as valley-fill material in stream valleys cut into the underlying bedrock before the last glaciation. These deposits in Essex County are part of an extensive valley-fill aquifer system underlying the eastern Morris-western Essex County area. Water levels in these deposits in western Millburn Township have declined 36 feet since 1950, probably as a result of below normal rainfall for most of the period 1953 to 1966 together with constantly increasing pumpage throughout the area.

Withdrawals of ground water from all aquifers in Essex County for public supply averaged about 26 mgd (million gallons per day) in 1966. Pumpage for public supply from aquifers in unconsolidated sediments averaged 20.9 mgd, about 81 percent of the total from all aquifers.

Most of the productive aquifers in Essex County are currently being developed. Although the optimum potential of the stratified drift aquifers

in western Essex County and the Brunswick Formation in the northeastern part of the county probably has not been realized, development of these resources must be undertaken with care if anticipated increase in water needs of the county are to be met.

INTRODUCTION

PURPOSE AND SCOPE

This study was made as part of a statewide program of investigation of the ground-water resources of New Jersey, authorized by the New Jersey Water Supply Act of 1958 and its companion, Water Bond Act. The purpose and scope of these studies are to assemble the available data on geologic and hydrologic factors relating to the occurrence, movement, availability, and chemical quality of ground water in New Jersey; to evaluate and interpret the data; and to make the results of the investigation available to the public. This report represents the results of the ground-water investigation of Essex County made by the U. S. Geological Survey in cooperation with the New Jersey State Department of Conservation and Economic Development, Division of Water Policy and Supply. The work was under the general supervision of Allen Sinnott, formerly District Geologist.

LOCATION AND EXTENT OF AREA

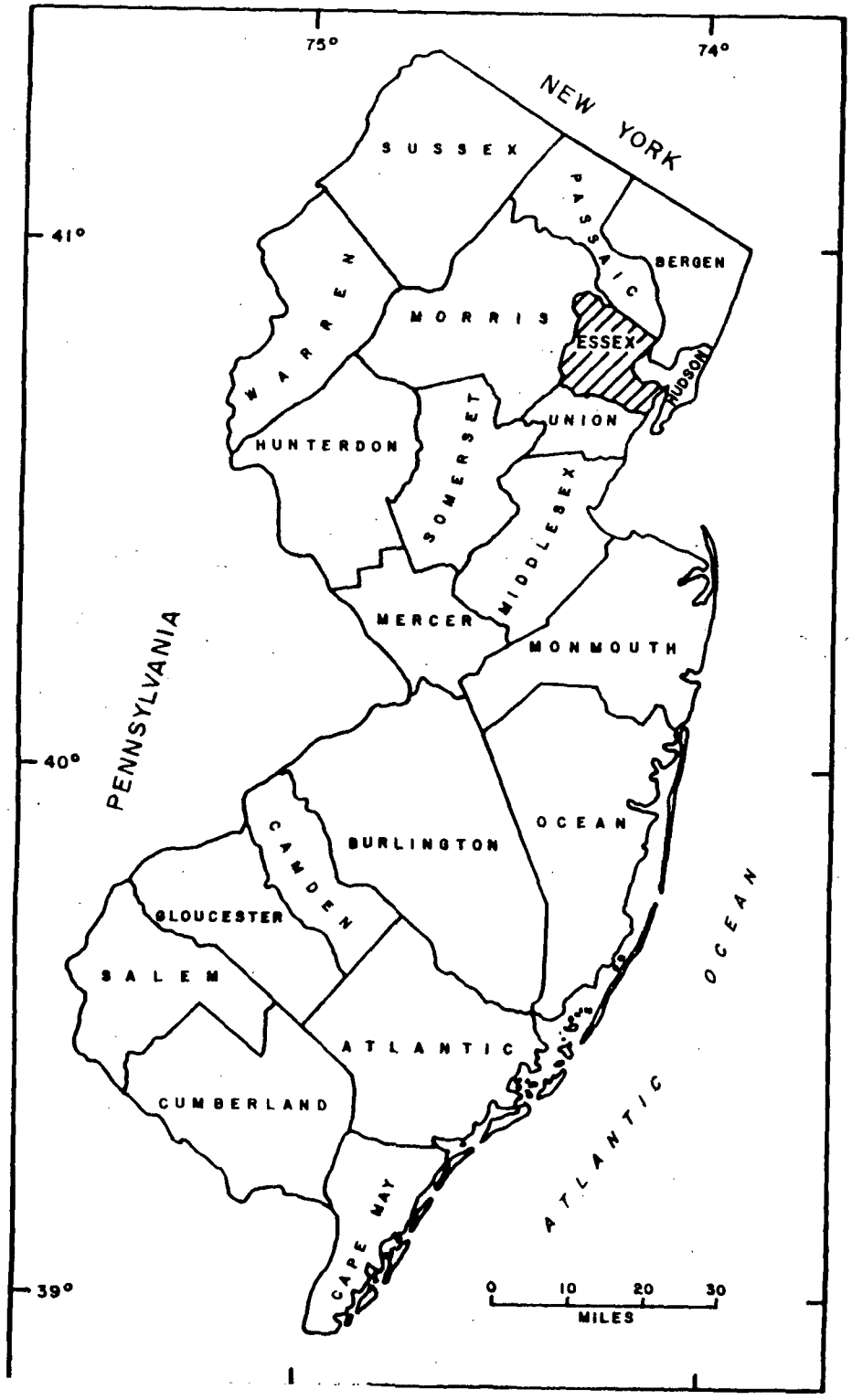
Essex County is located in northeastern New Jersey between longitudes 74°05′W and 74°25′W, and latitudes 40°40′N and 40°55′N. It is bounded on the north by Passaic County; on the east by Bergen County, Hudson County, and Newark Bay; on the south by Union County and on the west by Morris County (fig. 1). The county is 127.44 square miles in area. Newark is the county seat. Other major communities include Orange, East Orange, South Orange, West Orange, Irvington, Belleville, Nutley, Montclair, and Bloomfield.

PREVIOUS INVESTIGATIONS

The geology of Essex County is described in detail by Darton and others (1908) in the Passaic folio. Salisbury (1894) discussed the surficial geology of the county as part of a regional investigation. Rogers and others (1951) described the engineering characteristics of the soils and glacial deposits in the county. Ground-water conditions in the extreme southwestern part of the county were described by Thompson (1932). Herpers and Barksdale (1951) discussed ground-water conditions in the Newark area.

ACKNOWLEDGMENTS

The author wishes to thank the numerous well drillers, State, municipal, and industrial officials and private individuals who supplied data on which this report is based. Acknowledgment is made for the records and logs of wells that were furnished from the files of the New Jersey Bureau of Geology and Topography. The cooperation of those who permitted use of their wells for water-level observation, collection of water samples, and pumping tests is gratefully acknowledged. Most of the well inventory for this report was made by the late O. J. Coskery of the U. S. Geological Survey.



GEOGRAPHY

TOPOGRAPHY

Essex County is situated entirely on the Triassic lowlands of the Piedmont Province, one of six physiographic provinces included in the Appalachian Highland physiographic division. The province consists primarily of lowland and gently rolling hills above which rise the ridges of the Watchung Mountains. Altitudes in Essex County range from sea level in the southeastern part of the county to 650 feet along the ridges of the Watchung Mountains. The escarpment of the First Watchung Mountain, trending from northeast to southwest across the middle part of the county, rises 400 feet above the gently rolling plain to the east; the breadth of the First and Second Watchung Mountains varies from 1 to 2 miles. The major streams draining Essex county are the Passaic, Rahway, and Elizabeth Rivers.

CLIMATE

The climate of Essex County, like that of much of New Jersey, is mainly continental because of the predominance of winds from the continental interior. The prevailing wind is from the northwest from October to April and from the southwest for the remaining months. As a consequence, winter weather is controlled by cold continental air masses and summer by tropical air masses. Precipitation in the county averages more than 48 inches annually, and is commonly well distributed throughout the year. Part of the precipitation is received from storms which cross the Great Lakes region and pass down the St. Lawrence Valley. However, the heaviest general rains are produced by coastal storms of tropical origin. The centers of these storms usually pass some distance offshore, with rainfall heaviest and winds strongest near their center (U. S. Department of Agriculture, page 1010, 1941). The average January temperature for the eastern part of the county is 39°F and that of the western part of the county about 28°F. Average temperatures in July range from about 74°F in the eastern part of the county to about 72°F in the western part of the county.

POPULATION AND ECONOMY

Compared with the other counties in New Jersey, Essex County ranks only nineteenth in area, but ranks first in population as of the 1960 census. The population increased from 905,949 in 1950 to 923,545 in 1960—an increase of 1.9 percent; less than in any preceding 10 year period since 1900, except for 1930-40.

Population of Essex County 1900-60

1900	359,053
1910	512,886
1920	652,089
1930	833,513
1940	837,340
1950	905,949
1960	923,545

Nearly 90 percent of the county's population is located in the 71.5 square miles (55.6 percent of total area) east of the Watchung Mountains.

The economy of Essex County is primarily industrial. The principal manufactured products include food products, electrical goods and machinery, chemicals, machinery (excluding electrical machinery), fabricated metal products, and apparel. In 1960, only about 5 percent of the total land area of the county was utilized as farmland.

GEOLOGY

INTRODUCTION

The Brunswick Formation and Watchung Basalt of the Newark Group of Late Triassic age underlie all of Essex County. The Brunswick Formation is dominantly shale and sandstone, but also includes minor amounts of conglomerate. The Watchung Basalt consists of three extensive sequences of lava flows intercalated with the shale and sandstone of the Brunswick Formation. The generalized bedrock geologic map (fig. 2) shows the areal extent of the rocks of Triassic age underlying Essex County. Overlying the rocks of the Newark Group are unconsolidated clay, sand, and gravel deposited during the Pleistocene and Recent Epochs. Pleistocene deposits are the most widespread and are found throughout the county. Deposits of Recent age are confined to the present-day stream valleys. Figure 3 shows the general distribution of the unconsolidated Pleistocene deposits.

Parts of Fairfield and Millburn Townships and Newark are underlain by valleys cut (fig. 3) in bedrock by streams that drained the area before the last glaciation. The valley were subsequently filled in and buried by glacial debris and have little present-day surface expression.

DISTRIBUTION AND LITHOLOGY OF ROCK UNITS

Consolidated Rocks

Rocks of the Brunswick Formation, the uppermost unit of the Newark Group, underlie most of Essex County. The formation consists dominantly of interbedded brown, reddish-brown, and gray shale, sandy shale, sandstone, and some conglomerate. Three sheets of gray to black basalt are intercalated with sandstone and shale beds of the Brunswick Formation. The total thickness of the Brunswick Formation is not known, but probably exceeds 6,000 feet (Kümmel 1940, p. 102).

In the southern part of the county east of the Watchung Mountains, the Brunswick Formation is predominantly a soft red shale. These rocks become coarser grained toward the north. In the northern part of the county the rocks are mostly sandstone and some interbedded shale; conglomerate is found in the extreme northern part of the county. This change from soft, easily weathered, shale to more resistant sandstone is reflected in the change of topography from the rather flat low-lying plain with few hills in southern Newark to hills of low relief in the northern part of the county.

Between First and Second Watchung Mountains, the Brunswick Formation is dominantly sandstone. West of Second Watchung Mountain, the formation is covered with thick deposits of unconsolidated sediments

of glacial origin and few outcrops can be found. As indicated from records of wells drilled in this area, the rocks are mainly shale and some interbedded sandstone.

Two prominent ridges, First and Second Watchung Mountains, extend from northeast to southwest across the county (fig. 2). These are the two lowest sequences of basalt flows of the Watchung Basalt. The third, uppermost, sequence of flows is represented by Ricker Hill in Livingston Township. These basalt sheets were formed by lava which was extruded at three different times during the accumulation of the sedimentary rocks of the formation. Each of these sheets is made up of several lava flows. Scoriaceous zones occur at the top of many of the individual flows. In some places, thin beds of shale occur between successive flows. The lower part of the Watchung Basalt, which comprises First Watchung Mountain, is from 600 to 650 feet thick; the Watchung Basalt in Second Watchung Mountain varies from 750 to 900 feet in thickness; the uppermost Watchung Basalt ranges from 225 to 350 feet in thickness (Darton and others, 1908, p. 10).

First and Second Watchung Mountains are parallel, and in places have double-crested ridges reflecting the presence of interbedded sedimentary rocks; the ridges generally rise between 300 and 400 feet above the adjacent country. The trend of the ridges reflect the general strike of the sedimentary rocks of the Brunswick Formation. The beds dip about 10 degrees toward the northwest.

Pleistocene and Recent Deposits

Unconsolidated sediments deposited by glaciers or by glacial meltwater during the Pleistocene Epoch cover most areas of Essex County. These deposits can be divided roughly into several types. Unstratified drift called till or ground moraine is a heterogeneous mixture of clay, silt, sand, gravel, cobbles, and boulders which was deposited by the ice. Unstratified drift that has accumulated in a ridgelike deposit along the margin of a glacier is called an end moraine. Stratified drift is deposited by glacial meltwater in streams (glaciofluvial deposits) and lakes (glaciolacustrine deposits). Glaciofluvial deposits are generally stratified sand, and sand and gravel, and glaciolacustrine deposits are usually bedded or laminated silt and clay. Figure 3 is a map showing the generalized distribution of the Pleistocene deposits in Essex County.

Streams and rivers draining the Essex County area before the last glaciation cut deep valleys into the Triassic rocks (fig. 3). These valleys were subsequently buried by glacial debris, and the thickness of the glacial deposits is largely controlled by the underlying bedrock topography. The

altitude of the floor of the buried bedrock valley under the Newark area is as much as 280 feet below sea level (fig. 4), and the glacial drift is as much as 300 feet thick. In the southwestern corner of Essex County in Millburn Township, the altitude of the valley floor is 17 feet above sea level and the drift averages 150 feet in thickness. In the northwestern part of the county in Fairfield Township, the floor of the valley is as much as 35 feet below sea level and the drift has a maximum thickness of about 200 feet. In the areas between the valleys, where the bedrock surface is high, the drift ranges from 0 to 70 feet thick.

East of the Watchung Mountains and west of the buried valley under the Newark area, the glacial deposits consist dominantly of till. The valley under the Newark area, however, is filled largely with stratified drift and interbedded lenses of till. In the central and southern part of Newark the main valley (fig. 4) is filled with as much as 200 feet of lacustrine clay and sandy clay, which is overlain by 50 to 100 feet of other stratified or unstratified glacial drift. In the northern part of Newark, where the valley (fig. 4) parallels the Passaic River, the valley contains several deposits of sand and gravel interbedded with clay and till. The sand and gravel ranges from 1 to 19 feet in thickness and is encountered mostly at depths of less than 50 feet and depths of more than 220 feet below land surface.

The present-day valley between First and Second Watchung Mountains is underlain by approximately 100 feet of stratified drift in both Cedar Grove in the north and Millburn Township in the south. These deposits consist mostly of stratified sand and gravel. Their maximum thickness appears to occur under that part of the valley west of the Rahway and Peckman Rivers; east of the rivers, the bedrock surface is shallow (30 to 50 feet below the valley floor), and the unconsolidated deposits are thin. There are not enough data to define the thickness and character of the subsurface glacial deposits in the valley in Verona and most of West Orange.

West of Second Watchung Mountain, the stratigraphy of the glacial deposits is moderately complex, especially in the buried valleys. The drift in the main buried valley in Livingston and Millburn Townships (fig. 3) has a maximum thickness of about 170 feet and consists of interbedded sand, sand and gravel, clay and till. Thicknesses of sand and gravel outwash range from 20 to 80 feet. Farther north, in north-western Fairfield, the main buried valley (fig. 3) is filled with as much as 200 feet of drift consisting almost exclusively of 140 to 170 feet of laminated silt and clay underlain by 10 to 30 feet of till. Deposits of fine- to medium-grained sand ranging in thickness from 0 to 20 feet occur on the surface.

The tributary buried valleys in Fairfield Township (fig. 3) contain from 30 to 50 feet of silty sand, sand, and gravel overlain by clay and till near the confluence with the main buried valley. Where the bedrock surface is high, between buried valleys, the glacial deposits consist dominantly of till. However, some stratified sand and gravel are found in the subsurface in eastern Roseland and Essex Fells which do not occur as valley-fill deposits.

Unconsolidated sediments of Recent age are confined to areas adjacent to present-day streams. These deposits consist of clay, silt, and fine sand with gravel. (Rogers and others, 1957, p. 7).

GROUND-WATER HYDROLOGY

INTRODUCTION

Ground water is derived from that part of precipitation that does not run off the surface of the land to streams or return to the atmosphere through evaporation and transpiration. Factors which determine the amount of water that infiltrates to the ground-water reservoir include (1) the porosity and permeability of the surficial material, (2) the slope of the land, (3) the amount and kind of natural and artificial cover, and (4) the intensity and amount of precipitation.

The permeability of a rock, or its ability to transmit water, depends on its porosity, that is, on the number and size of the interstices and on the extent to which the interstices are interconnected. The porosity of a rock, in turn, depends largely on: "the shape and arrangement of its constituent particles, the degree of assortment of its particles, the cementation and compacting to which it has been subjected since its deposition, the removal of mineral matter through solution by percolating waters, and the fracturing of the rock, resulting in joints and other openings" (Meinzer, 1923, p. 3). Porosity is expressed quantitatively as the ratio between the volume of void to the total volume of the rock, that is, as the percentage of the total volume of rock occupied by interstices.

On the basis of the type of openings in which ground water may occur, the geologic formations in Essex County may be divided into two groups: (1) consolidated rocks of Triassic age, and (2) unconsolidated sediments of Pleistocene age.

The primary pore spaces in consolidated rocks of the Brunswick Formation in Essex County are commonly so small that an insignificant quantity of water, if any, moves through them under the natural hydraulic gradients or those established by pumping. However, a joint and fracture system that has developed in the consolidated rocks provides secondary porosity and it is largely in and through these openings that the storage and movement of ground water takes place. In addition, vesicles and scoriaceous zones in the basalt add to the porosity in these rocks. Limited interconnected void space occurs in sandstone beds where cementing material is lacking. The volume of all of these openings constitute only a very small percentage of the total volume of the Brunswick Formation and, consequently, their capacity to store and transmit water is limited.

In unconsolidated sediments, water occurs in the pore spaces between the constituent grains. The capacity of unconsolidated sand and gravel deposits to store and transmit water is commonly much greater than that of the consolidated rocks. The reason for this is that the ratio of the

volume of void to the total volume of unconsolidated sediment is considerably greater than the ratio of the volume of fracture openings to the total volume of rock. The interstitial openings in clays and silts are so small, however, that they restrict the movement of water, even though the percentage of void space may be great.

WATER-BEARING PROPERTIES OF MAJOR GEOLOGIC UNITS

Consolidated Rocks

Rocks of the Brunswick Formation are the main source of ground water in Essex County. The shales and sandstones are generally capable of sustaining moderate to large yields to wells. The Watchung basalt commonly is capable of yielding only small to moderate quantities of water.

Water in these rocks occurs under both unconfined and confined conditions. Unconfined ground water occurs mainly in the upland areas where overlying unconsolidated deposits are thin or absent. Confined and semiconfined ground water conditions exist in lowland areas in Newark, parts of Fairfield, and along the Passaic River where clay beds in the unconsolidated Quaternary deposits mantle the underlying rocks. Wherever such confinement occurs, water beneath the relatively impermeable confining layers is commonly under artesian pressure. In many areas, such as parts of Fairfield and in the northern part of the county, water in wells tapping the confined aquifers will rise above the top of the aquifer and sometimes near or above land surface. In areas subjected to heavy pumping, such as the Newark area and western Millburn Township, the artesian pressure may be considerably reduced. Parts of the confined aquifer may even become dewatered as has happened in part of Newark, in which case the water remaining in the aquifer is no longer confined.

Confined ground water is also encountered in the shales and sandstone directly beneath the basalt flows in the western part of the county downdip from the outcrop area. Confined or semiconfined ground-water conditions may occur in some areas because of differences in permeability within the rock layers resulting from variations in fracturing or weathering or a combination of both.

Some of the various systems of joints and fractures in the consolidated rocks intersect so that water can move vertically as well as horizontally and zones of high secondary porosity are then interconnected. Most wells tapping these rocks draw water from more than one water-bearing zone. However, these zones in the Brunswick Formation have not yet been accurately defined. They are certainly within the first 600 feet below land surface, and for most practical purposes are probably within the first 400 feet. The best producing wells in the Brunswick Formation in

Essex County are for the most part between 300 and 400 feet deep. Nevertheless, the lack of any precise known boundaries makes it difficult to determine the optimum depth to which a well should be drilled in any given location. Also it is impossible to predict the yield of a proposed well except in very general terms based on the average yield of other wells in the area.

Two pumping tests, both at the same locality, were conducted by the U. S. Geological Survey in January 1949 on wells tapping the Brunswick Formation in Essex County. The wells (owned by P. Ballantine and Sons, Newark), shown on figure 5, were selected to provide the best possible spread of observation wells in as many directions as possible. As the results of the tests have been reported by Herpers and Barksdale (1951, p. 28-31) they will be only summarized here.

In the first test, the centrally located well I-1 was pumped and water levels were observed in the seven surrounding wells indicated on figure 5. Well II-9 was pumped during the second test and the same wells were used to observe water levels. In both tests, observation wells lying along the strike of the Brunswick Formation with respect to the pumping well showed the greatest drawdown. When well I-1 was pumped, there was a prompt and distinct decline of the water level in observation well II-8. When well II-9 was pumped, the water level in observation well II-10 responded promptly and distinctly. No significant response was seen in observation wells aligned in directions other than along the strike during either test.

In these tests, as well as in several others conducted, it is invariably noted that aquifers in the sedimentary rocks of Triassic age of northern New Jersey are anisotropic, that is, they do not transmit water equally in all directions (Vecchioli, 1967). The greatest drawdowns are observed in those wells aligned along the strike of the sedimentary layers with respect to the pumping well. The least amount of drawdown is observed in observation wells that are located transverse to the strike. These observations have been interpreted to indicate that water moves more readily along joints and fractures which strike parallel to the strike of the bedding than along joints and fractures which strike in other directions. It is useful, when planning future well locations, to know the direction in which wells will interfere most with each other and with existing wells. In general, wells should be spaced far apart along the direction of strike (approximately N 30° E for most of Essex County) because it is in this direction that the greatest interference occurs. They may be placed closer together perpendicular to the strike since interference is less in that direction.

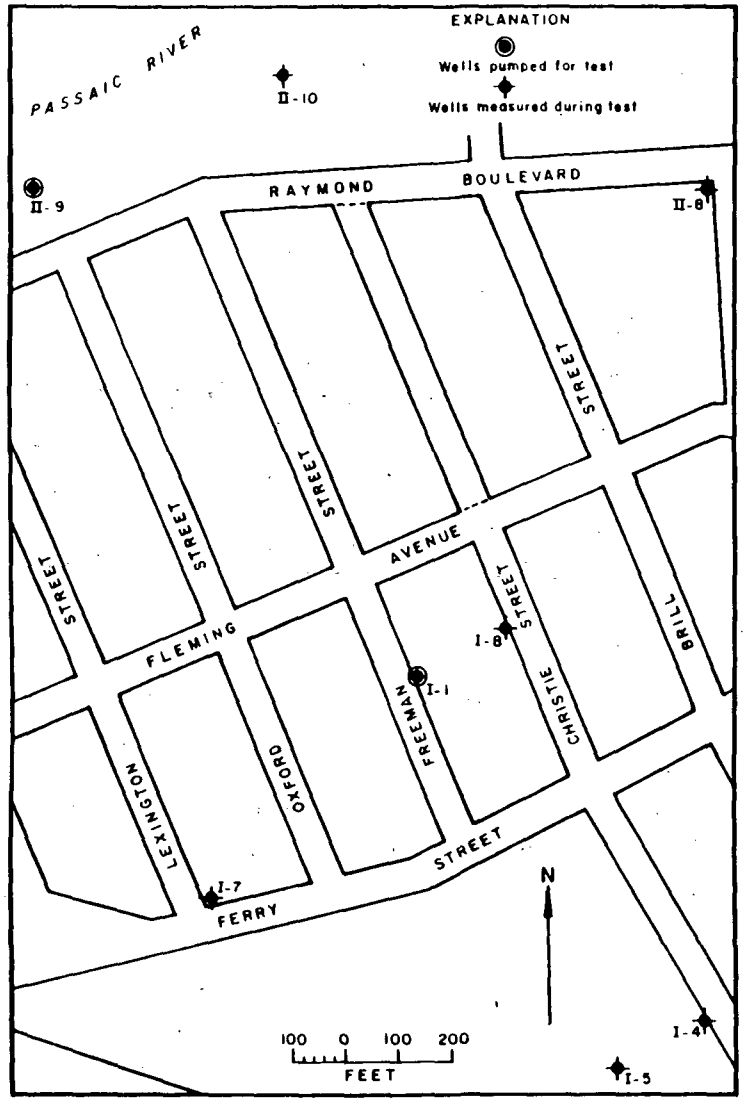


Figure 5.—Location of wells at plants of P. Ballantine and Sons, Newark, N. J., used during pumping tests in January 1949 (after Herpers and Barksdale, 1951, fig. 3, p. 30).

Well Yield and Specific Capacity

Yields of 35 large diameter public-supply, industrial, and commercial wells tapping the Brunswick Formation range from 35 to 820 gpm (gallons per minute) (Table 2) and average 364 gpm. The distribution of the yields is as follows:

Yields	*No. of wells*
0-150	4
151-300	12
301-500	12
>500	7

Depths of the same wells in the Brunswick Formation range from 115 to 856 feet; the average depth is 381 feet. Specific capacities of the 35 wells range from 0.21 to 70.00 gpm per foot of drawdown and average 11.07 gpm per foot of drawdown.

Wells tapping the Watchung Basalt commonly produce small to moderate quantities of water. Yields of 26 wells range from 7 to 400 gpm (Table 2) and average 116 gpm. The distribution of the yields is as follows:

Yields	*No. of wells*
0-100	15
100-199	5
200-300	5
>300	1

Specific capacities of wells in the basalt range from 0.05 to 5.66 gpm per foot of drawdown and average 1.74 gpm per foot of drawdown. Several moderate to high yielding public supply and industrial wells have been developed in the Essex Fells-West Caldwell-Fairfield area. These higher yields may be the result of increased fracturing of the basalt which has been slightly folded in this area.

Figures 6, 7, and 8 are specific capacity cumulative frequency distribution graphs for wells in the Brunswick Formation in Essex County. In figure 6, specific capacities are grouped on the basis of well depth. Wells drilled between 300 and 399 feet deep appear to have consistently higher specific capacities than wells of other depths (fig. 6). This relationship suggests that the best water-bearing zones in the Brunswick Formation will be

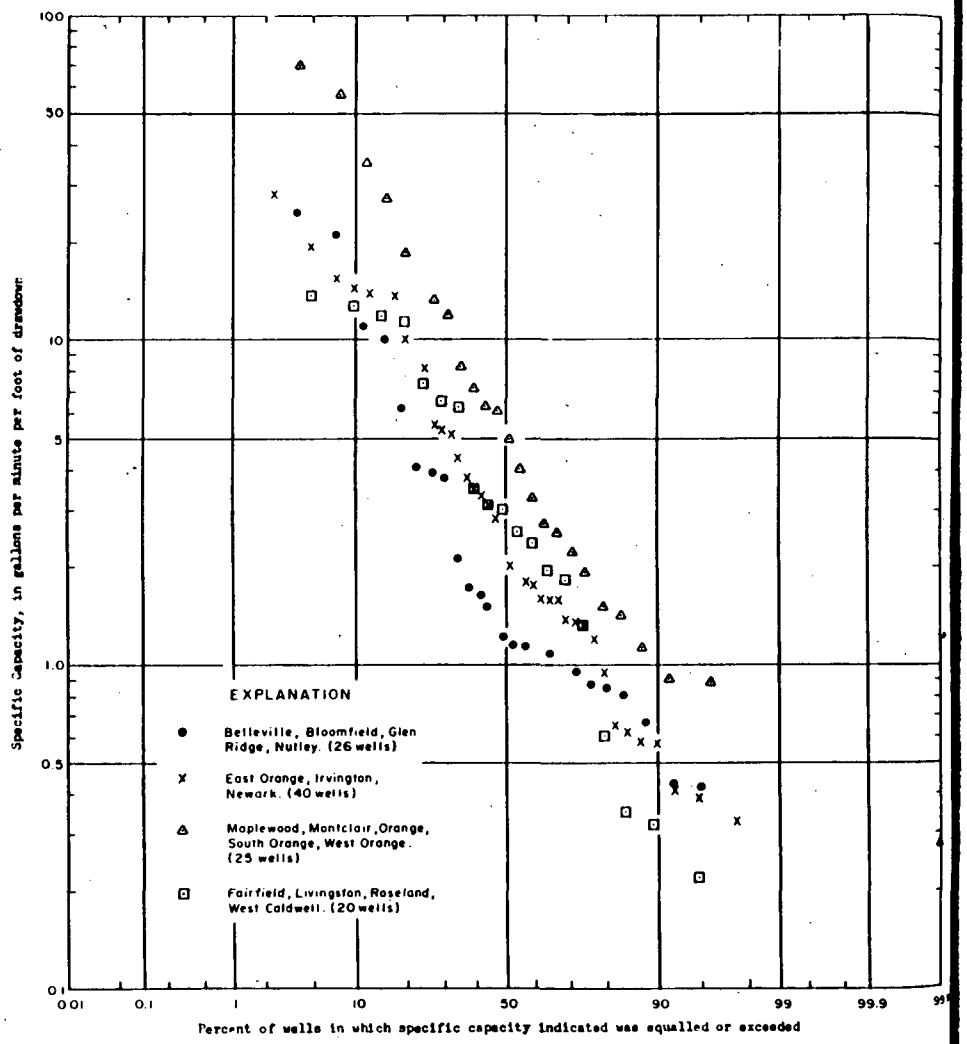


Figure 7.—Cumulative frequency distribution of specific capacities of wells penetrating the Brunswick Formation grouped according to geographic area.

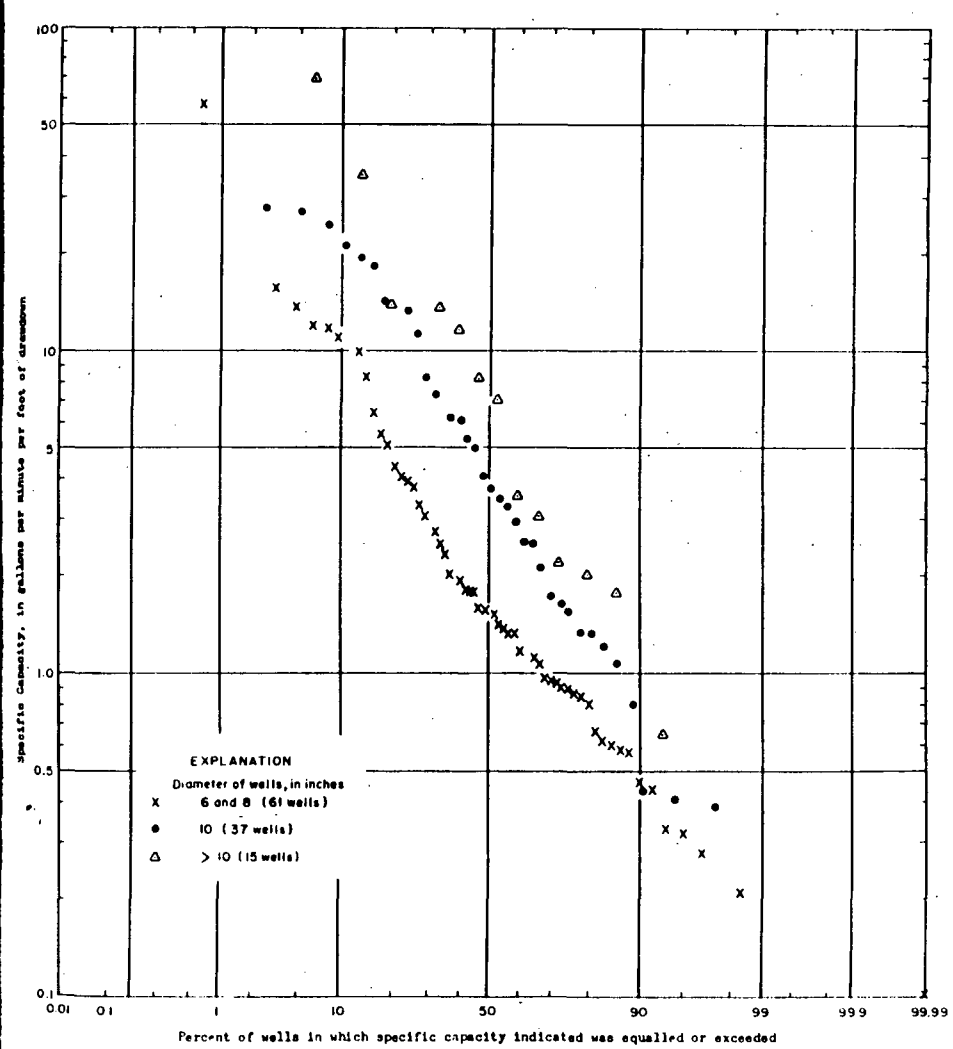


Figure 8.—Cumulative frequency distribution of specific capacities of wells penetrating the Brunswick Formation grouped according to well diameter.

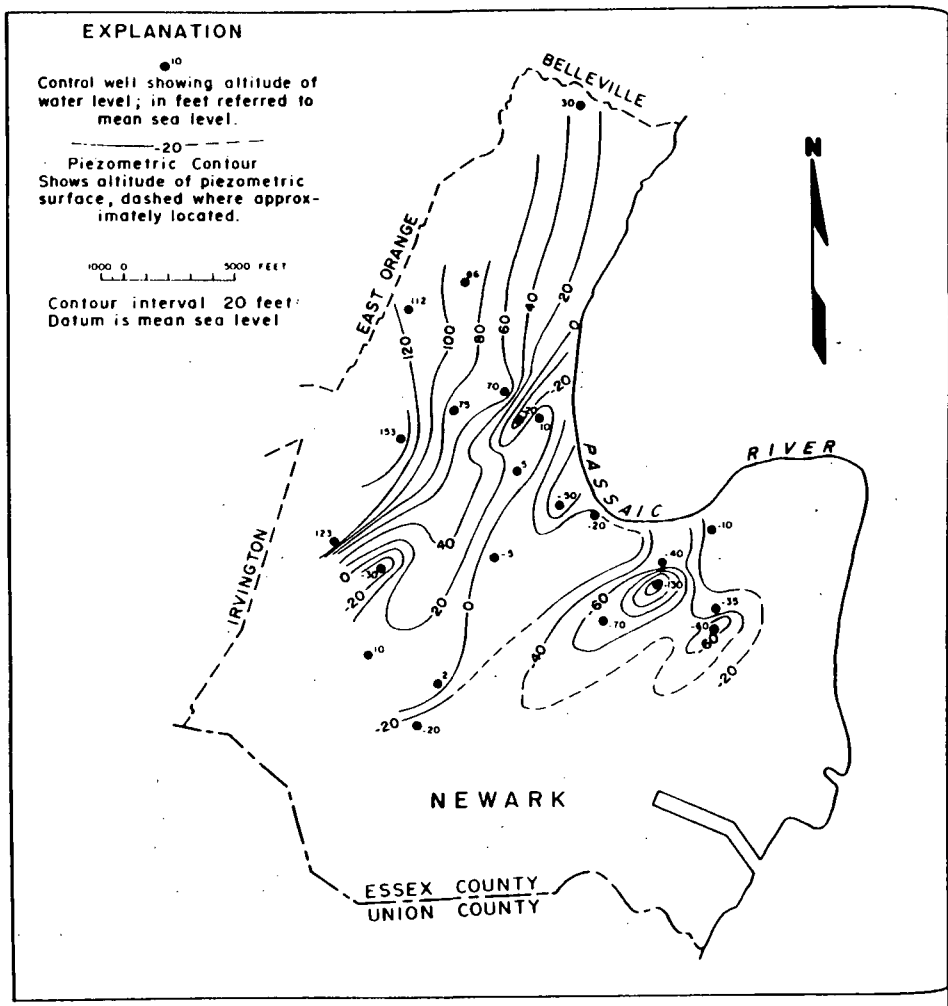


Figure 9.—Generalized piezometric contours for the Brunswick Formation in the Newark area based on water levels in wells drilled between 1890 and 1900.

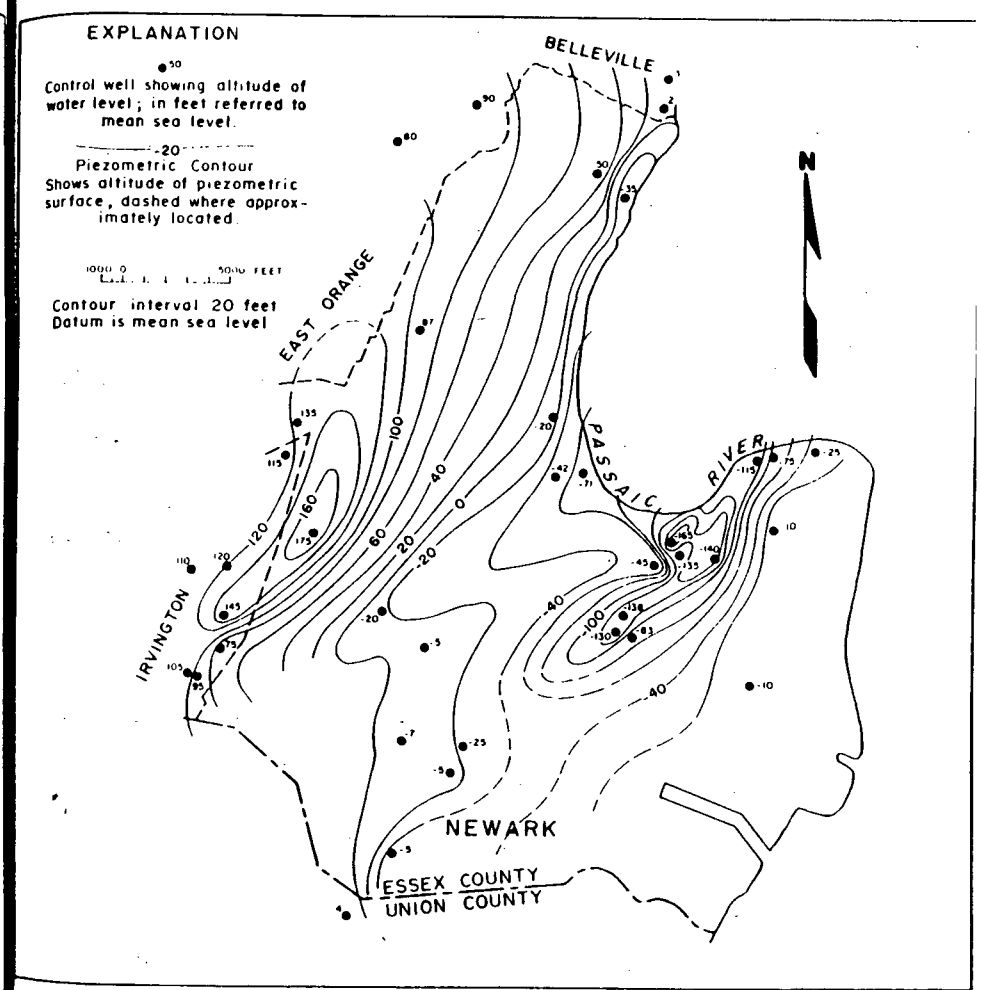


Figure 10.—Generalized piezometric contours for the Brunswick Formation in the Newark area based on water levels in wells drilled between 1950 and 1960.

Salt-water contamination of the Brunswick Formation in the Newark area has been investigated by Herpers and Barksdale (1951). Their study was based on analyses of water samples collected in 1942 by the city of Newark. More recent analyses suggest there has been additional encroachment of saline water since 1942 throughout the problem area. In 1942, water from the Wilbur Driver Company's well No. 2 along the Passaic River in northern Newark contained 72 ppm chloride. In 1961, water from this same well contained 330 ppm chloride. Water from a well drilled by Mutual Benefit Life Insurance Company, 520 Broad Street, in 1965 contained 1,145 ppm chloride. Samples collected from other wells in this area contained less than 500 ppm chloride in 1942.

Pleistocene Deposits

Unconsolidated sediments of Pleistocene age mantle the bedrock throughout much of Essex County (fig. 3). They consist of clay, silt, sand, gravel, and boulders and can be divided into two general categories—stratified drift and unstratified drift. Only sand and gravel aquifers in stratified drift deposits contain sufficient quantities of water to warrant discussion of their water-bearing properties.

Water in the stratified drift occurs under both unconfined (water table) and confined (artesian) conditions. Unconfined ground water occurs where sand and gravel deposits are not covered by clay, silt, or glacial till and are exposed at the surface. The distribution of these deposits is shown on figure 3. For the most part however, these sand and gravel deposits do not yield large quantities of water as they are commonly less than 20 feet thick and are not areally extensive. The unconfined aquifers are recharged directly from precipitation on the outcrop area. Confined and semiconfined ground water occurs where sand and gravel deposits have been covered by lake clay or silt, or by glacial till. These deposits are largely confined to the buried valley so they are not visible on the surface and their regional extent and distribution are therefore not readily apparent. The confined and semiconfined aquifers are recharged by leakage through overlying confining beds and by precipitation falling on outcrop areas outside Essex County. Some recharge may also be derived from the underlying and adjacent Brunswick Formation.

The most productive artesian and semi-artesian aquifers in the stratified drift in Essex County occur as valley fill in stream valleys that were cut in the bedrock before the last glaciation. Consequently the size, shape, and distribution of the aquifers conform to the size, shape, and distribution of the bedrock valleys. The bedrock valley underlying the Newark area (shown on fig. 4) is filled with till and clay, and contains only minor amounts of water-bearing sand. Extensive subsurface exploration in western

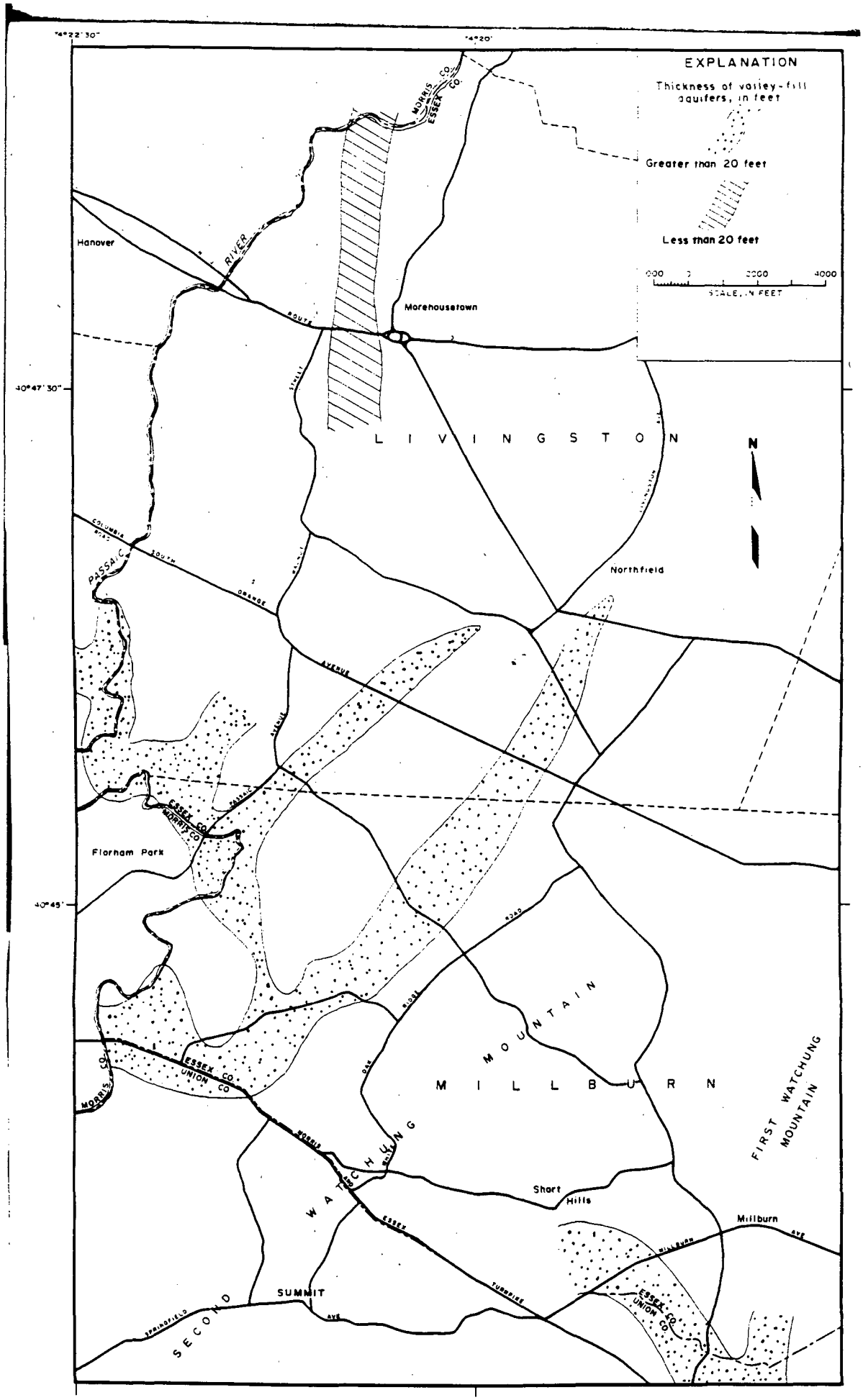


Figure 11.—Distribution of valley-fill aquifers in Millburn and Livingston Townships, Essex County, N. J.

Essex and eastern Morris Counties has demonstrated that the valley-fill aquifers in Essex County are part of an extensive valley-fill aquifer system underlying much of these two counties (Vecchioli and others, 1968). Figure 11 shows the known distribution of valley-fill aquifers in western Essex County.

The most highly developed part of the valley-fill aquifer system is in western Millburn and southwestern Livingston. Four well fields tapping the Pleistocene sand and gravel are located in an area of less than 4 square miles. During 1965 an average of 13.6 mgd (million gallons per day) was pumped from these fields. Such continued heavy development has, naturally, lowered water levels in the aquifer. In 1925, the depth to water in the Canoe Brook well field of Commonwealth Water Company was about 30 feet below land surface. By 1965, the average depth to water in the same field had dropped to 83.5 feet below land surface.

Figure 12 shows the annual mean depth to water in the Commonwealth Water Company's Canoe Brook well field for the 20-year period 1947 to 1966. The water level has declined almost continuously since 1947. This is due in large part to increased demands placed on the adjacent Canoe Brook well fields of the Commonwealth Water Co. and East Orange Water Dept. for most of the period 1947 to 1961. Commonwealth Water Company's Passaic River well field was put into service in 1956 and although the demands on their Canoe Brook field were lessened, the combined pumpage (not shown) continued to increase. However, in spite of the fact that from 1961 to 1966 pumpage from the Commonwealth and East Orange Canoe Brook fields decreased, the water level in the Commonwealth Canoe Brook field continued to decline (fig. 12). Several factors probably have caused this continuing lowering of water level. The Passaic River well field taps the same aquifer and withdrawals there have undoubtedly had some effect on area water levels. In addition, Commonwealth's Canoe Brook well field area has had below average rainfall for 12 of the 13 years since 1953 with a consequent reduction in the amount of available recharge. The reduction in recharge together with increased demands during extended dry periods, especially from 1961 to 1966, have contributed to the steady decline of the water level in the aquifer.

Aquifer tests on the stratified drift deposits have been conducted by the U. S. Geological Survey at two localities in Essex County and at several places in Morris County. The reliability of the results of these tests are questionable for the following reasons: (1) the aquifers are not areally extensive; (2) it is impossible to control or eliminate outside interference; (3) it is seldom possible to establish pre-test water-level

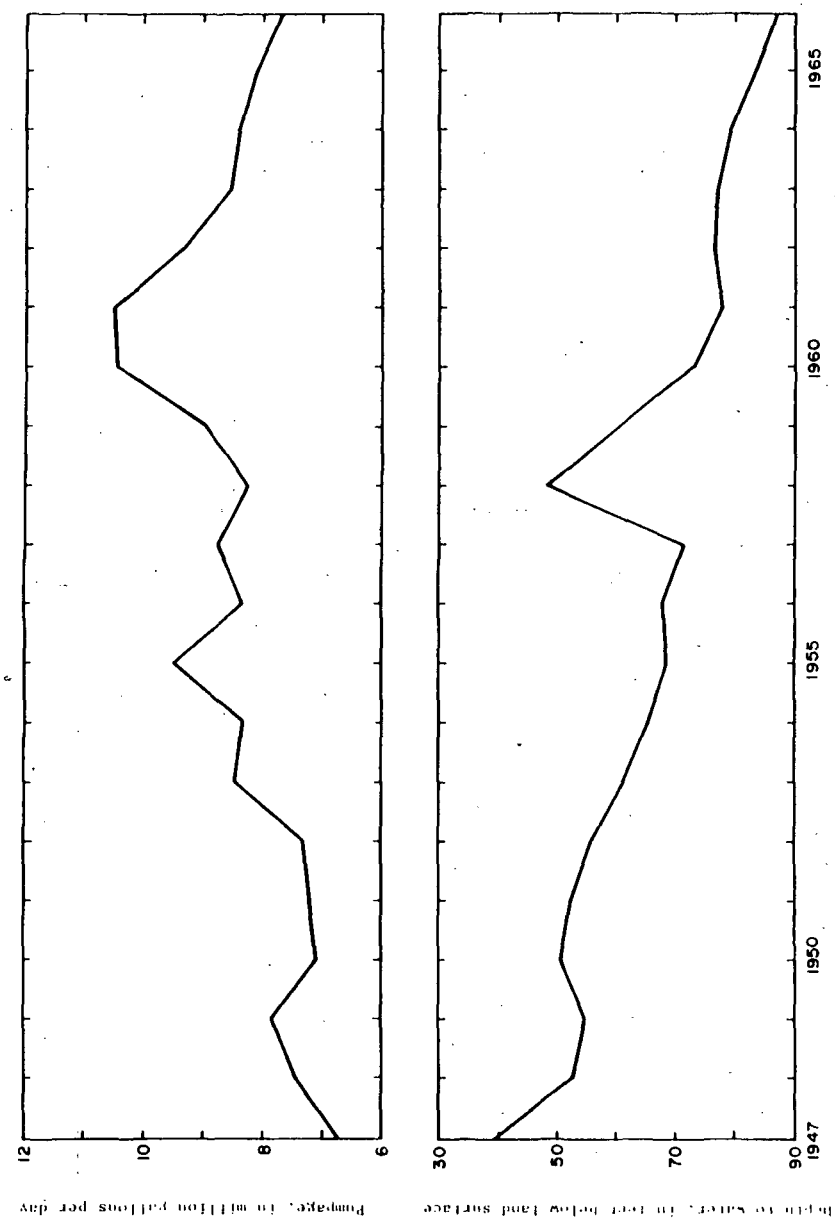


Figure 12.—Depth to water in the Commonwealth Water Company Canoe Brook well field and ground-water pumpage from the Commonwealth Water Company and East Orange Water Dept. Canoe Brook fields, 1947-66.

trends; and (4) observation wells commonly are insufficient in number or not properly located. It is therefore difficult to apply average figures for permeability, transmissivity, and the coefficient of storage to the valley fill aquifer and then use these figures to determine long-range effects of pumpage throughout the aquifer system Each area must be evaluated in context with the numerous variables by which it is affected.

Stratified drift deposits are the most productive aquifers in Essex County. Yields of 27 large-diameter wells tapping these deposits range from 410 gpm to 1,593 gpm (table 2) and average 908 gpm. The distribution of the well yields is as follows:

Yields	*No. of wells*
<500-gpm	3
501- 800 gpm	11
801-1,200 gpm	9
>1,200 gpm	4

Water from the stratified drift deposits ranges in hardness from 104 ppm to 212 ppm (table 3). Most of the samples analyzed had sulfate concentrations of 40 ppm or less, chloride concentrations of less than 11 ppm, and nitrate concentrations of 3 ppm or less. However, water from one well in Essex Fells had chloride and nitrate concentrations of 28 ppm and 6.4 ppm, respectively, and water from two wells in Millburn had sulfate concentrations of 67 ppm and 77 ppm. The higher concentrations of these constituents suggests a low-grade pollution problem, probably resulting from either sewage or the use of chemical fertilizers in the area. Manganese concentrations slightly in excess of the Public Health Service's recommended maximum limit of 0.05 ppm occur locally in the Commonwealth well field.

WATER SUPPLY

UTILIZATION OF GROUND WATER

Public and industrial use of water in 1962 in Essex County averaged about 147 mgd. Of this amount, about 43 mgd were pumped from ground-water sources. This represents about 28 percent of the total water used in the county during 1962.

An average of 25.833 mgd of ground water was withdrawn for public supply from aquifers in Essex County in 1966 (Table 1). Of this an average of about 20.9 mgd, or 81 percent, was pumped from Quaternary stratified drift deposits. Pumpage in Millburn Township, amounting to about 15 mgd, exceeded by far the public-supply pumpage of ground water from any other municipality. Figure 13 shows the pumpage for public supply from aquifers in Essex County from 1947 to 1966.

Table 1.—*Ground-water pumpage for public supply from aquifers in Essex County in 1966.*

Water Department or Company	*Average mgd*
Commonwealth Water Co.	11.754
East Orange Water Dept.	4.571
Essex Fells Water Dept.	2.582
Fairfield Water Dept.	.071
Livingston Water Dept.	2.112
Orange Water Dept.	3.026
South Orange Water Dept.	1.717
Total	25.883

FUTURE DEMAND AND DEVELOPMENT

Future demand for water supply from all sources in Essex County depends largely on population trends and trends in water-consuming industries and devices. Per capita consumption of water in Essex County in 1960 was 131 gpd (gallons per day). This is expected to rise to about 223 gpd by the year 1990 (New Jersey Division of Water Policy and Supply, 1967, unpublished data). Estimates of total future water use by the New Jersey Division of Water Policy and Supply (unpublished data, 1967) suggest that about 230 mgd of potable water will be needed in the year 1990 on the basis of the above per capita consumption. Most of this increase will probably have to come from surface sources.

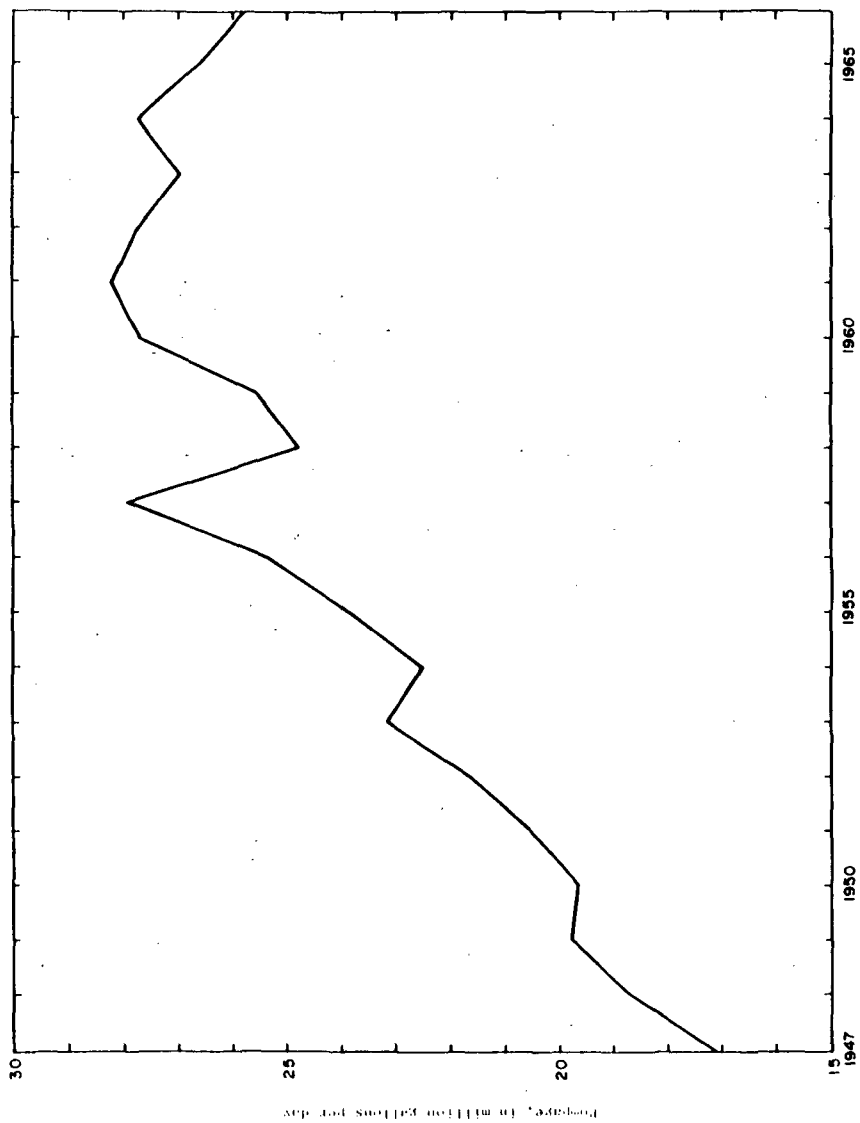


Figure 13.—Ground-water pumpage for public supply, 1947 to 1966.

The aquifers of the Brunswick Formation under part of the Newark area are currently overdeveloped and potable ground water is being mined. Water levels in this area will remain excessively low, as they have for the past 70 years, even if no additional development is attempted. Extensive development of the Brunswick Formation in western Essex County may have an adverse effect on water levels in the overlying stratified drift deposits since some of the recharge to these deposits may be derived from the underlying rocks.

The extent and distribution of aquifers in the stratified drift deposits have been fairly well determined for most of the western part of the county. These aquifers are being utilized throughout much of this part of the county and have been highly developed in parts of Millburn and Livingston Townships. Although the full potential of these deposits has probably not been realized, their optimum potential will not be known until more detailed hydrologic studies are made on the entire aquifer system.

Aquifer name:
Qsd, Stratified drift
TRb, Brunswick Formation
TRwb, Watchung Basalt

TABLE 2.—RECORDS OF SELECTED WELLS IN ESSEX COUNTY, N. J.—Continued

Remarks:
O.W., Owners well number

Well	Owner or Tenant	Driller	Date Drilled	Altitude above mean sea level (ft)	Total depth drilled below land surface (ft)	Diameter of well (inches)	Depth to which well is cased (ft)	Screen setting (ft)	Aquifer	Static level below land surface (feet)	Yield (gpm)	Drawdown (ft)	Specific capacity (gpm/ft)	Remarks
					MONTCLAIR (TOWN)									
1	Rapt & Ruden	Parkhurst Well & Pump Co.	4-29-48	360	250	10	23	none	TRb	5	145	180	.81	
2	Bond's Ice Cream, Inc.	Parkhurst Well & Pump Co.	3-10-50	510	157	8	21	none	TRb	15	150	55	2.73	
3	Town of Montclair	----------	1966	---	300	10	41	none	TRb	24	950	51	18.62	
4	Hahne & Co.	Parkhurst Well & Pump Co.	8- 9-49	280	350	8	31	none	TRb	18	350	182	1.92	O.W.2
5	M. Quadrel	Burrows Well Drilling Co.	June, 1955	260	151	6	18	none	TRb	33	75	---	----	
6	Montclair Auto Minit Man	Rinbrand Well Drilling Co.	1-10-50	---	200	6	16	none	TRb	40	60	---	----	
					NEWARK (CITY)									
1	Aluminum Finishing Co.	J. Foster	7-20-53	50	150	6	55	none	TRb	30	100	30	3.33	
2	Wilbur B. Driver Co.	Rinbrand Well Drilling Co.	7- 2-53	15	400	10	93	none	TRb	45	240	155	1.55	O.W.5
3	Pittsburgh Plate Glass Co.	Lauman & Co.	1940	12	---	12	90	none	TRb	9	390	---	----	
4	McEvoy Court Apartments	Parkhurst Well & Pump Co.	Oct. 1939	200	206	6	35	none	TRb	84	60	106	.57	
5	Columbia Theaters, Inc.	Wm. Stothoff Co., Inc.	6- 9-53	---	312	8	26	none	TRb	20	140	32	4.38	
6	Pabst Brewing Co., Inc.	Artesian Well & Equip. Co.	3-14-49	190	685	14	39	none	TRb	59	557	67	8.31	O.W.4
7	Pabst Brewing Co., Inc.	Artesian Well & Equip. Co.	7-17-50	185	687	14	55	none	TRb	108	240	120	2.00	O.W.5
8	Newark Milk & Cream Co.	Rinbrand Well Drilling Co.	Feb. 1949	25	700	10	80	none	TRb	60	75	190	.39	
9	Continental Ins. Co.	S. P. D'Alessio	July 1965	---	300	8	58	none	TRb	77	85	72	1.18	
10	Newark Center Corp.	Garden State Artesian Well & Pump Co.	2-18-55	---	700	10-6	150	none	TRb	81	89	144	.62	O.W.1
11	Kolker Chemical Works	Wm. Stothoff Co., Inc.	12-11-51	12	802	12	127	none	TRb	117	600	43	13.95	O.W.2
12	Kolker Chemical Works	Wm. Stothoff Co., Inc.	4-27-49	8	359	10	98	none	TRb	76	300	22	13.63	O.W.1
13	Eureka Construction Co.	Rinbrand Well Drilling Co.	1-23-59	10	500	8	90	none	TRb	25	75	225	.33	
14	P. Ballentine & Sons	----------	1937	12	875	16	95	none	TRb	227	375	153	1.79	O.W.8, Plant #2

Aquifer name:
Qsd, Stratified drift
TRb, Brunswick Formation
TRwb, Watchung Basalt

TABLE 2.—RECORDS OF SELECTED WELLS IN ESSEX COUNTY, N. J.—Continued

Remarks:
O.W., Owners well number

Well	Owner or Tenant	Driller	Date Drilled	Altitude above mean sea level (ft)	Total depth drilled below land surface (ft)	Diameter of well (inches)	Depth to which well is cased (ft)	Screen setting (ft)	Aquifer	Static level below land surface (feet)	Yield (gpm)	Drawdown (ft)	Specific capacity (gpm/ft)	Remarks
					NEWARK (CITY) - Continued									
15	Celanese Corp. of Amer.	P. H. & J. Colan	1924	12	805	16-10	95	none	TRb	176	400	28	14.29	O.W.26
16	Celanese Corp. of Amer.	Layne-New York Co.	5-16-47	14	856	16-10	75	none	TRb	147	778	40	19.45	O.W.27
17	J. Hensler Brewing Co.	P. Chaffitelli	12-14-49	12	700	10-8	57	none	TRb	60	450	240	1.79	O.W.4
18	Synthetic Plastics Co.	Industrial Well & Pump Co.	1-15-63	14	600	8	145	none	TRb	150	300	110	2.73	O.W.1
19	Ablon Finishes, Inc.	Frank Bott	7-12-60	15	500	8	86	none	TRb	30	360	70	5.14	
20	Colan Corporation	-------	1930	10	290	8	---	none	TRb	140	160	95	1.59	
21	Universal Grain Co.	Wm. Stothoff Co., Inc.	10-18-51	10	303	8	79	none	TRb	143	200	53	3.77	
22	Mother's Food Products, Inc.	---------	1959	11	400	8	107	none	TRb	94	125	8	15.62	
23	Kar Auto Service Co.	P. Chaffitelli	2- 8-50	208	300	6	35	none	TRb	23	60	104	.58	
24	Food Fair Stores	Burrows Well Drilling Co.	April, 1955	100	298	8	35	none	TRb	105	250	45	5.56	
25	S. & S. Super Service Corp.	Rinbrand Well Drilling Co.	2-18-50	50	190	6	94	none	TRb	45	20	---	----	
26	Rutherford & Delaney Holding Co.	Garden State Artesian Well & Pump Co.	7-31-56	---	220	8-6	42	none	TRb	22	100	73	1.37	O.W.1
27	Linde Air Products Co.	Artesian Well & Equip. Co.	July, 1954	10	500	12	44	none	TRb	17	124	190	.65	
28	C-O Two Fire Equipment Co.	Parkhurst Well & Pump Co.	4-27-50	10	603	10	127	none	TRb	35	89	215	.41	
29	Suburban Motor Lodge, Inc.	Rinbrand Well Drilling Co.	June, 1950	10	555	8	126	none	TRb	15	20	235	.08	
30	S. B. Penick & Co.	Wm. Stothoff Co., Inc.	6- 7-61	---	400	10	75	none	TRb	60	644	23	28.00	O.W.2
					NORTH CALDWELL BOROUGH									
1	Green Brook Country Club	H. A. Kieffer	July, 1951	310	300	8	33	none	TRwb	2	25	81	.31	O.W.3
2	Green Brook Country Club	H. A. Kieffer	March, 1925	290	301	8	---	none	TRb & TRwb	flowing 25 gpm	60	---	----	O.W.1. Redrilled 1962
3	A. Struss	H. A. Kieffer	8-16-55	---	182	6	42	none	TRwb	65	25	5	5.00	
4	A. F. Leitner	Algeier Bros.	5-24-58	---	195	6	25	none	TRwb	25	7	125	.05	

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REFERENCE NO. 34

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

TABLE 2

PERMEABILITY OF GEOLOGIC MATERIALS*

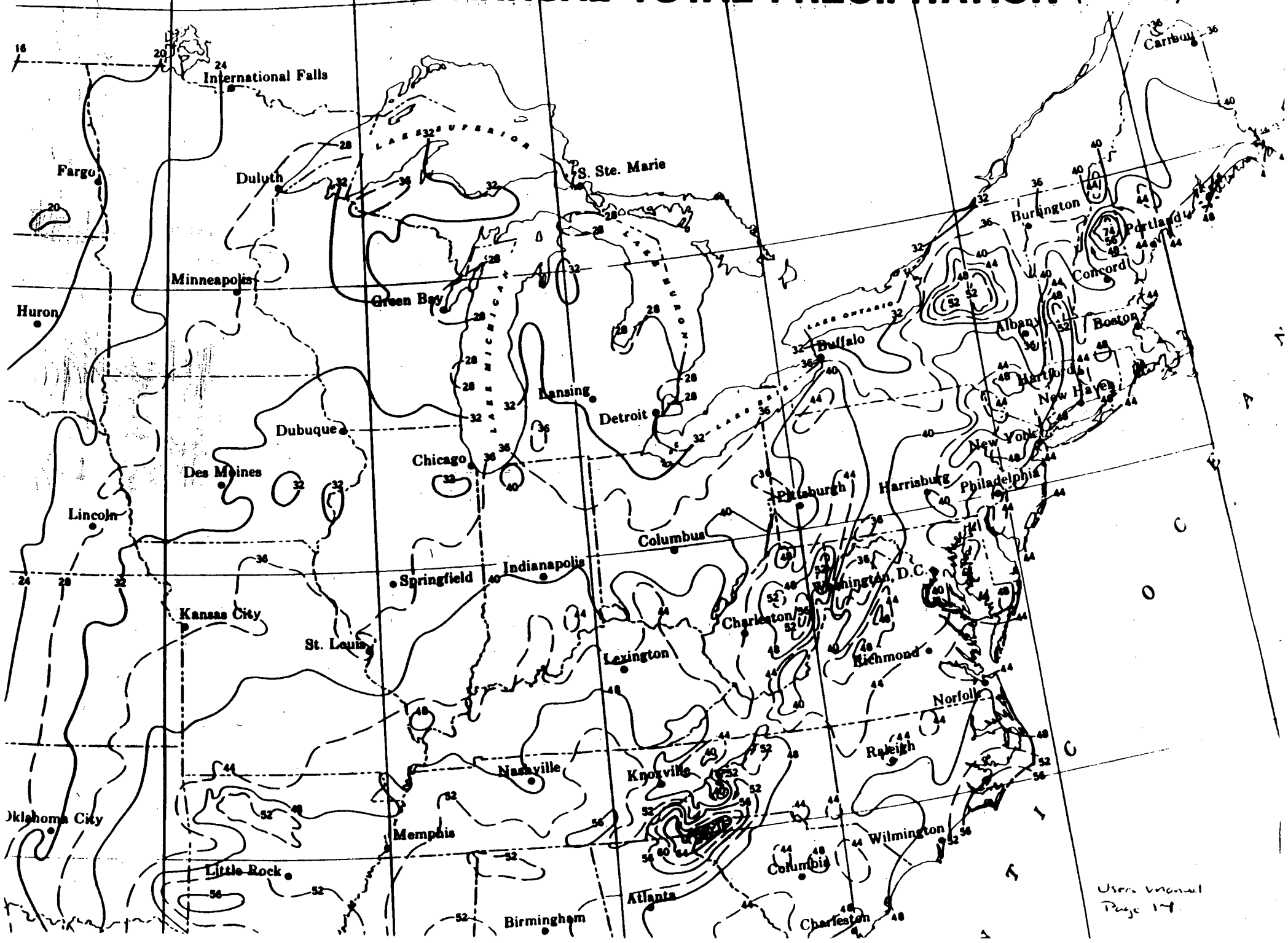
Type of Material	Approximate Range of Hydraulic Conductivity	Assigned Value
Clay, compact till, shale; unfractured metamorphic and igneous rocks	$<10^{-7}$ cm/sec	0
Silt, loess, silty clays, silty loams, clay loams; less permeable limestone, dolomites, and sandstone; moderately permeable till	$10^{-5} - 10^{-7}$ cm/sec	1
Fine sand and silty sand; sandy loams; loamy sands; moderately permeable limestone, dolomites, and sandstone (no karst); moderately fractured igneous and metamorphic rocks, some coarse till	$10^{-3} - 10^{-5}$ cm/sec	2
Gravel, sand; highly fractured igneous and metamorphic rocks; permeable basalt and lavas; karst limestone and dolomite	$>10^{-3}$ cm/sec	3

*Derived from:

Davis, S. N., Porosity and Permeability of Natural Materials in Flow-Through Porous Media, R.J.M. DeWest ed., Academic Press, New York, 1969

Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall, Inc., New York, 1979

NORMAL ANNUAL TOTAL PRECIPITATION (Inches)



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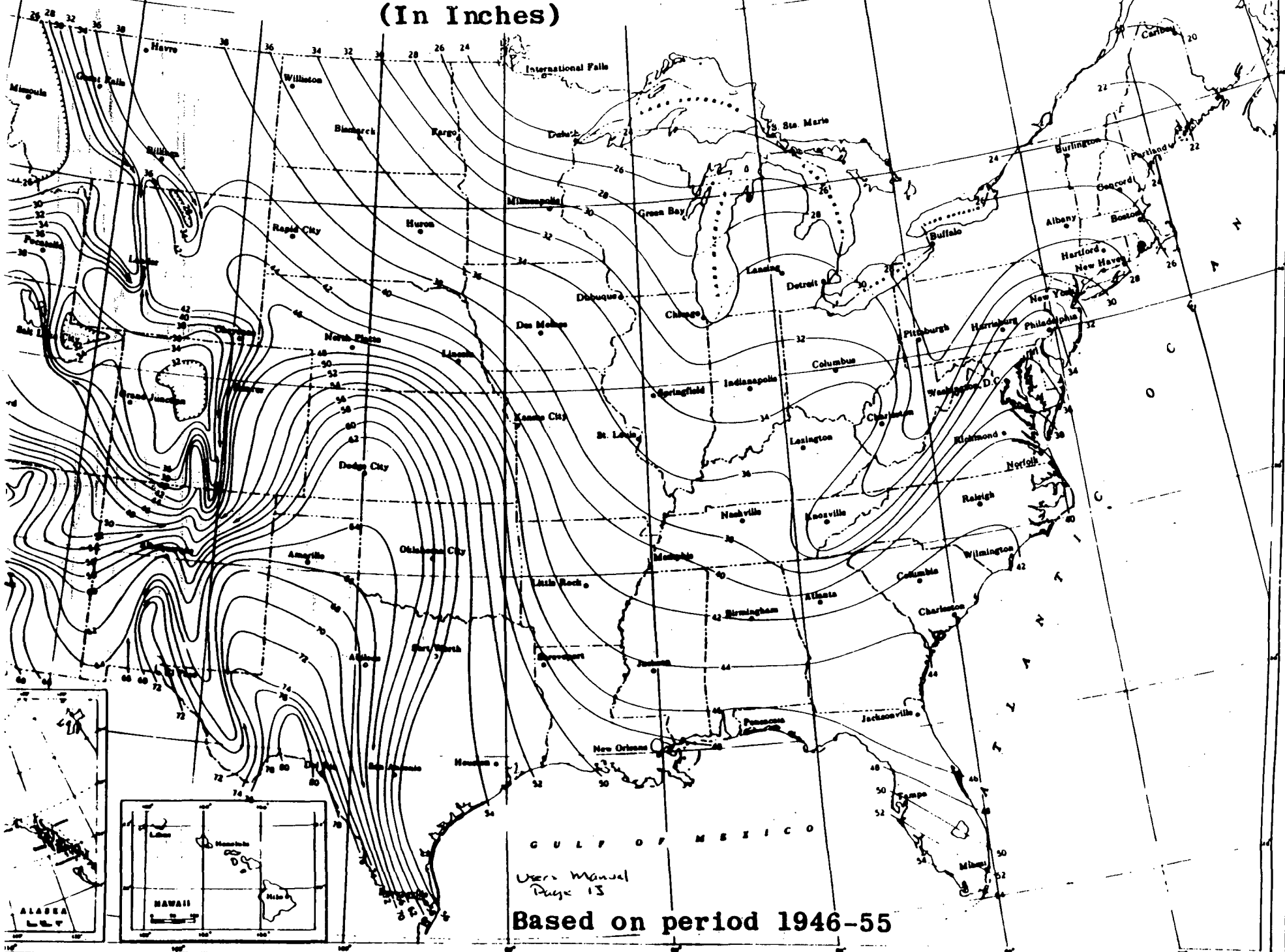
MEAN ANNUAL LAKE EVAPORATION
(In Inches)



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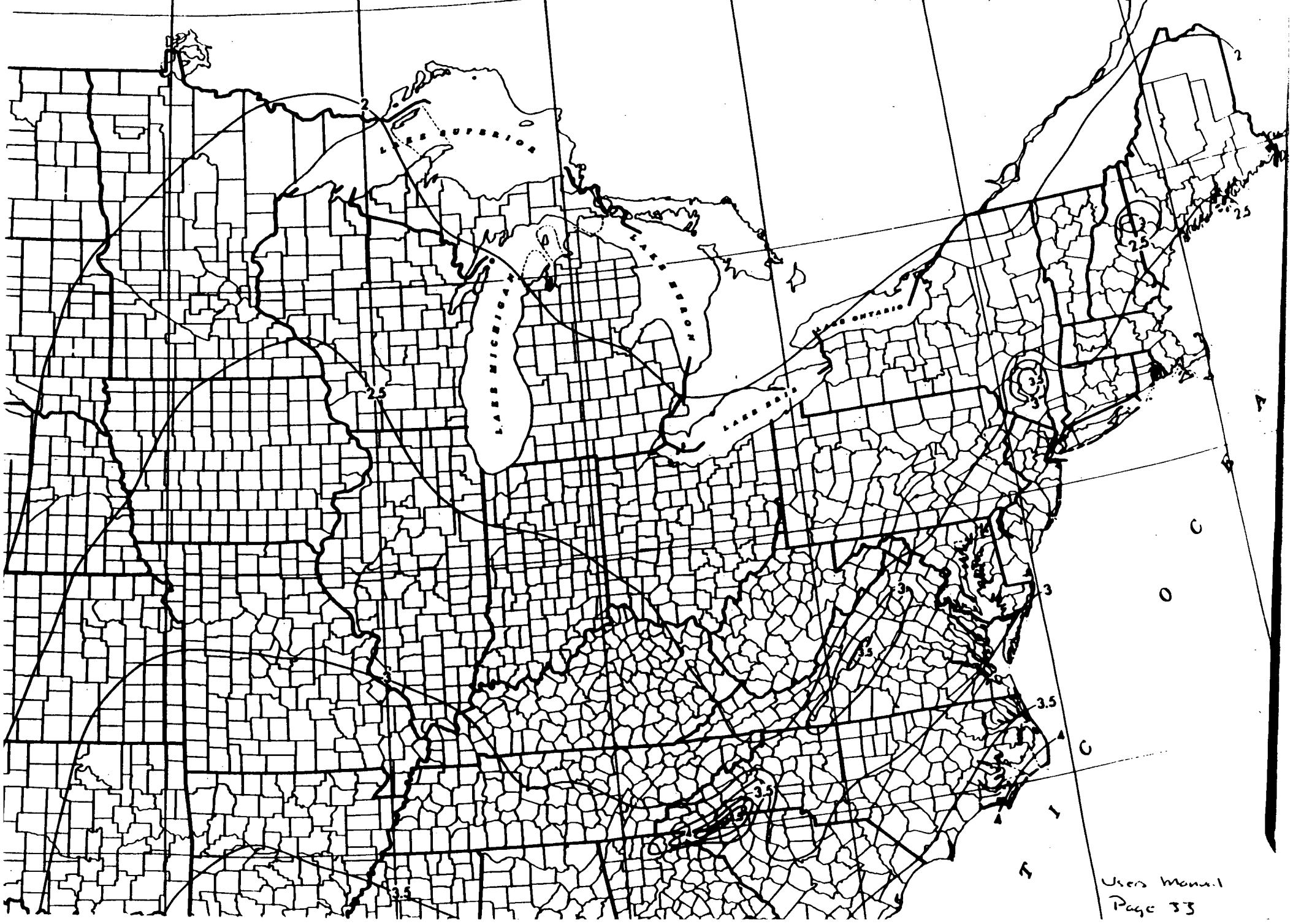
Page 13

Based on period 1946-55

1 YEAR 24-HOUR RAINFALL (inches)



REFERENCE NO. 35

> I

D. AND J. TRUCKING
LATITUDE 40:43:25 LONGITUDE 74: 7:46 1980 POPULATION

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	0	2	7229	42888	146730	225086	421935
RING TOTALS	0	2	7229	42888	146730	225086	421935

GEMS> I

D. AND J. TRUCKING
LATITUDE 40:43:25 LONGITUDE 74: 7:46 1980 HOUSING

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	0	2	2367	14731	52303	79142	148545
RING TOTALS	0	2	2367	14731	52303	79142	148545

	¼-mile radius	½-mile radius	1-mile radius	2-mile radius	3-mile radius	4-mile radius
Population	0	2	7,231	50,119	196,849	421,935
Housing	0	2	2,369	17,100	69,403	148,545

REFERENCE NO. 36

REFERENCE NO. 37

U.S. EPA SUPERFUND PROGRAM

** C E R C L I S **

LIST-4: SITE ALIAS LOCATION LISTING

REPORT OPTIONS: EXTERNAL REPORT
LEVEL: REGION 02
SELECTION: INTEGRATED
SEQUENCE: REG, ST, SITE NAME, ALIAS SEQ NO.

REGION: 02

EPA ID	SITE/ALIAS NAME STREET CITY COUNTY NAME	STATE COUNTY	ZIP CODE	ALIAS SEQ. #	NAME SOURCE	FED FAC
NJD002013522 (CONTINUED)	CURTISS-WRIGHT CORPORATION			01		
	MIDDLESEX	NJ				
NJD093846301	CUSTOM CHEMICALS COMPANY					D
	30 PAUL KOHNER PLACE					
	ELMWOOD	NJ	07407			
	BERGEN	003				
	CUSTOM CHEMICALS COMPANY			01		
	BERGEN	NJ				
NJD000632240	CYLINDER MAINTENANCE CORP				EPA	N
	590 BELLEVILLE TPK					
	KEARNY	NJ	07032			
	HUDSON	017				
	CMI			01		
	CYLINDER MAINTENANCE CORP			02		
	HUDSON	NJ				
NJD980528970	D & J DISPOSAL				STS	N
	AVE A & POINIER					
	NEWARK	NJ	07114			
	ESSEX	013				
	D & J TRUCKING			01		
	AVE A					
	NEWARK	NJ	07101			
NJD980528962	D & J TRUCKING				STS	N
	310-328 AVE P					
	NEWARK	NJ	07105			
	ESSEX	013				
NJD980770523	D.O.T. SITE				EPA	N
	BRIELLE PL					
	WALL TWP	NJ	07719			
	MONMOUTH	025				

REFERENCE NO. 38

U.S. EPA SUPERFUND PROGRAM

** C E R C L I S **

LIST-8: SITE/EVENT LISTING

REPORT OPTIONS: EXTERNAL REPORT
LEVEL: REG 02
SELECTION:
SEQUENCE: REGION, STATE, SITE NAME
EVENTS: ALL

EPA ID NO.	SITE NAME STREET CITY COUNTY CODE AND NAME	STATE ZIP CONG DIST.	NFA FLAG	OPRBLE UNIT	EVENT TYPE	ACTUAL START DATE	ACTUAL COMPL DATE	CURRENT EVENT LEAD
NJD002013522	CURTISS-WRIGHT CORPORATION			00	DS1		06/06/89	EPA (FUND)
	ONE PASSAIC STREET				PA1		07/30/89	EPA (FUND)
	WOOD RIDGE	NJ 07075						
	003 BERGEN							
NJD093846301	CUSTOM CHEMICALS COMPANY			00	DS1		10/01/89	EPA (FUND)
	30 PAUL KOHNER PLACE							
	ELMWOOD	NJ 07407						
	003 BERGEN							
NJD000632240	CYLINDER MAINTENANCE CORP			00	DS1		11/15/85	STATE(FUND)
	590 BELLEVILLE TPK				PA1		12/15/85	STATE(FUND)
	KEARNY	NJ 07032						
	017 HUDSON							
NJD980528970	D & J DISPOSAL			00	DS1		10/01/79	EPA (FUND)
	AVE A & POINIER				PA1		03/01/83	EPA (FUND)
	NEWARK	NJ 07114			SI1	12/01/79	12/01/79	EPA (FUND)
	013 ESSEX							
→ NJD980528962	D & J TRUCKING			00	DS1		05/01/81	EPA (FUND)
	310-328 AVE P				PA1		03/01/83	EPA (FUND)
	NEWARK	NJ 07105						
	013 ESSEX							
NJD980770523	D.O.T. SITE		NFA	00	DS1		04/10/84	STATE(FUND)
	BRIELLE PL				PA1	07/29/87	08/18/87	STATE(FUND)
	WALL TWP	NJ 07719						
	025 MONMOUTH							
NJD980529416	D'IMPERIO PROPERTY			00	DS1		01/01/81	EPA (FUND)
	RTE 322				PA1		08/01/81	EPA (FUND)
	HAMILTON TWP	NJ 08330			HR1		12/01/82	EPA (FUND)
	001 ATLANTIC				NP1		10/01/81	EPA (FUND)
					NF1		09/01/83	EPA (FUND)
					SI1	12/01/79	08/01/82	EPA (FUND)
					SI2	12/01/79	08/01/82	STATE(FUND)
					IM1	09/30/82	03/27/85	EPA (FUND)

REFERENCE NO. 39

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

REGION	SITE NUMBER (to be assigned by HQ)
2	

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition (Section II). File this form in its entirety in the regional Hazardous Waste Log File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Tack Force (EN-335); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME: D. & J. TRUCKING, INC - AVENUE A Site

B. STREET (or other identifier): AVENUE A AND VANDERPOOL STREET

C. CITY: NEWARK

D. STATE: N.J.

E. ZIP CODE: 07114

F. COUNTY NAME: ESSEX

G. SITE OPERATOR INFORMATION

1. NAME: INACTIVE NOW DURING OPERATION - D & J TRUCKING, INC.

2. TELEPHONE NUMBER: 201-589-8757

3. STREET: AVENUE A AND PIONEER STREET

4. CITY: NEWARK,

5. STATE: N.J.

6. ZIP CODE: 07114

H. REALTY OWNER INFORMATION (if different from operator of site)

1. NAME: DURING OPERATION - UNITED TOWING SERVICE CURRENTLY - NEWARK DEVELOPMENT AND HOUSING AUTHORITY

2. TELEPHONE NUMBER: 201-622-1030

3. CITY: 57 SUSSEX AVENUE, NEWARK

4. STATE: N.J.

5. ZIP CODE: 07102

I. SITE DESCRIPTION: APPROXIMATELY .75 MILES LONG X 150 FEET WIDE. OPEN DUMP WITH SOME VEGETATION COVER. MAINLY CONSTRUCTION TYPE WASTES.

J. TYPE OF OWNERSHIP

- [ ] 1. FEDERAL
- [ ] 2. STATE
- [ ] 3. COUNTY
- [x] 4. MUNICIPAL
- [ ] 5. PRIVATE

II. TENTATIVE DISPOSITION (complete this section last)

A. ESTIMATE DATE OF TENTATIVE DISPOSITION (mo., day, & yr.):

B. APPARENT SERIOUSNESS OF PROBLEM

- [ ] 1. HIGH
- [ ] 2. MEDIUM
- [x] 3. LOW
- [ ] 4. NONE

C. PREPARER INFORMATION

1. NAME: KENNETH GIGLIELLO

2. TELEPHONE NUMBER: 201-321-6693

3. DATE (mo., day, & yr.): 12-5-79

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION

1. NAME: KENNETH GIGLIELLO

2. TITLE: PHYSICAL SCIENTIST

3. ORGANIZATION: S&M BRANCH, SOURCE MONITORING SECTION

4. TELEPHONE NO. (area code & no.): 201-321-6693

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
KENNETH GIGLIELLO	S&M BRANCH, SOURCE MONITORING SECTION	201-321-6693
STEVE HALE	" "	201-321-6696

C. SITE REPRESENTATIVES INTERVIEWED (corporate officials, workers, residents)

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
NONE		

Continued From Front

III. INSPECTION INFORMATION (continued)

D. GENERATOR INFORMATION (source of waste)

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE GENERATED
UNKNOWN			

E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED
UNKNOWN			

F. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPOSAL.

1. NAME	2. TELEPHONE NO.	3. ADDRESS
N/A		

G. DATE OF INSPECTION (mo., day, & yr.)	H. TIME OF INSPECTION	I. ACCESS GAINED BY: (credentials must be shown in all cases)
12-5-79	9:00 A.M.	☐ 1. PERMISSION ☐ 2. WARRANT ABANDONED SITE

J. WEATHER (describe)

DURING HEAVY RAIN, SURFACE RUNOFF MAY BE A PROBLEM.

IV. SAMPLING INFORMATION

A. Mark 'X' for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, contractor, etc. and estimate when the results will be available.

1. SAMPLE TYPE	2. SAMPLE TAKEN (mark 'X')	3. SAMPLE SENT TO:	4. DATE RESULTS AVAILABLE
a. GROUNDWATER		NO SAMPLES TAKEN	
b. SURFACE WATER			
c. WASTE			
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL			
h. VEGETATION			
OTHER (specify)			

B. FIELD MEASUREMENTS TAKEN (e.g., radioactivity, explosivity, PH, etc.)

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS
RADIOACTIVITY	ENTIRE SITE	NONE DETECTED
EXPLOSIVITY	ENTIRE SITE	NONE DETECTED

Continued From Page 2

IV. SAMPLING INFORMATION (continued)

C. PHOTOS

1. TYPE OF PHOTOS
[X] a. GROUND [ ] b. AERIAL

2. PHOTOS IN CUSTODY OF: KENNETH GIGLIELLO

D. SITE MAPPED?
[ ] YES. SPECIFY LOCATION OF MAPS:

E. COORDINATES
1. LATITUDE (deg.-min.-sec.) 42° 26' 50"
2. LONGITUDE (deg.-min.-sec.) 74° 10' 30"

V. SITE INFORMATION

A. SITE STATUS
[ ] 1. ACTIVE (Those inductrial or municipal sites which are being used for was e treatment, storage, or disposal on a continuing basis, even if infrequently.)
[X] 2. INACTIVE (Those sites which no longer receive wastes.)
[X] 3. OTHER (specify): POSSIBLE (Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)

B. IS GENERATOR ON SITE?
[X] 1. NO [ ] 2. YES (specify generator's four-digit SIC Code): _____

C. AREA OF SITE (in acres): 3-4

D. ARE THERE BUILDINGS ON THE SITE?
[X] 1. NO [ ] 2. YES (specify):

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

X	A. TRANSPORTER	X	B. STORER	X	C. TREATER	X	D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION		1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS./TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (specify): N/A		6. OTHER (specify): N/A		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (specify): N/A
					9. OTHER (specify): N/A		

E. SUPPLEMENTAL REPORTS: If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this for..

[ ] 1. STORAGE [ ] 2. INCINERATION [ ] 3. LANDFILL [ ] 4. SURFACE IMPOUNDMENT [ ] 5. DEEP WELL
[ ] 6. CHEM/BIO/PHYS TREATMENT [ ] 7. LANDFARM [X] 8. OPEN DUMP [ ] 9. TRANSPORTER [ ] 10. RECYCLOR/RECLAIMER

VII. WASTE RELATED INFORMATION

A. WASTE TYPE
[ ] 1. LIQUID [X] 2. SOLID [ ] 3. SLUDGE [ ] 4. GAS

B. WASTE CHARACTERISTICS UNKNOWN
[ ] 1. CORROSIVE [ ] 2. IGNITABLE [ ] 3. RADIOACTIVE [ ] 4. HIGHLY VOLATILE
[ ] 5. TOXIC [ ] 6. REACTIVE [ ] 7. INERT [ ] 8. FLAMMABLE
[X] 9. OTHER (specify): UNKNOWN

C. WASTE CATEGORIES
1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.
No

 Continue On Reverse

Continued From Front

WASTE RELATED INFORMATION (continue

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT
UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE
X (1) PAINT, PIGMENTS	X (1) OILY WASTES	X (1) HALOGENATED SOLVENTS	X (1) ACIDS	X (1) FLYASH	X (1) LABORATORY, PHARMACEUT.
(2) METALS SLUDGES	(2) OTHER(specify):	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
(3) POTW		(3) OTHER(specify):	(3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACTIVE
(4) ALUMINUM SLUDGE			(4) PESTICIDES	X (4) FERROUS SMELTING WASTES	X (4) MUNICIPAL
(5) OTHER(specify):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	(5) OTHER(specify):
			(6) CYANIDE	(6) OTHER(specify):	MAINLY REFUSE CONTAINING BRICKS, CEMENT WOOD, CLOTH PAPER, PLASTIC, TIRES, METAL SHAVINGS RAIROAD TIES
			(7) PHENOLS	MATERIAL IN DUMP APPEARS TO BE SLAG FROM FURNACE	
			(8) HALOGENS		
			(9) PCB		
			(10) METALS		
			(11) OTHER(specify):		

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE (place in descending order of hazard)

1. SUBSTANCE	2. FORM (mark 'X')			3. TOXICITY (mark 'X')				4. CAS NUMBER	5. AMOUNT	6. UNIT
	a. SOLID	b. LIQ.	c. VAPOR	a. HIGH	b. MED.	c. LOW	d. NONE			
UNKNOWN										

VIII. HAZARD DESCRIPTION

FIELD EVALUATION HAZARD DESCRIPTION: Place an 'X' in the box to indicate that the listed hazard exists. Describe the hazard in the space provided.

☐ A. HUMAN HEALTH HAZARDS

 Continue On Page 5

Continued From Page 4

III. HAZARD DESCRIPTION (continued)

☐ B. NON-WORKER INJURY/EXPOSURE

☐ C. WORKER INJURY/EXPOSURE

☐ D. CONTAMINATION OF WATER SUPPLY

☐ E. CONTAMINATION OF FOOD CHAIN

☒ F. CONTAMINATION OF GROUND WATER

SURFACE OF LANDFILL SITE IS NOT ADEQUATELY COVERED TO PREVENT RAINWATER PENETRATING THE REFUSE TO PRODUCE A CONTAMINATED LEACHATE.

☒ G. CONTAMINATION OF SURFACE WATER

SURFACE OF LANDFILL SITE IS NOT ADEQUATELY COVERED TO PREVENT RAIN WATER COMING INTO CONTACT WITH REFUSE AND CONTAMINATING SURFACE RUNOFF.

 Continue On Reverse

Continued From Front

VIII. HAZARD DESCRIPTION (continued)

☐ H. DAMAGE TO FLORA/FAUNA

☐ I. FISH KILL

☐ J. CONTAMINATION OF AIR

☒ K. NOTICEABLE ODORS

ODORS WERE PRESENT AT THE SITE.
(UNKNOWN)

☐ L. CONTAMINATION OF SOIL

☐ M. PROPERTY DAMAGE

 Continue On Page 7

Continued From Page 6

.. HAZARD DESCRIPTION (continued)

☒ N. FIRE OR EXPLOSION

ONE AREA OF SITE HAD STEAM EMANATING FROM GROUND. APPROXIMATELY 75°F WITH NO ODOR.

☐ O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID

☒ P. SEWER, STORM DRAIN PROBLEMS

CULVERTS IN CENTER OF SITE PERMIT FLOW OF RAW SEWAGE BETWEEN RAILROAD TRACKS ON EITHER BOUNDARY OF SITE. SPOKE TO MIKE ROSENBURG OF NJDEP ON THIS MATTER. NO INFORMATION ON ILLEGAL DISCHARGE OF RAW SEWAGE.

☐ Q. EROSION PROBLEMS

☒ R. INADEQUATE SECURITY

NO SECURITY AT SITE. SITE ACCESSIBLE TO CHILDREN IN AREA AND TRUCKS POSSIBLY HAULING WASTES TO THE SITE.

☐ S. INCOMPATIBLE WASTES

VIII. HAZARD DESCRIPTION *(continued)*

[X] T. MIDNIGHT DUMPING

POSSIBLE OCCURENCES

[X] U. OTHER *(specify)*:

1. AREA OF SITE WAS DRY EXCEPT FOR CULVERTS IN CENTER OF LANDFILL.
2. NO LEACHATE STREAMS WERE DETECTED AT THE SITE.
3. SCATTERED EMPTY DRUMS WERE LOCATED ON THE SITE. APPROXIMATELY 15 SUCH DRUMS WERE OBSERVED.

IX. POPULATION DIRECTLY AFFECTED BY SITE

A. LOCATION OF POPULATION	B. APPROX. NO. OF PEOPLE AFFECTED	C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA	D. APPROX. NO. OF BUILDINGS AFFECTED	E. DISTANCE TO SITE *(specify units)*
1. IN RESIDENTIAL AREAS	UNKNOWN			500 YARDS
2. IN COMMERCIAL OR INDUSTRIAL AREAS	MAIN POPULATION	AFFECTED	20	100 YARDS
3. IN PUBLICLY TRAVELLED AREAS	NONE			
4. PUBLIC USE AREAS *(parks, schools, etc.)*	[redacted] 4 SCHOOLS			1 MILE

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER *(specify unit)*	B. DIRECTION OF FLOW	C. GROUNDWATER USE IN VICINITY
4 Feet (DEP REPORT)	UNKNOWN	NONE
D. POTENTIAL YIELD OF AQUIFER	**E. DISTANCE TO DRINKING WATER SUPPLY** *(specify unit of measure)*	**F. DIRECTION TO DRINKING WATER SUPPLY**
N/A	N/A	N/A

G. TYPE OF DRINKING WATER SUPPLY

[ ] 1. NON-COMMUNITY < 15 CONNECTIONS [ ] 2. COMMUNITY *(specify town)*: > 15 CONNECTIONS N/A

[ ] 3. SURFACE WATER [ ] 4. WELL

Continue On Page 9

Continued From Page 8

X. WATER AND HYDROLOGICAL DATA (continued)

H. LIST ALL DRINKING WATER WELLS WITHIN A 1/4 MILE RADIUS OF SITE

1. WELL	2. DEPTH (specify unit)	3. LOCATION (proximity to population/buildings)	4. NON-COMMUNITY (mark 'X')	5. COMMUNITY (mark 'X')
		N/A		

I. RECEIVING WATER

1. NAME

☐ 2. SEWERS ☐ 3. STREAMS/RIVERS

☐ 4. LAKES/RESERVOIRS ☐ 5. OTHER (specify):

6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

XI. SOIL AND VEGITATION DATA

LOCATION OF SITE IS IN:

☐ A. KNOWN FAULT ZONE ☐ B. KARST ZONE ☐ C. 100 YEAR FLOOD PLAIN ☒ D. WETLAND

☐ E. A REGULATED FLOODWAY ☐ F. CRITICAL HABITAT ☐ G. RECHARGE ZONE OR SOLE SOURCE AQUIFER

XII. TYPE OF GEOLOGICAL MATERIAL OBSERVED

Mark 'X' to indicate the type(s) of geological material observed and specify where necessary, the component parts.

'X'	A. OVERBURDEN	'X'	B. BEDROCK (specify below)	'X'	C. OTHER (specify below)
	1. SAND		UNKNOWN		
	2. CLAY				
	3. GRAVEL				

XIII. SOIL PERMEABILITY

☒ A. UNKNOWN ☐ B. VERY HIGH (100,000 to 1000 cm/sec.) ☐ C. HIGH (1000 to 10 cm/sec.)

☐ D. MODERATE (10 to .1 cm/sec.) ☐ E. LOW (.1 to .001 cm/sec.) ☐ F. VERY LOW (.001 to .00001 cm/sec.)

G. RECHARGE AREA

☐ 1. YES ☐ 2. NO 3. COMMENTS:

H. DISCHARGE AREA

☐ 1. YES ☐ 2. NO 3. COMMENTS:

I. SLOPE

1. ESTIMATE % OF SLOPE: 45%

2. SPECIFY DIRECTION OF SLOPE, CONDITION OF SLOPE, ETC.: SLOPE IN POOR CONDITION - REFUSE EXPOSED

J. OTHER GEOLOGICAL DATA

 Continue On Reverse

Continued From Front

XIV. PERMIT INFORMATION

List all applicable permits held by the site and provide the related information.

A. PERMIT TYPE (e.g., RCRA, State, NPDES, etc.)	B. ISSUING AGENCY	C. PERMIT NUMBER	D. DATE ISSUED (mo., day, & yr.)	E. EXPIRATION DATE (mo., day, & yr.)	F. IN COMPLIANCE (mark 'X') 1. YES	2. NO	3. UNKNOWN
NEW JERSEY CERTIFICATE OF REBISTRATION FOR SOLID WASTE DISPOSAL #07561309	NJDEP	07561309	6-12-72	6-30-73			X

XV. PAST REGULATORY OR ENFORCEMENT ACTIONS

☐ NONE ☐ YES (summarize in this space)

NJ DEP 1/14/74 OBSERVATION OF FIRES
12/1/77 OBSERVATION OF DRUMS
7/8/77 → DEP ISSUED A DECEASE ORDER TO FORCE CLOSING OF UNLICENSED DUMP
2/16/78 → SITE ABANDONED
COMPANY WENT OUT OF BUSINESS.

NOTE: Based on the information in Sections III through XV, fill out the Tentative Disposition (Section II) information on the first page of this form.

REFERENCE NO. 40

NUS CORPORATION
SUPERFUND DIVISION

PROJECT NOTES

TO: File

DATE: September 17, 1990

FROM: Dorothy M. Ponte

COPIES:

SUBJECT: Possible sources of contamination at the D. and J. Trucking site obtained from aerial photographs.

REFERENCE:

Five aerial photographs were obtained from Robinson Aerial Surveys spanning the years 1966 to 1989. A 1978 aerial photograph of the D. and J. Trucking site reveals what appears to be approximately 30 drums or large paint containers scattered in the center, and toward the rear of the property. Some of these drums/paint containers appear to be partially buried near the drainage ditch by the southern corner of the property.

NUS 443A 58 1182

NUS PHOTO I.D.

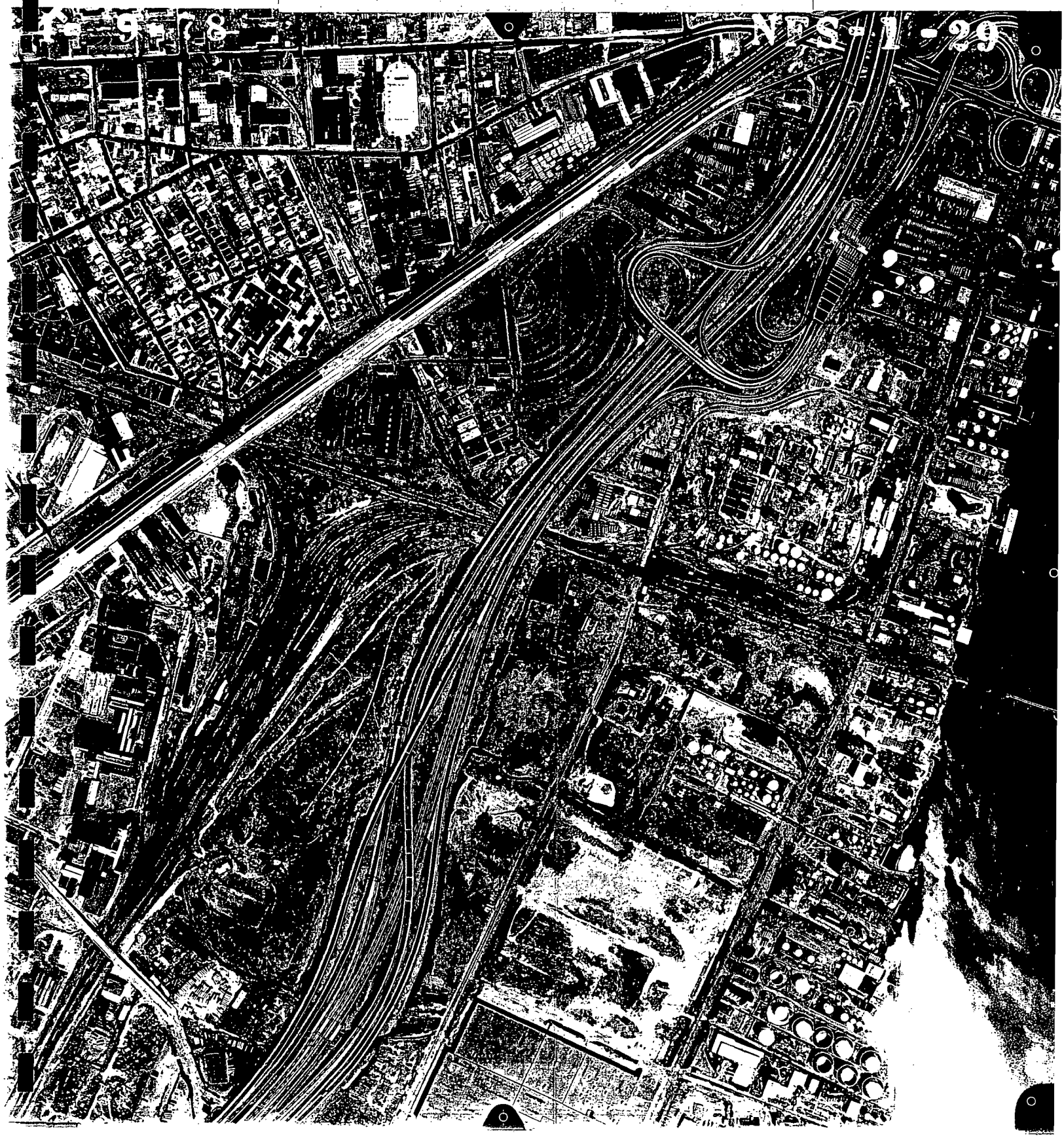
SITE NAME: D. and J. Trucking
LOCATION: Newark, Essex County, New Jersey
TDD #: 02-9005-05
DATE: 3/29/66 **SCALE:** 1" = 2400 feet
SOURCE: Robinson Aerial Surveys
Sparta, New Jersey

NUS PHOTO I.D.

SITE NAME: D. and J. Trucking
LOCATION: Newark, Essex County, New Jersey
TDD #: 02-9005-05
DATE: 5/30/70 SCALE: 1" = 800 feet
SOURCE: Robinson Aerial Surveys
Sparta, New Jersey

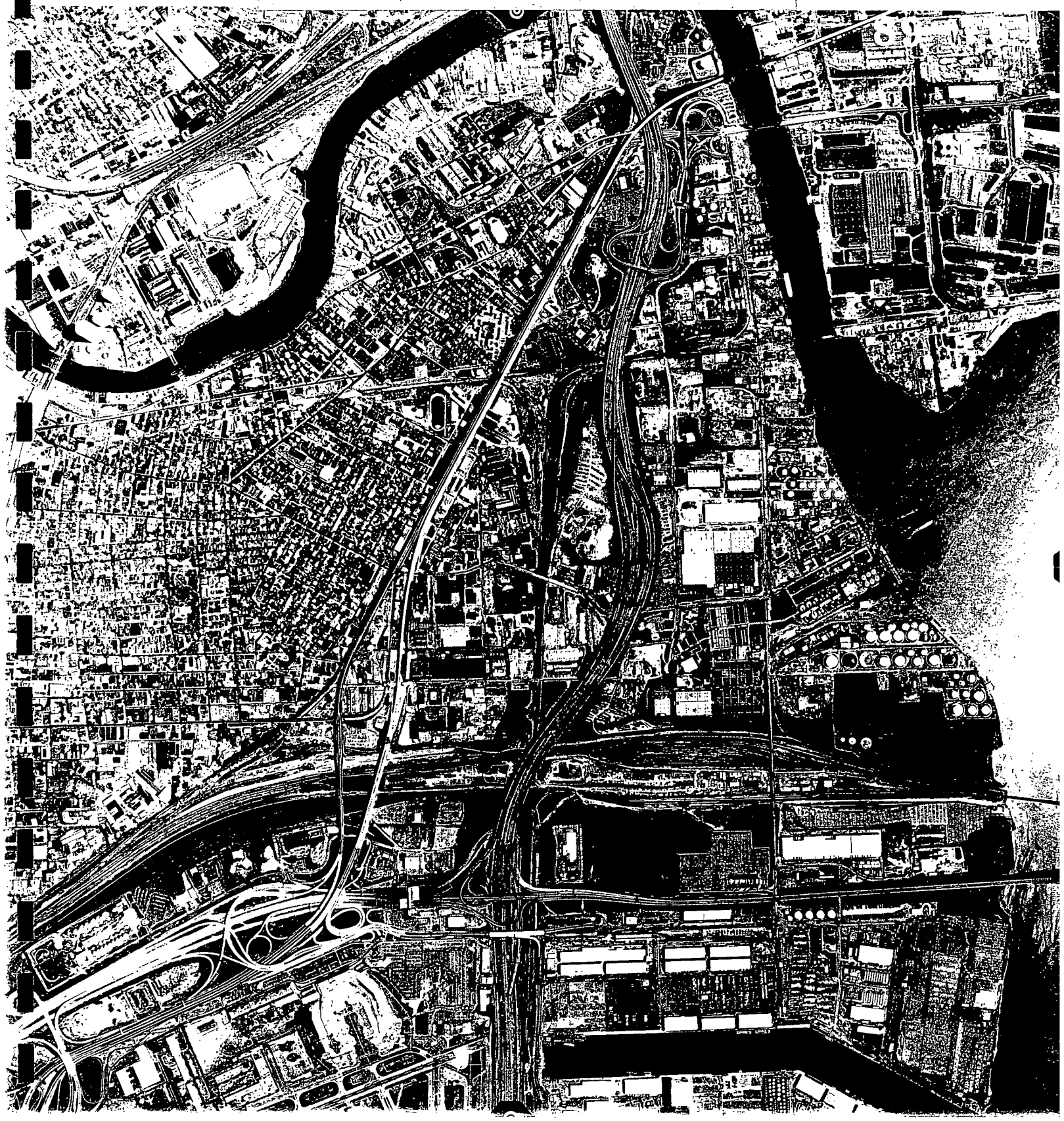
NUS PHOTO I.D.

SITE NAME: D. and J. Trucking
LOCATION: Newark, Essex County, New Jersey
TDD #: 02-9005-05
DATE: 4/09/78 **SCALE:** 1" = 500 feet
SOURCE: Robinson Aerial Surveys
Sparta, New Jersey



NUS PHOTO I.D.

SITE NAME: D. and J. Trucking
LOCATION: Newark, Essex County, New Jersey
TDD #: 02-9005-05
DATE: 9/04/89 SCALE: 1" = 200 feet
SOURCE: Robinson Aerial Surveys
Sparta, New Jersey



NUS PHOTO I.D.

SITE NAME: D. and J. Trucking
LOCATION: Newark, Essex County, New Jersey
TDD #: 02-9005-05
DATE: 10/23/82 **SCALE:** 1" = 1500 feet
SOURCE: Robinson Aerial Surveys
Sparta, New Jersey

REFERENCE NO. 41

NUS CORPORATION

POTENTIAL HAZARDOUS WASTE SITE

PRELIMINARY ASSESSMENT

D & J Trucking	NJ D 9805 28962
Site Name	EPA Site ID Number
310-328 Avenue P	03-8303-126
Address	TDD Number

Newark, NJ

Date of Site Visit: None

SITE DESCRIPTION

The site is currently an active junk-scrap yard, located on Avenue P, Newark, NJ.

The EPA in Edison, and the U.S. Coast Guard has had previous interaction in oil and chemical spills from D & J's Avenue P site.

PRIORITY FOR FURTHER ACTION: High____ Medium____ Low x

RECOMMENDATIONS

No further action recommended. D & J Trucking is currently involved in court litigation with the New Jersey DEP. Richard Katz, NJ DEP Hazardous Site Litigation, informed me to stop my investigation of D & J and to drop from the FIT list on 1/28/83.

Prepared by: Martin J. O'Neill of NUS Corporation Date: 3/23/83

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D980528962

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] 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)

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

unknown

III. WASTE TYPE unknown

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

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers) unknown

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers) unknown

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

EPA, Surveillance and Monitoring Branch, Region II files, Edison, NJ:
1) Letter from Beatrice S. Tylutki, NJ Solid Waste Administration Director to Mr. Dominick Attanasi, President of D & J Trucking and Waste Co. - 2/14/78
2) Hazardous waste site dossier by John Jiminez

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D980528962

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
D & J Trucking	310-328 Ave P

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Newark	NJ	07105		013	10

09 COORDINATES LATITUDE	LONGITUDE
40°43'30".N	74°07'38" W

10 DIRECTIONS TO SITE (Starting from nearest public road) Travel north on McCarter Highway, Route 21, to South Street. Make a right onto South St. and travel east to Delancey. Bear right onto Delancey Street to Ave P. Make a left onto Ave P and travel approximately 0.5 mile. Site is on right.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Unknown	

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
			( )

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
D & J Trucking and Waste Co.	387 Avenue P

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Newark	NJ	07105	( ) unknown

13 TYPE OF OWNERSHIP (Check one) unknown

☐ 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: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☐ YES DATE ___/___/___ (MONTH DAY YEAR)
☒ NO

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)

☐ A. ACTIVE ☐ B. INACTIVE ☒ C. UNKNOWN

03 YEARS OF OPERATION

_____ BEGINNING YEAR | _____ ENDING YEAR ☒ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Unknown-According to a letter to Mr. Dominick Attanasi, owner of D & J Trucking and Waste Co., from Beatrice S. Tylutki, Director of NJ SWA, dated 2/14/78, D & J engaged in illegal disposal of solid wastes on 310 Ave P

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION In April, and August of 1977. In addition, Mr. Attanasi and Ralph Smith, truck driver for D & J Trucking and Waste Co., were arrested by Newark police on December 15, 1977 for illegal disposal of chemical wastes on 310 Avenue P. EPA, Edison and U.S. Coast Guard have been involved in cleaning up chemical and oil spills at the Avenue P property.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☒ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Richard Katz	NJ DEP, Dept. of Hazardous Site Litigation	(609)292-1207

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Martin O'Neill	EPA	FIT II	(201) 225-6160	3/22/83 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D980528962

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Unknown.EPA, Edison and U.S. Coast Guard have been involved in chemical and oil spill cleanup from D & J's Avenue P property prior to 1979.

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

Unknown. EPA, Edison, and U.S. Coast Guard have been involved in chemical and oil spill cleanup from D & J's Avenue P property prior to 1979.

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

Unknown

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

Unknown

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

Unknown

01 ☐ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) — 04 NARRATIVE DESCRIPTION

Unknown

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

Unknown

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

Unknown

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

Unknown

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D980528962

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

Unknown

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

Unknown

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

Unknown

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

Unknown

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

Unknown

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

Unknown

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

Unknown

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

Unknown

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

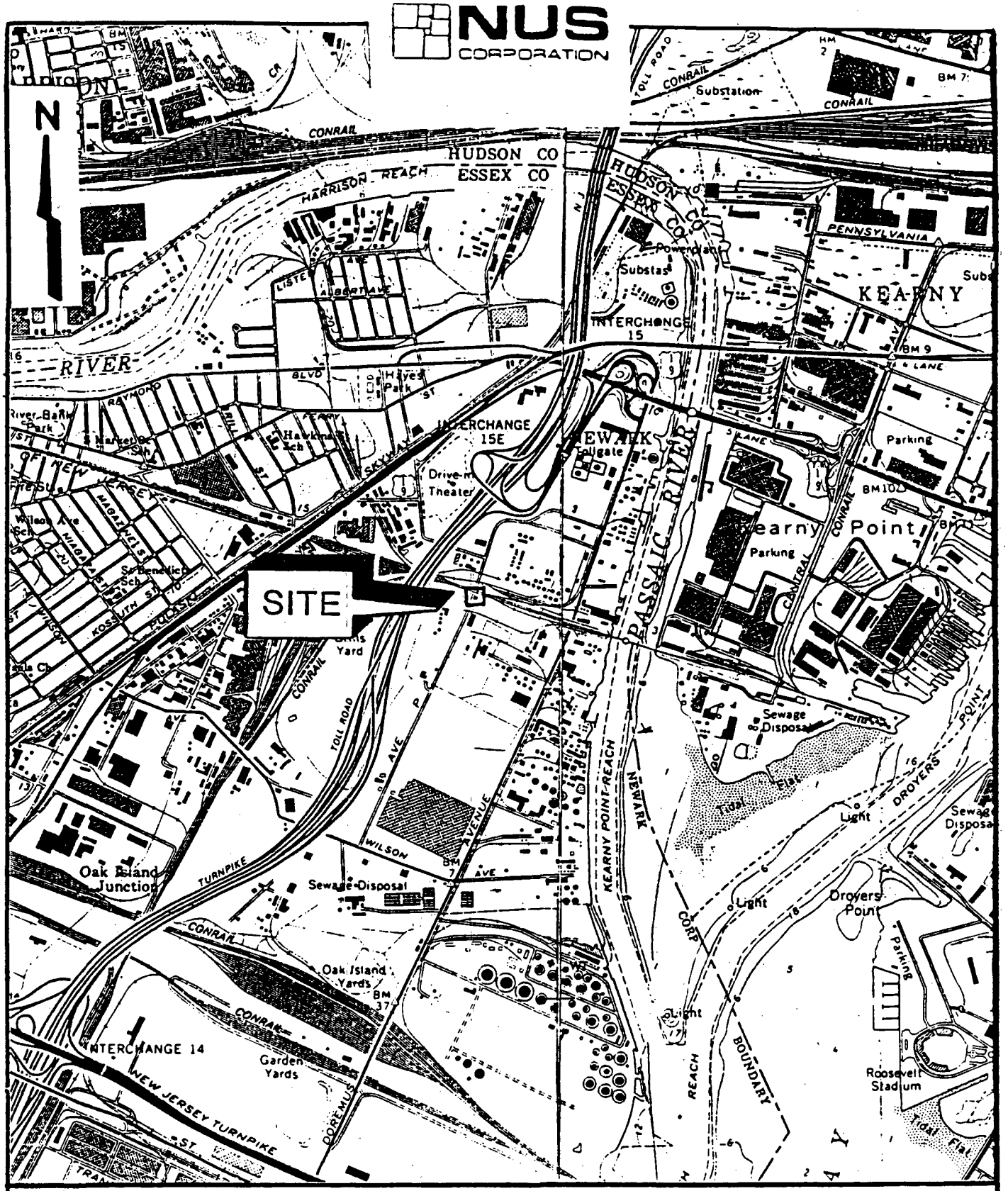
IV. COMMENTS

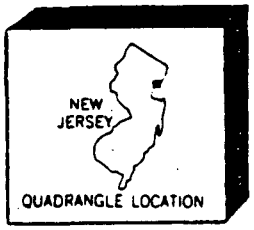
D & J Trucking and Waste Co. have had repeated problems with their sites at 310-328 Ave. P and Ave. A & Pioneer St., Newark, NJ. 310-328 Ave. P is referred to as simply Ave. P in EPA and DEP files. Upon beginning background search into D & J, Richard Katz of NJ DEP Hazardous Site Litigation, informed me to drop D & J from FIT files because D & J is involved in litigation with NJ DEP.

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

EPA, Surveillance and Monitoring Branch, Region II Files, Edison, NJ
Telephone conversation with Richard Katz, NJ DEP Hazardous Site Litigation, 1/28/83

NUS CORPORATION





1000 0 1000 2000ft

1 24,000

FIGURE 1

D & J DISPOSAL
310-328 AVENUE P
NEWARK, N.J.

SITE LOCATION MAP

REFERENCE NO. 42

02-8511-15/NJV7

HYDROGEOLOGIC ASSESSMENT

CENTRAL STEEL DRUM COMPANY

704 DOREMUS AVENUE

NEWARK, N.J. 07105

environics incorporated/environmental consultants

46 JACKSON DRIVE • CRANFORD, NJ 07016-3580 • (201) 272-3770

1. INTRODUCTION

As a part of an environmental investigation conducted for Central Steel Drum Company by Environics, water levels in the monitor wells installed on that property were recorded on three occasions (May 18 and 31, and November 19, 1984). The levels measured in May were included in a report dated June 1, 1984, in which test boring and monitor well installation operations were described. The data from November were included in a report dated February 6, 1985, which was a report of sampling operations and a transmittal of analytical data from groundwater samples.

A well location and elevation survey was conducted by B2R Consultants on March 1, 1985. A copy of this survey (see figure 1) was received by Environics on March 25, 1985. Receipt of the survey data has made possible completion of the Hydrogeologic Assessment presented in this report.

Table 1 is a summary of elevation data for inner and outer well casings, and groundwater on the three dates of measurement. Depth to water information is not available for wells 103 and 203 for May 18. Well 103 was destroyed prior to the November sampling and subsequent survey. The surveyor measured the elevation of the broken casing (8.11 feet). From this elevation, a value of 8.01 was calculated for the water elevation of May 31. This number must, however, be used with caution.

2. SUMMARY OF SITE HYDROGELOGY

In this report, the term "aquifer" will be used to describe the geologic units monitored by the wells installed on-site. Neither the shallow water table aquifer nor the deeper confined aquifer would be capable of exploitation for a water supply. Even without deterioration of water quality resulting from the industrial nature of the area, the proximity to salt water and the poor pumping characteristics encountered in both aquifers would make them unusable as a water supply.

The shallow water table aquifer varies in thickness between 4 feet at the southwestern corner (wells 101 & 201), to 12 feet at the southeastern corner (wells 104 & 204). The soil consists of re-worked (fill) sand, gravel, silt and clay.

The base of the water table system is a silty clay confining layer. The geometry of the confining layer is shown on figure 2 in the form of contours on the upper and lower surfaces. The upper surface of this confining unit appears to slope "radially" from a high point at the southwestern corner. The observed slope (approximately 2%) apparently exerts little or no influence on flow in the overlying shallow aquifer system.

The confining layer is thickest (13 to 14 feet) along a northwast to southwest trending line between wells 103/203

Water elevation data for the shallow aquifer at the Central Steel Drum Site for May 18, May 31 and November 19, 1984 are presented on figures 3,4 and 5 respectively.

Data from both occasions in May show a nearly static groundwater condition. The maximum difference in water elevations between the shallow wells on the May 18 measurement is less than 0.5 feet. There is a slight apparent slope to the southwest. However, considering the insignificant variation in the elevation of the water table surface, measured in wells which are hundreds of feet apart, virtually no certainty can be placed on that direction.

Results are similar for May 31, except that the water table is approximately 1 foot higher. As seen in table 1 and figure 4, the uncertain value for well 103 is consistant with the other 3 wells, suggesting a southwesterly flow direction. However, as with data from the previous occasion, no definite interpretation can be made.

Measurements from the 3 wells available on November 19,1984 (figure 5) suggest a gradient to the north. The maximum difference in water elevation on that date is slightly more than 1 foot. For a water table system, with wells spaced hundreds of feet apart, such a difference in elevation is insignificant.

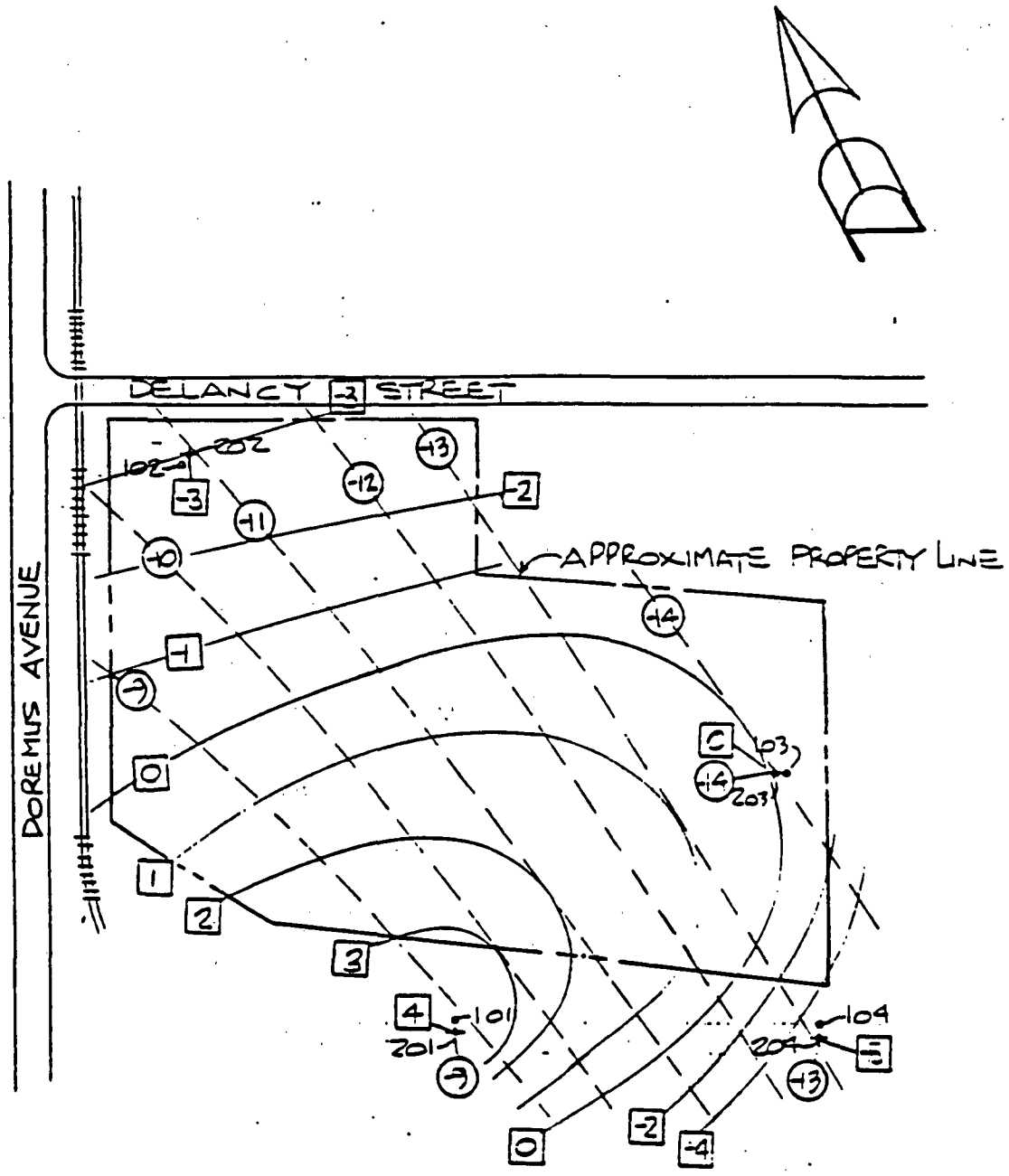
and 101/201. The layer thins to approximately 8 feet at the northwest and southeast corners of the property. The lower surface of the confining layer slopes eastward as shown on figure 2 at slightly less than 2%. Available evidence suggests that this layer is continuous throughout the property.

The confined aquifer consists of silty sand and sandy silt. Thickness of the system was not determined.

3. FLOW IN THE SHALLOW SYSTEM

Groundwater in the shallow aquifer exists under water table conditions. In such a system, hydrostatic pressure at the top of the saturated zone is atmospheric. Flow direction is controlled by the hydraulic gradient, which is equal to the slope on the water table surface.

The determination of hydraulic gradient in a water table aquifer can be very complex due to the number of factors which may exert control, such as surface topography, surface water bodies, and variations in the permeability of the ground surface. In an area such as the site in question, the distribution of buildings and pavement, variation in the permeability of fill material, and even differential compaction, as might be induced by heavy vehicle traffic may all have an effect.



EXPLANATION

2 — DENOTES ELEVATION OF UPPER SURFACE OF CONFINING LAYER

-2 — DENOTES ELEVATION OF LOWER SURFACE OF CONFINING LAYER

• DENOTES WELL SCREENED IN WATER TABLE AQUIFER

+ DENOTES WELL SCREENED IN CONFINED AQUIFER

SCALE: 1"=200'-0"

ENVIRONICS, INC.
ENVIRONMENTAL CONSULTANTS
46 JACKSON DRIVE CRANFORD, N.J. 07016

DRAWING TITLE	DRAWING NO.	REV.
CONFINING LAYER GEOMETRY	2	0

TABLE 1

WELL AND GROUNDWATER ELEVATION DATA

WELL NUMBER	WELL ELEVATION OUTER CASING	WELL ELEVATION INNER CASING	WATER ELEVATION 5/18/84	WATER ELEVATION 5/31/84	WATER ELEVATION 11/19/84
101	10.91	10.78	6.19	7.30	6.39
102	8.49	8.36	6.47	7.88	5.50
103	DESTROYED	(8.11)*	-	(8.01)	-
104	9.32	9.07	6.55	7.49	6.57
201	8.48	8.33	1.33	1.98	2.33
202	10.14	9.89	0.44	1.01	1.50
203	10.96	8.74	-	2.80	3.06
204	8.23	7.98	2.35	2.93	3.05

* ( ) INDICATES QUESTIONABLE VALUE

JTES:
HORIZONTAL DATUM PER
NJ. GEODETIC CONTROL
SURVEY MONUMENTS
NO. 641 AND NO. 9679.
VERTICAL DATUM IS NGVD
PER CGS MONUMENT
NO. Z-37. PUBLISHED
ELEVATION 10.072'.
PROPERTY LINES SHOWN
ARE APPROXIMATE AND
ARE BASED ON TAX MAP
DATA; DEEDS PROVIDED
BY CLIENT.

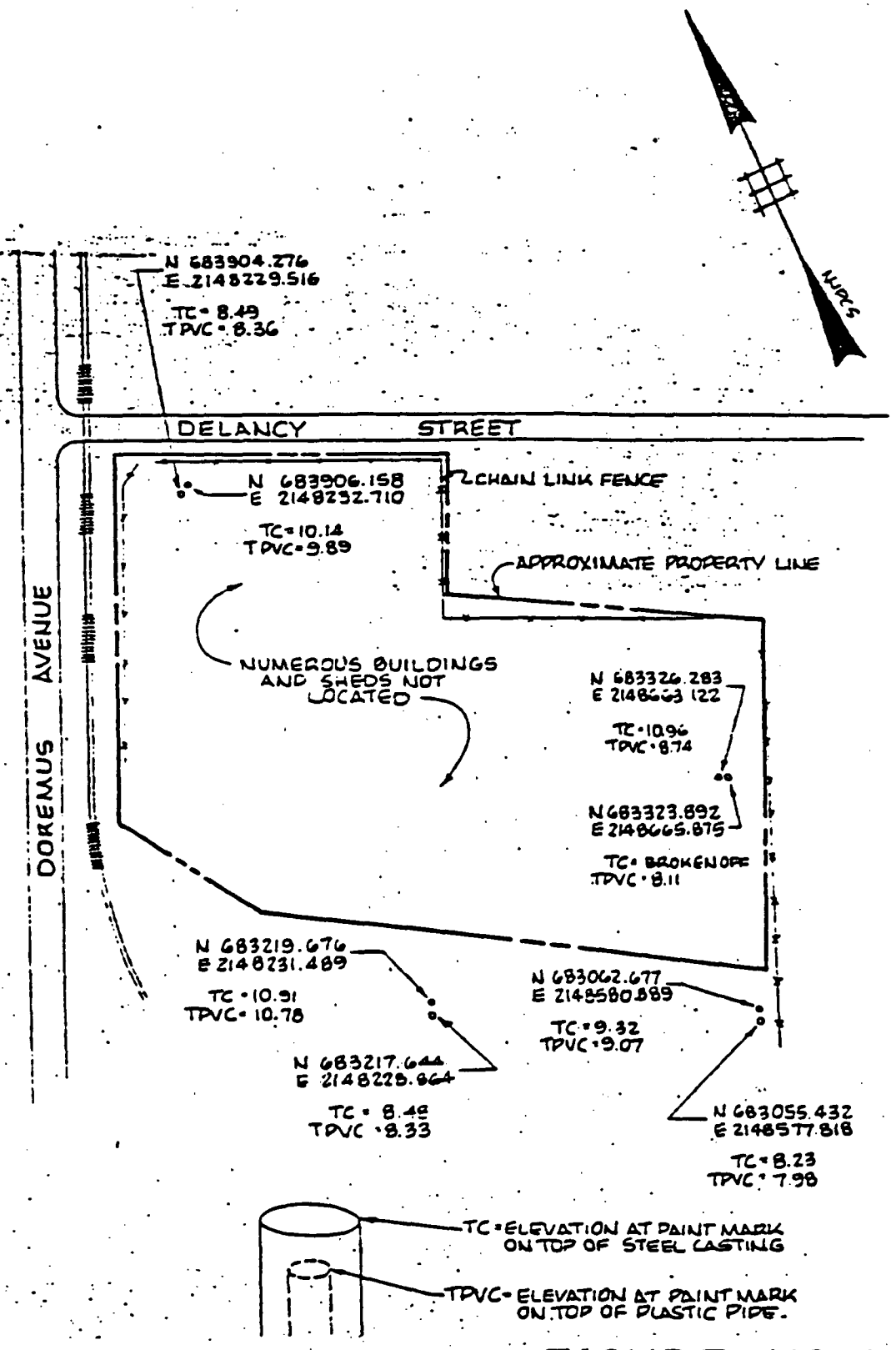


FIGURE NO. 1

SKETCH SHOWING LOCATION OF WELLS

LOT 1, BLK 5074

CITY OF NEWARK
COUNTY OF ESSEX
NEW JERSEY

DATE SIGNED 3/14/85

BRUCE R. BLAIR

B2A Consultants

323 RT. 206
HILLSBOROUGH, NJ 08876

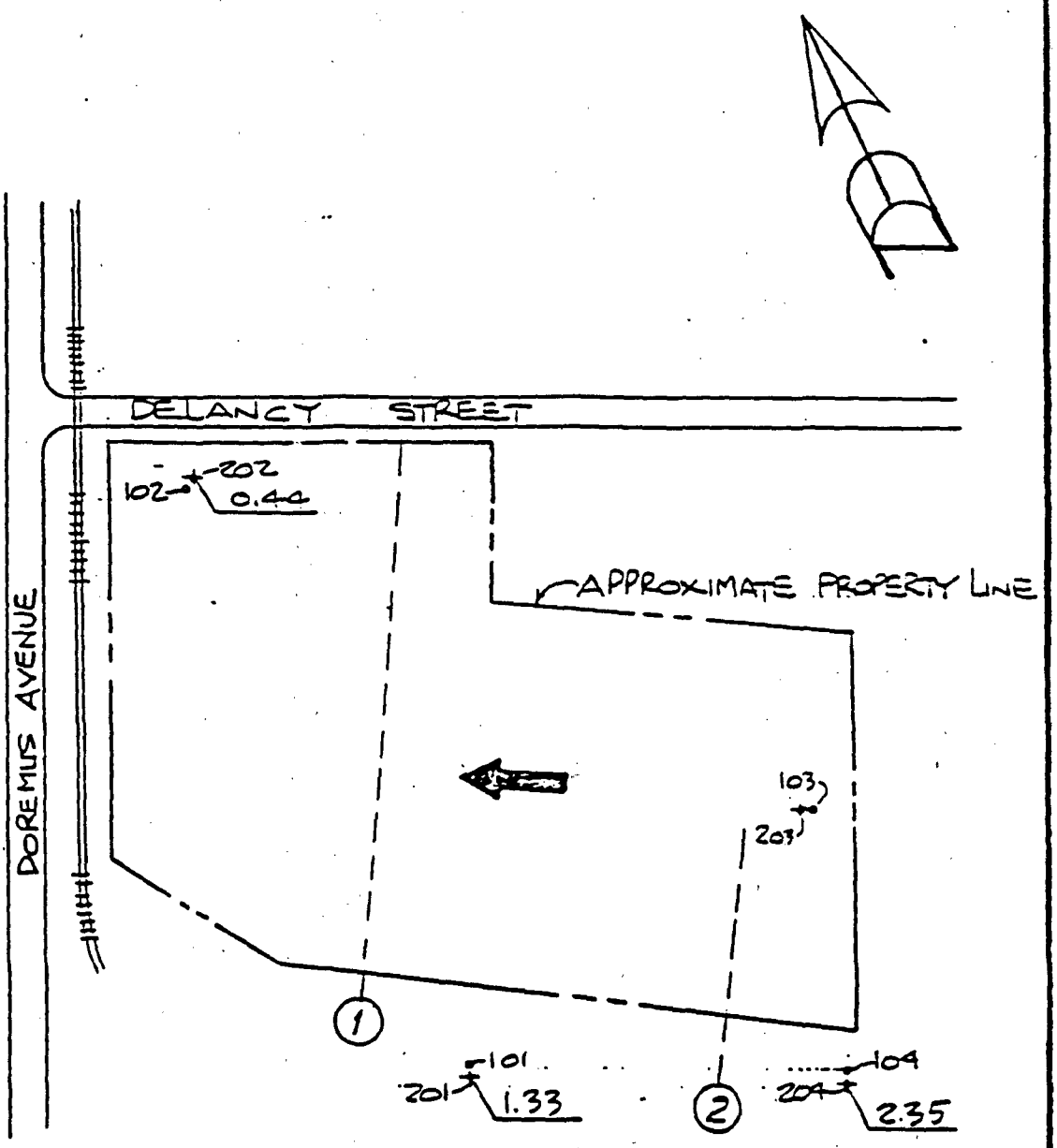
DUPLICATION IS A VIOLATION OF THE COPYRIGHT LAW

	3-1-85
	1" = 200'
	1 / 1
	122 / 22-26
	DLB / BRB
	84-293 C1

4 FLOW IN THE DEEP SYSTEM

The deep aquifer system at the site is a confined or semi-confined system. Such a system is saturated throughout, and hydrostatic pressure at the top of the aquifer is greater than atmospheric. Consequently, when tapped by a well, water will rise above the bottom of the confining layer, to a level which represents a point on an inaginary plane known as the "potentiometric surface". Flow direction is determined by the hydraulic gradient, which is equal to the slope of the potentiometric surface.

Contours on the potentiometric surface for the 3 sets of water elevation data are shown on figures 6, 7 and 8. Examination of these figures shows a virtually identical pattern on the three sets of measurements. In each case, the hydraulic gradient slopes in a direction slightly north of west, at a slope of 1 foot vertical to 400 feet horizontal, or 0.0025. Since there are no data avalaible on the thickness or permeability of the confined aquifer, it is not possible to estimate the rate of flow in that system. It may be stated with certainty, however, that there is flow in the direction indicated on the figures.



EXPLANATION

DOWN GRADIENT DIRECTION

1 CONTOUR ON POTENTIOMETRIC SURFACE

• DENOTES WELL SCREENED IN WATER TABLE AQUIFER

+ DENOTES WELL SCREENED IN CONFINED AQUIFER

SCALE: 1"=200'-0"

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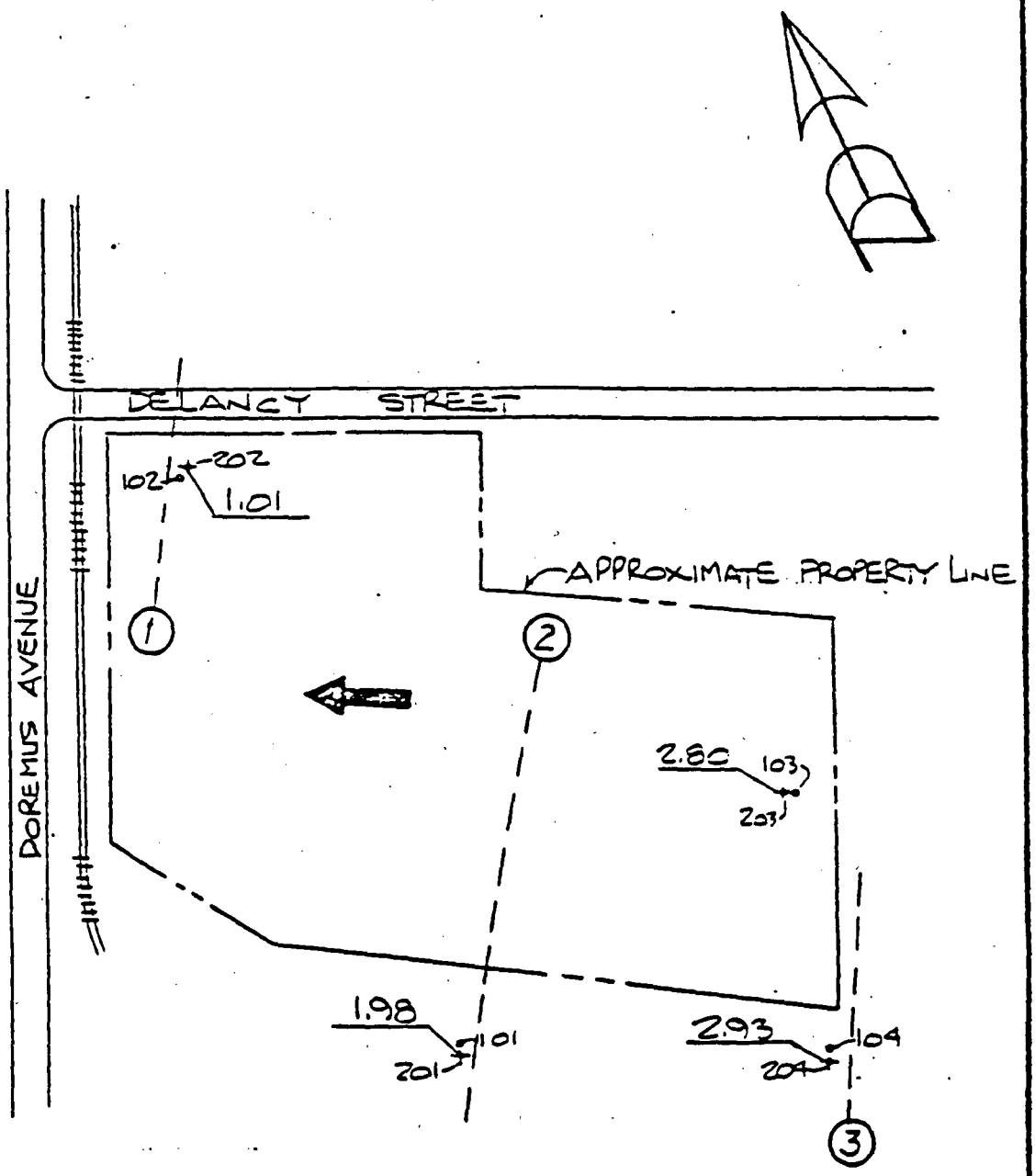
DRAWING TITLE	DRAWING NO.	REV.
POTENTIOMETRIC SURFACE 5/18/84	6	0



EXPLANATION

DOWN GRADIENT DIRECTION

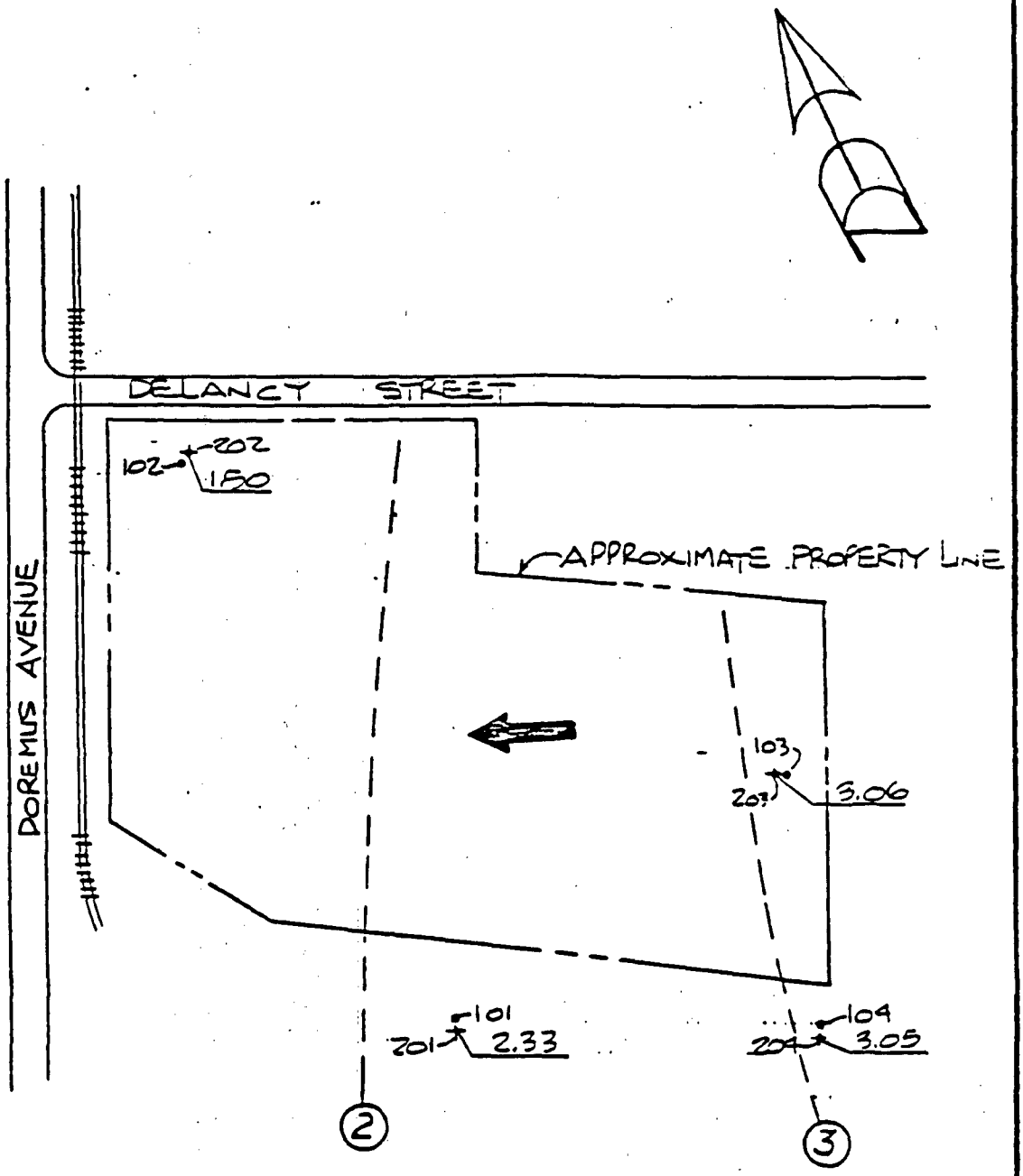
(1) CONTOUR ON POTENTIOMETRIC SURFACE

• DENOTES WELL SCREENED IN WATER TABLE AQUIFER

+ DENOTES WELL SCREENED IN CONFINED AQUIFER

SCALE: 1" = 200'-0"

ENVIRONICS, INC. ENVIRONMENTAL CONSULTANTS 46 JACKSON DRIVE CRANFORD, N.J. 07016		
DRAWING TITLE POTENTIOMETRIC SURFACE 5/31/84	DRAWING NO. 7	REV. 0



EXPLANATION

DOWN GRADIENT DIRECTION

(2) CONTOUR ON POTENTIOMETRIC SURFACE

• DENOTES WELL SCREENED IN WATER TABLE AQUIFER

+ DENOTES WELL SCREENED IN CONFINED AQUIFER

SCALE: 1"=200'-0"

ENVIRONICS, INC.
ENVIRONMENTAL CONSULTANTS
46 JACKSON DRIVE CRANFORD, N.J. 07016

DRAWING TITLE	DRAWING NO.	REV.
POTENTIOMETRIC SURFACE 11/19/84	8	0

5. INTER-SYSTEM FLOW POTENTIAL

The discussion in Sections 3 and 4 has been confined to the horizontal componant of groundwater flow in each of the aquifer systems investigated. This Section will center on flow through the confining layer, in a vertical direction.

A nested pair of wells was installed at each drilling site. A nested pair of wells consists of two wells installed at the same location, screened either at different depths within one aquifer, or as in this case, in separate aquifers. The difference in water elevations in the wells of each pair indicates the vertical hydraulic gradient.

Since well 103 was destroyed, only 3 of the 4 pairs remain. However, in those pairs the data have been consistant for each measurement. These data are presented in table 2. In each case, the vertical hydraulic gradient has been downward at a magnitude between approximately 4 and 7 feet. The downward force of this elevation difference operates over the thickness of the confining layer, which as described in Section 2, varies between 8 and 14 feet. From these data, the downward gradient across the confining layer beneath the site may be calculated. This gradient varies between 0.21 and 0.875.

A reasonable estimate of the rate of downward flow through the confining layer may be calculated by using

TABLE 2

VERTICAL GRADIENT DATA

WELL PAIR	DATE 5/13/84	5/31/84	11/19/84
101	6.19	7.30	6.39
201	1.33 (4.86)	1.98 (5.32)	2.33 (4.06)
102	6.47	7.88	5.50
202	0.44 (6.03)	1.01 (6.87)	1.50 (4.00)
103		DESTROYED	
203	-	-	-
104	6.55	7.49	6.57
204	2.35 (4.20)	2.93 (4.56)	3.05 (3.52)

Darcy's Law, and estimating the permeability of the confining layer. Darcy's Law states that groundwater flow is proportional to the permeability, the hydraulic gradient and the cross-sectional area. Based on the lithologic description of the silty clay encountered during the drilling operations, the permeability of the confining layer is estimated to vary between 10^{-6} and 10^{-8} centimeters per second. The cross-sectional area of the site is approximately 9 acres. Total flow through the confining layer, from the shallow aquifer to the deep aquifer, in units of gallons per day, is calculated therefore, to vary between lower and upper limits of approximately 20 and 7000 respectively.

6. SUMMARY AND CONCLUSIONS

Two aquifer systems were investigated at the Central Steel Drum site, a shallow water table system and a deeper confined system. The systems are separated by a silty clay confining unit, which varies in thickness between 8 and 14 feet over the 9 acre site.

Neither the water table or the confined aquifer has the potential for exploitation as a water source.

Virtually no horizontal flow could be detected in the water table system. Flow in the confined system, at an

undetermined rate, was found to be in a northwesterly direction.

Vertical flow across the confining layer is downward. The rate of downward flow across the entire site varies between limits of 20 and 7000 gallons per day.

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SITE NAME: D. and J. Trucking

TDD/BRICS NO.: 02-9005-05 / NJGGI$

DECLASSIFIED

Date: 9/17/12 Initials: jl

HRS

	S	S^2
Groundwater Route Score (S_{gw})	3.58	12.82
Surface Water Route Score (S_{sw})	9.74	94.87
Air Route Score (S_a)	—	—
$S_{gw}^2 + S_{sw}^2 + S_a^2$		107.69
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		10.38
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		6.00

WORKSHEET FOR COMPUTING S_M

PRO

	S	S^2
Groundwater Route Score (S_{gw})	6.12	37.45
Surface Water Route Score (S_{sw})	18.18	330.51
Air Route Score (S_a)	68.21	4652.60
$S_{gw}^2 + S_{sw}^2 + S_a^2$		5020.56
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		70.86
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		40.96

WORKSHEET FOR COMPUTING S_M

SITE NAME: D. and J. Trucking

TDD/BRICS NO.: 02-9005-05 / NJ66I$

CONFIDENTIAL-NOT FOR PUBLIC RELEASE

Ground Water Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multi-plier	HRS	Max Score	PRO
1 Observed Release	(0) [45]	1	0	45	45
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					
Depth to Aquifer of Concern	0 1 2 [3]	2	6	6	6
Net Precipitation	0 1 [2] 3	1	2	3	2
Permeability of the Unsaturated Zone	0 [1] 2 3	1	1	3	1
Physical State	0 1 2 [3]	1	3	3	3
Total Route Characteristics Score			12	15	12
3 Containment	0 1 2 [3]	1	3	3	3
4 Waste Characteristics					
Toxicity/Persistence	0 3 6 9 12 15 [18]	1	18	18	18
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 [8]	1	1	8	8
Total Waste Characteristics Score			19	26	26
5 Targets					
Ground Water Use	0 [1] 2 3	3	3	9	3
Distance to Nearest Well/Population Served	[0] 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	0	40	0
Total Targets Score			3	49	3
6 If line 1 is 45, multiply 1 x 2 x 3 x 5; If line 1 is 0, multiply 2 x 3 x 4 x 5			2052	57 330	3510
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} = 3.58			6.12

O HRS score

□ PRO score

JUSTIFICATION FOR SCORES/SOURCE

(Unknown HRS values are scored 0 except for containment, which, if unknown, is scored 1. All default values should be noted as such.)

No observed release has been documented for the site. However, there is potential for release of contaminants to groundwater.

Depth to the Passaic Formation in the vicinity of the site is approximately 50 feet. The depth from the lowest point of waste storage/disposal to the highest seasonal level of the saturated zone of the aquifer of concern is approximately 4 feet.

The net annual precipitation for the region is approximately 13 inches.

The permeability of the unconsolidated deposits above the aquifer of concern is 10^{-5} to 10^{-7} cm/sec.

The physical state of contaminants dumped into an unlined pit on site was liquid.

No liner or containment system was used to contain dumped wastes on site.

Arsenic, chromium, barium, vanadium, iron, lead and copper were detected in samples collected by NUS Corporation Region 2 FIT on June 26, 1990.

Aerial photographs (1978) reveal what appears to be approximately 30 drums or large containers on the property. D. and J. Trucking and Waste Co., Inc. has disposed of wastes on the property for several years. The total waste quantity disposed at the site is unknown.

Groundwater is used for commercial and industrial purposes within 3 miles of the site.

The nearest known well that draws potable water from the aquifer of concern is located in Biase's Restaurant approximately 4 miles northwest of the site. Biase's Restaurant has a seating capacity of 600 and currently employs around 10 individuals. Water from the well is used for drinking.

ADDITIONAL NOTES OR COMMENTS

There is potential for release of contaminants to the air.
There is potential for direct contact with contaminants on site. Access to the site is not restricted.
Notable concentrations of heavy metal contaminants were encountered on site.

SITE NAME: D. and J. Trucking

TDD/BRICS NO.: 02-9005-05 / NJGGI$

CONFIDENTIAL-NOT FOR PUBLIC RELEASE

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	HRS	Max. Score	PRO
1 Observed Release	(0) [45]	1	0	45	45
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					
Facility Slope and Intervening Terrain	[0] 1 2 3	1	0	3	0
1-yr. 24-hr. Rainfall	0 1 [2] 3	1	2	3	2
Distance to Nearest Surface Water	0 1 2 [3]	2	6	6	6
Physical State	0 1 2 [3]	1	3	3	3
Total Route Characteristics Score			11	15	11
3 Containment	0 1 2 [3]	1	3	3	3
4 Waste Characteristics					
Toxicity/Persistence	0 3 6 9 12 15 [18]	1	18	18	18
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 [8]	1	1	8	8
Total Waste Characteristics Score			19	26	26
5 Targets					
Surface Water Use	0 1 [2] 3	3	6	9	6
Distance to a Sensitive Environment	0 1 [2] 3	2	4	6	4
Population Served/Distance to Water Intake Downstream	[0] 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	0	40	0
Total Targets Score			10	55	10
6 If line 1 is 45, multiply 1 x 4 x 5; If line 1 is 0, multiply 2 x 3 x 4 x 5			6270	64 350	11700
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} = 9.74			18.18

○ HRS score

□ PRO score

JUSTIFICATION FOR SCORES/SOURCE

(Unknown HRS values are scored 0 except for containment, which, if unknown, is scored 1. All default values should be noted as such.)

No observed release has been documented for the site. However, there is potential for release of contaminants to surface water.

The facility slope is less than 3 percent. The slope of the intervening terrain is less than 3 percent.

The 1-year-24-hour rainfall for the region is approximately 2.7 inches. The nearest downslope surface water is the drainage ditch located along the south-western border of the property. This drainage ditch forms part of a larger man-made ditch system which connects with Plum Point Creek. The physical state of contaminants dumped on site was liquid.

No liner or diversion system was used to contain dumped wastes on site.

Arsenic, chromium, barium, vanadium, iron, lead, and copper were detected in samples collected by NUS Corporation Region 2 FIT on June 26, 1990.

Aerial photographs (1978) reveal what appears to be approximately 30 drums or large containers discarded on the property. D. and J. Trucking and Waste Co, Inc has disposed of wastes on the property for several years. The total waste quantity discarded at the site is unknown.

The tidal wetland and Newark Bay are designated for secondary contact recreation, the propagation and maintenance of natural biota, and migration of fish populations. Surface water is not used for drinking within 3 miles downstream of the site. An estuarine, intertidal, flat wetland is located approximately 0.7 mile to the southeast of the site and may provide a breeding ground for the least tern (Sterna antillarum). There are no known surface water intakes used for potable and irrigation purposes within 3 miles downstream of the site.

ADDITIONAL NOTES OR COMMENTS

There is potential for release of contaminants to the air. There is potential for direct contact with contaminants on site. Access to the site is not restricted. Notable concentrations of heavy metal contaminants were encountered on site.

SITE NAME: D. and J. Trucking

TDD/BRICS NO.: 02-9005-05 / NJGGI$

CONFIDENTIAL-NOT FOR PUBLIC RELEASE

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	HRS	Max. Score	PRO
1 Observed Release	0 [45]	1		45	45
Date and Location:					
Sampling Protocol:					
If line 1 is 0, the S_a = 0. Enter on line 5 If line 1 is 45, then proceed to line 2					
2 Waste Characteristics					
Reactivity and Incompatibility	0 1 [2] 3	1		3	2
Toxicity	0 1 2 [3]	3		9	9
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 [8]	1		8	8
	Total Waste Characteristics Score			20	19
3 Targets					
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	21
Distance to Sensitive Environment	0 1 [2] 3	2		6	4
Land Use	0 1 2 [3]	1		3	3
	Total Targets Score			39	28
4 Multiply 1 x 2 x 3				35,100	23,940
5 Divide line 4 by 35,100 and multiply by 100		S_a =			68.21

HRS score is not applicable.

☐ PRO score

JUSTIFICATION FOR SCORES/SOURCE

(A documented observed release is required for a nonzero HRS score. Not all sites will be PRO scorable.)

No observed release has been documented for the site. However, there is potential for release of airborne contaminants or soil particulates to the air.

Results of an analysis by the PVSC indicated liquid waste dumped into an unlined pit on site was of a hazardous and flammable nature. The history of other properties in the Newark area owned by D. and J. Trucking and Waste Co., Inc. indicates improperly contained, incompatible, or highly reactive chemicals may be buried in drums beneath the site's soil. A fire and explosion resulted when red phosphorous and numerous drums of flammable hazardous wastes were unearthed at the nearby Avenue P Site during remediation of a former property of the waste hauling firm.

Aerial photographs (1978) reveal what appears to be approximately 30 drums or large containers discarded on the property. D. and J. Trucking and Waste Co., Inc. has disposed of wastes on the site for several years. The total waste quantity discarded is unknown.

Over 10,000 people live and work within a 4-mile radius of the site.

An estuarine, intertidal, flat wetland is located approximately 0.7 mile to the southeast of the site and may provide a breeding ground for the least tern (Sterna antillarum).

The site is located in a heavily industrialized area of Newark. The site is also bordered to the southeast and southwest by industrial/chemical plants.

ADDITIONAL NOTES OR COMMENTS

There is potential for direct contact with contaminants on site. Access to the site is not restricted. Notable concentrations of heavy metal contaminants were encountered on site