SEMS DocID 2332239

Delaware Solid Waste Authority

P. O. BOX 455

DOVER, DE 19903-0455

ORIGINAL (Red)

N. C. Vasuki, P. E.
General Manager

Telephone:
(302-736-5361)

December 9, 1985
(RW:NSWF-1:85:003)

Laura Boornazian
U.S. EPA
841 Chestnut Bldg.
Philadelphia, PA 19107

Dear Ms. Boornazian:

In response to your request to Mr. Pasquale S. Canzano dated December 4, 1985, we are enclosing water quality data for the Pigeon Point Landfill located in New Castle County. This data covers the period of April, 1984 - March, 1985.

If you have any questions regarding the enclosed information, please contact me directly.

Sincerely,

"non responsive based on revised scope" [redacted] P.E.
Manager of Engineering

Encs.

File

ORTHERN SOLID WASTE FACIL
GROUNDWATER MONITORING PRO RAM
PERMIT YEAR 1984/85
WELL #1R

RECEIVED
JUN 10 1985
DELAWARE SOLID WASTE AUTHORITY

ANALYSIS	UNITS	SEPT/84	DEC/84	MAR/85
pH	pH	7.23		
Total Dissolved Solids	mg/l	1218	1090	1027
Specific Conductance	umhos/cm	2262		
Total Organic Carbon	mg/l	68	166	300
Chemical Oxygen Demand	mg/l			511
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	91	141	96
Nitrate	mg/l	0.12	< 0.05	< 0.05
Alkalinity, Total	mg/l	698	650	704
Chloride	mg/l	201	231	203
Total Iron	mg/l	3.0	1.9	7.0
Total Barium	mg/l			
Total Cadmium	mg/l			
Total Calcium	mg/l			
Total Chromium	mg/l			
Total Lead	mg/l			
Total Magnesium	mg/l			
Total Manganese	mg/l			
Total Silver	mg/l			
Total Zinc	mg/l			
Arsenic	mg/l			
Selenium	mg/l			
Mercury	mg/l			
Benzene	ug/l			< 1
Ethylbenzene	ug/l			< 1
Methylene Chloride	ug/l			4
Tetrachloroethylene	ug/l			15
Toluene	ug/l			2
Trichloroethlyene	ug/l			ND

ORIGINAL (Red)

ANALYSIS AND SAMPLING PERFORMED BY: BRANDT ASSOCIATES, INC.

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

"non responsive based on revised scope"
[redacted]
TECHNICAL DIRECTOR

REPORT DATE: 5/20/85

NSWF

ORTHERN SOLID WASTE FACILI-Y - 1
GROUNDWATER MONITORING PRL .RAM
PERMIT YEAR 1984/85
WELL # 1A

ORIGINAL
(Red)

ANALYSIS	UNITS	SEPT/84	DEC/84	MAR/85
pH	pH	6.00		
Total Dissolved Solids	mg/l	571	1008	1221
Specific Conductance	umhos/cm	2178		
Total Organic Carbon	mg/l	19	23	104
Chemical Oxygen Demand	mg/l			186
Biochemical Oxygen Demand	mg/l			60
T. Kjeldahl Nitrogen	mg/l	13	12.9	12
Nitrate	mg/l	1.33	< 0.05	0.2
Alkalinity, Total	mg/l	299	359	475
Chloride	mg/l	332	322	277
Total Iron	mg/l	1.0	1.29	1.8
Total Barium	mg/l			< 0.2
Total Cadmium	mg/l			< 0.02
Total Calcium	mg/l			128
Total Chromium	mg/l			0.1
Total Lead	mg/l			< 0.1
Total Magnesium	mg/l			71
Total Manganese	mg/l			25
Total Silver	mg/l			< 0.02
Total Zinc	mg/l			0.22
Arsenic	mg/l			< 0.025
Selenium	mg/l			< 0.002
Mercury	mg/l			0.0009
Benzene	ug/l			
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			

ANALYSIS AND SAMPLING PERFORMED BY: BRANDT ASSOCIATES, INC.

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

"non responsive based on revised scope"

TECHNICAL DIRECTOR

REPORT DATE: 5/20/85

ORTHERN SOLID WASTE FACILI - 1
GROUNDWATER MONITORING PRO RAM
PERMIT YEAR 1984/85
WELL # 25R

ORIGINAL
(Red)

ANALYSIS	UNITS	SEPT/84	DEC/84	MAR/85
pH	pH	5.88		
Total Dissolved Solids	mg/l	876	847	638
Specific Conductance	umhos/cm	1240		
Total Organic Carbon	mg/l	2	4	23
Chemical Oxygen Demand	mg/l			11
Biochemical Oxygen Demand	mg/l			60
T. Kjeldahl Nitrogen	mg/l	5.0	4.0	5.0
Nitrate	mg/l	< 0.05	2.2	0.05
Alkalinity, Total	mg/l	110	71	108
Chloride	mg/l	131	128	74
Total Iron	mg/l	0.08	< 0.05	< 0.05
Total Barium	mg/l			< 0.2
Total Cadmium	mg/l			0.02
Total Calcium	mg/l			85
Total Chromium	mg/l			< 0.1
Total Lead	mg/l			< 0.1
Total Magnesium	mg/l			40
Total Manganese	mg/l			39
Total Silver	mg/l			< 0.02
Total Zinc	mg/l			0.04
Arsenic	mg/l			< 0.025
Selenium	mg/l			< 0.002
Mercury	mg/l			0.0008
Benzene	mg/l	< 1		< 1
Ethylbenzene	mg/l	< 1		< 1
Methylene Chloride	mg/l	< 1		1
Tetrachloroethylene	mg/l	9		ND
Toluene	mg/l	2		ND
Trichloroethlyene	mg/l	< 1		ND

ANALYSIS AND SAMPLING PERFORMED BY: BRANDT ASSOCIATES, INC.

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

"non responsive based on revised scope"

TECHNICAL DIRECTOR

REPORT DATE: 5/20/85

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 1984/85
WELL #26R

ORIGINAL
(Red)

ANALYSIS	UNITS	SEPT/84	DEC/84	MAR/85
pH	pH	5.97		
Total Dissolved Solids	mg/l	1496	1390	1097
Specific Conductance	umhos/cm	2282		
Total Organic Carbon	mg/l	12	10	112
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	6	8.6	11
Nitrate	mg/l	0.06	< 0.05	< 0.05
Alkalinity, Total	mg/l	372	351	390
Chloride	mg/l	379	384	333
Total Iron	mg/l	0.50	0.62	0.09
Total Barium	mg/l			< 0.2
Total Cadmium	mg/l			< 0.02
Total Calcium	mg/l			121
Total Chromium	mg/l			< 0.1
Total Lead	mg/l			< 0.1
Total Magnesium	mg/l			66
Total Manganese	mg/l			22
Total Silver	mg/l			< 0.02
Total Zinc	mg/l			< 0.02
Arsenic	mg/l			< 0.025
Selenium	mg/l			< 0.002
Mercury	mg/l			0.022
Benzene	ug/l			
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			

ANALYSIS AND SAMPLING PERFORMED BY: BRANDT ASSOCIATES, INC.

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

"non responsive based on revised scope"

[redacted]

TECHNICAL DIRECTOR

REPORT DATE: 5/20/85

'ORTHERN SOLID WASTE FACIL? ' - 1
GROUNDWATER MONITORING PRG..RAM
PERMIT YEAR 1984/85
WELL # 27R

ORIGINAL
(Red)

ANALYSIS	UNITS	SEPT/84	DEC/84	MAR/85
pH	pH	6.02		
Total Dissolved Solids	mg/l	956	1000	918
Specific Conductance	umhos/cm	1536		
Total Organic Carbon	mg/l	7	10	55
Chemical Oxygen Demand	mg/l			75
Biochemical Oxygen Demand	mg/l			60
T. Kjeldahl Nitrogen	mg/l	1.6	< 1	5
Nitrate	mg/l	< 0.05	< 0.05	0.1
Alkalinity, Total	mg/l	222	243	235
Chloride	mg/l	285	338	338
Total Iron	mg/l	0.22	1.56	0.05
Total Barium	mg/l			< 0.2
Total Cadmium	mg/l			0.02
Total Calcium	mg/l			59
Total Chromium	mg/l			0.1
Total Lead	mg/l			< 0.1
Total Magnesium	mg/l			38
Total Manganese	mg/l			32
Total Silver	mg/l			< 0.02
Total Zinc	mg/l			0.14
Arsenic	mg/l			< 0.025
Selenium	mg/l			< 0.002
Mercury	mg/l			0.0003
Benzene	mg/l	< 1		1
Ethylbenzene	mg/l	< 1		< 1
Methylene Chloride	mg/l	< 1		3
Tetrachloroethylene	mg/l	150		< 1
Toluene	mg/l	< 1		ND
Trichloroethlyene	mg/l	< 1		ND

ANALYSIS AND SAMPLING PERFORMED BY: BRANDT ASSOCIATES, INC.

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

"non responsive based on revised scope"

NORTHERN SOLID WASTE FACIL. ✓ - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 1984/85
WELL #28

ORIGINAL
(Red)

ANALYSIS	UNITS	SEPT/84	DEC/84	MAR/85
pH	pH	6.80		
Total Dissolved Solids	mg/l	1080	1015	1027 ✓
Specific Conductance	umhos/cm	1805		
Total Organic Carbon	mg/l	2	4	32 ✓
Chemical Oxygen Demand	mg/l			0.57 ✓
Biochemical Oxygen Demand	mg/l			5 ✓
T. Kjeldahl Nitrogen	mg/l	0.7	2.4	2 ✓
Nitrate	mg/l	5.4	5.5	6 ✓
Alkalinity, Total	mg/l	116	111	115 ✓
Chloride	mg/l	329	315	313 ✓
Total Iron	mg/l	0.19	0.38	0.6 ✓
Total Barium	mg/l			< 0.2 ✓
Total Cadmium	mg/l			< 0.02 ✓
Total Calcium	mg/l			72 ✓
Total Chromium	mg/l			< 0.1 ✓
Total Lead	mg/l			< 0.1 ✓
Total Magnesium	mg/l			39 ✓
Total Manganese	mg/l			2.8 ✓
Total Silver	mg/l			< 0.02 ✓
Total Zinc	mg/l			0.34 ✓
Arsenic	mg/l			0.218 ✓
Selenium	mg/l			< 0.002 ✓
Mercury	mg/l			0.001 ✓
Benzene	ug/l	< 1		1.5 ✓
Ethylbenzene	ug/l	< 1		< 1 ✓
Methylene Chloride	ug/l	< 1		1.3 ✓
Tetrachloroethylene	ug/l	100		< 1 ✓
Toluene	ug/l	< 1		< 1 ✓
Trichloroethlyene	ug/l	< 1		1.5 ✓

ANALYSIS AND SAMPLING PERFORMED BY: BRANDT ASSOCIATES, INC.

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

"non responsive based on revised scope"
[redacted]
TECHNICAL DIRECTOR

REPORT DATE: 5/20/85

NORTHERN SOLID WASTE FACIL. 1 - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 1984/85
WELL #28A

ORIGINAL
(Red)

ANALYSIS	UNITS	MAR / 84	MAR / 85
pH	pH		
Total Dissolved Solids	mg/l	425	384
Total Suspended Solids	mg/l		
Specific Conductance	umhos/cm		
Total Organic Carbon	mg/l	8	32
Chemical Oxygen Demand	mg/l		
Biochemical Oxygen Demand	mg/l		
T. Kjeldahl Nitrogen	mg/l	9.6	8
Nitrate	mg/l		
Alkalinity, Total	mg/l	124	83
Chloride	mg/l		67
Total Iron	mg/l	0.25	< 0.05
Ethylbenzene	ug/l		< 1
Methylene Chloride	ug/l		4
Tetrachloroethylene	ug/l		1
Toluene	ug/l		< 1
Trichloroethlyene	ug/l		ND
Benzene	ug/l		< 1

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

"non responsive based on revised scope"
[redacted]
TECHNICAL DIRECTOR

REPORT DATE: 5/20/85

NORTHERN SOLID WASTE FACIL / - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 1984/85
WELL #29

ORIGINAL
(Red)

ANALYSIS	UNITS	SEPT/84	DEC/84	MAR/85
pH	pH	5.74		
Total Dissolved Solids	mg/l	733	593	652 ✓
Specific Conductance	umhos/cm	1323		
Total Organic Carbon	mg/l	8	6	40 ✓
Chemical Oxygen Demand	mg/l			149 ✓
Biochemical Oxygen Demand	mg/l			26 ✓
T. Kjeldahl Nitrogen	mg/l	11	13.9	7 ✓
Nitrate	mg/l	< 0.05	< 0.05	0.1 ✓
Alkalinity, Total	mg/l	137	141	147 ✓
Chloride	mg/l	307	319	281 ✓
Total Iron	mg/l	30	7.4	37 ✓
Total Barium	mg/l			< 0.2 ✓
Total Cadmium	mg/l			< 0.02 ✓
Total Calcium	mg/l			27 ✓
Total Chromium	mg/l			< 0.1 ✓
Total Lead	mg/l			< 0.1 ✓
Total Magnesium	mg/l			25 ✓
Total Manganese	mg/l			1.5 ✓
Total Silver	mg/l			< 0.02 ✓
Total Zinc	mg/l			0.03 ✓
Arsenic	mg/l			0.259 ✓
Selenium	mg/l			< 0.002 ✓
Mercury	mg/l			0.0005 ✓
Benzene	ug/l	< 1		< 1 ✓
Ethylbenzene	ug/l	< 1		< 1 ✓
Methylene Chloride	ug/l	< 1		1.5 ✓
Tetrachloroethylene	ug/l	< 1		< 1 ✓
Toluene	ug/l	< 1		< 1 ✓
Trichloroethlyene	ug/l	< 1		< 1 ✓

ANALYSIS AND SAMPLING PERFORMED BY: BRANDT ASSOCIATES, INC.

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

"non responsive based on revised scope"

REPORT DATE: 5/20/85

TECHNICAL DIRECTOR

ORTHERN SOLID WASTE FACIL? ' - 1
GROUNDWATER MONITORING PRO..RAM
PERMIT YEAR 1984/85
WELL #29A

ORIGINAL
(Red)

ANALYSIS	UNITS	SEPT/84	DEC/84	MAR/85
pH	pH	5.01		
Total Dissolved Solids	mg/l	641	504	395
Specific Conductance	umhos/cm	824		
Total Organic Carbon	mg/l	10	12	15
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	3.4	2.7	4
Nitrate	mg/l	0.32	0.53	3.1
Alkalinity, Total	mg/l	9	14	15
Chloride	mg/l	102	65	58
Total Iron	mg/l	1.81	.22	0.2
Total Barium	mg/l			< 0.2
Total Cadmium	mg/l			< 0.02
Total Calcium	mg/l			7
Total Chromium	mg/l			< 0.1
Total Lead	mg/l			< 0.1
Total Magnesium	mg/l			18
Total Manganese	mg/l			1.3
Total Silver	mg/l			< 0.02
Total Zinc	mg/l			1.67
Arsenic	mg/l			< 0.025
Selenium	mg/l			< 0.002
Mercury	mg/l			0.0003
Benzene	ug/l	< 1		< 1
Ethylbenzene	ug/l	< 1		< 1
Methylene Chloride	ug/l	< 1		3
Tetrachloroethylene	ug/l	< 1		ND
Toluene	ug/l	< 1		< 1
Trichloroethlyene	ug/l	< 1		ND

ANALYSIS AND SAMPLING PERFORMED BY: BRANDT ASSOCIATES, INC.

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

"non responsive based on revised scope"

REPORT DATE: 5/20/85 TECHNICAL DIRECTOR

JRTHERN SOLID WASTE FACILI F, - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #31A

ORIGINAL
(Red)

ALYSIS	UNITS	MAR/84	MAR/85
	pH		
tal Dissolved Solids	mg/l	1290	1464
tal Suspended Solids	mg/l		
ecific Conductance	umhos/cm		
tal Organic Carbon	mg/l	82	510
emical Oxygen Demand	mg/l		
ochemical Oxygen Demand	mg/l		
Kjeldahl Nitrogen	mg/l	185	290
trate	mg/l		
kalinity, Total	mg/l	938	1400
lo[illegible]	mg/l	193	383
ta[illegible]ron	mg/l	2.04	1.5
hylbenzene	ug/l		
thylene Chloride	ug/l		
trachloroethylene	ug/l		
luene	ug/l		
ichloroethlyene	ug/l		
nzene	ug/l		

ALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
MPLING PERFORMED BY: DUFFIELD ASSOCIATES

E ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND
LLECTION DATE.

FE[illegible]VE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE
LLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids,
ecific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene,
luene, trichloroethylene, and benzene.

PORT DATE: 5/20/85

[redacted] "non responsive based on revised scope"
TECHNICAL DIRECTOR

ORTHERN SOLID WASTE FACIL. / - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 1984/85
WELL #32A

ORIGINAL
(Red)

ANALYSIS	UNITS	SEPT/84	DEC/84	MAR/85
pH	pH	5.82		
Total Dissolved Solids	mg/l	1148	1026	957
Specific Conductance	umhos/cm	1570		
Total Organic Carbon	mg/l	14	12	128
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	3.6	2.5	12
Nitrate	mg/l	0.17	1.01	0.1
Alkalinity, Total	mg/l	138	74	333
Chloride	mg/l	157	93	216
Total Iron	mg/l	0.31	.75	< 0.05
Total Barium	mg/l			
Total Cadmium	mg/l			
Total Calcium	mg/l			
Total Chromium	mg/l			
Total Lead	mg/l			
Total Magnesium	mg/l			
Total Manganese	mg/l			
Total Silver	mg/l			
Total Zinc	mg/l			
Arsenic	mg/l			
Selenium	mg/l			
Mercury	mg/l			
Benzene	ug/l			
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			

ANALYSIS AND SAMPLING PERFORMED BY: BRANDT ASSOCIATES, INC.

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

"non responsive based on revised scope"

REPORT DATE: 5/20/85

TECHNICAL DIRECTOR

ORTHERN SOLID WASTE FACIL' Y -1 1
GROUNDWATER MONITORING PRL_RAM
PERMIT YEAR 1984/85
FIRE POND

ORIGINAL
(Red)

ANALYSIS	UNITS	SEPT/84	DEC/84	MAR/85
pH	pH	6.13		
Total Dissolved Solids	mg/l	496	7041	441
Total Suspended Solids	mg/l	20		90
Specific Conductance	umhos/cm	816		
Total Organic Carbon	mg/l	15	18	55
Chemical Oxygen Demand	mg/l		54	70
Biochemical Oxygen Demand	mg/l	14	15	300
T. Kjeldahl Nitrogen	mg/l	4	4.1	6
Nitrate	mg/l	< 0.05	0.66	0.2
Alkalinity, Total	mg/l	218	153	169
Chloride	mg/l	94	71	85
Total Iron	mg/l	2.7	0.35	0.45
Total Barium	mg/l	< 0.2		< 0.2
Total Cadmium	mg/l	< 0.02		0.02
Total Calcium	mg/l	45		64
Total Chromium	mg/l	< 0.1		0.1
Total Lead	mg/l	< 0.1		< 0.1
Total Magnesium	mg/l	23		20
Total Manganese	mg/l	9.1		1.7
Total Silver	mg/l	< 0.02		< 0.02
Total Zinc	mg/l	0.04		< 0.02
Arsenic	mg/l	0.02		< 0.025
Selenium	mg/l	< 0.01		< 0.002
Mercury	mg/l	0.0017		0.0008
Benzene	ug/l	< 1		< 1
Ethylbenzene	ug/l	< 1		ND
Methylene Chloride	ug/l	< 1		8
Tetrachloroethylene	ug/l	5		7
Toluene	ug/l	< 1		ND
Trichloroethlyene	ug/l	1		ND

ANALYSIS AND SAMPLING PERFORMED BY: BRANDT ASSOCIATES, INC.

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

"non responsive based on revised scope"
[redacted]
TECHNICAL DIRECTOR

REPORT DATE: 5/20/85

'ORTHERN SOLID WASTE FACILI'Y - 1
GROUNDWATER MONITORING PR. RAM
PERMIT YEAR 1984/85
SOUTHWEST LIFT STATION

ORIGINAL
(Red)

ANALYSIS	UNITS	SEPT/84	DEC/84	MAR/85
pH	pH	7.07		
Total Dissolved Solids	mg/l	3997	4042	3618 ✓
Total Suspended Solids	mg/l	728	95	
Specific Conductance	umhos/cm	8250		
Total Organic Carbon	mg/l	450	390	879 ✓
Chemical Oxygen Demand	mg/l		211	1608✓
Biochemical Oxygen Demand	mg/l	139	< 60	720✓
T. Kjeldahl Nitrogen	mg/l	610	520	400✓
Nitrate	mg/l	< 0.1	0.06	< 0.01✓
Alkalinity, Total	mg/l	2466	2549	2460 ✓
Chloride	mg/l	1565	1179	1100 ✓
Total Iron	mg/l	1.80	0.99	1.6 ✓
Total Barium	mg/l	< 0.2		< 0.2✓
Total Cadmium	mg/l	< 0.02		< 0.02✓
Total Calcium	mg/l	68		91 ✓
Total Chromium	mg/l	0.1		< 0.2✓
Total Lead	mg/l	< 0.1		< 0.09✓
Total Magnesium	mg/l	123		118 ✓
Total Manganese	mg/l	0.21		0.45✓
Total Silver	mg/l	< 0.02		< 0.02✓
Total Zinc	mg/l	0.07		0.09✓
Arsenic	mg/l	0.033		< 0.025✓
Selenium	mg/l	< 0.001		< 0.002✓
Mercury	mg/l	0.019		0.0008✓
Benzene	ug/l	13		
Ethylbenzene	ug/l	22		
Methylene Chloride	ug/l	4		
Tetrachloroethylene	ug/l	50		
Toluene	ug/l	6		
Trichloroethlyene	ug/l	< 1		

ANALYSIS AND SAMPLING PERFORMED BY: BRANDT ASSOCIATES, INC.

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethy toluene, trichloroethylene, and benzene.

"non responsive based on revised scope"

REPORT DATE: 5/20/85

TECHNICAL DIRECTOR

NORTHERN SOLID WASTE FACIL Y - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #52

ORIGINAL
(Red)

ANALYSIS	UNITS	* NEW WELL MAR/85
pH	pH	
Total Dissolved Solids	mg/l	3591
Total Suspended Solids	mg/l	
Specific Conductance	umhos/cm	
Total Organic Carbon	mg/l	330
Chemical Oxygen Demand	mg/l	
Biochemical Oxygen Demand	mg/l	
T. Kjeldahl Nitrogen	mg/l	60
Nitrate	mg/l	0.1
Alkalinity, Total	mg/l	704
Chloride	mg/l	958
Total Iron	mg/l	< 0.05
Ethylbenzene	ug/l	< 1
Methylene Chloride	ug/l	3
Tetrachloroethylene	ug/l	11
Toluene	ug/l	2
Trichloroethlyene	ug/l	ND
Benzene	ug/l	< 1

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR TH FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethyle toluene, trichloroethylene, and benzene.

REPORT DATE: 5/20/85

"non responsive based on revised scope"
[redacted]
TECHNICAL DIRECTOR

RECEIVED
APR 25 1985
DELAWARE SOLID WASTE AUTHORITY

ORIGINAL (Red)
3 ~~NCV~~
JLP
1 ~~PSC~~
2 ~~RPW~~
JJD
JR
JFB
~~4 CTC~~
JWP
FILE 5

DUFFIELD ASSOCIATES, INC.
5400 LIMESTONE ROAD WILMINGTON, DELAWARE 19808 302-239-6634
CONSULTING GEOTECHNICAL ENGINEERS

April 17, 1985

Mr. James Rohrbach
Facility Engineer
Delaware Solid Waste Authority
1101 Lambson Lane
New Castle, DE 19720

W.O. 260-B
RE: Northern Solid Waste Facility-1
Quarterly Water Level Monitoring
March 1985 Sampling Sequence
Permit Year 1984-1985

Dear Mr. Rohrbach:

During the period of 18 through 27 March 1985, we obtained groundwater level measurements as a part of the Quarterly Groundwater Monitoring program at the Northern Solid Waste Facility-1. Also during this period, we performed quarterly groundwater sampling and field quality testing. This sampling was performed in accordance with the schedule for water quality testing, transmitted to your office with our letter of February 28, 1985. The schedule was amended prior to the commencement of this sampling to reflect abandonment of observation wells 37, 37A, and well 50 and installation of observation well No. 52 on February 27, 1985. Copies of this sampling schedule was transmitted to Brandt Associates, Inc. to aid them in scheduling of laboratory testing. This sampling schedule included at your request, the required testing as outlined in Permit SW-84/17 along with recommended additional testing from this and previous permit years. A copy of this schedule was transmitted to your office for your review and approval prior to commencement of the testing program.

Tabular summaries of The groundwater elevation and field water quality testing results are included for your use and for submittal to the Delaware Department of Natural Resources.

ORIGINAL
(Red)

Comparison of water table elevation data, obtained during this period, with that obtained during previous periods indicates a slight general increase in water table elevation between December 1984 and March 1985. This general increase in water table elevation is consistent with historical trends of the facility and is consistent with our experience with other areas of New Castle County during this same period. Despite this fluctuation, groundwater flow in the water table stratum, which includes Recent deposits, dredge spoils, and solid waste fill, has apparently maintained the historical pattern of radial flow in all directions from the elevated mound within the refuse fill and towards the site perimeter.

Comparison of the piezometric elevation data for the Pleistocene age stratum (Columbia Formation) indicates a slight general decrease in piezometric levels between December 1984 and March 1985, which is contrary to the historical fluctuation patterns. The magnitude of that decrease is greatest for observation well 27R. The indicated flow gradient is west to southwesterly away from the facility. This is in contrast to the northwesterly gradient, observed over the past several quarters since the excavation of the DRP firepond, but is a similar pattern, observed before excavation of the DRP fire pond.

As discussed previously we are of the opinion that the DRP fire pond at the time of construction was in direct hydrologic continuity with the Columbia Formation. When the water level in the Columbia Formation exceeds the fire pond invert elevation, the fire pond acts as a local groundwater discharge point for the formation. Conversely, at times when the local water level in the Columbia Formation is lower than that of the DRP fire pond, the fire pond recharges the Columbia Formation. During the March 1985 measurements, we recorded water levels in observation well 25R, which were slightly lower than that of the fire pond invert and the measured water level in the fire pond. This indicates the possibility of leakage from the DRP fire pond into the formation. In our opinion, the potential for this leakage is limited by relatively small head differential, between the fire pond and the formation, as well as the likelihood that silt accumulations in the DRP fire pond would act to impede hydraulic continuity with the formation.

Piezometric elevation data recorded for the Potomac Formation during this period show water level elevations which are generally within the historical range of fluctuation for this formation at the facility. The exception to this is monitoring well 45, for which a record low (-8 ft.) was recorded.

ORIGINAL
(Red)

Enclosed with this letter are tabular summaries of temperature, pH and specific conductance data which were performed in the field during the sampling period. Separate tables are provided for submission to the DNREC and for Authority use.

If you have any questions concerning the above, please contact us.

Very truly yours,

DUFFIELD ASSOCIATES, INC.

"non responsive based on revised scope"

[redacted]

Partner

DBC/dmd

Enclosures: Groundwater Elevation March 1985
Groundwater Elevation Summary for Permit Year 1984-1985
Northern Solid Waste Facility-1 Field Determined
pH Testing Permit Year 1984-1985 March 1985 Sampling
Northern Solid Waste Facility-1 Field Determined
Water Quality Parameters March 1, 1985

cc: Mr. Pasquale Canzano, P.E.

ORIGINAL
(Red)

NORTHERN SOLID WASTE FACILITY-1
GROUNDWATER ELEVATION
MARCH 1985
PERMIT YEAR 1984-1985

Interior (Base of Landfill)	Elevation	Date Measured
Ob. Well		
46	N.D.	3/22/85
47	37 ft.±	3/22/85
48	52 ft.±	3/22/85
49	17.5 ft.±	3/20/85
Recent Deposits & Dredge Spoils		
(Water Table)		
Ob. Well		
1	13.35 ft.	3/20/85
28A	12.5 ft.	3/25/85
29A	11 ft.	3/25/85
31A	13 ft.	3/25/85
32A	12 ft.	3/25/85
37	N.D.	Well abandoned 2/27/85
39	11.8 ft.	3/25/85
40	13.6 ft.	3/21/85
41	2.1 ft.	3/21/85
42	8.1 ft.	3/21/85
52	16.1 ft.±	3/26/85
(Basal Zones)		
Ob. Well		
24	0.4 ft.	3/25/85
32	11.9 ft.	3/25/85
37A	N.D.	Well abandoned 2/27/85
42A	7.4 ft.	3/21/85
Columbia (Pleistocene) Sands		
Ob. Well		
1A	4.1 ft.	3/20/85
25R	3.25 ft.	3/20/85
27R	1.95 ft.	3/20/85
50	N.D.	Well abandoned 2/27/85

ORIGINAL
(Red)

NORTHERN SOLID WASTE FACILITY-1
GROUNDWATER ELEVATION
MARCH 1985
PERMIT YEAR 1984-1985

Potomac Sands	Elevation	Date Measured
Ob. Well 26R	-2.4 ft.	3/25/85
28	-0.4 ft.	3/22/85
29	-3.35 ft.	3/22/85
31	2.85 ft.	3/26/85
41A	0.25 ft.	3/22/85
45	-8 ft.	3/22/85

NOTES:

1) N.G.S. 1929 Sea Level Datum: Utilizing August 1983 revised reference elevation data.
2) Observation wells abandoned 2/27/85 as a part of ongoing construction of the Energy Generation Facility, Pigeon Point.

ORIGINAL
(Red)

Duffield Associates, Inc.

W.O. 260B

NORTHERN SOLID WASTE FACILITY-1
FIELD DETERMINED PH MEASUREMENTS
PERMIT YEAR 1984-1985
MARCH 1985

Observation Well No.	pH (1)	Date Sampled
1	7.0	3/20/85
1A	6.3	3/20/85
25R	6.0	3/20/85
26R	6.1	3/25/85
27R	6.3	3/20/85
28	5.7	3/22/85
29	6.3	3/22/85
29A	5.2	3/25/85
32A	6.5	3/25/85
37A	Well abandoned	2/27/85 (2)
41	6.5	3/21/85
45	5.7	3/22/85
46	7.1	3/27/85
47	7.3	3/22/85
48	7.8	3/22/85
49	7.2	3/22/85
Manhole Designation		
EMH	6.9	3/19/85
WMH	7.2	3/19/85
SWLS	7.1	3/19/85

1) Standard pH units.
2) Well abandoned as a part of ongoing construction of the Energy Generation Facility.

ORIGINAL
(Red)

Duffield Associates, Inc.

W.O. 260B

GROUNDWATER ELEVATION
SUMMARY FOR PERMIT YEAR 1984 - 1985
PERMIT NO. SW - 84/17

Observation Well No.	September 1984	December 1984	March 1985	June 1985
Interior (Base of Landfill)				
46	N.D.	N.D.	N.D.	
47	42.0 ft.±	38.5 ft.±	37.0 ft.±	
48	53.5 ft.±	53.0 ft.±	52.0 ft.±	
49	19.5 ft.±	N.D.	17.5 ft.±	
Recent Deposits & Dredge Spoils (Water Table)				
1	12.85 ft.	12.90 ft.	13.35 ft.	
28A	8.90 ft.	12.10 ft.	12.5 ft.	
29A	8.95 ft.	10.60 ft.	11.0 ft.	
31A	12.55 ft.	N.D.	13.0 ft.s	
32A	11.00 ft.	12.50 ft.	12.0 ft.	
37	13.95 ft.	13.20 ft.	Well Abandoned 2/27/85(3)	
39	10.00 ft.	10.45 ft.	11.8 ft.	
40	13.40 ft.	13.20 ft.	13.6 ft.	
41	1.20 ft.	1.80 ft.	2.1 ft.	
42	6.90 ft.	8.20 ft.	8.1 ft.	
52			16.0 ft.±	
Basal Zones				
24	0.60 ft.	0.65 ft.	0.4 ft.	
32	11.65 ft.	11.80 ft.	11.9 ft.	
37A	14.55 ft.	14.40 ft.	Well Abandoned 2/27/85(3)	
42A	7.10 ft.	7.35 ft.	7.4 ft.	
Columbia (Pleistocene) Sands				
1A	4.10 ft.	4.20 ft.	4.1 ft.	
25R	3.95 ft.	3.60 ft.	3.25 ft.	
27R	3.80 ft.	2.55 ft.	1.95 ft.	
50	4.20 ft.	4.15 ft.	Well Abandoned 2/27/85(3)	

ORIGINAL
(Red)

GROUNDWATER ELEVATION
SUMMARY FOR PERMIT YEAR 1984 - 1985
PERMIT NO. SW - 84/17

Observation Well No.	September 1984	December 1984	March 1985	June 1985
Potomac Sands				
26R	-1.75 ft.	-1.95 ft.	-2.4 ft.	
28	0.45 ft	0.20 ft.	- 0.4 ft.	
29	-5.75 ft.	-4.65 ft.	-3.35 ft.	
31	3.70 ft.	3.40 ft.	2.85 ft.	
41A	1.10 ft.	1.05 ft.	0.25 ft.	
45	-8.95 ft.	-7.44 ft.	-8.0 ft.	

NOTES:

1) N.G.S. 1929 Sea Level Datum: Utilizing August 1983 revised reference elevation data.
2) N.G.S. 1929 Sea Level Datum: Utilizing January 1985 revised reference elevation data.
3) Observation wells abandoned 2/27/85 as a part of ongoing construction of the Energy Generation Facility, Pigeon Point.

ORIGINAL
(Red)

Duffield Associates, Inc.

W.O. 260B

(1)

NORTHERN SOLID WASTE FACILITY-1
FIELD DETERMINED WATER QUALITY PARAMETERS

MARCH 1985
PERMIT YEAR 1984-1985
PERMIT NO. SW - 84/17

Observation Well No.	Temperature (2) °C	Specific Conductance (3) (umhos/cm-20)	(4) pH	Date Sampled
Interior (Base of Landfill)				
46	38.0	8,000	7.1	3/27/85
47	34.6	9,250	7.3	3/22/85
48	34.0	15,500	7.8	3/22/85
49	34.0	12,250	7.2	3/22/85
Recent Deposits & Dredge Spoils (Water Table)				
1	11.8	1,700	7.0	3/20/85
28A	10.4	570	5.8	3/25/85
29A	10.6	550	5.2	3/25/85
31A	14.0	3,250	6.7	3/25/85
32A	11.6	1,600	6.5	3/25/85
37	Well abandoned 2/27/85		(5)	
39	10.6	675	6.5	3/25/85
40	11.4	1,850	6.3	3/21/85
41	12.5	1,600	6.5	3/21/85
42	14.4	1,800	6.4	3/21/85
52	13.5	4,000	6.4	3/26/85
Basal Zones				
32	11.4	2,000	6.5	3/25/85
37A	Well abandoned 2/27/85		(5)	
42A	12.6	2,250	6.6	3/21/85

ORIGINAL
(Red)

NORTHERN SOLID WASTE FACILITY-1 (1)
FIELD DETERMINED WATER QUALITY PARAMETERS

MARCH 1985
PERMIT YEAR 1984-1985
PERMIT NO. SW - 84/17

Observation Well No.	Temperature (2) °C	Specific Conductance (3) (umhos/cm-20)	(4) pH	Date Sampled
Columbia (Pleistocene) Sands				
1A	14.5	1,900	6.3	3/20/85
25R	13.7	1,100	6.0	3/20/85
27R	12.7	N.D.	6.3	3/20/85
50	Well abandoned 2/27/85 (5)			
Potomac Sands				
26R	12.9	2,000	6.1	3/25/85
28	12.6	1,650	5.7	3/22/85
29	11.9	1,300	6.3	3/22/85
41A	12.1	1,400	5.9	3/22/85
45	12.6	155	5.7	3/22/85
Manhole Designation				
ECM	20.5	8,500	6.9	3/19/85
WCM	17.9	7,750	7.2	3/19/85
SWLS	17.6	1,700	7.1	3/19/85
NWLS	9.9	6,000	6.7	3/19/85
DRP Firepond	6.1	650	7.6	3/20/85

NOTES:
(1) Testing performed on unfiltered samples.
(2) Unless otherwise noted, stabilized temperature of pump output during well purging.
(3) Specific conductance temperature compensated to 20 C.
(4) Standard pH units.
(5) Wells 37, 37A and 50, abandoned as a part of ongoing construction of the Energy Generation Facility.

Nothern Solid Waste Fac ty
Analytical Report No. 393.17001

RECEIVED
JUN 24 1985
DELAWARE
SOLID WASTE AUTHORITY

JLP
ORIGINAL (Red)
PSC
RPW
LJD
JR
JFB
JWP
FILE 2

Prepared for: Mr. Rohrbach
Date: June 18, 1985

Compound	393-107-101 NW Lift Station (mg/l)
PCB-1242	< 1
PCB-1254	< 1
PCB-1221	< 1
PCB-1232	< 1
PCB-1248	< 1
PCB-1260	< 1
PCB-1016	< 1

Sample Date/Time: 4-17-85/Not Given

Detection limit for the above analyses is one milligram per liter.

Testing performed by:

"non responsive based on revised scope"

[redacted]

CVI
PO Box 796
Easton, PA 18042
Tele: (215) 258-2911

Pesticide Scan
De are Solid Waste Authority / No ern Facility
Analytical Report No. 393.17001

ORIGINAL
(Red)

Prepared for: Mr. Rohrbach
Date: June 19, 1985

Tech: HKB
Date: 4/30/85

Analysis	CVI #: 393-107-101 Cust ID: NW Lift Station (ug/l)
Aldrin	< 10
Alpha-Benzene Hexachloride	< 10
Beta-Benzene Hexachloride	< 10
Lindane	< 10
Delta-Benzene Hexachloride	< 10
4,4'DDT	< 10
4,4'DDE	< 10
4,4'DDD	< 10
Dieldrin	< 10
Alpha-Endosulfan	< 10
Beta-Endosulfan	< 10
Endosulfan Sulfate	< 10
Endrin	< 10
Endrin Aldehyde	< 10
Heptachlor	< 10
Heptachlor Epoxide	< 10

Sample Date/Time: 4-17-85/Not Given

Notes:

Detection limit for the above analyses is 10 micrograms per liter.

Testing performed by:

CVI
PO Box 796
Easton, PA 18042
Tele: (215) 258-2911

"non responsive based on revised scope"

[redacted]

Technical Director

Acid Fraction Scan
Delaware Solid Waste Auth ty
Analytical Report No. 393.17001

ORIGINAL

Prepared for: Mr. Rick Watson
Date: June 20, 1985

Tech: (RBed)
Date: 6/17/85

Compound	393-107-101 NW Lift Station (ug/l)
2,4,6-Trichlorophenol	< 25
2-Chlorophenol	< 25
2,4-Dichlorophenol	< 25
2,4-Dimethylphenol	< 25
4,6-Dinitro-O-Cresol	< 25
2,4-Dinitrophenol	< 25
2-Nitrophenol	< 25
4-Nitrophenol	< 25
P-Chloro-M-Cresol	< 25
Pentachlorophenol	< 25
Phenol	< 25

ND--Not Detected.

Sample Date/Time: 4-17-85/Not Given

Detection limit for the above analyses is 25 ug/l.

Testing performed by:

"non responsive based on revised scope"

[redacted]

CVI
PO Box 796
Easton, PA 18042
Tele: (215) 258-2911

Volatile Organic Scan
D ware Solid Waste Authority / N thern Facility
Analytical Report No. 393.17001

ORIGINAL
(Red)

Prepared for: Mr. Rohrbach
Date: June 20, 1985

Tech: HKB
Date: 5/8/85

CVI #: 393-107-101
Cust ID: NW Lift Station

Analysis	(ug/l)
Chloromethane	ND
Methanol	ND
Vinyl Chloride	ND
Dichlorodifluoromethane	ND
Bromomethane	ND
Chloroethane	1
Methylene Chloride	19
Acrolein	ND
Acrylonitrile	ND
Trichlorofluoromethane	ND
1,1-Dichloroethylene	ND
Bromochloromethane	ND
1,1-Dichloroethane	ND
Trans-1,2-Dichloroethylene	ND
Chloroform	112
1,2-Dichloroethane	ND
1,1,1-Trichloroethane	2
Carbon tetrachloride	ND
Bromodichloromethane	ND
1,2-Dichloropropane	ND
Trans-1,3-Dichloropropene	ND
Trichloroethylene	< 1
Benzene	< 1
cis-1,3-Dichloropropene	***
1,1,2-Trichloroethane	***
Chlorodibromomethane	15
1-Chloro-2bromopropane(IS)	ND
2-Chlorethyl Vinyl ether	ND
Bromoform	< 1
Tetrachloroethylene	ND
1,1,2,2-Tetrachloroethane	ND
Toluene	< 1
Chlorobenzene	1
Bis-2-Chloroethyl Ether	ND
Ethylbenzene	ND
Cumene	ND

Notes: Sample Date / Time: 4-17-85/Not Given

ND--Not Detected.
*** - elute with Benzene.

Detection limit for all analyses is one microgram/liter.

Testing performed by:

CVI
PO Box 796
Easton, PA 18042
Tele: (215) 258-2911

"non responsive based on revised scope"
[redacted]
Technical Director

Delaware Solid Waste Aut' 'ity
Anlytical Report No. 393. ./001

ORIGINAL
(Red)

Prepared for: Northern Solid Waste Authority
Date: June 20, 1985

Compound	393-107-101 NW Lift Station (ug/l)
Acenaphthene	(20
Acenaphtylene	(20
Anthracene	(20
Benzidine	(20
Benzo (a) Anthracene	(20
Benzo (a) Pyrene	23
3,4-Benzofluoranthene	(20
Benzo (k) Fluoranthene	(20
Bis (2-Chloroethoxy) Methane	(20
Bis (2-Chloroethyl) Ether	(20
Bis (2-Chloroisopropyl) Ether	(20
Bis (2-Ehtylhexyl) Phthalate	(20
4-Bromophenyl Phenyl Ether	(20
Butyl Benzyl Phthalate	(20
2-Chloronaphthalene	(20
4-Chlorophenyl Phenyl Ether	(20
Chrysene	(20
1,2-Dichlorobenzene	(20
1,3-Dichlorobenzene	(20
1,4-Dichlorobenzene	(20
3,3'-Dichlorobenzidine	(20
Diethyl Phthalate	(20
Dimethyl Phthalate	(20
Di-N-Butyl Phthalate	25
2,4-Dinitrotoluene	(20
2,6-Dinitrotoluene	(20
Di-N-Octyl Phthalate	(20
Fluoranthene	(20
Fluorene	(20
Hexachlorobenzene	82
Hexachlorobutadiene	(20
Hexachlorocyclopentadiene	(20
Hexachloroethane	(20
Isophorone	(20
Naphthalene	(20
Nitrobenzene	(20
N-Nitrosodimethylamine	(20
N-Nitrodosi-N-Propylamine	(20
N-Nitrosodiphenylamine	(20
Phenanthrene	(20
Pyrene	(20
1,2,4-Trichlorobenzene	(20

ND--Not Detected.
Detection limit for above analysesis 20 ug/l.

Testing performed by:

CVI
PO Box 796
Easton, PA 18042
Tele: (215) 258-2911

"non responsive based on revised scope"

[redacted]

Technical Director

Pesticide Scan

Northern Solid Waste Facility
Annapolis Neck, MD 21403 16955

RECEIVED
JUN 20 1985
DELAWARE
SOLID WASTE AUTHORITY

JLP
PGC
RPW
JJD
JR ORIGINAL
JFB (Red)

Prepared for: Mr. Rohrbach
Date: June 18, 1985

Tech: HKB
Date: 4/30/85

Analysis	393-094-122 Cust ID: West Collect MH (ug/l)	393-094-123 East Collect MH (ug/l)
Aldrin	< 10	< 10
Alpha-Benzene Hexachloride	< 10	< 10
Beta-Benzene Hexachloride	< 10	< 10
Lindane	< 10	< 10
Delta-Benzene Hexachloride	< 10	< 10
4,4'DDT	< 10	< 10
4,4'DDE	< 10	< 10
4,4'DDD	< 10	< 10
Dieldrin	< 10	< 10
Alpha-Endosulfan	< 10	< 10
Beta-Endosulfan	< 10	< 10
Endosulfan Sulfate	< 10	< 10
Endrin	< 10	< 10
Endrin Aldehyde	< 10	< 10
Heptachlor	< 10	< 10
Heptachlor Epoxide	< 10	< 10

JWP
File 2

Sample Date/Time: 4-4-85/Not Given 4-4-85/Not Given

Notes:

Detection limit for the above analyses is 10 micrograms per liter.

Testing performed by:

CVI
PO Box 796
Easton, PA 18042
Tele: (215) 258-2911

"non responsive based on revised scope"

[redacted]

Technical Director

Nothern Solid Waste Faci :y
Analytical Report No. 393.16955

ORIGINAL
(Red)

Prepared for: Mr. Rohrbach
Date: June 18, 1985

Tech: HKB
Date: 4/30/85

Compound	393-094-122 West Collect MH (mg/l)	393-094-123 East Collect MH (mg/l)
PCB-1242	< 1	< 1
PCB-1254	< 1	< 1
PCB-1221	< 1	< 1
PCB-1232	< 1	< 1
PCB-1248	< 1	< 1
PCB-1260	< 1	< 1
PCB-1016	< 1	< 1

Sample Date/Time: 4-4-85/Not Given 4-4-85/Not Given

Detection limit for the above analyses is one milligram per liter.

ND--Not Detected.

Testing performed by:

CVI
PO Box 796
Easton, PA 18042
Tele: (215) 258-2911

"non responsive based on revised scope"

[redacted]

Technical Director

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ORIGINAL
(Red)

ANALYTICAL REPORT NO. 393.17412

DATE 6/22/84

SAMPLE NOS. 393-158-122 TO 126
RECEIVED 6/6/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

CC:
DUFFIELD ASSOCIATES

[redacted] for
TECH. DIRECTOR

ID.: BAI LOG	SAMPLE ID	DATE	TIME
122	= WELL 1R	6/6	
123	= WELL 29A	6/6	
124	= WELL 32A	6/6	
125	= WELL 41	6/6	
126	= WELL 49	6/6	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	1R 122	29A 123	32A 124
155.1	TOTAL IRON	(A)	6/18	[redacted]	4.8	0.33	0.94
315	ALKALINITY,M.O.	(B)	6/14		441.	10	40
320	CHLORIDE	(A)	6/11		160	59.9	115.
[illegible]	NITRATE AS N	"	6/7		0.4	6.	5.6
[illegible]	TOTAL KJELDAHL N	"	6/13		50	1.8	3.1
515	TOTAL DISS. SOLIDS	"	6/11		853.	473.	1260
550	TOTAL ORG. CARBON	"	6/13		91.	9.	11.

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	125	126
155.1	TOTAL IRON	"	6/18	[redacted]	27.7	27.0
315	ALKALINITY,M.O.	(B)	6/14		428.	5650
320	CHLORIDE	(A)	6/11		133.	2510
435	NITRATE AS N	"	6/7		3.	1.06
450	TOTAL KJELDAHL N	"	6/13		8.6	690
515	TOTAL DISS. SOLIDS	"	6/11		1540	9520
550	TOTAL ORG. CARBON	"	6/13		22.	736.

(A) = MG/L (B) = MG/L AS CACO3

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ORIGINAL (Red)

ANALYTICAL REPORT NO. 393.17826

DATE 6/26/84

SAMPLE NOS. 393-158-127 TO 131
RECEIVED 6/6/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

CC:
DUFFIELD ASSOCIATES

"non responsive based on revised scope"
[redacted]
"non responsive based on revised scope"
for TECH. DIRECTOR

BAI LOG	SAMPLE ID	DATE	TIME
127	= ECMH	6/6	
128	= WCMH	6/6	
129	= SWLS	6/6	
130	= NWLS	6/6	
131	= DRP FIRE POND	6/6	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	ECMH 127	WMH 128	SWLS 129
155.1	TOTAL IRON	(A)	6/18	[redacted]	6.3	27.2	6.7
315	ALKALINITY, M.O.	(B)	6/14		2990	2640	2420
320	CHLORIDE	(A)	6/11		1420	1120	1150
390	B.O.D. - 5	"	6/12		494.	109.	85.
435	NITRATE AS N	"	6/7		0.6	< 0.1	0.13
450	TOTAL KJELDAHL N	"	6/15		500	355.	395.
480	C.O.D., HACH	"	6/22		1250	800	950
515	TOTAL DISS. SOLIDS	"	6/11		5140	4300	3760
520	TOTAL SUSP. SOLIDS	"	6/11		91.7	27.3	68.2
550	TOTAL ORG. CARBON	"	6/13		597.	366.	363.

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	NWLS 130	DRPFP 131
155.1	TOTAL IRON	"	6/18	[redacted]	0.36	0.33
315	ALKALINITY, M.O.	(B)	6/14		594.	130
320	CHLORIDE	(A)	6/11		169.	58.3
390	B.O.D. - 5	"	6/12		82.	6.
435	NITRATE AS N	"	6/7		< 0.05	< 0.05
450	TOTAL KJELDAHL N	"	6/15		77.	3.9
480	C.O.D., HACH	"	6/22		150	60
515	TOTAL DISS. SOLIDS	"	6/11		986.	376.
520	TOTAL SUSP. SOLIDS	"	6/11		57.8	22.8
550	TOTAL ORG. CARBON	"	6/13		69.	16.

(A) = MG/L (B) = MG/L AS CACO3

ORIGINAL
(Red)

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ANALYTICAL REPORT NO. 393.17304

DATE 6/21/84

SAMPLE NOS. 393-157-118 TO 124
RECEIVED 6/5/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

CC:
DUFFIELD ASSOCIATES

[redacted]
"non responsive based on revised scope"
"non responsive based on revised scope"

for DIRECTOR

BAI LOG	SAMPLE ID	DATE	TIME
118	= 25R	6/5	
119	= 27R	6/5	
120	= 37A	6/5	
121	= 40	6/5	
122	= 50	6/5	
123	= 1 A	6/5	
124	= 47	6/5	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	25R 118	27R 119	37A 120
155.1	TOTAL IRON	(A)	6/15	[redacted]	0.26	5.1	46.6
[illegible]	ALKALINITY,M.O.	(B)	6/7		113.	213.	159.
[illegible]	CHLORIDE	(A)	6/6		129.	417.	285.
435	NITRATE AS N	"	6/7		< 0.1	1.3	0.1
450	TOTAL KJELDAHL N	"	6/13		3.7	2.6	1.3
515	TOTAL DISS. SOLIDS	"	6/11		844.	1060	792.
550	TOTAL ORG. CARBON	"	6/13		3.	7.	4.

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	121	122	123
155.1	TOTAL IRON	"	6/15	[redacted]	31.7	55.	2.18
315	ALKALINITY,M.O.	(B)	6/7		727.	434.	445.
320	CHLORIDE	(A)	6/6		257.	405.	295.
435	NITRATE AS N	"	6/7		< 0.1	< 0.1	< 0.1
450	TOTAL KJELDAHL N	"	6/13		44.	17.	12.2
515	TOTAL DISS. SOLIDS	"	6/11		1380	1290	1280
550	TOTAL ORG. CARBON	"	6/13		101.	32.	18.

CONTINUED ON PAGE 2

BRANDT ASSOCIATES, INC.
CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ORIGINAL
(Red)

ANALYTICAL REPORT NO. 393.17304

DAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	47 124
155.1	TOTAL IRON		6/15	[redacted]	6.7
315	ALKALINITY,M.O.	(B)	6/7		3530
320	CHLORIDE	(A)	6/6		1190
435	NITRATE AS N	"	6/7		< 0.1
450	TOTAL KJELDAHL N	"	6/13		720
515	TOTAL DISS. SOLIDS	"	6/11		5270
550	TOTAL ORG. CARBON	"	6/13		608.

(A) = MG/L (B) = MG/L AS CACO3

ORIGINAL
(Red)

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ANALYTICAL REPORT NO. 393.16726

DATE 6/15/84

SAMPLE NOS. 393-156-113 TO 119
RECEIVED 6/4/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

CC:
DUFFIELD ASSOCIATES

RECEIVED
JUL 1 1984
DELAWARE SOLID WASTE AUTHORITY

"non responsive based on revised scope"

"non responsive based on revised scope"

for
TECH. DIRECTOR

ID.: BAI LOG	SAMPLE ID	DATE	TIME
113	= 26-R	6/4	
114	= 28	6/4	
115	= 29	6/4	
116	= 41-A	6/4	
117	= 45	6/4	
118	= 46	6/4	
119	= 48	6/4	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	26-R 113	28 114	29 115
155	IRON	(A)	6/15	"non responsive bas	1.10	0.94	58.
[illegible]5	ALKALINITY,M.O.	(B)	6/7	[redacted]	373.	124.	148.
[illegible]0	CHLORIDE	(A)	6/6	[redacted]	421.	351.	339.
435	NITRATE AS N	"	6/7	[redacted]	< 0.1	8.	< 0.1
450	TOTAL KJELDAHL N	"	6/13	[redacted]	9.2	1.6	14.0
515	TOTAL DISS. SOLIDS	"	6/6	[redacted]	1420	1090	742.
550	TOTAL ORG. CARBON	"	6/7	[redacted]	9.	3.	8.

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	41-A 116	45 117	46 118
155	IRON	"	6/15	"non responsive based	0.90	4.87	2.40
315	ALKALINITY,M.O.	(B)	6/7	[redacted]	118.	41.	3370
320	CHLORIDE	(A)	6/6	[redacted]	361.	22.8	1550
435	NITRATE AS N	"	6/7	[redacted]	5.	< 0.1	< 0.1
450	TOTAL KJELDAHL N	"	6/13	[redacted]	3.1	0.7	600
515	TOTAL DISS. SOLIDS	"	6/6	[redacted]	1050	224.	5030
550	TOTAL ORG. CARBON	"	6/7	[redacted]	3.	< 1.	450*

CONTINUED ON PAGE 2

* Rerun 6/27/84

ORIGINAL
(Red)

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ANALYTICAL
REPORT NO. 393.16726

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	48 119
155	IRON		6/15	non responsive base	13.8
315	ALKALINITY,M.O.	(B)	6/7	[redacted]	5950
320	CHLORIDE	(A)	6/6	[redacted]	1740
435	NITRATE AS N	"	6/7	[redacted]	3.
450	TOTAL KJELDAHL N	"	6/13	[redacted]	740
515	TOTAL DISS. SOLIDS	"	6/6	[redacted]	9230
550	TOTAL ORG. CARBON	"	6/7	[redacted]	769.

(A) = MG/L (B) = MG/L AS CACO3

NO. HERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #1A

ORIGINAL
(Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	5.95		
Total Dissolved Solids	mg/l	1270	1280	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l	18.	19.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	10	11.5	
Nitrate	mg/l	< 0.08	< 0.05	
Alkalinity, Total	mg/l	429.	460	
Chloride	mg/l	302.	278.	
Total Iron	mg/l	1.32	2.0	
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			
Benzene	ug/l			

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84

"non responsive based on revised scope" [redacted] DIR. OF ANALYTICAL SERVICES

NCV
JLP
CT
WR
WP

DELAWARE SOLID WASTE AUTHORITY

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. Box 757 [illegible] 4

RECEIVED
APR 17 1984
DELAWARE SOLID WASTE AUTHORITY

ORIGINAL (Red)

Analytical Report No. 393.10119
Date 4/10/84
Sample No. 393-076-112
Received 3/16/84
Sampled By Customer

MEV
JLP
PBC
RPW
JJD
JR
JPB
CT
WR
JWP
FILE

Mr. Pat Canzano
Delaware Solid Waste Authority
P.O. Box 455
Dover, DE 19901

"non responsive based on revised scope"
"non responsive based on revised scope"
[redacted] Tech. Director

---	BAI Log	Sample ID	Date	Time
	112 =	DRP Pump Station Comp.	3/16	

BAI Code	Analysis	Units	Completed Date	By	112
155.1	Total Iron	(A)	3/20	[redacted]	23.8
380	pH	(B)	3/16		7.45
390	B.O.D. - 5	"	3/21		> 215
520	Total Susp. Solids	"	3/21		422.

(A) = pH units (B) = mg/l

ORIGINAL
(Red)

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. Box 7571, [redacted]

RECEIVED
APR 17 1984
DELAWARE SOLID WASTE AUTHORITY

Analytical Report No. 393.10118

Date 4/10/84

Sample No. 393-075-122
Received 3/15/84
Sampled By Customer

Mr. Pat Canzano
Delaware Solid Waste Authority
P.O. Box 455
Dover, DE 19901

"non responsive based on revised scope"

"non responsive based on revised scope" [redacted] Tech. Director

BAI Log	Sample ID	Date	Time
122 =	DRP Pump Station Comp.	3/15	

BAI Code	Analysis	Units	Completed Date	By	122
155.1	Total Iron	(A)	3/20	[redacted]	26.5
380	pH	(B)	3/16		7.55
390	B.O.D. - 5	"	3/21		> 210
520	Total Susp. Solids	"	3/21		1110

(A) = pH units (B) = mg/l

ORIGINAL
(Red)

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, N[illegible]

RECEIVED
APR 17 1984
DELAWARE SOLID
WASTE AUTHORITY

ANALYTICAL
REPORT NO. 393.08201

DATE 3/22/84

SAMPLE NOS. 393-074-132 TO 133
RECEIVED 3/14/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

"non responsive based on revised scope"

"non responsive based on revised scope" [redacted] IRECTOR

ID.: BAI

LOG	SAMPLE ID	DATE	TIME
132	= DRP GRAB	3/14	
133	= DRP COMPOSITE	3/14	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	132	:	133
155.1	TOTAL IRON	(A)	3/20	[redacted]	18.0	:	17.8
380	PH	(B)	3/15		6.75		7.20
390	B.O.D. - 5	(A)	3/20		87.	:	170
520	TOTAL SUSP. SOLIDS	"	3/21		739.	:	390

(A) = MG/L (B) = PH UNITS

ORIGINAL
(Red)

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. Box 757 [illegible] 19714

RECEIVED
APR 17 1984
DELAWARE SOLID
WASTE AUTHORITY

Analytical Report No. 393.09424

Date 4/3/84

Sample No. 393-073-118
Received 3/13/84
Sampled By Customer

Mr. Pat Canzano
Delaware Solid Waste Authority
P.O. Box 455
Dover, DE 19901

"non responsive based on revised scope"

BAI Log	Sample ID	Date	Time
118 =	DRP Pump Station Comp.	3/13	

BAI Code	Analysis	Units	Completed Date	By	118
155.1	Total Iron	(A)	3/20	[redacted]	10.3
380	pH	(B)	3/14	[redacted]	7.35
390	B.O.D. - 5	"	3/20	[redacted]	107.
520	Total Susp. Solids	"	3/15	[redacted]	157.

(A) = pH units (B) = mg/l

RECEIVED
APR 17 1984
DELAWARE SOLID WASTE AUTHORITY

NC. .IERN SOLID WASTE FACILITY · 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
DRP Composite

ORIGINAL (Red)

Date of Composite Sample	Total Iron mg/l	B.O.D.-5 mg/l	T. Susp. Solids mg/l	pH std units
12/06/83	5.4	48.	683	6.9
12/07/83	1.08	> 227.	1010	6.00
12/08/83	0.27	123.	1450	7.00
12/09/83	0.67	146.	2030	7.15

Date of Composite Sample	Total Iron mg/l	B.O.D.-5 mg/l	T. Susp. Solids mg/l	pH std units
3/13/84	10.3	107.	157.	7.35
3/14/84 (Grab)	18.0	87.	739.	6.75
3/14/84	17.8	170.	390	7.20
3/15/84	26.5	> 210	1110	7.55
3/16/84	23.8	> 215	422.	7.45

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

REPORT DATE 4/11/84 [redacted] DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #1R

ORIGINAL
(Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	6.70	6.80	
Total Dissolved Solids	mg/l	1520	459.	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm		644.	
Total Organic Carbon	mg/l	178.	26.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	140	6.5	
Nitrate	mg/l	0.06	6.8	
Alkalinity, Total	mg/l	747.	194.	
Chloride	mg/l	341.	22.8	
Total Iron	mg/l	16.4	0.37	
Ethylbenzene	ug/l		< 1.	
Methylene Chloride	ug/l		4.	
Tetrachloroethylene	ug/l		< 1.	
Toluene	ug/l		2.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted] DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

RECEIVED
APR 13 1984
DELAWARE SOLID
WASTE AUTHORITY

NO. HERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #25R

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	5.90		
Total Dissolved Solids	mg/l	718.	767.	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l	5.	4.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	4.	3.5	
Nitrate	mg/l	< 0.08	0.07	
Alkalinity, Total	mg/l	140	117.	
Chloride	mg/l	121.	119.	
Total Iron	mg/l	0.16	0.21	
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			
Benzene	ug/l			

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted] DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

APR 1984
DELAWARE S.W.A.
WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #26R

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	6.8		
Total Dissolved Solids	mg/l	1410	1400	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l	10.	9.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	12.	9.2	
Nitrate	mg/l	< 0.08	< 0.09	
Alkalinity, Total	mg/l	372.	400	
Chloride	mg/l	344.	351.	
Total Iron	mg/l	0.16	0.26	
Total Barium	mg/l		< 0.2	
Total Cadmium	mg/l		0.005	
Total Calcium	mg/l		117.	
Total Chromium	mg/l		< 0.05	
Total Lead	mg/l		0.04	
Total Magnesium	mg/l		82.	
Total Manganese	mg/l		29.	
Total Silver	mg/l		< 0.02	
Total Zinc	mg/l		0.07	
Arsenic	mg/l		< 0.005	
Selenium	mg/l		0.01	
Mercury	mg/l		< 0.0005	
Ethylbenzene	ug/l		< 1.	
Methylene Chloride	ug/l		< 1.	
Tetrachloroethylene	ug/l		1.	
Toluene	ug/l		< 1.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 "non responsive based on revised scope" IR. OF ANALYTICAL SERVICES

APR 13 1984
DELAWARE SOLID WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #27R

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	5.70	5.95	
Total Dissolved Solids	mg/l	1230	1200	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm		1960	
Total Organic Carbon	mg/l	5.	6.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	3.	2.5	
Nitrate	mg/l	0.08	< 0.05	
Alkalinity, Total	mg/l	149.	182.	
Chloride	mg/l	442.	436.	
Total Iron	mg/l	5.2	5.6	
Ethylbenzene	ug/l		< 1.	
Methylene Chloride	ug/l		< 1.	
Tetrachloroethylene	ug/l		< 1.	
Toluene	ug/l		< 1.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 "non responsive based on revised scope" [redacted] DIR. OF ANALYTICAL SERVICES

RECEIVED
APR 1984
DELAWARE SOLID WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #28

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	6.50	5.95	
Total Dissolved Solids	mg/l	1050	1010	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm		1530	
Total Organic Carbon	mg/l	5.	4.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	4.	1.1	
Nitrate	mg/l	2.8	6.0	
Alkalinity, Total	mg/l	116.	114.	
Chloride	mg/l	322.		
Total Iron	mg/l	0.46	0.51	
Total Barium	mg/l		0.2	
Total Cadmium	mg/l		0.004	
Total Calcium	mg/l		63.	
Total Chromium	mg/l		0.09	
Total Lead	mg/l		0.03	
Total Magnesium	mg/l		42.	
Total Manganese	mg/l		10.7	
Total Silver	mg/l		0.02	
Total Zinc	mg/l		0.48	
Arsenic	mg/l		< 0.005	
Selenium	mg/l		0.01	
Mercury	mg/l		< 0.0005	
Ethylbenzene	ug/l		< 1.	
Methylene Chloride	ug/l		6.	
Tetrachloroethylene	ug/l		2.	
Toluene	ug/l		1.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 "non responsive based on revised scope" DIR. OF ANALYTICAL SERVICES

RECEIVED
APR 1984
DEL. SOLID WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #28A

ORIGINAL
(Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH			
Total Dissolved Solids	mg/l		425.	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l		8.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l		9.6	
Nitrate	mg/l			
Alkalinity, Total	mg/l		124.	
Chloride	mg/l			
Total Iron	mg/l		0.25	
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			
Benzene	ug/l			

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 "non responsive based on revised scope" [redacted] DIR. OF ANALYTICAL SERVICES

RECEIVED
APR 13 1984
DELAWARE SOLID
WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #29

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	6.40		
Total Dissolved Solids	mg/l	717.	723.	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l	10.	8.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	15.	14.	
Nitrate	mg/l	0.79	< 0.9	
Alkalinity, Total	mg/l	153.	228.	
Chloride	mg/l	306.	301.	
Total Iron	mg/l	46.8	49.5	
Total Barium	mg/l		0.5	
Total Cadmium	mg/l		0.002	
Total Calcium	mg/l		23.	
Total Chromium	mg/l		0.16	
Total Lead	mg/l		0.02	
Total Magnesium	mg/l		29.	
Total Manganese	mg/l		1.61	
Total Silver	mg/l		< 0.02	
Total Zinc	mg/l		0.04	
Arsenic	mg/l		< 0.005	
Selenium	mg/l		< 0.01	
Mercury	mg/l		< 0.0005	
Ethylbenzene	ug/l		< 1.	
Methylene Chloride	ug/l		3.	
Tetrachloroethylene	ug/l		< 1.	
Toluene	ug/l		< 1.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84

"non responsive based on revised scope"

DIR. OF ANALYTICAL SERVICES

RECEIVED
APR 13 1984
DELAWARE SOLID WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #29A

ORIGINAL
(Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	5.20		
Total Dissolved Solids	mg/l	494.	462.	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l	9.	8.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	< 1.	1.6	
Nitrate	mg/l	4.2	6.8	
Alkalinity, Total	mg/l	15.	12.	
Chloride	mg/l	71.8	46.7	
Total Iron	mg/l	1.29	1.44	
Ethylbenzene	ug/l		< 1.	
Methylene Chloride	ug/l		< 1.	
Tetrachloroethylene	ug/l		< 1.	
Toluene	ug/l		< 1.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted], DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

RECEIVED
APR 18 1984
DELAWARE SOLID
WASTE AUTHORITY

NC HERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #31A

ORIGINAL
(Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH			
Total Dissolved Solids	mg/l		1290	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l		82.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l		185.	
Nitrate	mg/l			
Alkalinity, Total	mg/l		938.	
[illegible]ride	mg/l		193.	
[illegible]al Iron	mg/l		2.04	
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			
Benzene	ug/l			

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

[illegible]ECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 "non responsive based on revised scope" [redacted], DIR. OF ANALYTICAL SERVICES

APR 1984
DELAWARE SOLID
WASTE AUTHORITY

NO. HERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #32

ORIGINAL
(Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH			
Total Dissolved Solids	mg/l		1330	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l		39.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l		15.5	
Nitrate	mg/l			
Alkalinity, Total	mg/l		502.	
Chloride	mg/l		411.	
Total Iron	mg/l		58.5	
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			
Benzene	ug/l			

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted] DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

APR 1984
DELAWARE SOLID
WASTE AUTHORITY

NO. HERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
Well #32A

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	6.10		
Total Dissolved Solids	mg/l	1460	1410	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l	15.	11.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	6.	5.	
Nitrate	mg/l	4.9	6.4	
Alkalinity, Total	mg/l	92.	68.	
Chloride	mg/l	145.	122.	
Total Iron	mg/l	4.3	3.6	
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			
Benzene	ug/l			

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted], DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

APR 1984
DELAWARE SOLID WASTE AUTHORITY

NC . HERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #37

ORIGINAL
(Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH			
Total Dissolved Solids	mg/l		1890	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l		138.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l		36.	
Nitrate	mg/l			
Alkalinity, Total	mg/l		541.	
[illegible]oride	mg/l		606.	
[illegible]tal Iron	mg/l		122.	
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			
Benzene	ug/l			

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

[illegible]ECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 "non responsive based on revised scope" [redacted], DIR. OF ANALYTICAL SERVICES

DELAWARE SOLID
WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #37A

ORIGINAL
(Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	6.15		
Total Dissolved Solids	mg/l	728.	756.	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l	4.	5.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	2.	1.5	
Nitrate	mg/l	0.14	< 0.05	
Alkalinity, Total	mg/l	171.	211.	
Chloride	mg/l	289.	273.	
Total Iron	mg/l	33.8	44.3	
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			
Benzene	ug/l			

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted], DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

RECEIVED
APR 13 1984
DELAWARE SOLID
WASTE AUTHORITY

NO. HERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #39

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH			
Total Dissolved Solids	mg/l		1100	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l		59.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l		22.	
Nitrate	mg/l			
Alkalinity, Total	mg/l		575.	
Chloride	mg/l		179.	
Total Iron	mg/l		20.8	
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			
Benzene	ug/l			

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 "non responsive based on revised scope" [redacted] DIR. OF ANALYTICAL SERVICES

MAR 1984
WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY · 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #40

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	6.45		
Total Dissolved Solids	mg/l	1280	1570	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l	108.	96.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	50	40	
Nitrate	mg/l	0.90	< 0.09	
Alkalinity, Total	mg/l	880	820	
Chloride	mg/l	116.	187.	
Total Iron	mg/l	39.9	41.5	
Total Barium	mg/l		0.5	
Total Cadmium	mg/l		0.0042	
Total Calcium	mg/l		160	
Total Chromium	mg/l		< 0.08	
Total Lead	mg/l		0.03	
Total Magnesium	mg/l		116.	
Total Manganese	mg/l		3.76	
Total Silver	mg/l		< 0.02	
Total Zinc	mg/l		0.07	
Arsenic	mg/l		< 0.005	
Selenium	mg/l		< 0.01	
Mercury	mg/l		< 0.0005	
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			
Benzene	ug/l			

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted] DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

APR 1984
DELAWARE SOLID WASTE AUTHORITY

NOR..HERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #41

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	6.40		
Total Dissolved Solids	mg/l	1160	1370	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l	41.	17.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	19.	5.	
Nitrate	mg/l	1.00	3.0	
[redacted]linity, Total	mg/l	563.	418.	
[redacted]ride	mg/l	159.	107.	
Total Iron	mg/l	43.7	0.10	
Total Barium	mg/l		0.3	
Total Cadmium	mg/l		0.004	
Total Calcium	mg/l		168.	
Total Chromium	mg/l		< 0.05	
Total Lead	mg/l		0.06	
Total Magnesium	mg/l		114.	
Total Manganese	mg/l		8.0	
Total Silver	mg/l		< 0.02	
Total Zinc	mg/l		3.3	
Arsenic	mg/l		< 0.005	
Selenium	mg/l		0.01	
Mercury	mg/l		< 0.0005	
Ethylbenzene	ug/l		< 1.	
Methylene Chloride	ug/l		10	
[redacted]achloroethylene	ug/l		< 1.	
Toluene	ug/l		< 1.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted] DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

APR 20 1984
DELAWARE SOLID WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #41A

ORIGINAL
(Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	5.85		
Total Dissolved Solids	mg/l	1060	1020	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l	4.	4.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	3.	2.9	
Nitrate	mg/l	2.8	3.8	
Alkalinity, Total	mg/l	96.	106.	
Chloride	mg/l	356.	330	
Total Iron	mg/l	1.58	1.94	
Ethylbenzene	ug/l		< 1.	
Methylene Chloride	ug/l		3.	
Tetrachloroethylene	ug/l		< 1.	
Toluene	ug/l		< 1.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted] DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

APR 1984
WASTE MANAGEMENT

NO..HERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #42

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH			
Total Dissolved Solids	mg/l		921.	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l		30	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l		12.	
Nitrate	mg/l			
Alkalinity, Total	mg/l		319.	
Chloride	mg/l		125.	
Total Iron	mg/l		5.8	
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			
Benzene	ug/l			

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted], DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

NO. HERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #42A

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH			
Total Dissolved Solids	mg/l		1370	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm			
Total Organic Carbon	mg/l		33.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l		15.	
Nitrate	mg/l			
Alkalinity, Total	mg/l		402.	
[illegible]oride	mg/l		303.	
[illegible]tal Iron	mg/l		27.3	
Ethylbenzene	ug/l			
Methylene Chloride	ug/l			
Tetrachloroethylene	ug/l			
Toluene	ug/l			
Trichloroethlyene	ug/l			
Benzene	ug/l			

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

[illegible]ECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 "non responsive based on revised scope" [redacted], DIR. OF ANALYTICAL SERVICES

APR [illegible] 1984
WASTE [illegible]

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #45

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	5.80		
Total Dissolved Solids	mg/l	226.	177.	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm	144.		
Total Organic Carbon	mg/l	3.	1.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	1.	0.5	
Nitrate	mg/l	< 0.08	< 0.9	
Alkalinity, Total	mg/l	39.	41.	
Chloride	mg/l	18.2	20.2	
Total Iron	mg/l	3.58	3.8	
Total Barium	mg/l		< 0.2	
Total Cadmium	mg/l		0.001	
Total Calcium	mg/l		9.5	
Total Chromium	mg/l		< 0.05	
Total Lead	mg/l		< 0.02	
Total Magnesium	mg/l		3.5	
Total Manganese	mg/l		0.08	
Total Silver	mg/l		< 0.02	
Total Zinc	mg/l		0.05	
Arsenic	mg/l		< 0.005	
Selenium	mg/l		< 0.01	
Mercury	mg/l		< 0.0005	
Ethylbenzene	ug/l		< 1.	
Methylene Chloride	ug/l		4.	
Tetrachloroethylene	ug/l		< 1.	
Toluene	ug/l		< 1.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84

APR 1984
DELAWARE SOLID WASTE AUTHORITY

"non responsive based on revised scope"

DIR. OF ANALYTICAL SERVICES

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #46

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	7.25		
Total Dissolved Solids	mg/l	4380	4870	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm	8690		
Total Organic Carbon	mg/l	431.	519.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	600	660	
Nitrate	mg/l	0.43	0.10	
Alkalinity, Total	mg/l	2810	3710	
Chloride	mg/l	1270	1300	
Total Iron	mg/l	6.8	3.95	
Total Barium	mg/l		0.4	
Total Cadmium	mg/l		0.010	
Total Calcium	mg/l		98.	
Total Chromium	mg/l		0.12	
Total Lead	mg/l		0.06	
Total Magnesium	mg/l		123.	
Total Manganese	mg/l		0.53	
Total Silver	mg/l		< 0.02	
Total Zinc	mg/l		0.01	
Arsenic	mg/l		0.016	
Selenium	mg/l		0.02	
Mercury	mg/l		< 0.0005	
Ethylbenzene	ug/l		5.	
Methylene Chloride	ug/l		266.	
Tetrachloroethylene	ug/l		10	
Toluene	ug/l		10	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		8.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84

"non responsive based on revised scope"

DIR. OF ANALYTICAL SERVICES

RECEIVED
APR 20 1984
DELAWARE SOLID WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #47

ORIGINAL
(Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	7.40	7.50	
Total Dissolved Solids	mg/l	4850	4570	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm	10200	9440	
Total Organic Carbon	mg/l	537.	479.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	800	650	
Nitrate	mg/l	< 0.05	< 0.2	
Alkalinity, Total	mg/l	3610	3480	
Chloride	mg/l	1400	1410	
Total Iron	mg/l	7.39	8.1	
Total Barium	mg/l		0.9	
Total Cadmium	mg/l		0.006	
Total Calcium	mg/l		51.	
Total Chromium	mg/l		0.27	
Total Lead	mg/l		0.06	
Total Magnesium	mg/l		114.	
Total Manganese	mg/l		0.10	
Total Silver	mg/l		< 0.02	
Total Zinc	mg/l		0.08	
Arsenic	mg/l		0.013	
Selenium	mg/l		< 0.01	
Mercury	mg/l		< 0.0005	
Ethylbenzene	ug/l		50	
Methylene Chloride	ug/l		39.	
Tetrachloroethylene	ug/l		98.	
Toluene	ug/l		11.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		3.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84

"non responsive based on revised scope"

DIR. OF ANALYTICAL SERVICES

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #48

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	7.50		
Total Dissolved Solids	mg/l	6700	9990	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm	12900		
Total Organic Carbon	mg/l	784.	948.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	700	710.	
Nitrate	mg/l	< 0.05	< 0.9	
Alkalinity, Total	mg/l	5370	6230	
Chloride	mg/l	1530	1600	
Total Iron	mg/l	14.2	16.0	
Total Barium	mg/l		1.7	
Total Cadmium	mg/l		0.013	
Total Calcium	mg/l		132.	
Total Chromium	mg/l		0.54	
Total Lead	mg/l		0.10	
Total Magnesium	mg/l		141.	
Total Manganese	mg/l		0.21	
Total Silver	mg/l		0.02	
Total Zinc	mg/l		0.19	
Arsenic	mg/l		0.021	
Selenium	mg/l		0.03	
Mercury	mg/l		< 0.0005	
Ethylbenzene	ug/l		< 1.	
Methylene Chloride	ug/l		54.	
Tetrachloroethylene	ug/l		48.	
Toluene	ug/l		7.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		3.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84

[redacted] "non responsive based on revised scope"

DIR. OF ANALYTICAL SERVICES

APR 1984
DELAWARE SOLID WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
WELL #49

ORIGINAL
(Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	7.25		
Total Dissolved Solids	mg/l	6890	9460	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm	12000		
Total Organic Carbon	mg/l	541.	710	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	500	700	
Nitrate	mg/l	< 0.08	< 0.09	
Alkalinity, Total	mg/l	4620	6390	
Chloride	mg/l	1450	1950	
Total Iron	mg/l	2.32	6.2	
Total Barium	mg/l		0.6	
Total Cadmium	mg/l		0.011	
Total Calcium	mg/l		110	
Total Chromium	mg/l		0.36	
Total Lead	mg/l		0.14	
Total Magnesium	mg/l		280	
Total Manganese	mg/l		0.42	
Total Silver	mg/l		0.02	
Total Zinc	mg/l		0.28	
Arsenic	mg/l		0.026	
Selenium	mg/l		0.02	
Mercury	mg/l		< 0.0005	
Ethylbenzene	ug/l		2.	
Methylene Chloride	ug/l		< 1.	
Tetrachloroethylene	ug/l		18.	
Toluene	ug/l		3.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84

[redacted], DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

APR 1984
WASTE MANAGEMENT

NORTHERN SOLID WASTE FACILITY 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
Well #50

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	6.50		
Total Dissolved Solids	mg/l	1330.	1290	
Total Suspended Solids	mg/l			
Specific Conductance	umhos/cm	2200.		
Total Organic Carbon	mg/l	24.	29.	
Chemical Oxygen Demand	mg/l			
Biochemical Oxygen Demand	mg/l			
T. Kjeldahl Nitrogen	mg/l	21.	15.	
Nitrate	mg/l	< 0.05	< 0.05	
Alkalinity, Total	mg/l	502.	514.	
[redacted]oride	mg/l	419.	390	
Total Iron	mg/l	36.7	47.8	
Total Barium	mg/l		0.4	
Total Cadmium	mg/l		0.0025	
Total Calcium	mg/l		98.	
Total Chromium	mg/l		< 0.08	
Total Lead	mg/l		0.03	
Total Magnesium	mg/l		79.	
Total Manganese	mg/l		3.66	
Total Silver	mg/l		0.02	
Total Zinc	mg/l		0.03	
Arsenic	mg/l		0.006	
Selenium	mg/l		0.01	
Mercury	mg/l		< 0.0002	
Ethylbenzene	ug/l		< 1.	
Methylene Chloride	ug/l		< 1.	
[redacted]rachloroethylene	ug/l		< 1.	
[redacted]uene	ug/l		< 1.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted], DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
DRF Fire Pond

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	6.70		
Total Dissolved Solids	mg/l	372.	523.	
Total Suspended Solids	mg/l	137.	43.0	
Specific Conductance	umhos/cm	512.		
Total Organic Carbon	mg/l	13.	24.	
Chemical Oxygen Demand	mg/l	50		
Biochemical Oxygen Demand	mg/l	11.	25.	
T. Kjeldahl Nitrogen	mg/l	20	7.2	
Nitrate	mg/l	< 0.05	< 0.05	
Alkalinity, Total	mg/l	105.	195.	
Chloride	mg/l	40.1	82.2	
Total Iron	mg/l	0.24	7.7	
Total Barium	mg/l		< 0.2	
Total Cadmium	mg/l		< 0.0025	
Total Calcium	mg/l		61.	
Total Chromium	mg/l		< 0.08	
Total Lead	mg/l		0.02	
Total Magnesium	mg/l		25.	
Total Manganese	mg/l		3.3	
Total Silver	mg/l		< 0.02	
Total Zinc	mg/l		0.04	
Arsenic	mg/l		0.006	
Selenium	mg/l		< 0.01	
Mercury	mg/l		< 0.0005	
Ethylbenzene	ug/l		< 1.	
Methylene Chloride	ug/l		< 1.	
Tetrachloroethylene	ug/l		< 1.	
Toluene	ug/l		10	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 "non responsive based on revised scope" DIR. OF ANALYTICAL SERVICES

RECEIVED
APR 1984
DELAWARE SOLID WASTE AUTHORITY

NOR.HERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
East Collection Manhole

ORIGINAL
(Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	7.10		
Total Dissolved Solids	mg/l	3860	6430	
Total Suspended Solids	mg/l	75.9	46.5	
Specific Conductance	umhos/cm	7320		
Total Organic Carbon	mg/l	323.	630	
Chemical Oxygen Demand	mg/l	1000		
Biochemical Oxygen Demand	mg/l	80	> 227.	
T. Kjeldahl Nitrogen	mg/l	400	610	
Nitrate	mg/l	0.08	< 0.05	
Alkalinity, Total	mg/l	2320.	4120	
Chloride	mg/l	1020.	1500	
Total Iron	mg/l	12.6	18.5	
Total Barium	mg/l		0.5	
Total Cadmium	mg/l		0.0068	
Total Calcium	mg/l		160	
Total Chromium	mg/l		0.11	
Total Lead	mg/l		0.05	
Total Magnesium	mg/l		180	
Total Manganese	mg/l		2.11	
Total Silver	mg/l		0.04	
Total Zinc	mg/l		0.08	
Arsenic	mg/l		0.015	
Selenium	mg/l		0.02	
Mercury	mg/l		< 0.0002	
Ethylbenzene	ug/l		240	
Methylene Chloride	ug/l		2.	
Tetrachloroethylene	ug/l		< 1.	
Toluene	ug/l		194.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		25.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 "non responsive based on revised scope" DIR. OF ANALYTICAL SERVICES

RECEIVED
APR 13 1984
DELAWARE SOLID
WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
West Collection Manhole

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	7.10		
Total Dissolved Solids	mg/l	3080	3470	
Total Suspended Solids	mg/l	49.3	56.6	
Specific Conductance	umhos/cm	4880		
Total Organic Carbon	mg/l	269	278.	
Chemical Oxygen Demand	mg/l	728		
Biochemical Oxygen Demand	mg/l	201	89.	
T. Kjeldahl Nitrogen	mg/l	300	300	
Nitrate	mg/l	0.05	0.55	
Alkalinity, Total	mg/l	1770	2210	
Chloride	mg/l	682	822.	
Total Iron	mg/l	6.6	1.64	
Total Barium	mg/l		0.6	
Total Cadmium	mg/l		0.0047	
Total Calcium	mg/l		121.	
Total Chromium	mg/l		0.09	
Total Lead	mg/l		0.05	
Total Magnesium	mg/l		127.	
Total Manganese	mg/l		1.14	
Total Silver	mg/l		0.02	
Total Zinc	mg/l		0.08	
Arsenic	mg/l		0.010	
Selenium	mg/l		< 0.01	
Mercury	mg/l		< 0.0002	
Ethylbenzene	ug/l		28.	
Methylene Chloride	ug/l		< 1.	
Tetrachloroethylene	ug/l		< 1.	
Toluene	ug/l		11.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		27.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted] DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

APR _ _ 1984
DELAWARE SOLID WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
Northwest Lift Station

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	6.30		
Total Dissolved Solids	mg/l	1020	1010	
Total Suspended Solids	mg/l	123.	63.6	
Specific Conductance	umhos/cm	1520		
Total Organic Carbon	mg/l	55.	54.	
Chemical Oxygen Demand	mg/l	163.		
Biochemical Oxygen Demand	mg/l	18.	22.	
T. Kjeldahl Nitrogen	mg/l	40	56.	
Nitrate	mg/l	< 0.05	0.47	
Alkalinity, Total	mg/l	539	677.	
Chloride	mg/l	87.5	126.	
Total Iron	mg/l	38.2	0.92	
Total Barium	mg/l		< 0.2	
Total Cadmium	mg/l		0.0038	
Total Calcium	mg/l		141.	
Total Chromium	mg/l		< 0.08	
Total Lead	mg/l		0.03	
Total Magnesium	mg/l		56.	
Total Manganese	mg/l		2.92	
Total Silver	mg/l		< 0.02	
Total Zinc	mg/l		0.02	
Arsenic	mg/l		< 0.005	
Selenium	mg/l		< 0.01	
Mercury	mg/l		< 0.0002	
Ethylbenzene	ug/l		5.	
Methylene Chloride	ug/l		< 1.	
Tetrachloroethylene	ug/l		< 1.	
Toluene	ug/l		4.	
Trichloroethlyene	ug/l		< 1.	
Benzene	ug/l		2.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 4/11/84 [redacted] "non responsive based on revised scope" DIR. OF ANALYTICAL SERVICES

APR
DELAWARE SOLID WASTE AUTHORITY

NORTHERN SOLID WASTE FACILITY - 1
GROUNDWATER MONITORING PROGRAM
PERMIT YEAR 83/84
Soutwest Lift Station

ORIGINAL (Red)

ANALYSIS	UNITS	DEC/83	MAR/84	JUN/84
pH	pH	6.80		
Total Dissolved Solids	mg/l	2800	3970	
Total Suspended Solids	mg/l	74.1	72.6	
Specific Conductance	umhos/cm	4270		
Total Organic Carbon	mg/l	156	371.	
Chemical Oxygen Demand	mg/l	454		
Biochemical Oxygen Demand	mg/l	35.	66.	
T. Kjeldahl Nitrogen	mg/l	200	370	
Nitrate	mg/l	11.5	0.06	
Alkalinity, Total	mg/l	1120	2700	
Chloride	mg/l	424	1030	
Total Iron	mg/l	1.53	18.7	
Total Barium	mg/l		0.7	
Total Cadmium	mg/l		0.0047	
Total Calcium	mg/l		131.	
Total Chromium	mg/l		0.12	
Total Lead	mg/l		0.05	
Total Magnesium	mg/l		142.	
Total Manganese	mg/l		0.96	
Total Silver	mg/l		< 0.02	
Total Zinc	mg/l		0.08	
Arsenic	mg/l		0.017	
Selenium	mg/l		0.020	
Mercury	mg/l		< 0.0002	
Ethylbenzene	ug/l		26.	
Methylene Chloride	ug/l		17.	
Tetrachloroethylene	ug/l		29.	
Toluene	ug/l		56.	
Trichloroethlyene	ug/l		2.	
Benzene	ug/l		< 1.	

ANALYSIS PERFORMED BY: BRANDT ASSOCIATES, INC.
SAMPLING PERFORMED BY: DUFFIELD ASSOCIATES

SEE ANALYTICAL REPORTS FOR EXACT DATES OF ANALYSIS, SAMPLE RECEIPT, AND COLLECTION DATE.

EFFECTIVE FEB 83, THE SAMPLE WAS FILTERED PRIOR TO ANALYSIS EXCEPT FOR THE FOLLOWING PARAMETERS: pH, Total Dissolved Solids, Total Susp. Solids, Specific Conductance, ethylbenzene, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, and benzene.

REPORT DATE 10/11/84 [redacted] DIR. OF ANALYTICAL SERVICES

"non responsive based on revised scope"

APR 1984
DELAWARE SOLID WASTE AUTHORITY

ORIGINAL (Red)

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ANALYTICAL REPORT NO. 393.08104

DATE 3/21/84

SAMPLE NOS. 393-072-105 TO 106
RECEIVED 3/12/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

RECEIVED
APR 13 1984
DELAWARE SOLID WASTE AUTHORITY

"non responsive based on revised scope"

BAI LOG	SAMPLE ID	DATE	TIME
105	= 1-A	3/12	
106	= 25-R	3/12	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	105	106
155.1	TOTAL IRON	(A)	3/20	CP	2.0	0.21
315	ALKALINITY,M.O.	(B)	3/14	JFC	460	117.
320	CHLORIDE	(A)	3/15	CP	278.	119.
435	NITRATE AS N	"	3/14	JFC	< 0.05	0.07
450	TOTAL KJELDAHL N	"	3/15	JFC	11.5	3.5
515	TOTAL DISS. SOLIDS	"	3/14	CP	1280	767.
[illegible]	TOTAL ORG. CARBON	"	3/14	MKM	19.	4.

NCV
JLP
FJC
2
3
CT
WR
JWP

RECEIVED
DELAWARE SOLID WASTE AUTHORITY

(A) = MG/L (B) = MG/L AS CACO3

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ANALYTICAL REPORT NO. 393.09408 ORIGINAL (Red)

DATE 4/3/84

SAMPLE NOS. 393-072-107 TO 109
RECEIVED 3/12/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

RECEIVED APR 13 1984 DELAWARE SOLID WASTE AUTHORITY

"non responsive based on revised scope" [redacted]

BAI LOG	SAMPLE ID	DATE	TIME
107	= 27-R	3/12	
108	= 37-A	3/12	
109	= DRP FIREPOND	3/12	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	27R 107	37 A 108	DRPFP 109
110.1	TOTAL BARIUM	(A)	3/22	[redacted]			< 0.2
130.2	TOTAL CADMIUM	"	3/20				< 0.0025
135.1	TOTAL CALCIUM	"	3/20				61.
140.1	TOTAL CHROMIUM	"	3/20				< 0.08
155.1	TOTAL IRON	"	3/20		5.6	44.3	7.7
[illegible].2	TOTAL LEAD	"	3/20				0.02
[illegible]0.1	TOTAL MAGNESIUM	"	3/16				25.
175.1	TOTAL MANGANESE	"	3/20				3.3
215.1	TOTAL SILVER	"	3/26				< 0.02
255.1	TOTAL ZINC	"	3/16				0.04
265	ARSENIC	"	3/28				0.006
270	SELENIUM	"	3/29				< 0.01
315	ALKALINITY,M.O.	(B)	3/14		182.	211.	195.
320	CHLORIDE	(A)	3/15		436.	273.	82.2
380	PH	(C)	3/13		5.95		
390	B.O.D. - 5	(A)	3/19				25.
435	NITRATE AS N	"	3/14		< 0.05	< 0.05	< 0.05
450	TOTAL KJELDAHL N	"	3/15		2.5	1.5	7.2
515	TOTAL DISS. SOLIDS	"	3/14		1200	756.	523.
520	TOTAL SUSP. SOLIDS	"	3/15				43.0
550	TOTAL ORG. CARBON	"	3/14		6.	5.	24.
555	MERCURY	"	3/26				< 0.0005
570	SPCFC CONDUCTANCE	(D)	3/13		1960		
792	METHLENE CHLORIDE	(E)	3/27		< 1.		< 1.
795	TRICHLOROETHYLENE	"	3/27		< 1.		< 1.
796	TTRACHLOROETHYLENE	"	3/27		< 1.		< 1.
808	ETHYL BENZENE	"	3/27		< 1.		< 1.
809	TOLUENE	"	3/27		< 1.		10
810	BENZENE	"	3/27		< 1.		< 1.

(A) = MG/L (B) = MG/L AS CACO3 (C) = PH UNITS (D) = U-MHO/CM @ 25 ° C
(E) = UG/L

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ANALYTICAL REPORT NO. 393.09423 **ORIGINAL (Red)**

DATE 4/3/84

SAMPLE NOS. 393-073-113 TO 114
RECEIVED 3/13/84
SAMPLED BY CUSTOMER

MR. PAT CANZAND
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

RECEIVED
APR 16 1984
DELAWARE SOLID WASTE AUTHORITY

"non responsive based on revised scope"

[redacted]

BAI LOG	SAMPLE ID	DATE	TIME
113	= EAST COLL. MANHOLE	3/13	
114	= WEST COLL. MANHOLE	3/13	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	113	114
110.1	TOTAL BARIUM	(A)	3/22	[redacted]	0.5	0.6
130.2	TOTAL CADMIUM	"	3/20		0.0068	0.0047
135.1	TOTAL CALCIUM	"	3/20		160	121.
140.1	TOTAL CHROMIUM	"	3/20		0.11	0.09
155.1	TOTAL IRON	"	3/20		18.5	1.64
160.2	TOTAL LEAD	"	3/20		0.05	0.05
[illegible].1	TOTAL MAGNESIUM	"	3/21		180	127.
[illegible].1	TOTAL MANGANESE	"	3/20		2.11	1.14
215.1	TOTAL SILVER	"	3/26		0.04	0.02
255.1	TOTAL ZINC	"	3/21		0.08	0.08
265	ARSENIC	"	3/30		0.015	0.010
270	SELENIUM	"	3/30		0.02	< 0.01
315	ALKALINITY, M.O.	(B)	3/14		4120	2210
320	CHLORIDE	(A)	3/15		1500	822.
390	B.O.D. - 5	"	3/20		227.	89.
435	NITRATE AS N	"	3/14		< 0.05	0.55
450	TOTAL KJELDAHL N	"	3/20		610	300
515	TOTAL DISS. SOLIDS	"	3/15		6430	3470
520	TOTAL SUSP. SOLIDS	"	3/15		46.5	56.6
550	TOTAL ORG. CARBON	"	3/14		630	278.
555	MERCURY	"	3/30		< 0.0002	< 0.0002
792	METHYLENE CHLORIDE	(C)	3/27		2.	< 1.
795	TRICHLOROETHYLENE	"	3/27		< 1.	< 1.
796	TTRACHLOROETHYLENE	"	3/27		< 1.	< 1.
808	ETHYL BENZENE	"	3/27		240	28.
809	TOLUENE	"	3/27		194.	11.
810	BENZENE	"	3/27		25.	27.

(A) = MG/L (B) = MG/L AS CACO3 (C) = UG/L

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ORIGINAL
(Red)

ANALYTICAL REPORT NO. 393.10106

DATE 4/10/84

SAMPLE NOS. 393-073-115 TO 116
RECEIVED 3/13/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

RECEIVED
APR 13 1984
DELAWARE SOLID WASTE AUTHORITY

"non responsive based on revised scope"

[redacted]

BAI LOG	SAMPLE ID	DATE	TIME
115	= SW LIFT STATION	3/13	
116	= NW LIFT STATION	3/13	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	115	116
110.1	TOTAL BARIUM	(A)	3/22	[redacted]	0.7	< 0.2
130.2	TOTAL CADMIUM	"	3/20		0.0047	0.0038
135.1	TOTAL CALCIUM	"	3/20		131.	141.
140.1	TOTAL CHROMIUM	"	3/20		0.12	< 0.08
155.1	TOTAL IRON	"	3/20		18.7	0.92
160.2	TOTAL LEAD	"	3/20		0.05	0.03
[illegible]0.1	TOTAL MAGNESIUM	"	3/21		142.	56.
[illegible]5.1	TOTAL MANGANESE	"	3/20		0.96	2.92
215.1	TOTAL SILVER	"	3/26		< 0.02	< 0.02
255.1	TOTAL ZINC	"	3/21		0.08	0.02
265	ARSENIC	"	3/30		0.017	< 0.005
270	SELENIUM	"	3/30		0.020	< 0.01
315	ALKALINITY, M.O.	(B)	3/14		2700	677.
320	CHLORIDE	(A)	3/15		1030	126.
390	B.O.D. - 5	"	3/20		66.	22.
435	NITRATE AS N	"	3/14		0.06	0.47
450	TOTAL KJELDAHL N	"	3/20		370	56.
515	TOTAL DISS. SOLIDS	"	3/15		3970	1010
520	TOTAL SUSP. SOLIDS	"	3/15		72.6	63.6
550	TOTAL ORG. CARBON	"	3/14		371.	54.
555	MERCURY	"	3/30		< 0.0002	< 0.0002
792	METHYLENE CHLORIDE	(C)	3/27		17.	< 1.
795	TRICHLOROETHYLENE	"	3/27		2.	< 1.
796	TTRACHLOROETHYLENE	"	3/27		29.	< 1.
808	ETHYL BENZENE	"	3/27		26.	5.
809	TOLUENE	"	3/27		56.	4.
810	BENZENE	"	3/27		< 1.	2.

(A) = MG/L (B) = MG/L AS CACO3 (C) = UG/L

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. Box 7571, Newark, DE 19714

ORIGINAL (Red)

Analytical Report No. 393.10107

Date 4/10/84

Sample No. 393-073-117
Received 3/13/84
Sampled By Customer

Mr. Pat Canzano
Delaware Solid Waste Authority
P.O. Box 455
Dover, DE 19901

RECEIVED
R 13 1984
DELAWARE SOLID WASTE AUTH

"non responsive based on revised scope"

BAI Log	Sample ID	Date	Time
117	= Well #50	3/13	

BAI Code	Analysis	Units	Completed Date	By	117
110.1	Total Barium	(A)	3/22		0.4
130.2	Total Cadmium	"	3/20		0.0025
135.1	Total Calcium	"	3/20		98.
140.1	Total Chromium	"	3/20		< 0.08
155.1	Total Iron	"	3/20		47.8
160.2	Total Lead	"	3/20		0.03
1[illegible].1	Total Magnesium	"	3/21		79.
[illegible].1	Total Manganese	"	3/20		3.66
215.1	Total Silver	"	3/26		0.02
255.1	Total Zinc	"	3/21		0.03
265	Arsenic	"	3/30		0.006
270	Selenium	"	3/30		0.01
315	Alkalinity, MO	(B)	3/14		514.
320	Chloride	(A)	3/15		390
435	Nitrate as N	"	3/14		< 0.05
450	Total Kjeldahl N	"	3/26		15.
515	Total Diss. Solids	"	3/15		1290
550	Total Org. Carbon	"	3/14		29.
555	Mercury	"	3/30		< 0.0002
792	Methylene Chloride	(D)	3/27		< 1.
795	Trichloroethylene	"	3/27		< 1.
796	Tetrachloroethylene	"	3/27		< 1.
808	Ethyl Benzene	"	3/27		< 1.
809	Toluene	"	3/27		< 1.
810	Benzene	"	3/27		< 1.

(A) = mg/l (B) = mg/l as CaCO3 (C) = pH units (D) = ug/l

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ORIGINAL (Red)

ANALYTICAL REPORT NO. 393.08901

DATE 3/29/84

SAMPLE NOS. 393-074-124 TO 130
RECEIVED 3/14/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORI
P.O. BOX 455
DOVER, DE 19901

RECEIVED
APR 13 1984
DELAWARE SOLI
WASTE AUTHORI

"non responsive based on revised scope"

[redacted]

BAI LOG	SAMPLE ID	DATE	TIME
124	= WELL #31A	3/14	
125	= WELL #32	3/14	
126	= WELL #37	3/14	
127	= WELL #39	3/14	
128	= WELL #42	3/14	
129	= WELL #42A	3/14	
130	= WELL #32A	3/14	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	31A 124	32 125	37 126
155.1	TOTAL IRON	(A)	3/20	[redacted]	2.04	58.5	122.
[illegible]	ALKALINITY,M.O.	(B)	3/16		938.	502.	541.
[illegible]	CHLORIDE	(A)	3/15		193.	411.	606.
450	TOTAL KJELDAHL N	"	3/20		185.	15.5	36.
515	TOTAL DISS. SOLIDS	"	3/16		1290	1330	1890
550	TOTAL ORG. CARBON	"	3/14		82.	39.	138.

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	39 127	42 128	42A 129
155.1	TOTAL IRON	"	3/20	[redacted]	20.8	5.8	27.3
315	ALKALINITY,M.O.	(B)	3/16		575.	319.	402.
320	CHLORIDE	(A)	3/15		179.	125.	303.
450	TOTAL KJELDAHL N	"	3/20		22.	12.	15.
515	TOTAL DISS. SOLIDS	"	3/16		1100	921.	1370
550	TOTAL ORG. CARBON	"	3/14		59.	30	33.

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	32A 130
155.1	TOTAL IRON	"	3/20	[redacted]	3.6
315	ALKALINITY,M.O.	(B)	3/16		68.
320	CHLORIDE	(A)	3/15		122.
435	NITRATE AS N	"	3/21		6.4
450	TOTAL KJELDAHL N	"	3/20		5.
515	TOTAL DISS. SOLIDS	"	3/16		1410
550	TOTAL ORG. CARBON	"	3/14		11.

(A) = MG/L (B) = MG/L AS CACO3

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ANALYTICAL REPORT NO. 393.09007 ORIGINAL (Red)

DATE 3/30/84

SAMPLE NO. 393-074-131
RECEIVED 3/14/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

RECEIVED APR 3 1984 DELAWARE SOLID WASTE AUTHORITY

"non responsive based on revised scope" [redacted]

BAI

LOG	SAMPLE ID	DATE	TIME
131	= WELL #40	3/14	

BAI

CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	131
110.1	TOTAL BARIUM	(A)	3/22	[redacted]	0.5
130.2	TOTAL CADMIUM	"	3/20		0.0042
135.1	TOTAL CALCIUM	"	3/20		160
140.1	TOTAL CHROMIUM	"	3/20		< 0.08
155.1	TOTAL IRON	"	3/20		41.5
160.2	TOTAL LEAD	"	3/20		0.03
170.1	TOTAL MAGNESIUM	"	3/21		116.
[illegible].1	TOTAL MANGANESE	"	3/20		3.76
[illegible]5.1	TOTAL SILVER	"	3/26		< 0.02
255.1	TOTAL ZINC	"	3/21		0.07
265	ARSENIC	"	3/29		< 0.005
270	SELENIUM	"	3/29		< 0.01
315	ALKALINITY,M.O.	(B)	3/16		820
320	CHLORIDE	(A)	3/15		187.
435	NITRATE AS N	"	3/21		< 0.09
450	TOTAL KJELDAHL N	"	3/26		40
515	TOTAL DISS. SOLIDS	"	3/16		1570
550	TOTAL ORG. CARBON	"	3/14		96.
555	MERCURY	"	3/26		< 0.0005

"non responsive based on revised" [redacted]

(A) = MG/L (B) = MG/L AS CACO3

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ANALYTICAL REPORT NO. 393.10103 **ORIGINAL (Red)**

DATE 4/10/84

SAMPLE NOS. 393-075-115 TO 117
RECEIVED 3/15/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

RECEIVED APR 13 1984 DELAWARE SOLID WASTE AUTHORITY

"non responsive based on revised scope" [redacted]

BAI LOG	SAMPLE ID	DATE	TIME
115	= WELL #28	3/15	
116	= WELL #47	3/15	
117	= WELL #48	3/15	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	28 115	47 116	48 117
110.1	TOTAL BARIUM	(A)	3/26	[redacted]	0.2	0.9	1.7
130.2	TOTAL CADMIUM	"	3/27		0.004	0.006	0.013
135.1	TOTAL CALCIUM	"	3/27		63.	51.	132.
140.1	TOTAL CHROMIUM	"	3/26		0.09	0.27	0.54
155.1	TOTAL IRON	"	3/23		0.51	8.1	16.0
[illegible].2	TOTAL LEAD	"	3/27		0.03	0.06	0.10
[illegible]0.1	TOTAL MAGNESIUM	"	3/23		42.	114.	141.
175.1	TOTAL MANGANESE	"	3/23		10.7	0.10	0.21
215.1	TOTAL SILVER	"	3/26		0.02	< 0.02	0.02
255.1	TOTAL ZINC	"	3/27		0.48	0.08	0.19
265	ARSENIC	"	3/30		< 0.005	0.013	0.021
270	SELENIUM	"	3/30		0.01	< 0.01	0.03
315	ALKALINITY,M.O.	(B)	3/16		114.	3480	6230
320	CHLORIDE	(A)	3/15			1410	1600
380	PH	(C)	3/16		5.95	7.50	
435	NITRATE AS N	(A)	3/21		6.0	< 0.2	< 0.9
450	TOTAL KJELDAHL N	"	3/26		1.1	650	710
515	TOTAL DISS. SOLIDS	"	3/19		1010	4570	9990
550	TOTAL ORG. CARBON	"	3/21		4.	479.	948.
555	MERCURY	"	3/30		< 0.0005	< 0.0005	< 0.0005
570	SPCFC CONDUCTANCE	(D)	3/16		1530	9440	
792	METHYLENE CHLORIDE	(E)	4/6		6.	39.	54.
795	TRICHLOROETHYLENE	"	4/6		< 1.	< 1.	< 1.
796	TTRACHLOROETHYLENE	"	4/6		2.	98.	48.
808	ETHYL BENZENE	"	4/6		< 1.	50	< 1.
809	TOLUENE	"	4/6		1.	11.	7.
810	BENZENE	"	4/6		< 1.	3.	3.

(A) = MG/L (B) = MG/L AS CACO3 (C) = PH UNITS (D) = U-MHO/CM @ 25 ° C
(E) = UG/L

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ANALYTICAL REPORT NO. 393.10104

DATE 4/10/84 **ORIGINAL (Red)**

SAMPLE NOS. 393-075-118 TO 120
RECEIVED 3/15/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

RECEIVED
APR 13 1984
DELAWARE SOLID WASTE AUTHORITY

"non responsive based on revised scope"

BAI LOG	SAMPLE ID	DATE	TIME
118	= WELL #1R	3/15	
119	= WELL #29	3/15	
120	= WELL #45	3/15	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	1R 118	29 119	45 120
110.1	TOTAL BARIUM	(A)	3/26	[redacted]		0.5	< 0.2
130.2	TOTAL CADMIUM	"	3/27			0.002	0.001
135.1	TOTAL CALCIUM	"	3/27			23.	9.5
140.1	TOTAL CHROMIUM	"	3/26			0.16	< 0.05
155.1	TOTAL IRON	"	3/23		0.37	49.5	3.8
[illegible].2	TOTAL LEAD	"	3/27			0.02	< 0.02
[illegible].1	TOTAL MAGNESIUM	"	3/23			29.	3.5
175.1	TOTAL MANGANESE	"	3/23			1.61	0.08
215.1	TOTAL SILVER	"	3/26			< 0.02	< 0.02
255.1	TOTAL ZINC	"	3/27			0.04	0.05
265	ARSENIC	"	3/30			< 0.005	< 0.005
270	SELENIUM	"	3/30			< 0.01	< 0.01
315	ALKALINITY,M.O.	(B)	3/16		194.	228.	41.
320	CHLORIDE	(A)	3/15		22.8	301.	20.2
380	PH	(C)	3/16		6.80		
435	NITRATE AS N	(A)	3/21		6.8	< 0.9	< 0.9
450	TOTAL KJELDAHL N	"	3/26		6.5	14.	0.5
515	TOTAL DISS. SOLIDS	"	3/19		459.	723.	177.
550	TOTAL ORG. CARBON	"	3/21		26.	8.	1.
555	MERCURY	"	3/30			< 0.0005	< 0.0005
570	SPCFC CONDUCTANCE	(D)	3/16		644.		
792	METHYLENE CHLORIDE	(E)	4/6		4.	3.	4.
795	TRICHLOROETHYLENE	"	4/6		< 1.	< 1.	< 1.
796	TTRACHLOROETHYLENE	"	4/6		< 1.	< 1.	< 1.
808	ETHYL BENZENE	"	4/6		< 1.	< 1.	< 1.
809	TOLUENE	"	4/6		2.	< 1.	< 1.
810	BENZENE	"	4/6		< 1.	< 1.	< 1.

(A) = MG/L (B) = MG/L AS CACO3 (C) = PH UNITS (D) = U-MHO/CM @ 25 • C
(E) = UG/L

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. Box 7571, Newark, DE 19714

Analytical Report No. 393.10105

Date 4/10/84

Sample No. 393-075-121
Received 3/15/84
Sampled By Customer

ORIGINAL (Red)

Mr. Pat Canzano
Delaware Solid Waste Authority
P.O. Box 455
Dover, DE 19901

RECEIVED
APR 13 1984
DELAWARE SOLID WASTE AUTHORITY

"non responsive based on revised scope"

[redacted]

BAI Log	Sample ID	Date	Time
121	= WELL #41A	3/15	

BAI Code	Analysis	Units	Completed Date	By	121
155.1	Total Iron	(A)	3/20	[redacted]	1.94
315	Alkalinity, MO	(B)	3/16		106.
320	Chloride	(A)	3/15		330
435	Nitrate as N	"	3/21		3.8
450	Total Kjeldahl N	"	3/26		2.9
515	Total Diss. Solids	"	3/19		1020
550	Total Org. Carbon	"	3/21		4.
[illegible]	Methylene Chloride	(C)	4/6		3.
795	Trichloroethylene	"	4/6		< 1.
796	Tetrachloroethylene	"	4/6		< 1.
808	Ethyl Benzene	"	4/6		< 1.
809	Toluene	"	4/6		< 1.
810	Benzene	"	4/6		< 1.

(A) = mg/l (B) = mg/l as CaCO3 (C) = ug/l

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ANALYTICAL REPORT NO. 393.10101

DATE 4/10/84

SAMPLE NOS. 393-076-106 TO 109
RECEIVED 3/16/84
SAMPLED BY CUSTOMER

MR. PAT CANZANO
DELAWARE SOLID WASTE AUTHORITY
P.O. BOX 455
DOVER, DE 19901

RECEIVED
APR 13 1984
DELAWARE WASTE AUT

ORIGINAL
(Red)

"non responsive based on revised scope"

[redacted]

ID.: BAI

LOG	SAMPLE ID	DATE	TIME
106	= WELL 26R	3/16	
107	= WELL 41	3/16	
108	= WELL 46	3/16	
109	= WELL 49	3/16	

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	106	107	108
110.1	TOTAL BARIUM	(A)	3/26	[redacted]	< 0.2	0.3	0.4
130.2	TOTAL CADMIUM	"	3/27		0.005	0.004	0.010
135.1	TOTAL CALCIUM	"	3/27		117.	168.	98.
140.1	TOTAL CHROMIUM	"	3/26		< 0.05	< 0.05	0.12
155.1	TOTAL IRON	"	3/23		0.26	0.10	3.95
160.2	TOTAL LEAD	"	3/27		0.04	0.06	0.06
170.1	TOTAL MAGNESIUM	"	3/23		82.	114.	123.
175.1	TOTAL MANGANESE	"	3/23		29.	8.0	0.53
215.1	TOTAL SILVER	"	3/26		< 0.02	< 0.02	< 0.02
255.1	TOTAL ZINC	"	3/27		0.07	3.3	0.10
265	ARSENIC	"	3/30		< 0.005	< 0.005	0.016
270	SELENIUM	"	3/30		0.01	0.01	0.02
315	ALKALINITY,M.O.	(B)	3/22		400	418.	3710
320	CHLORIDE	(A)	3/22		351.	107.	1300
435	NITRATE AS N	"	3/21		< 0.09	3.0	0.10
450	TOTAL KJELDAHL N	"	3/28		9.2	5.	660
515	TOTAL DISS. SOLIDS	"	3/20		1400	1370	4870
550	TOTAL ORG. CARBON	"	3/21		9.	17.	519.
555	MERCURY	"	4/4		< 0.0005	< 0.0005	< 0.0005
792	METHLENE CHLORIDE	(C)	4/6		< 1.	10	266.
795	TRICHLOROETHYLENE	"	4/6		< 1.	< 1.	< 1.
796	TTRACHLOROETHYLENE	"	4/6		1.	< 1.	10
808	ETHYL BENZENE	"	4/6		< 1.	< 1.	5.
809	TOLUENE	"	4/6		< 1.	< 1.	10
810	BENZENE	"	4/6		< 1.	< 1.	8.

CONTINUED ON PAGE 2

BRANDT ASSOCIATES, INC.
CONSULTING ANALYTICAL CHEMISTS
P.O. BOX 7571, NEWARK, DE 19714

ANALYTICAL
REPORT NO. 393.10101

ORIGINAL
(Red)

RECEIVED
APR 16 1984
DELAWARE SOLID
WASTE AUTHORITY

BAI CODE	ANALYSIS	UNITS	COMPLETED DATE	BY	77 109
110.1	TOTAL BARIUM	"	3/26	[redacted]	0.6
130.2	TOTAL CADMIUM	"	3/27		0.011
135.1	TOTAL CALCIUM	"	3/27		110
140.1	TOTAL CHROMIUM	"	3/26		0.36
155.1	TOTAL IRON	"	3/23		6.2
160.2	TOTAL LEAD	"	3/27		0.14
170.1	TOTAL MAGNESIUM	"	3/23		280
175.1	TOTAL MANGANESE	"	3/23		0.42
215.1	TOTAL SILVER	"	3/26		0.02
255.1	TOTAL ZINC	"	3/27		0.28
265	ARSENIC	"	3/30		0.026
270	SELENIUM	"	3/30		0.02
315	ALKALINITY,M.O.	(B)	3/22		6390
[illegible]	CHLORIDE	(A)	3/22		1950
[illegible]5	NITRATE AS N	"	3/21		< 0.09
450	TOTAL KJELDAHL N	"	3/28		700
515	TOTAL DISS. SOLIDS	"	3/20		9460
550	TOTAL ORG. CARBON	"	3/21		710
555	MERCURY	"	4/4		< 0.0005
792	METHLENE CHLORIDE	(C)	4/6		< 1.
795	TRICHLOROETHYLENE	"	4/6		< 1.
796	TTRACHLOROETHYLENE	"	4/6		18.
808	ETHYL BENZENE	"	4/6		2.
809	TOLUENE	"	4/6		3.
810	BENZENE	"	4/6		< 1.

Non responsive based on re

(A) = MG/L (B) = MG/L AS CACO3 (C) = UG/L

BRANDT ASSOCIATES, INC.

CONSULTING ANALYTICAL CHEMISTS
P.O. Box 7571, Newark, DE 19714

Analytical Report No. 393.10102

Date 4/10/84

Sample No. 393-076-110 to 111
Received. 3/16/84
Sampled By Customer

RECEIVED APR 1984 DELAWARE SOLID

ORIGINAL (Red)

Mr. Pat Canzano
Delaware Solid Waste Authority
P.O. Box 455
Dover, DE 19901

"non responsive based on revised scope"

[redacted]

BAI Log	Sample ID	Date	Time
110	= WELL #29A	3/16	
111	= WELL #28A	3/16	

BAI Code	Analysis	Units	Completed Date	By	29A 110	28A 111
155.1	Total Iron	(A)	3/20	[redacted]	1.44	0.25
315	Alkalinity, MO	(B)	3/22	[redacted]	12.	124.
320	Chloride	(A)	3/22	[redacted]	46.7	
435	Nitrate as N	"	3/21	[redacted]	6.8	
450	Total Kjeldahl N	"	3/28	[redacted]	1.6	9.6
515	Total Diss. Solids	"	3/20	[redacted]	462.	425.
[illegible]	Total Org. Carbon	"	3/21	[redacted]	8.	8.
[illegible]	Methylene Chloride	(C)	4/6	[redacted]	< 1.	
795	Trichloroethylene	"	4/6	[redacted]	< 1.	
796	Tetrachloroethylene	"	4/6	[redacted]	< 1.	
808	Ethyl Benzene	"	4/6	[redacted]	< 1.	
809	Toluene	"	4/6	[redacted]	< 1.	
810	Benzene	"	4/6	[redacted]	< 1.	

(A) = mg/l (B) = mg/l as $CaCO_3$ (C) = ug/l