99991111

Duke Energy
File Header

Project: 3412

030-005

Box #: 030

File #: 005

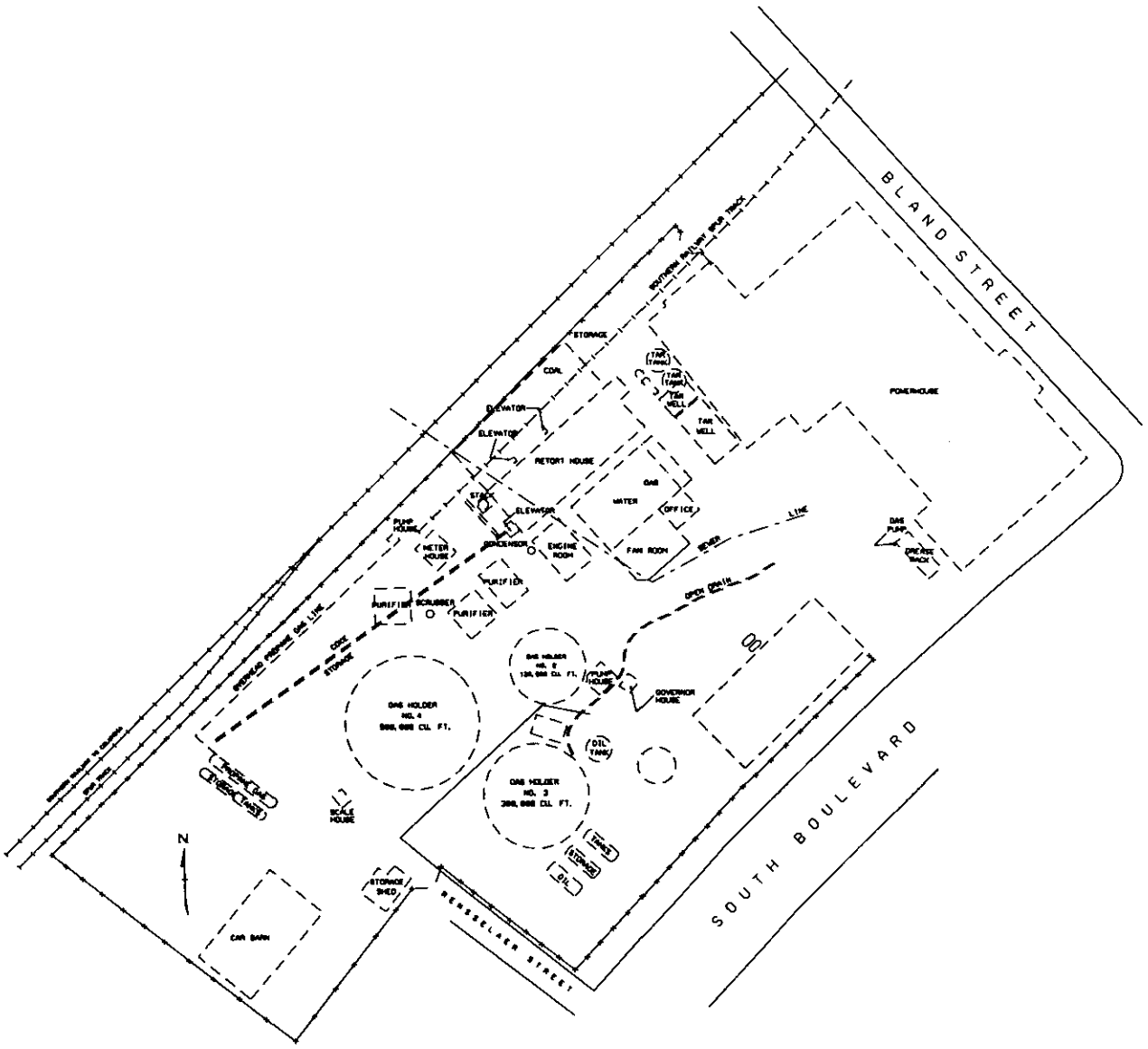




Document Efficiency
At Work.℠

99991111

SOUTH BOULEVARD
MANUFACTURED GAS PLANT SITE
INVESTIGATION AND SITE ASSESSMENT REPORT



VOLUME I

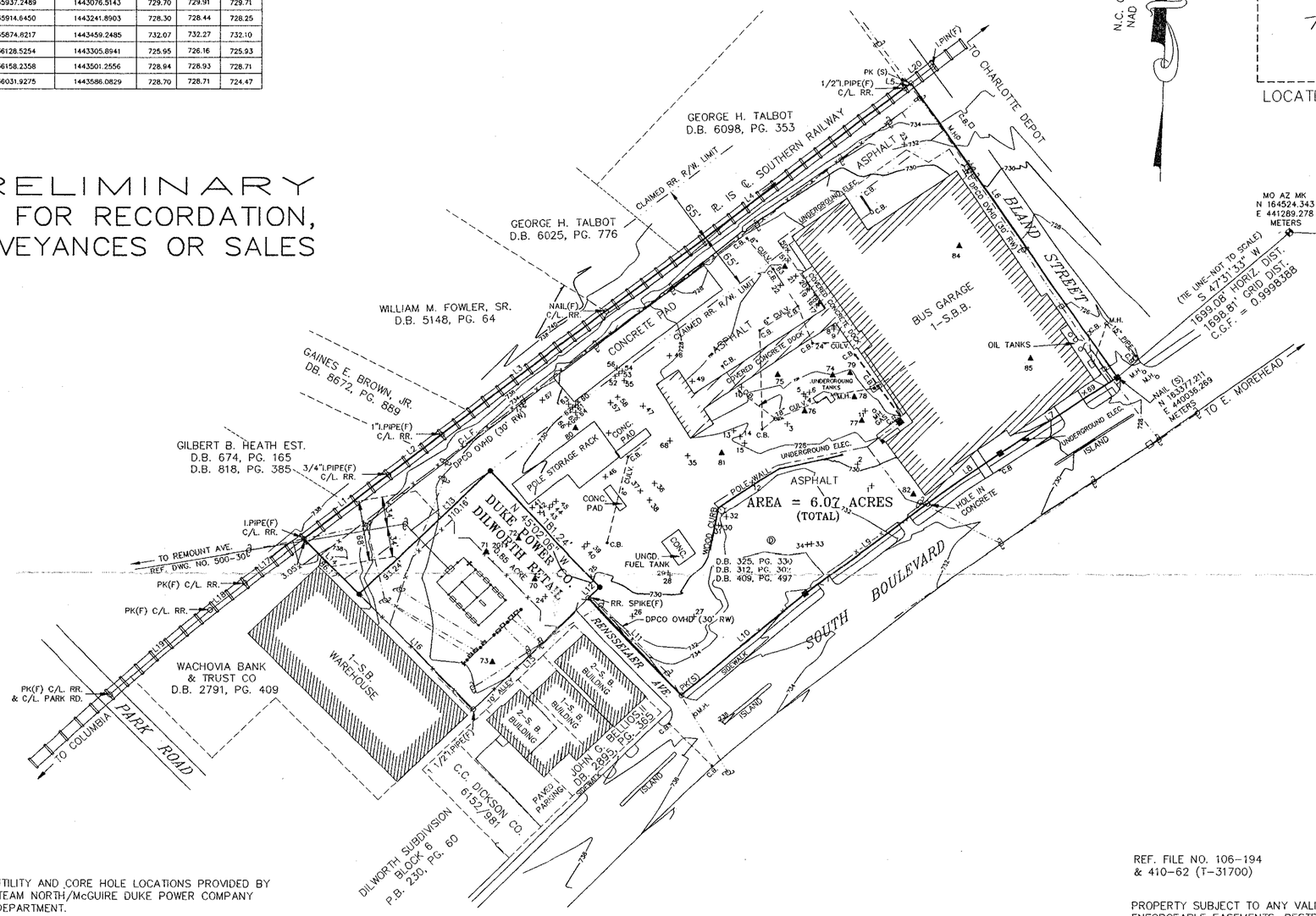
Prepared by:

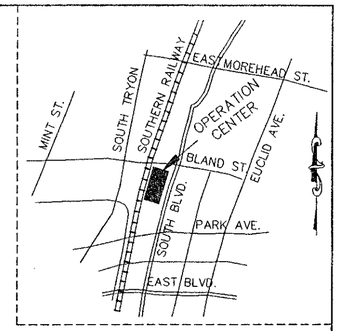
MGP SITE MANAGEMENT GROUP
DUKE POWER COMPANY - ENVIRONMENTAL DIVISION

NO.	BORING NO.	NORTH	EAST	GROUND ELEV.
1	B-35	535882.6654	1443411.8775	731.1
2	B-35A	535906.5957	1443395.4996	729.8
3	B-30	535949.5830	1443314.6478	728.1
4	B-36	535980.3670	1443335.1003	727.2
5	B-36A	535983.2659	1443332.4822	727.1
6	B-36B	535985.6659	1443337.3418	726.9
7	B-37	536060.7063	1443363.5526	725.5
8	B-37A	536062.2934	1443363.6737	725.5
9	B-37B	536058.9277	1443363.6244	725.5
10	B-33	535988.7715	1443261.1663	725.3
11	B-34	535967.2284	1443301.6761	726.9
12	B-32	535882.3916	1443277.0279	729.0
13	B-31	535933.0880	1443262.2644	728.1
14	B-31A	535939.4687	1443254.8507	727.9
15	B-31B	535926.2043	1443267.8106	728.0
16	B-27	536086.5337	1443344.8115	725.5
17	B-27A	536085.6541	1443343.7994	725.5
18	B-27B	5360871099	1443345.6700	725.5
19	B-29	536103.8186	1443333.8133	725.5
20	B-29A	536103.1183	1443332.2586	725.5
21	B-26	536118.0038	1443318.3779	725.8
22	B-25	536106.8094	1443301.7262	725.4
23	B-28	536274.0312	1443442.5585	732.6
24	B-05	535745.5610	1443048.3486	730.8
25	B-04	535769.7175	1443099.7216	730.1
26	B-02	535725.9868	1443147.5653	730.7
27	B-01	535727.8901	1443217.0471	730.7
28	B-15	535774.6427	1443188.1759	729.9
29	B-15A	535777.5822	1443185.9747	729.9
30	B-10	535832.9717	1443243.5820	731.4
31	B-10A	535833.3692	1443241.0787	731.1
32	B-10B	535843.1023	1443249.3020	732.5
33	B-011	535815.6947	1443345.9049	733.1
34	B-011A	535814.6221	1443341.9277	733.2
35	B-14	535910.4990	1443203.5287	728.7
36	B-08C	535877.8883	1443167.4041	728.6
37	B-08B	535869.2157	1443151.9697	728.9
38	B-08	535859.3595	1443162.3378	728.9
39	B-03	535808.1016	1443094.1588	729.6
40	B-03A	535804.0984	1443090.8476	729.7
41	B-06D	535846.5964	1443030.2050	730.5
42	B-06C	535841.4056	1443038.9203	730.3
43	B-06B	535847.4673	1443049.9346	730.2
44	B-06A	535850.9194	1443053.2789	730.1
45	B-06	535854.7916	1443057.0809	730.0
46	B-09	535883.5372	1443111.8067	729.3
47	B-17	535964.8426	1443151.3722	729.1
48	B-21	536022.1668	1443179.0404	728.4
49	B-20	535993.4391	1443205.8971	725.6
50	B-22	536147.1074	1443308.1182	726.8
51	B-23	536135.2332	1443309.4149	726.1
52	B-16	535996.8794	1443119.4738	729.5
53	B-16A	536000.1478	1443123.0045	729.5
54	B-16B	536003.3533	1443126.3934	729.4
55	B-16C	535992.0886	1443129.1638	729.3
56	B-16D	536005.4003	1443120.8530	729.5
57	B-18	535966.8066	1443115.0142	729.5
58	B-18A	535973.1555	1443122.3684	729.2
59	B-07	535933.0244	1443114.0955	728.9
60	B-13	535965.7128	1443077.7938	730.0
61	B-13A	535962.6733	1443074.9775	730.0
62	B-13B	535960.2047	1443071.9453	730.0
63	B-13C	535963.8526	1443067.7863	730.3
64	B-13D	535955.3078	1443075.3512	730.0
65	B-13E	535949.2647	1443077.8443	729.8
66	B-13F	535941.6315	1443068.5455	729.9
67	B-12	535966.9612	1443037.7103	730.8
68	B-19	535926.5467	1443182.9456	728.9
69	B-24	535994.8977	1443649.3314	728.9

NO.	WELL NO.	NORTH	EAST	GROUND ELEV.	TOP CASING ELEV.	TOP PVC ELEV.
70	MW-1	535764.8025	1443035.7688	730.7	730.45	730.17
71	MW-2	535794.7525	1442980.3406	730.6	730.3	730.04
72	MW-3	535811.4952	1443015.8375	730.2	730.16	729.91
73	MW-4	535668.1106	1442991.5074	731.6	731.37	731.14
74	MW-5	536005.5025	1443363.9695	726.0	725.53	725.26
75	MW-6	536004.3097	1443301.9631	727.3	727.20	726.98
76	MW-7	535964.4686	1443333.8906	727.4	727.05	726.76
77	MW-8	535955.5636	1443398.4231	727.5	727.36	727.11
78	MW-9	535981.5957	1443389.1395	726.9	726.50	726.28
79	MW-10A	536008.6201	1443383.3165	728.10	725.84	725.61
80	MW-11	535937.2489	1443076.5143	729.70	729.91	729.71
81	MW-12	535914.6450	1443241.8903	728.30	728.44	728.25
82	MW-13	535874.8217	1443459.2485	732.07	732.27	732.10
83	MW-14	536128.5254	1443305.8941	725.95	726.16	725.93
84	MW-15	536158.2358	1443501.2556	728.94	728.93	728.71
85	MW-16	536031.9275	1443586.0829	728.70	728.71	724.47

PRELIMINARY
NOT FOR RECORDATION,
CONVEYANCES OR SALES





LOCATION MAP-NOT TO SCALE

LINE DATA

LINE	DIRECTION	DISTANCE
L1	N 51°07'54" E	119.00'
L2	N 51°07'54" E	75.22'
L3	N 51°07'54" E	231.69'
L4	N 51°07'54" E	423.26'
L5	N 51°07'54" E	6.69'
L6	S 36°49'06" E	408.60'
L7	S 55°38'23" W	157.91'
L8	S 53°36'51" W	99.54'
L9	S 51°19'30" W	171.52'
L10	S 48°14'54" W	181.58'
L11	N 45°02'06" W	153.01'
L12	N 43°36'12" E	17.86'
L13	S 44°38'17" W	203.40'
L14	N 46°06'21" W	89.22'

TIES

L15	S 43°36'12" W	182.14'
L16	N 46°06'21" W	184.87'
L17	N 50°36'52" E	83.53'
L18	N 49°36'02" E	49.95'
L19	N 47°20'56" E	148.84'
L20	S 51°07'22" W	30.53'

NOTE:
UNDERGROUND UTILITY AND CORE HOLE LOCATIONS PROVIDED BY GOETECH/PLAT TEAM NORTH/McGUIRE DUKE POWER COMPANY GEN. SERVICES DEPARTMENT.

REF. FILE NO. 106-194
& 410-62 (T-31700)

PROPERTY SUBJECT TO ANY VALID AND ENFORCEABLE EASEMENTS, RESTRICTIONS AND RIGHTS OF WAY OF RECORD.

NOTE:
AREA WITHIN DPCO 44 KV. (68') R/W. = 0.18 ACRE.
AREA WITHIN DPCO DISTRIBUTION LINE (30') R/W. =0.75 ACRE.
AREA WITHIN CLAIMED RAILROAD R/W. (65') = 1.27 ACRE,
OF WHICH, 0.67 ACRE IS WITHIN DPCO TRANSMISSION LINE R/W.'S
TOTAL AREA WITHIN RIGHTS OF WAY = 1.53 ACRE

LEGEND

- LINES SURVEYED
- LINES NOT SURVEYED
- DPCO OVHD (30' RW)
- RAILROAD R/W.
- #4 REBAR(S) ●
- #6 REBAR(F) ■
- CATCH BASIN □
- CORE HOLE LOC. +
- MONITORING WELL ▲

NOTE:
THIS MEDIA SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT.

NOTE:
THIS PLAT IS OF A SURVEY OF AN EXISTING PARCEL or PARCELS OF LAND.

SOURCE OF TITLE:
D.B. 325, PG. 330, D.B. 312, PG. 302 & D.B. 409, PG. 497

STATE OF NORTH CAROLINA
MECKLENBURG COUNTY

I certify that this map was drawn from an actual survey made under my supervision and was prepared in accordance with G.S. 47-30 as amended. The unadjusted error of closure as calculated is 1': 10,000 +. Boundaries not surveyed, if any, are noted. Deed descriptions are recorded in Book AS, Page SHOWN.

Witness my hand and seal this 11th day of NOVEMBER, 1996.

Registered Land Surveyor
L-3707

STATE OF NORTH CAROLINA
MECKLENBURG COUNTY

I JAMES V. BAKER, a Notary Public of MECKLENBURG County, North Carolina, do hereby certify that W. MICHAEL JONES a registered land surveyor, personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and Notorial Seal this 11th day of NOVEMBER, 1996.

Notary Public

My Commission expires: NOV. 1, 1999

REAL ESTATE CITIZENSHIP DUKE POWER SERVICE DEPARTMENT

SURVEY AND MAP PREPARED BY:
DUKE POWER COMPANY
P.O. BOX 1007
CHARLOTTE N.C. 28201-1007
TELEPHONE NO. (704)382-4268

NO.	REVISION	TECH	DATE	CHK	DATE
	PROPERTY RESURVEYED AND UPDATED	JHC	10-1-96	WMJ	10-1-96

DUKE POWER COMPANY
BOUNDARY SURVEY OF

SOUTH BOULEVARD OPERATIONS CENTER

CHARLOTTE N.C.
MECKLENBURG COUNTY

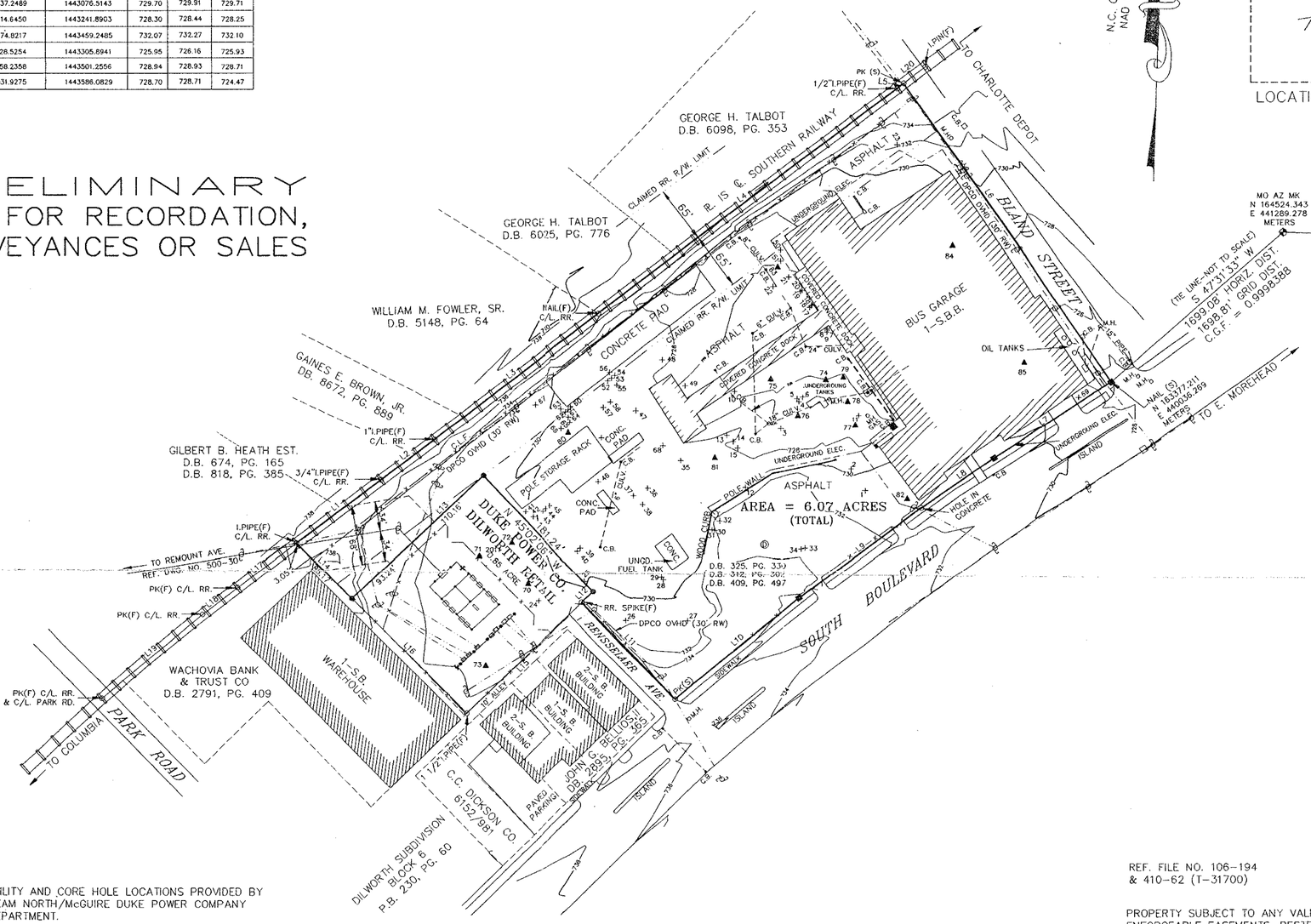
BOOK NO. 2163
SEPT. 27, 1995
SCALE: 1"= 100'
0 50 100 150 200
SCALE IN FEET
CREW: BRH & HLR
DRAWN BY: JVB & JHC
E.C.= 1": 10,000'+

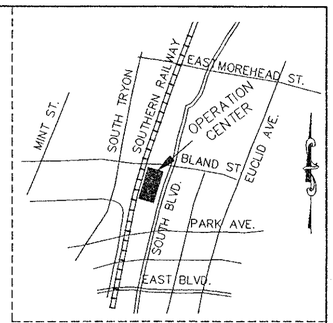
PROJECT NO. 6870 | PARCEL NO. 45317 | REQUEST NO. 31667

NO.	BORING NO.	NORTH	EAST	GROUND ELEV.
1	B-35	525882.6654	1443411.8775	731.1
2	B-35A	535906.5957	1443395.4996	729.8
3	B-30	535949.5830	1443314.6478	728.1
4	B-36	535980.3670	1443335.1003	727.2
5	B-36A	535983.2659	1443332.4822	727.1
6	B-36B	535985.6659	1443337.3418	726.9
7	B-37	536060.7063	1443363.5526	725.5
8	B-37A	536062.2934	1443363.6737	725.5
9	B-37B	536058.9277	1443363.6244	725.5
10	B-33	535988.7715	1443261.1663	725.3
11	B-34	535967.2284	144301.6761	726.9
12	B-32	535882.3916	1443277.0279	729.0
13	B-31	535933.0880	1443262.2644	728.1
14	B-31A	535939.4687	1443254.8507	727.9
15	B-31B	535926.2043	1443267.8106	728.0
16	B-27	536086.5337	1443344.8115	725.5
17	B-27A	536085.6541	1443343.7994	725.5
18	B-27B	5360871099	1443345.6700	725.5
19	B-29	536103.8186	1443333.8133	725.5
20	B-29A	536103.1183	1443332.2586	725.5
21	B-26	536118.0038	1443318.3779	725.8
22	B-25	536106.8094	1443301.7262	725.4
23	B-28	536274.0312	1443442.5585	732.6
24	B-05	535745.5610	1443048.3486	730.8
25	B-04	535769.7175	1443099.7216	730.1
26	B-02	535725.9868	1443147.5653	730.7
27	B-01	535727.8901	1443217.0471	730.7
28	B-15	535774.6427	1443188.1759	729.9
29	B-15A	535777.5822	1443185.9747	729.9
30	B-10	535832.9717	1443243.5820	731.4
31	B-10A	535833.3692	1443241.0787	731.1
32	B-10B	535843.1023	1443249.3020	732.5
33	B-011	535815.6947	1443345.9049	733.1
34	B-011A	535814.6221	1443341.9277	733.2
35	B-14	535910.4990	1443203.5287	728.7
36	B-08C	535877.8883	1443167.4041	728.6
37	B-08B	535869.2157	1443151.9697	728.9
38	B-08	535859.3595	1443162.3378	728.9
39	B-03	535808.1016	1443094.1588	729.6
40	B-03A	535804.0984	1443090.8476	729.7
41	B-06D	535846.5964	1443030.2050	730.5
42	B-06C	535841.4056	1443038.9203	730.3
43	B-06B	535847.4673	1443049.9346	730.2
44	B-06A	535850.9194	1443053.2789	730.1
45	B-06	535854.7916	1443057.0809	730.0
46	B-09	535883.5372	1443111.8067	729.3
47	B-17	535964.8426	1443151.3722	729.1
48	B-21	536022.1668	1443179.0404	728.4
49	B-20	535993.4391	1443205.8971	725.6
50	B-22	536147.1074	1443308.1182	726.8
51	B-23	536135.2332	1443309.4149	726.1
52	B-16	535996.8794	1443119.4738	729.5
53	B-16A	536000.1478	1443123.0045	729.5
54	B-16B	536003.3533	1443126.3934	729.4
55	B-16C	535992.0886	1443129.1638	729.3
56	B-16D	536005.4003	1443120.8530	729.5
57	B-18	535966.8066	1443115.0142	729.5
58	B-18A	535973.1555	1443122.3684	729.2
59	B-07	535933.0244	1443114.0955	728.9
60	B-13	535965.7128	1443077.7938	730.0
61	B-13A	535962.6733	1443074.9775	730.0
62	B-13B	535960.2047	1443071.9453	730.0
63	B-13C	535963.8526	1443067.7863	730.3
64	B-13D	535955.3078	1443075.3512	730.0
65	B-13E	535949.2647	1443077.8443	729.8
66	B-13F	535941.6315	1443068.5455	729.9
67	B-12	535966.9612	1443037.7103	730.8
68	B-19	535926.5467	1443182.9456	728.9
69	B-24	535994.8977	1443649.3314	728.9

NO.	WELL NO.	NORTH	EAST	GROUND ELEV.	TOP CASING ELEV.	TOP PVC ELEV.
70	MW-1	535764.8025	1443035.7688	730.7	730.45	730.17
71	MW-2	535794.7525	1442980.3406	730.6	730.3	730.04
72	MW-3	535811.4952	1443015.8375	730.2	730.16	729.91
73	MW-4	535668.1108	1442991.5074	731.6	731.37	731.14
74	MW-5	536005.5025	1443363.9895	726.0	725.53	725.26
75	MW-6	536004.3097	1443301.9631	727.3	727.20	726.98
76	MW-7	535954.4686	1443333.8906	727.4	727.05	726.76
77	MW-8	535955.5636	1443398.4231	727.5	727.36	727.11
78	MW-9	535981.5957	1443389.1395	726.9	726.50	726.28
79	MW-10A	536008.6201	1443383.3165	726.10	725.84	725.61
80	MW-11	535937.2489	1443076.5143	729.70	729.91	729.71
81	MW-12	535914.6450	1443241.8903	728.30	728.44	728.25
82	MW-13	535874.8217	1443459.2485	732.07	732.27	732.10
83	MW-14	536128.5254	1443305.8941	725.95	726.16	725.93
84	MW-15	536158.2358	1443501.2556	728.94	728.93	728.71
85	MW-16	536031.9275	1443586.0829	728.70	728.71	724.47

PRELIMINARY
NOT FOR RECORDATION,
CONVEYANCES OR SALES





LOCATION MAP—NOT TO SCALE

LINE DATA

LINE	DIRECTION	DISTANCE
L1	N 51°07'54" E	119.00'
L2	N 51°07'54" E	75.22'
L3	N 51°07'54" E	231.69'
L4	N 51°07'54" E	423.26'
L5	N 51°07'54" E	6.69'
L6	S 36°49'06" E	408.60'
L7	S 55°38'23" W	157.91'
L8	S 53°36'51" W	99.54'
L9	S 51°19'30" W	171.52'
L10	S 48°14'54" W	181.58'
L11	N 45°02'06" W	153.01'
L12	N 43°36'12" E	17.96'
L13	S 44°38'17" W	203.40'
L14	N 46°06'21" W	89.22'

TIES

L15	S 43°36'12" W	182.14'
L16	N 46°06'21" W	184.87'
L17	N 50°36'52" E	83.53'
L18	N 49°36'02" E	49.95'
L19	N 47°20'56" E	148.84'
L20	S 51°07'22" W	30.53'

NOTE:
UNDERGROUND UTILITY AND CORE HOLE LOCATIONS PROVIDED BY GOETECH/PLAT TEAM NORTH/McGUIRE DUKE POWER COMPANY GEN. SERVICES DEPARTMENT.

REF. FILE NO. 106-194
& 410-62 (T-31700)

PROPERTY SUBJECT TO ANY VALID AND ENFORCEABLE EASEMENTS, RESTRICTIONS AND RIGHTS OF WAY OF RECORD.

NOTE:
AREA WITHIN DPCO 44 KV. (68') R/W. = 0.18 ACRE.
AREA WITHIN DPCO DISTRIBUTION LINE (30') R/W. =0.75 ACRE.
AREA WITHIN CLAIMED RAILROAD R/W. (65') = 1.27 ACRE,
OF WHICH, 0.67 ACRE IS WITHIN DPCO TRANSMISSION LINE R/W.'S
TOTAL AREA WITHIN RIGHTS OF WAY = 1.53 ACRE

LEGEND

- LINES SURVEYED ———
- LINES NOT SURVEYED – – – – –
- DPCO OVHD (30' RW) —·—·—
- RAILROAD R/W. ——·——
- #4 REBAR(S) ●
- #6 REBAR(F) ■
- CATCH BASIN □
- CORE HOLE LOC. +
- MONITORING WELL ▲

NOTE:
THIS MEDIA SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT.

NOTE:
THIS PLAT IS OF A SURVEY OF AN EXISTING PARCEL or PARCELS OF LAND.

SOURCE OF TITLE:
D.B. 325, PG. 330, D.B. 312, PG. 302 & D.B. 409, PG. 497

STATE OF NORTH CAROLINA
MECKLENBURG COUNTY

I certify that this map was drawn from an actual survey made under my supervision and was prepared in accordance with G.S. 47-30 as amended. The unadjusted error of closure as calculated is 1': 10,000 +. Boundaries not surveyed, if any, are noted. Deed descriptions are recorded in Book AS, Page SHOWN.

Witness my hand and seal this 11th day of NOVEMBER, 1996.

Registered Land Surveyor
L-3707

STATE OF NORTH CAROLINA
MECKLENBURG COUNTY

I JAMES V. BAKER, a Notary Public of MECKLENBURG County, North Carolina, do hereby certify that W. MICHAEL JONES a registered land surveyor, personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and Notorial Seal this 11th day of NOVEMBER, 1996.

Notary Public

My Commission expires: NOV. 1, 1999

REAL ESTATE CITIZENSHIP DUKE POWER DEPARTMENT

SURVEY AND MAP PREPARED BY:
DUKE POWER COMPANY
P.O. BOX 1007
CHARLOTTE N.C. 28201-1007
TELEPHONE NO. (704)382-4268

NO.	REVISION	TECH	DATE	CHK	DATE
	PROPERTY RESURVEYED AND UPDATED	JHC	10-1-96	WMJ	10-1-96

DUKE POWER COMPANY
BOUNDARY SURVEY OF

SOUTH BOULEVARD OPERATIONS CENTER

CHARLOTTE N.C.
MECKLENBURG COUNTY

BOOK NO 2163
SEPT. 27, 1995
SCALE: 1"= 100'
0 50 100 150 200
SCALE IN FEET
CREW: BRH & HLR
DRAWN BY: JVB & JHC
E.C.= 1": 10,000'+

PROJECT NO. 6870 | PARCEL NO. 45317 | REQUEST NO. 31667

GEOGRAPHIC LOCATION
SCALE: 1" = 2000'

N

TO REMOUNT AVE.
REF. DWG. NO. 500-30

TO COLUMBIA

N52°55'E - 379.0'

119.0'

I. PIPE

I. PIPE

75.2'

I. PIPE

℄ RY.

℄ IS ℄ SOUTHERN RAILWAY

184.8'

46.9'

I. PIPE

℄ RY.

N52°55'E - 476.8'

429.9'

SPIKE ℄ RY.

TO CHARLOTTE DEPOT

℄ SPUR TRACK

SIGNAL BOX

RETAINING WALL

SIGNAL BOX

OVERHEAD POWER LINE

25' GATE

LIGHT POLE

LIGHT POLE

LIGHT POLE

LIGHT POLE

LIGHT POLE

CONC. PAD

SEWER LINE

ASPHALT

C.B.

CONC. PAD

CONC. RAMP

41.0'

75.2'

42.5'

ASPHALT

H.W.

CONC. WALL

WATER VALVE

FIRE HYD.

120.6'

3'X7' TANK

TRANS. BENT.

W.V.

W.M.

4'X6' TANK

N44°19'W - 274.3'

OVERHEAD ℄ 68' R/W.

GRAVEL PARKING

POWER LINE

ASPHALT

POLE STORAGE (GRAVEL)

N37°05'W - 240.0'

PLANTER

C.B.

C.B.

C.B.

CONC. LOADING DOCK (COVERED)

92.2'

3.2'

22.0'

11.0'

PROJECT 6870
PARCEL 4536

PUMP ISLANDS

LIGHT POLE

LIGHT POLE

AREA = 3.3 ACRES

1,000 GAL DIESEL

1,000 GAL GAS

ANTENNA TOWER

PARCEL 45317
DEED BOOK 312, PAGE 302
DWG. NO 1229

C.B.

M.H.

1,000 GAL.

M.H.

ASPHALT
2.16 Ac.

(CONC. SLAB)

1,000 GAL GAS

GAS PUMPS

C.B.

BUS GARAGE
(I.S.B.B.)

RTL 63-1
DEED BOOK 325, PAGE 330

PROJECT
PARCEL 4

WAREHOUSE I.S.TIN BLDG.

55.0'

66.2'

HILLSWORTH SUBST.

RTL 48-1
DEED BOOK 409, PAGE 497
PARCEL 4536-2
1.14 Ac.

HENRY V. DICK CO.

Dwg. # C-921

S52°55'W - 190.0'

OVERHEAD POWER LINE

GATE

SPIKE

C.B.

I. PIN

I. PIPE

S45°23'W - 1822'

RR

50.0'

I. PIN

(GRAVEL) PARKING

RETAINING WALL

LIGHT POLE

AIR COND.

PADMOUNT TRANSFORMER

AREA = 3.61 ACRES

N37°05'W - 151.7'

39.9'

12' GATE

55'/3 V.S.

55'/3 3 WAY V.S.

C.&H.

CAP

ASPHALT PARKING

PARCEL 45317

10' ALLEY S45°44'W - 239.3'

189.3'

24.5'

10'

27.0'

6'

SHED 26

19.0'

2.5'

2.0'

2.5'

2.0'

2.5'

2.0'

2-S. BLOCK BLDG. (OLD CHURCH)

I. PIN

8" CONC. BLOCK WALL

S44°23'E - 139.9'

I. PIN

PAVED PARKING

I.S.B.B.

30.0'

39.8'

AREA = 0.61 ACRES
DEED BOOK 3573, PAGE 223

ANGELIKI BELLIOS (VENETIAN CENTER) T.O. NO. 8735

N44°24'W - 140.0'

S44°22'E - 139.9'

37.0'

30.7'

N43°15'W - 153.0'

RENSSELAER AVE.

STAKE

SIGN

SIGN

SIGN

RETAINING WALL

LIGHT POLE

55'/3 V.S.

55'/3 3 WAY V.S.

C.&H.

CAP

12' GATE

15' GATE

15' GATE

55' 40.0'

STEPS

LANDING

16'

SIGN

WALK

8'

114.5'

CONC. DRIVE

S53°06'W - 156.4'

S35°24'W - 99.6'

I. PIN

SIDEWALK

S57°25'W - 157.9'

W.M.

OVERHEAD POWER LINE

W.M.

HOLE IN SIDEWALK

S50°02'W - 181.6'

SIDEWALK

I. PIN LAT. 35°12'-54
LONG. 80°51'-14
SCALED

S53°06'W - 15.3'

SIGNAL BOX

N45°51'E - 64.7'

I. PIN

N45°43'E - 124.8'

I. PIPE

N45°35'E - 499'

OSIGN

OVERHEAD

FUTURE 100 KV. POWER LINE

OVERHEAD POWER LINE
REF. DWG. NO. 511-33

BOULEVARD

SOUTH

TO WOODLAWN-ELIZABETH AVE. TRANSMISSION LINE

S 35°02'E - 408.7'

GRAVEL PARKING

172.3'

6.8'

43.6'

10.8'

69.0'

C.B.

6'

WALK

I. PIN

BLAND STREET

NOTE: TOTAL AREA = 7.52 ACRES

EXCLUDE FROM SALE:
1. 2 WAY RADIOS, EQUIPMENT, & ANTENNA TOWERS.
2. TRANSFORMERS & METERS
3. T2 TYPE YARD LIGHTS & POLES

RESERVE R/W. FOR:
1. OVERHEAD & UNDERGROUND POWER, TELEPHONE, & COMMUNICATION LINES.

REVISED 7-2-79

FOR 1992 SURVEY
SEE DWG. 410-62

REF. DWG. NO. 14-143, 12-29, 151-137, 500-30, 511-33

REF. DEED BOOK 312, PAGE 302
" " 409 " 497
" " 325 " 330
" " 3573 " 223

T.O. NO. 6651

DUKE POWER COMPANY
CHARLOTTE BRANCH

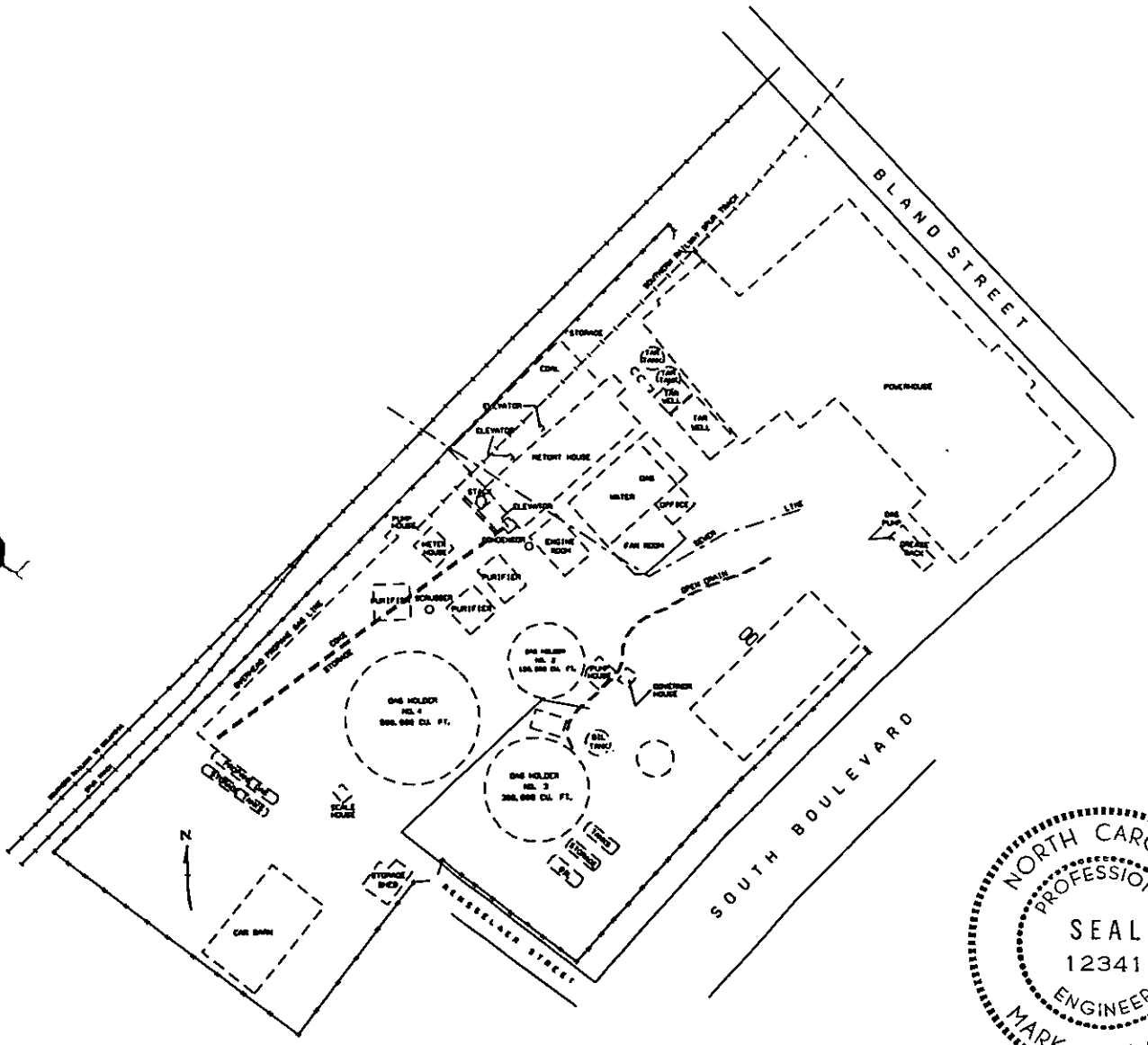
S. BLVD. OPERATION CENTER

CHARLOTTE, N.C.
MECKLENBURG COUNTY

SCALE: 1" = 40'
BOOK NO. 1459

APRIL 25, 1975
FILE NO. 106-194

SOUTH BOULEVARD
MANUFACTURED GAS PLANT SITE
INVESTIGATION AND SITE ASSESSMENT REPORT



NORTH CAROLINA PROFESSIONAL SEAL 12341 ENGINEER MARK E. McGARY

Mark E. McGary
APR 17, 1997

VOLUME I

Prepared by:

MGP SITE MANAGEMENT GROUP
DUKE POWER COMPANY - ENVIRONMENTAL DIVISION

NORTH CAROLINA PROFESSIONAL SEAL 10354 ENGINEER RALPH C. ROBERTS

Ralph C. Roberts 4/17/97

Table of Contents

AOC Section - Item	Title	Page
V.A.	**Remedial Investigation Plan**	**1**
V.A.-1	Site Description	1
V.A.-2	Environmentally Sensitive Areas	4
V.A.-3	USGS Topographic Maps	5
V.A.-4	Owner's Deeds	5
V.A.-5	Chronology of Previous Owners	5
V.A.-6	Survey Plat	5
V.A.-7	Site Topographic Map	6
V.A.-8	List of Hazardous Substances	6
V.A.-9	Site Environmental Permit History	6
V.A.-10	Potable Well Inventory	6
V.A.-11	Site Characterization Procedures	7
V.A.-12	Sampling Methods	7
V.A.-13	QA/QC Procedures	8
V.A.-14	Analytical Methods	8
V.A.-15	Decontamination Procedures	8
V.A.-16	Summary of Investigations	9
V.A.-17	Schedule	12
V.A.-18	Principal Consultants	13
V.A.-19	Health and Safety Plan	13
V.A.-20	Other Information	13
V.D.	**Remedial Investigation Report**	**14**
V.D.-1	Site Geologic Conditions	14
V.D.-2	Site Hydrogeologic Conditions	14
V.D.-3	Sampling and Well Locations Map	14
V.D.-4	Analytical Results Summary	14
V.D.-5	Monitoring Well Installation Details	16
V.D.-6	Field and Laboratory QA/QC Procedures	17
V.D.-7	Contaminant Delineation Maps	17
V.D.-8	Special Assessment Results	19
V.D.-9	Field Logs and Photographs	19
V.D.-10	Other Information	19

SOUTH BOULEVARD MANUFACTURED GAS PLANT SITE
INVESTIGATION AND SITE ASSESSMENT REPORT

Introduction

This Investigation and Site Assessment Report has been prepared by Duke Power Company's MGP Site Management Group for the purposes of addressing and documenting the information required, work performed, and remedial investigation results obtained as stipulated in the Administrative Order On Consent (AOC) for the South Boulevard Manufactured Gas Plant (MGP) Site.

This Investigation and Site Assessment Report is organized in chronological order to provide the required information in conjunction with Section V.A. - Remedial Investigation Plan (Items 1 through 20) and Section V.D. - Remedial Investigation Report (Items 1 through 10) of the Administrative Order On Consent.

The nature and extent of contamination at the South Boulevard MGP Site has been characterized over a period from 1988 through 1996 by various methods and procedures. No further investigations are planned prior to site remediation.

SECTION V.A.
Remedial Investigation Plan

AOC Section V.A. - Item 1 Site Description

The South Boulevard Manufactured Gas Plant Site is located at 1400 South Boulevard in Charlotte, North Carolina at the approximate coordinates of North latitude 35°-12'-56" and West longitude 80°-51'-17". A Manufactured Gas Plant (MGP) facility operated at this site from around 1899 through the mid 1950s producing gas using the coal carbonization process. The site contains one primary structure which originally served as the gas facility powerhouse. The MGP operation was dismantled in the mid 1950s. Following dismantling, the site served as a bus garage for the City of Charlotte and then served as an operations center and stores facility for Duke Power utility line operations and maintenance.

Site plan maps indicating historical and current site facilities are provided in Appendix V.A.1. Sanborn Fire Insurance maps from 1900, 1905, 1911, 1929, and 1946 are also provided in Appendix V.A.1. The 1900 Sanborn maps show the original powerhouse structure along with a coke storage shed, purifiers, 2 gas holders, oil tanks, and other facilities. The 1911 Sanborn maps indicate the addition of a tar well, water cooling pond, and 2 purifiers. The 1929 Sanborn maps indicate the addition of 2 additional gas holders, a retort house, 2 tar storage tanks, and other equipment and facilities. To

support operations center activities, the original powerhouse structure was expanded around 1970 to the present size of approximately 220' x 300'.

The South Boulevard MGP Site lies in a commercialized area approximately one half mile southwest of downtown Charlotte. The site is bordered by city streets on the northeast and southeast sides, by a railroad on the northwest side, and a two-story building on the southwest side of the site. A residential housing area lies approximately 500 feet southeast of the site. Public access to the site is restricted by perimeter security fencing.

Most of the ground surface at the site is asphalt paved. The eastern area of the site covered by the existing structure. Packed gravel covers certain areas on the southern part of the site near an old electric substation and beneath a power pole storage rack. New gravel was placed on the southwestern corner of the site following soil remediation work related to the construction of a new substation. Concrete paving covers limited areas of the site including a strip of land parallel to the western property boundary and the adjacent railroad tracks, and another smaller area near the new substation.

The type of soil and groundwater contamination encountered at the South Boulevard MGP Site is consistent with numerous similar MGP sites throughout the United States. Documentation on historical MGP operations and the typical types of contamination encountered at MGP sites can be found in such publications as "Management of Manufactured Gas Plant Sites", Gas Research Institute, 1987. MGP process residuals and unwanted by-products are considered to be the primary source of contamination historically found at MGP sites. Typically, unwanted by-products from MGP operations consisted of coal tars, oil tars, lampblack, decanter sludges, coke, ash, spent oxide/lime, ammonia sludges, ammonia sulfate, and acid and caustic sludges. Coke was the primary solid residual.

Hydrocarbon residuals (tars, oils, lampblack, and decanter sludges) were primarily produced during the coal carbonization process, with coal tar being produced primarily from the initial distillation of the raw coal. Some hydrocarbon residuals, such as light oil and naphthalene, were produced during gas clean-up operations. The host of organic chemicals present in these hydrocarbon residuals (VOCs, PAHs, phenolics, etc.) form the primary constituents of interest at historical MGP sites. These hydrocarbon residuals are likely the source of the following hazardous organic substances at the South Boulevard MGP Site (reference AOC Section III, paragraph D):

acenaphthene
acenaphthylene
anthracene
benzo(a)anthracene
benzo(b)fluoranthene
benzo(k)fluoranthene
benzo(a)pyrene
benzo(ghi)perylene
benzene
ethyl benzene
chrysene
dibenzo(ah)anthracene
fluoranthene
fluorene
indeno(1,2,3,-cd)pyrene
naphthalene
phenanthrene
pyrene
toluene
xylene

Inorganic residuals were primarily produced during purification processes conducted to remove trace organics and sulfur from the gas prior to sale. Spent lime and spent oxide, often referred to as purifier box wastes, are typically the primary source of cyanides and other trace metals found at MGP sites. These inorganic residuals are likely the source of the following hazardous inorganic substances at the South Boulevard MGP Site (reference AOC Section III, paragraph D):

cadmium	chromium
arsenic	cyanide
lead	mercury

An undetermined quantity of free tar is present in the historical tar wells located at the site. This material will be sampled and analyzed prior to disposal during the site remediation process. Typically, soil contamination levels encountered at MGP sites do not exhibit hazardous characteristics as defined within RCRA guidelines. TCLP analyses conducted at the South Boulevard MGP Site substantiate this assertion.

In addition to the typical types of contamination associated with historical MGP processes and activities, the site has been impacted by petroleum contamination associated with former underground fuel storage tanks. In 1988, a leak was discovered beneath a gasoline dispenser in a gas and diesel refueling area in the southwestern corner of the site. These two USTs (one 20,000 gallon gasoline and one 10,000 gallon diesel), along with two additional USTs (one 10,000 gallon gasoline and one 1000 gallon diesel) located in a similar refueling area in the northeastern area of the site, were excavated and removed on 3/23/90. Soil sampling and analytical results obtained during investigations conducted in the UST areas indicated the presence of various organics which likely originated from a combination of UST petroleum contamination and typical MGP related wastes.

The UST leak source area discovered in 1988 was remediated during the 1991-1992 timeframe prior to construction of a new substation in the same area. In general, soils exhibiting concentrations of petroleum and MGP related constituents in excess of 200 ppm were excavated and removed from the site.

A large scale Phase II Environmental Assessment was performed during the 1991-1992 timeframe to delineate the nature and extent of MGP and petroleum related contamination across the site (Section V.A.16). The results of this assessment form the primary basis for information presented in this report. The results of this assessment also provide the foundation for the analysis of remedial options for the site, and for the determination of the extent of remediation required.

Three additional USTs were removed from the site on 8/25/94 as documented in a UST Closure Report submitted 10/10/94 (reference Section V.A.16). Two of these USTs (one 10,000 gallon gasoline and one 10,000 gallon diesel) were located in a refueling area near a retaining wall in the southern area of the site. The remaining UST was a 1000 gallon waste oil tank located in the northern corner of the site inside the building.

16 groundwater monitoring wells were installed at the site in the period from February 1989 through August 1992. Geologic and hydrogeologic conditions at the site are

described in Sections V.D.1 and V.D.2 of this report. No further investigations for the South Boulevard MGP Site are planned prior to site remediation.

AOC Section V.A. - Item 2 Environmentally Sensitive Areas

The South Boulevard MGP Site is located in an commercialized urban setting approximately one-half mile southwest of downtown Charlotte, North Carolina. The soils on and adjacent to the site are highly disturbed and consist of a variety of fills. Little, if any, of the original, undisturbed soil structure appears to be extant. There are no permanent bodies of water, wetlands or aquatic habitats on or adjacent to the site. All site drainage is directed to on-site storm drains. Terrestrial vegetation at the site consists of weeds, grasses, shrubs, and young trees that are typically found on industrial property in an urban setting. No unique biotic communities exist in the area.

A search to locate any potential environmentally sensitive areas was conducted on the site and within a one mile radius of the site. A review of North Carolina state highway maps, recreational maps, USGS topographic maps, and Mecklenburg County maps indicated no sensitive sites. A survey of Geographical Information System (GIS) data bases also indicated no environmentally sensitive areas within a one mile radius of the site. Searches and surveys to locate any environmentally sensitive areas included the following area classifications and results:

Marine Sanctuaries	N/A
National and State Parks	None
Designated/proposed Wilderness or Natural Areas	None
Coastal Zone Management Act	N/A
National Estuary Program/Near Coastal Waters	N/A
Clean Lakes Program	N/A
National Monuments	None
National/State Historical Sites	None
National/State Seashore, Lakeshore, River Rec. Areas	N/A
Critical Habitats	None
National/State Preserves or Forests	None
National/State Wildlife Refuges	None
Coastal Barriers	N/A
Protection of Natural Ecosystems	None
Critical Spawning Areas	N/A
Migratory Pathways for Fish and Shellfish	N/A
Breeding Areas for Aggregation of Animals	None
Scenic or Wild Rivers	N/A
State Wildlife Management Lands	None
Maintenance of Unique Biotic Communities	None
Wetlands - Aquatic Life Maintenance	None

AOC Section V.A. - Item 3 USGS Topographic Maps

A partial USGS topographic map of the South Boulevard MGP site area is provided in Appendix V.A.3.

AOC Section V.A. - Item 4 Owner's Deeds

Copies of property owner's deeds and associated deed maps for the South Boulevard MGP Site are provided in Appendix V.A.4.

AOC Section V.A. - Item 5 Chronology of Previous Owners

The following table provides a chronological history of ownership and operation of the South Boulevard MGP Site:

Owner	Date Acquired	Comments
Charlotte Gas Light Co.	Unknown	
Charlotte Electric Railway, Light & Power Co.	7/13/1899	Gas operations began 1899
Charlotte Gas & Electric Co.	12/6/1909	
Southern Public Utilities, Maine	6/25/1913	later to be known as Duke Power Co.
Southern Public Utilities, New Jersey	4/4/1935	later to be known as Duke Power Co.
Duke Power Co.	5/1/1935	
Piedmont Natural Gas	1/24/1951	Gas plant facilities were sold to PNG, property was leased to PNG by Duke Power from 5/9/51 to 9/30/56.

There have been numerous previous owners of lots number 4 through 7 located at the extreme southern corner of the site. No MGP operations were located or conducted on these properties, and the properties were sold in-total by Duke Power on November 7, 1989. A chronological listing of previous owners of these parcels is available upon request if needed.

AOC Section V.A. - Item 6 Survey Plat

A current property survey plat for the South Boulevard MGP Site is provided in Appendix V.A.6. The survey was prepared by a registered land surveyor and indicates the location of property boundaries, buildings, structures, well locations, boring locations, and adjacent property owners.

AOC Section V.A. - Item 7 Site Topographic Map

Site topography information is included on the site survey map provided in Appendix V.A.6.

AOC Section V.A. - Item 8 List of Hazardous Substances

The type of soil and groundwater contamination encountered at the South Boulevard MGP Site is consistent with numerous similar MGP sites throughout the United States, and has been previously discussed in Section V.A.1.

Typically, soil contamination levels encountered at MGP sites do not exhibit hazardous characteristics as defined within RCRA guidelines. TCLP analyses conducted on selected samples during investigation and remediation work associated with constructon of the new substation (Reports 4 through 8, Section V.A.16) substantiate this assertion. TCLP analytical summaries of the results from these analyses are provided in Appendix V.A.8 on Tables V.A.8-1, V.A.8-2, and V.A.8-3, for volatiles, semi-volatiles, and metals, respectively. The results are also included in a copy of Report Number 9 (Section V.A.16) provided in Appendix V.A.16. With the exception of 3 minor exceedances of the 0.5 mg/l regulatory TCLP limit for benzene, no TCLP concentrations exceeded the regulatory limit for any of the samples tested. An undetermined quantity of free tar still exists in the historical tar wells located at the site. This material will be analyzed prior to treatment and disposal during the site remediation process.

AOC Section V.A. - Item 9 Site Environmental Permit History

There were no environmental permits associated with the historical operation of the South Boulevard MGP Site. Required permits were obtained for the installation and operation of the underground petroleum storage tanks at the site. Well construction permit Number 59-1217-WM-0898 was obtained for the installation of Type II and Type III monitoring wells at the site. A copy of the well construction permit is provided in Appendix V.D.5.

AOC Section V.A. - Item 10 Potable Well Inventory

The South Boulevard MGP Site is located in a commercial area of Charlotte, North Carolina, approximately one half mile southwest of downtown Charlotte. Drinking water in the area surrounding the site is supplied by the City of Charlotte municipal water supply system. No potable water supply wells are currently known to exist in the area. Considering the commercialized nature of development in the area and the ready availability of a municipal water supply, there is little likelihood of the future installation of any potable water supply wells.

AOC Section V.A. - Item 11 Site Characterization Procedures

The nature and extent of contamination at the South Boulevard MGP Site has been characterized over a period from 1988 through 1996 by various methods and procedures. Initial site investigations concentrated in the southwest area of the site in conjunction with a former UST leak incident and the construction of a new substation (Sections V.A.1 and V.A.16). These initial investigations made use of soil gas assessment techniques to delineate the extent of volatile organics, and to provide information for the location of soil test borings and groundwater monitoring wells. This area was remediated during the 1991-1992 timeframe prior to construction of the new substation.

A large scale Phase II Environmental Assessment was initiated in 1991 to characterize the nature and extent of contamination for the site in-total. The results from this assessment provided the bulk of information obtained to-date on the nature and extent of contamination at the site. This investigation made use of a site-wide grid-based soil gas assessment to delineate the extent of volatile organics in the subsurface. This soil gas data, in conjunction with historical information on the facilities and processes of the former MGP operation, established a rationale for the sampling program employed for the Phase II Environmental Assessment. To-date, over 40 soil test borings have been made and 16 groundwater monitoring wells have been installed at the site. Soils and groundwater have been sampled and analyzed to characterize the nature and extent of the MGP and petroleum related constituents at the site (Section V.A.16 and Section V.D.4).

No further investigations are planned for the South Boulevard MGP Site prior to site remediation.

AOC Section V.A. - Item 12 Sampling Methods

As stated in Section V.A.11, a site-wide soil gas assessment, along with information on the historical MGP operations, formed the rationale for the sampling program employed for the Phase II Environmental Assessment. Soil sampling and monitoring well locations were determined based on the aforementioned information. Soil samples were obtained by split-spoon samplers and mechanically advanced hollow-stemmed augers. Soil samples were collected by driving split-spoon samplers through the hollow-stemmed augers into undisturbed soil. Each sampler was driven by repeated blows of a 140 pound slide hammer falling through a 30 inch drop as outlined in ASTM Procedure D1586.

Soil samples were placed in clean glass containers, labeled, and stored on ice for transport to the laboratory. Sample collection, handling, and chain of custody procedures were performed in accordance with EPA protocols outlined in "Engineering Support Branch, Standard Operating Procedures and Quality Assurance Manual, US EPA Region IV, 1986..

A minimum of 4 split-spoon samples were attempted at each boring location. Each split-spoon sample was field screened by a portable gas chromatograph, by HNU-Hanby, and/or by visual observations. Typically, the 2 most highly contaminated soil samples from each boring location were submitted for laboratory analysis.

Groundwater samples obtained from on-site monitoring wells were also handled in accordance with standard EPA protocols which included the collection of field and trip blank samples.

AOC Section V.A. - Item 13 QA/QC Procedures

All sampling and analyses associated with the South Boulevard MGP Site have been performed in accordance with US EPA approved methods and quality control procedures. All laboratory analyses have been performed by state certified laboratories.

AOC Section V.A. - Item 14 Analytical Methods

Typically, laboratory analyses on samples taken during the Phase II Environmental Assessment were directed towards the detection of constituents of interest associated with typical MGP wastes. Organic compounds characterized included volatile organics, polycyclic aromatic hydrocarbons, and oil & grease. Inorganic compounds characterized included RCRA metals, cyanide, ammonia, sulfur, and carbon, hydrogen and nitrogen analyses. Selected samples were analyzed for TCLP organics, BTU content, and TOC during assessment activities associated with the remediation of the new substation area previously described in Section V.A.1.

All analyses methods were US EPA approved methods. The following table summarizes those methods employed in the Phase II Environmental Assessment:

Constituent or Constituent Group	Method
Metals	EPA Method 3050
Cyanide	EPA Method 9010
Volatile Organics	EPA Method 8240
Polycyclic Aromatic Hydrocarbons	EPA Method 8270
TCLP	SW846 / EPA 8260 & 8270

AOC Section V.A. - Item 15 Decontamination Procedures

During sampling activities associated with the Phase II Environmental Assessment, all split-spoon samplers and auger flights were steam cleaned between boring locations. All sample handling equipment (glass pans, spatulas, etc.) were cleaned between samples in accordance with EPA protocols.

AOC Section V.A. - Item 16 Summary of Investigations

This Section provides brief descriptions of investigative efforts undertaken at the South Boulevard MGP Site to-date, beginning with the 1988 discovery of a petroleum leak beneath a gasoline dispenser in the southwestern corner of the site. Each investigative effort described in the following paragraphs references an investigation report referred to by consecutive numbers (i.e. Report No. 1, Report No. 2, etc.). Report numbers have been assigned for the purposes of this investigation summary only, and as a means of identifying and indexing the information.

As previously stated, a leak was discovered in 1988 beneath a gasoline dispenser in a gas and diesel refueling area in the southwestern corner of the site. Analytical results from soil samples obtained during a subsurface investigation conducted in early 1989 in the leak source area indicated the presence of MGP related polycyclic aromatic hydrocarbons (PAH) contamination. Since a new substation was scheduled for construction in this leak source area, additional subsurface investigations were conducted in this area, and the results were documented separately from investigations conducted at a later date to assess the site in total. Soils in the original UST leak source area were remediated during the 1991-1992 timeframe prior to construction of the new substation. In general, soils in the substation area exhibiting concentrations of petroleum and MGP related constituents in excess of 200 ppm were excavated and removed from the site.

The following table assigns numbers to each report or investigative effort beginning with the assessment of the 1988 petroleum leak:

Report Number	Time Period	Description
1	Oct, 1988	Soil Vapor Contaminant Assessment - UST leak area
2	Apr, 1989	Technical and Field Data Report - UST leak area
3	Oct, 1990	Phase I Site Investigation Report - UST Areas
4	Jun-Sep, 1989	Preliminary investigation - New substation area
5	Feb, 1991	Substation Relocation, Environmental Site Assessment
6	Jun, 1991	Substation area - Supplemental data
7	May, 1992	Substation area - Supplemental data
8	Jun, 1992	Substation area - Supplemental data
9	**Aug-Oct, 1991**	**Phase II Environmental Assessment of the MGP Site**
10	**Jul-Aug, 1992**	**Phase II - Supplemental Data**
11	**Apr-May, 1993**	**Phase II - Supplemental Data**
12	Oct, 1994	UST Closure Report
13	**May, 1996**	**Phase II - Supplemental Data**
14	**Feb, 1996**	**Phase II - Supplemental Data; Groundwater Sampling**

Report Number 1: Soil Vapor Contaminant Assessment - UST leak area

This investigation was conducted in October, 1988 in the southwest area of the site in conjunction with a UST leak incident previously discussed (Sections V.A.1 and V.A.11). This initial investigation made use of soil vapor contaminant assessment (SVCA) techniques to delineate the extent of volatile organics, and to provide information for the location of soil test borings and groundwater monitoring wells.

Report Number 2: Technical and Field Data Report - UST leak area

This report was prepared and submitted to NCDEHNR in April, 1989 to document the assessment of the UST leak area discussed above. This report provided soil and groundwater analytical data in the area of the UST leak. Four monitoring wells (MW1 through MW4) were installed in conjunction with this report. Soil sampling and analytical results obtained during this investigation indicated the presence of hydrocarbons in the soil which were likely the result of a combination of petroleum contamination and MGP related wastes. Groundwater analytical results from MW1 through MW4 indicated negligible impact to groundwater.

Report Number 3: Phase I Site Investigation Report - UST Areas

This report was prepared and submitted to NCDEHNR in October, 1990 to document the assessment of 2 UST refueling areas on-site. This report documented the assessment of the original leak area, and another similar UST refueling area, following removal of the USTs. The USTs in the original leak source area (one 20,000 gallon gasoline and one 10,000 gallon diesel), along with two additional USTs (one 10,000 gallon gasoline and one 1000 gallon diesel) located in a similar refueling area in the northeastern area of the site adjacent to the building, were excavated and removed on 3/23/90. Soil sampling and analytical results obtained during this investigation indicated the presence of hydrocarbons which likely resulted from a combination of UST petroleum contamination and MGP related wastes. Monitoring wells MW5 through MW10 were installed in the UST area near the building as part of this investigation. Groundwater analytical results from these wells indicated some significant organic contamination.

Report Numbers 4 through 8: New Substation Area Investigation

As previously stated, the original UST leak source area was remediated in the 1991-1992 timeframe prior to construction of a new substation in the same area. A limited scope risk assessment was performed for this area in October 1991 to determine the risk to workers engaged in ground disturbing activities associated with construction of the new substation. In general, soils exhibiting concentrations of petroleum and MGP related constituents in excess of 200 ppm were excavated and removed from the site prior to construction of the new substation. Since the new substation area has been remediated, soil contamination data associated with Report Numbers 4 through 8 is not presented or summarized in this document.

Report Number 4: Preliminary investigation - New substation area

A preliminary investigation involving soil test borings was conducted in June, 1989. This investigation confirmed elevated concentrations of PAH's, cyanide and metals in the area planned for construction of the new substation.

Report Number 5: Substation Relocation, Environmental Site Assessment
An assessment of the new substation area was conducted sporadically over a two year period, and involved the collection and analyses of soil samples for volatile and semi-volatile organic compounds, RCRA metals, and cyanide. In February, 1991, a concerted investigation of the area was conducted. Soil samples were collected on 25' x 25' grid intervals above, at, and below the groundwater table. The findings of this investigation indicated that contaminated soil was present above and below the water table.

Report Number 6: Substation area - supplemental data
This investigation was conducted in June, 1991 to provide additional subsurface data from locations proposed for various foundation pillars for the new substation.

Report Number 7: Substation area - supplemental data
This investigation was conducted in May, 1992 in the new substation area to collect soil samples for TCLP-organics analyses.

Report Number 8: Substation area - supplemental data
This investigation was conducted in June, 1992 to collect composite soil samples for TCLP-herbicides & pesticides, TPH gas & diesel, and RCRA ignitability, RCRA corrosivity, RCRA reactivity - sulfide, PCBs and TOX.

Report Numbers 9, 10, 11, 13 and 14: Phase II Environmental Assessment

These investigations were performed during the 1991-1992 timeframe to delineate the nature and extent of MGP and petroleum related contamination across the site. Since the new substation area previously mentioned had been remediated, no investigations were made in that area of the site during this assessment.

Data obtained during the Phase II Environmental Assessment forms the primary basis for information presented in this document. Data from this assessment also provides the foundation for the analysis of remedial options for the site, and for the determination of the extent of remediation required. Analytical results from the Phase II Environmental Assessment are summarized and provided in Appendix V.D.4.

Report Number 9: Phase II Environmental Assessment

This investigation was conducted between August 28 and October 3, 1991 and provided the bulk of information obtained for the Phase II Environmental Assessment. This investigation made use of a site-wide grid-based soil gas assessment to delineate the extent of volatile organics in the subsurface. The soil gas data, in conjunction with historical information on the facilities and processes of the former MGP operation, established a rationale for the sampling program employed for the Phase II Environmental Assessment. 37 soil test borings were performed during this investigation. Soils and groundwater have been sampled and analyzed to characterize the extent of typical MGP and petroleum constituents as previously described in Sections V.A.1 and V.A.11 through V.A.14. A copy of this report is provided in Appendix V.A.16.

Report Number 10: Phase II - Supplemental Data

This investigation was conducted following the installation of monitoring wells MW11 through MW16 installed during July-August 1992. Additional soil and groundwater data was obtained from the new monitoring wells during this investigation. In addition, soil samples were collected from borings B38 through B40 made inside the building at the site. A copy of this report is included in Appendix V.A.16, and a summary of this data is included in Appendix V.D.4.

Report Number 11: Phase II - Supplemental Data

This investigation was conducted during May, 1993 to obtain information on 1) the nature and prevalence of hexavalent chromium in soils at the site, 2) soil gas concentrations of volatile organics around the building at the site, and 3) indoor and outdoor air concentrations of volatile organics, polycyclic aromatic hydrocarbons, and phenols and cresols. This information was needed to support a baseline human health risk assessment performed to evaluate current risks to on-site workers. A copy of this report is included in Appendix V.A.16.

Report Number 13: Phase II - Supplemental Data; Groundwater sampling

This investigation was performed during February 1996 to obtain up-to-date groundwater contaminant data from monitoring wells at the site. A copy of this report is included in Appendix V.A.16 and a summary of this data is included in Appendix V.D.4.

Report Number 14: Phase II - Supplemental Data

This investigation was conducted during May, 1996 to obtain additional information on the nature and prevalence of hexavalent chromium and TOX in soils at the site. This information was required for air modeling purposes associated with the evaluation of remedial options. A copy of this report is included in Appendix V.A.16.

Report Number 12: UST Closure Report

This report was prepared and submitted to NCDEHNR in October, 1994 to document the removal of 3 underground petroleum storage tanks at the South Boulevard MGP Site. Two of these USTs (one 10,000 gallon gasoline and one 10,000 gallon diesel) were located in a refueling area near a retaining wall in the southern area of the site. The remaining UST was a 1000 gallon waste oil tank located in the northern corner of the site inside the building. This investigation found evidence of contamination in the refueling area, however, there were no indications of contamination in the waste oil tank area. No copy of this report is provided.

AOC Section V.A. - Item 17 Schedule

No further assessment activities are planned for the South Boulevard MGP Site prior to site remediation.

AOC Section V.A. - Item 18 Principal Consultants

All investigative and assessment work performed at the South Boulevard MGP Site has been performed by, or was under the administration of, Duke Power Company's Environmental Division. All correspondence associated with the South Boulevard MGP Site should be directed to:

Mr. Ralph C. Roberts, P.E.
Duke Power Company
MG03C4
13339 Hagers Ferry Road
Huntersville, North Carolina 28078-7929

Phone: (704) 875-5536 Fax: (704) 875-5493

Laboratory analyses have been performed by, or was under the administration of, the Duke Power Environmental Division Laboratory Services Section (North Carolina Certification Number 248).

AOC Section V.A. - Item 19 Health and Safety Plan

No further assessment activities are planned for the South Boulevard MGP Site prior to site remediation. A health and safety plan conforming to OSHA guidelines will be developed and implemented in association with site remediation work to ensure the health and safety of on-site workers, nearby residences, businesses, pedestrians, and site visitors. The health and safety plan will address precautions needed with respect to the toxicity of on-site contaminants, odors, visual impacts, and site security.

AOC Section V.A. - Item 20 Other Information

None.

SECTION V.D.
Remedial Investigation Plan

AOC Section V.D. - Item 1 Site Geologic Conditions

A summary of geologic conditions at the South Boulevard MGP Site, including a description of soils and vadose zone characteristics, is provided in Appendix V.D.1. Boring logs for soil sampling locations from the 1991-1992 Phase II Environmental Assessment Report (Section V.A.16) are also provided in Appendix V.D.1.

AOC Section V.D. - Item 2 Site Hydrogeologic Conditions

Groundwater potentiometric surface contours and tabulated elevation data for the South Boulevard MGP Site are provided on Figure V.D.2-1 in Appendix V.D.2. Depths to groundwater recorded February 26 and 27, 1996 range from near surface (0.8 feet) to as much as 12.85 feet below the ground surface. Groundwater monitoring summaries are provided on Tables V.D.2-1 and V.D.2-2 in Appendix V.D.2. The potentiometric groundwater surface typically resides within the surficial aquifer zone of fill soils at the site as described in the site geologic report (Appendix V.D.1). Groundwater flow is generally toward the east at variable hydraulic gradients from 0.01 in the western area of the site to 0.03 in the eastern area of the site (Figure V.D.2-1). The hydraulic conductivity for soils in the surficial aquifer at the South Boulevard MGP Site is estimated to be approximately $1x10^{-4}$ cm/sec (103 ft/yr). Groundwater at the site is not currently used for any purpose.

Horizontal seepage velocities at the site can be estimated by the relationship v=k*h/n; where k = hydraulic conductivity, h = hydraulic gradient, and n = effective porosity. Assuming a reasonable value of 0.4 for the effective porosity of the surficial aquifer soils (reference Report Number 9; Phase II Environmental Assessment Report ; Section V.A.16), horizontal seepage velocities are estimated to range from 2.6 ft/yr to 7.8 ft/yr across the site.

AOC Section V.D. - Item 3 Sampling and Well Locations Map

All soil sampling locations from the 1991-1992 Phase II Environmental Assessment Report (Section V.A.16), and the locations of all monitoring wells installed at the site to-date, are shown on Figures V.D.3-1 and V.D.3-2 provided in Appendix V.D.3.

AOC Section V.D. - Item 4 Analytical Results Summary

A summary of soil and groundwater analytical data from the Phase II Environmental Assessment (reference Report Numbers 9, 10, 11 and 13; Section V.A.16) is provided

in Appendix V.D.4. A summary of soil analytical data is presented in depth ranges from 1 feet to 4 feet, 4 feet to 7 feet, 7 feet to 10 feet, 10 feet to 13 feet, 13 feet to 16 feet, and greater than 16 feet. This data is provided in Tables V.D.4-1 through V.D.4-6, respectively. Statistical distributions at each depth interval for total PAHs, total carcinogenic PAHs, total BTEX, total metals, and total cyanide are provided on Figures V.D.4-1 through V.D.4-15.

Contaminant concentrations in soils are grouped by the following hazardous substances (constituents of interest) classifications:

a. **Total PAH** concentrations include the following:

acenaphthene	chrysene
acenaphthylene	dibenzo(ah)anthracene
anthracene	fluoranthene
benzo(a)anthracene	fluorene
benzo(b)fluoranthene	indeno(1,2,3,-cd)pyrene
benzo(k)fluoranthene	naphthalene
benzo(a)pyrene	phenanthrene
benzo(ghi)perylene	pyrene

b. **Total carcinogenic PAH** concentrations include carcinogenic PAHs as benzo(a)pyrene equivalents. This grouping includes the following carcinogenic PAH compounds with their associated B(a)P equivalent carcinogenic potency factors as outlined in the NCDEHNR "Framework for Risk-Based Clean-up Level Determination and Site Specific Risk Assessment" guidelines:

Carcinogenic PAH	B(a)P Equivalent CPF
benzo(a)anthracene	0.1
benzo(b)fluoranthene	0.1
benzo(k)fluoranthene	0.01
benzo(a)pyrene	1.0
chrysene	0.001
dibenzo(ah)anthracene	1.0
indeno(1,2,3,-cd)pyrene	0.1

c. **Total BTEX** concentrations include benzene, toluene, ethyl benzene, and total xylenes.

d. **Total metals** include cadmium, chromium, lead, arsenic, mercury and cyanide. Lead typically predominates in total metal concentration counts as indicated in the analytical summary tables provided in Appendix V.D.4.

e. **Total cyanide** is presented separately.

For the determination of concentration sums in each contaminant classification category, one-half of the laboratory detection limit was assumed for soil samples exhibiting non-detects.

As indicated on Figure V.D.4-1, soil total PAH concentration data is highly skewed within each of the first four depth intervals (1'-4', 4'-7', 7'-10' and 10'-13'); indicative of non-normal data distributions. Total PAH concentrations decrease dramatically at depths greater than 13 feet. Probability distributions of total PAH data presented on Figures V.D.4-4 through V.D.4-8 indicate that approximately 90% of total PAH concentrations are less than 1000 ppm in each of the first four depth intervals. Similar distributions of the data for carcinogenic PAHs are indicated on Figures V.D.4-2 and V.D.4-4 through V.D.4-8.

As indicated on Figure V.D.4-3, soil total BTEX concentration data is also highly skewed within each of the first four depth intervals and can be considered non-normally distributed. In a similar manner to the total PAH data, total BTEX concentrations also decrease dramatically at depths greater than 13 feet. Probability distributions of total BTEX data presented on Figures V.D.4-4 through V.D.4-8 indicate that greater than 90% of total BTEX concentrations are less than 10 ppm in each of the first four depth intervals.

As indicated on Figure V.D.4-9, soil total metals concentration data is highly skewed within the first two depth intervals and can be considered non-normally distributed within these depth ranges. Approximately 90% of total metal concentrations are less than 1000 ppm (Figures V.D.4-11 and V.D.4-12). Beginning in the 7'-10' depth interval, the concentrations of total metals decreases substantially and the data becomes more normally distributed (Figures V.D.4-13 through V.D.4-15). The normal distribution of metal data beginning in the 7'-10' interval may be indicative of ambient metal concentrations.

As indicated on Figure V.D.4-10, soil total cyanide concentration data is highly skewed through all depth intervals and can be considered non-normally distributed. Beginning in the 7'-10' depth interval, the concentrations of total cyanides decreases substantially. Within the first two depth intervals, approximately 98% of total cyanide concentrations are less than 1000 ppm (Figures V.D.4-11 and V.D.4-12).

Groundwater contaminant concentrations from the February 26-27, 1996 sampling and monitoring event (reference Report Number 14; Section V.A.16) are summarized in Tables V.D.4-7 and V.D.4-8 (Appendix V.D.4). Groundwater contaminant concentrations from the Phase II Environmental Assessment 1992 supplemental sampling event (reference Report Number 10; Section V.A.16) are summarized in Table V.D.4-9 (Appendix V.D.4).

AOC Section V.D. - Item 5 Monitoring Well Installation Details

Monitoring wells MW1 through MW16 were installed at the South Boulevard MGP Site in the period from February 1989 through August 1992. Monitoring wells were installed by boring using a hollow-stemmed auger and split-spoon soil samples were typically collected at five foot depth intervals during advance of the auger bit.

Monitoring wells were constructed by augering to desired depths and installing standard 2 inch diameter PVC well screens and PVC casings. Well screens were typically 10

feet in length with 0.01 inch slots, and were located at appropriate depths to maintain groundwater levels within screened intervals. Sand packs were placed in the annular spaces surrounding the well screens to stabilize the borings and prevent the leaching of soil particles into the wells. Bentonite seals were placed above the sand packs in each well to prevent surface water infiltration, and each well was grouted to the ground surface. All wells were protected from damage by the installation of flush-mount manholes grouted in-place. Each monitoring well was completed by the installation of a locking cap and manhole cover.

A summary of monitoring well construction information is provided on Table V.D.5-1 in Appendix V.D.5. Monitoring well installation permits, boring logs, and installation records are also provided in Appendix V.D.5.

AOC Section V.D. - Item 6 Field and Laboratory QA/QC Procedures

Reference Section V.A.13.

AOC Section V.D. - Item 7 Contaminant Delineation Maps

Soil and groundwater concentration maps for the constituents and groups of constituents of interest at the South Boulevard MGP site are provided in Appendix V.D.7.

Contaminant concentrations in soils are provided for depth ranges from 1 feet to 4 feet, 4 feet to 7 feet, 7 feet to 10 feet, 10 feet to 13 feet, 13 feet to 16 feet, and greater than 16 feet. Contaminant concentrations in soils are grouped by the following constituent classifications:

a. Figures V.D.7-1 through V.D.7-6 present **total PAH** concentrations which include the following hazardous substances (constituents of interest):

acenaphthene	chrysene
acenaphthylene	dibenzo(ah)anthracene
anthracene	fluoranthene
benzo(a)anthracene	fluorene
benzo(b)fluoranthene	indeno(1,2,3,-cd)pyrene
benzo(k)fluoranthene	naphthalene
benzo(a)pyrene	phenanthrene
benzo(ghi)perylene	pyrene

The majority of total PAH contamination was indicated in an area extending from the western end of the concrete pad located near the northwestern property boundary; to the western side of the building on each side of the loading dock. The highest total PAH concentrations were indicated in the area of the tar wells where the loading dock adjoins the building (reference Figure V.A.1-1).

b. Figures V.D.7-7 through V.D.7-12 present **total carcinogenic PAH** concentrations as benzo(a)pyrene equivalents. This grouping includes the following carcinogenic PAH compounds with their associated B(a)P equivalent carcinogenic potency factors as outlined in the NCDEHNR "Framework for Risk-Based Clean-up Level Determination and Site Specific Risk Assessment" guidelines.

Carcinogenic PAH	B(a)P Equivalent CPF
benzo(a)anthracene	0.1
benzo(b)fluoranthene	0.1
benzo(k)fluoranthene	0.01
benzo(a)pyrene	1.0
chrysene	0.001
dibenzo(ah)anthracene	1.0
indeno(1,2,3,-cd)pyrene	0.1

c. Figures V.D.7-13 through V.D.7-18 present **total BTEX** concentrations which include benzene, toluene, ethyl benzene, and total xylenes. The highest total BTEX concentrations were indicated in the area of the tar wells where the loading dock adjoins the building (reference Figure V.A.1-1).

d. Figures V.D.7-19 through V.D.7-24 present **total metal** concentrations which include cadmium, chromium, lead, arsenic, mercury and cyanide. Lead typically predominates in total metal concentration counts as indicated in the analytical summary tables provided in Appendix V.D.4. Cyanide concentrations are indicated separately on the figures when the cyanide concentration exceeds 40 ppm. Soils exhibiting metal concentrations are somewhat dispersed across the site from the western edge of the building to the edge of the new substation in the southwestern corner of the site. Cyanide concentrations are most prevalent in the central area of the site just south and west from the end of the loading dock.

For the determination of concentration sums in each contaminant classification, one-half of the laboratory detection limit was assumed for soil samples exhibiting non-detects.

Figures V.D.7-25 through V.D.7-29 present groundwater isoconcentration contour maps for benzene, total BTEX, total PAHs, cadmium, and cyanide; respectively. The total PAH concentration plumes in the groundwater appear to be centered around the tar well area. The total BTEX concentration plumes are slightly more extensive, and appear to be centered around the tar well area and monitoring well MW12, with the highest concentrations detected in MW5, MW12, and MW14. The cadmium concentration plume appears to be centered around MW12 and is fairly widespread across the site. The cyanide concentration plume appears to be centered around MW12 as well but with less expanse than the cadmium plume. The estimated extent of the NCAC 2L standard isoconcentration contour is provided for benzene, cadmium and cyanide; and all appear to be contained within the site property boundaries.

AOC Section V.D. - Item 8 Special Assessment Results

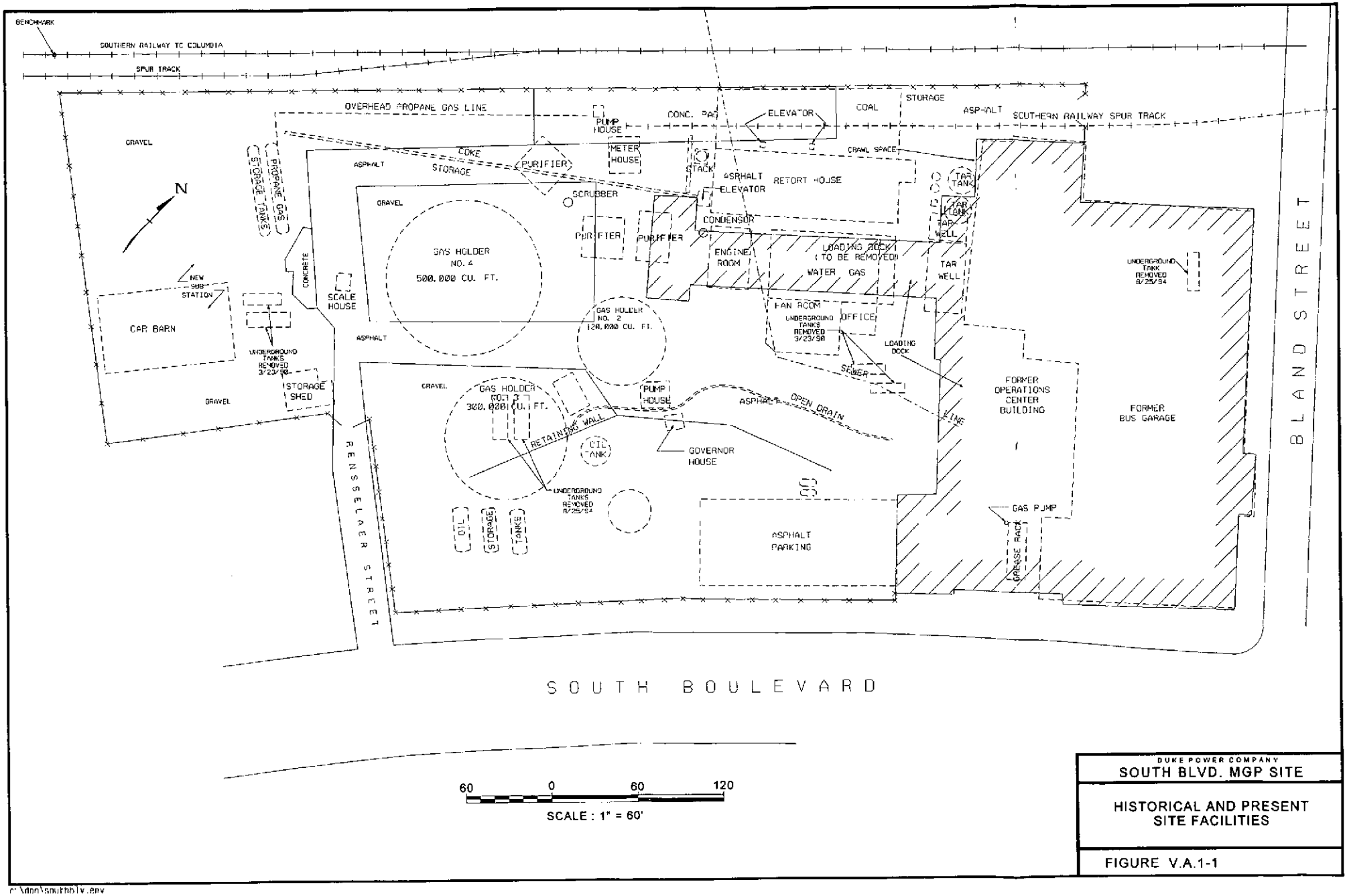
All special assessments (such as soil gas surveys, air sampling, etc.) have been previously discussed in Section V.A.16.

AOC Section V.D. - Item 9 Field Logs and Photographs

Copies of field logs and photographs from the Phase II Environmental Assessment are provided in the Appendix V.A.16.

AOC Section V.D. - Item 10 Other Information

None.



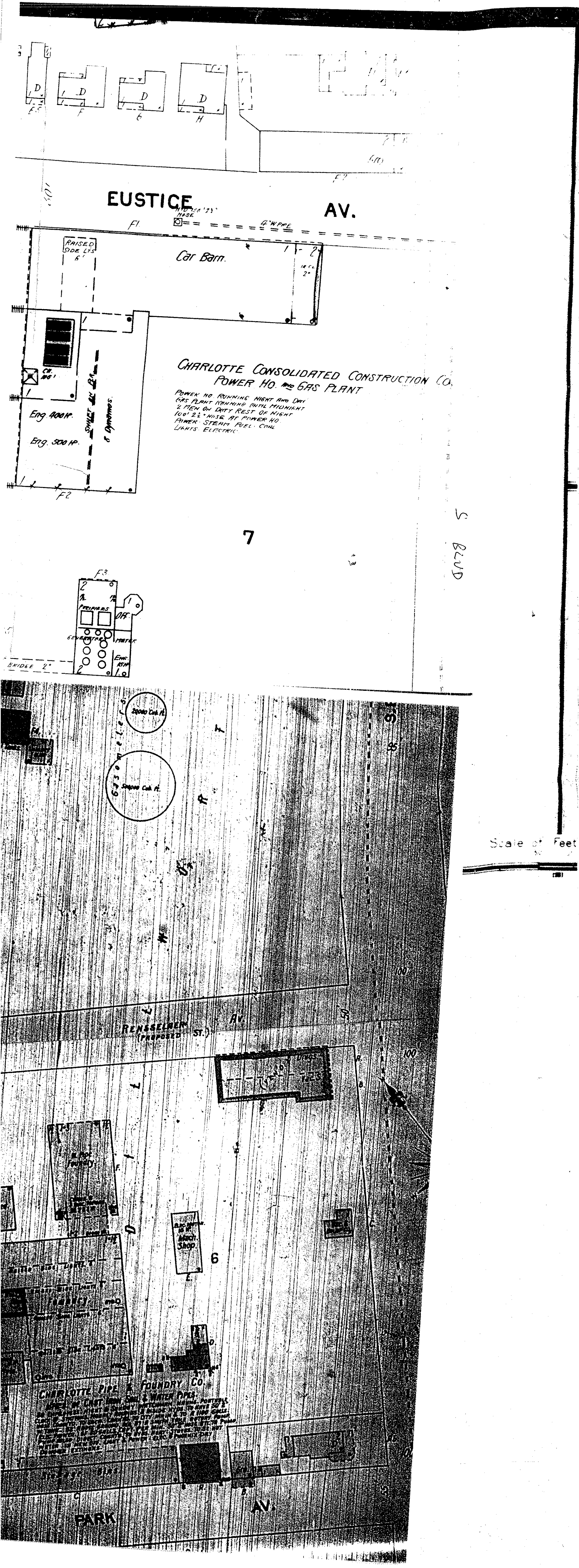
DUKE POWER COMPANY

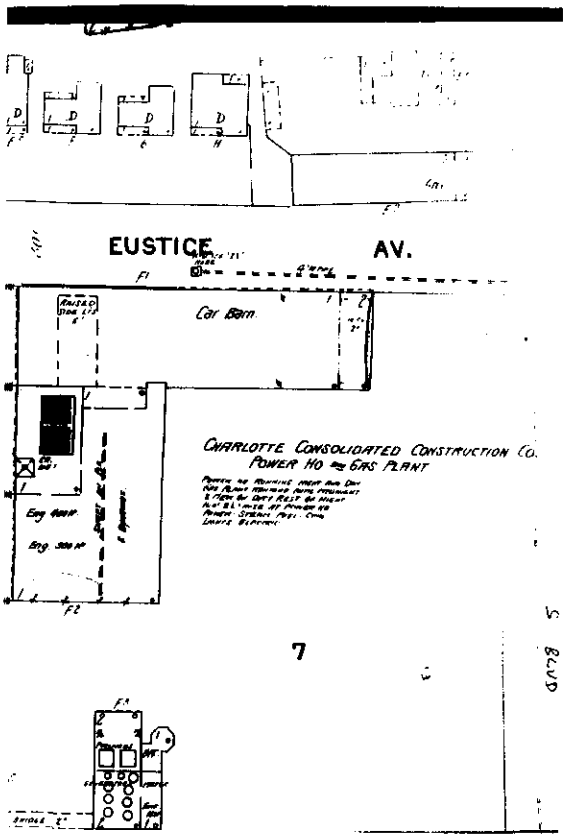
SOUTH BLVD. MGP SITE

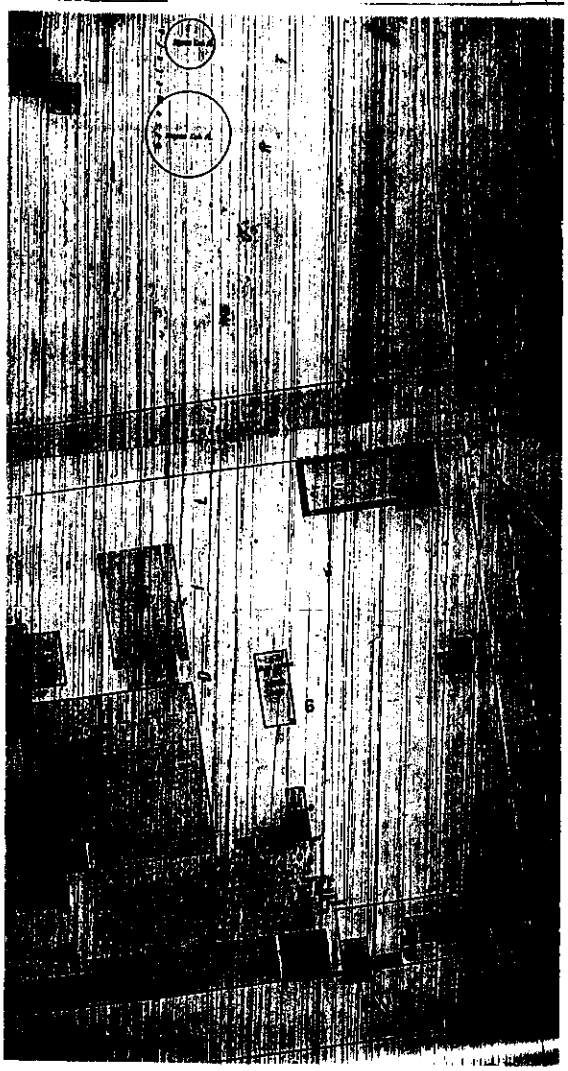
HISTORICAL AND PRESENT SITE FACILITIES

FIGURE V.A.1-1

c:\dpo\southblv.env


EUSTICE AV.
Car Barn.
RAISED SIDE LTS
CHARLOTTE CONSOLIDATED CONSTRUCTION CO.
POWER HO. AND GAS PLANT
POWER HO. RUNNING NIGHT AND DAY
GAS PLANT RUNNING UNTIL MIDNIGHT
2 MEN ON DUTY REST OF NIGHT
100 25 " NOISE AT POWER HO.
POWER: STEAM FUEL: COAL
LIGHTS: ELECTRIC
Eng. 400 H.P.
Eng. 300 H.P.
7
S. BLVD
2000 Cub. Ft.
3500 Cub. Ft.
RENSSELAER AV.
(PROPOSED ST.)
Foundry
Mach. Shop
6
CHARLOTTE PIPE & FOUNDRY CO.
PARK AV.
Scale of Feet


EUSTICE AV.
Car Barn
CHARLOTTE CONSOLIDATED CONSTRUCTION CO.
POWER HO. & GAS PLANT
7



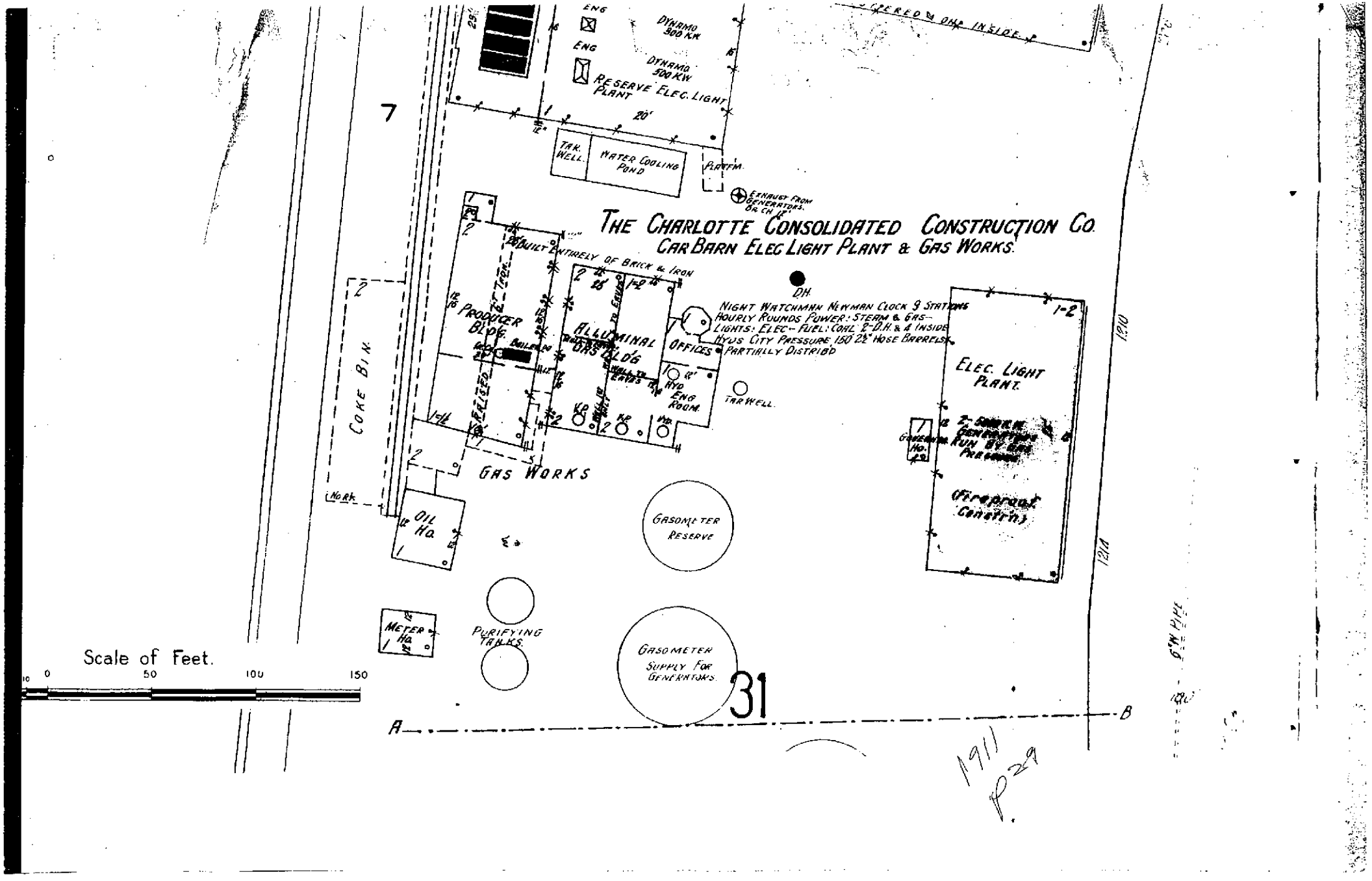
SOUTH

S. BOULEVARD

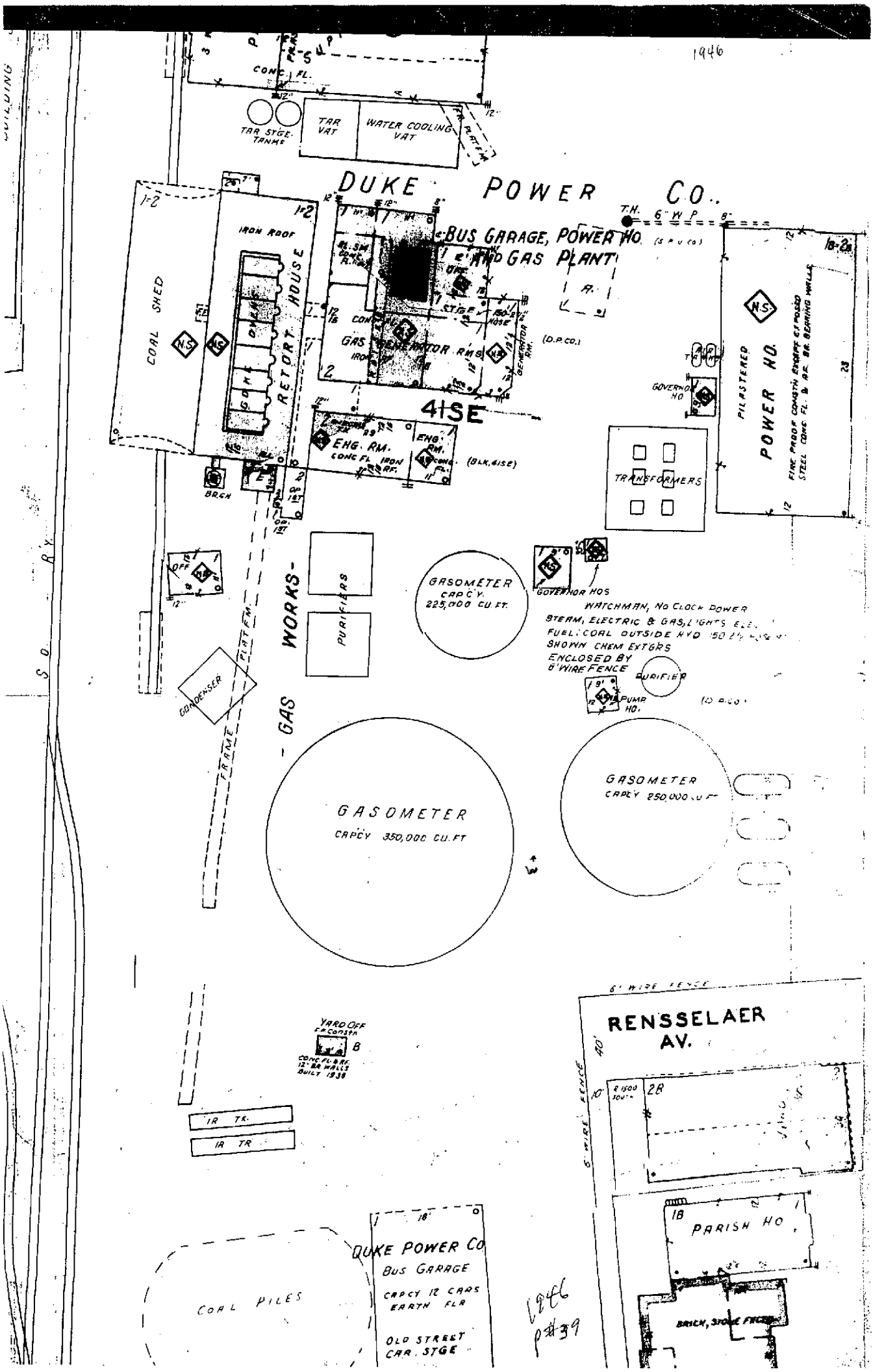
CHARLOTTE CONSOLIDATED CONSTRUCTION CO
POWER HO. & GAS PLANT.

POWER HO RUNNING NIGHT & DAY GAS PLANT RUNNING UNTIL MIDNIGHT. 2 MEN ON DUTY REST OF NIGHT [illegible]
HOSE AT POWER HO. & HYD AS SHOWN POWER OUTSIDE [illegible]
CORL LIGHTS: ELEC.

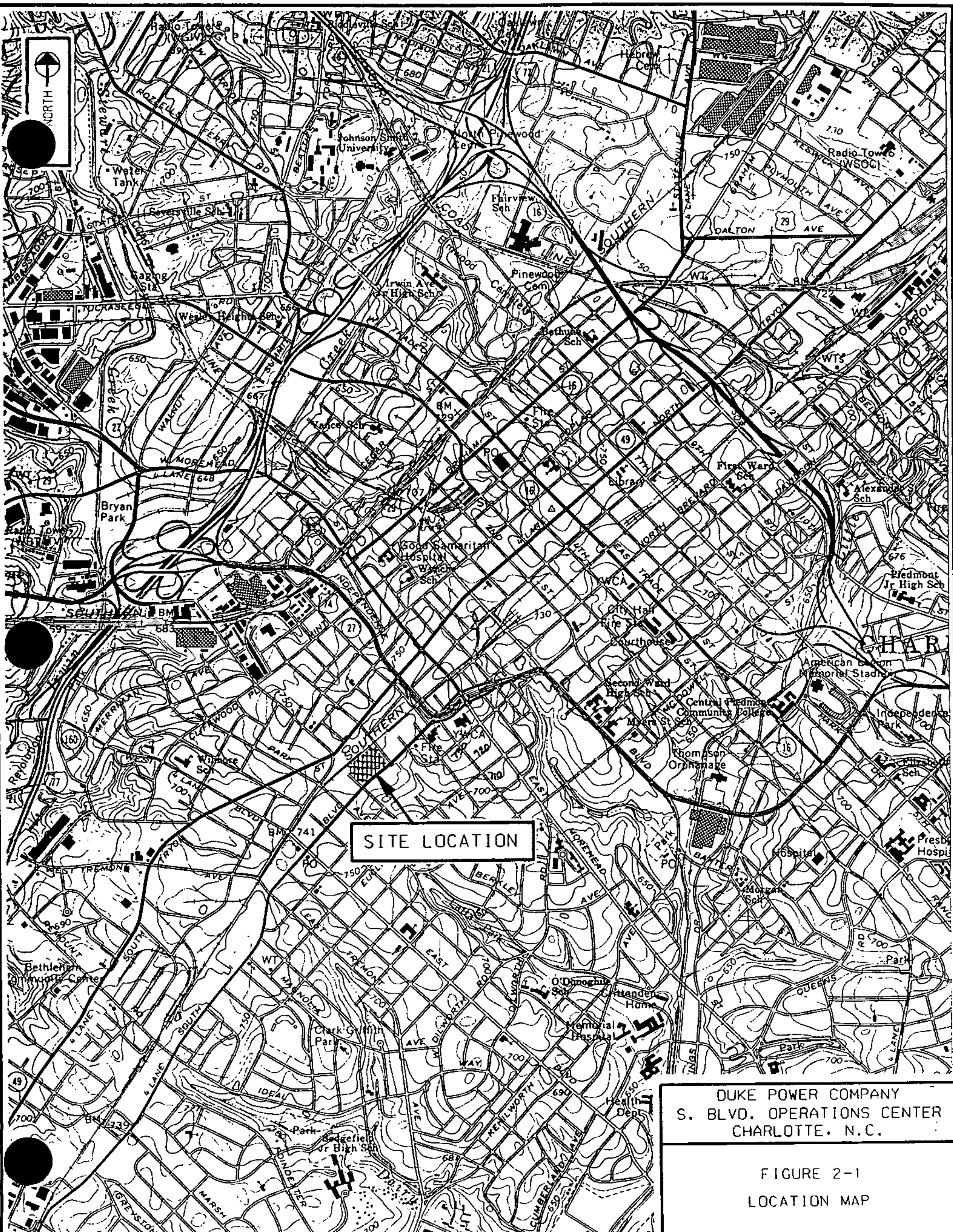
11 Dynamos
Engine on F.M.
Eng. 400 H.P.
Eng. 500 H.P.
F2.
F3
F4
F5.
Coke Storage Shed
Oil Tanks
Lumber
WALK 22
Gasometers
20000 Cub Ft
500000 Cub Ft
7


THE CHARLOTTE CONSOLIDATED CONSTRUCTION CO.
CAR BARN ELEC LIGHT PLANT & GAS WORKS.
ENG
DYNAMO 500 K.W.
ENG
DYNAMO 500 K.W.
RESERVE ELEC. LIGHT PLANT
20'
TAN. WELL.
WATER COOLING POND
PLATFM.
EXHAUST FROM GENERATORS. OR CH'K.
7
BUILT ENTIRELY OF BRICK & IRON
PRODUCER BLDG.
ALUMINAL GAS BLDG.
OFFICES
HYD ENG ROOM.
TAR WELL.
NIGHT WATCHMAN NEWMAN CLOCK 9 STATIONS
HOURLY ROUNDS POWER: STEAM & GAS—
LIGHTS: ELEC— FUEL: COAL 2-D.H. & 4 INSIDE
HYDS CITY PRESSURE 150 2½" HOSE BARRELS
PARTIALLY DISTRIBD
ELEC. LIGHT PLANT.
COKE BIN.
GAS WORKS
No. Bk.
OIL Ho.
GASOMETER RESERVE
PURIFYING TANKS.
METER Ho.
GASOMETER SUPPLY FOR GENERATORS.
31
A
B
1910
1911
6" W. PIPE
Scale of Feet.
0
50
100
150

Charlotte
YEAR: 1929


1946
DUKE POWER CO.
BUS GARAGE, POWER HO.
GAS PLANT
RETORT HOUSE
IRON ROOF
COAL SHED
ENG. RM.
CONC FL. IRON RF.
GAS GENERATOR RM.
GENERATOR RM.
(D.P.CO.)
(BLK. 41SE)
41SE
TRANSFORMERS
PILASTERED
POWER HO.
FIRE PROOF CONSTR ROOF ET POSED STEEL CONC FL. & RF. BR BEARING WALLS
GOVERNOR HO
GOVERNOR HOS
WATCHMAN, NO CLOCK POWER
STEAM, ELECTRIC & GAS, LIGHTS ELEC.
FUEL: COAL OUTSIDE HYD
SHOWN CHEM EXTGRS
ENCLOSED BY 6' WIRE FENCE
PURIFIER
PUMP HO.
GASOMETER CAP'CY. 225,000 CU. FT.
GASOMETER CAP'CY 350,000 CU. FT
GASOMETER CAP'CY 250,000 CU. FT
PURIFIERS
CONDENSER
WORKS - GAS
FRAME
FLAT FM.
TAR STGE. TANKS
TAR VAT
WATER COOLING VAT
CONC. FL.
YARD OFF
CONC FL. RF.
12" BR WALLS
BUILT 1938
IR TR.
IR TR
6' WIRE FENCE
RENSSELAER AV.
40'
PARISH HO
BRICK, STONE FACED
DUKE POWER CO
BUS GARAGE
CAP'CY 12 CARS
EARTH FLR
OLD STREET CAR. STGE
COAL PILES
1946
p# 39

Refer to Section V.A.2



DUKE POWER COMPANY
S. BLVD. OPERATIONS CENTER
CHARLOTTE, N.C.

FIGURE 2-1
LOCATION MAP

STATE OF NORTH CAROLINA,
COUNTY OF MECKLENBURG.

THIS DEED, Made this 2nd day of April, A. D., 1914, by and between CHARLOTTE ELECTRIC RAILWAY COMPANY, a corporation duly organized and existing under and by virtue of the laws of the State of North Carolina, party of the first part, and SOUTHERN PUBLIC UTILITIES COMPANY, a corporation duly organized and existing under and by virtue of the laws of the State of Maine, party of the second part, WITNESSETH:

That the said party of the first part, for and in consideration of the sum of ONE THOUSAND ($1000.00) DOLLARS, and other good and valuable consideration, to it in hand paid by the said party of the second part, the receipt of which is hereby acknowledged, has bargained and sold, and by these presents does grant, bargain, sell and convey unto the said SOUTHERN PUBLIC UTILITIES COMPANY, its successors and assigns, all the following described rights, property, easements, pieces, parcels or tracts of land, to-wit:

(1) All that certain tract, piece or parcel of land, situate, lying and being in the City of Charlotte, County of Mecklenburg, and State of North Carolina, and bounded and described, as follows, to-wit:

Beginning at an iron stake in the center of the Columbia Branch of the Southern Railway Company and extending thence South Thirty-six (36) degrees, Forty-nine (49) Minutes, East one hundred thirteen and thirty-four hundredths (113.34) feet to an iron pipe; thence North fifty-three (53) degrees, twenty (20) minutes, East one hundred twenty-four and thirty-three hundredths (124.33) feet to an iron pipe; thence North thirty-seven (37) degrees, six (6) minutes, West eighteen (18) feet to an iron pipe; thence North fifty-two (52) degrees, fifty-

634

DEED Book 325
Page 330

four (54) minutes, East twenty-eight and one-tenth (28.1) feet to an iron pin; thence South thirty-seven (37) degrees, six (6) minutes, East one hundred sixty-four and three-tenths (164.3) feet to an iron pipe; thence South fifty (50) degrees, four (4) minutes, West one hundred and seventy-five (175) feet to an iron pipe; thence South thirty-nine (39) degrees, fifty-nine (59) minutes, East one hundred twenty-seven and twenty-five hundredths (127.25) feet to an iron pin on the edge of South Boulevard; thence with the edge of South Boulevard four hundred and eight and two hundredths (408.02) feet, more or less, to the edge of Hawkins Avenue; thence with the edge of Hawkins Avenue in a Westerly direction four hundred and seventy-five hundredths (400.75) feet to the center of the Columbia Branch of the Southern Railway Company; thence with the center line of said tracks to the beginning.

The foregoing property is subject to any rights-of-way the Southern Railway Company or the Charlotte, Columbia and Augusta Railway Company may have on said premises.

(2) All that certain Street Railway System situated and located within and around the City of Charlotte, County of Mecklenburg, State of North Carolina, and known as the Street Railway System of the Charlotte Electric Railway Company, and more particularly defined and described as follows, to-wit:

(a) A double track of street railway line, beginning at the intersection of Trade Street and Tryon Street in the said City of Charlotte, commonly known as "Independence Square", and running thence along East Trade Street and East Avenue to a switch near McDowell Street, a distance of thirty-three hundred and eighty-one (3381) feet; thence along East Avenue with a single track to a switch on Elizabeth Avenue, a distance of one hundred and twenty-eight (128) feet; thence along Elizabeth Avenue with a double line of track to a switch near Hawthorne Lane, a distance of thirty-seven hundred and forty-nine (3749) feet; thence along Elizabeth

Avenue with a single line of track to the intersection of Hawthorne Lane, a distance of forty-five (45) feet.

(b) A single line of street railway track beginning at the intersection of Elizabeth Avenue and Hawthorne Lane and running thence down Elizabeth Avenue and through a real estate development known as "Myers Park", to Queens College, a distance of ten thousand, three hundred and forty-five (10,345) feet.

(c) A single line of street railway track, beginning at the intersection of Elizabeth Avenue and Hawthorne Lane in the said City of Charlotte, and running thence along Hawthorne Lane to Seventh Street, thence down Seventh Street to Clarice Avenue, a distance of thirty-seven hundred and seventy-three (3773) feet.

(d) A double line of street railway track beginning at the intersection of East Avenue and McDowell Streets, in said City of Charlotte, and running thence along McDowell Street to Seventh Street; thence down Seventh Street to Central Avenue; thence down Central Avenue to Louise Avenue, a distance of forty-seven hundred and ninety-six (4796) feet; thence East along Central Avenue to Kingston Avenue, a single line track; thence North on Kingston Avenue, crossing the Seaboard Air Line Railway, a distance of seventeen hundred and seven (1707) feet; thence through a mill village of the Chadwick-Hoskins Company, known as the Louise Mill, a distance of fifty-six hundred and forty-three (5643) feet.

(e) A single line of street railway track, beginning at the intersection of East Avenue and North Myers Street in the said City of Charlotte and running thence along North Myers Street to East Ninth Street; thence down East Ninth Street to North Davidson Street; thence down North Davidson Street to Eleventh Street; thence down Eleventh Street to North College Street; thence down North College Street to Phifer Avenue; thence down Phifer Avenue to a switch on North Tryon Street, a distance of sixty-seven hun-

dred and seventy-six (5776) feet.

(f) A single line of street railway track, beginning at the intersection of East Avenue and North Davidson Street, running thence down North Davidson Street to East Seventh Street; thence down East Seventh Street to North Brevard Street; thence down North Brevard Street to Eleventh Street, a distance of thirty-seven hundred and seventy-three (3773) feet.

(g) A single line of street railway track, beginning at the intersection of East Avenue and South Boulevard, thence along South Boulevard to East First Street; thence along East First Street to South Alexander Street; thence along South Alexander Street to Boundary Street; thence down Boundary Street to South McDowell Street; thence down South McDowell Street to East Avenue, a distance of seventy-two hundred and forty (7240) feet.

(h) A single line of street railway track, beginning at the intersection of Eleventh Street and Brevard Street, in said City of Charlotte, and running thence along Brevard Street to a switch, a distance of forty-six hundred and ninety-seven (4697) feet; thence along Brevard Street with a double line of track a distance of one thousand (1000) feet; thence with a single line of track along North Brevard Street to Electric Park, a distance of forty-eight hundred and seventy-eight (4878) feet.

(i) A single line of street railway track, beginning at the intersection of Eleventh Street and College Street in said City of Charlotte, and running thence along North College Street to Thirteenth Street; thence West on Thirteenth Street to a switch at the intersection of North Tryon Street and Thirteenth Street, a distance of thirteen hundred and eighty-four (1384) feet.

(j) A double line of street railway track, beginning at the intersection of Tryon and Trade Streets, in the said City of Charlotte, and running thence North along North Tryon Street

to a switch at the intersection of North Tryon and Fourteenth Streets, a distance of thirty-eight hundred and nineteen feet (3819).

(k) A single line of street railway track, beginning at the intersection of North Tryon Street and Twelfth Street and running thence along Twelfth Street to South Church Street; thence on South Church Street to West Tenth Street; thence along West Tenth Street to North Pine Street; thence along North Pine Street to West Eleventh Street; thence along West Eleventh Street to Graham Street; thence along Graham Street to West Trade Street, a distance of sixty-one hundred and sixty-eight (6168) feet.

(l) A double line of street railway track, beginning at the intersection of Trade and Tryon Streets in said City of Charlotte and extending thence along West Trade Street to a switch near Erwin's Creek; thence with a single track line of street railway to the plant of the Interstate Chemical Company, a distance of eighty-two hundred and one (8201) feet.

(m) A double line of street railway track, beginning at the intersection of West Trade Street and Mint Street in the said City of Charlotte and running thence along Mint Street to a switch near First Street, a distance of nineteen hundred and fourteen feet (1914), thence with a single track along Mint Street to Bland Street; thence along Bland Street to South Tryon Street; thence along South Tryon Stree t to East Morehead Street, a distance of sixty-four hundred and twenty-four (6424) feet.

(n) A double line of street railway track beginning at the intersection of South Tryon Street and First Street in the said City of Charlotte, and extending thence along First Street to the intersection of First and Main Streets, a distance of eleven hundred and ninety-six (1196) feet.

(o) A double trackline of street railway, beginning at the intersection of Trade and Tryon Streets in the City of Charlotte,

and extending thence along South Tryon Street to East Morehead Street, thence along East Morehead Street to South Boulevard; thence along South Boulevard to East Boulevard; thence along East Boulevard to the terminus of the line, a distance of eleven thousand and twenty nine (11,029) feet.

Also all cars, siddings, passing tracks, connection tracks, depots, passenger stations, shops, warehouses, sheds and buildings of every nature, whatsoever, used in or necessary to the operation or maintenance of the property herein conveyed, also all poles, wires, fixtures, apparatus and appliances for the purpose of conducting electricity to or used in the operation or maintenance of the property herein conveyed; also all sub-stations, motors, motor generator sets, rotaries, transformers, switches, switchboards and substation apparatus of any and all nature used in or necessary to the operation or maintenance of the property herein conveyed, also all right of way, privileges, franchises and easements necessary to or used in the construction, operation and maintenance of the property herein conveyed incidental thereto.

TOGETHER WITH all and singular the Rights, Members, hereditaments and appurtenances to the said premises belonging, or in any wise incident or appertaining.

SUBJECT, HOWEVER, to a certain lease and all the terms thereof, granted by the Charlotte Electric Railway Company to the Piedmont Traction Company, dated April 1st, 1914, in so far as the same may affect the properties, rights, privileges and franchises hereby granted, by which there was leased unto the Piedmont Traction Company, its successors and assigns, the so-called Hawkins Line for the term of 999 years with the privileges unto said Piedmont Traction Company, its successors and assigns, to purchase the properties, rights, privileges and franchises thereby leased, which lease has been assigned by said Piedmont Traction Company to the Piedmont and Northern Railway Company.

TO HAVE AND TO HOLD the aforesaid tract or parcel of land, property, rights, franchises and privileges, and appurtenances thereto belonging, to the said Southern Public Utilities Company, its successors and assigns, to itself and their only use and behoof forever. And the Charlotte Electric Railway Company, for itself, its successors and assigns, covenants with the party of the second part, that it is seized of said premises in fee and has a right to convey the same in fee simple that the same are free and clear from all incumbrances, and that it will warrant and defend the said title to the same against the lawful claims of all persons whatsoever.

IN WITNESS WHEREOF, the Charlotte Electric Railway Company has caused its corporate name to be subscribed by its Vice-President, and attested by its Secretary, on this 2nd day of April, in the year One Thousand Nine Hundred and Fourteen.

CHARLOTTE ELECTRIC RAILWAY COMPANY,
By W. S.LEE, Vice-President.

ATTEST: H. A. COCKE,
Secretary.

(SEAL)

STATE OF NORTH CAROLINA
COUNTY OF MECKLENBURG.

This 2nd day of April, A. D., 1914, personally came before me, H. Calquhoun Miller, a Notary Public in and for the County and State aforesaid, W. S. Lee, who being by me duly sworn, says that he is the Vice President of the Charlotte Electric Railway Company, and that the seal affixed to the foregoing instrument in writing is the corporate seal of the Company and that said writing was signed and sealed by him in behalf of said corporation, by its authority duly given. And the said W. S. Lee acknowledged the said writing to be the act and deed of said corporation.

Notary Seal Public

H. Calquhoun Miller,
North Carolina, Mecklenburg County.

My Commission Expires Oct. 15, 1915.

0 3 9 0 1 3 2 0

[redacted]

STATE OF NORTH CAROLINA,

COUNTY OF MECKLENBURG.

THIS DEED, Made this 6th day of Oct, A.D., 1919, by and between CHARLOTTE CONSOLIDATED CONSTRUCTION COMPANY, a corporation duly organized and existing under and by virtue of the laws of the State of North Carolina, party of the first part, and CHARLOTTE ELECTRIC RAILWAY COMPANY, a corporation duly organized and existing under and by virtue of the laws of the State of North Carolina, party of the second part, WITNESSETH:

That the said party of the first part, in consideration of the sum of One Hundred Dollars ($100.00) and other good and valuable considerations to it paid by the party of the second part, the receipt whereof is hereby acknowledged, has bargained and sold and by these presents does grant, bargain, sell and convey unto the said Charlotte Electric Railway Company, its successors and assigns, all that certain lot, piece or parcel of land situate, lying and being in the City of Charlotte, Charlotte Township, Mecklenburg County, State of North Carolina, and more particularly described as follows:

BEGINNING at a stake on the south side of Rensselaer Avenue on the west side of a ten foot alley one hundred fifty (150) feet west of South Boulevard; thence in a westerly direction along Rensselaer Avenue two hundred sixty-five (265) feet to the center of the main line of the Charlotte, Columbia & Augusta Railroad; thence in a southerly direction with the center of said railroad one hundred fifty and three tenths (150.3) feet to a stake; thence in an easterly direction two hundred seventy-five (275) feet to a stake on the west side of a ten foot alley; thence in a northerly direction, along said alley, one hundred fifty (150) feet to the beginning, as shown within red lines on map of same hereto attached and made a part hereof, subject to whatever right-of-way the Charlotte, Columbia and Augusta Railroad Company may have therein.

TO HAVE AND TO HOLD the aforesaid lot, piece or parcel of land and all privileges and appurtenances thereto belonging, to the said Charlotte Electric Railway Company, its successors and assigns, to its and their only use and behoof forever.

SUBSTATION

DEED BOOK 409 PG 497

491

and the said party of the first part, for itself, its successors and assigns, covenants with the said party of the second part, its successors and assigns, that it is seized of said premises in fee and has right to convey same in fee simple; that the same are free and clear from all incumbrances and that it will warrant and defend the said title to the same against the lawful claims of all persons whomsoever.

IN TESTIMONY WHEREOF, the said party of the first part has caused these presents to be signed in its name and behalf by its President, its corporate seal to be hereunto affixed and to be attested by its Secretary, the day and year first above written.

ATTEST: CHARLOTTE CONSOLIDATED CONSTRUCTION COMPANY.

Secretary. By E. D. Latta Jr. Vice-President.

STATE OF NORTH CAROLINA,
COUNTY OF MECKLENBURG.

I, B. L. Scruggs, a Notary Public in and for the County and State aforesaid, do hereby certify that this day, personally appeared before me, E. D. Latta, Jr., who being by me duly sworn, says that he is the Vice-President of the Charlotte Consolidated Construction Company; that the seal affixed to the foregoing instrument, in writing, is the corporate seal of said corporation; that said writing was signed and sealed by him in behalf of said corporation by its authority duly given, and the said E. D. Latta, Jr., Vice-President, acknowledged said writing to be the act and deed of said corporation.

Witness my hand and Notarial Seal, this 6th day of October, A. D., 1919.

B. L. Scruggs

NORTH CAROLINA
MECKLENBURG COUNTY

The foregoing certificate of
of
County
is adjudged to be in due form and according to
law. Let the instrument and this certificate be
registered this day of 191
C.S.C.

039 0132 3

CHARLOTTE CONSOLIDATED CONSTRUCTION COMPANY

to

CHARLOTTE ELECTRIC RAILWAY COMPANY

DEED

Miscellaneous
Let

Office OF REGISTER OF DEEDS
Mecklenburg Co., N. C.
Filed for Record on the 17th day
of Oct. 1919 at 5 o'clock P.M.
and Recorded in Book 409 Page 497
Wm Magill
Register of Deeds

409-497

0 3 9 0 0 9 1 4

STATE OF NORTH CAROLINA,

COUNTY OF MECKLENBURG.

THIS DEED, made this 25 day of January A. D., 1913, by CHARLOTTE GAS & ELECTRIC COMPANY, a corporation duly organized under the laws of the State of North Carolina, party of the first part, and SOUTHERN PUBLIC UTILITIES COMPANY, a corporation duly organized under the laws of the State of Maine, party of the second part, WITNESSETH:

That the said party of the first part, in consideration of the sum of Ten Dollars ($10.00) and other good and valuable considerations to it paid by the party of the second part, the receipt of which is hereby acknowledged, has bargained and sold, and by these presents does grant, bargain, sell and convey, unto the said Southern Public Utilities Company, its successors and assigns, all that certain tract, piece or parcel of land, situate, lying and being in the City of Charlotte, County of Mecklenburg, State of North Carolina, and more particularly bounded and described as follows, to-wit:

Beginning at an iron pipe on the west side of South Boulevard twenty (20) feet South of the Power House of the Charlotte Electric Railway Company, and running thence parallel to and fifteen (15) feet from the curb line of said South Boulevard South forty-six (46) degrees and thirty (30) minutes West two hundred twenty-four and nine-tenths (224.9) feet toward an iron pipe on the line of the property of the Dilworth Drug Storep thence on said line North forty-seven (47) degrees, fifty-one (51) minutes West four hundred and five and four-tenths (405.4) feet to an iron pipe in the center line of the tracks of the Southern Railway Company; thence on said center line North forty (40) degrees and twenty-four (24) minutes East three hundred and forty-three and nine-tenths (343.9) feet to an iron pipe; thence North forty-six (46) degrees and forty-nine (49) minutes East one hundred and fifteen (115) feet to an iron pipe; thence parallel to and five (5) feet from the producer gas house, North fifty-three (53) degrees and twenty (20) minutes East one hundred and twenty-four and three-tenths (124.3) feet to an iron pipe; thence North thirty-seven (37) degrees and forty minutes East eighteen and seven-tenths (18.7) feet to an iron

B-353, P-223

Deed Book 312

Page 302

thence North fifty-two (52) degrees and fifty-four (54) minutes East twenty-eight and one-tenth (28.1) feet to a small iron pin; thence parallel to and two (2) feet from the old Power House, South thirty-seven (37) degrees and six (6) minutes East one hundred sixty-four and three-tenths (164.3) feet to an iron pipe; thence parallel to and two (2) feet from the new Power House, South fifty (50) degrees and four (4) minutes West two hundred three and one-tenth (203.1) feet to an iron pipe; thence parallel to and twenty (20) feet from the new Power House South thirty-nine (39) degrees and fifty-nine (59) minutes East one hundred twenty-two and three-tenths (122.3) feet to the beginning point.

Also all that certain property known as a gas plant and works for the manufacture, sale and distribution of gas for light, heat and other commercial purposes, together with all retorts, generators, boilers, purifiers, scrubbers, pipes, mains, service boxes, service connections, meters and any and all other property of whatsoever nature or kind now or hereafter used in and about said plant in the manufacture, sale and distribution of gas in the City of Charlotte, North Carolina, and the vicinity thereof.

Also all that certain electric distributing system with its poles, wires, transformers, insulators, cross arms, meters and all other utility machinery, apparatus or material incident thereto or connected therewith or useful therein, situated and located within and around the City of Charlotte, North Carolina, including all rights of way or easements incident to the maintenance of said distributing system or connected in any way therewith.

The foregoing property is subject to two mortgages or deeds of trust, as follows:

1. A mortgage or deed of trust from Charlotte Electric Railway, Light & Power Company, A corporation of the State of North Carolina, dated July 1, 1899, to Manufacturers Trust and Deposit Company and [illegible] more, Trustee, recorded in the office of the Register of Deeds of Mecklenburg County, State of North Carolina, in Book 139, page 2[illegible]

Under said mortgage or deed of trust there are outstanding at the date hereof $346,000.00 Five per cent. Thirty Year First Mortgage Bonds dated July 1, 1899, and due July 1, 1929.

2. A mortgage or deed of trust from Charlotte Electric Railway Light and Power Company, a corporation of the State of North Carolina, dated the second day of April, 1906, to Mercantile Trust and Deposit Company of Baltimore, Trustee, and recorded in the office of the Register of Deeds for Mecklenburg County, in the State of North Carolina, in Book 202, page 624, et seq.

Under said mortgage or deed of trust there are outstanding at the date hereof, $481,000.00 Five per cent. Thirty Year Refunding and Extension Mortgage Sinking Fund Gold Bonds dated April 1, 1906, and due April 1, 1936.

The Southern Public Utilities Company agrees to assume and does hereby assume the payment of the bonds secured by the two foregoing mortgages or deeds of trust as a part of the purchase price of the property hereby conveyed.

TO HAVE AND TO HOLD the aforesaid tract, piece or parcel of land as well as said personal property above described, and all privileges and appurtenances thereto belonging, to the said Southern Public Utilities Company, its successors and assigns, to its and their only use and behoof forever.

And the Charlotte Gas & Electric Company, for itself, its successors and assigns, covenants with the said party of the second part, its successors and assigns, that it is seized of said premises in fee, and has right to convey the same in fee simple; that the same are free and clear from all incumbrances except the two certain deeds of trust heretofore mentioned, and that it will warrant and defend the said title to the same against the lawful claims of all persons whomsoever.

IN TESTIMONY WHEREOF, the said Charlotte Gas & Electric Company has caused these presents to be signed in its corporate name by its President and its corporate seal to be hereto affixed and attested by its Secretary, all by order of its Board of Directors, on the day and year first above written.

ATTEST:

Secretary

CHARLOTTE GAS & ELECTRIC COMPANY.

BY

President.

STATE OF North Carolina 039 00919

COUNTY OF Mecklenburg

This is to certify that on the 25 day of June, 1913, before me personally came C. A. Taylor, with whom I am personally acquainted, who, being by me duly sworn, says that he is President and W. A. Brooks is the Secretary of the Charlotte Gas & Electric Company, the corporation described in and which executed the foregoing instrument; that he knows the common seal of said corporation; that the seal affixed to the foregoing instrument is said common seal, and the name of the corporation was subscribed thereto by the said President, and that said President and Secretary subscribed their names thereto, and the said common seal was affixed, all by order of the Board of Directors of said corporation, and that the said instrument is the act and deed of said corporation.

Witness my hand and official seal, this the 25 day of June, 1913.

H. Colquhoun Miller
NOTARY PUBLIC
Mecklenburg County, N. C.
My Commission Expires Oct. 24, 1914

NORTH CAROLINA
MECKLENBURG COUNTY

The foregoing certificate of H. Colquhoun Miller a Notary Public of said County is adjudged to be in due form and according to law. Let the instrument and this certificate be registered this 1 day of July 1913.

J. M. Yandle Asst. C. S. C.

0 3 9 0 0 9 2 1

18 June 1957

Mr. E. R. Bucher
Building

Dear Sir:

There is enclosed herewith a copy of a quitclaim deed from Duke Power Company to Piedmont Natural Gas Company, Inc., dated June 17, 1957, conveying a strip of land from 3 to 5 feet in width extending from South Tryon Street in Charlotte to the former gas plant property of the Company.

This strip of land was formerly owned by Charlotte Gas & Electric Company and it was used by Duke Power Company as a right of way for a gas pipe line prior to the time of the sale of the Company's gas properties to Piedmont Natural Gas Company, Inc.

Yours truly,

W. D. Melton, Jr.

WDMjr/sc

Enclosure

cc: Mr. W. P. Pike
Mr. J. N. Stribling
Mr. Carl Blades

17(2)

0 6 7

File No. 6463

1973 May 1 PM 4 04

STATE OF NORTH CAROLINA }
COUNTY OF MECKLENBURG }

REGISTER OF DEEDS
MECKLENBURG CO. N.C.

This Deed,

Made this ... day of ...

1973, from WALLACE B. BRADFORD and wife, MARGARET G. BRADFORD,

of the County of Mecklenburg and State of North Carolina, parties of the first part, to DUKE POWER COMPANY, a corporation organized under the laws of the State of North Carolina, party of the second part.

SOLD

WITNESSETH:

That the said parties of the first part, in consideration of the sum of Ten ($10.00) Dollars and other good and valuable considerations to them paid by the party of the second part, the receipt of which is hereby acknowledged, have bargained and sold, and by these presents do grant, bargain, sell and convey unto the said Duke Power Company, its successors and assigns, all that certain tract or parcel of land situate, lying and being in Charlotte Township, Mecklenburg County, State of North Carolina, and more particularly described as follows:

Lots 4, 5, 6 and 7, in Block 6, as shown and designated on the map of Dilworth, Section 1, which is recorded in Map Book 230, at page 60, in the Mecklenburg County Public Registry, and BEING part of the property conveyed to Wallace B. Bradford by deed of Trustees of the Church of the Holy Comforter dated October 27, 1954, and recorded in Book 1718 at page 581 in the office of the Register of Deeds for Mecklenburg County, and by deed of Williamson Z. Bradford and wife dated July, 1956, and recorded in Book 1862 at page 453 in the office of the Register of Deeds for Mecklenburg County.

DEEDED TO:
C. C. DICKSON CO
11/7/89

Duke Grantee Individual

223

Book-3573, Page 223

251

TO HAVE AND TO HOLD, the aforesaid certain tract of land, and all privileges and appurtenances thereto belonging, to the said Duke Power Company, its successors and assigns, to its and their only use and behoof forever.

And the said parties of the first part, for themselves and their heirs, executors and administrators, covenant with the said party of the second part, its successors and assigns, that they are seized of said premises in fee, and have right to convey the same in fee simple; that the same is free and clear from all encumbrances and that they will warrant and defend the said title to the same against the lawful claims of all persons whomsoever.

IN TESTIMONY WHEREOF, the said parties of the first part to these presents have hereunto set their hands and seals, the day and year first above written.

William B. Bradford (SEAL)

(SEAL)

Margaret G. Bradford

(SEAL)

(SEAL)

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

I W. Banks McClintock, Jr. a Notary Public

for said County and State do hereby certify that Wallace B. Bradford and wife, Margaret G. Bradford

personally appeared before me this day and acknowledged the due execution of the foregoing (or annexed) instrument.

WITNESS my hand and seal this 25th day of April, 1973

My Commission Expires 2/20/74

Notary Public

STATE OF

County of

I a Notary Public

for said County and State do hereby certify that

personally appeared before me this day and acknowledged the due execution of the foregoing (or annexed) instrument:

WITNESS my hand and seal, this day of , 19

My Commission Expires

Notary Public

D E E D

WALLACE B. BRADFORD and wife, MARGARET G. BRADFORD

to

DUKE POWER COMPANY

Drawn by: W. R. Wilmoth

Mailing Address

Duke Power Company
Charlotte 1, N. C.

Return to

Duke Power Company
Charlotte 1, N. C.

Filed for registration on the day of , 19 , at o'clock

M., and registered in the office of Register of Deeds for County, N. C.

day of , 19 , at o'clock in Book of Deeds, on Page

Register of Deeds

STATE OF North Carolina

County of Mecklenburg

The foregoing (or annexed) certificate of W. Banks McClintock, Jr., and Frankie B. Liles

Notaries Public for said County and State

are certified

~~acknowledged~~ to be correct. ~~In the manner and form aforesaid.~~

This 1st day of May, A.D., 19 73

Charles E. Gr[illegible], Register of Deeds

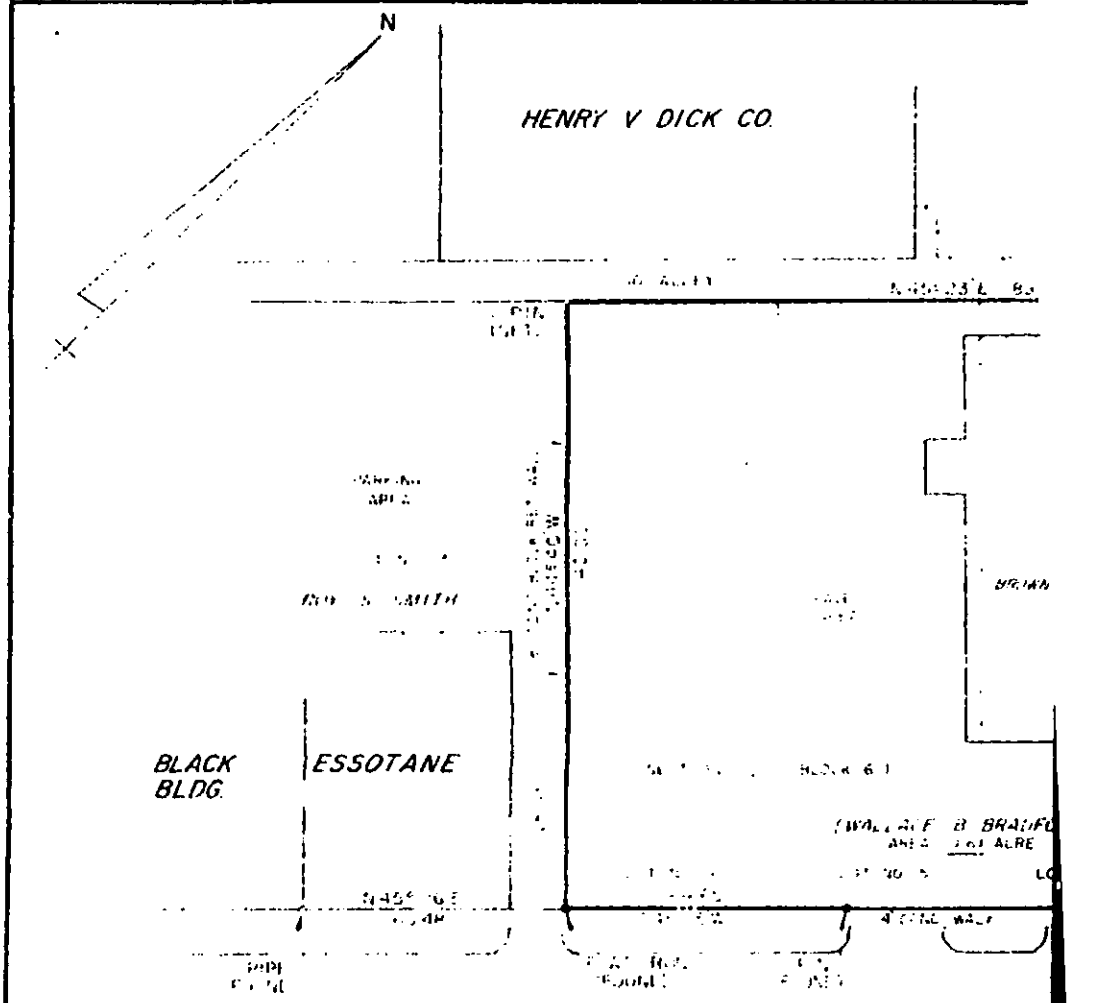
BY Margaret S. King Deputy ~~Clerk~~

~~Court~~

Recorded in Book 3573 Page 223

and Verified

225



NORTH CAROLINA
MECKLENBURG COUNTY

I certify that this map was drawn from an actual survey made by me, prepared in accordance with G.S. 47-30 as amended, that the ratio of precision is 1:10,000+, and that the boundaries not surveyed are shown as broken lines plotted from information found in Book [illegible] Page [illegible] as recorded in the Mecklenburg County Register of Deeds.

Witness my hand and seal this 1st day of March, 19 73

Douglas P. Moore L-892
Surveyor or Engineer

STATE OF NORTH CAROLINA
MECKLENBURG COUNTY

I Frankie B. Lake, a Notary Public of Mecklenburg County, North Carolina, do certify that Douglas P. Moore, personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and Notarial Seal this 1st day of March, 1973

Frankie B. Lake
Notary Public

My Commission Expires Sept. 6, 1974

THIS PLAT IS NOT SUBJECT TO THE PROVISIONS OF THE CHARLOTTE SUBDIVISION ORDINANCE AND DOES NOT REQUIRE THE APPROVAL OF THE CHARLOTTE-MECKLENBURG PLANNING COMMISSION

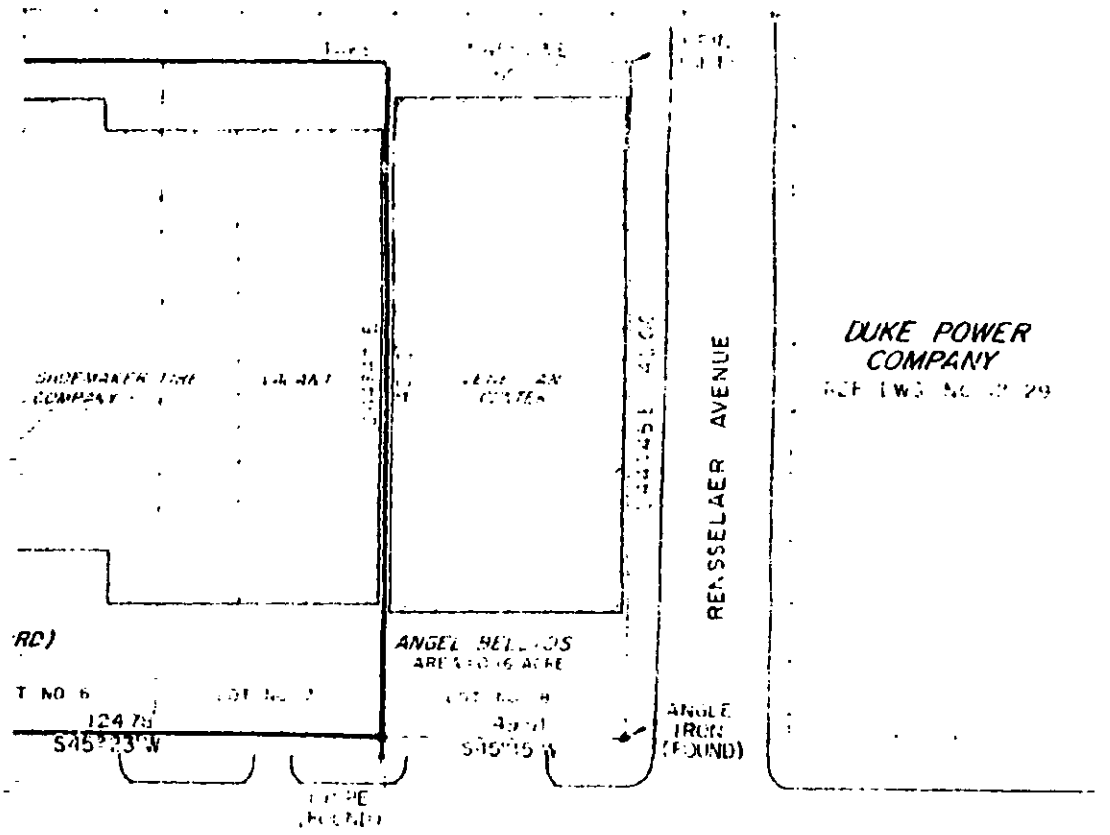
CHARLOTTE-MECKLENBURG PLANNING COMMISSION

[illegible]
ACTING SECRETARY

March 1, 1973
DATE

T.O. NO. 6463

DUKE POWER COMPANY



DUKE POWER COMPANY
DILWORTH RETAIL SUBSTATION LOT
ACQUIRED FROM
WALLACE B. BRADFORD

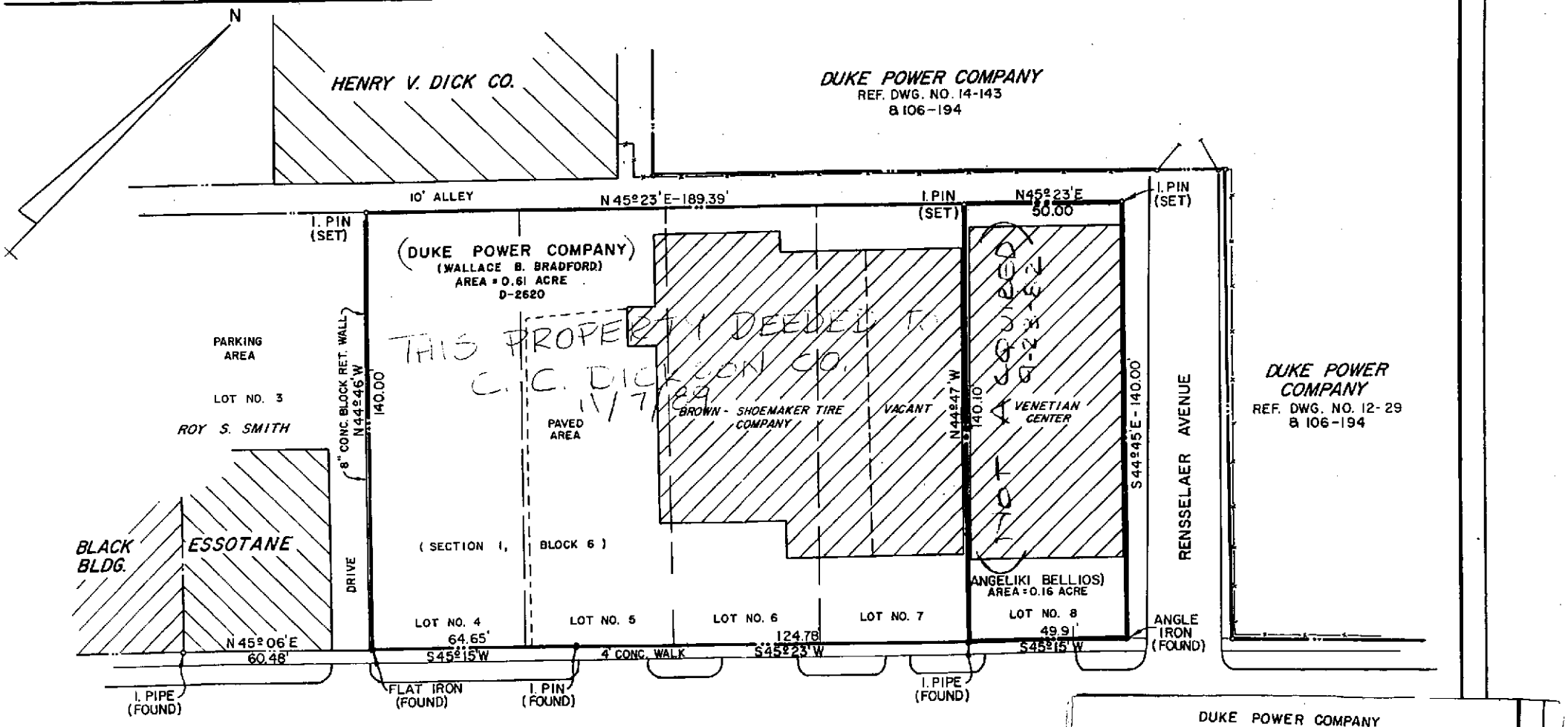
CHARLOTTE, N. C.
MECKLENBURG COUNTY

227

SCALE 1" = 50'
BOOK NO. 1002

MARCH 6, 1973
FILE NO 151-137

EXHIBIT "C"

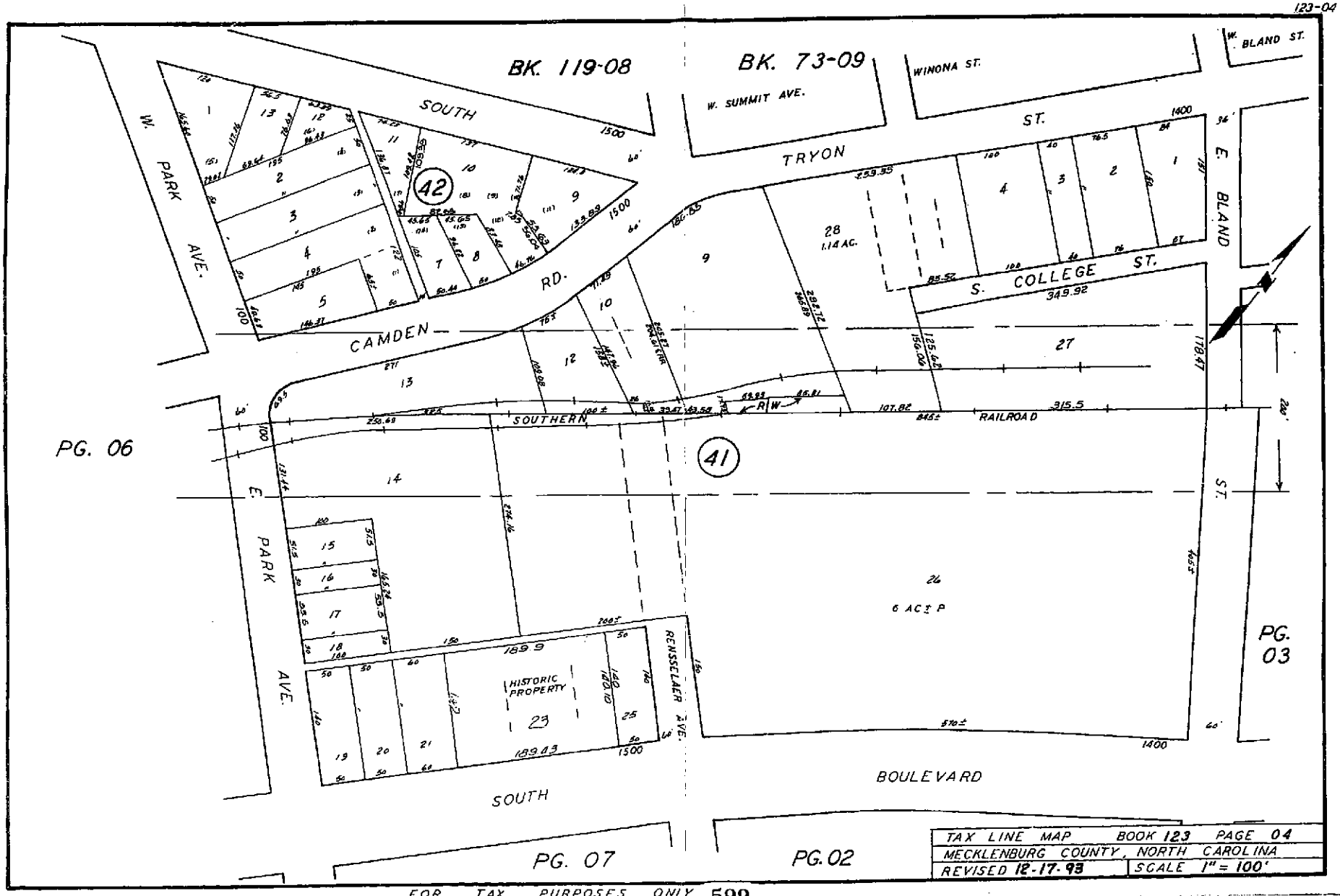


DUKE POWER COMPANY
PORTION OF
DILWORTH RETAIL SUBSTATION LOT
ACQUIRED FROM
ANGELIKI BELLIOS
CHARLOTTE, N.C.
MECKLENBURG COUNTY

SCALE: 1" = 30'
BOOK NO. 1102 & 1459

REV. 10-28-75
MARCH 6, 1973
FILE NO. 151-137-A

151-137-A

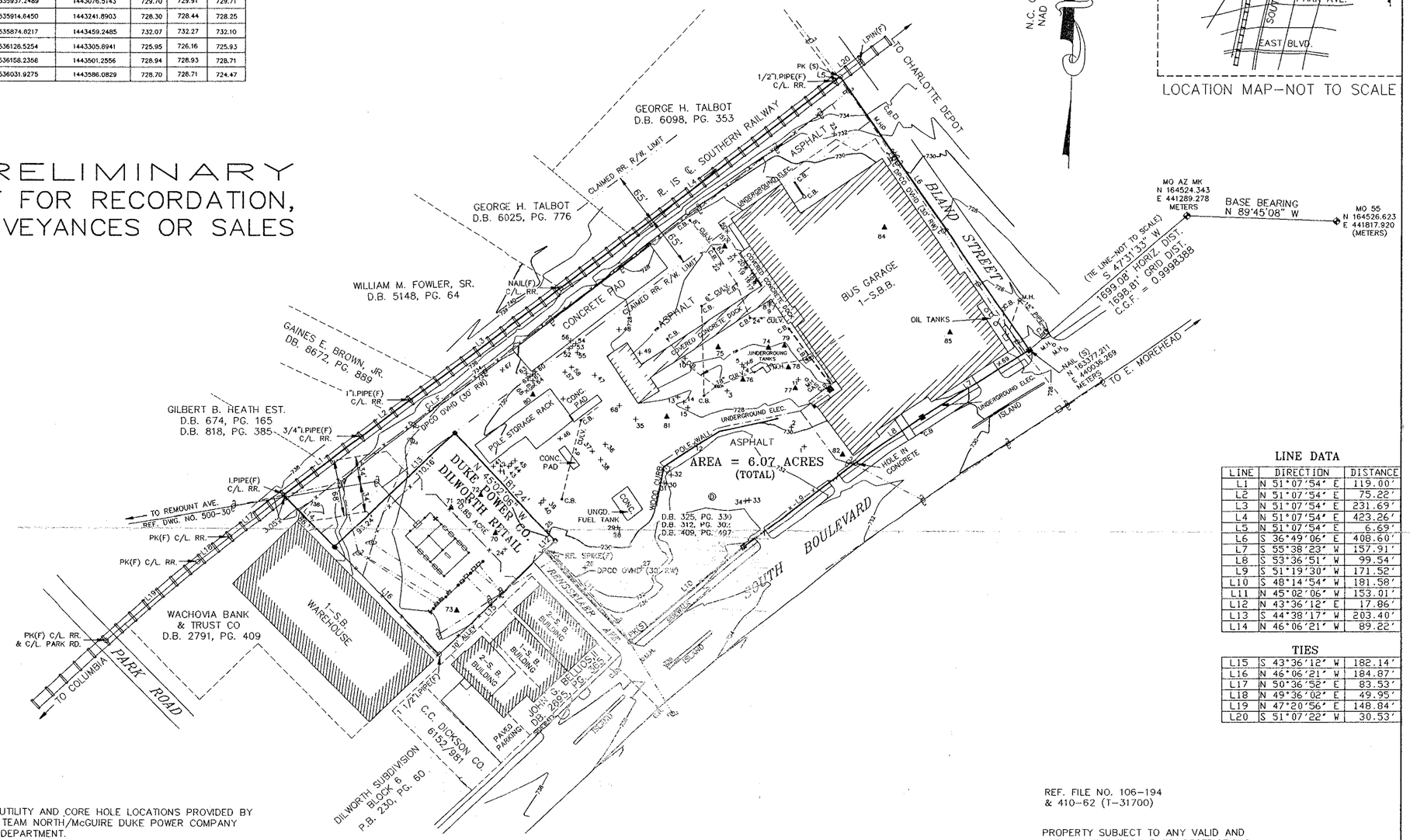


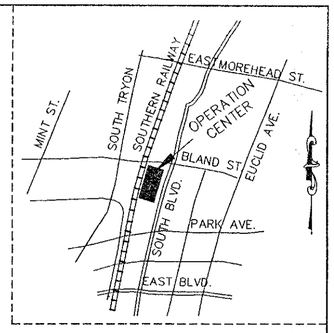
TAX LINE MAP BOOK 123 PAGE 04
MECKLENBURG COUNTY, NORTH CAROLINA
REVISED 12-17-93 SCALE 1" = 100'

NO.	BORING NO.	NORTH	EAST	GROUND ELEV.
1	B-35	525882.6654	1443411.8775	731.1
2	B-35A	535906.5957	1443395.4996	729.8
3	B-30	535949.5830	1443314.6478	728.1
4	B-36	535980.3670	1443335.1003	727.2
5	B-36A	535983.2659	1443332.4822	727.1
6	B-36B	535985.6659	1443337.3418	726.9
7	B-37	536060.7063	1443363.5526	725.5
8	B-37A	536062.2934	1443363.6737	725.5
9	B-37B	536058.9277	1443363.6244	725.5
10	B-33	535988.7715	1443261.1663	725.3
11	B-34	535967.2284	1443301.6761	726.9
12	B-32	535882.3916	1443277.0279	729.0
13	B-31	535933.0880	1443262.2644	728.1
14	B-31A	535939.4687	1443254.8507	727.9
15	B-31B	535926.2043	1443267.8106	728.0
16	B-27	536086.5337	1443344.8115	725.5
17	B-27A	536085.6541	1443343.7994	725.5
18	B-27B	5360871099	1443345.6700	725.5
19	B-29	536103.8186	1443333.8133	725.5
20	B-29A	536103.1183	1443332.2586	725.5
21	B-26	536118.0038	1443318.3779	725.8
22	B-25	536106.8094	1443301.7262	725.4
23	B-28	536274.0312	1443442.5585	732.6
24	B-05	535745.5610	1443048.3486	730.8
25	B-04	535769.7175	1443099.7216	730.1
26	B-02	535725.9868	1443147.5653	730.7
27	B-01	535727.8901	1443217.0471	730.7
28	B-15	535774.6427	1443188.1759	729.9
29	B-15A	535777.5822	1443185.9747	729.9
30	B-10	535832.9717	1443243.5820	731.4
31	B-10A	535833.3692	1443241.0787	731.1
32	B-10B	535843.1023	1443249.3020	732.5
33	B-011	535815.6947	1443345.9049	733.1
34	B-011A	535814.6221	1443341.9277	733.2
35	B-14	535910.4990	1443203.5287	728.7
36	B-08C	535877.8883	1443167.4041	728.6
37	B-08B	535869.2157	1443151.9697	728.9
38	B-08	535859.3595	1443162.3378	728.9
39	B-03	535808.1016	1443094.1588	729.6
40	B-03A	535804.0984	1443090.8476	729.7
41	B-06D	535846.5964	1443030.2050	730.5
42	B-06C	535841.4056	1443038.9203	730.3
43	B-06B	535847.4673	1443049.9348	730.2
44	B-06A	535850.9194	1443053.2789	730.1
45	B-06	535854.7916	1443057.0809	730.0
46	B-09	535883.5372	1443111.8067	729.3
47	B-17	535964.8426	1443151.3722	729.1
48	B-21	536022.1668	1443179.0404	728.4
49	B-20	535993.4391	1443205.8971	725.6
50	B-22	536147.1074	1443308.1182	726.8
51	B-23	536135.2332	1443309.4149	726.1
52	B-16	535996.8794	1443119.4738	729.5
53	B-16A	536000.1478	1443123.0045	729.5
54	B-16B	536003.3533	1443126.3934	729.4
55	B-16C	535992.0886	1443129.1638	729.3
56	B-16D	536005.4003	1443120.8530	729.5
57	B-18	535966.8066	1443115.0142	729.5
58	B-18A	535973.1555	1443122.3684	729.2
59	B-07	535933.0244	1443114.0955	728.9
60	B-13	535965.7128	1443077.7938	730.0
61	B-13A	535962.6733	1443074.9775	730.0
62	B-13B	535960.2047	1443071.9453	730.0
63	B-13C	535963.8526	1443067.7863	730.3
64	B-13D	535955.3078	1443075.3512	730.0
65	B-13E	535949.2647	1443077.8443	729.8
66	B-13F	535941.6315	1443068.5455	729.9
67	B-12	535966.9612	1443037.7103	730.8
68	B-19	535926.5467	1443182.9456	728.9
69	B-24	535994.8977	1443649.3314	728.9

NO.	WELL NO.	NORTH	EAST	GROUND ELEV.	TOP CASING ELEV.	TOP PVC ELEV.
70	MW-1	535764.8025	1443035.7658	730.7	730.45	730.17
71	MW-2	535794.7525	1442980.3406	730.6	730.3	730.04
72	MW-3	535811.4952	1443015.8375	730.2	730.16	729.91
73	MW-4	535668.1106	1442991.5074	731.6	731.37	731.14
74	MW-5	536005.5025	1443363.9695	726.0	725.53	725.26
75	MW-6	536004.3097	1443301.9631	727.3	727.20	726.98
76	MW-7	535964.4686	1443333.8906	727.4	727.05	726.76
77	MW-8	535955.5636	1443398.4231	727.5	727.36	727.11
78	MW-9	535981.5957	1443389.1395	726.9	726.50	726.28
79	MW-10A	536008.6201	1443383.3165	726.10	725.84	725.61
80	MW-11	535937.2489	1443076.5143	729.70	729.91	729.71
81	MW-12	535914.6450	1443241.8903	728.30	728.44	728.25
82	MW-13	535874.8217	1443459.2485	732.07	732.27	732.10
83	MW-14	536128.5254	1443305.8941	725.95	726.16	725.93
84	MW-15	536158.2358	1443501.2556	728.94	728.93	728.71
85	MW-16	536031.9275	1443586.0829	728.70	728.71	724.47

PRELIMINARY
NOT FOR RECORDATION, CONVEYANCES OR SALES





LOCATION MAP-NOT TO SCALE

LINE DATA

LINE	DIRECTION	DISTANCE
L1	N 51°07'54" E	119.00'
L2	N 51°07'54" E	75.22'
L3	N 51°07'54" E	231.69'
L4	N 51°07'54" E	423.26'
L5	N 51°07'54" E	6.69'
L6	S 36°49'06" E	408.60'
L7	S 55°38'23" W	157.91'
L8	S 53°36'51" W	99.54'
L9	S 51°19'30" W	171.52'
L10	S 48°14'54" W	181.58'
L11	N 45°02'06" W	153.01'
L12	N 43°36'12" E	17.86'
L13	S 44°38'17" W	203.40'
L14	N 46°06'21" W	89.22'

TIES

L15	S 43°36'12" W	182.14'
L16	N 46°06'21" W	184.87'
L17	N 50°36'52" E	83.53'
L18	N 49°36'02" E	49.95'
L19	N 47°20'56" E	148.84'
L20	S 51°07'22" W	30.53'

NOTE:
UNDERGROUND UTILITY AND CORE HOLE LOCATIONS PROVIDED BY GOETECH/PLAT TEAM NORTH/McGUIRE DUKE POWER COMPANY GEN. SERVICES DEPARTMENT.

LEGEND

- LINES SURVEYED
- LINES NOT SURVEYED
- DPCO OVHD (30' RW)
- RAILROAD R/W.
- #4 REBAR(S) ●
- #6 REBAR(F) ■
- CATCH BASIN □
- CORE HOLE LOC. +
- MONITORING WELL ▲

NOTE:
THIS MEDIA SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT.

NOTE:
THIS PLAT IS OF A SURVEY OF AN EXISTING PARCEL or PARCELS OF LAND.

REF. FILE NO. 106-194
& 410-62 (T-31700)

PROPERTY SUBJECT TO ANY VALID AND ENFORCEABLE EASEMENTS, RESTRICTIONS AND RIGHTS OF WAY OF RECORD.

NOTE:
AREA WITHIN DPCO 44 KV. (68') R/W. = 0.18 ACRE.
AREA WITHIN DPCO DISTRIBUTION LINE (30') R/W. =0.75 ACRE.
AREA WITHIN CLAIMED RAILROAD R/W. (65') = 1.27 ACRE,
OF WHICH, 0.67 ACRE IS WITHIN DPCO TRANSMISSION LINE R/W.'S
TOTAL AREA WITHIN RIGHTS OF WAY = 1.53 ACRE

SOURCE OF TITLE:
D.B. 325, PG. 330, D.B. 312, PG. 302 & D.B. 409, PG. 497

STATE OF NORTH CAROLINA
MECKLENBURG COUNTY

I certify that this map was drawn from an actual survey made under my supervision and was prepared in accordance with G.S. 47-30 as amended. The unadjusted error of closure as calculated is 1': 10,000 +. Boundaries not surveyed, if any, are noted. Deed descriptions are recorded in Book AS, Page SHOWN.

Witness my hand and seal this 11th day of NOVEMBER, 1996.

Registered Land Surveyor
L-3707

STATE OF NORTH CAROLINA
MECKLENBURG COUNTY

I JAMES V. BAKER, a Notary Public of MECKLENBURG County, North Carolina, do hereby certify that W. MICHAEL JONES a registered land surveyor, personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and Notorial Seal this 11th day of NOVEMBER, 1996.

Notary Public

My Commission expires: NOV. 1, 1999

REAL ESTATE CITIZENSHIP DUKE POWER SERVICE DEPARTMENT

SURVEY AND MAP PREPARED BY:
DUKE POWER COMPANY
P.O. BOX 1007
CHARLOTTE N.C. 28201-1007
TELEPHONE NO. (704)382-4268

NO.	REVISION	TECH	DATE	CHK	DATE
	PROPERTY RESURVEYED AND UPDATED	JHC	10-1-96	WMJ	10-1-96

DUKE POWER COMPANY
BOUNDARY SURVEY OF

SOUTH BOULEVARD OPERATIONS CENTER

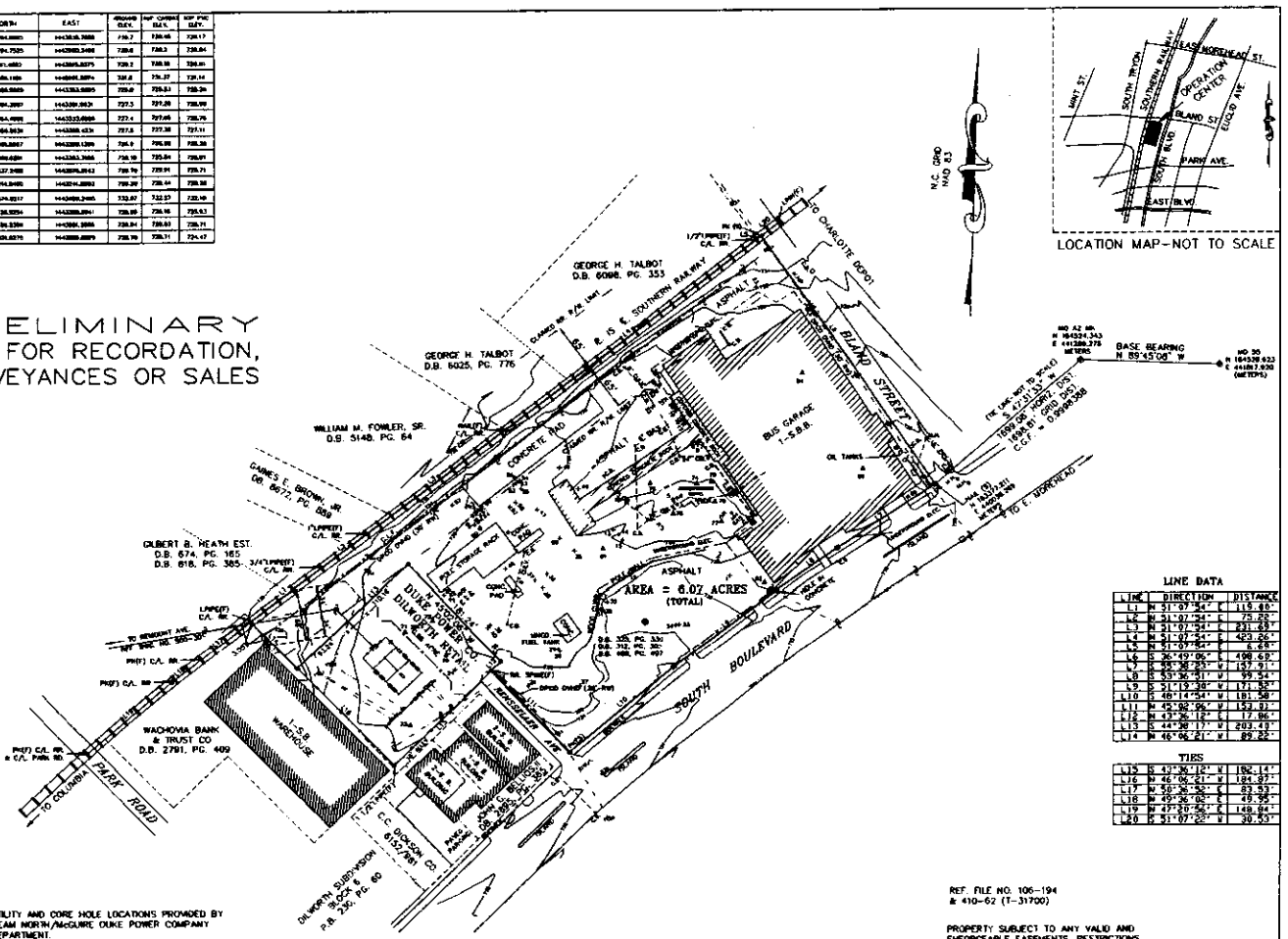
CHARLOTTE N.C.
MECKLENBURG COUNTY

BOOK NO. 2163
SEPT. 27, 1995
SCALE: 1"= 100'
0 50 100 150 200 SCALE IN FEET
CREW: BRH & HLR
DRAWN BY: JVB & JHC
E.C.= 1": 10,000'+

PROJECT NO. 6870	PARCEL NO. 45317	REQUEST NO. 31667

NO.	BORING NO.	NORTH	EAST	GROUND ELEV.
1	B-35	535882.8654	1443411.8775	734.1
2	B-35A	536006.5857	1443385.4886	728.8
3	B-36	535948.8830	1443314.6478	730.1
4	B-36	536080.3670	1443338.9083	727.7
5	B-36A	536083.2684	1443332.4822	727.1
6	B-38B	535985.8658	1443337.3418	728.9
7	B-37	536050.7083	1443383.5526	725.5
8	B-37A	536082.2634	1443383.6737	725.5
9	B-37B	536058.9277	1443382.8244	725.5
10	B-33	535988.7715	1443281.9663	725.3
11	B-34	536067.2584	1443281.8281	726.5
12	B-32	535982.3916	1443277.0278	728.9
13	B-31	535833.0880	1443282.9644	726.1
14	B-31A	535838.4687	1443254.8007	727.5
15	B-31B	535819.3043	1443267.8109	728.0
16	B-27	536086.5337	1443344.8115	725.5
17	B-27A	536085.8841	1443343.7884	725.5
18	B-37B	536879089	1443345.8780	725.5
19	B-29	535903.8188	1443333.8133	725.5
20	B-29A	535903.1983	1443332.8068	725.5
21	B-30	535918.8035	1443318.5779	725.6
22	B-35	535908.8884	1443309.7382	725.4
23	B-28	535274.8312	1443442.8080	732.8
24	B-05	535745.3810	1443448.3486	730.8
25	B-04	535788.7175	1443088.7214	730.1
26	B-02	535725.8868	1443147.9853	730.7
27	B-01	535727.8801	1443217.0471	730.3
28	B-15	535774.6427	1443188.1758	729.8
29	B-15A	535737.5622	1443185.9747	729.9
30	B-10	535832.9717	1443243.5820	731.4
31	B-10A	535833.3982	1443241.0787	731.1
32	B-10B	535843.1823	1443248.3892	732.5
33	B-011	535895.8947	1443245.8948	733.1
34	B-011A	535814.8221	1443241.8977	733.2
35	B-11	535898.4880	1443283.5287	728.7
36	B-08C	535877.8883	1443187.4841	730.6
37	B-08B	535888.3157	1443134.5892	728.8
38	B-08	535858.3569	1443083.3378	730.9
39	B-03	535808.9098	1443084.9888	728.8
40	B-03A	535884.8884	1443086.8478	728.7
41	B-08D	535845.8864	1443030.2050	730.5
42	B-08C	535841.4686	1443038.9303	730.3
43	B-08B	535847.4873	1443048.9348	730.3
44	B-08A	535808.9184	1443053.2788	730.1
45	B-06	535854.7998	1443087.0809	728.9
46	B-09	535883.5372	1443131.8987	728.3
47	B-17	535864.8436	1443181.3722	729.1
48	B-21	535822.9980	1443178.8984	728.4
49	B-20	535893.4381	1443205.8871	725.8
50	B-22	535617.1874	1443308.1182	726.8
51	B-23	535135.2331	1443208.4149	726.1
52	B-16	535886.8794	1443161.6726	729.5
53	B-16A	535882.1478	1443123.8845	729.5
54	B-19B	535883.3833	1443126.3834	729.4
55	B-19C	535882.8886	1443128.9938	729.5
56	B-19D	535885.4883	1443130.8830	729.5
57	B-18	535898.8086	1443175.8942	729.5
58	B-18A	535873.1505	1443122.3884	729.2
59	B-07	535833.0854	1443168.8885	728.9
60	B-13	535885.7128	1443127.7838	730.6
61	B-13A	535882.8753	1443076.9775	730.8
62	B-13B	535880.2847	1443071.9452	730.0
63	B-13C	535883.8826	1443087.7863	730.3
64	B-13D	535895.3878	1443075.3562	730.0
65	B-13E	535898.2847	1443077.8443	728.8
66	B-13F	535841.6395	1443888.5465	729.9
67	B-12	535886.9812	1443837.7965	730.8
68	B-19	535938.5467	1443882.9458	728.9
69	B-24	535894.8873	1443848.3344	728.9

NO.	BORING NO.	NORTH	EAST	GROUND ELEV.	TOP CASING ELEV.	TOP PVC ELEV.
70	MW-1	535994.6865	1443838.7888	730.7	730.10	729.17
71	MW-2	535941.7525	1443883.3488	728.8	730.3	730.04
72	MW-3	536011.4883	1443896.8375	729.2	730.10	729.81
73	MW-4	535985.1109	1443881.8894	728.8	730.27	730.14
74	MW-5	536068.8868	1443383.8885	728.8	730.51	730.34
75	MW-6	535959.2957	1443281.8832	727.3	727.78	728.99
76	MW-7	535954.9292	1443333.8888	727.4	727.66	728.79
77	MW-8	536088.8839	1443388.4231	727.8	727.38	727.11
78	MW-9	535898.8887	1443288.1289	726.9	729.28	728.38
79	MW-10A	536088.6689	1443383.3886	726.18	729.04	728.81
80	MW-11	535827.3488	1443289.8963	728.98	729.91	729.71
81	MW-12	535894.8485	1443214.8883	729.29	729.44	729.28
82	MW-13	535894.8887	1443888.2485	732.87	732.57	732.19
83	MW-14	536038.5254	1443288.8941	728.98	729.16	729.03
84	MW-15	536038.3288	1443288.3888	728.84	729.03	728.71
85	MW-16	535838.8878	1443888.8889	728.78	728.31	724.47



N.C. GRID NAD 83

LINE DATA

LINE	DIRECTION	DISTANCE
L1	N 51°07'54" E	119.60'
L2	N 51°07'54" E	75.26'
L3	N 51°07'54" E	231.69'
L4	N 51°07'54" E	423.26'
L5	N 51°07'54" E	6.68'
L6	S 36°49'06" E	498.69'
L7	S 89°38'53" W	157.91'
L8	S 53°36'51" W	99.54'
L9	S 51°19'38" W	171.55'
L10	S 48°14'51" W	181.58'
L11	N 45°08'06" W	152.81'
L12	N 43°36'12" E	17.86'
L13	S 44°38'17" W	203.41'
L14	N 46°06'21" W	89.22'

TIES

LINE	DIRECTION	DISTANCE
L15	S 43°36'12" W	182.14'
L16	N 46°06'21" W	184.87'
L17	N 50°36'52" E	83.51'
L18	N 49°36'02" E	49.95'
L19	N 47°30'42" E	148.84'
L20	S 51°07'22" W	30.53'

NOTE:
UNDERGROUND UTILITY AND CORE HOLE LOCATIONS PROVIDED BY GEOTECH/PLAT TEAM NORTH/McGUIRE DUKE POWER COMPANY GEN. SERVICES DEPARTMENT.

REF. FILE NO. 106-194 & 410-62 (T-31700)

PROPERTY SUBJECT TO ANY VALID AND ENFORCEABLE EASEMENTS, RESTRICTIONS AND RIGHTS OF WAY OF RECORD.

NOTE:
AREA WITHIN DPCO 44 K.V. (65') R/W = 0.18 ACRE.
AREA WITHIN DPCO DISTRIBUTION LINE (30') R/W. = 0.75 ACRE.
AREA WITHIN CLAIMED RAILROAD R/W. (65') = 1.27 ACRE.
OF WHICH, 0.67 ACRE IS WITHIN DPCO TRANSMISSION LINE R/W.'S
TOTAL AREA WITHIN RIGHTS OF WAY = 1.53 ACRE

NOTE:
THIS MEDIA SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT.

NOTE:
THIS PLAT IS OF A SURVEY OF AN EXISTING PARCEL or PARCELS OF LAND.

SOURCE OF TITLE:
D.B. 325, PG. 330, D.B. 312, PG. 302 & D.B. 409, PG. 497

LEGEND

- LINES SURVEYED
- LINES NOT SURVEYED
- DPCO OHHD (30' R/W)
- RAILROAD R/W.
- #4 REBAR(S)
- #6 REBAR(F)
- CATCH BASIN
- CORE HOLE LOC.
- MONITORING WELL

STATE OF NORTH CAROLINA
MECKLENBURG COUNTY

I certify that this map was drawn from an actual survey made under my supervision and was prepared in accordance with G.S. 47-30 as amended. The unadjusted error of closure as calculated is 1: 10,000+. Boundaries not surveyed, if any, are noted. Deed description recorded in Book A-5, Page Various.

Witness my hand and seal this 11th day of NOVEMBER, A.D. 96.

Registered Land Surveyor
L-3707

STATE OF NORTH CAROLINA
MECKLENBURG COUNTY

I, JAMES V. BAKER, a Notary Public of MECKLENBURG County, North Carolina, do hereby certify that W. MICHAEL JONES, a registered land surveyor, personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and Notarial Seal this 11th day of NOVEMBER, A.D. 96.

Notary Public

My Commission expires: NOV. 1, 1999

REAL ESTATE CITIZENSHIP DUKE POWER SERVICE DEPARTMENT

SURVEY AND MAP PREPARED BY:
DUKE POWER COMPANY
P.O. BOX 1007
CHARLOTTE N.C. 28201-1007
TELEPHONE NO. (704)382-4288

NO.	REVISION	TECH	DATE	CHK	DATE
	PROPERTY RESURVEYED AND UPDATED	JHC	10-1-96	WMJ	10-1-96

DUKE POWER COMPANY
BOUNDARY SURVEY OF

SOUTH BOULEVARD OPERATIONS CENTER

CHARLOTTE N.C.
MECKLENBURG COUNTY

BOOK NO. 2163
SEPT. 27, 1995
SCALE: 1"= 100'
0 50 100 150 200
SCALE IN FEET
CREW: BRH & HLR
DRAWN BY: JAB & JHC
E.C.F.= 1': 10,000'+

PROJECT NO. 8570 | PARCEL NO. 45317 | REQUEST NO. 31687

Refer to Section V.A.6
and
Site Survey Map provided in Appendix V.A.6

South Boulevard MGP Site

TCLP - Volatile Organics Summary
Selected Soil Samples from the Phase II Environmental Assessment

Concentrations in mg/l

Compound	Reg. TCLP Limit	Sample Locations and Depths [ft]												
		B03 [4'-5.5']	B03 [7'-8.5']	B08 [4'-5.5']	B13 [1'-2.5']	B13 [4'-5.5']	B19 [4'-5.5']	B20 [7.5'-9']	B24 [1'-2.5']	B27 [4.5'-7']	B29 [5.8'-8.8']	B36 [1'-2.5']	B37 [4'-6']	B37 [7.5'-9']
Benzene	0.5	<0.05	<0.05	<0.05	0.07	0.07	0.17	<0.05	<0.05	0.13	1.60	0.32	0.88	3.90
2(Butanone)	200	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09
Carbon Tetrachloride	0.5	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09
Chlorobenzene	100	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chloroform	6	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
1,1-Dichloroethene	0.7	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
1,2-Dichloroethane	0.5	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
Tetrachloroethylene	0.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethene	0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Table V.A.8-1

South Boulevard MGP Site

TCLP - Semi-Volatile Organics Summary
Selected Soil Samples from the Phase II Environmental Assessment

Concentrations in mg/l

Compound	Reg. TCLP Limit	Sample Locations and Depths [ft]												
		B03 [4'-5.5']	B03 [7'-8.5']	B08 [4'-5.5']	B13 [1'-2.5']	B13 [4'-5.5']	B19 [4'-5.5']	B20 [7.5'-9']	B24 [1'-2.5']	B27 [4.5'-7']	B29 [5.8'-8.8']	B36 [1'-2.5']	B37 [4'-6']	B37 [7.5'-9']
Pyridine	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,4-Dichlorobenzene	7.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2-Methyl Phenol	200	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.78	1.40	<0.01	1.80	2.20
3 & 4 Methyl Phenol	200	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.80	2.50	0.02	2.80	3.80
Hexachloroethane	3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrobenzene	2	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Hexachlorobutadiene	0.5	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2,4,6-Trichlorophenol	2	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2,4,5-Trichlorophenol	400	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2,4-Dinitrotoluene	0.13	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Hexachlorobenzene	0.13	<0.01	<0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pentachlorophenol	100	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table V.A.8-2

South Boulevard MGP Site

TCLP - Metals Summary
Selected Soil Samples from the New Substation Construction Area
February 27, 1990

Concentrations in ppm

New Substation Grid Sampling Location		Metals and Associated Regulatory TCLP Limits							
		Silver [5]	Barium [100]	Cadmium [1]	Chromium [5]	Lead [5]	Arsenic [5]	Selenium [1]	Mercury [0.2]
SBDO22790B1TSH	Total:	8.0	194.0	11.0	42.0	156.0	5.2	<0.04	0.06
	TCLP:	<0.4	0.70	<0.04	<0.3	<0.8	<0.1	<0.2	<0.01
SBDO22790C1TSH	Total:	7.0	64.0	100.0	22.0	1219.0	4.6	2.10	0.24
	TCLP:	<0.4	0.20	<0.04	<0.3	1.0	<0.1	<0.2	<0.01
SBDO22790C2TSH	Total:	18.0	188.0	24.0	52.0	196.0	16.0	<0.04	<0.05
	TCLP:	<0.4	0.20	<0.04	<0.3	<0.8	<0.1	<0.2	<0.01
SBDO22790C4TSH	Total:	13.0	48.0	22.0	22.0	200.0	26.0	<0.04	0.06
	TCLP:	<0.4	0.20	<0.04	<0.3	<0.8	<0.1	<0.2	<0.01
SBDO22790D1TSH	Total:	7.0	108.0	13.0	38.0	220.0	12.0	0.23	0.44
	TCLP:	<0.4	<0.1	<0.04	<0.3	<0.8	<0.1	<0.2	<0.01

Table V.A.8-3

Refer to Section V.A.9

Refer to Section V.A.10

Refer to Section V.A.11

Refer to Section V.A.12

Refer to Section V.A.13

Refer to Section V.A.14

Refer to Section V.A.15

Report Number 9

South Boulevard MGP Site
Phase II Environmental Assessment
1992

PHASE II REPORT

FOR

DUKE POWER COMPANY

SOUTH BLVD. MANUFACTURED GAS PLANT

CHARLOTTE, N.C.

Prepared By:
Duke Power Company
Generation Services Department
Environmental Chemistry

1992

TABLE OF CONTENTS

VOLUME I

(1) INTRODUCTION
(2) METHODS OF INVESTIGATION
    Soil Gas Assessment
    Soil Borings
(3) METHODS OF ANALYSIS
    Field Screen Methods
    Laboratory Methods
(4) PHYSICAL CHARACTERISTICS OF SITE
    Soil And Rock Conditions
    Ground Water
(5) RESULTS AND DISCUSSION
    Organic Contamination
    Inorganic Contamination
(6) SUMMARY

FIGURES:

Figure 1: Soil Gas Assessment; Grid Diagram
Figure 2: Bore Hole Locations
Figure 3: Major MAHs And PAHs In Coal Tar
Figure 4: Total PAH Contours
Figure 5: PAH Contour (B22 - B37)
Figure 6: Cyanide Contours

TABLES:

Table 1: Soil Gas Assessment Results
Table 2: Laboratory Analyses And Methods
Table 3: Inorganic Analysis Results
Table 4: Organic Analysis Results (Methods 8240 & 8270)
Table 5: PAH Analysis Results (Method 8310) and TOC
Table 6: TCLP Analysis Results
Table 7: TCLP VS Total Metals (Comparison)
Table 8: Hydrogeologic Properties of South Blvd Soils
Table 9: Select Organic Compound Solubilities

APPENDICIES:

Appendix A: Environmental Assessment Field Log Sheets

VOLUME II

APPENDICES:

Appendix B: Soil Test Boring Field Reports
Appendix C: Laboratory Reports (Methods 8270 & 8240)
Appendix D: Grain Size Analysis
Appendix E: Site Sampling Plan

INTRODUCTION

An environmental assessment of the former manufactured gas plant located at South Blvd., in Charlotte N.C. was conducted by personnel from Duke Power Company, Environmental Chemistry. Analyses of organic and inorganic chemistry parameters were performed on the subsurface soil of the site. The information collected is the basis for characterization of the site for risk assessment and potential alternatives for site remediation.

METHODS OF INVESTIGATION

Investigation of the South Blvd. side was conducted in accordance with the SITE SAMPLING PLAN included in Appendix E. Initial investigation of the site consisted of a soil gas assessment to map high contamination areas based on volatile organic compounds. The soil gas data, in conjunction with historical data of the location of the former MGP unit processes, formed the criteria for selection of soil sampling locations.

Soil Gas Assessment

Sampling points for the soil gas assessment were established on a 50-ft by 50-ft orthogonal grid. The grid was established using a measuring tape and visual sightings, and was adjusted to accommodate site conditions. A grid diagram is presented in figure 1.

Small-diameter (5/8" OD) stainless steel probes were driven 3-ft into the subsurface with an electro-pneumatic hammer. In

areas with asphalt or concrete, one inch pilot holes were drilled through the pavement to provide access to the subsurface. Soil gas samples were analyzed on site as they were collected. The gas samples were extracted from the probes using a low volume vacuum pump with a purge time of 5 to 10 minutes. After purging, gas samples were collected using a calibrated syringe and injected into a Photovac portable chromatograph equipped with a photo-ionization detector. The chromatograph was calibrated with laboratory prepared standards containing known concentrations of isopentane, benzene, toluene, m&p-xylene, and o-xylene. Blank samples were periodically analyzed to insure that the system was free of contamination. The results of the soil gas assessment are presented in table 1.

Soil Borings

A total of 37 shallow test borings were drilled into the unconsolidated sediments on the site. The boring locations, designated B01 through B37, are shown on Figure 2. Some boring locations were adjusted from original placement, due to overhead obstructions and construction debris in man-made fill.

The borings were drilled by mechanically advanced, hollow - stem steel augers. Soil sampling and penetration testing were performed in general accordance with ASTM D 1586. At regular intervals, soil samples were obtained with a standard 1.4-inch I.D., 2-inch O.D., split-tube sampler. The sampler was first seated 6 inches to penetrate any loose cuttings, and then driven

an additional 12 inches with blows of a 140-pound hammer falling 30 inches to obtain the "penetration resistance". The sampler was then driven the remaining 6-inches to obtain a 24-inch vertical sample. At least four split-tube samples were attempted in each boring. Construction debris in man-made fill prevented sampling at some locations/depths.

Samples were processed, placed in clean glass containers, labeled and stored on ice until received at the laboratory. Sample collection was in accordance with U.S. EPA protocol as outlined in EPA publications (1), and chain of custody procedures were followed.

All split-tube samplers and auger flights were steam cleaned between bore holes. Glass pans and spatulas used for sample processing, were cleaned between samples in accordance with EPA protocol as outlined in EPA publications (2).

Sample documentation consisted of photographs, and written observations. This information, combined with sample field screen results is presented on Environmental Assessment Field Log sheets and is included in Appendix A. The Soil Test Boring Field Reports provided by the drilling inspector are included in Appendix B.

METHODS OF ANALYSIS

Field Screen Methods

In order to limit the number of samples requiring laboratory

analysis, two field screen techniques were employed to identify the most contaminated samples. In general, the two most contaminated samples from each bore hole were submitted for laboratory analysis. The two screening methods used were (1) injection of head-space concentrated volatile organics into a portable gas chromatograph, and (2) analysis by HNU-Hanby; field test for aromatics in soil. In some instances, visual observations of a sample dictated submittal for laboratory analysis. Results of the field screen analysis are included on the Environmental Assessment Field Log sheets in Appendix A.

Laboratory Methods

Chemical analysis were directed toward chemical species and compounds associated with wastes from the manufactured gas plant. Inorganic compounds characterized included RCRA metals, cyanide (acid and base extractable), ammonia, total sulfur, oil & grease, and C, H, & N analyses. Organic compounds analyzed included volatile organics (VOC), and polycyclic aromatic hydrocarbons (PAH). In addition, selected samples were analyzed for TCLP organics, BTU, and TOC. The analytical methods are USEPA approved methods (3) and all analyses were subjected to USEPA recommended quality control procedures. The analytical methods used for chemical quantification, and the laboratories which conducted the various analyses, are included in Table 2.

Results of the laboratory chemical testing are summarized in

tables 3, 4, 5, & 6, and the laboratory reports for volatile and semi-volatile organics are included in Appendix C.

PHYSICAL CHARACTERISTICS OF SITE

Soil And Rock Conditions

Man-made fill was encountered in most test borings. The fill consisted primarily of silty, clayey sands with various debris. Apparent deposits of MGP residues were also encountered. Odors associated with the fill were variously described as diesel fuel, gasoline, coal tar, and petroleum odors. Photographs documenting the appearance of the soil, as well as written observations, are presented on the Environmental Assessment Field Log sheets included in Appendix A. Grain size analysis was performed on samples from selected bore holes and are included in Appendix D. Table 8 estimates several properties of hydrogeologic significance that can be used as additional site assessment tools. The grain size analysis indicates that the soil samples collected from B06, B10 and B30 can be classified as poorly sorted (Uniformity Coefficient, Cu > 4). These soils can be expected to have a high porosity and permeability. For poorly sorted soils, hydraulic conductivity estimates range from 1.0E-4 to 1.0E-9 cm/sec. Actual slug tests conducted on existing monitoring wells on site indicate that the local hydraulic conductivities associated with these wells approach and or exceed

the upper limits of the estimates. Hydraulic conductivity calculations were made using the Hvorslev method.

Water elevations at the site were measured from 18 wells used to monitor groundwater quality at two underground storage tank locations. All wells are of the surface mount type and water elevations ranged from 1.8 ft to 6.4 ft below the surface. Soil contamination, as indicated in Table 3, generally occurs from the surface to a depth of 8.5+ feet. Assuming an average depth to water of 3.6 feet, groundwater is in contact with contaminated soils.

Table 9 lists select environmental data associated with MGP organic contaminants. The volatile organic compounds (VOC) should not adsorb to the soil and could be mobile in groundwater. These compounds also exhibit volatility and could be found in the unsaturated zone. Due to the volatility, these compounds could be liberated during remediation. The PAH compounds are generally more stable than the VOC's. These compounds adsorb readily to soil, remain immobile, and for the heavier molecular weight (MW > 202) compounds, should not volatilize.

RESULTS AND DISCUSSION

Organic Contamination

The major mononuclear aromatic hydrocarbons (MAHs) and polynuclear aromatic hydrocarbons (PAHs) commonly found in MGP tars are illustrated in Table 3. Note that the PAHs represent

> 90% of the total MAHs + PAHs while the MAHs represent < 8%.

Polycyclic aromatic hydrocarbons (PAHs) were found in substantial concentrations over much of the site. Total PAH contours for the 4-ft to 6-ft samples are illustrated in Figure 4. Concentrations generally were highest in the 1-ft to 6-ft depth and decreased down to 12-ft. The highest concentrations of PAH were found at bore holes B29 and B37, in the vicinity of a tar well and tar tanks. Total PAH concentrations were 23582 ppm and 13940 ppm respectively, and free flowing tar was observed at both of these locations. During the drilling at these two locations, apparent top and bottom of the tar well were encountered. If the tar well is intact, as it appears to be, contamination associated with the contents should be confined or at least restricted as depicted in Figure 5. Bore hole B13, in the vicinity of the purifier boxes had a TPH concentration of 12590 ppm. Soil from this boring was black and oily with wood particles present. Other bore hole locations with PAH concentrations above 1000 ppm were B20 (1012 ppm), located between the purifiers and condenser, and B34 (1356 ppm) and B36 (5257 ppm), which were located south and south east respectively of the water-gas building. Additional pockets of PAH contamination were found on the site with concentrations as high as 700 ppm. Bore hole B24, located on the south east corner of the garage building, is the designated "background" sample and

contained <1.0 ppm TPH for all depths.

Volatile organic compounds of substantial concentrations were usually found in the same samples which exhibited high PAH concentrations.

There were some cases where neither PAH or VOC concentrations detected in laboratory samples correlated with high results observed with the field screen methods. There are many volatile and semi-volatile organic compounds other than the "MGP target" compounds presented in Table 4 that might be reflected in the field screen measurements.

Inorganic Contamination

Cyanide exists as an anion (CN^-) in water at pH above 8.0, and as an undissociated acid (HCN) at a pH below 8.0. There are two groups of cyanide compounds: simple and complexed. Simple cyanides are formed by reactions with alkali, or a metal, with the soluble compounds forming CN^- anion in water. Complexed cyanides represent the alkali-metal cyanides. For the soluble complexed cyanide, the anion is not CN^-, but rather a metal-cyanide radical. While simple cyanides can be decomposed by bacteria in the soil, complexed cyanides in MGP waste are generally stable in the environment. However, if acidic conditions are present, free cyanide may form, causing liberation of HCN gas. Cyanide concentrations in Table 3 are reported as

total, acid leachate, and basic leachate. The low results obtained form the acidic leach suggest that liberation of free cyanide from these waste is remote. Cyanide contamination was found, as expected, in areas associated with the MGP purifier processes. However, purifier type waste (ash with wood chips) exhibiting high cyanide concentrations, were found in several areas remote from the purifiers, indicating that the waste was used as fill on various areas of the site. Location B31, for example, exhibited a total cyanide concentration of 501 ppm but was located well south of the purifier boxes. Cyanide contours for 4-ft to 6-ft samples are illustrated in Figure 6.

Metals concentrations (total digestible) were similar in concentration to those from previous studies on the west end of the site. Although a direct comparison between metals results by TCLP and total digestion cannot be made conclusively, comparisons made on samples from previous studies demonstrated that TCPL analysis resulted in concentrations below RCRA limits (Table 7).

SUMMARY

Samples collected from soil borings indicated the presence of MGP type waste throughout the site. PAH compounds associated with coal tar waste were most concentrated around the tar tanks and tar wells at the north west end of the garage building. Cyanide contamination was found throughout the site but was especially

apparent in the areas associated with the purifier boxes. It appears, based on auger refusals, that many of the subsurface structures associated with the MGP processes may still be in place and containing their respective waste products. Other contamination on the site is probably due to fill and grading practices during the operation and closure of the site. For most borings, contamination associated with MGP waste was confined to depths above 12-ft. Additional soil should be collected from the site near the property along Bland Street. In addition, groundwater monitoring wells should be installed to provide a comprehensive assessment of groundwater quality including vertical and horizontal extent of contamination. All monitoring well locations should include sieve analysis throughout the depth of the borehole, and all wells should include slug tests to determine hydraulic conductivity of the aquifer. Each well should be measured monthly for water level elevations and sampled semi-annually for inorganic and organic MGP constituents.

FIGURES

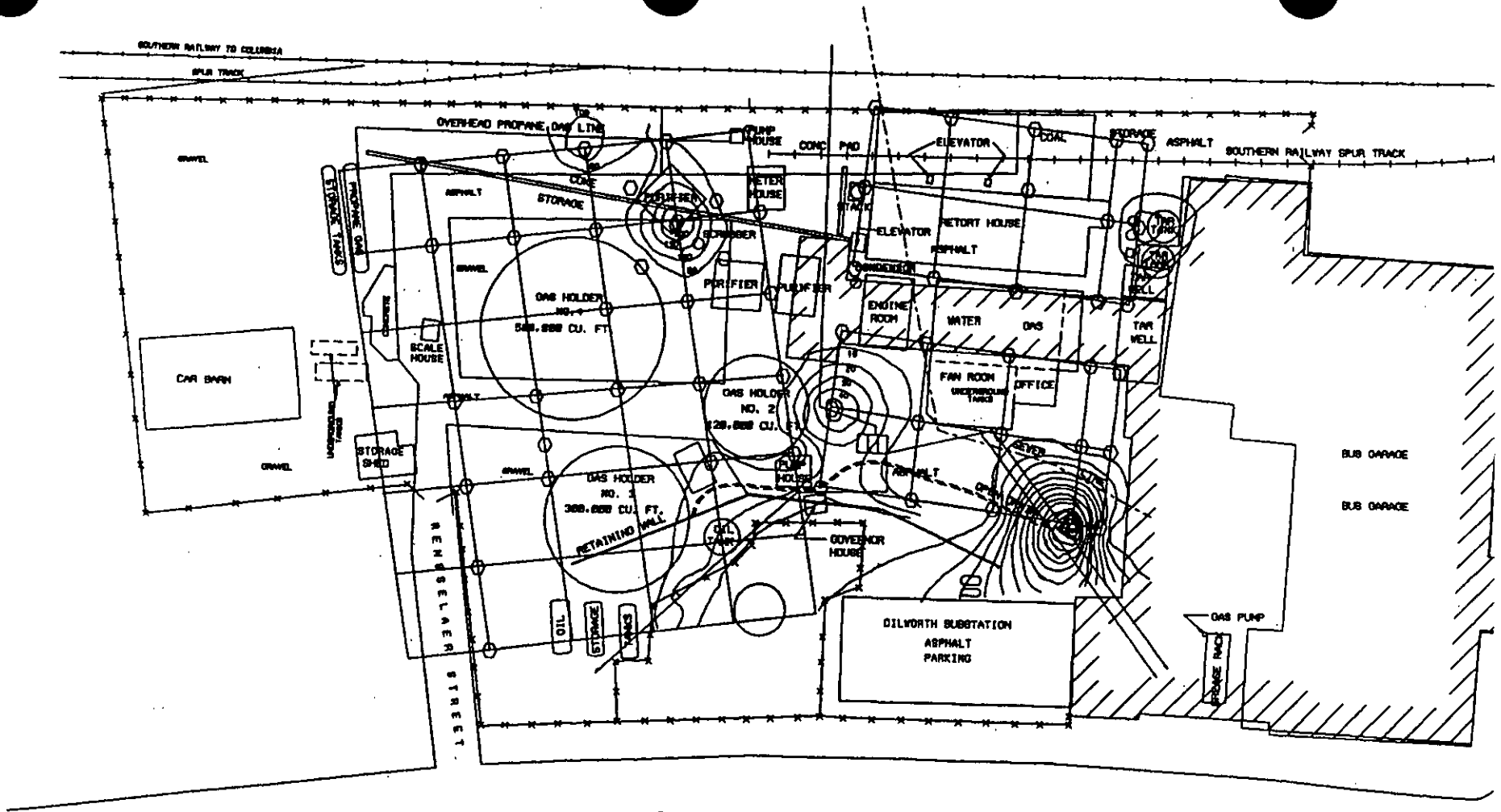
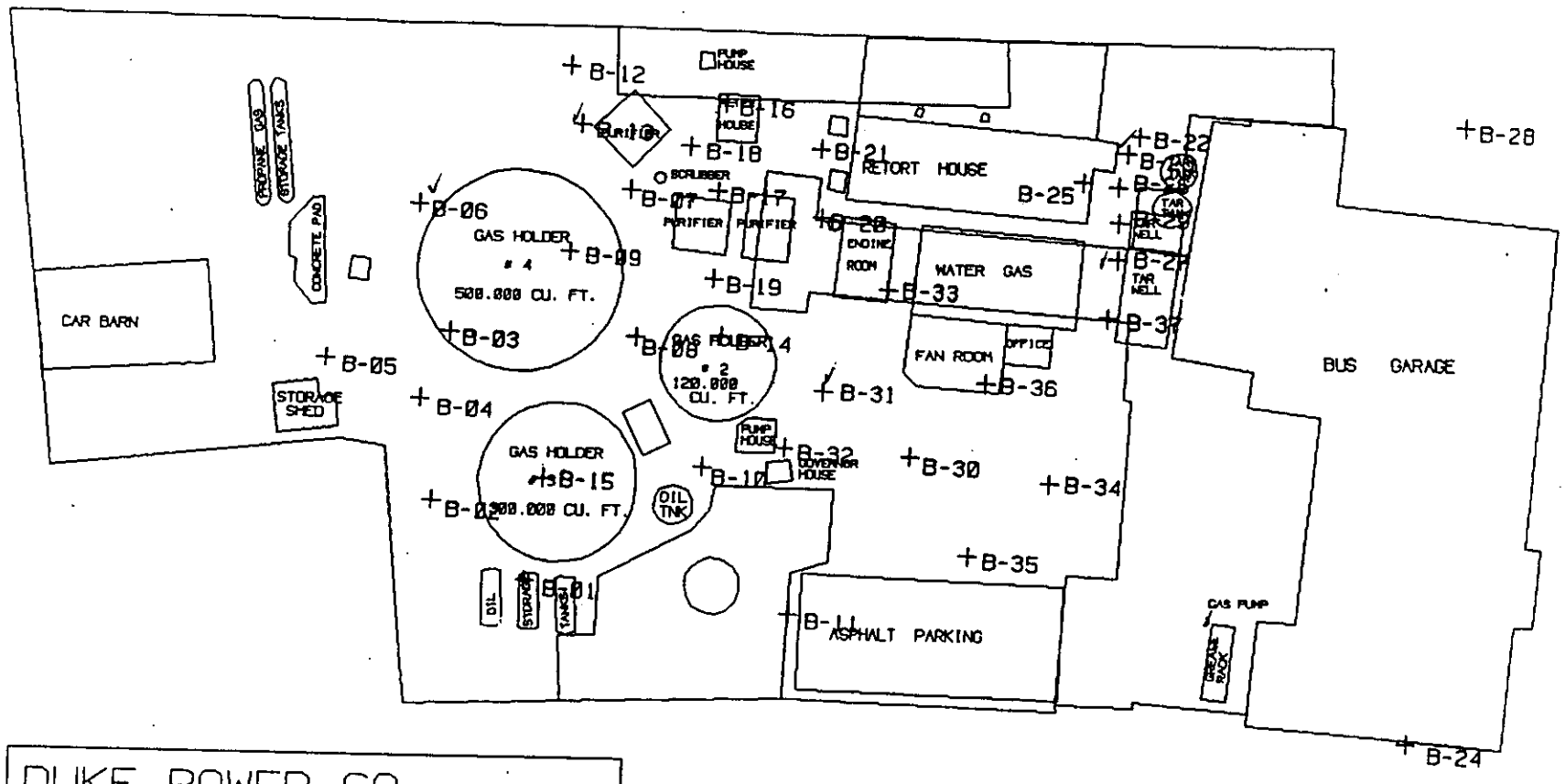

N
SOUTHERN RAILWAY TO COLUMBIA
SPUR TRACK
OVERHEAD PROPANE GAS LINE
GRAVEL
ASPHALT
CONC PAD
ELEVATOR
COAL STORAGE
ASPHALT
SOUTHERN RAILWAY SPUR TRACK
PROPANE GAS STORAGE TANKS
COKE STORAGE
PURIFIER
METER HOUSE
SCRUBBER
RETORT HOUSE
GAS HOLDER NO. 4 540,000 CU. FT.
PURIFIER
CONDENSER
ENGINE ROOM
WATER GAS
TAR WELL
CAR BARN
SCALE HOUSE
GAS HOLDER NO. 2 120,000 CU. FT.
FAN ROOM
OFFICE
STORAGE SHED
GAS HOLDER NO. 1 300,000 CU. FT.
RETAINING WALL
GOVERNOR HOUSE
BUS GARAGE
BUS GARAGE
RENSSELAER STREET
OIL TANKS
STORAGE
DILWORTH SUBSTATION
ASPHALT
PARKING
GAS PUMP
STORAGE SHED
SOUTH BOULEVARD
SCALE IN FEET

FIGURE 1



DUKE POWER CO.
SOUTH BLVD. MGP SITE

BORE HOLE LOCATIONS
1991 SAMPLING

0 100 200

SCALE IN FEET

FIGURE 2

MAJOR MAHs AND PAHs IN COAL TARS

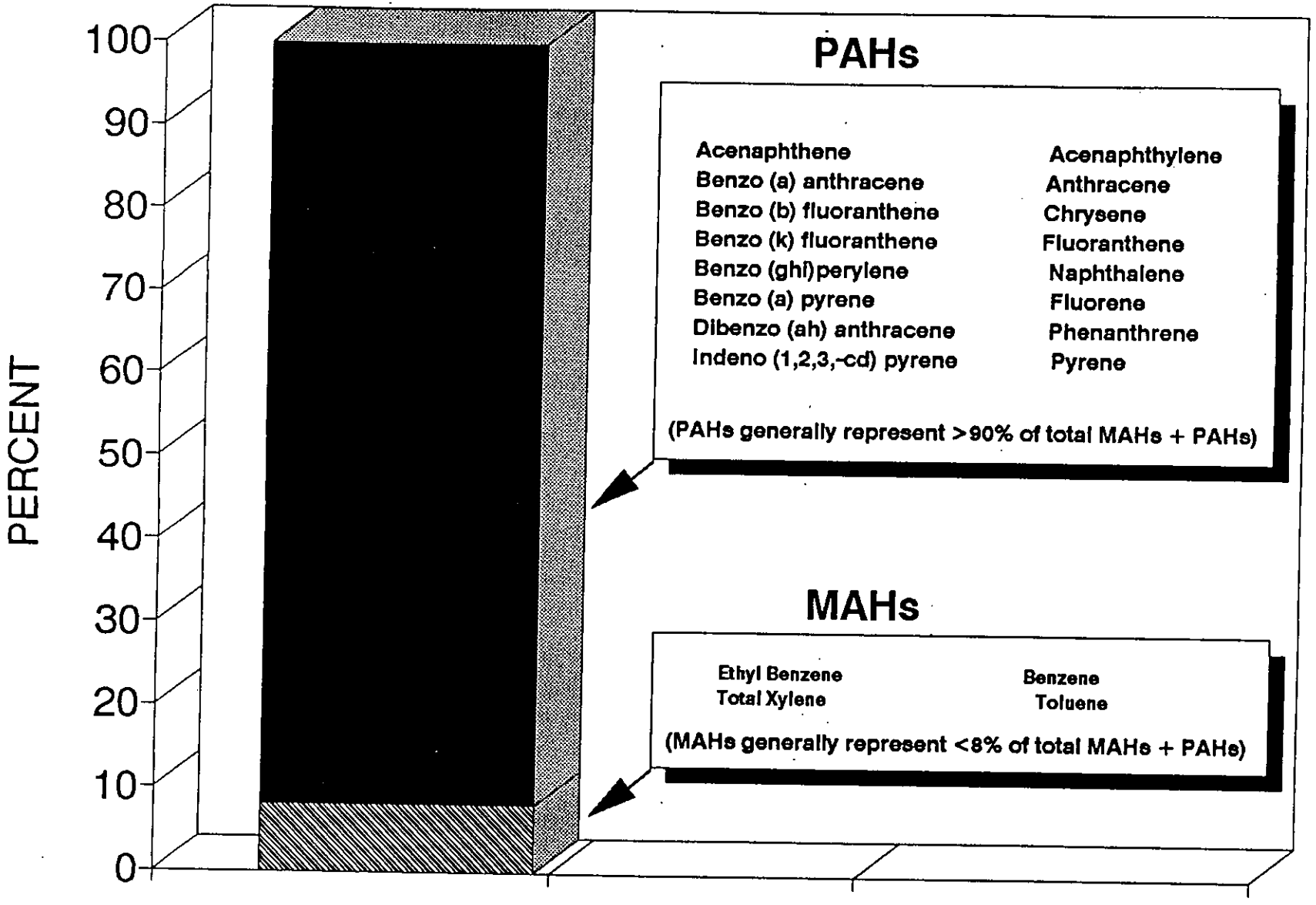
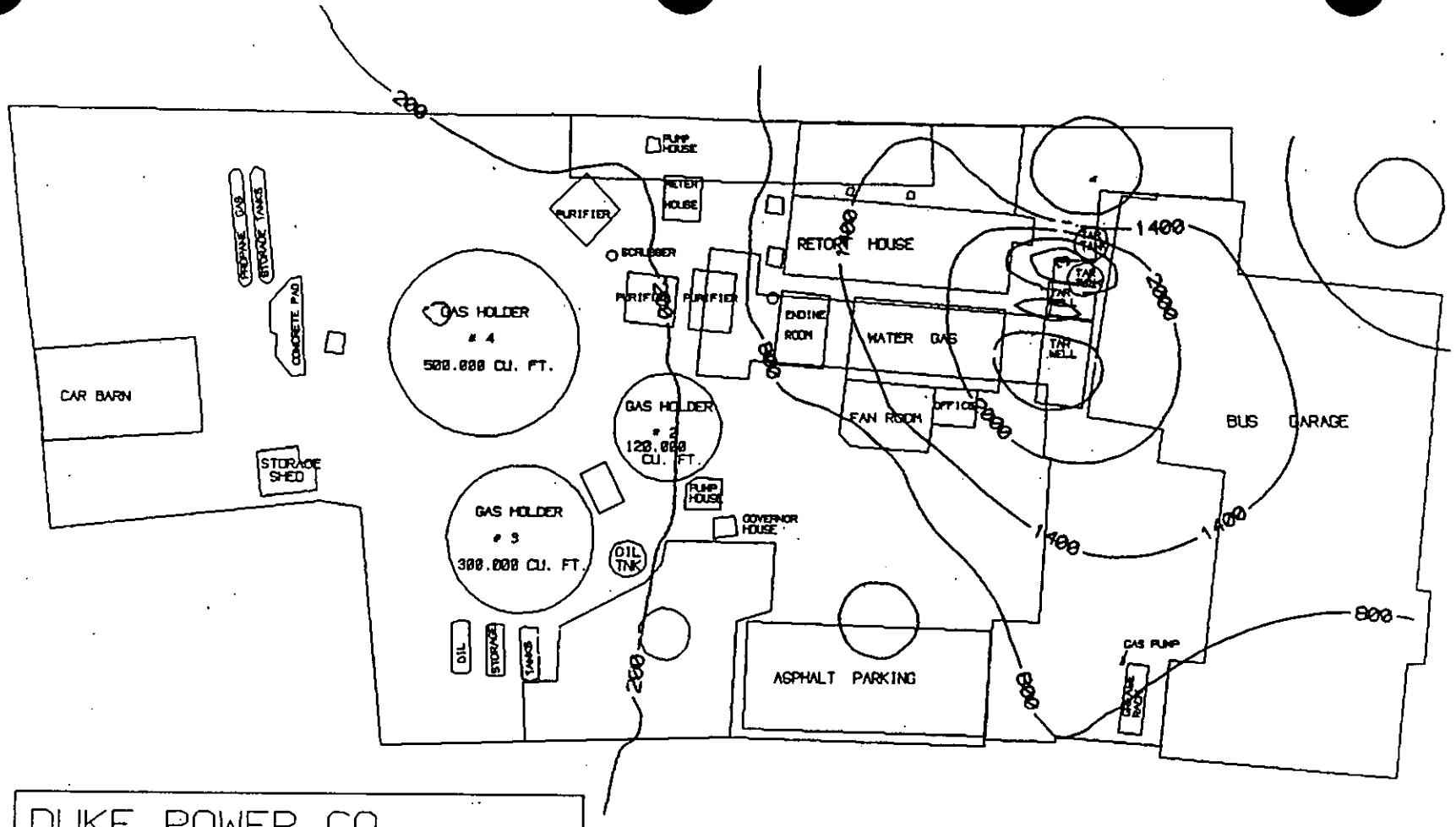


Figure 3.



DUKE POWER CO.
SOUTH BLVD. MGP SITE

TOTAL PAH CONTOURS
1991 SAMPLING

FIGURE 4

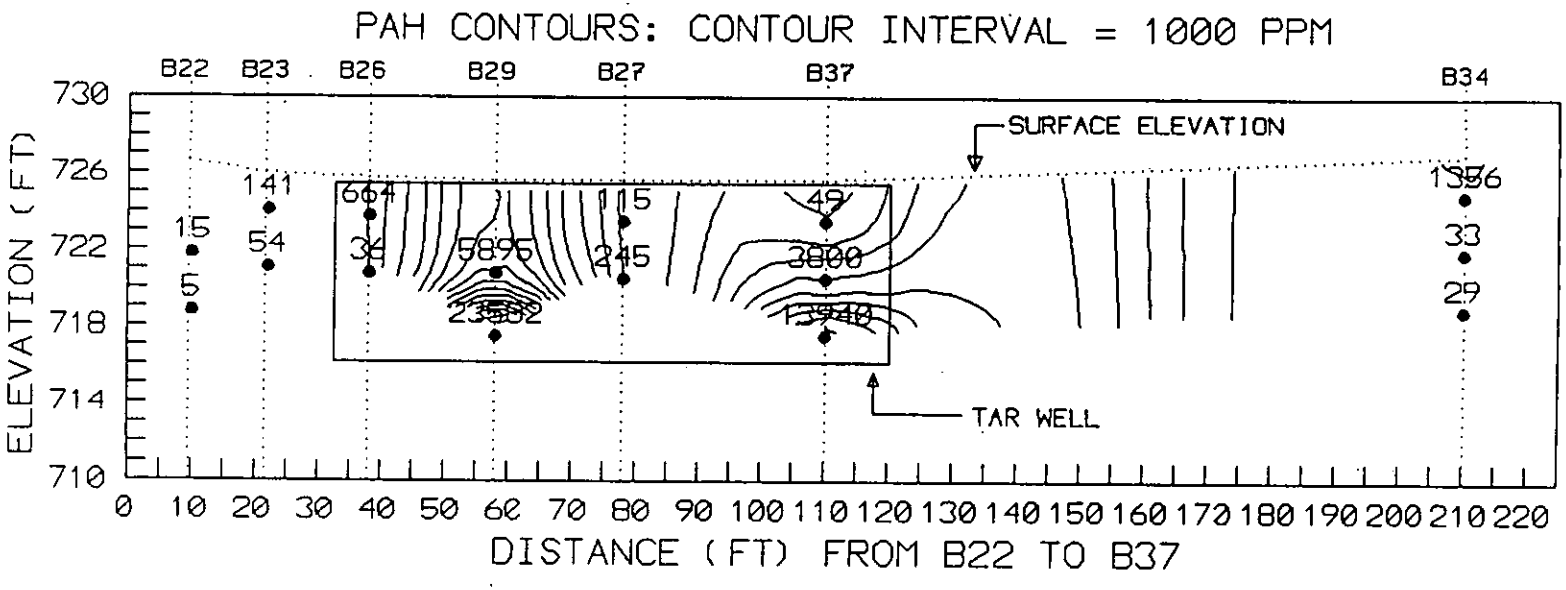
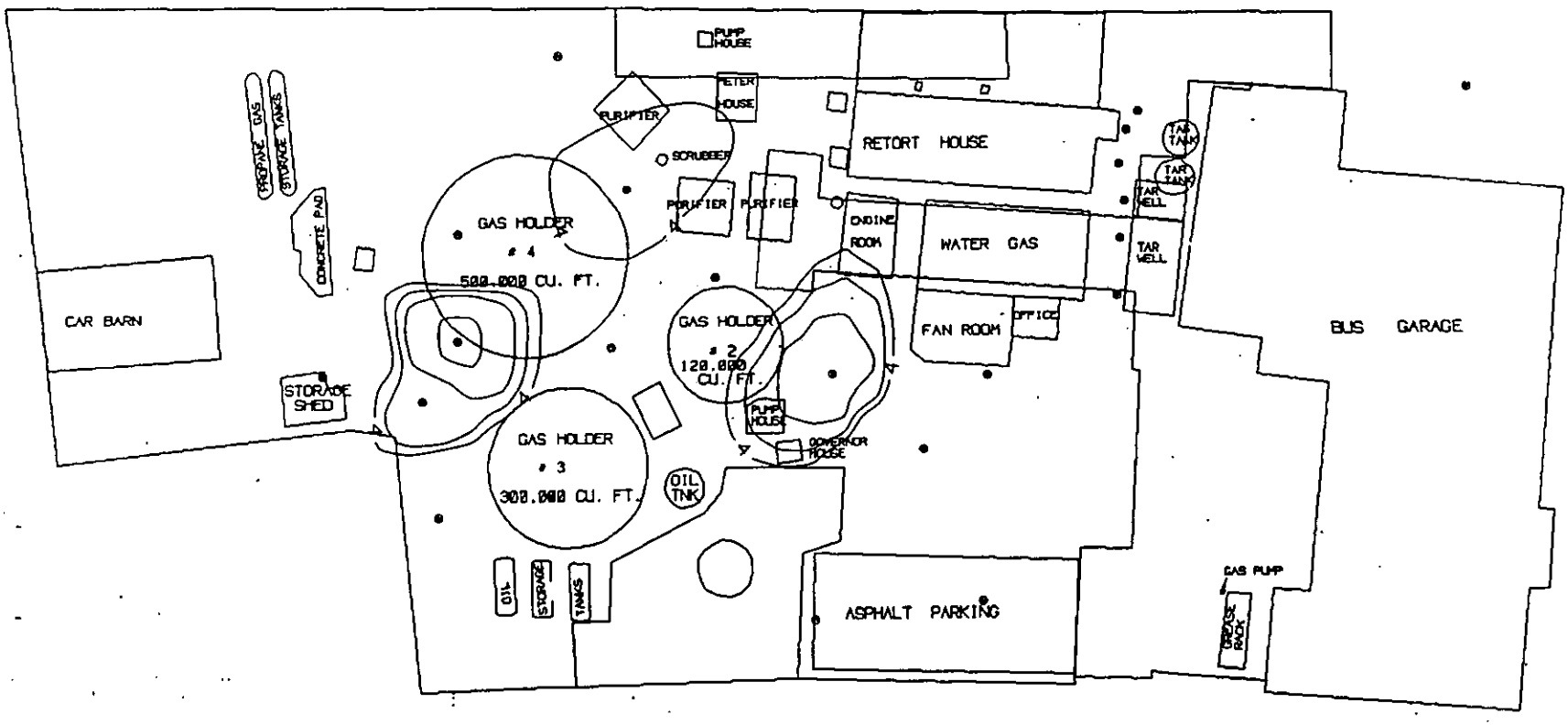

PAH CONTOURS: CONTOUR INTERVAL = 1000 PPM
B22
B23
B26
B29
B27
B37
B34
SURFACE ELEVATION
TAR WELL
ELEVATION (FT)
730
726
722
718
714
710
15
5
141
54
664
34
5895
23502
115
245
49
3800
13940
1356
33
29
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
DISTANCE (FT) FROM B22 TO B37

FIGURE 5



DUKE POWER CO.
SOUTH BLVD. MGP SITE

ln TOTAL CYANIDE CONTOURS
1991 SAMPLING

0 100 200

SCALE IN FEET

FIGURE 6

TABLES

SOIL GAS ASSESSMENT RESULTS

SOUTH BLVD. MGP SITE, CHARLOTTE N.C.

GRID POINT	ISO-PENTANE	BENZENE	TOLUENE	m&p XYLENE	o-XYLENE	TOTAL XYLENE	TOTAL TPH
H1	2.20	0.10	0.20	0.10	0.60	0.70	3.2
I1	2.40		0.01		0.03	0.03	2.4
K1	6.80	4.00	4.60	0.90	0.30	1.20	16.6
HB	2.00	0.09	0.30	0.10	0.03	0.13	2.5
HA	1.90	0.20	0.03	0.02	0.02	0.04	2.2
IB	2.30	0.01	0.10		0.03	0.03	2.4
IA	1.90	0.05	0.10	0.06	0.01	0.07	2.1
JB	1.00	0.06	0.02				1.1
H2	0.60	0.40	3.60	15.30	6.40	21.70	26.3
H4	0.79	0.03		0.02		0.02	0.8
H5	1.20	0.35	0.66	0.97	0.91	1.88	4.1
I1.5	1.90	0.02	0.25	0.08	0.05	0.13	2.3
I2	2.10	0.40	0.04	0.03	0.02	0.05	2.6
I4	0.67	0.06	0.15	0.45	0.22	0.67	1.6
I5	1.20	0.32	0.02		0.91	0.91	2.5
J2	0.44	0.11		0.02		0.02	0.6
J3	0.36	0.02		0.03		0.03	0.4
J4	0.69	0.01	0.02	0.06	0.07	0.13	0.9
J5	43.50	4.20	0.66	18.00	23.50	41.50	89.9
K2	0.38	0.02					0.4
K3	3.30	0.11	0.02	0.07	0.05	0.12	3.6
K3.5	1.60	2.90	0.10	0.11	0.30	0.41	5.0
K4	179.20	1.50	0.61	12.60	1.40	14.00	195.3
K4.1	1.50	0.07	0.18	0.46	0.42	0.88	2.6
K5	28.20	3.40	0.63	0.06	0.22	0.28	32.5
L1	1.20		0.01				1.2
L2	1.30	0.10	0.02	0.03	0.01	0.04	1.5
L3	0.79	0.11	0.01	0.14	0.03	0.17	1.1
L4	28.10	3.00	0.55	1.70	0.09	1.79	33.4
L5	1.60	0.44	1.50		0.93	0.93	4.5
J3.5	1.90	0.15	0.12	0.48	0.46	0.94	3.1
J4.5	2.20	0.06	0.26	0.24	0.08	0.32	2.8
2E1	1.50	0.02	0.12	0.26	0.10	0.36	2.0
2C1	2.30	0.02	0.22	1.60	0.73	2.33	4.9
2D1	0.72	0.05	0.21	0.01		0.01	1.0
2B1	0.80	0.13	0.05	0.09	0.03	0.12	1.1
2A1	0.72	0.02	0.06	0.39	0.17	0.56	1.4
2A2	56.00	2.50	2.90	7.00	3.00	10.00	71.4
2E2	45.70	0.54	0.60	0.20	0.04	0.24	47.1
2D2	2.50	0.02	0.11	0.08	0.02	0.10	2.7
2C2	9.10	0.01	0.09	0.05	0.02	0.07	9.3
2B3	14.10	1.10	5.10	6.80	1.20	8.00	28.3
2C3	9.10	0.69	3.70	2.20	2.00	4.20	17.7
2D3	1.20	0.02	0.13	0.09	0.01	0.10	1.5
2E3	1.90		0.09	0.11	0.03	0.14	2.1
3C1	17.50	1.80	1.90	0.76	0.18	0.94	22.1
3D1	6.30	0.02	0.07	0.07	0.01	0.08	6.5
3E1	6.70	0.10	0.18	0.19	0.05	0.24	7.2
3B1	2.20	0.58	0.13	0.16	0.02	0.18	3.1
3A1	1.10	0.04	0.10	0.04	0.01	0.05	1.3
3A2	45.30	8.90	0.78	0.81	1.40	2.21	57.2
3B2	4.80	0.30	0.05	0.40	0.20	0.60	5.8
3C2	13.90	5.70	10.70	71.50	3.70	75.20	105.5
3D2	1.50	0.20	0.10	0.20	0.07	0.27	2.1
3E2	35.10	0.11	0.24	0.23	0.12	0.35	35.8
3A3	20.00	0.30	0.50	0.70	0.20	0.90	21.7
3B3	4.30	0.70	1.50	0.80	0.20	1.00	7.5
3C3	2.40	0.02	0.03	0.03	0.05	0.08	2.5
3E3	24.50	2.80	8.40	57.80	1.80	59.60	95.3
3D3	1389.00	14.00	11.00	5.70	2.30	8.00	1422.0

Note: Instrument measurements are recorded in mVolts

TABLE 1.

LABORATORY ANALYSES

	METHOD	Duke Power Co. Environmental Services	CompuChem Laboratories, Inc.	SSM Laboratories
Metals*	EPA 3050 and 200 series	X		
Cyanide	EPA 9010		X	X
Ammonia	Note 1.	X		
Total Sulfur	Note 1.	X		
C, H, & N	Note 1.	X		
Oil & Grease	EPA 9071A	X		
VOC	EPA 8240		X	
PAH	EPA 8270	X	X	
TCLP	SW846 / EPA 8260 & 8270	X	X	
TOC	Note 1.		X	
BTU	Note 1.	X		

* Modified method 3050, using microwave heat source and no HCl; use nitric acid and hydrogen peroxide

Note 1: Procedures with reference to appropriate EPA, ASTM, etc. procedures

Duke Power Co.
Environmental Services

13339 Hagers Ferry Road,
Huntersville, N.C. 28078

CompuChem
Laboratories, Inc.

P.O. Box 12652 3308 Chapel Hill / Nelson Highway
Research Triangle Park, N.C. 27709

SSM
Laboratories

30 Noble Street / P.O. Box 6527
Reading, PA 19611-0527

TABLE 2.

TABLE 3

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B0102-891		B0103-891		B0202-891		B0203-891	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	16200	16.2	6300	6.3	7210	7.21	4970	4.97
(T) Barium	55000	55	64000	64	35000	35	149000	149
(T) Cadmium	21600	21.6	21000	21	23700	23.7	19900	19.9
(T) Chromium	56100	56.1	42000	42	58700	58.7	48700	48.7
(T) Iron	41077000	41077	40595000	40595	45944000	45944	36558000	36558
(T) Lead	183000	183	146000	146	165000	165	149000	149
(T) Arsenic	24800	24.8	17100	17.1	21800	21.8	20500	20.5
(T) Selenium	< 400	0.4	< 400	0.4	< 400	0.4	< 400	0.4
(T) Mercury	18	0.018	< 5	0.005	14	0.014	16	0.016
(L) Ammonia	2600	2.6	3000	3	3330	3.33	11000	11
(T) Oil & Grease	870000	870	1222000	1222	350000	350	44000	44
(A) Cyanide	DATA NOT AVAILABLE		DATA NOT AVAILABLE		DATA NOT AVAILABLE		DATA NOT AVAILABLE	
(B) Cyanide	DATA NOT AVAILABLE		DATA NOT AVAILABLE		DATA NOT AVAILABLE		DATA NOT AVAILABLE	
(T) Cyanide	1100	1.1	680	0.68	690	0.69	870	0.87
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.005	50	0	0	0.015	150	0.01	100
Nitrogen	0.03	300	0.05	500	0.04	400	0.55	5500
Hydrogen	1.05	10500	1.11	11100	1.12	11200	1.25	12500
Carbon	0.14	1400	0.1	1000	0.06	600	15.11	151100
Moisture	25		25		28		DATA NOT AVAILABLE	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B0302-991		B0303-991		B0304-991		B0401-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	5930	5.93	13830	13.83	17780	17.78	11850	11.85
(T) Barium	106660	106.66	189610	189.61	242940	242.94	136280	136.28
(T) Cadmium	13830	13.83	15800	15.8	21730	21.73	17780	17.78
(T) Chromium	21730	21.73	21730	21.73	19750	19.75	25680	25.68
(T) Iron	28639150	28639.2	29429190	29429.2	40094810	40094.8	42464940	42464.9
(T) Lead	158010	158.01	138260	138.26	158010	158.01	355520	355.52
(T) Arsenic	3160	3.16	1780	1.78	2390	2.39	12050	12.05
(T) Selenium	< 400	0.4	< 400	0.4	< 400	0.4	470	0.47
(T) Mercury	160	0.16	50	0.05	10	0.01	430	0.43
(L) Ammonia	26670	26.67	4670	4.67	2000	2	20670	20.67
(T) Oil & Grease	17173300	17173.3	3363000	3363	625000	625	12050600	12050.6
(A) Cyanide	1600	1.6	650	0.65	2000	2	4200	4.2
(B) Cyanide	1150000	1150	156000	156	1400	1.4	1975000	1975
(T) Cyanide	1152000	1152	157000	157	3400	3.4	1979000	1979
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	1.36	13600	0.121	1210	0	0	2.29	22900
Nitrogen	0.43	4300	0.07	700	0.03	300	0.56	5600
Hydrogen	1.21	12100	1.05	10500	0.91	9100	0.82	8200
Carbon	12.03	120300	2.14	21400	0	0	14.76	147600
Moisture	40		34		33		9	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B0402-991		B0501-991		B0502-991		B 504-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	3950	3.95	15800	15.8	15800	15.8	11800	11.8
(T) Barium	55300	55.3	223000	223	116000	116	113000	113
(T) Cadmium	7900	7.9	23700	23.7	21700	21.7	11800	11.8
(T) Chromium	27600	27.6	37500	37.5	55300	55.3	23700	23.7
(T) Iron	16670000	16670	49180000	49180	42860000	42860	24491000	24491
(T) Lead	98800	98.8	276000	276	217000	217	98800	98.8
(T) Arsenic	3850	3.85	7390	7.39	8690	8.69	3240	3.24
(T) Selenium	< 400	0.4	< 400	0.4	< 400	0.4	< 400	0.4
(T) Mercury	350	0.35	160	0.16	220	0.22	20	0.02
(L) Ammonia	14700	14.7	3000	3	1670	1.67	1670	1.67
(T) Oil & Grease	2927000	2927	11867000	11867	15601000	15601	769000	769
(A) Cyanide	11500	11.5	2200	2.2	< 250	0.25	< 250	0.25
(B) Cyanide	284000	284	87500	87.5	< 250	0.25	< 250	0.25
(T) Cyanide	296000	296	89700	89.7	< 250	0.25	< 250	0.25
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	2.87	28700	0.174	1740	0.29	2900	0	0
Nitrogen	0.56	5600	0.3	3000	0.19	1900	0.02	200
Hydrogen	0.84	8400	1.56	15600	1.18	11800	0.81	8100
Carbon	16.42	164200	20	200000	9.49	94900	0	0
Moisture	9		15		22		29	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B0601-991		B0602-991		B0701-991		B0702-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	13800	13.8	13800	13.8	12100	12.1	14200	14.2
(T) Barium	128000	128	114000	114	115000	115	119000	119
(T) Cadmium	19800	19.8	19800	19.8	18200	18.2	24300	24.3
(T) Chromium	69100	69.1	71100	71.1	56600	56.6	52600	52.6
(T) Iron	38712000	38712	37725000	37725	32565000	32565	46723000	46723
(T) Lead	276000	276	237000	237	344000	344	344000	344
(T) Arsenic	10200	10.2	10400	10.4	12900	12.9	22000	22
(T) Selenium	< 400	0.4	< 400	0.4	2020	2.02	2020	2.02
(T) Mercury	240	0.24	140	0.14	250	0.25	120	0.12
(L) Ammonia	2670	2.67	2000	2	85600	85.6	126000	126
(T) Oil & Grease	3308000	3308	3108000	3108	3505000	3505	3248000	3248
(A) Cyanide	2900	2.9	1250	1.25	2750	2.75	2650	2.65
(B) Cyanide	6850	6.85	8750	8.75	51600	51.6	122000	122
(T) Cyanide	9750	9.75	10000	10	54400	54.4	125000	125
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.003	30	0.009	90	0.264	2640	0.279	2790
Nitrogen	0.13	1300	0.14	1400	0.26	2600	0.28	2800
Hydrogen	0.9	9000	0.92	9200	0.98	9800	1.03	10300
Carbon	5.8	58000	6.76	67600	10.1	101000	11.5	115000
Moisture	23		18		21		23	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B0801-991		B0802-991		B0804-991		B1001-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	12100	12.1	12100	12.1	18200	18.2	10100	10.1
(T) Barium	119000	119	62700	62.7	190000	190	32400	32.4
(T) Cadmium	20200	20.2	20200	20.2	28300	28.3	20200	20.2
(T) Chromium	64700	64.7	50600	50.6	113000	113	66800	66.8
(T) Iron	34992000	34992	34992000	34992	48948000	48948	34183000	34183
(T) Lead	263000	263	222000	222	303000	303	222000	222
(T) Arsenic	24700	24.7	20100	20.1	50000	50	36000	36
(T) Selenium	< 2020	2.02	< 2020	2.02	< 2020	2.02	< 2020	2.02
(T) Mercury	150	0.15	120	0.12	10	0.01	30	0.03
(L) Ammonia	35700	35.7	82300	82.3	4740	4.74	2700	2.7
(T) Oil & Grease	1599000	1599	2189000	2189	1053000	1053	1212000	1212
(A) Cyanide	150	0.15	300	0.3	< 250	0.25	< 250	0.25
(B) Cyanide	64000	64	8050	8.05	< 250	0.25	< 250	0.25
(T) Cyanide	64200	64.2	8350	8.35	< 250	0.25	< 250	0.25
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.422	4220	0.261	2610	0.001	10	0.008	80
Nitrogen	0.1	1000	0.08	800	0.01	100	0.01	100
Hydrogen	0.92	9200	0.9	9000	1.25	12500	0.89	8900
Carbon	3.29	32900	1.92	19200	0.04	400	0.07	700
Moisture	25		28		35		19	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B1004-991		B1007-991		B1102-991		B1103-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	28300	28.3	22200	22.2	20200	20.2	22200	22.2
(T) Barium	253000	253	148000	148	131000	131	146000	146
(T) Cadmium	26300	26.3	20200	20.2	22200	22.2	24300	24.3
(T) Chromium	72800	72.8	36400	36.4	40400	40.4	52600	52.6
(T) Iron	46521000	46521	35599000	35599	43285000	43285	43285000	43285
(T) Lead	202000	202	182000	182	182000	182	222000	222
(T) Arsenic	18800	18.8	17800	17.8	14200	14.2	31200	31.2
(T) Selenium	< 2020	2.02	< 2020	2.02	< 2020	2.02	< 2020	2.02
(T) Mercury	10	0.01	10	0.01	10	0.01	10	0.01
(L) Ammonia	1500	1.5	1.5	1.5	1500	1.5	1500	1.5
(T) Oil & Grease	6728000	6728	2331000	2331	3916000	3916	963000	963
(A) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 250	0.25
(B) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 250	0.25
(T) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 250	0.25
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.002	20	0.003	30	7E-05	0.7	0.003	30
Nitrogen	0	0	0	0	0	0	0	0
Hydrogen	0.83	8300	0.59	5900	0.96	9600	0.67	6700
Carbon	0.3	3000	0.14	1400	0.22	2200	0.04	400
Moisture	21		17		26		20	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B1104-991		B1201-991		B1202-991		B1204-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	22200	22.2	12900	12.9	14700	14.7	14700	14.7
(T) Barium	146000	146	88300	88.3	110000	110	127000	127
(T) Cadmium	24300	24.3	20200	20.2	22100	22.1	22100	22.1
(T) Chromium	52600	52.6	33100	33.1	27600	27.6	20200	20.2
(T) Iron	43284000	43284	40831000	40831	46533000	46533	40279000	40279
(T) Lead	222000	222	202000	202	3237000	3237	239000	239
(T) Arsenic	31200	31.2	6310	6.31	18900	18.9	10400	10.4
(T) Selenium	< 2020	2.02	< 3680	3.68	< 3680	3.68	< 3680	3.68
(T) Mercury	10	0.01	150	0.15	190	0.19	20	0.02
(L) Ammonia	1500	1.5	23400	23.4	13500	13.5	< 1500	1.5
(T) Oil & Grease	59474000	59474	1763000	1763	7943000	7943	8686000	8686
(A) Cyanide	< 250	0.25	300	0.3	500	0.5	< 250	0.25
(B) Cyanide	< 250	0.25	73000	73	3600	3.6	< 250	0.25
(T) Cyanide	< 250	0.25	73300	73.3	5450	5.45	< 250	0.25
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.0006	6	0.132	1320	0.341	3410	0.008	80
Nitrogen	0	0	0.17	1700	0.11	1100	0.02	200
Hydrogen	0.71	7100	1.07	10700	0.94	9400	1.08	10800
Carbon	0.03	300	8.5	85000	6.58	65800	0.42	4200
Moisture	21		21		26		26	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B1301-991		B1301A-991		B1304-991		B1701-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	11000	11	22100	22.1	14700	14.7	9360	9.36
(T) Barium	114000	114	144000	144	195000	195	168000	168
(T) Cadmium	18400	18.4	33100	33.1	20200	20.2	20600	20.6
(T) Chromium	80900	80.9	29400	29.4	16600	16.6	58000	58
(T) Iron	36417000	36417	75041000	75041	36601000	36601	32203000	32203
(T) Lead	313000	313	1563000	1563	166000	166	374000	374
(T) Arsenic	6570	6.57	51700	51.7	6050	6.05	11300	11.3
(T) Selenium	< 3680	3.68	< 3680	3.68	< 3680	3.68	< 1870	1.87
(T) Mercury	210	0.21	450	0.45	10	0.01	> 3000	3
(L) Ammonia	38100	38.1	32700	32.7	2400	2.4	6310	6.31
(T) Oil & Grease	15153000	15153	28257000	28257	546000	546	4110000	4110
(A) Cyanide	200	0.2	300	0.3	< 250	0.25	450	0.45
(B) Cyanide	41000	41	26500	26.5	< 250	0.25	1880	1.88
(T) Cyanide	41200	41.2	26800	26.8	< 250	0.25	2330	2.33
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.203	2030	2.09	20900	0.003	30	0.01	100
Nitrogen	0.17	1700	0.24	2400	0.02	200	0.1	1000
Hydrogen	1.39	13900	0.88	8800	1.06	10600	0.93	9300
Carbon	11.22	112200	17.9	179000	0.43	4300	3.39	33900
Moisture	25		32		27		24	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B1901-991		B1902-991		B1904-991		B2001-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	13100	13.1	20600	20.6	9360	9.36	7490	7.49
(T) Barium	142000	142	116000	116	67400	67.4	84200	84.2
(T) Cadmium	22500	22.5	30000	30	13100	13.1	13100	13.1
(T) Chromium	22500	22.5	30000	30	20600	20.6	52400	52.4
(T) Iron	61412000	61412	87998000	87998	31829000	31829	28459000	28459
(T) Lead	337000	337	412000	412	112000	112	168000	168
(T) Arsenic	15900	15.9	19800	19.8	4920	4.92	7100	7.1
(T) Selenium	< 1870	1.87	< 1870	1.87	< 1870	1.87	< 1870	1.87
(T) Mercury	30	0.03	350	0.35	30	0.03	200	0.2
(L) Ammonia	66400	66.4	97000	97	3000	3	2400	2.4
(T) Oil & Grease	6773000	6773	12270000	12270	765000	765	1702000	1702
(A) Cyanide	700	0.7	1100	1.1	300	0.3	250	0.25
(B) Cyanide	12400	12.4	17400	17.4	41	0.041	980	0.98
(T) Cyanide	13100	13.1	18500	18.5	341	0.341	1230	1.23
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	1.36	13600	1.48	14800	0.001	10	0.109	1090
Nitrogen	0.45	4500	0.52	5200	0.07	700	0.18	1800
Hydrogen	0.65	6500	0.94	9400	1.03	10300	0.74	7400
Carbon	25.77	257700	25.48	254800	0.1	1000	6.2	62000
Moisture	19		17		28		14	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B2003-991		B2005-991		B2101-991		B2103-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	11000	11	11200	11.2	13100	13.1	11200	11.2
(T) Barium	124000	124	61800	61.8	142000	142	61800	61.8
(T) Cadmium	15000	15	20600	20.6	16800	16.8	15000	15
(T) Chromium	30000	30	56200	56.2	31800	31.8	28100	28.1
(T) Iron	29769000	29769	48306000	48306	32204000	32204	29957000	29957
(T) Lead	168000	168	187000	187	187000	187	131000	131
(T) Arsenic	7600	7.6	11700	11.7	12700	12.7	8000	8
(T) Selenium	< 1870	1.87	< 1870	1.87	< 1870	1.87	< 1870	1.87
(T) Mercury	110	0.11	20	0.02	40	0.04	80	0.08
(L) Ammonia	< 1500	1.5	155000	155	3900	3.9	57100	57.1
(T) Oil & Grease	878000	878	1565000	1565	30360000	30360	4921000	4921
(A) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 250	0.25
(B) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 250	0.25
(T) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 250	0.25
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.004	40	0.002	20	0.166	1660	0.002	20
Nitrogen	0.23	2300	0.1	1000	0.15	1500	0.04	400
Hydrogen	0.96	9600	0.9	9000	1.32	13200	1.19	11900
Carbon	1.9	19000	0.18	1800	9.15	91500	0.36	3600
Moisture	32		30		36		32	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B2105-991		B2202-991		B2203-991		B2301-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	11200	11.2	3740	3.74	13100	13.1	11700	11.7
(T) Barium	131000	131	67400	67.4	210000	210	119000	119
(T) Cadmium	16800	16.8	5620	5.62	15000	15	13700	13.7
(T) Chromium	24300	24.3	33700	33.7	26200	26.2	48800	48.8
(T) Iron	33702000	33702	10841000	10841	30519000	30519	28694000	28694
(T) Lead	206000	206	74900	74.9	150000	150	215000	215
(T) Arsenic	16000	16	2750	2.75	9380	9.38	5860	5.86
(T) Selenium	< 1870	1.87	< 1870	1.87	< 1870	1.87	7810	7.81
(T) Mercury	50	0.05	10	0.01	40	0.04	160	0.16
(L) Ammonia	15900	15.9	1800	1.8	10200	10.2	36600	36.6
(T) Oil & Grease	5200000	5200	9100000	9100	17500000	17500	575000	575
(A) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 250	0.25
(B) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 250	0.25
(T) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 250	0.25
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.004	40	0.059	590	0	0	0.082	820
Nitrogen	0.08	800	0.14	1400	0.04	400	0.1	1000
Hydrogen	1.21	12100	1.17	11700	1.08	10800	0.92	9200
Carbon	0.72	7200	6.02	60200	0.02	200	4.36	43600
Moisture	29		22		34		21	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B2302-991		B2401-991		B2402-991		B2403-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	11700	11.7	15600	15.6	15600	15.6	21500	21.5
(T) Barium	135000	135	125000	125	78100	78.1	109000	109
(T) Cadmium	11700	11.7	15600	15.6	15600	15.6	23400	23.4
(T) Chromium	72200	72.2	21500	21.5	85900	85.9	37100	37.1
(T) Iron	17876000	17876	33184000	33184	30646000	30646	45091000	45091
(T) Lead	215000	215	215000	215	176000	176	254000	254
(T) Arsenic	6150	6.15	4100	4.1	4430	4.43	9210	9.21
(T) Selenium	< 7810	7.81	< 7810	7.81	< 7810	7.81	< 7810	7.81
(T) Mercury	60	0.06	60	0.06	50	0.05	50	0.05
(L) Ammonia	43500	43.5	3300	3.3	1500	1.5	1500	1.5
(T) Oil & Grease	540000	540	40300	40.3	28700	28.7	29900	29.9
(A) Cyanide	500	0.5	< 250	0.25	550	0.55	< 250	0.25
(B) Cyanide	1330	1.33	< 250	0.25	< 250	0.25	< 250	0.25
(T) Cyanide	1830	1.83	< 250	0.25	550	0.55	< 250	0.25
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.005	50	< 0.005	50	< 0.005	50	< 0.005	50
Nitrogen	0.07	700	0.05	500	0.05	500	0.03	300
Hydrogen	1.02	10200	0.94	9400	0.71	7100	1.07	10700
Carbon	2.38	23800	1.19	11900	0.83	8300	0.37	3700
Moisture	18		17		16		27	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B2404-991		B2405-991		B2501-991		B2504-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	23400	23.4	31200	31.2	15600	15.6	27300	27.3
(T) Barium	205000	205	213000	213	119000	119	269000	269
(T) Cadmium	21500	21.5	33200	33.2	15600	15.6	25400	25.4
(T) Chromium	109000	109	168000	168	44900	44.9	85900	85.9
(T) Iron	40016000	40016	72028000	72028	25766000	25766	46457000	46457
(T) Lead	215000	215	273000	273	371000	371	254000	254
(T) Arsenic	6340	6.34	10500	10.5	11800	11.8	17600	17.6
(T) Selenium	< 7810	7.81	< 7810	7.81	< 7810	7.81	< 7810	7.81
(T) Mercury	10	0.01	10	0.01	190	0.19	10	0.01
(L) Ammonia	< 1500	1.5	< 1500	1.5	21600	21.6	11100	11.1
(T) Oil & Grease	527000	527	498000	498	3091000	3091	1389000	1389
(A) Cyanide	< 250	0.25	< 250	0.25	600	0.6	< 250	0.25
(B) Cyanide	< 250	0.25	390	0.39	< 250	0.25	420	0.42
(T) Cyanide	< 250	0.25	390	0.39	680	0.68	420	0.42
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	< 0.005	50	< 0.005	50	0.042	420	< 0.005	50
Nitrogen	0.02	200	0.02	200	0.15	1500	0.29	2900
Hydrogen	1.2	12000	1.04	10400	0.99	9900	0.96	9600
Carbon	0.05	500	0	0	7.17	71700	0.2	2000
Moisture	21		19		20		32	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B2601-991		B2602-991		B2701-991		B2702-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	15600	15.6	15600	15.6	8750	8.75	65600	65.6
(T) Barium	107000	107	111000	111	118000	118	116000	116
(T) Cadmium	17600	17.6	15600	15.6	19700	19.7	15300	15.3
(T) Chromium	48800	48.8	58600	58.6	83100	83.1	54700	54.7
(T) Iron	29865000	29865	30060000	30060	37183000	37183	38058000	38058
(T) Lead	371000	371	5524000	5524	350000	350	219000	219
(T) Arsenic	18800	18.8	9550	9.55	6780	6.78	6650	6.65
(T) Selenium	< 7810	7.81	< 7810	7.81	< 2190	2.19	< 2190	2.19
(T) Mercury	170	0.17	90	0.09	120	0.12	210	0.21
(L) Ammonia	28200	28.2	17100	17.1	6310	6.31	3600	3.6
(T) Oil & Grease	5837000	5837	1462000	1462	2174000	2174	2762000	2762
(A) Cyanide	1200	1.2	< 250	0.25	300	0.3	600	0.6
(B) Cyanide	< 250	0.25	320	0.32	250	0.25	360	0.36
(T) Cyanide	1200	1.2	320	0.32	550	0.55	960	0.96
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.039	390	< 0.005	50	0.018	180	0.015	150
Nitrogen	0.26	2600	0.09	900	0.09	900	0.09	900
Hydrogen	1.28	12800	0.92	9200	1.03	10300	0.79	7900
Carbon	14.32	143200	2.43	24300	3.53	35300	4.53	45300
Moisture	22		20		22		24	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B2802-991		B2803-991		B2902-991		B2903-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	10900	10.9	15300	15.3	4370	4.37	4370	4.37
(T) Barium	238000	238	308000	308	122000	122	91900	91.9
(T) Cadmium	21900	21.9	24100	24.1	15300	15.3	4370	4.37
(T) Chromium	48100	48.1	72200	72.2	37200	37.2	17500	17.5
(T) Iron	47025000	47025	57305000	57305	44182000	44182	15289000	15289
(T) Lead	219000	219	240000	240	306000	306	131000	131
(T) Arsenic	11600	11.6	12300	12.3	7680	7.68	9470	9.47
(T) Selenium	< 2190	2.19	< 2190	2.19	< 2190	2.19	< 2190	2.19
(T) Mercury	20	0.02	10	0.01	200	0.2	100	0.1
(L) Ammonia	< 1500	1.5	< 1500	1.5	12900	12.9	66700	66.7
(T) Oil & Grease	646000	646	663000	663	48115000	48115	274644000	274644
(A) Cyanide	< 250	0.25	< 250	0.25	2750	2.75	800	0.8
(B) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	14700	14.7
(T) Cyanide	< 250	0.25	< 250	0.25	2750	2.75	15500	15.5
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	< 0.005	50	0.005	50	0.057	570	0.248	2480
Nitrogen	0.02	200	0.03	300	0.23	2300	0.94	9400
Hydrogen	1.09	10900	1.28	12800	1.05	10500	2.81	28100
Carbon	0.14	1400	0.32	3200	14.22	142200	64.73	647300
Moisture	27		34		26		22	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B3001-1091		B3002-1091		B3101-1091		B3201-1091	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	14200	14.2	18300	18.3	10200	10.2	12200	12.2
(T) Barium	48800	48.8	87500	87.5	175000	175	85400	85.4
(T) Cadmium	26400	26.4	22400	22.4	14200	14.2	16300	16.3
(T) Chromium	132000	132	128000	128	99700	99.7	40700	40.7
(T) Iron	56358000	56358	52696000	52696	37030000	37030	41099000	41099
(T) Lead	203000	203	203000	203	590000	590	102000	102
(T) Arsenic	6100	6.1	5210	5.21	2500	2.5	< 2030	2.03
(T) Selenium	< 410	0.41	< 410	0.41	610	0.61	< 410	0.41
(T) Mercury	60	0.06	20	0.02	180	0.18	20	0.02
(L) Ammonia	< 1500	1.5	< 1500	1.5	59200	59.2	< 1500	1.5
(T) Oil & Grease	227000	227	408000	408	42527000	42527	1276000	1276
(A) Cyanide	< 250	0.25	< 250	0.25	750	0.75	< 250	0.25
(B) Cyanide	< 250	0.25	< 250	0.25	500000	500	< 250	0.25
(T) Cyanide	< 250	0.25	680	0.68	501000	501	< 250	0.25
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0	0	0	0	1.93	19300	0.009	90
Nitrogen	0.04	400	0.02	200	0.38	3800	0.04	400
Hydrogen	1.29	12900	1.44	14400	1.06	10600	0.95	9500
Carbon	0.27	2700	0.13	1300	17.33	173300	0.64	6400
Moisture	26		27		22		18	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B3204-1091		B3301-1091		B3303-1091		B33044-1091	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	20400	20.4	8140	8.14	12200	12.2	163600	16.3
(T) Barium	193000	193	89500	89.5	97700	97.7	1220000	122
(T) Cadmium	18300	18.3	10200	10.2	14200	14.2	163600	16.3
(T) Chromium	52900	52.9	36600	36.6	104000	104	1440000	144
(T) Iron	41099000	41099	23805000	23805	29908000	29908	321460000	32146
(T) Lead	163000	163	122000	122	142000	142	1830000	183
(T) Arsenic	2500	2.5	< 2030	2.03	< 2030	2.03	42990	4.29
(T) Selenium	< 410	0.41	< 410	0.41	< 410	0.41	< 4110	0.41
(T) Mercury	< 20	0.02	80	0.08	< 20	0.02	< 220	0.02
(L) Ammonia	< 1500	1.5	12000	12	< 1500	1.5	24000	2.4
(T) Oil & Grease	1054000	1054	4407000	4407	2308000	2308	16280000	1628
(A) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 2550	0.25
(B) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 2550	0.25
(T) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 2550	0.25
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.002	20	0.055	550	0	0	0	0
Nitrogen	0.01	100	0.06	600	0	0	0.033	300
Hydrogen	0.96	9600	0.79	7900	1.15	11500	1.055	10500
Carbon	0.25	2500	1.41	14100	0.32	3200	0.22	2000
Moisture	27		17		28		21	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B3401-1091		B3403-1091		B3404-1091		B3501-1091	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	12900	12.9	5550	5.55	5550	5.55	18500	18.5
(T) Barium	146000	146	113000	113	99800	99.8	109000	109
(T) Cadmium	25900	25.9	11100	11.1	11100	11.1	24000	24
(T) Chromium	81400	81.4	27700	27.7	20300	20.3	290000	290
(T) Iron	43446000	43446	22740000	22740	22185000	22185	52505000	52505
(T) Lead	259000	259	129000	129	129000	129	222000	222
(T) Arsenic	16500	16.5	6100	6.1	6380	6.38	12700	12.7
(T) Selenium	< 370	0.37	< 370	0.37	< 370	0.37	< 370	0.37
(T) Mercury	50	0.05	< 20	0.02	< 20	0.02	< 20	0.02
(L) Ammonia	4800	4.8	< 1500	1.5	< 1500	1.5	< 1500	1.5
(T) Oil & Grease	4699000	4699	2022000	2022	589000	589	1819000	1819
(A) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 250	0.25
(B) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 250	0.25
(T) Cyanide	< 250	0.25	1390	1.39	< 250	0.25	< 250	0.25
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.16	1600	0	0	0	0	0	0
Nitrogen	0.14	1400	0.04	400	0.06	600	0.06	600
Hydrogen	1.13	11300	0.88	8800	0.48	4800	1.32	13200
Carbon	5.8	58000	0.27	2700	0.04	400	0.3	3000
Moisture	24		25		26		26	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B3502-1091		B3601-1091		B3602-1091		B3604-1091	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	14800	14.8	5550	5.55	16600	16.6	12900	12.9
(T) Barium	153000	153	86900	86.9	66600	66.6	198000	198
(T) Cadmium	20300	20.3	12900	12.9	22200	22.2	14800	14.8
(T) Chromium	331000	331	42500	42.5	48100	48.1	20300	20.3
(T) Iron	44370000	44370	24589000	24589	56572000	56572	28471000	28471
(T) Lead	203000	203	499000	499	185000	185	185000	185
(T) Arsenic	9390	9.39	5010	5.01	7190	7.19	12100	12.1
(T) Selenium	< 370	0.37	410	0.41	< 370	0.37	< 370	0.37
(T) Mercury	< 20	0.02	970	0.97	30	0.03	< 20	0.02
(L) Ammonia	1800	1.8	41100	41.1	11700	11.7	< 1500	1.5
(T) Oil & Grease	1625000	1625	32715000	32715	947000	947	1383000	1383
(A) Cyanide	< 250	0.25	< 250	0.25	< 250	0.25	< 250	0.25
(B) Cyanide	< 250	0.25	2450	2.45	< 250	0.25	< 250	0.25
(T) Cyanide	< 250	0.25	2450	2.45	< 250	0.25	< 250	0.25
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0	0	0.0824	824	0	0	0.002	20
Nitrogen	0.06	600	0.22	2200	0.08	800	0.06	600
Hydrogen	1.08	10800	0.74	7400	0.95	9500	0.88	8800
Carbon	0.21	2100	12.86	128600	0.33	3300	0.17	1700
Moisture	24		24		25		27	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 3 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA		INORGANIC ANALYSES				
SAMPLE LOCATION	B3701-1091		B3702-1091		B3703-1091	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	7670	7.67	5750	5.75	3840	3.84
(T) Barium	92000	92	99700	99.7	109000	109
(T) Cadmium	11500	11.5	9590	9.59	7670	7.67
(T) Chromium	44100	44.1	38400	38.4	24900	24.9
(T) Iron	24353000	24353	21860000	21860	16683000	16683
(T) Lead	173000	173	249000	249	345000	345
(T) Arsenic	1920	1.92	4050	4.05	4910	4.91
(T) Selenium	< 380	0.38	400	0.4	580	0.58
(T) Mercury	120	0.12	300	0.3	970	0.97
(L) Ammonia	2400	2.4	8410	8.41	20100	20.1
(T) Oil & Grease	1603000	1603	41002000	41002	1025000	1025
(A) Cyanide	< 250	0.25	< 250	0.25	300	0.3
(B) Cyanide	< 250	0.25	3600	3.6	11600	11.6
(T) Cyanide	< 250	0.25	3600	3.6	11900	11.9
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0.0018	18	0.0338	338	0.283	2830
Nitrogen	0.09	900	0.28	2800	0.36	3600
Hydrogen	0.94	9400	1.21	12100	1.47	14700
Carbon	2.67	26700	17.4	174000	26.18	261800
Moisture	21		25		29	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 4

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B0102-891		B0103-891		B0202-891		B0203-891	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Acenaphthylene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Anthracene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Benzo(a) anthracene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Benzo(b) fluoranthene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Benzo(k) fluoranthene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Benzo(a)pyrene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Benzo(ghi) perylene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Chrysene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Dibenzo(ah) anthracene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Fluoranthene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Fluorene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Indeno(1,2,3,-cd) pyrene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Naphthalene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Phenanthrene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
Pyrene	< 660	0.66	< 670	0.67	< 670	0.67	< 660	0.66
TOTAL PAH	10560	10.56	10720	10.72	10720	10.72	10560	10.56
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 7	0.007	< 7	0.007	< 7	0.007	DATA NOT AVAILABLE	
Ethyl Benzene	< 7	0.007	< 7	0.007	< 7	0.007	DATA NOT AVAILABLE	
Toluene	< 7	0.007	< 7	0.007	< 7	0.007	DATA NOT AVAILABLE	
Total Xylene	< 7	0.007	< 7	0.007	< 7	0.007	DATA NOT AVAILABLE	
TOTAL VOC	28	0.028	28	0.028	28	0.028	DATA NOT AVAILABLE	

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B0302-991		B0303-991		B0304-991		B0401-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	4200	4.2	1600	1.6	< 670	0.67	< 2000	2
Acenaphthylene	7000	7	3000	3	< 670	0.67	4700	4.7
Anthracene	11000	11	7500	7.5	< 670	0.67	5400	5.4
Benzo(a) anthracene	26000	26	12000	12	< 670	0.67	20000	20
Benzo(b) fluoranthene	25000	25	> 16000	16	< 670	0.67	> 32000	32
Benzo(k) fluoranthene	10000	10	4200	4.2	< 670	0.67	7400	7.4
Benzo(a)pyrene	19000	19	8100	8.1	< 670	0.67	13000	13
Benzo(ghi) perylene	14000	14	7200	7.2	< 670	0.67	15000	15
Chrysene	23000	23	9100	9.1	< 670	0.67	20000	20
Dibenzo(ah) anthracene	< 2500	2.5	1800	1.8	< 670	0.67	4800	4.8
Fluoranthene	27000	27	14000	14	< 670	0.67	15000	15
Fluorene	9800	9.8	6500	6.5	< 670	0.67	2500	2.5
Indeno(1,2,3,-cd) pyrene	12000	12	6100	6.1	< 670	0.67	14000	14
Naphthalene	2700	2.7	970	0.97	< 670	0.67	8700	8.7
Phenanthrene	18000	18	15000	15	< 670	0.67	19000	19
Pyrene	36000	36	13000	13	< 670	0.67	19000	19
TOTAL PAH	247200	247.2	126070	126.07	10720	10.72	202500	202.5
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	4	0.004	< 8	0.008	< 7	0.007	< 5	0.005
Ethyl Benzene	17	0.017	7	0.007	< 7	0.007	9	0.009
Toluene	3	0.003	< 8	0.008	< 7	0.007	4	0.004
Total Xylene	11	0.011	3	0.003	< 7	0.007	59	0.059
TOTAL VOC	35	0.035	26	0.026	28	0.028	77	0.077

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B0402-991		B0501-991		B0502-991		B0504-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 3300	3.3	< 5000	5	< 1900	1.9	< 660	0.66
Acenaphthylene	< 3300	3.3	12000	12	4000	4	870	0.87
Anthracene	< 3300	3.3	13000	13	4400	4.4	1000	1
Benzo(a) anthracene	4200	4.2	39000	39	17000	17	2200	2.2
Benzo(b) fluoranthene	4800	4.8	61000	61	23000	23	2900	2.9
Benzo(k) fluoranthene	< 3300	3.3	24000	24	9600	9.6	1200	1.2
Benzo(a)pyrene	< 3300	3.3	> 79000	79	20000	20	2300	2.3
Benzo(ghi) perylene	< 3300	3.3	40000	40	18000	18	2100	2.1
Chrysene	4900	4.9	35000	35	15000	15	2100	2.1
Dibenzo(ah) anthracene	< 3300	3.3	8100	8.1	3600	3.6	< 660	0.66
Fluoranthene	6300	6.3	49000	49	17000	17	4200	4.2
Fluorene	< 3300	3.3	7400	7.4	< 1900	1.9	< 660	0.66
Indeno(1,2,3,-cd) pyrene	< 3300	3.3	35000	35	2600	2.6	1800	1.8
Naphthalene	< 3300	3.3	9800	9.8	2600	2.6	860	0.86
Phenanthrene	6200	6.2	37000	37	11000	11	3700	3.7
Pyrene	8700	8.7	50000	50	21000	21	3700	3.7
TOTAL PAH	68100	68.1	504300	504.3	172600	172.6	30910	30.91
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 5	0.005	< 6	0.006	< 6	0.006	< 7	0.007
Ethyl Benzene	< 5	0.005	< 6	0.006	< 6	0.006	< 7	0.007
Toluene	< 5	0.005	< 6	0.006	< 6	0.006	< 7	0.007
Total Xylene	1	0.001	< 6	0.006	< 6	0.006	< 7	0.007
TOTAL VOC	16	0.016	24	0.024	24	0.024	28	0.028

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B0601-991		B0602-991		B0701-991		B0702-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	940	0.94	2000	2	< 3300	3.3	< 2000	2
Acenaphthylene	1600	1.6	3400	3.4	10200	10.2	4000	4
Anthracene	1800	1.8	3500	3.5	12800	12.8	7300	7.3
Benzo(a) anthracene	2400	2.4	5300	5.3	18200	18.2	13000	13
Benzo(b) fluoranthene	2500	2.5	5800	5.8	18400	18.4	14000	14
Benzo(k) fluoranthene	970	0.97	2400	2.4	6800	6.8	3800	3.8
Benzo(a)pyrene	1200	1.2	10000	10	30000	30	9000	9
Benzo(ghi) perylene	1400	1.4	3500	3.5	9400	9.4	9800	9.8
Chrysene	2200	2.2	5000	5	16200	16.2	> 32000	32
Dibenzo(ah) anthracene	350	0.35	820	0.82	< 3300	3.3	2200	2.2
Fluoranthene	3300	3.3	6300	6.3	28000	28	13000	13
Fluorene	< 330	0.33	4600	4.6	12600	12.6	5400	5.4
Indeno(1,2,3,-cd) pyrene	1200	1.2	3000	3	8200	8.2	8000	8
Naphthalene	2400	2.4	5100	5.1	5400	5.4	3300	3.3
Phenanthrene	5200	5.2	10000	10	36000	36	16000	16
Pyrene	3600	3.6	7500	7.5	28000	28	15000	15
TOTAL PAH	31390	31.39	78220	78.22	246800	246.8	157800	157.8
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 6	0.006	< 6	0.006	4	0.004	19	0.019
Ethyl Benzene	2	0.002	2	0.002	7	0.007	21	0.021
Toluene	< 6	0.006	< 6	0.006	3	0.003	10	0.01
Total Xylene	7	0.007	12	0.012	18	0.018	19	0.019
TOTAL VOC	21	0.021	26	0.026	32	0.032	69	0.069

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B0801-991		B0802-991		B0804-991		B1001-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 660	0.66	2200	2.2	< 670	0.67	< 670	0.67
Acenaphthylene	< 660	0.66	< 2000	2	< 670	0.67	< 670	0.67
Anthracene	< 660	0.66	2500	2.5	< 670	0.67	< 670	0.67
Benzo(a) anthracene	1600	1.6	4400	4.4	< 670	0.67	3400	3.4
Benzo(b) fluoranthene	2500	2.5	< 2000	2	< 670	0.67	< 670	0.67
Benzo(k) fluoranthene	1200	1.2	< 2000	2	< 670	0.67	< 670	0.67
Benzo(a)pyrene	1300	1.3	4100	4.1	< 670	0.67	< 670	0.67
Benzo(ghi) perylene	2300	2.3	< 2000	2	< 670	0.67	< 670	0.67
Chrysene	1900	1.9	4200	4.2	< 670	0.67	< 670	0.67
Dibenzo(ah) anthracene	< 660	0.66	< 2000	2	< 670	0.67	< 670	0.67
Fluoranthene	2000	2	6700	6.7	< 670	0.67	< 670	0.67
Fluorene	< 660	0.66	2700	2.7	< 670	0.67	< 670	0.67
Indeno(1,2,3,-cd) pyrene	1900	1.9	< 2000	2	< 670	0.67	< 670	0.67
Naphthalene	< 660	0.66	11000	11	< 670	0.67	< 670	0.67
Phenanthrene	1200	1.2	12000	12	< 670	0.67	< 670	0.67
Pyrene	2000	2	9400	9.4	< 670	0.67	< 670	0.67
TOTAL PAH	21860	21.86	71200	71.2	10720	10.72	13450	13.45
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 7	0.007	400	0.4	< 8	0.008	< 6	0.006
Ethyl Benzene	< 7	0.007	4500	4.5	< 8	0.008	< 6	0.006
Toluene	< 7	0.007	18	0.018	< 8	0.008	< 6	0.006
Total Xylene	< 7	0.007	1800	1.8	< 8	0.008	< 6	0.006
TOTAL VOC	28	0.028	6718	6.718	32	0.032	24	0.024

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B1004-991		B1007-991		B1102-991		B1103-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Acenaphthylene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Anthracene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Benzo(a) anthracene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Benzo(b) fluoranthene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Benzo(k) fluoranthene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Benzo(a)pyrene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Benzo(ghi) perylene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Chrysene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Dibenzo(ah) anthracene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Fluoranthene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Fluorene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Indeno(1,2,3,-cd) pyrene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Naphthalene	18000	18	14000	14	< 10000	10	< 2000	2
Phenanthrene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
Pyrene	< 10000	10	< 10000	10	< 10000	10	< 2000	2
TOTAL PAH	168000	168	164000	164	160000	160	32000	32
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	88	0.088	< 6	0.006	< 34	0.034	< 6	0.006
Ethyl Benzene	320	0.32	27	0.027	18	0.018	5	0.005
Toluene	20	0.02	< 6	0.006	< 34	0.034	< 6	0.006
Total Xylene	220	0.22	30	0.03	82	0.082	30	0.03
TOTAL VOC	648	0.648	69	0.069	168	0.168	47	0.047

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B1104-991		B1201-991		B1202-991		B1204-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 670	0.67	< 4000	4	7300	7.3	1200	1.2
Acenaphthylene	< 670	0.67	< 4000	4	12000	12	5100	5.1
Anthracene	< 670	0.67	< 4000	4	20000	20	4900	4.9
Benzo(a) anthracene	< 670	0.67	< 4000	4	50000	50	6600	6.6
Benzo(b) fluoranthene	< 670	0.67	< 4000	4	51000	51	6900	6.9
Benzo(k) fluoranthene	< 670	0.67	< 4000	4	18000	18	2200	2.2
Benzo(a)pyrene	< 670	0.67	4600	4.6	> 64000	64	11000	11
Benzo(ghi) perylene	< 670	0.67	< 4000	4	38000	38	5100	5.1
Chrysene	< 670	0.67	< 4000	4	47000	47	6100	6.1
Dibenzo(ah) anthracene	< 670	0.67	< 4000	4	7100	7.1	< 1000	1
Fluoranthene	< 670	0.67	7300	7.3	58000	58	14000	14
Fluorene	< 670	0.67	< 4000	4	17000	17	4700	4.7
Indeno(1,2,3,-cd) pyrene	< 670	0.67	< 4000	4	37000	37	4600	4.6
Naphthalene	< 670	0.67	4600	4.6	9300	9.3	3400	3.4
Phenanthrene	< 670	0.67	12000	12	59000	59	> 16000	16
Pyrene	< 670	0.67	8200	8.2	> 64000	64	> 16000	16
TOTAL PAH	10720	10.72	80700	80.7	558700	558.7	108800	108.8
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 6	0.006	< 6	0.006	6	0.006	< 7	0.007
Ethyl Benzene	< 6	0.006	3	0.003	73	0.073	< 7	0.007
Toluene	< 6	0.006	2	0.002	29	0.029	< 7	0.007
Total Xylene	< 6	0.006	13	0.013	190	0.19	< 7	0.007
TOTAL VOC	24	0.024	24	0.024	298	0.298	28	0.028

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B1301-991		B1301A-991		B1304-991		B1701-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	DATA NOT AVAILABLE		190000	190	< 1000	1	8300	8.3
Acenaphthylene	DATA NOT AVAILABLE		120000	120	< 1000	1	17000	17
Anthracene	DATA NOT AVAILABLE		820000	820	< 1000	1	18000	18
Benzo(a) anthracene	DATA NOT AVAILABLE		1100000	1100	< 1000	1	24000	24
Benzo(b) fluoranthene	DATA NOT AVAILABLE		660000	660	< 1000	1	31000	31
Benzo(k) fluoranthene	DATA NOT AVAILABLE		230000	230	< 1000	1	31000	31
Benzo(a)pyrene	DATA NOT AVAILABLE		600000	600	< 1000	1	21000	21
Benzo(ghi) perylene	DATA NOT AVAILABLE		430000	430	< 1000	1	8300	8.3
Chrysene	DATA NOT AVAILABLE		1000000	1000	< 1000	1	21000	21
Dibenzo(ah) anthracene	DATA NOT AVAILABLE		120000	120	< 1000	1	2200	2.2
Fluoranthene	DATA NOT AVAILABLE		1500000	1500	< 1000	1	61000	61
Fluorene	DATA NOT AVAILABLE		1000000	1000	< 1000	1	3000	3
Indeno(1,2,3,-cd) pyrene	DATA NOT AVAILABLE		630000	630	< 1000	1	9200	9.2
Naphthalene	DATA NOT AVAILABLE		990000	990	< 1000	1	84000	84
Phenanthrene	DATA NOT AVAILABLE		> 1600000	1600	< 1000	1	100000	100
Pyrene	DATA NOT AVAILABLE		> 1600000	1600	< 1000	1	62000	62
TOTAL PAH	DATA NOT AVAILABLE		12590000	12590	16000	16	501000	501
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	6600	6.6	1800	1.8	< 7	0.007	< 7	0.007
Ethyl Benzene	19000	19	31000	31	< 7	0.007	6	0.006
Toluene	19000	19	1100	1.1	< 7	0.007	3	0.003
Total Xylene	35000	35	8200	8.2	< 7	0.007	31	0.031
TOTAL VOC	79600	79.6	42100	42.1	28	0.028	47	0.047

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B1901-991		B1902-991		B1904-991		B2001-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	7200	7.2	7700	7.7	350	0.35	9300	9.3
Acenaphthylene	6200	6.2	16000	16	240	0.24	44000	44
Anthracene	27000	27	22000	22	1800	1.8	43000	43
Benzo(a) anthracene	53000	53	23000	23	1900	1.9	44000	44
Benzo(b) fluoranthene	39000	39	28000	28	2700	2.7	73000	73
Benzo(k) fluoranthene	25000	25	28000	28	2700	2.7	73000	73
Benzo(a)pyrene	33000	33	17000	17	1400	1.4	20000	20
Benzo(ghi) perylene	14000	14	8500	8.5	810	0.81	21000	21
Chrysene	49000	49	20000	20	1600	1.6	36000	36
Dibenzo(ah) anthracene	5100	5.1	2300	2.3	< 2300	2.3	6600	6.6
Fluoranthene	110000	110	55000	55	4200	4.2	96000	96
Fluorene	35000	35	30000	30	1200	1.2	47000	47
Indeno(1,2,3,-cd) pyrene	17000	17	8900	8.9	740	0.74	21000	21
Naphthalene	22000	22	21000	21	490	0.49	260000	260
Phenanthrene	140000	140	170000	170	6600	6.6	140000	140
Pyrene	120000	120	59000	59	4600	4.6	78000	78
TOTAL PAH	702500	702.5	516400	516.4	33630	33.63	1011900	1011.9
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	260	0.26	57	0.057	< 7	0.007	630	0.63
Ethyl Benzene	340	0.34	60	0.06	< 7	0.007	440	0.44
Toluene	68	0.068	7	0.007	< 7	0.007	2300	2.3
Total Xylene	290	0.29	46	0.046	< 7	0.007	4300	4.3
TOTAL VOC	958	0.958	170	0.17	28	0.028	7670	7.67

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B2003-991		B2005-991		B2101-991		B2103-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 29000	29	250	0.25	12000	12	1100	1.1
Acenaphthylene	< 29000	29	330	0.33	< 31000	31	< 4900	4.9
Anthracene	< 29000	29	480	0.48	4900	4.9	700	0.7
Benzo(a) anthracene	< 29000	29	350	0.35	6000	6	< 4900	4.9
Benzo(b) fluoranthene	< 29000	29	430	0.43	6100	6.1	< 4900	4.9
Benzo(k) fluoranthene	< 29000	29	430	0.43	6100	6.1	< 4900	4.9
Benzo(a)pyrene	< 29000	29	250	0.25	< 31000	31	< 4900	4.9
Benzo(ghi) perylene	< 29000	29	120	0.12	< 31000	31	< 4900	4.9
Chrysene	< 29000	29	340	0.34	5500	5.5	780	0.78
Dibenzo(ah) anthracene	< 29000	29	< 470	0.47	< 31000	31	< 4900	4.9
Fluoranthene	42000	42	720	0.72	9700	9.7	1100	1.1
Fluorene	3100	3.1	470	0.47	11000	11	1100	1.1
Indeno(1,2,3,-cd) pyrene	< 29000	29	120	0.12	< 31000	31	< 4900	4.9
Naphthalene	20000	20	1700	1.7	27000	27	1500	1.5
Phenanthrene	8300	8.3	1600	1.6	21000	21	3800	3.8
Pyrene	4200	4.2	690	0.69	13000	13	1600	1.6
TOTAL PAH	396600	396.6	8750	8.75	277300	277.3	50880	50.88
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	3	0.003	< 7	0.007	34	0.034	2	0.002
Etyhl Benzene	63	0.063	< 7	0.007	84	0.084	< 7	0.007
Toluene	29	0.029	< 7	0.007	11	0.011	< 7	0.007
Total Xylene	250	0.25	7	0.007	54	0.054	7	0.007
TOTAL VOC	345	0.345	< 28	0.028	183	0.183	< 23	0.023

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B2105-991		B2202-991		B2203-991		B2301-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 460	0.46	180	0.18	53	0.053	4700	4.7
Acenaphthylene	< 460	0.46	230	0.23	52	0.052	5700	5.7
Anthracene	< 460	0.46	600	0.6	170	0.17	6400	6.4
Benzo(a) anthracene	< 460	0.46	940	0.94	300	0.3	7400	7.4
Benzo(b) fluoranthene	< 460	0.46	1300	1.3	470	0.47	9300	9.3
Benzo(k) fluoranthene	< 460	0.46	1300	1.3	470	0.47	9300	9.3
Benzo(a)pyrene	< 460	0.46	570	0.57	250	0.25	5400	5.4
Benzo(ghi) perylene	< 460	0.46	650	0.65	< 500	0.5	3200	3.2
Chrysene	< 460	0.46	970	0.97	280	0.28	5000	5
Dibenzo(ah) anthracene	< 460	0.46	< 850	0.85	< 500	0.5	830	0.83
Fluoranthene	< 460	0.46	1900	1.9	520	0.52	13000	13
Fluorene	< 460	0.46	420	0.42	140	0.14	10000	10
Indeno(1,2,3,-cd) pyrene	< 460	0.46	540	0.54	130	0.13	3100	3.1
Naphthalene	< 460	0.46	270	0.27	58	0.058	17000	17
Phenanthrene	< 460	0.46	1900	1.9	630	0.63	28000	28
Pyrene	< 460	0.46	1900	1.9	690	0.69	13000	13
TOTAL PAH	7360	7.36	14520	14.52	5213	5.213	141330	141.33
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 7	0.007	< 6	0.006	< 8	0.008	< 6	0.006
Ethyl Benzene	< 7	0.007	< 6	0.006	< 8	0.008	21	0.021
Toluene	< 7	0.007	< 6	0.006	< 8	0.008	5	0.005
Total Xylene	< 7	0.007	< 6	0.006	< 8	0.008	130	0.13
TOTAL VOC	28	0.028	24	0.024	32	0.032	162	0.162

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B2302-991		B2401-991		B2402-991		B2403-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	1000	1	< 3.9	0.0039	3	0.003	< 2.5	0.0025
Acenaphthylene	2100	2.1	< 4.4	0.0044	< 2.8	0.0028	< 2.8	0.0028
Anthracene	2800	2.8	140	0.14	48	0.048	36	0.036
Benzo(a) anthracene	2500	2.5	41	0.041	19	0.019	17	0.017
Benzo(b) fluoranthene	3700	3.7	55	0.055	29	0.029	26	0.026
Benzo(k) fluoranthene	3700	3.7	29	0.029	13	0.013	13	0.013
Benzo(a)pyrene	2100	2.1	55	0.055	22	0.022	23	0.023
Benzo(ghi) perylene	1300	1.3	52	0.052	17	0.017	21	0.021
Chrysene	2000	2	68	0.068	30	0.03	29	0.029
Dibenzo(ah) anthracene	330	0.33	11	0.011	5.9	0.0059	5.7	0.0057
Fluoranthene	4300	4.3	78	0.078	43	0.043	36	0.036
Fluorene	4100	4.1	< 7.3	0.0073	14	0.014	< 4.7	0.0047
Indeno(1,2,3,-cd) pyrene	1200	1.2	72	0.072	32	0.032	35	0.035
Naphthalene	5900	5.9	14	0.014	17	0.017	11	0.011
Phenanthrene	12000	12	56	0.056	42	0.042	27	0.027
Pyrene	5300	5.3	82	0.082	46	0.046	35	0.035
TOTAL PAH	54330	54.33	768.6	0.7686	383.7	0.3837	324.7	0.3247
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 6	0.006	< 6	0.006	< 6	0.006	< 7	0.007
Ethyl Benzene	< 6	0.006	< 6	0.006	< 6	0.006	< 7	0.007
Toluene	1	0.001	< 6	0.006	< 6	0.006	< 7	0.007
Total Xylene	5	0.005	< 6	0.006	< 6	0.006	< 7	0.007
TOTAL VOC	18	0.018	24	0.024	24	0.024	28	0.028

NOTE: Polycyclic Aromatics for samples B2401 - B2403 were analyzed by method 8310

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B2404-991		B2405-991		B2501-991		B2504-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 2.5	0.0025	< 2.5	0.0025	4200	4.2	5400	5.4
Acenaphthylene	< 2.8	0.0028	< 2.8	0.0028	1300	1.3	24000	24
Anthracene	< 1.5	0.0015	< 1.5	0.0015	4100	4.1	5700	5.7
Benzo(a) anthracene	< 0.6	0.0006	0.95	0.00095	5000	5	18000	18
Benzo(b) fluoranthene	< 0.7	0.0007	1.1	0.0011	7000	7	26000	26
Benzo(k) fluoranthene	< 0.7	0.0007	< 0.7	0.0007	7000	7	26000	26
Benzo(a)pyrene	< 0.7	0.0007	< 0.7	0.0007	3600	3.6	4300	4.3
Benzo(ghi) perylene	< 0.8	0.0008	< 0.8	0.0008	2400	2.4	730	0.73
Chrysene	< 0.9	0.0009	1.3	0.0013	3700	3.7	12000	12
Dibenzo(ah) anthracene	< 0.7	0.0007	< 0.7	0.0007	680	0.68	2200	2.2
Fluoranthene	1	0.001	2.5	0.0025	9500	9.5	42000	42
Fluorene	< 4.7	0.0047	< 4.7	0.0047	6300	6.3	33000	33
Indeno(1,2,3,-cd) pyrene	< 0.8	0.0008	1.3	0.0013	2400	2.4	< 480	0.48
Naphthalene	< 2.9	0.0029	< 2.9	0.0029	12000	12	62000	62
Phenanthrene	< 1.6	0.0016	3.6	0.0036	16000	16	70000	70
Pyrene	1.1	0.0011	2.5	0.0025	8200	8.2	33000	33
TOTAL PAH	24	0.024	30.55	0.03055	93380	93.38	364810	364.81
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 6	0.006	< 6	0.006	< 6	0.006	20	0.02
Ethyl Benzene	< 6	0.006	< 6	0.006	2	0.002	69	0.069
Toluene	< 6	0.006	< 6	0.006	< 6	0.006	82	0.082
Total Xylene	< 6	0.006	< 6	0.006	9	0.009	410	0.41
TOTAL VOC	24	0.024	24	0.024	23	0.023	581	0.581

NOTE: Polycyclic Aromatics for samples B2404 - B2405 were analyzed by method 8310

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B2601-991		B2602-991		B2701-991		B2702-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	9700	9.7	1200	1.2	4600	4.6	4700	4.7
Acenaphthylene	28000	28	780	0.78	1500	1.5	17000	17
Anthracene	34000	34	1700	1.7	4800	4.8	12000	12
Benzo(a) anthracene	28000	28	1500	1.5	3200	3.2	5500	5.5
Benzo(b) fluoranthene	44000	44	2600	2.6	9600	9.6	16000	16
Benzo(k) fluoranthene	44000	44	2600	2.6	9600	9.6	16000	16
Benzo(a)pyrene	23000	23	1500	1.5	5000	5	8500	8.5
Benzo(ghi) perylene	12000	12	980	0.98	2200	2.2	3400	3.4
Chrysene	28000	28	1400	1.4	5400	5.4	9900	9.9
Dibenzo(ah) anthracene	3500	3.5	240	0.24	870	0.87	960	0.96
Fluoranthene	64000	64	3800	3.8	13000	13	26000	26
Fluorene	42000	42	2200	2.2	6500	6.5	19000	19
Indeno(1,2,3,-cd) pyrene	13000	13	900	0.9	2200	2.2	3400	3.4
Naphthalene	110000	110	4600	4.6	19000	19	39000	39
Phenanthrene	110000	110	6000	6	18000	18	44000	44
Pyrene	71000	71	3500	3.5	9600	9.6	20000	20
TOTAL PAH	664200	664.2	35500	35.5	115070	115.07	245360	245.36
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 6	0.006	< 6	0.006	10	0.01	990	0.99
Ethyl Benzene	14	0.014	< 6	0.006	22	0.022	930	0.93
Toluene	13	0.013	< 6	0.006	18	0.018	2800	2.8
Total Xylene	120	0.12	< 6	0.006	55	0.055	6300	6.3
TOTAL VOC	153	0.153	24	0.024	105	0.105	11020	11.02

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B2802-991		B2803-991		B2902-991		B2903-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 450	0.45	< 2400	2.4	84000	84	360000	360
Acenaphthylene	< 450	0.45	< 2400	2.4	370000	370	1100000	1100
Anthracene	< 450	0.45	< 2400	2.4	280000	280	1000000	1000
Benzo(a) anthracene	< 450	0.45	< 2400	2.4	200000	200	760000	760
Benzo(b) fluoranthene	< 450	0.45	< 2400	2.4	280000	280	550000	550
Benzo(k) fluoranthene	< 450	0.45	< 2400	2.4	280000	280	460000	460
Benzo(a)pyrene	< 450	0.45	< 2400	2.4	140000	140	660000	660
Benzo(ghi) perylene	< 450	0.45	< 2400	2.4	59000	59	160000	160
Chrysene	< 450	0.45	< 2400	2.4	170000	170	720000	720
Dibenzo(ah) anthracene	< 450	0.45	< 2400	2.4	< 290000	290	42000	42
Fluoranthene	< 450	0.45	< 2400	2.4	440000	440	2000000	2000
Fluorene	< 450	0.45	< 2400	2.4	35000	35	1400000	1400
Indeno(1,2,3,-cd) pyrene	< 450	0.45	< 2400	2.4	57000	57	170000	170
Naphthalene	330	0.33	5100	5.1	1800000	1800	8000000	8000
Phenanthrene	< 450	0.45	< 2400	2.4	900000	900	4200000	4200
Pyrene	< 450	0.45	< 2400	2.4	510000	510	2000000	2000
TOTAL PAH	7080	7.08	41100	41.1	5895000	5895	23582000	23582
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 7	0.007	1	0.001	59000	59	180000	180
Ethyl Benzene	9	0.009	670	0.67	10000	10	22000	22
Toluene	< 7	0.007	< 8	0.008	75000	75	190000	190
Total Xylene	1	0.001	130	0.13	110000	110	230000	230
TOTAL VOC	24	0.024	809	0.809	254000	254	622000	622

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B3001-1091		B3002-1091		B3101-1091		B3201-1091	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 10	0.01	50	0.05	49	0.049	6	0.006
Acenaphthylene	3	0.003	< 10	0.01	57	0.057	2	0.002
Anthracene	< 10	0.01	< 10	0.01	130	0.13	6	0.006
Benzo(a) anthracene	26	0.026	< 10	0.01	170	0.17	6	0.006
Benzo(b) fluoranthene	48	0.048	< 10	0.01	130	0.13	4	0.004
Benzo(k) fluoranthene	48	0.048	< 10	0.01	92	0.092	2	0.002
Benzo(a)pyrene	34	0.034	< 10	0.01	140	0.14	5	0.005
Benzo(ghi) perylene	19	0.019	< 10	0.01	45	0.045	2	0.002
Chrysene	27	0.027	< 10	0.01	150	0.15	5	0.005
Dibenzo(ah) anthracene	5	0.005	< 10	0.01	6	0.006	< 10	0.01
Fluoranthene	20	0.02	1	0.001	350	0.35	< 10	0.01
Fluorene	< 10	0.01	< 10	0.01	200	0.2	6	0.006
Indeno(1,2,3,-cd) pyrene	17	0.017	< 10	0.01	51	0.051	2	0.002
Naphthalene	< 10	0.01	< 10	0.01	140	0.14	2	0.002
Phenanthrene	< 10	0.01	< 10	0.01	600	0.6	18	0.018
Pyrene	46	0.046	90	0.09	370	0.37	15	0.015
TOTAL PAH	343	0.343	271	0.271	2680	2.68	101	0.101
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 7	0.007	< 7	0.007	1300	1.3	< 6	0.006
Ethyl Benzene	< 7	0.007	< 7	0.007	1200	1.2	< 6	0.006
Toluene	< 7	0.007	< 7	0.007	250	0.25	< 6	0.006
Total Xylene	< 7	0.007	< 7	0.007	2600	2.6	< 6	0.006
TOTAL VOC	28	0.028	28	0.028	5350	5.35	24	0.024

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B3204-1091		B3301-1091		B3303-1091		B3304-1091	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	6	0.006	16	0.016	9	0.009	8	0.008
Acenaphthylene	< 10	0.01	4	0.004	< 10	0.01	2	0.002
Anthracene	9	0.009	13	0.013	8	0.008	6	0.006
Benzo(a) anthracene	8	0.008	24	0.024	9	0.009	9	0.009
Benzo(b) fluoranthene	7	0.007	21	0.021	14	0.014	12	0.012
Benzo(k) fluoranthene	7	0.007	12	0.012	14	0.014	12	0.012
Benzo(a)pyrene	4	0.004	20	0.02	9	0.009	8	0.008
Benzo(ghi) perylene	< 10	0.01	10	0.01	3	0.003	3	0.003
Chrysene	7	0.007	24	0.024	10	0.01	9	0.009
Dibenzo(ah) anthracene	< 10	0.01	< 10	0.01	< 10	0.01	< 10	0.01
Fluoranthene	13	0.013	40	0.04	17	0.017	14	0.014
Fluorene	5	0.005	16	0.016	10	0.01	6	0.006
Indeno(1,2,3,-cd) pyrene	1	0.001	9	0.009	3	0.003	2	0.002
Naphthalene	16	0.016	26	0.026	16	0.016	8	0.008
Phenanthrene	38	0.038	50	0.05	40	0.04	25	0.025
Pyrene	21	0.021	40	0.04	29	0.029	22	0.022
TOTAL PAH	172	0.172	335	0.335	211	0.211	156	0.156
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 7	0.007	11	0.011	2	0.002	10	0.01
Ethyl Benzene	6	0.006	24	0.024	88	0.088	8	0.008
Toluene	< 7	0.007	< 6	0.006	< 7	0.007	< 6	0.006
Total Xylene	14	0.014	32	0.032	24	0.024	14	0.014
TOTAL VOC	34	0.034	73	0.073	121	0.121	38	0.038

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B3401-1091		B3403-1091		B3404-1091		B3501-1091	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 19000	19	< 2000	2	< 1800	1.8	< 660	0.66
Acenaphthylene	< 19000	19	< 2000	2	< 1800	1.8	< 660	0.66
Anthracene	66000	66	< 2000	2	< 1800	1.8	< 660	0.66
Benzo(a) anthracene	96000	96	< 2000	2	< 1800	1.8	< 660	0.66
Benzo(b) fluoranthene	83000	83	< 2000	2	< 1800	1.8	< 660	0.66
Benzo(k) fluoranthene	37000	37	< 2000	2	< 1800	1.8	< 660	0.66
Benzo(a)pyrene	73000	73	< 2000	2	< 1800	1.8	< 660	0.66
Benzo(ghi) perylene	62000	62	< 2000	2	< 1800	1.8	< 660	0.66
Chrysene	100000	100	< 2000	2	< 1800	1.8	< 660	0.66
Dibenzo(ah) anthracene	< 19000	19	< 2000	2	< 1800	1.8	< 660	0.66
Fluoranthene	190000	190	2500	2.5	< 1800	1.8	< 660	0.66
Fluorene	31000	31	< 2000	2	< 1800	1.8	< 660	0.66
Indeno(1,2,3,-cd) pyrene	59000	59	< 2000	2	< 1800	1.8	< 660	0.66
Naphthalene	< 1800	1.8	< 2000	2	< 1800	1.8	< 660	0.66
Phenanthrene	260000	260	< 2000	2	< 1800	1.8	< 660	0.66
Pyrene	240000	240	2700	2.7	< 1800	1.8	< 660	0.66
TOTAL PAH	1355800	1355.8	33200	33.2	28800	28.8	10560	10.56
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 7	0.007	< 33	0.033	< 7	0.007	< 7	0.007
Ethyl Benzene	< 7	0.007	< 33	0.033	< 7	0.007	< 7	0.007
Toluene	< 7	0.007	< 33	0.033	< 7	0.007	< 7	0.007
Total Xylene	< 7	0.007	< 33	0.033	< 7	0.007	< 7	0.007
TOTAL VOC	28	0.028	132	0.132	28	0.028	28	0.028

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B3502-1091		B3601-1091		B3602-1091		B3604-1091	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 670	0.67	360000	360	100000	100	8600	8.6
Acenaphthylene	< 670	0.67	150000	150	42000	42	2900	2.9
Anthracene	< 670	0.67	220000	220	60000	60	5900	5.9
Benzo(a) anthracene	< 670	0.67	< 97000	97	48000	48	5000	5
Benzo(b) fluoranthene	< 670	0.67	190000	190	31000	31	2300	2.3
Benzo(k) fluoranthene	< 670	0.67	< 97000	97	< 20000	20	< 2000	2
Benzo(a)pyrene	< 670	0.67	210000	210	35000	35	3600	3.6
Benzo(ghi) perylene	< 670	0.67	98000	98	< 20000	20	< 2000	2
Chrysene	< 670	0.67	390000	390	41000	41	4300	4.3
Dibenzo(ah) anthracene	< 670	0.67	98000	98	< 20000	20	< 2000	2
Fluoranthene	< 670	0.67	300000	300	83000	83	8800	8.8
Fluorene	< 670	0.67	420000	420	87000	87	7900	7.9
Indeno(1,2,3,-cd) pyrene	< 670	0.67	< 97000	97	< 20000	20	2000	2
Naphthalene	< 670	0.67	1300000	1300	590000	590	> 31000	31
Phenanthrene	< 670	0.67	760000	760	280000	280	28000	28
Pyrene	< 670	0.67	470000	470	140000	140	14000	14
TOTAL PAH	10720	10.72	5257000	5257	1617000	1617	130300	130.3
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 7	0.007	1900	1.9	180	0.18	250	0.25
Ethyl Benzene	< 7	0.007	16000	16	2100	2.1	2800	2.8
Toluene	< 7	0.007	2800	2.8	26	0.026	< 850	0.85
Total Xylene	< 7	0.007	15000	15	2200	2.2	3700	3.7
TOTAL VOC	28	0.028	35700	35.7	4506	4.506	7600	7.6

TABLE 4 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS					
SAMPLE LOCATION	B3701-1091		B3702-1091		B3703-1091	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 2000	2	< 100000	100	< 240000	240
Acenaphthylene	< 2000	2	300000	300	1200000	1200
Anthracene	< 2000	2	180000	180	670000	670
Benzo(a) anthracene	2800	2.8	< 100000	100	400000	400
Benzo(b) fluoranthene	3000	3	< 100000	100	< 240000	240
Benzo(k) fluoranthene	< 2000	2	< 100000	100	< 240000	240
Benzo(a)pyrene	2400	2.4	< 100000	100	280000	280
Benzo(ghi) perylene	2200	2.2	< 10000	10	< 240000	240
Chrysene	2700	2.7	< 100000	100	340000	340
Dibenzo(ah) anthracene	< 2000	2	< 100000	100	< 240000	240
Fluoranthene	5900	5.9	330000	330	1200000	1200
Fluorene	< 2000	2	270000	270	910000	910
Indeno(1,2,3,-cd) pyrene	2200	2.2	< 100000	100	< 240000	240
Naphthalene	< 2000	2	920000	920	> 3900000	3900
Phenanthrene	7400	7.4	680000	680	2500000	2500
Pyrene	6500	6.5	310000	310	1100000	1100
TOTAL PAH	49100	49.1	3800000	3800	13940000	13940
	VOLATILE ORGANIC CARBON COMPOUNDS					
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 6	0.006	14000	14	21000	21
Ethyl Benzene	2	0.002	9100	9.1	7100	7.1
Toluene	< 6	0.006	38000	38	45000	45
Total Xylene	8	0.008	57000	57	54000	54
TOTAL VOC	22	0.022	118100	118.1	127100	127.1

TABLE 5

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS (METHOD 8310)							
SAMPLE LOCATION	B2202-991		B2203-991		B2401-991		B2402-991	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	100	0.1	44	0.044	< 3.9	0.0039	3	0.003
Acenaphthylene	< 28	0.028	32	0.032	< 4.4	0.0044	< 2.8	0.0028
Anthracene	1500	1.5	830	0.83	140	0.14	48	0.048
Benzo(a) anthracene	420	0.42	240	0.24	41	0.041	19	0.019
Benzo(b) fluoranthene	360	0.36	200	0.2	55	0.055	29	0.029
Benzo(k) fluoranthene	250	0.25	120	0.12	29	0.029	13	0.013
Benzo(a)pyrene	490	0.49	230	0.23	55	0.055	22	0.022
Benzo(ghi) perylene	320	0.32	< 8	0.008	52	0.052	17	0.017
Chrysene	460	0.46	230	0.23	68	0.068	30	0.03
Dibenzo(ah) anthracene	91	0.091	42	0.042	11	0.011	5.9	0.0059
Fluoranthene	970	0.97	630	0.63	78	0.078	43	0.043
Fluorene	< 47	0.047	< 47	0.047	< 7.3	0.0073	14	0.014
Indeno(1,2,3,-cd) pyrene	450	0.45	230	0.23	6.2	0.0062	32	0.032
Naphthalene	< 29	0.029	64	0.064	14	0.014	17	0.017
Phenanthrene	930	0.93	690	0.69	56	0.056	42	0.042
Pyrene	1100	1.1	680	0.68	82	0.082	46	0.046
TOTAL PAH	7545	7.545	4317	4.317	702.8	0.7028	383.7	0.3837
Units		(ppm)		(ppm)		(ppm)		(ppm)
TOC		35000		8600		30000		4700

TABLE 5 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS (METHOD 8310)							
SAMPLE LOCATION	B2403-991		B2404-991		B2405-991		B3501-1091	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 2.5	0.0025	< 2.5	0.0025	< 2.5	0.0025	< 2.5	0.0025
Acenaphthylene	< 2.8	0.0028	< 2.8	0.0028	< 2.8	0.0028	< 2.8	0.0028
Anthracene	36	0.036	< 1.5	0.0015	< 1.5	0.0015	96	0.096
Benzo(a) anthracene	17	0.017	< 0.6	0.0006	0.95	0.00095	38	0.038
Benzo(b) fluoranthene	26	0.026	< 0.7	0.0007	1.1	0.0011	36	0.036
Benzo(k) fluoranthene	13	0.013	< 0.7	0.0007	< 0.7	0.0007	25	0.025
Benzo(a)pyrene	23	0.023	< 0.7	0.0007	< 0.7	0.0007	50	0.05
Benzo(ghi) perylene	21	0.021	< 0.8	0.0008	< 0.8	0.0008	33	0.033
Chrysene	29	0.029	< 0.9	0.0009	1.3	0.0013	54	0.054
Dibenzo(ah) anthracene	5.7	0.0057	< 0.7	0.0007	< 0.7	0.0007	9	0.009
Fluoranthene	36	0.036	1	0.001	2.5	0.0025	74	0.074
Fluorene	< 4.7	0.0047	< 4.7	0.0047	< 4.7	0.0047	< 4.7	0.0047
Indeno(1,2,3,-cd) pyrene	35	0.035	< 0.8	0.0008	1.3	0.0013	50	0.05
Naphthalene	11	0.011	< 2.9	0.0029	< 2.9	0.0029	< 2.9	0.0029
Phenanthrene	27	0.027	1.6	0.0016	3.6	0.0036	28	0.028
Pyrene	35	0.035	1.1	0.0011	2.5	0.0025	89	0.089
TOTAL PAH	324.7	0.3247	24	0.024	30.55	0.0306	594.9	0.5949
Units		(ppm)		(ppm)		(ppm)		(ppm)
TOC		5900		790		580	DATA NOT AVAILABLE	

TABLE 5 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA		POLYCYCLIC AROMATIC HYDROCARBONS (METHOD 8310)	
SAMPLE LOCATION	B3502-1091		
Units	(ug/kg)	(ppm)	
Acenaphthene	< 2.5	0.0025	
Acenaphthylene	< 2.8	0.0028	
Anthracene	96	0.096	
Benzo(a) anthracene	9	0.009	
Benzo(b) fluoranthene	36	0.036	
Benzo(k) fluoranthene	25	0.025	
Benzo(a)pyrene	43	0.043	
Benzo(ghi) perylene	33	0.033	
Chrysene	54	0.054	
Dibenzo(ah) anthracene	9	0.009	
Fluoranthene	74	0.074	
Fluorene	< 4.7	0.0047	
Indeno(1,2,3,-cd) pyrene	50	0.05	
Naphthalene	< 2.9	0.0029	
Phenanthrene	28	0.028	
Pyrene	89	0.089	
TOTAL PAH	558.9	0.5589	
Units		(ppm)	
TOC	DATA NOT AVAILABLE		

TABLE 6

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA		TCLP SEMI-VOLATILE ORGANIC CARBON COMPOUNDS			
SAMPLE LOCATION	REG. LIMIT	B0302-991	B0303-991	B0802-991	B1301-991
Units	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
Pyridine	5	< 0.01	< 0.01	< 0.01	< 0.01
1,4-Dichlorobenzene	7.5	< 0.01	< 0.01	< 0.01	< 0.01
2-Methyl Phenol	200	< 0.01	< 0.01	< 0.01	< 0.01
3&4 Methyl Phenol	200	< 0.01	< 0.02	< 0.01	< 0.01
Hexachloroethane	3	< 0.01	< 0.01	< 0.01	< 0.01
Nitrobenzene	2	< 0.01	< 0.02	< 0.01	< 0.01
Hexachlorobutadiene	0.5	< 0.01	< 0.02	< 0.01	< 0.01
2,4,6-Trichlorophenol	2	< 0.01	< 0.02	< 0.01	< 0.01
2,4,5-Trichlorophenol	400	< 0.01	< 0.02	< 0.01	< 0.01
2,4-Dinitrotoluene	0.13	< 0.01	< 0.02	< 0.01	< 0.01
Hexachlorobenzene	0.13	< 0.01	< 0.03	< 0.01	< 0.01
Pentachlorophenol	100	< 0.01	< 0.02	< 0.01	< 0.01
	REG. LIMIT	TCLP VOLATILE ORGANIC CARBON COMPOUNDS			
Units	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
Benzene	0.5	< 0.05	< 0.05	< 0.05	0.07
2(Butanone)	200	< 0.09	< 0.09	< 0.09	< 0.09
Carbon Tetrachloride	0.5	< 0.09	< 0.09	< 0.09	< 0.09
Chlorobenzene	100	< 0.04	< 0.04	< 0.04	< 0.04
Chloroform	6	< 0.06	< 0.06	< 0.06	< 0.06
1,1-Dichloroethene	0.7	< 0.07	< 0.07	< 0.07	< 0.07
1,2-Dichloroethane	0.5	< 0.07	< 0.07	< 0.07	< 0.07
Tetrachloroethylene	0.7	< 0.05	< 0.05	< 0.05	< 0.05
Trichloroethene	0.5	< 0.05	< 0.05	< 0.05	< 0.05
Vinyl Chloride	0.2	< 0.05	< 0.05	< 0.05	< 0.05
Units		(BTU/lb)	(BTU/lb)	(BTU/lb)	(BTU/lb)
BTU		106	0	0	0

TABLE 6 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA		TCLP SEMI-VOLATILE ORGANIC CARBON COMPOUNDS			
SAMPLE LOCATION	REG. LIMIT	B1301A-991	B1902-991	B2003-991	B2401-991
Units	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
Pyridine	5	< 0.01	< 0.01	< 0.01	< 0.01
1,4-Dichlorobenzene	7.5	< 0.01	< 0.01	< 0.01	< 0.01
2-Methyl Phenol	200	< 0.01	< 0.01	< 0.01	< 0.01
3&4 Methyl Phenol	200	< 0.01	< 0.01	< 0.01	< 0.01
Hexachloroethane	3	< 0.01	< 0.01	< 0.01	< 0.01
Nitrobenzene	2	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	0.5	< 0.01	< 0.01	< 0.01	< 0.01
2,4,6-Trichlorophenol	2	< 0.01	< 0.01	< 0.01	< 0.01
2,4,5-Trichlorophenol	400	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	0.13	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.13	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	100	< 0.01	< 0.01	< 0.01	< 0.01
	REG. LIMIT	TCLP VOLATILE ORGANIC CARBON COMPOUNDS			
Units	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
Benzene	0.5	0.07	0.17	< 0.05	< 0.05
2(Butanone)	200	< 0.09	< 0.09	< 0.09	< 0.09
Carbon Tetrachloride	0.5	< 0.09	< 0.09	< 0.09	< 0.09
Chlorobenzene	100	< 0.04	< 0.04	< 0.04	< 0.04
Chloroform	6	< 0.06	< 0.06	< 0.06	< 0.06
1,1-Dichloroethene	0.7	< 0.07	< 0.07	< 0.07	< 0.07
1,2-Dichloroethane	0.5	< 0.07	< 0.07	< 0.07	< 0.07
Tetrachloroethylene	0.7	< 0.05	< 0.05	< 0.05	< 0.05
Trichloroethene	0.5	< 0.05	< 0.05	< 0.05	< 0.05
Vinyl Chloride	0.2	< 0.05	< 0.05	< 0.05	< 0.05
Units		(BTU/lb)	(BTU/lb)	(BTU/lb)	(BTU/lb)
BTU		2850	2375	0	0

TABLE 6 (cont'd)

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA		TCLP SEMI-VOLATILE ORGANIC CARBON COMPOUNDS			
SAMPLE LOCATION	REG. LIMIT	B2702-991	B2902-991	B3601-1091	B3702-1091
Units	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
Pyridine	5	< 0.01	< 0.01	< 0.01	< 0.01
1,4-Dichlorobenzene	7.5	< 0.01	< 0.01	< 0.01	< 0.01
2-Methyl Phenol	200	0.78	1.4	< 0.01	1.8
3&4 Methyl Phenol	200	1.8	2.5	0.02	2.8
Hexachloroethane	3	< 0.01	< 0.01	< 0.01	< 0.01
Nitrobenzene	2	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	0.5	< 0.01	< 0.01	< 0.01	< 0.01
2,4,6-Trichlorophenol	2	< 0.01	< 0.01	< 0.01	< 0.01
2,4,5-Trichlorophenol	400	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	0.13	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.13	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	100	< 0.01	< 0.01	< 0.01	< 0.01
	REG. LIMIT	TCLP VOLATILE ORGANIC CARBON COMPOUNDS			
Units	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
Benzene	0.5	0.13	1.6	0.32	0.88
2(Butanone)	200	< 0.09	< 0.09	< 0.09	< 0.09
Carbon Tetrachloride	0.5	< 0.09	< 0.09	< 0.09	< 0.09
Chlorobenzene	100	< 0.04	< 0.04	< 0.04	< 0.04
Chloroform	6	< 0.06	< 0.06	< 0.06	< 0.06
1,1-Dichloroethene	0.7	< 0.07	< 0.07	< 0.07	< 0.07
1,2-Dichloroethane	0.5	< 0.07	< 0.07	< 0.07	< 0.07
Tetrachloroethylene	0.7	< 0.05	< 0.05	< 0.05	< 0.05
Trichloroethene	0.5	< 0.05	< 0.05	< 0.05	< 0.05
Vinyl Chloride	0.2	< 0.05	< 0.05	< 0.05	< 0.05
Units		(BTU/lb)	(BTU/lb)	(BTU/lb)	(BTU/lb)
BTU		2099	2186	2013	1839

TABLE 7

SELECT ORGANIC COMPOUND SOLUBILITIES

SEMI-VOLATILE ORGANIC COMPOUNDS						
COMPOUND	MW	SOLUBILITY	MOBILITY CLASS	Koc	HENRY'S LAW CON.	VAPOR PRESSURE
	(g/mole)	(mg/l)		(ml/g)	(atm-m3/mol)	(mm Hg)
ACENAPTHYLENE	152	3.9	SLIGHT	2.5E+03	1.5E-03	2.9E-02
ACENAPHTHENE	154	3.93	SLIGHT	2.6E+03	9.2E-05	1.6E-03
FLUORENE	166	1.98	SLIGHT	5.8E+03	6.4E-05	7.1E-04
PHENATHRENE	178	1.29	IMMOBILE	2.3E+04	1.6E-04	6.8E-04
ANTHRACENE	178	0.073	IMMOBILE	2.6E+04	1.0E-03	2.0E-04
PYRENE	202	0.135	IMMOBILE	6.3E+04	5.0E-06	2.5E-06
FLUORANTHENE	202	0.26	SLIGHT	2.0E+04	6.5E-06	5.0E-06
BENZ(A)ANTHRACENE	228	0.014	IMMOBILE	1.3E+05	1.2E-06	2.2E-08
CHRYSENE	228	0.002	IMMOBILE	4.2E+05	1.1E-06	6.3E-09
BENZO(K)FLUORANTHENE	252	0.0008	IMMOBILE	2.0E+06	3.9E-05	5.1E-07
BENZO(A)PYRENE	252	0.0038	IMMOBILE	2.8E+05	1.6E-06	5.6E-09
NAPHTHALENE	268	~~0.0029~~ 30	LOW	1.3E+03		
BENZO(GHI)PERYLENE	276	0.00026	IMMOBILE	1.6E+06	5.3E-08	1.0E-10
INDENO(123-CD)PYRENE	276	0.0002	IMMOBILE	1.6E+06	6.9E-08	1.0E-10
DIBENZO(AH)ANTHRACENE	278	0.0005	SLIGHT	2.1E+03	7.3E-08	1.0E-10
VOLATILE ORGANIC COMPOUNDS						
COMPOUND	MW	SOLUBILITY	MOBILITY CLASS	Koc	HENRY'S LAW CON.	VAPOR PRESSURE
	(g/mole)	(mg/l)		(ml/g)	(atm-m3/mol)	(mm Hg)
BENZENE	78	1780	HIGH	9.7E+01	5.6E-03	9.5E+01
TOLUENE	92	515	MODERATE	2.4E+02	6.4E-03	2.8E+01
TOTAL XYLENE	106	198	LOW	5.9E+02	7.0E-03	1.0E+01
ETHYL BENZENE	106	152	LOW	6.2E+02	6.4E-03	7.0E+00

SOUTH BLVD. MGP SITE
TOTAL DIGESTABLE METALS VS EP-TOXICITY METALS

SAMPLE ID.		Ag (ppm)	Ba (ppm)	Cd (ppm)	Cr (ppm)	Pb (ppm)	As (ppm)	Se (ppm)	Hg (ppm)
SBDO22790B1TSH	TOTAL	8.0	194	11	42	156	5.2	<0.04	0.06
	TCLP	<0.4	0.7	<0.04	<0.3	<0.8	<0.1	<0.2	<0.01
SBDO22790C1TSH	TOTAL	7.0	64	100	22	1219	4.6	2.1	0.24
	TCLP	<0.4	0.2	<0.04	<0.3	1.0	<0.1	<0.2	<0.01
SBDO22790C2TSH	TOTAL	18	188	24	52	196	16	<0.04	<0.05
	TCLP	<0.4	0.2	<0.04	<0.3	<0.8	<0.1	<0.2	<0.01
SBDO22790C4TSH	TOTAL	13	48	22	22	200	26	<0.04	0.06
	TCLP	<0.4	0.2	<0.04	<0.3	<0.8	<0.1	<0.2	<0.01
SBDO22790D1TSH	TOTAL	7.0	108	13	38	220	12	0.23	0.44
	TCLP	<0.4	<0.1	<0.04	<0.3	<0.8	<0.1	<0.2	<0.01

TABLE 7

TABLE 8
HYDROGEOLOGIC PROPERTIES OF SOUTH BLVD MGP SOILS

BOREHOLE	DEPTH	SOIL DESCRIPTION	SIEVE ANALYSIS		UNIFORMITY		ESTIMATED HYDRAULIC CONDUCTIVITY				ESTIMATED	MOISTURE
	FT		D60	D10	COEFFICIENT		FREEZE & CHERRY(1)		FETTER(2)		POROSITY(3)	CONTENT(4)
			mm	mm	Cu		MIN	MAX	MIN	MAX	%	%
B06	1.0-2.5	FINE GRAVELLY, FINE TO COARSE SANDY VERY CLAYEY SILT.	0.70			POORLY SORTED	1.00E-04	1.0E-09	1.00E-04	1.0E-09	40	23
B06	4.0-5.2	FINE GRAVELLY, FINE TO COARSE SANDY VERY CLAYEY SILT.	0.100	0.00068	147	POORLY SORTED	1.00E-04	1.0E-09	1.00E-04	1.0E-09	40	18
B06	7.8-8.3	FINE TO MEDIUM SANDY SILTY CLAY.	0.033	0.0012	28	POORLY SORTED	1.00E-04	1.0E-09	1.00E-04	1.0E-09	40	
B06	10.0-11.5	FINE TO MEDIUM SANDY CLAYEY SILT.	0.030	0.0014	21	POORLY SORTED	1.00E-04	1.0E-09	1.00E-04	1.0E-09	40	
B30	1.0-2.5	MEDIUM SANDY VERY SILTY CLAY.	0.008			POORLY SORTED	1.00E-04	1.0E-09	1.00E-04	1.0E-09	40	20
B30	4.0-5.5	FINE TO MEDIUM SANDY CLAYEY SILT.	0.020	0.00054	37	POORLY SORTED	1.00E-04	1.0E-09	1.00E-04	1.0E-09	40	27
B30	7.0-8.5	FINE TO MEDIUM SANDY CLAYEY SILT.	0.031	0.00049	63	POORLY SORTED	1.00E-04	1.0E-09	1.00E-04	1.0E-09	40	
B30	10.0-11.5	FINE TO MEDIUM SANDY CLAYEY SILT.	0.038	0.0015	25	POORLY SORTED	1.00E-04	1.0E-09	1.00E-04	1.0E-09	40	
B10	5.0-6.5	FINE TO MEDIUM SANDY CLAYEY SILT.	0.011			POORLY SORTED	1.00E-04	1.0E-09	1.00E-04	1.0E-09	40	19
B10	8.0-9.5	FINE TO MEDIUM SANDY CLAYEY SILT.	0.048	0.00077	60	POORLY SORTED	1.00E-04	1.0E-09	1.00E-04	1.0E-09	40	
B10	11.0-12.5	MICACEOUS FINE SANDY CLAYEY SILT.	0.040	0.0013	31	POORLY SORTED	1.00E-04	1.0E-09	1.00E-04	1.0E-09	40	
B10	14.0-15.5	MICACEOUS FINE SANDY CLAYEY SILT.	0.070	0.007	10	POORLY SORTED	1.00E-04	1.0E-06	1.00E-04	1.0E-06	40	17

WATER LEVEL ELEVATIONS (BELOW SURFACE):	MIN	MAX	AVG
	1.8	6.4	3.8

HYDRAULIC CONDUCTIVITY:SLUG TEST/HVORSLEV METHOD			
MW1	LUST AT OLD REFUELING ISLAND	2.00E-03	cm/sec
MW3	LUST AT OLD REFUELING ISLAND	1.06E-03	cm/sec
MW5	LUST NEAR OPS CENTER	2.36E-03	cm/sec
MW7	LUST NEAR OPS CENTER	1.12E-04	cm/sec
MW9	LUST NEAR OPS CENTER	4.14E-04	cm/sec

(1) FREEZE & CHERRY, "GROUNDWATER", PAGE 29, TABLE 2.2

(2) C.W. FETTER, "APPLIED HYDROGEOLOGY", PAGE 80, TABLE 4.5

(3) n(%) = (1-(Pb/Ps)*100; Pb=Bulk Density=1.6 g/cm ^ 3; Ps=Particle Density=2.65 g/cm ^ 3

(4) Recorded from analytical data sheets.

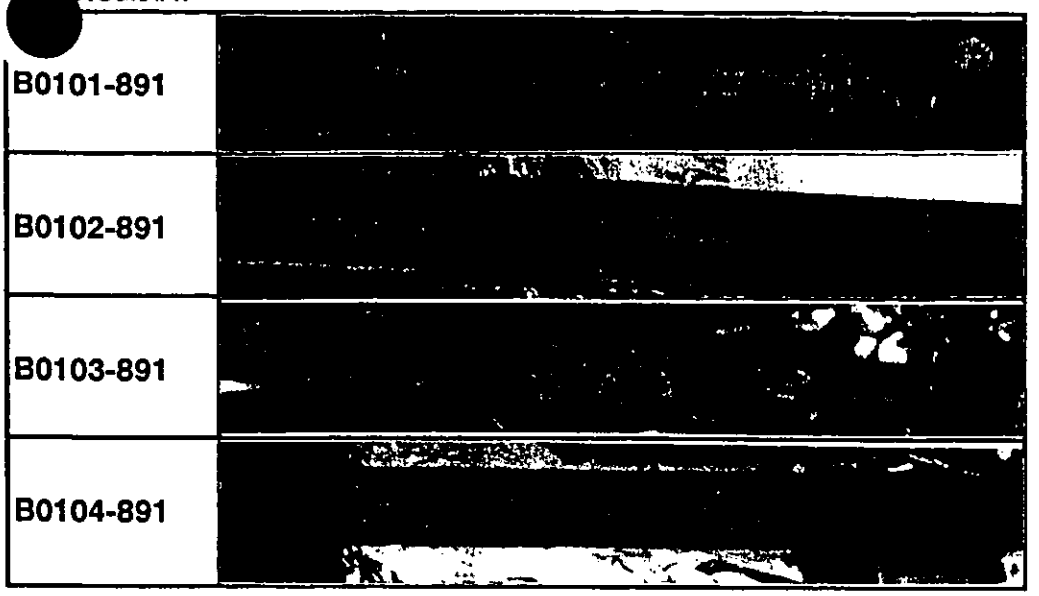
APPENDIX A

ENVIRONMENTAL ASSESSMENT FIELD LOG SHEETS

ENVIRONMENTAL ASSESSMENT FIELD LOG

OIL INFORMATION

OTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	08-28-91
LOCATION	S.BLVD-MGP
SAMPLE#	B01-891
WORK ID	
LOGGED BY: E. CHAPMAN	
ADDITIONAL NOTES: TSH/RAS	

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

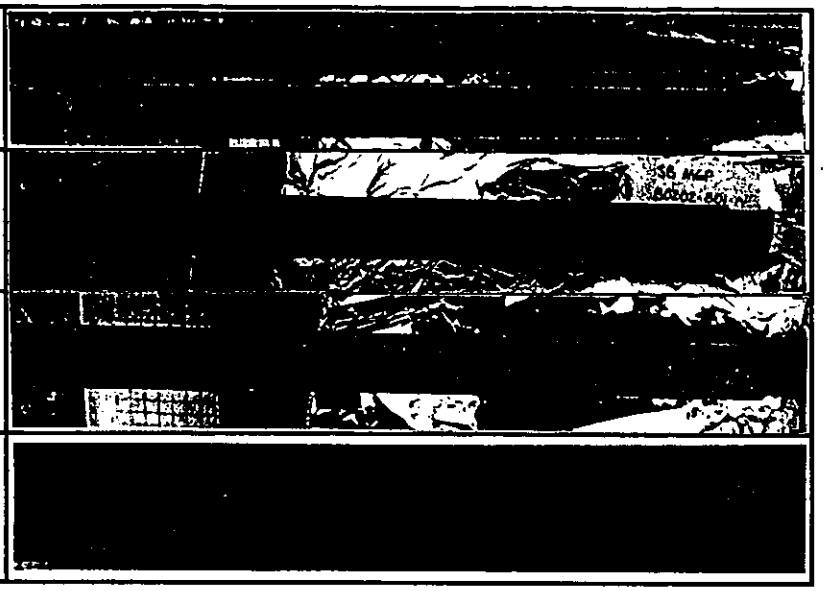
B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
-891	1.0	N/A	N/A	1.9	0.03	ND	0.12	0.05	RED MICACEOUS SILTY CLAY
	1.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	2.0								
	2.5								
	3.0								
	3.5								
B0102-891	4.0	100	JP5	0.5	3.2	1.2	2.6	1.2	STRONG BROWN MICACEOUS SILTY CLAY CHANGING TO REDDISH YELLOW CLAYEY SILT
	4.5								NO VISIBLE CONTAMINATION / HYDROCARBON ODOR
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B0103-891	7.0	1500	JP5	0.6	3.8	0.8	4.7	3.5	STRONG BROWN CLAYEY SILT
	7.5								NO VISIBLE CONTAMINATION / HYDROCARBON ODOR
	8.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	8.5								
	9.0								
	9.5								
B0104-891	10.0	25	JP5	0.6	1.2	0.6	0.9	0.6	REDDISH YELLOW SANDY CLAYEY SILT
	10.5								NO VISIBLE CONTAMINATION / SLIGHT HYDROCARBON ODOR
	11.0								
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION

PHOTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	08-28-91
LOCATION	S.BLVD-MGP
SAMPLE#	B02-891
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

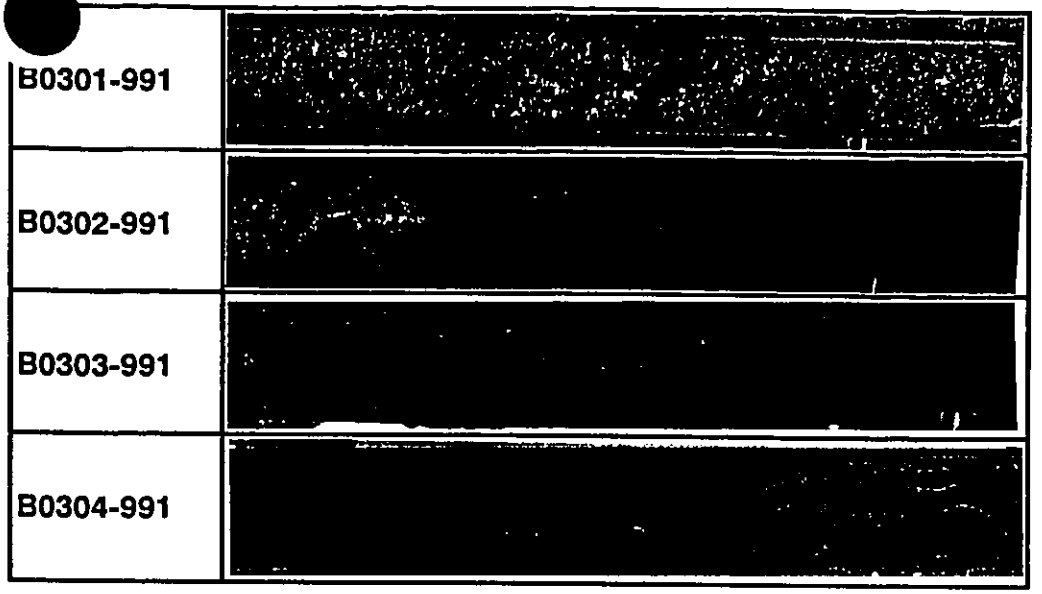
B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
1-891	1.0	<1	C. TAR	0.74	ND	ND	ND	ND	RED SILTY CLAY
	1.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	2.0								
	2.5								
	3.0								
	3.5								
B0202-891	4.0	<1	C. TAR	0.32	0.1	ND	ND	0.04	STRONG BROWN SILTY CLAY
	4.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B0203-891	7.0	<1	C. TAR	0.37	0.32	0.26	0.13	0.19	RED SILTY CLAY CHANGING TO REDDISH YELLOW SILTY CLAY
	7.5								NO VISIBLE CONTAMINATION / NO DETEDTABLE ODORS
	8.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS
	8.5								
	9.0								
	9.5								
B0204-891	10.0	<1	C. TAR	0.04	0.01	ND	ND	ND	YELLOWISH BROWN SILTY CLAY WITH BLACK SILT SEAMS
	10.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	11.0								
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION

PHOTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-04-91
LOCATION	S.BLVD-MGP
SAMPLE#	B03-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

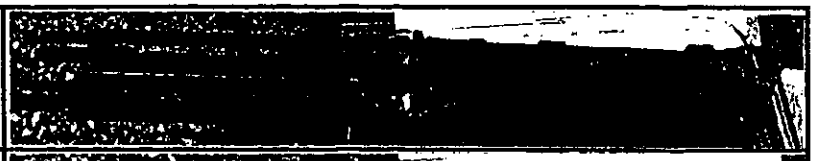
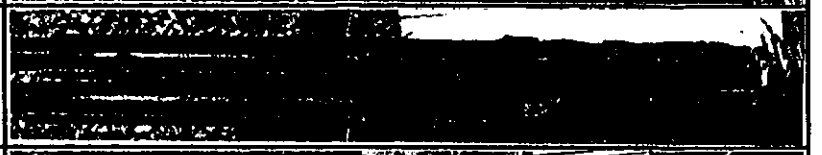
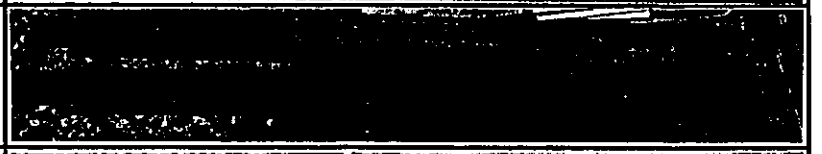
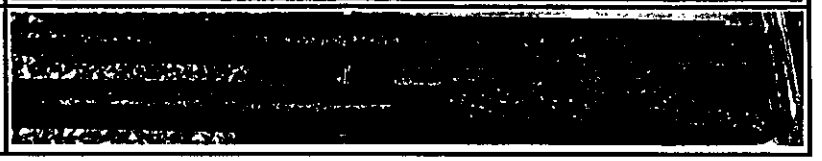
B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
-991	1.0	75	C. TAR	0.7	0.02	0.02	0.02	ND	YELLOW RED FINE TO COARSE SAND WITH BROKEN CONCRETE
	1.5								AND BRICK PARTICLES
	2.0								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	2.5								
	3.0								(REFUSAL @ 4.0 FT. / MOVED TO B04A02)
	3.5								
B0302-991	4.0	>200	C. TAR	4.5	2	0.4	0.4	0.8	GRAY / BLACK FINE TO MEDIUM SILTY SAND
	4.5								OILY APPEARANCE / COAL TAR ODOR
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B0303-991	7.0	200	C. TAR	0.86	2	1.2	0.05	2.4	BLACK SANDY SILT CHANGING TO LIGHT YELLOWISH BROWN SILTY CLAY
	7.5								OILY APPEARANCE / COAL TAR ODOR
	8.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	8.5								
	9.0								
	9.5								
B0304-991	10.0	20	C. TAR	0.14	ND	0.05	ND	ND	LIGHT OLIVE BROWN SANDY SILT
	10.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	11.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	11.5								
	12.0								** BORING TERMINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION

PHOTOGRAPH

B0401-991	
B0402-991	
B0403-991	
B0404-991	

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-04-91
LOCATION	S.BLVD-MGP
SAMPLE#	B04-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
-991	1.0	>200	C. TAR	11.5	0.4	2.2	22.9	14.9	LIGHT OLIVE BROWN CHANGING TO BLACK FINE TO MEDIUM SAND
	1.5								WITH WOOK PARTICLES AND BLUE GRAVEL
	2.0								SLIGHT COAL TAR ODOR DETECTED
	2.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	3.0								
	3.5								
B0402-991	4.0	100	C. TAR	0.34	0.07	0.2	1.7	1.1	DARK REDDISH BROWN CHANGING TO GRAY FINE TO MEDIUM SAND
	4.5								NO VISIBLE CONTAMINATION / SLIGHT COAL TAR ODOR
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B0403-991	7.0	10	C. TAR	0.52	ND	0.06	0.6	0.4	OLIVE SILTY CLAY
	7.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	8.0								
	8.5								
	9.0								
	9.5								
B0404-991	10.0	<1	C. TAR	0.33	0.04	ND	0.03	0.02	BROWN YELLOW CLAYEY SILT
	10.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	11.0								
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

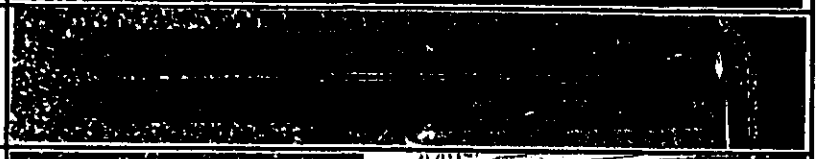
ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH

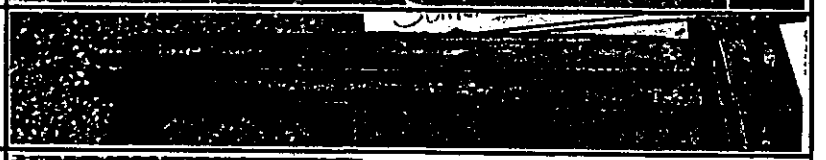
B0501-991



B0502-991



B0503-991



B0504-991



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-04-91
LOCATION	S.BLVD-MGP
SAMPLE#	B05-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

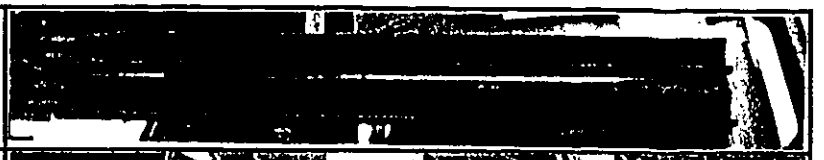
SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
-991	1.0	>200	C. TAR	2.3	0.02	0.01	0.01	0.02	DARK BROWN FINE TO COARSE SAND
	1.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.0								
	2.5								
	3.0								
	3.5								
B0502-991	4.0	>200	C. TAR	1.1	0.03	0.02	0.06	0.19	STRONG BROWN FINE TO MEDIUM SAND CHANGING TO DARK GRAY SILTY CLAY
	4.5								ROOFING FELT APPEARING MATERIAL IN SAMPLE / SLIGHT ODOR
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B0503-991	7.0	>200	C. TAR	0.85	ND	0.08	0.04	0.14	DARK GRAY SILTY CLAY
	7.5								SLIGHT ODOR
	8.0								
	8.5								
	9.0								
	9.5								
B0504-991	10.0	1	C. TAR	0.6	ND	0.02	0.03	0.03	YELLOWISH BROWN CLAYEY SILT CHANGING TO GRAY SILTY CLAY
	10.5								NO DETECTABLE ODORS
	11.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION

PHOTOGRAPH

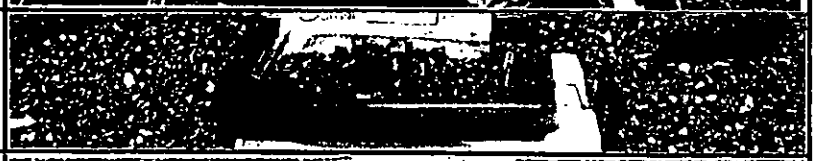
B0601-991



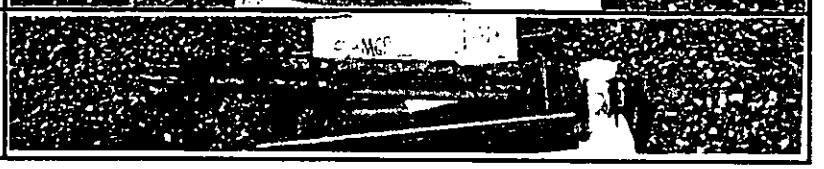
B0602-991



B0603-991



B0604-991



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-05-91
LOCATION	S.BLVD-MGP
SAMPLE#	B06-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
1-991	1.0	>200	C. TAR	0.72	0.76	0.56	0.92	0.84	DARK YELLOWISH BROWN FINE TO MEDIUM SAND
	1.5								COAL TAR ODOR
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								
	3.5								
B0602-991	4.0	>200	C. TAR	0.92	1.4	1.1	1.5	1.3	DARK YELLOWISH BROWN FINE TO MEDIUM SILTY CLAYEY SAND WITH GRAVEL
	4.5								COAL TAR ODOR
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								(REFUSAL @ 5.2'-CONCRETE / MOVED TO B06D03) BRICK @ 5-6 FEET
	6.5								
B0603-991	7.0	50	C. TAR	0.26	0.01	0.04	0.13	0.18	YELLOWISH BROWN FINE TO COARSE SILTY SAND CHANGING TO GRAY SILTY CLAY
	7.5								NO DETECTABLE ODORS
	8.0								
	8.5								
	9.0								
	9.5								
B0604-991	10.0	<1	C. TAR	0.12	ND	ND	0	0	YELLOW BROWN SANDY CLAYEY SILT
	10.5								NO DETECTABLE ODORS
	11.0								
	11.5								
	12.0								** BORING TERMINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION

PHOTOGRAPH

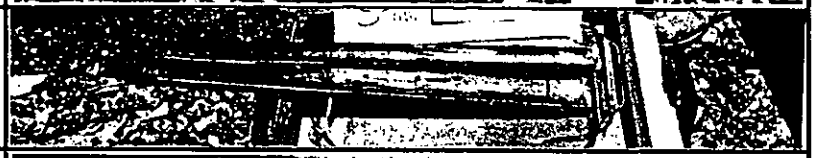
B0701-991



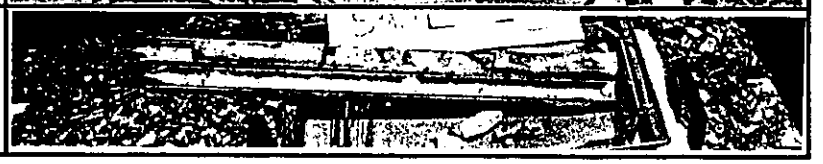
B0702-991



B0703-991



B0704-991



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-09-91
LOCATION	S.BLVD-MGP
SAMPLE#	B07-991
WORK ID	
LOGGED BY: E. CHAPMAN	
ADDITIONAL NOTES: TSH/RAS	

GC SCREEN:

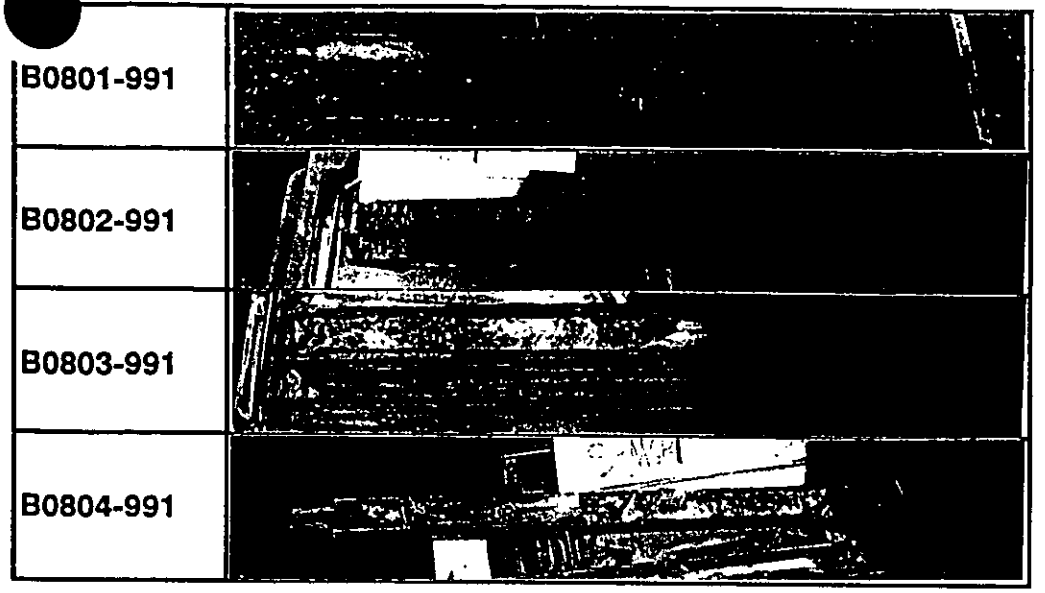
UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
-991	1.0	>200	C. TAR	30.5	6.1	7.6	3.9	6.2	BLACK FINE TO COARSE SAND WITH GRAVEL AND WOOD PARTICLES CHANGING TO
	1.5								BLACK SILTY CLAY
	2.0								VISIBLE ASH FRAGMENTS / ODOR DETECTED
	2.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	3.0								
	3.5								
B0702-991	4.0	200	C. TAR	0.47	7.1	1.3	0.9	0.6	BLACK SILTY CLAY
	4.5								DAMP WITH ASH FRAGMENTS AND POSSIBLE COAL TAR / ODOR DETECTED
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B0703-991	7.0	30	C. TAR	0.63	0.07	0.02	0.03	0.09	PALE OLIVE SILTY CLAY
	7.5								ODOR @ 7' DEMINISHES TO NO ODOR @ 8.5'
	8.0								
	8.5								
	9.0								
	9.5								
B0704-991	10.0	<1	C. TAR	0.08	0.02	0.01	ND	1.2	PALE OLIVE SILTY CLAY
	10.5								DAMP; NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	11.0								
	11.5								
	12.0								** BORING TERMINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION
PHOTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-10-91
LOCATION	S.BLVD-MGP
SAMPLE#	B08-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
1-991	1.0	80	C. TAR	11.7	0.3	0.4	0.1	0.03	STRONG BROWN SANDY SILTY CLAY WITH GRAVEL
	1.5								WET / NO DETECTABLE ODORS
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								(REFUSAL @ 4.0'; CONCRETE / MOVED TO B08C02) / BLACK OILY SAND WITH STORNG
	3.5								ODOR @0.2'-1.5'
B0802-991	4.0	>200	C. TAR	3	118	23	2325	52	VERY DARK GRAY SILTY CLAY
	4.5								POSSIBLE COAL TAR / ODOR DETECTED
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B0803-991	7.0	60	C. TAR	0.6	0.2	–	0.4	0.08	GRAY BROWNISH YELLOW SILTY CLAY
	7.5								APPEAR TO RUNOUT OF COAL TARS / SUGHT ODOR
	8.0								
	8.5								
	9.0								
	9.5								
B0804-991	10.0	5	C. TAR	0.04	0.06	0.4	0.1	0.03	BROWNISH YELLOW CALYEY SILT
	10.5								NO VISIBLE CONTAMINATION / DO DETECTABLE ODORS
	11.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH

B0901-991	NO PHOTOGRAPH TAKEN

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-10-91
LOCATION	S.BLVD-MGP
SAMPLE#	B09-991
WORK ID	
LOGGED BY: E. CHAPMAN	
ADDITIONAL NOTES: TSH/RAS	

GC SCREEN:

UNITS = VOLTS

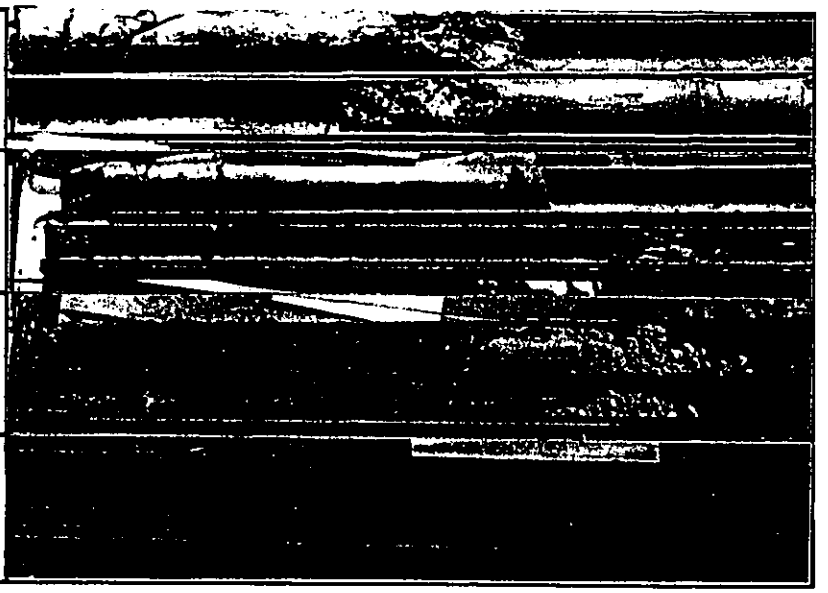
ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.6								(AUGER REFUSAL @ 0.6'; CONCRETE)
	1.0								
	1.5								
	2.0								
	2.5								
	3.0								
	3.5								(AUGER REFUSAL @ 3.4'; CONCRETE)
	4.0								
	4.5								
	5.0								** NOTE: AUGER BORING AT B09-991 TO VERIFY EXISTENCE OF GAS HOLDER PAD
	5.5								NO SAMPLES WERE COLLECTED **
	6.0								
	6.5								
	7.0								
	7.5								
	8.0								
	8.5								
	9.0								
	9.5								
	10.0								
	10.5								
	11.0								
	11.5								
	12.0								
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-10-91
LOCATION	S.BLVD-MGP
SAMPLE#	B10-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

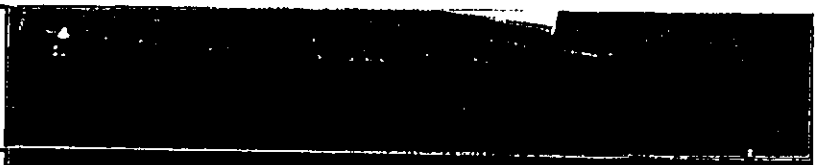
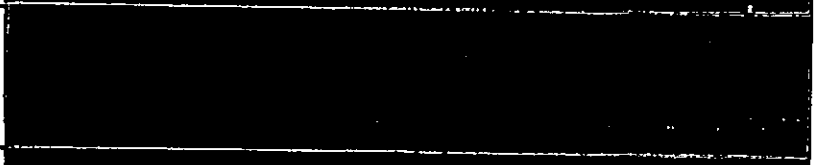
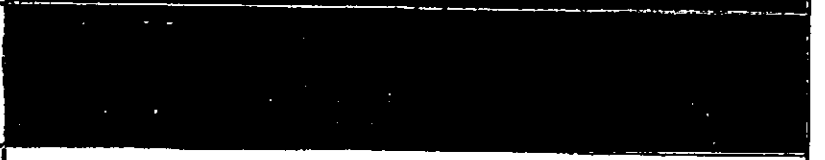
ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
	1.0								
	1.5								
	2.0								
	2.5								
	3.0								(AUGER REFUSAL @ 2.8';B10 / REFUSAL @ 2.3';B10A - CONCRETE)
	3.5								** SAMPLE 01 COLLECTED @ 5' DUE TO FILL MATERIAL AROUND SUBSTATION
	4.0								
	4.5								
B1001-991	5.0	300	JP5	0.74	1.9	1.5	13.2	44	YELLOWISH RED FINE TO MEDIUM SILTY SAND CHANGING TO PALE YELLOW
	5.5								CLAYEY SANDY SILT
	6.0								NO VISIBLE CONTAMINATION / SLIGHT HYDROCARBON ODOR
	6.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	7.0								
	7.5								
B1002-991	8.0	>1600	GAS	40	80	100	40	10	REDDISH YELLOW SANDY SILT CHANGING TO DARK GRAY FINE TO MEDIUM SAND
	8.5								POSSIBLE COAL TAR APPEARANCE / STRONG HYDROCARBON ODOR
	9.0								
	9.5								
	10.0								
	10.5								
B1003-991	11.0	>1600	GAS	105	75	15	10	18	OLIVE FINE TO MEDIUM SAND
	11.5								NO VISIBLE CONTAMINATION / STRONG GASOLINE ODOR
	12.0								
	12.5								
	13.0								
	13.5								
-991	14.0	>1600	GAS	310	65	11	0.8	0.2	CONTINUED ON SHEET #2

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION SHEET #2

PHOTOGRAPH

B1005-991	
B1006-991	
B1007-991	

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-10-91
LOCATION	S.BLVD-MGP
SAMPLE#	B10-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
04-991	14.5								CONTINUED FROM SHEET #1
	15.0								OLIVE FINE TO MEDIUM SAND
	15.5								NO VISIBLE CONTAMINATION / GASOLINE ODOR
	16.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	16.5								
B1005-991	17.0	>1600	GAS	--	--	--	--	--	OLIVE FINE TO MEDIUM SAND
	17.5								NO VISIBLE CONTAMINATION / GASOLINE ODOR
	18.0								
	18.5								
	19.0								
	19.5								
B1006-991	20.0	>1600	GAS	--	--	--	--	--	OLIVE FINE TO MEDIUM SAND
	20.5								NO VISIBLE CONTAMINATION / GASOLINE ODOR
	21.0								
	21.5								
	22.0								
	22.5								
	23.0								
	23.5								
	24.0								
	24.5								
B1007-991	25.0	>1600	GAS	--	--	--	--	--	OLIVE FINE TO MEDIUM SAND
	25.5								NO VISIBLE CONTAMINATION / GASOLINE ODOR
	26.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	26.5								
	27.0								
	27.5								** BORING TERMINATED @ 25.0'
	28.0								
	28.5								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION

PHOTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-11-91
LOCATION	S.BLVD-MGP
SAMPLE#	B11-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

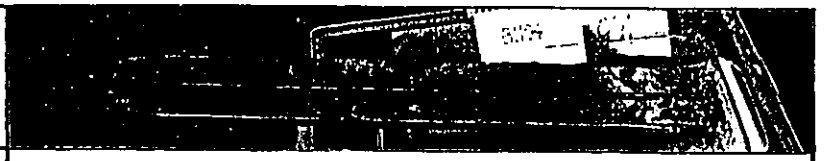
B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								** RED BRICK, WOOD AND GRAVEL INCOUNTERED BETWEEN 0.4 AND 3.3 FEET
	1.0								
	1.5								
	2.0								
	2.5								
	3.0								
	3.5								
	4.0								
B1101-991	4.8	<1	GAS	–	–	–	–	–	LIGHT GRAY / BROWNISH YELLOW SANDY CLAYEY SILT
	5.0								NO VISIBLE CONTAMINATION / GASOLINE ODOR
	5.5								
	6.0								
	6.3								
	7.0								
	7.5								
B1102-991	7.8	>1600	GAS	–	–	–	–	–	YELLOWISH RED SILTY CLAY CHANGING TO OLIVE FINE TO MEDIUM SAND
	8.5								NO VISIBLE CONTAMINATION / GASOLINE ODOR
	9.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	9.3								
	10.0								
	10.5								
B1103-991	10.8	10	GAS	–	–	–	–	–	OLIVE FINE TO MEDIUM SAND
	11.5								NO VISIBLE CONTAMINATION / GASOLINE ODOR
	12.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	12.3								
	13.0								
	13.5								BORE LOG CONTINUED ON SHEET #2
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION SHEET #2

PHOTOGRAPH

B1104-991



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-11-91
LOCATION	S.BLVD-MGP
SAMPLE#	B11-991
WORK ID	
LOGGED BY: E. CHAPMAN	
ADDITIONAL NOTES: TSH/RAS	

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
04-991	14.2	<1	GAS	--	--	--	--	--	YELLOWISH BROWN SANDY SILT CHANGING TO OLIVE FINE TO MEDIUM SAND
	15.0								NO VISIBLE CONTAMINATION / GASOLINE ODOR DEMINISHING @ 15.7 FOOT DEPTH
	15.7								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	16.0								
	16.5								
	17.0								** BORING TERMINATED @ 14.2'
	17.5								
	18.0								
	18.5								
	19.0								
	19.5								
	20.0								
	20.5								
	21.0								
	21.5								
	22.0								
	22.5								
	23.0								
	23.5								
	24.0								
	24.5								
	25.0								
	25.5								
	26.0								
	26.5								
	27.0								
	27.5								
	28.0								
	28.5								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH

B1201-991	
B1202-991	
B1203-991	
B1204-991	

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-12-91
LOCATION	S.BLVD-MGP
SAMPLE#	B12-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

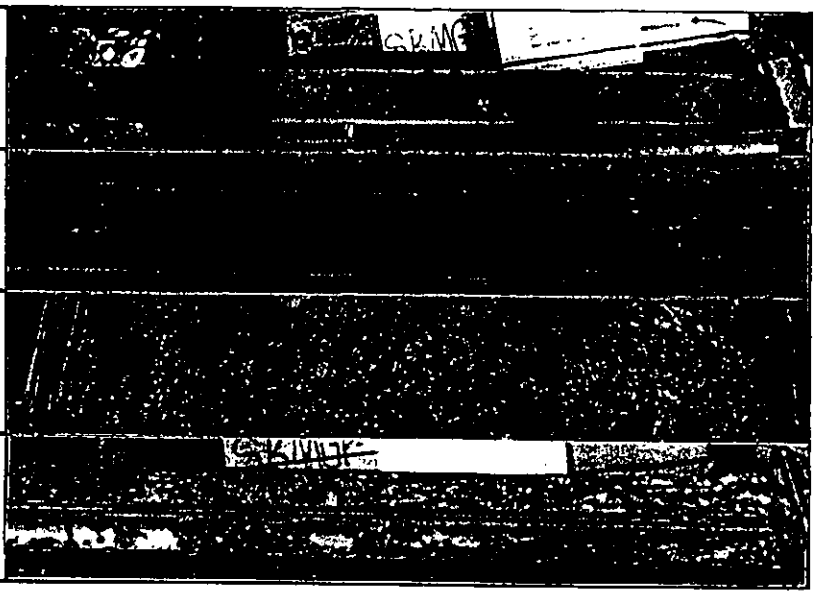
SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
-991	1.0	>200	C. TAR	8.5	8.6	13.2	6.6	17.3	DARK OLIVE SILTY CLAY CHANGING TO BLACK FINE TO MEDIUM SAND
	1.5								VISIBLE COAL & COAL ASH / COAL TAR ODOR
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								
	3.5								
B1202-991	4.0	>200	C. TAR	10.1	98	7.5	3.9	12.5	VERY DARK GRAY SANDY CLAYEY SILT CHANGING TO BRICK PARTICLES
	4.5								BLACK COAL ASH AND WOOD PARTICLES / COAL TAR ODOR
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B1203-991	7.0	25	C. TAR	0.21	0.02	0.06	0.07	0.43	BROWNISH YELLOW CLAYEY SILT
	7.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	8.0								
	8.5								
	9.0								
	9.5								
B1204-991	10.0	>200	C. TAR	0.48	0.04	0.07	0.08	0.09	GRAY BROWNISH YELLOW CLAYEY SILT
	10.5								VISIBLE POCKET OF COAL TAR @ 11.5' / NO DETECTABLE ODORS
	11.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-12-991
LOCATION	S.BLVD-MGP
SAMPLE#	B13-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

PHOTOGRAPH



GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
-991	1.0	>200	C. TAR	255	189	325	148	84	DARK GRAYISH BROWN SILTY CLAY CHANGING TO BLACK OILY WOOD PARTICLES
	1.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.0								(ALSO SUBMITTED B13A01 FOR ANALYSIS)
	2.5								
	3.0								(REFUSAL @ 3.6' / BORING RESUMED @ B13F)
	3.5								PRIOR TO 4.0' ;AUGER CUTTINGS BLACK OILY CHANGING TO BLACK WITH RED TINT & OD
B1302-991	4.0	>200	C. TAR	290	57	17	16	14	OLIVE SILTY CLAY
	4.5								BLACK TAR RESIDUE THROUGHOUT / STRONG COAL TAR ODOR
	5.0								
	5.5								
	6.0								
	6.5								
B1303-991	7.0	30	C. TAR	0.92	0.04	0.04	1.7	0.4	OLIVE GRAY SILTY CLAY
	7.5								VISIBLE SIGNS OF CONTAMINATION / SLIGHT COAL TAR ODOR
	8.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS / CYANIDE ONLY)
	8.5								
	9.0								
	9.5								
B1304-991	10.0	10	C. TAR	0.51	0.27	0.01	0.2	0.2	BROWNISH YELLOW CLAYEY SILT
	10.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	11.0								** SAMPLE SUBMITTED FOR LABORATORY ANLAYSIS **
	11.5								
	12.0								** BORING TERMINATED @ 10.0'
	12.5								
	13.0								NOTE: BORE HOLES B13 - B13E REFUSED ON CONCRETE APRON SURROUNDING
	13.5								PURIFER BOXS. VISIBLE CONTAMINATION NOTED @ 3.0 TO 4.0 FOOT DEPTHS FOR EACH
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH

[redacted]401-991	NO PHOTOGRAPH TAKEN

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-12-91
LOCATION	S.BLVD-MGP
SAMPLE#	B14-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
[redacted]	SURFACE								
	0.5								
	1.0								
	1.5								
	2.0								
	2.5								
	3.0								
	3.5								(AUGER REFUSAL @ 3.6'; CONCRETE)
	4.0								
	4.5								
	5.0								** NOTE: AUGER BORING AT B14-991 TO VERIFY EXWSTENCE OF GAS HOLDER PAD
	5.5								** NO SAMPLES WERE TAKEN **
	6.0								
	6.5								
	7.0								
	7.5								
	8.0								
	8.5								
	9.0								
	9.5								
	10.0								
	10.5								
	11.0								
	11.5								
	12.0								
	12.5								
[redacted]	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH

B1501-991	NO PHOTOGRAPH TAKEN

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-12-91
LOCATION	S.BLVD-MGP
SAMPLE#	B15-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
	1.0								
	1.5								
	2.0								(AUGER REFUSAL @ 2.0'; CONCRETE)
	2.5								
	3.0								
	3.5								** NOTE: AUGER BORING AT B15-991 TO VERIFY EXISTENCE OF GAS HOLDER PAD
	4.0								** NO SAMPLES WERE TAKEN **
	4.5								
	5.0								
	5.5								
	6.0								
	6.5								
	7.0								
	7.5								
	8.0								
	8.5								
	9.0								
	9.5								
	10.0								
	10.5								
	11.0								
	11.5								
	12.0								
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH

B1601-991	NO PHOTOGRAPH TAKEN

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-16-91
LOCATION	S.BLVD-MGP
SAMPLE#	B16-991
WORK ID	
LOGGED BY: E. CHAPMAN	
ADDITIONAL NOTES: TSH/RAS	

GC SCREEN:

UNITS = VOLTS

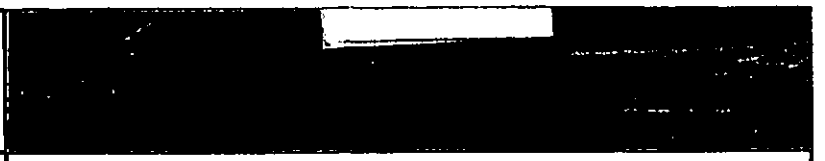
ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
	1.0								(AUGER REFUSAL ON REPEATED TRIES @ 0.9' TO 1.6')
	1.5								** NOTE: REFUSAL ON CONCRETE, STEEL, AND BRICK ON TOP OF OR AROUND
	2.0								PURIFERS)
	2.5								** NO SAMPLES TAKEN **
	3.0								
	3.5								
	4.0								
	4.5								
	5.0								
	5.5								
	6.0								
	6.5								
	7.0								
	7.5								
	8.0								
	8.5								
	9.0								
	9.5								
	10.0								
	10.5								
	11.0								
	11.5								
	12.0								
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

[redacted]OTOGRAPH

B1701-991	

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-16-91
LOCATION	S.BLVD-MGP
SAMPLE#	B17-991
WORK ID	
LOGGED BY: E. CHAPMAN	
ADDITIONAL NOTES: TSH/RAS	

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
[redacted]	SURFACE								
	0.5								
01-991	1.0	>200	C. TAR	10.9	10.8	19.7	14	13.2	OLIVE BROWN SILTY CLAY WITH BRICK AN GRAVELS
	1.5								BLACK SOIL ABOVE CLAY / COAL TAR ODOR IN BLACK SOIL
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.6								
	3.0								(AUGER REFUSAL @ 2.6' / BORING TERMINATED)
	3.5								
	4.0								
	4.5								
	5.0								
	5.5								
	6.0								
	6.5								
	7.0								
	7.5								
	8.0								
	8.5								
	9.0								
	9.5								
	10.0								
	10.5								
	11.0								
	11.5								
	12.0								
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH

[redacted]801-991	NO PHOTOGRAPH TAKEN

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-16-91
LOCATION	S.BLVD-MGP
SAMPLE#	B18-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

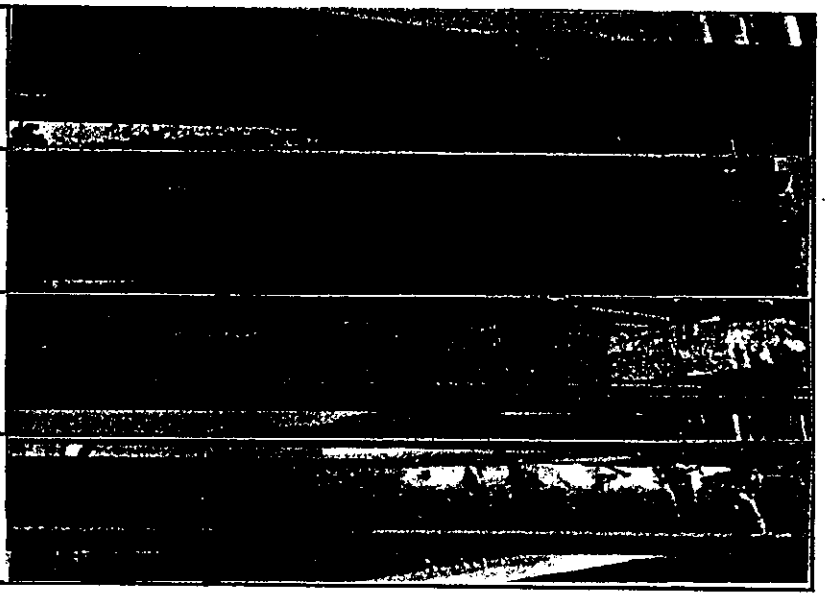
B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
[redacted]	SURFACE								
	0.5								
[redacted]1-991	1.0								(AUGER REFUSAL ON REPEATED TRIES @ 1.3' TO 1.5' ON CONCRETE)
	1.5								** NO SAMPLE TAKEN **
	2.0								
	2.5								
	3.0								
	3.5								
	4.0								
	4.5								
	5.0								
	5.5								
	6.0								
	6.5								
	7.0								
	7.5								
	8.0								
	8.5								
	9.0								
	9.5								
	10.0								
	10.5								
	11.0								
	11.5								
	12.0								
	12.5								
[redacted]	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH

B1901-991



B1902-991

B1903-991

B1904-991

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-16-91
LOCATION	S.BLVD-MGP
SAMPLE#	
WORK ID	B19-991
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

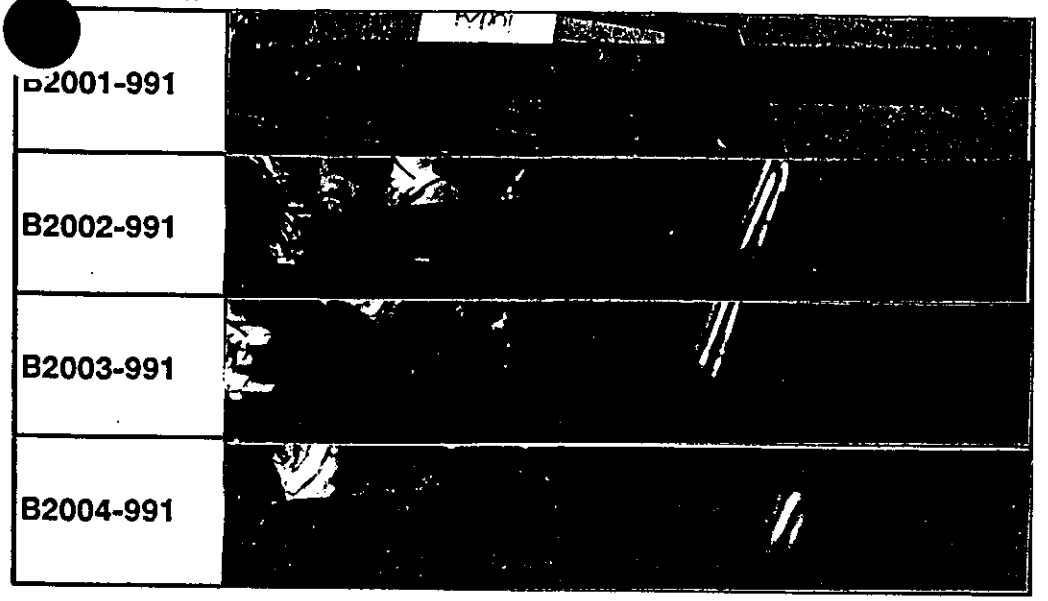
ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
-991	1.0	>200	C. TAR	9.5	109	20	20	7.5	BLACK FINE TO MEDIUM SAND WITH ASH PARTICLES
	1.5								VISIBLE CONTAMINATION / COAL TAR ODOR
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								
	3.5								
B1902-991	4.0	>200	C. TAR	8	138	7	5.5	7.5	BLACK FIRN TO MEDIUM SAND CHANGING TO OLIVE SILTY CLAY
	4.5								DARK VISIBLE CONTAMINATION / STRONG COAL TAR ODOR
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B1903-991	7.0	150	C. TAR	1.9	47	2.5	259	3.2	BROWNISH YELLOW CALYEY SILT
	7.5								SAMPLE WET FROM G.W. @ 5.5' / COAL TAR ODOR
	8.0								
	8.5								
	9.0								
	9.5								
B1904-991	10.0	100	C. TAR	0.01	2.3	0.02	0.55	0.02	GRAY SILTY CLAY
	10.5								NO VISIBLE CONTAMINATION / SLIGHT ODOR
	11.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-17-91
LOCATION	S.BLVD-MGP
SAMPLE#	B20-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
	1.0								
	1.5	>200	C. TAR	2.2	6	137	423	374	DARK BROWN FINE TO MEDIUM SAND WITH GRAVEL AND WOOK PARTICLES
	2.0								WOOD AND VISIBLE PHC / STRONG PHC ODOR
	2.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	3.0								
	3.5								
	4.0								
	4.5	>200	C. TAR	2	69	21	7.5	2.9	DARK BROWN FINE TO MEDIUM SAND CHANGING TO DARK GRAY CLAYEY SILT
	5.0								SLIGHT ODOR IN BROWN SOIL CHANGING TO STRONG ODOR IN GRAY SOIL
	5.5								
	6.0								
	6.5								
	7.0								
	7.5	>200	C. TAR	6.3	352	34	353	39	DARK GRAY CLAYEY SILT
	8.0								WHITE DEPOSITS THROUGHOUT / STRONG COAL TAR ODOR
	8.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	9.0								
	9.5								
	10.0								
	10.5	125	C. TAR	1.9	15.6	23.7	27.9	11.5	DARK GRAY CLAYEY SILT
	11.0								WHITE DEPOSITS THROUGHOUT / STRONG ODOR DEMINISHING TOWRD BOTTOM
	11.5								
	12.0								
	12.5								
	13.0								
	13.5	50	C. TAR	1.1	4.1	11.7	7.3	2.3	CONTINUED ON SHEET #2
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION SHEET #2

PHOTOGRAPH

B2005-991



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-17-91
LOCATION	S.BLVD-MGP
SAMPLE#	
WORK ID	B20-991
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

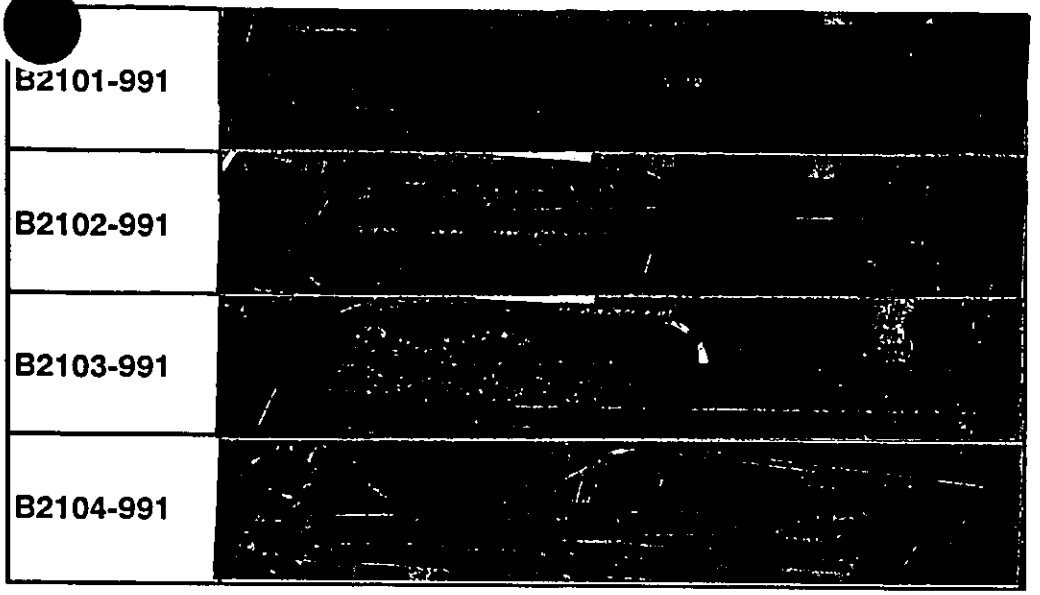
ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
005-991	14.5								CONTINUED FROM SHEET #1
	15.0								DARK GRAY CLAYEY SILT CHANGING TO OLIVE YELLOW CLAYEY SILT
	15.5								VERY WET / STRONG ODOR AT TOP WITH ODOR STOPPING AT CHANGE IN LITHOLOGY
	16.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	16.5								
	17.0								
	17.5								** BORING TERMINATED @ 13.4'
	18.0								
	18.5								
	19.0								
	19.5								
	20.0								
	20.5								
	21.0								
	21.5								
	22.0								
	22.5								
	23.0								
	23.5								
	24.0								
	24.5								
	25.0								
	25.5								
	26.0								
	26.5								
	27.0								
	27.5								
	28.0								
	28.5								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-17-91
LOCATION	S.BLVD-MGP
SAMPLE#	B21-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								** 0.0' - 2.4' AUGER CUTTING VERY HARD; BRICK AND CONCRETE IN
	0.5								AUGER CUTTINGS
	1.0								
	1.5								
	2.0								
B2101-991	2.5	> 200	C. TAR	6	12	20	0.6	1.2	BLACK FINE TO MEDIUM SAND CHANGING TO OLIVE SILTY CLAY
	3.0								BLACK, WET WITH VISIBLE ASH / STRONG COAL TAR ODOR
	3.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	4.0								
	4.5								
	5.0								
B2102-991	5.5	> 200	C. TAR	204	1250	21	35	22	GRAY SILTY CLAY
	6.0								GRAY WITH WHITE SPECKS (MOTTLED) / COAL TAR ODOR DEIMISHING AT 5.5'
	6.5								
	7.0								
	7.5								
	8.0								
B2103-991	8.5	200	C. TAR	73	MP	31	48	28	OLIVE GRAY SILTY CLAY
	9.0								MOTTLED SOIL; NO VISIBLE CONTAMINATION / STRONG PHC ODOR THORUGHOUT
	9.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	10.0								
	10.5								
	11.0								
B2104-991	11.5	75	C. TAR	1	8.5	16	4	0.7	OLIVE CLAYEY SILT
	12.0								MOTTLED SOIL; NO VISIBLE CONTAMINATION / SUGHT PHC ODOR
	12.5								
	13.0								NOTE: GC SCREEN / MP = MULTIPLE PEAKS
	13.5								
	14.0								** CONTINUED ON SHEET 2

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION SHEET #2

PHOTOGRAPH

B2105-991	

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-17-91
LOCATION	S.BLVD-MGP
SAMPLE#	B21-991
WORK ID	
LOGGED BY: E. CHAPMAN	
ADDITIONAL NOTES: TSH/RAS	

GC SCREEN:

UNITS = VOLTS

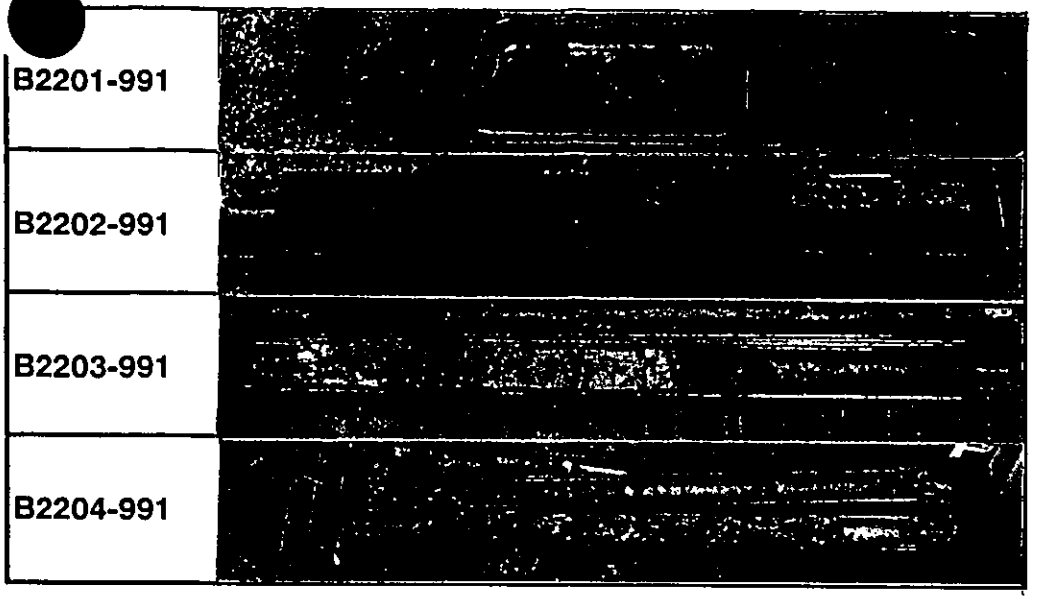
ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
05-991	14.5	1	C. TAR	0.03	0.04	ND	ND	ND	LIGHT YELLOWISH BROWN CLAYEY SILT
	15.0								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	15.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS
	16.0								
	16.5								
	17.0								
	17.5								
	18.0								
	18.5								
	19.0								
	19.5								
	20.0								** BORING TERMINATED @ 14.5'
	20.5								
	21.0								
	21.5								
	22.0								
	22.5								
	23.0								
	23.5								
	24.0								
	24.5								
	25.0								
	25.5								
	26.0								
	26.5								
	27.0								
	27.5								
	28.0								
	28.5								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-17-91
LOCATION	S.BLVD-MGP
SAMPLE#	B22-991
WORK ID	
LOGGED BY: E. CHAPMAN	
ADDITIONAL NOTES: TSH/RAS	

GC SCREEN:

UNITS = VOLTS

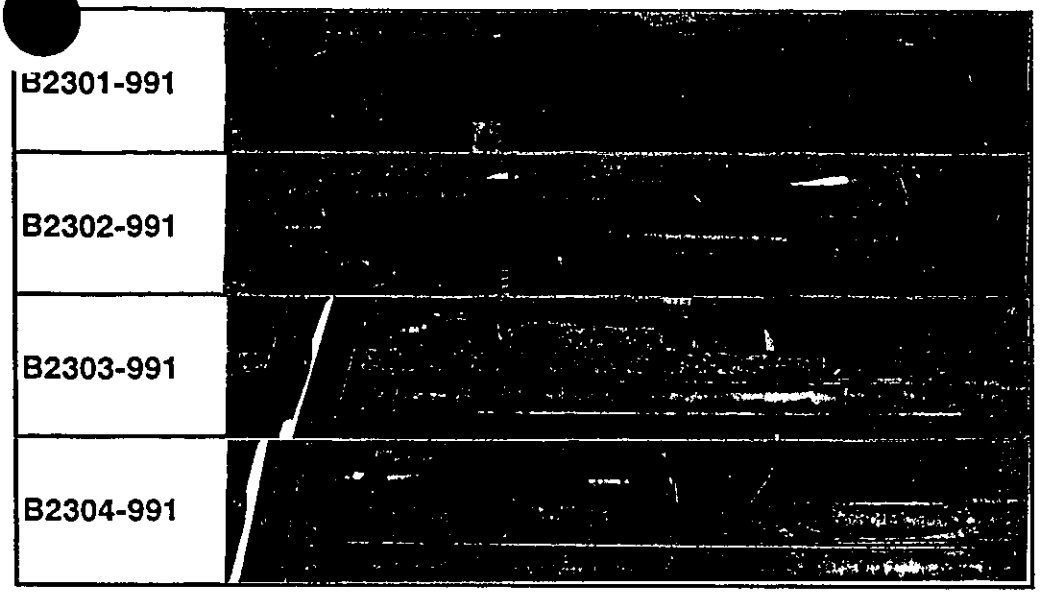
ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
-991	1.0	10	C. TAR	LE	–	–	1.5	0.2	BLACK FINE TO MEDIUM SAND WITH BRICK PARTICLES CHANGING TO
	1.5								DARK GRAY SILTY CLAY
	2.0								NO VISIBLE CONTAMINATION / SLIGHT ODOR
	2.5								
	3.0								
	3.5								
B2202-991	4.0	75	C. TAR	0.72	ND	ND	ND	ND	GRAY SILTY CLAY
	4.5								COAL AND ORANGE BRICK VISIBLE / NO DETECTABLE ODORS
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B2203-991	7.0	50	C. TAR	LE	2.4	0.07	0.12	0.1	OLIVE YELLOW MICACEOUS CLAYEY SILT
	7.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	8.0								** SAMPLE SUBMITTED FOR LABORATORY ANLAYSIS **
	8.5								
	9.0								
	9.5								
B2204-991	10.0	< 1	C. TAR	0.14	0.03	ND	0.01	ND	BROWNISH YELLOW MICACEOUS CLAYEY SILT
	10.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	11.0								
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								NOTE: GC SCREEN / LE = LARGE ELUDING
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-17-91
LOCATION	S.BLVD-MGP
SAMPLE#	B23-991
WORK ID	
LOGGED BY: E. CHAPMAN	
ADDITIONAL NOTES: TSH/RAS	

GC SCREEN:

UNITS = VOLTS

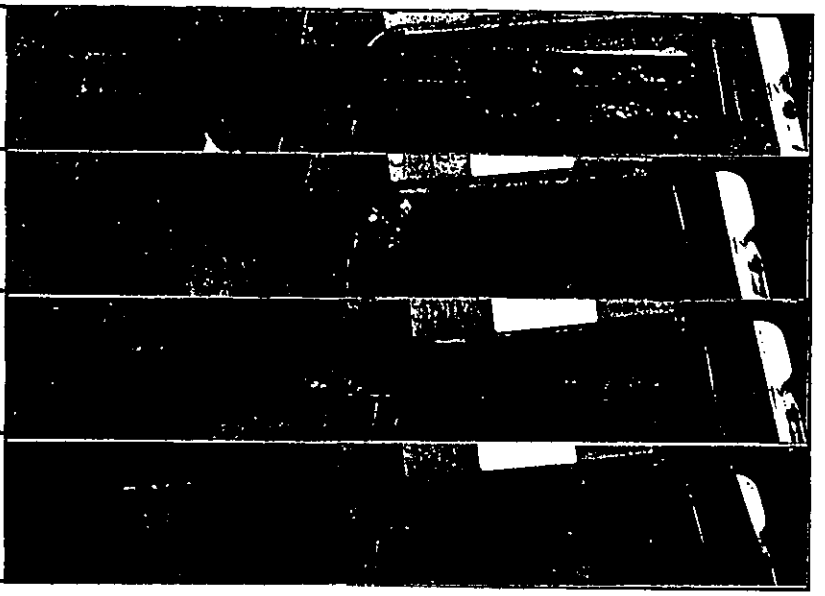
ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
1-991	1.0	> 200	C. TAR	LE	–	–	2.2	2.7	BLACK FINE TO MEDIUM SAND CHANGING TO DARK OLIVE SANDY CLAYEY SILT
	1.5								VISIBLE COAL AND ROCK CHIPS / PHC ODOR @ 1.5' DEMINISHING @ 3.0'
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								
	3.5								
B2302-991	4.0	> 200	C. TAR	66	51	21	6.5	1	DARK OLIVE CLAYEY SILTY FINE TO MEDIUM SAND WITH SINDERS
	4.5								BAND OF COAL @ 5.0' WITH SLIGHT ODOR / NO DETECTABLE ODORS A @ 6.0'
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B2303-991	7.0	25	C. TAR	1	9.9	5.2	5.2	1.9	GRAY MICACEOUS CLAYEY SILT
	7.5								NO VISIBLE CONTAMINATION / SLIGHT CREOSOTE-LIKE ODOR
	8.0								
	8.5								
	9.0								
	9.5								
B2304-991	10.0	5	C. TAR	0.6	9.5	34.3	21.3	7.6	REDDISH BROWN MICACEOUS CLAYEY SANDYEY SILT
	10.5								NO VISIBLE CONTAMINATION / SLIGHT ODOR THROUGHOUT
	11.0								
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								NOTE: GC SCREEN / LE = LARGE ELUDING
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-18-91
LOCATION	S.BLVD-MGP
SAMPLE#	B24-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								**** BACKGROUND SAMPLE ****
	0.5								
-991	1.0	40	C. TAR	LE	1	11	9.9	4.2	RED MICACEOUS CLAYEY SILT WITH GRAVEL
	1.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODOR
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								
	3.5								
B2402-991	4.0	20	C. TAR	0.51	0.38	0.25	0.12	0.43	STRONG BROWN SILTY CLAY
	4.5								VO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B2403-991	7.0	20	C. TAR	0.77	0.34	0.23	0.45	ND	STRONG BROWN CLAYEY SILT
	7.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	8.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	8.5								
	9.0								
	9.5								
B2404-991	10.0	< 1	C. TAR	0.45	0.1	ND	0.42	ND	REDDISH YELLOW CLAYEY SILT
	10.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	11.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	11.5								
	12.0								
	12.5								
-991	13.0								
	13.5								
	14.0								B2405-991 CONTINUED ON SHEET 2

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION SHEET #2

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-18-91
LOCATION	S.BLVD-MGP
SAMPLE#	B24-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

PHOTOGRAPH

B2405-991



GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
-991	14.5	< 1	C. TAR	0.57	ND	ND	ND	ND	STRONG BROWN CLAYEY SILT
	15.0								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	15.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	16.0								
	16.5								
	17.0								
	17.5								** BORING TERMINATED @ 13.0'
	18.0								
	18.5								
	19.0								
	19.5								
	20.0								
	20.5								
	21.0								
	21.5								
	22.0								
	22.5								
	23.0								
	23.5								
	24.0								
	24.5								
	25.0								
	25.5								
	26.0								
	26.5								
	27.0								
	27.5								
	28.0								
	28.5								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

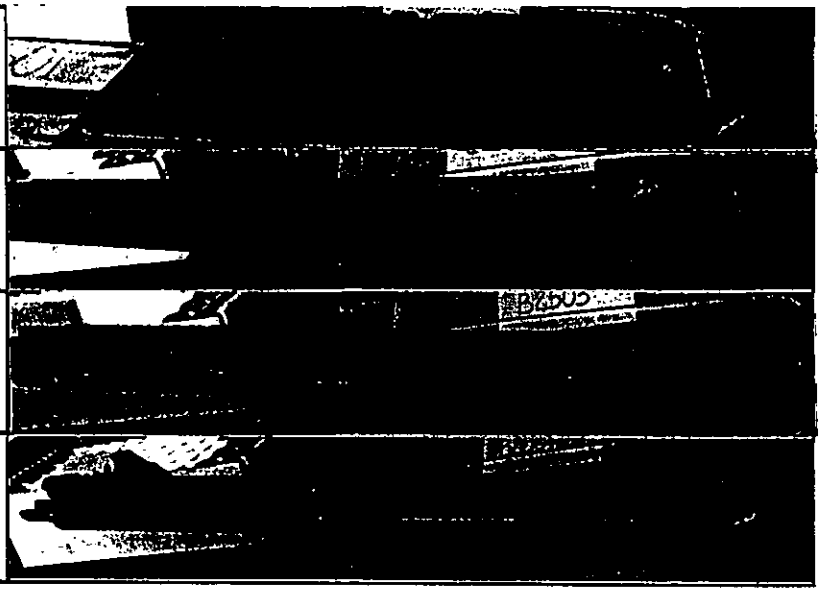
PHOTOGRAPH

B2501-991

B2502-991

B2503-991

B2504-991



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-18-91
LOCATION	S.BLVD-MGP
SAMPLE#	B25-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
	1.0								
B2501-991	1.5	200	C. TAR	4.5	2.7	2.5	3.4	2.1	DARK BROWN MICACEOUS SANDY SILTY CLAY
	2.0								COAL AND ROCK CHIP THROUGHOUT / SLIGHT ODOR
	2.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYYSIS **
	3.0								
	3.5								
	4.0								
B2502-991	4.5	>200	C. TAR	--	--	--	--	--	DARK BROWN SANDY SILT CHANGING TO GRAY SILTY CLAY
	5.0								NO VISIBLE CONTAMINATION / PHC ODOR DETECTECTED
	5.5								
	6.0								
	6.5								
	7.0								
B2503-991	7.5	>200	C. TAR	--	--	--	--	--	OLIVE CLAYEY SILT
	8.0								STREAKS OF BLACK IN SAMPLE / PHC ODOR THROUGHOUT
	8.5								
	9.0								
	9.5								
	10.0								
B2504-991	10.5	>200	C. TAR	--	--	--	--	--	OLIVE GRAY SANDY CLAYEY SILT
	11.0								BLACK COAL-LIKE BANDS THROUGHOUT / PHC ODOR THROUGHOUT BUT DEMINISHING
	11.5								** SAMPLE SUBMITTED FOR LABORATORY ALALYSIS **
B2504A	12.0	5	C. TAR	--	--	--	--	--	
	12.5								
	13.0								** BORING TERMIINATED @ 10.5'
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION

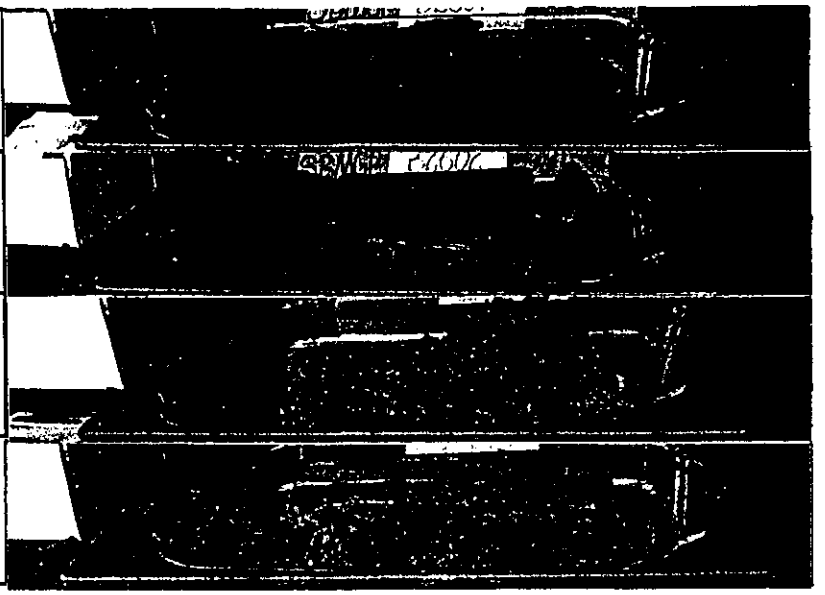
PHOTOGRAPH

B2601-991

B2602-991

B2603-991

B2604-991



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-18-91
LOCATION	S.BLVD-MGP
SAMPLE#	B26-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

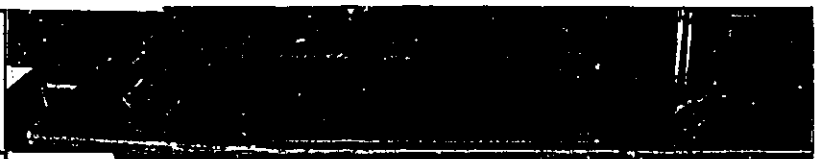
8. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
1-991	1.0	200	C. TAR	–	–	–	–	–	STRONG BROWN FINE TO MEDIUM SAND CHANGING TO DARK GRAY SANDY CLAYEY SILT
	1.5								VISIBLE CONTAMINATION AND WOOD CHIPS / STRONG PHC ODOR DETECTED
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								
	3.5								
	4.0								
B2602-991	4.5	150	C. TAR	–	–	–	–	–	STRONG BROWN SANDY CLAYEY SILT CHANGING TO GRAY SILTY CLAY
	5.0								NO VISIBLE CONTAMINATION / SLIGHT ODOR DETECTED
	5.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	6.0								
	6.5								
	7.0								
B2603-991	7.5	20	C. TAR	–	–	–	–	–	LIGHT GRAY SILTY CLAY
	8.0								UNBURNED WOOD CHIPS THROUGHOUT: VO VISIBLE CONTAMINATION / NO ODORS
	8.5								
	9.0								
	9.5								
	10.0								
B2604-991	10.5	15	C. TAR	–	–	–	–	–	REDDISH YELLOW SANDY CLAYEY SILT
	11.0								BLACK STREAKS : NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	11.5								
	12.0								
	12.5								
	13.0								
	13.5								** BORING TERMIINATED @ 10.0'
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION

PHOTOGRAPH

B2701-991	
B2702-991	

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-18-91
LOCATION	S.BLVD-MGP
SAMPLE#	B27-991
WORK ID	
LOGGED BY: E. CHAPMAN	
ADDITIONAL NOTES: TSH/RAS	

GC SCREEN:

UNITS = VOLTS

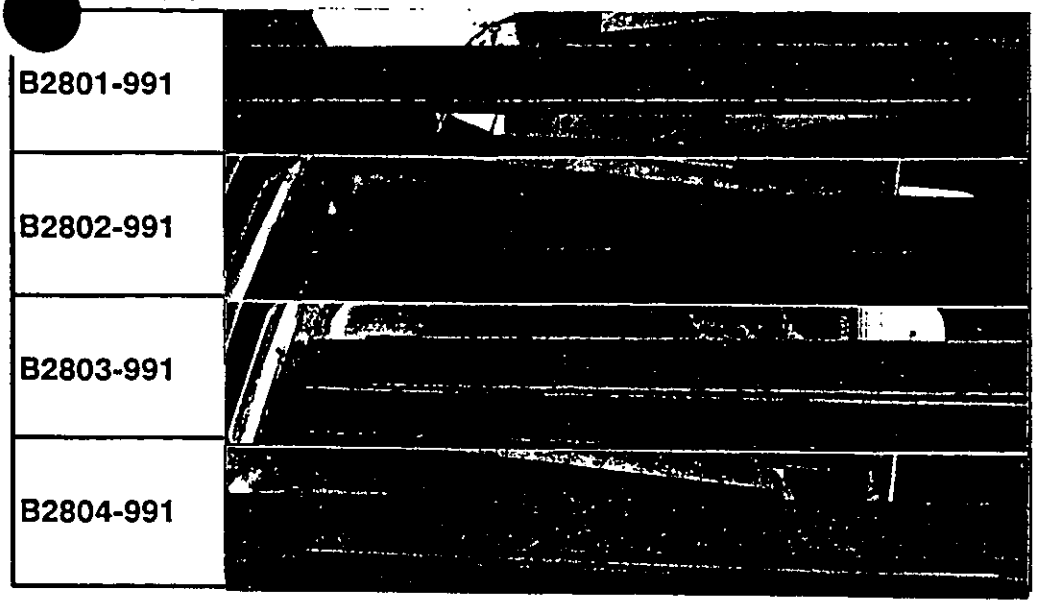
ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
J1-991	1.0	150	C. TAR	--	--	--	--	--	STRONG BROWN FINE TO MEDIUM SAND CHANGING TO DARK BROWN
	1.5								SINE TO MEDIUM SAND
	2.0								BRICK, ROCK AND COAL ASH / NO ODOR CHANGING TO
	2.5								BLACK SOIL WITH VISIBLE CONTAMINATION / STRONG PHC ODOR
	3.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	3.5								
	4.0								
B2702-991	4.5	>200	C. TAR	--	--	--	--	--	DARK BROWN CLAYEY SILT CHANGING TO VERY DARK CLAYEY SILT WITH
	5.0								BRICK AND WIRE - OILY APPEARANCE
	5.5								VISIBLE STREAKS OF TAR WITH SHEEN / STRONG COAL TAR ODOR
	6.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	6.5								
	7.0								
	7.5								** AUGER REFUSAL @ 5.9'
	8.0								REFUSAL BY OBJECT MISSED BY SHELBY TUBE
	8.5								
	9.0								
	9.5								
	10.0								
	10.5								
	11.0								
	11.5								
	12.0								
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

PHOTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-19-91
LOCATION	S.BLVD-MGP
SAMPLE#	B28-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
[redacted]1-991	1.0	20	C. TAR	--	--	--	--	--	YELLOWISH RED CLAYEY SILT
	1.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODOR
	2.0								
	2.5								
	3.0								
	3.5								
B2802-991	4.0	50	C. TAR	--	--	--	--	--	OLIVE GRAY SANDY SILT
	4.5								NO VISIBLE CONTAMINATION / ODOR DETECTED IN LOWER GRAY SOIL
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B2803-991	7.0	30	C. TAR	--	--	--	--	--	OLIVE SANDY SILT
	7.5								NO VISIBLE CONTAMINATION / PHC ODOR THROUGHOUT
	8.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	8.5								
	9.0								
	9.5								
B2804-991	10.0	25	C. TAR	--	--	--	--	--	OLIVE BROWN SANDY SILT WITH RED TINT
	10.5								NO VISIBLE CONTAMINATION / PHC ODOR DEMINISHING TOWARD BOTTOM OF SAMPLE
	11.0								
	11.5								
	12.0								
	12.5								
[redacted]5-991	13.0								
	13.5								B2805-991 CONTINUED ON SHEET 2
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION SHEET #2

PHOTOGRAPH

B2805-991



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-19-91
LOCATION	S.BLVD-MGP
SAMPLE#	B28-991
WORK ID	
LOGGED BY: E. CHAPMAN	
ADDITIONAL NOTES: TSH/RAS	

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

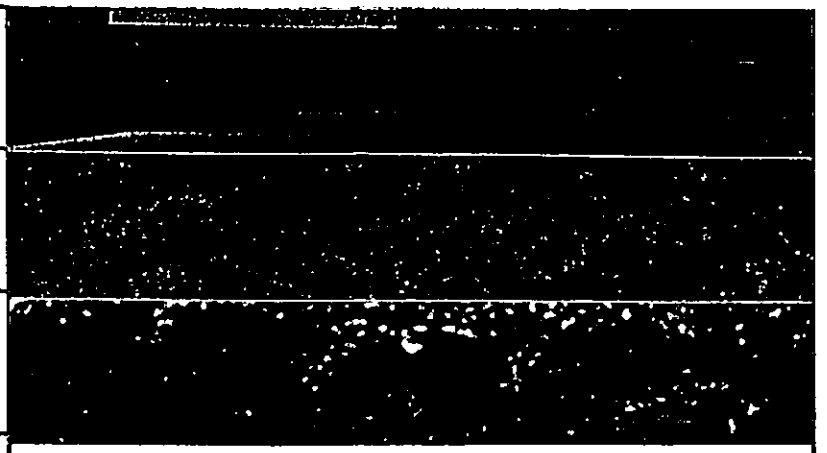
B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
5-991	14.5	1	C. TAR	--	--	--	--	--	BROWNISH YELLOW SANDY SILT
	15.0								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	15.5								
	16.0								** BORING TERMINATED @ 13.0'
	16.5								
	17.0								
	17.5								
	18.0								
	18.5								
	19.0								
	19.5								
	20.0								
	20.5								
	21.0								
	21.5								
	22.0								
	22.5								
	23.0								
	23.5								
	24.0								
	24.5								
	25.0								
	25.5								
	26.0								
	26.5								
	27.0								
	27.5								
	28.0								
	28.5								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION

PHOTOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	09-19-91
LOCATION	S.BLVD-MGP
SAMPLE#	B29-991
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

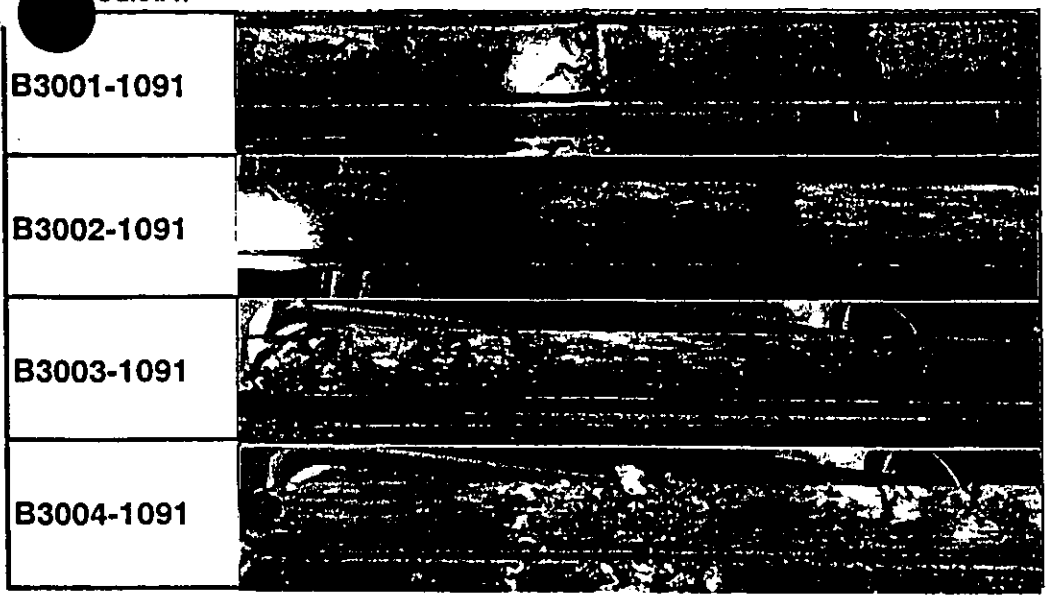
B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
01-99	1.0	200	C. TAR	--	--	--	--	--	DARK BROWN MICACEOUS CLAYEY SILT
	1.5								COAL AND COAL TAR VISIBLE / COAL TAR ODOR DETECTED
	2.0								
	2.5								
	3.0								
	3.5								AUGER REFUSAL @ 4.1' / MOVED TO B29A
	4.0								
	4.5								
	5.0								
B2902-991	5.5	>200	C. TAR	--	--	--	--	--	OLIVE BROWN / BLACK SANDY SILT
	6.0								VISIBLE OILY COAL TAR / STRONG COAL TAR ODOR
	6.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	7.0								
	7.5								
	8.0								
	8.5								
	9.0								
B2903-991	9.5	>200	C. TAR	--	--	--	--	--	BLACK OILY COAL TAR
	10.0								PURE COAL TAR
	10.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	11.0								
	11.5								
	12.0								
	12.5								
	13.0								** AUGER REFUSAL @ 13.9'
	13.5								STILL IN HEAVY "RUNNING" COAL TAR
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION

TOGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	10-01-91
LOCATION	S.BLVD-MGP
SAMPLE#	B30-1091
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
-1091	1.0	50	C. TAR	--	--	--	--	--	YELLOWISH RED SILTY CLAY
	1.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODOR
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								
	3.5								
B3002-1091	4.0	75	C. TAR	--	--	--	--	--	BROWNISH YELLOW CLAYEY SILT
	4.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODOR
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B3003-1091	7.0	5	C. TAR	0.06	ND	0.03	0.34	0.03	BROWNISH YELLOW SANDY CLAYEY SILT
	7.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODOR
	8.0								
	8.5								
	9.0								
	9.5								
B3004-1091	10.0	<1	C. TAR	0.05	ND	0.01	0.2	0.06	BROWNISH YELLOW SANDY CLAYEY SILT CHANGING TO
	10.5								PALE YELLOW CLAYEY SILT
	11.0								NO VISIBLE CONTAMINATION / NO DETECTABLE ODOR
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

[redacted] INFORMATION

[redacted]OGRAPH

B3101-1091



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	10-01-91
LOCATION	S.BLVD-MGP
SAMPLE#	B31-1091
WORK ID	
LOGGED BY: E. CHAPMAN	
ADDITIONAL NOTES: TSH/RAS	

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
[redacted]	SURFACE								
	0.5								
[redacted]-1091	1.0	>200	C. TAR	--	--	--	--	--	BLACK FINE TO MEDIUM SAND WITH WOOD PARTICLES
	1.5								BLACK WITH OILY APPEARANCE / STRONG COAL TAR ODOR
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								SAMPLE COLLECTED FROM AUGER FLIGHT
	3.5								REPEATED BORINGS ALL YIELDED REFUSAL A@ 2.0'
	4.0								
	4.5								
	5.0								
	5.5								
	6.0								
	6.5								
	7.0								
	7.5								
	8.0								
	8.5								
	9.0								
	9.5								
	10.0								
	10.5								
	11.0								
	11.5								
	12.0								** BORING TERMINATED @ 2.0'
	12.5								
[redacted]	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL INFORMATION

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

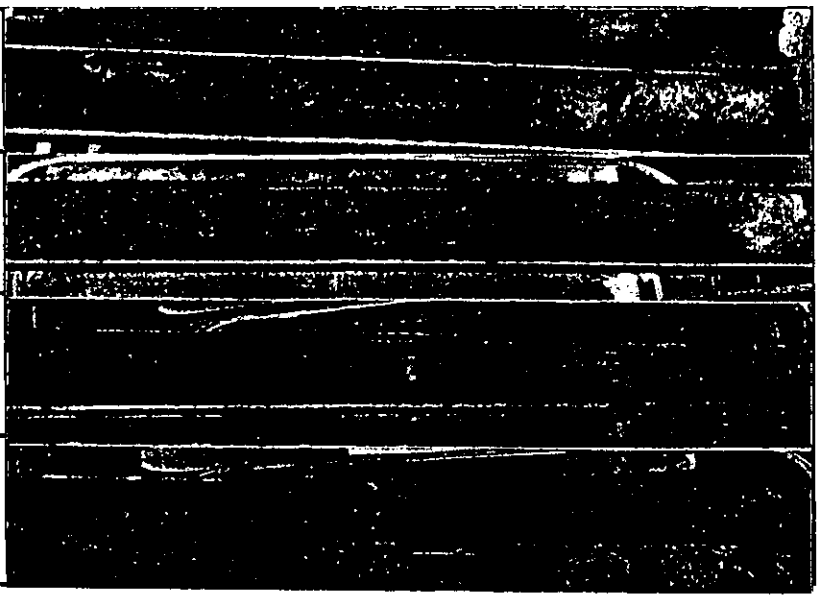
PHOTOGRAPH

B3201-1091

B3202-1091

B3203-1091

B3204-1091



DATE	10-01-91
LOCATION	S.BLVD-MGP
SAMPLE#	B32-1091
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
-1091	1.0	1000	GAS	–	–	–	–	–	DARK GRAY SANDY SILT
	1.5								BLACK STREAKS AND ASH / COAL TAR ODOR
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								
	3.5								
B3202-1091	4.0	1000	GAS	47	51	33	52	40	OLIVE YELLOW CLAYEY SILT CHANGING TO OLIVE FINE SAND
	4.5								NO VISIBLE CONTAMINATION / GASOLINE ODOR
	5.0								
	5.5								
	6.0								
	6.5								
B3203-1091	7.0	1000	GAS	8	65	30	45	70	DARK GRAY BROWN FINE SAND
	7.5								NO VISIBLE CONTAMINATION / GASOLINE ODOR
	8.0								
	8.5								
	9.0								
	9.5								
B3204-1091	10.0	1200	GAS	–	–	–	–	–	OLIVE FINE SAND
	10.5								NO VISIBLE CONTAMINATION / GASOLINE ODOR
	11.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	11.5								
	12.0								SAME SOIL CHARACTERISTICS AS FOUND AT B10 AND B11
	12.5								
	13.0								
	13.5								** BORING TERMINATED @ 10.0'
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION

PHOTOGRAPH

B3301-1091



B3302-1091



B3303-1091



B3304-1091



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	10-01-91
LOCATION	S.BLVD-MGP
SAMPLE#	B33-1091
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

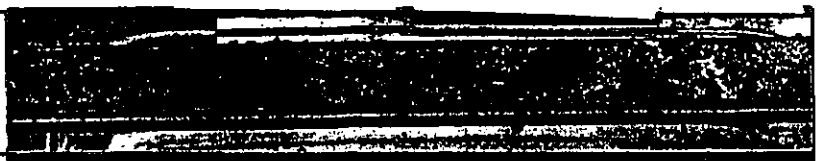
SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
1091	1.0	1400	GAS	–	–	–	–	–	OLIVE BROWN FINE TO MEDIUM SAND
	1.5								STREAKS OF BLACK MATERIAL / PHC ODOR
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								
	3.5								
B3302-1091	4.0	>200	C. TAR	9	42	23	7.5	14	OLIVE YELLOW SILTY CLAY
	4.5								NO VISIBLE CONTAMINATION / PHC ODOR
	5.0								
	5.5								
	6.0								
	6.5								
B3303-1091	7.0	1200	GAS	–	–	–	–	–	PALE OLIVE SILTY CLAY
	7.5								NO VISIBLE CONTAMINATION / GASOLINE ODOR
	8.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	8.5								
	9.0								
	9.5								
B3304-1091	10.0	100	C. TAR	–	–	–	–	–	GRAY CLAYEY SILT
	10.5								NO VISIBLE CONTAMINATION / GASOLINE ODOR
	11.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	11.5								
	12.0								
	12.5								
	13.0								
	13.5								** BORING TERMINATED @ 10.0'
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

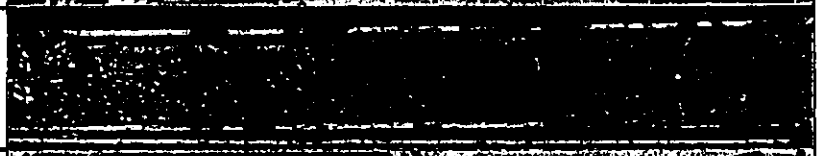
SOIL INFORMATION

TOGRAPH

B3401-1091



B3402-1091



B3403-1091



B3404-1091



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	10-02-91
LOCATION	S.BLVD-MGP
SAMPLE#	B34-1091
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

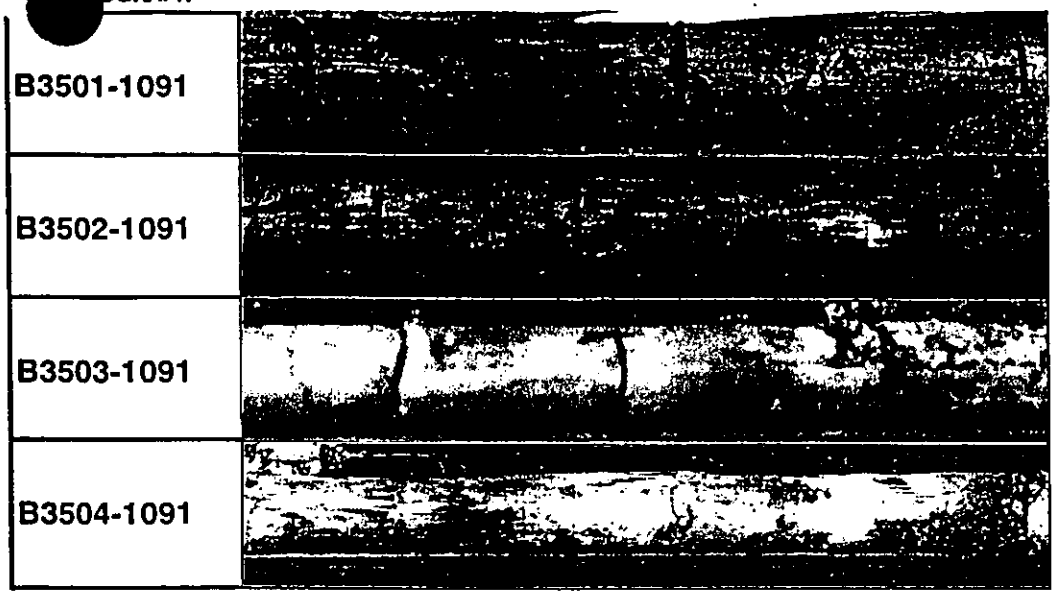
B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
-1091	1.0	>200	C. TAR	34	4.6	7.6	24	21	DARK YELLOWISH BROWN SILTY CLAY
	1.5								BANDS OF COAL / SLIGHT PHC ODOR
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								
	3.5								
B3402-1091	4.0	200	C. TAR	2.2	0.2	0.1	10.1	7	GRAY SANDY CLAYEY SILT
	4.5								NO VISIBLE CONTAMINATION / SLIGHT PHC ODOR
	5.0								
	5.5								
	6.0								
	6.5								
B3403-1091	7.0	600	GAS	20	270	34	24	25	GRAY SANDY SILT
	7.5								NO VISIBLE CONTAMINATION / PHC ODOR
	8.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	8.5								
	9.0								
	9.5								
B3404-1091	10.0	50	C. TAR	4.9	97	17	29	56	GRAY SANDY SILT CHANGING TO BROWNISH YELLOW DFINE TO MEDIUM SAND
	10.5								NO VISIBLE CONTAMINATION / SLIGHT PHC ODOR ABOVE YELLOW SAND
	11.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

[redacted] INFORMATION

[redacted]OGRAPH



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	10-02-91
LOCATION	S.BLVD-MGP
SAMPLE#	B35-1091
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
[redacted]	SURFACE								
	0.5								
[redacted]-1091	1.0	50	GAS	0.91	0.02	0.01	0.27	0.41	OLIVE YELLOW CLAYEY SILT
	1.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								
	3.5								
B3502-1091	4.0	15	C. TAR	1.3	0.05	0.03	0.12	0.34	OLIVE YELLOW CLAYEY SILT
	4.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B3503-1091	7.0	5	C. TAR	1	0.01	0.44	0.35	0.37	OLIVE YELLOW CLAYEY SILT
	7.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	8.0								
	8.5								
	9.0								
	9.5								
B3504-1091	10.0	<1	C. TAR	0.56	ND	0.02	0.15	0.46	PALE YELLOW CLAYEY SILT
	10.5								NO VISIBLE CONTAMINATION / NO DETECTABLE ODORS
	11.0								
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

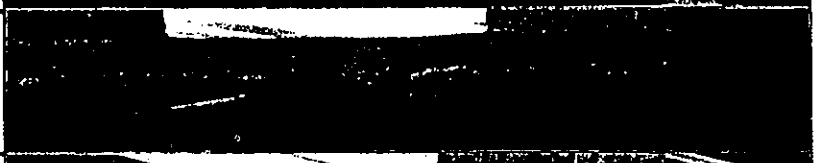
SOIL INFORMATION

[redacted]TOGRAPH

B3601-1091



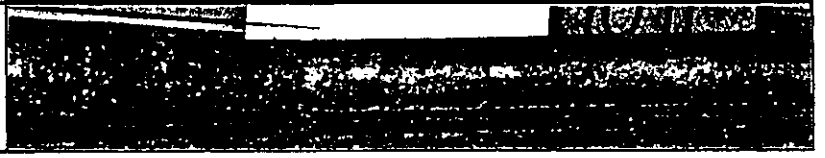
B3602-1091



B3603-1091



B3604-1091



DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	10-02-91
LOCATION	S.BLVD-MGP
SAMPLE#	B36-1091
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

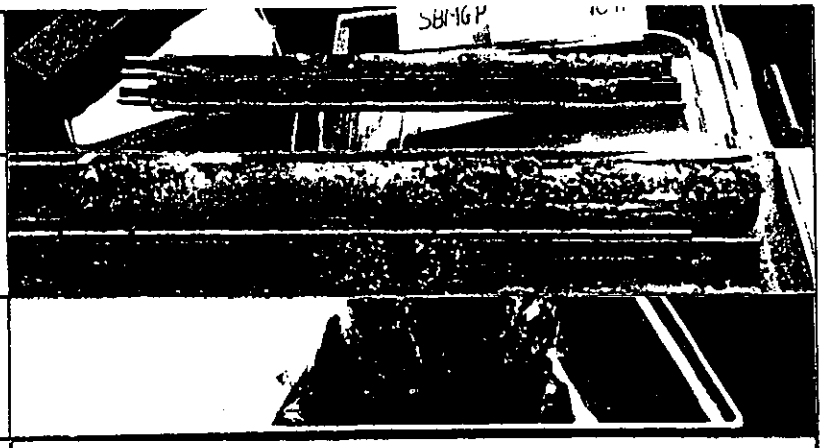
B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
[redacted]	SURFACE								
	0.5								
-1091	1.0	>200	C. TAR	--	--	--	--	--	DARK GRAY SANDY SILT
	1.5								OILY COAL TAR APPEARANCE / COAL TAR ODOR
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								** AUGER REFUSAL @ 3.0' / MOVED TO B36C
	3.5								
B3602-1091	4.0	>200	C. TAR	0.9	96	4	2400	47	GRAY SILTY CLAY
	4.5								NO VISIBLE CONTAMINATION / STRONG COAL TAR ODOR
	5.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	5.5								
	6.0								
	6.5								
B3603-1091	7.0	>200	C. TAR	0.7	117	6	3200	46	GRAY CLAYEY SILT
	7.5								OIL STAINS @ 8.5' / STRONG COAL TAR ODOR
	8.0								
	8.5								
	9.0								
	9.5								
B3604-1091	10.0	>200	C. TAR	--	--	--	--	--	OLIVE GRAY SANDY SILT
	10.5								NO VISIBLE CONTAMINATION / STRONG ODOR AT TOP DEMINISHING TOWARD BOTTOM
	11.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	11.5								
	12.0								** BORING TERMIINATED @ 10.0'
	12.5								
	13.0								
	13.5								
	14.0								

ENVIRONMENTAL ASSESSMENT FIELD LOG

SOIL INFORMATION

OGRAPH

B3701-1091	
B3702-1091	
B3703-1091	

DUKE POWER COMPANY
PSD/PES/CPM
PHONE:875-5229

DATE	10-03-91
LOCATION	S.BLVD-MGP
SAMPLE#	B37-1091
WORK ID	
LOGGED BY:	E. CHAPMAN
ADDITIONAL NOTES:	TSH/RAS

GC SCREEN:

UNITS = VOLTS

ISOPEN = ISOPENTANE
BENZ = BENZENE
TOL = TOLUENE
m&p-X = m&p-XYLENE
o-X = o-XYLENE

B. SOIL SCREENS/DESCRIPTIONS/NOTES

SAMPLE	DEPTH	HANBY SCREEN		GC SCREEN					NOTES:
LOG #	FEET	mg/kg	PARAMETER	ISOPEN	BENZ	TOL	m&p-X	o-X	
	SURFACE								
	0.5								
[redacted]1091	1.0	>200	C. TAR	--	--	--	--	--	DARK GRAY SILTY CLAY
	1.5								NO VISIBLE CONTAMINATION / PHC ODOR DETECTED
	2.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	2.5								
	3.0								
	3.5								
B3702-1091	4.0	>200	C. TAR	--	--	--	--	--	VERY DARK GRAYISH BROWN SILTY CLAY CHANGING TO BLACK FINE
	4.5								TO MEDIUM SAND
	5.0								VISIBLE SHEEN / STRONG COAL TAR ODOR
	5.5								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	6.0								
	6.5								
	7.0								
B3703-1091	7.5	>200	C. TAR	--	--	--	--	--	AFTER REFUSAL AT 6.1' BORING AT B37B PRODUCED HIGHLY CONTAMINATED
	8.0								/ STRONG COAL TAR ODOR
	8.5								MATERIAL STUCK TO AUGER FLIGHT
	9.0								** SAMPLE SUBMITTED FOR LABORATORY ANALYSIS **
	9.5								
	10.0								
	10.5								
	11.0								
	11.5								
	12.0								** AUGER REFUSAL @ 7.5'
	12.5								
	13.0								
	13.5								
	14.0								

Report 6
Volume II

South Boulevard Manufactured Gas Plant
Phase II Environmental Assessment
1992

APPENDIX B

SOIL TEST BORING FIELD REPORTS

xc: Ron Santay

October 7, 1991

Ralph Roberts

Re: South Boulevard Operating Center
Environmental Sampling
Soil Test Boring Field Reports

Please find enclosed the Soil Test Boring Field Report for the South Boulevard Operating Center.

If you have any questions, please call Bob Burton at 885-4016.

E. G. Burton
Geotechnical Drilling Supervisor
Geotechnical Center

EBG:tbm

Form 25630 (R33-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____
JOB NAME ENVIRONMENTAL SAMPLING
DATE 8-28-91 WEATHER CLOUDY-HOT

STARTING TIME N/A
GROUND SURFACE ELEV. _____
HRS. DRILLING N/A HRS. MOVING N/A
INSPECTOR E CHAPMAN BORING NO. B01-891

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0'	4	6	7			RED MICACEOUS SILTY CLAY
	2.5'						
2	4.0'	3	8	8	5		STRONG BROWN MICACEOUS SILTY CLAY CHANGING
	5.5'						TO REDDISH YELLOW CLAYEY SILT - PASSIBLE
							GASOLINE ODOR
3	7.0'	2	6	7			STRONG BROWN CLAYEY SILT
	8.5'						
4	10.0'	3	5	7	10		REDDISH YELLOW SANDY CLAYEY SILT
	11.5'						
							BORING TERMINATED @ 10.0'
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0'
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	TO
~~DIAMOND CORE~~	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 8-28-91 WEATHER CLOUDY-HOT INSPECTOR E. CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B02-891

	SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0'	4	8	7			RED SILTY CLAY
	2.5'						
2	4.0'	3	4	4	5		STRONG BROWN SILTY CLAY
	5.5'						
3	7.0'	4	2	2			RED SILTY CLAY CHANGING TO REDDISH YELLOW SILTY
	8.5'						
4	10.0'	2	1	2	10		YELLOWISH BROWN SILTY CLAY WITH BLACK SILT SEAMS
	11.5'						
							BORING TERMINATED @ 10.0'
					15		NO ODORS DETECTED
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0'
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
~~ROTARY DRILL: W/MUD: W/WATER~~	~~TO~~
~~DIAMOND CORE~~	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A
JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____
DATE 9-4-91 WEATHER SUNNY/MID INSPECTOR G CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B03-991

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0'	13	7	4			YELLOWISH RED FINE TO COARSE SAND WITH
	2.5'						BROKEN CONCRETE AND BRICK PARTICLES
2	4.0'	50+1/2			5		CONCRETE IN BORING - POSSIBLE ODOR ON
							AUGER CUTTINGS
							BORING TERMINATED @ 4.0'
					0		
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 4.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 4.0'
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
~~ROTARY DRILL: W/MUD: W/WATER~~	~~TO~~
~~DIAMOND CORE~~	~~TO~~

Form [illegible]30 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB #: [illegible]
JOB NAME: ENVIRONMENTAL SAMPLING
DATE: 9-4-91 WEATHER: SUNNY - MILD INSPECTOR: E. CHAPMAN

STARTING TIME: N/A
GROUND SURFACE ELEV.:
HRS. DRILLING: N/A HRS. MOVING: N/A
BORING NO.: B03-991A

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"			
				0		
1 @ 5'	1	1	1	5		GRAY/BLACK FINE TO MEDIUM SILTY SAND - COAL TAR ODOR - OILY APPEARANCE
2 @ 7.5'	1	1	2			BLACK SANDY SILT - COAL TAR ODOR - OILY APPEARANCE CHANGING TO LIGHT YELLOWISH BROWN SILTY CLAY
3 @ 11.5'				10		LIGHT OLIVE BROWN SANDY SILT - NO ODORS
						BORING TERMINATED @ 10.0'
				15		
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING ~~TERMINATED~~: 10.0'
BORING ~~REFUSAL~~: N/A
~~WATER TABLE~~ DEPTH: N/A
~~WATER 24 HR~~ DEPTH: N/A
WATER ~~LOSSES~~: N/A
CASING ~~SIZE~~: N/A LENGTH: N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 10.0'
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
~~ROTARY DRILL: W/MUD: W/WATER~~	~~TO~~
~~DIAMOND CORE~~	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A
JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____
DATE 09-06-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B04-991

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	1.0'	12	9	10			LIGHT OLIVE BROWN CHANGING TO BLACK
	2.5'						FINE TO MEDIUM SAND WITH WOOD PARTICLE AND
							BLUE GRAVEL · SLIGHT ODOR
2	4.0'	3	2	1	5		DARK REDDISH BROWN CHANGING TO GRAY
	5.5'						FINE TO MEDIUM SAND SLIGHT ODOR
3	7.0'	1	1	1			OLIVE SILTY CLAY (RECOVERED 0.3') NO ODOR
	8.5'						
4	10.0'	2	2	3	10		BROWNISH YELLOW CLAYEY SILT NO ODOR
	11.5'						
							BORING TERMINATED @ 10.0'
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 10.0'
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	TO
DIAMOND CORE	TO

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A
JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____
DATE 09-04-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A
BORING NO. B05-991

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	1.0'	3	5	6			DARK BROWN FINE TO COARSE SAND
	2.5'						
2	4.0'	3	2	3	5		STRONG BROWN FINE TO MEDIUM SAND CHANGING
	5.5'						TO DARK GRAY SILTY CLAY WITH ROOFING
							FELT APPEARING MATERIAL - SLIGHT ODOR
3	7.0'	2	1	1			DARK GRAY SILTY CLAY - SLIGHT ODOR
	8.5'						
					10		
4	10.0'	1	2	2			YELLOWISH BROWN CLAYEY SILT CHANGING
	11.5'						TO GRAY SILTY CLAY
							BORING TERMINATED @ 10.0'
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 10.0'
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
~~DIAMOND CORE~~	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLES GROUND SURFACE ELEV. _____

DATE 09-05-91 WEATHER P CLOUDY-MILD INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B06-991

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	1.0'	4	4	5			DARK YELLOWISH BROWN FINE TO MEDIUM SAND
	2.5'						
2	4.0'	3	1	50=2"	5		DARK YELLOWISH BROWN FINE TO MEDIUM SILTY CLAYEY SAND WITH GRAVEL
	5.2'						
							AUGER REFUSAL @ 5.2' - CONCRETE
					0		
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 5.2'
BORING REFUSAL 5.2'
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 5.2
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
~~ROTARY DRILL: W/MUD: W/WATER~~	~~TO~~
~~DIAMOND CORE~~	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-05-91 WEATHER PCLOUDY-HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. SEE BELOW

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		
					B06-991 A AUGER REFUSAL @ 5.1'
					B06-991 B AUGER REFUSAL @ 5.1'
			5		B06-991 C AUGER REFUSAL @ 6.0'
			0		
			5		
			0		
			5		
			0		
			5		
			0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED N/A
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	~~TO~~
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-05-91 WEATHER PCLOUDY/HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B06-991D

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"			
					0		
					5		
1	7.0'	50 + ½"					
2	7.8'	8	7	3	10		YELLOWISH BROWN FINE TO COARSE SILTY SAND
	9.3'						CHANGING TO GRAY SILTY CLAY
3	10.0'	2	1	2			YELLOWISH BROWN SANDY CLAYEY SILT
	14.5'						NO ODORS DETECTED
							BORING TERMINATED @ 10.0'
					15		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 10.0'
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
~~ROTARY DRILL: W/MUD: W/WATER~~	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 10-01-91 WEATHER CLOUDY-MILD INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. BOG-109E

SAMPLING 1ST 6"	SAMPLING 2ND 6"	SAMPLING 3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		
					BOG-109E LOCATION SAME AS BOG-99D
					REQUIREMENTS: BORING REFUSAL - NO SOIL SAMPLES
			5		
					BORING TERMINATED @ 74.1'
			0		
			5		
			0		
			5		
			0		
			5		
			0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 74.1'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 74.1'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C	REVISION 2
	PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-09-91 WEATHER SUNNY-HOT INSPECTOR E. CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B07-991

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	1.0' 2.5'	4	10	10			BLACK FINE TO COARSE SAND WITH GRAVEL AND WOOD PARTICLES CHANGING TO BLACK SILTY CLAY - SLIGHT ODOR
2	4.0' 5.5'	5	3	2	5		BLACK GRAY SILTY CLAY - ODOR DETECTED
3	7.0' 8.5'	2	2	2			PALE OLIVE SILTY CLAY
4	10.0' 11.5'	1	2	2	10		PALE OLIVE SILTY CLAY
							BORING TERMINATED @ 10.0'
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
~~ROTARY DRILL: W/MUD: W/WATER~~	~~TO~~
~~DIAMOND CORE~~	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 9-10-9 WEATHER SUNNY-HOT INSPECTOR E. CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B08-991

	SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0' 2.5'	11	6	3			STRONG BROWN SANDY SILTY CLAY WITH GRAVEL
2	4.0'	50+	"		5		BORING TERMINATED @ 4.0'
					0		
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 4.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.6 TO 4.0'
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
~~ROTARY DRILL: W/MUD: W/WATER~~	~~TO~~
~~DIAMOND CORE~~	~~TO~~

Form 25630 (R3-87)

FORM M-26C	REVISION 2
	PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT _____

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A
JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____
DATE 09-10-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. SEE BELOW

SAMPLING 1ST 6"	SAMPLING 2ND 6"	SAMPLING 3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		
					BOB-991 A AUGER REFUSAL @ 3.7' - CONCRETE
					BOB-991 B AUGER REFUSAL @ 3.3' - CONCRETE
			5		
			0		
			5		
			0		
			5		
			0		
			5		
			0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED N/A
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
~~POWER AUGER~~	~~TO~~
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
~~ROTARY DRILL: W/MUD: W/WATER~~	~~TO~~
~~DIAMOND CORE~~	TO

Form 25630 (REV-2)

FORM M-26C	REVISION 2
	PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT _____

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A
JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____
DATE 09-15-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. BOB-991C

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		2ND 6"	3RD 6"	0		
						0.2'-1.5' BLACK OILY VERY STRONG ODOR FINE TO MEDIUM SAND
1	4.0 5.5	2	1	5		VERY DARK GRAY SILTY CLAY - ODOR DETECTED
2	7.0 8.5	2	2			GRAY/BROWNISH YELLOW SILTY CLAY
3	10.0 11.5	2	3	10		BROWNISH YELLOW CLAYEY SILT
						BORING TERMINATED @ 10.0'
				5		
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES: N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
~~ROTARY DRILL: W/MUD: W/WATER~~	~~TO~~
DIAMOND CORE	TO

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT _____

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-10-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B09-991

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"			
				0		
						B09-991 AUGER REFUSAL @ 0.6' CONCRETE
				5		B09-991A AUGER REFUSAL @ 3A' CONCRETE
				0		
				5		
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED N/A
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	~~TO~~
HAND CHOP: W/MUD: W/WATER	TO
ROTARY DRILL: W/MUD: W/WATER	TO
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT _____

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-10-91 WEATHER SUNNY/HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A

BORING NO. SEE BELOW

SAMPLING 1ST 6"	SAMPLING 2ND 6"	SAMPLING 3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		
					B10-991 AUGER REFUSAL 2.8' CONCRETE
			5		B10-991A AUGER REFUSAL 2.3' CONCRETE
			0		
			5		
			0		
			5		
			0		
			5		
			0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED N/A
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	~~TO~~
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 9-10-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B10-991B

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
					5		
1	5.0 6.5	3	3	2			YELLOWISH RED FINE TO MEDIUM SILTY SAND CHANGING TO PALE YELLOW CLAYEY SANDY SILT
2	8.0 9.5	6	5	7			REDDISH YELLOW SANDY SILT CHANGING TO DARK GRAY FINE TO MEDIUM SAND - ODOR DETECTED
3	11.0 12.5	3	6	10	10		OLIVE FINE TO MEDIUM SAND - ODOR DETECTED
4	14.0 15.5	4	5	8	15		OLIVE FINE TO MEDIUM SAND - ODOR DETECTED
5	17.0 18.5	6	12	21			OLIVE FINE TO MEDIUM SAND - ODOR DETECTED
6	20.0 21.5	9	16	21	20		OLIVE FINE TO MEDIUM SAND - ODOR DETECTED
	~~25.0~~	END			25		
7	~~28~~ 26.5	10	15	19			OLIVE FINE TO MEDIUM SAND - ODOR DETECTED
							BORING TERMINATED @ 25.0'
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 25.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 25.0'
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
~~ROTARY DRILL: W/MUD: W/WATER~~	~~TO~~
~~DIAMOND CORE~~	TO

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-18-91 WEATHER SUNNY-WARM INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B11-991

SAMPLING 1ST 6"	SAMPLING 2ND 6"	SAMPLING 3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		
			5		AUGER REFUSAL @ 3.6' WOOD, BRICK AND GRAVEL PARTICLES IN AUGER CUTTINGS
			0		
			5		
			0		
			5		
			0		
			5		
			0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 3.6'
BORING REFUSAL 3.6'
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 3.6'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT_____

SOIL TEST BORING FIELD REPORT

JOB NO._____ STARTING TIME N/A
JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV._____
DATE 09-11-91 WEATHER SUNNY-WARM INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B11-991A

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
							0.4' - 3.3' RED BRICK
1	4.8'	7	3	6	5		LIGHT GRAY / BROWNISH YELLOW SANDY CLAYEY SILT
	6.3'						
2	7.8'	4	4	5			YELLOWISH RED SILTY CLAY CHANGING TO OLIVE
	9.3'						FINE TO MEDIUM SAND - ODOR DETECTED
					10		IN SAND
3	10.8'	5	7	9			OLIVE FINE TO MEDIUM SAND
	12.3'						
4	14.2'	5	8	10	15		YELLOWISH BROWN SANDY SILT CHANGING TO
	15.7'						OLIVE FINE TO MEDIUM SAND - SLIGHT
							ODOR DETECTED IN UPPER SILT LAYER
							BORING TERMINATED @ 14.2'
					20		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 14.2'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 14.2'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-12-91 WEATHER SUNNY-HOT INSPECTOR E. CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B 12-991

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0' 2.5'	3	4	3			DARK OLIVE SILTY CLAY CHANGING TO BLACK FINE TO MEDIUM SAND - ODOR DETECTED
2	4.0' 5.5'	3	1	1	5		VERY DARK GRAY SANDY CLAYEY SILT CHANGING TO BRICK PARTICLES / BLACK ASH APPEARING SOIL WITH WOOD PARTICLES - ODOR DETECTED
3	7.0' 8.5	1	2	3			BROWNISH YELLOW CLAYEY SILT
4	10.0' 11.5	2	1	2	10		GRAY / BROWNISH YELLOW CLAYEY SILT
							BORING TERMINATED @ 10.0'
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 10.0'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 9-12-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B13-991

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0'	3	4	3			DARK GRAYISH BROWN SILTY CLAY CHANGING TO
	2.5'						BLACK OILY WOOD PARTICLES
							AUGER REFUSAL 3.6'
					5		BORING TERMINATED @ 3.6'
					0		
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 3.6'
BORING REFUSAL 3.6'
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 3.6'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____
JOB NAME ENVIRONMENTAL SAMPLING
DATE 09-12-91 WEATHER SUNNY/HOT INSPECTOR E CHAPMAN

STARTING TIME N/A
GROUND SURFACE ELEV. _____
HRS. DRILLING N/A HRS. MOVING N/A
BORING NO. SEE BELOW

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		
					B13-991A AUGER REFUSAL @ 3.8'
			5		B13-991B AUGER REFUSAL @ 3.1'
					B13-991C AUGER REFUSAL @ 2.5'
			0		B13-991D AUGER REFUSAL @ 4.0'
					B13-991E AUGER REFUSAL @ 4.1'
			5		
			0		
			5		
			0		
			5		
			0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED N/A
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	~~TO~~
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	TO

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____
JOB NAME ENVIRONMENTAL SAMPLING
DATE 9-12-91 WEATHER SUNNY-HOT

STARTING TIME N/A
GROUND SURFACE ELEV. _____
HRS. DRILLING N/A HRS. MOVING N/A
INSPECTOR E CHAPMAN BORING NO. B13-991F

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
							AUGER CUTTINGS BLACK OILY APPEARING CHANGING
							TO BLACK WITH RED TINT OILY APPEARING
							STRONG ODOR
1	4.0'	1	1	2	5		OLIVE SILTY CLAY - SLIGHT ODOR
	5.5'						
2	7.0'	1	1	1			OLIVE GRAY SILTY CLAY
	8.5'						
3	10.0'	1	2	2	10		BROWNISH YELLOW CLAYEY SILT
	11.5'						
							BORING TERMINATED @ 10.0'
					15		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	TO

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-12-91 WEATHER SUNNY/HOT INSPECTOR E. CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B14-991

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"			
				0		BROWNISH YELLOWISH CLAY SILT CHANGING TO
						BLACK FINE TO MEDIUM SAND - OILY APPEARING
						AUGER CUTTINGS - ODOR DETECTED
						AUGER REFUSAL @ 3.6'
				5		BORING TERMINATED @ 3.6'
				0		
				5		
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 3.6'
BORING REFUSAL 3.6'
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 3.6'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____
JOB NAME ENVIRONMENTAL SAMPLING
DATE 09-12-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN

STARTING TIME N/A
GROUND SURFACE ELEV. _____
HRS. DRILLING N/A HRS. MOVING N/A
BORING NO. B15-991

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"			
				0		
						B15-991 AUGER REFUSAL @ 1.9'
				5		B15-991A AUGER REFUSAL @ 2.0'
				0		
				5		
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED N/A
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	~~TO~~
HAND CHOP: W/MUD: W/WATER	TO
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	TO

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-16-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B16-991

SAAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"			
				0		
1	1.0'	SO = ½"				BRICK PARTICLES IN AUGER CUTTINGS
						AUGER REFUSAL @ 1.5'
				5		B16-991A AUGER REFUSAL @ 0.9' FLAT STEEL IN BORING
						B16-991B AUGER REFUSAL @ 0.9'
				0		
						B16-991C AUGER REFUSAL @ 1.8' HIT BRICK @ 0.9'-CUT TO 1.8'
				5		B16-991D 0.0'-1.0' SO = ½"
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED N/A
BORING REFUSSAL N/A
WATER TOB DEEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSESS N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	~~TO~~
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLES GROUND SURFACE ELEV. _____

DATE 09-16-91 WEATHER SUNNY-HOT INSPECTOR E. CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B17-991

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0-2.5'	3	5	10			OLIVE BROWN SILTY CLAY WITH BRICK AND GRAVELS
							AUGER REFUSAL @ 2.8'
					5		
					0		
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 2.8'
BORING REFUSAL 2.8'
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 2.8'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 256530 (R3-87)

FORM M-26C	REVISION 2
	PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLES GROUND SURFACE ELEV. _____

DATE 09-16-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B18-991

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"			
				0		
						B18-991 AUGER REFUSAL @ 1.3'
				5		B18-991A AUGER REFUSAL @ 1.5'
				0		
				5		
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED N/A
BORING REFUSAL N/A
WATER TOBB DEPTH N/A
WATER 24-HR: DEPTH N/A
WATER LOSSSES N/A
CASING SIZZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	TO
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	TO
DIAMOND CORE	TO

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-16-91 WEATHER SUNNY/HOT INSPECTOR E. CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B19-991

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	1.0' 2.5'	11	9	12			BLACK FINE TO MEDIUM SAND WITH ASH PARTICLES -ODOR DETECTED
2	4.0' 5.5'	7	5	7	5		BLACK FINE TO MEDIUM SAND CHANGING TO OLIVE SILTY CLAY -ODOR DETECTED
3	7.0' 8.5'	2	3	5			BROWNISH YELLOW CLAYEY SILT
4	10.0' 11.5'	1	2	2	10		GRAY SILTY CLAY
							BORING TERMINATED @ 10.0'
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 10.0'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-17-91 WEATHER CLOUDY-MILD INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B20-991

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.4'	5	5	9			DARK BROWN FINE TO MEDIUM SAND WITH GRAVEL
	2.9'						AND WOOD PARTICLES - ODOR DETECTED
2	4.4'	8	2	3	5		DARK BROWN FINE TO MEDIUM SAND CHANGING
	5.9'						TO DARK GRAY CLAYEY SILT - ODOR DETECTED
3	7.4'	2	2	3			DARK GRAY CLAYEY SILT - ODOR DETECTED
	8.9'						
4	10.4'	1	1	1	10		DARK GRAY CLAYEY SILT - ODOR DETECTED
	11.9'						
5	13.4'	3	4	8			DARK GRAY CLAYEY SILT CHANGING TO
	14.9'				5		OLIVE YELLOW CLAYEY SILT
							BORING TERMINATED @ 13.4'
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 13.4'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 13.4
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLES GROUND SURFACE ELEV. _____

DATE 09-17-91 WEATHER CLOUDY-WARM INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B21-991

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		0.0' - 2.4' AUGER CUTTING VERY HARD - BRICK CONCRETE IN AUGER CUTTINGS
1	2.4'	1	1	1			BLACK FINE TO MEDIUM SAND CHANGING TO
	3.9'						OLIVE SILTY CLAY - STRONG ODORS
					5		
2	5.4'	3	3	3			GRAY SILTY CLAY - ODOR DETECTED
	6.9'						
3	8.4'	1	2	2			OLIVE GRAY SILTY CLAY - ODOR DETECTED
	9.9'				10		
4	11.4'	2	3	4			OLIVE CLAYEY SILT
	12.9'						
					15		14.4' LIGHT YELLOWISH BROWN CLAYEY SILT CLASSIFICATION FROM UD SAMPLE
							17.4' BORING TERMINATED @ 14.4'
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 14.4'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 14.4'
~~HAND CHOP: W/MUD: W/WATER~~	~~TO~~
~~ROTARY DRILL: W/MUD: W/WATER~~	~~TO~~
~~DIAMOND CORE~~	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

HRS. DRILLING N/A HRS. MOVING N/A

DATE 09-17-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN BORING NO. B22-991

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0'	3	4	5			BLACK FINE TO MEDIUM SAND WITH BRICK PARTICLES
	2.5'						CHANGING TO DARK GRAY SILTY CLAY
2	4.0'	3	2	2	5		GRAY SILTY CLAY
	5.5'						
3	7.0'	1	1	2			OLIVE YELLOW MICACEOUS CLAYEY SILT
	8.5'						
4	10.0'	1	2	2	10		BROWNISH YELLOW MICACEOUS CLAYEY SILT
	11.5'						BORING TERMINATED @ 10.0'
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLES GROUND SURFACE ELEV. _____

DATE 09-17-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B23-991

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"			
					0		
1	1.0'	5	3	3			BLACK FINE TO MEDIUM SAND CHANGING TO
	2.5'						DARK OLIVE SANDY CLAYEY SILT
2	4.0'	2	1	2	5		DARK OLIVE CLAYEY SILTY FINE TO MEDIUM SAND
	5.5						WITH CINDERS - SLIGHT ODOR
3	7.0'	1	2	2			GRAY MICACEOS CLAYEY SILT
	8.5						
4	10.0'	1	2	2	10		REDDISH BROWN MICACEOUS CLAYEY SANDY
	11.5'						SILT
							BORING TERMINATED @ 10.0'
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLES GROUND SURFACE ELEV. _____

DATE 09-18-91 WEATHER PCLOUDY-MILD INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B24-991

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"			
					0		
1	1.0'	13	12	5			RED MICACEOUS CLAYEY SILT WITH GRAVEL
	2.5						
2	4.0'	4	5	3	5		STRONG BROWN SILTY CLAY
	5.5'						
3	7.0'	3	4	5			STRONG BROWN SILTY CLAY
	8.5'						
4	10.0'	3	3	7	10		REDDISH YELLOW CLAYEY SILT
	11.5'						
5	13.0'	4	6	8			STRONG BROWN CLAYEY SILT
	14.5'				5		BORING TERMINATED @ 13.0'
							NO ODORS DETECTED
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 13.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 13.0'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE.	~~TO~~

Form 2563□0 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 07-18-91 WEATHER CLOUDY; MILD INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B25-991

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"	0		
1 1.5'	3	4	3			DARK BROWN MICACEOUS SANDY SILTY CLAY
3.0'						SLIGHT ODOR
2 4.5'	1	1	1	5		DARK BROWN SANDY SILT CHANGING TO GRAY
6.0'						SILTY CLAY - ODOR DETECTED
3 7.5'	1	1	2			OLIVE CLAYEY SILT - ODOR DETECTED
9.0'						
4 10.5'	1	1	2	10		OLIVE GRAY SANDY CLAYEY SILT
12.0'						BORING TERMINATED @ 10.5'
				5		
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.5'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.5'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A
JOB NAME ENVIRONMENTAL SAMPLES GROUND SURFACE ELEV. _____
DATE 09-18-91 WEATHER SUNNY-WARM INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A
BORING NO. B26-991

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		
				10'	STRONG BROWN FINE TO MEDIUM SAND CHANGING TO DARK GRAY SANDY CLAYEY SILT - WITH WOOD CHIPS AND ODOR
				6.0'	
			5		STRONG BROWN SANDY CLAYEY SILT CHANGING TO GRAY SILTY CLAY - ODOR DETECTED
				20'	LIGHT GRAY SILTY CLAY
			10	10'	REDDISH YELLOW SANDY CLAYEY SILT
					BORING TERMINATED @ 10.0'
			5		STANDARD PENETRATION RESISTANCE NOT TAKEN DUE TO LOADING DOCK ROOF OVERHEAD
			0		
			5		
			0		
			5		
			0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____
JOB NAME ENVIRONMENTAL SAMPLING
DATE 09-18-91 WEATHER SUNNY-HOT INSPECTOR E CHAPMAN
STARTING TIME N/A
GROUND SURFACE ELEV. _____
HRS. DRILLING N/A HRS. MOVING N/A
BORING NO. B27-991

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		
					1.0' STRONG BROWN FINE TO MEDIUM SAND CHANGING TO DARK BROWN FINE TO MEDIUM SAND
					4.0' DARK BROWN CLAYEY SILT CHANGING TO VERY
			5		DARK BROWN CLAYEY SILT WITH BRICK AND
					7.0' WIRE - OILY APPEARING - STRONG COAL TAR ODOR
			0		AUGER REFUSAL @ 5.9'
			5		
			0		
			5		
			0		
			5		
			0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 5.9'
BORING REFUSAL 5.9'
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 5.9
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-18-91 WEATHER SUNNY-HOT INSPECTOR E. CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. SEE BELOW

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		
					B27-991A AUGER REFUSAL @ 4.6'
					VERY STRONG COAL TAR ODOR - OILY APPEARANCE
			5		ON AUGER CUTTINGS
					B27-991B AUGER REFUSAL @ 5.9'
			0		STRONG COAL TAR ODOR - OILY APPEARANCE ON
					AUGER CUTTINGS
			5		
			0		
			5		
			0		
			5		
			0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED N/A
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	~~TO~~
HAND CHOP: W/MUD: W/WATER	TO
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____
JOB NAME ENVIRONMENTAL SAMPLING
DATE 09-19-91 WEATHER CLOUDY/MILD

STARTING TIME N/A
GROUND SURFACE ELEV. _____
HRS. DRILLING N/A HRS. MOVING N/A
INSPECTOR E CHAPMAN BORING NO. B28-991

SAMPLING	1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
				0		
.0'	4	3	2			YELLOWISH RED CLAYEY SILT
2.5'						
4.0'	3	2	2	5		OLIVE GRAY SANDY SILT - ODOR DETECTED
5.5'						
7.0'	1	1	2			OLIVE SANDY SILT - SLIGHT ODOR DETECTED
9.5'						
10.0'	1	1	2	10		OLIVE BROWN SANDY SILT WITH RED TINT
11.5'						
						12.0' BROWNISH YELLOW SANDY SILT
				15		16.0'
						BORING TERMINATED @ 13.0'
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 13.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 13.0'
HAND CHOP: W/MUD: W/WATER	~~IO~~
ROTARY DRILL: W/MUD: W/WATER	~~IO~~
DIAMOND CORE	~~IO~~

Form [illegible]630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____
JOB NAME ENVIRONMENTAL SAMPLING
DATE 09-19-91 WEATHER SUNNY-MILD INSPECTOR E CHAPMAN

STARTING TIME N/A
GROUND SURFACE ELEV. _____
HRS. DRILLING N/A HRS. MOVING N/A
BORING NO. B29-991

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"			
				0		
1	PUSHED					DARK BROWN MICACEOUS CLAYEY SILT - STRONG ODOR
[illegible].0'						
				5		AUGER REFUSAL @ 4.1'
						SPLIT BARREL SAMPLER PUSHED DUE TO ROOF OVER HANG
				0		
				5		
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING ~~TERMINATED~~ 4.1'
BORING ~~REFUSAL~~ 4.1'
WATER ~~TABLE~~ DEPTH N/A
WATER ~~24-HR~~: DEPTH N/A
WATER ~~LOSSES~~ N/A
CASING ~~SIZE~~ N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 4.1'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT ~~BC~~ SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 09-19-91 WEATHER CLOUDY-MILD INSPECTOR E. CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B29-991A

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"			
					0		
1	4.0'	PUSHED					DARK BROWN SANDY SILT, VERY OILY - STRONG ODOR
	9.9'				5		
2	5.8'	PUSHED					5.8' OLIVE BROWN / BLACK SANDY SILT - VERY OILY STRONG ODOR
	7.3						8.8'
					10		9.8' BLACK OILY COAL TAR
							12.8'
							AUGER REFUSAL 13.9'
					15		
							SPLIT BARREL SAMPLER PUSHED DUE TO LOADING DOCK ROOF
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 13.9'
BORING REFUSAL 13.9'
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0 TO 13.9
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____
JOB NAME ENVIRONMENTAL SAMPLING
DATE 10-01-91 WEATHER SUNNY-MILD INSPECTOR E CHAPMAN

STARTING TIME N/A
GROUND SURFACE ELEV. _____
HRS. DRILLING N/A HRS. MOVING N/A
BORING NO. B30-1091

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0'	3	4	6			YELLOWISH RED SILTY CLAY
	2.5'						
2	4.0'	3	4	4	5		BROWNISH YELLOW CLAYEY SILT
	5.5'						
3	7.0'	2	3	8			BROWNISH YELLOW SANDY CLAYEY SILT
	8.5'						
4	10.0'	2	3	4	10		BROWNISH YELLOW SANDY CLAYEY SILT /
	11.5'						CHANGING TO PALE YELLOW CLAYEY SILT
							BORING TERMINATED @ 10.0'
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB# NO. _____
JOB NAME ENVIRONMENTAL SAMPLING
DATE 10-01-91 WEATHER SUNNY-MILD

STARTING TIME N/A
GROUND SURFACE ELEV. _____
HRS. DRILLING N/A HRS. MOVING N/A
INSPECTOR E CHAPMAN BORING NO. B31-1091

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"	0		
1 ..0'	50+	4"				BLACK FINE TO MEDIUM SAND WITH WOOD
2 ..7'	50+	3"				PARTICLES - STRONG ODOR, OILY APPEARANCE
						AUGER REFUSAL @ 2.0'
				5		
				10		
				5		
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 2.0'
BORING REFUSAL 2.0
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 2.0'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

For— 25630-(R3-87)

FORM M–26C	REVISION 2
	PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB: NO. _____ STARTING TIME N/A
JOB: NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____
DATE 10-01-91 WEATHER SUNNY-MILD HRS. DRILLING N/A HRS. MOVING N/A
INSPECTOR E CHAPMAN BORING NO. B32-1091

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"			
				0		
1 1.0'	3	3	2			DARK GRAY SANDY SILT - ODOR DETECTED
2.5'						
2 4.0'	2	3	5	5		OLIVE YELLOW CLAYEY SILT CHANGING TO
5.5'						OLIVE FINE SAND - ODORS DETECTED
3 7.0'	1	3	5			DARK GRAYISH BROWN FINE SAND - ODOR
8.5'						DETECTED
				10		
4 10.0'	3	4	7			OLIVE FINE SAND
11.5'						
						BORING TERMINATED @ 10.0'
				15		
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C	REVISION 2
	PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 10-01-91 WEATHER SUNNY-WARM INSPECTOR E. CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A

BORING NO. B31-1091A B31-1091 B

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"	0		
						B31-1091 A AUGER REFUSAL @ 1.7'
						AUGER CUTTING BLACK FINE TO MEDIUM SAND WITH
						WOOD PARTICLES - STRONG ODOR
				5		
						B31-1098 AUGER REFUSAL @ 1.9'
						CLASSIFICATION SAME AS B31-1091A
				10		
				5		
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED N/A
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	TO
HAND CHOP: W/MUD: W/WATER	TO
ROTARY DRILL: W/MUD: W/WATER	TO
DIAMOND CORE	TO

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____
JOB NAME ENVIRONMENTAL SAMPLING
DATE 10-01-91 WEATHER CLOUDY-MILD

STARTING TIME N/A
GROUND SURFACE ELEV. _____
HRS. DRILLING N/A HRS. MOVING N/A
INSPECTOR E CHAPMAN BORING NO. B33-1091

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0' 3.0'	PUSHED					OLIVE BROWN FINE TO MEDIUM SAND · STRONG ODOR
2	4.0' 6.0'	PUSHED			5		OLIVE YELLOW SILTY CLAY
3	7.0' 9.0'	PUSHED					PALE OLIVE SILTY CLAY
					10		10.0' GRAY CLAYEY SILT 13.0'
					5		BORING TERMINATED @ 10.0'
							SPLIT BARREL SAMPLER PUSHED DUE TO LOADING DOCK ROOF
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 10.0'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	TO
DIAMOND CORE	~~TO~~

Form 2560-30 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO.: _____
STARTING TIME N/A
JOB NAME ENVIRONMENTAL SAMPLING
GROUND SURFACE ELEV. _____
DATE 10-02-91 WEATHER CLOUDY-MILD INSPECTOR E CHAPMAN
HRS. DRILLING N/A HRS. MOVING N/A
BORING NO. B34-1091

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0: 2.3=	2	2	2			DARK YELLOWISH BROWN SILTY CLAY - SLIGHT ODOR
2	4.0= 5.3=	2	3	4	5		GRAY SANDY CLAYEY SILT - SLIGHT ODOR
3	7.0= 8.3=	5	5	5			GRAY SANDY SILT - SLIGHT ODOR
4	10.0: 11.3=	4	6	9	10		GRAY SANDY SILT - CHANGING TO BROWNISH YELLOW FINE TO MEDIUM SAND
							BORING TERMINATED @ 10.0'
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TO DB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 10-02-91 WEATHER COOL - RAIN INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B35-1091

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"			
				0		AUGER REFUSAL @ 1.7'
				5		
				0		
				5		
				0		
				5		
				0		
				5		
				0		

BORING TERMINATED 1.7'
BORING REFUSAL 1.7'
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 1.7'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

Form 2525630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 10-02-91 WEATHER COOL-RAIN INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B35-1091A

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0' 2.5'	4	6	7			OLIVE YELLOW CLAYEY SILT
2	4.0' 5.5'	4	6	7	5		OLIVE YELLOW CLAYEY SILT
3	7.0' 8.5'	2	3	5			OLIVE YELLOW CLAYEY SILT
4	10.0' 11.5'	4	6	8	10		PALE YELLOW CLAYEY SILT NO ODORS DETECTED
							BORING TERMINATED @ 10.0'
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SISIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0
HAND CHOP: W/MUD: W/WATER	TO
ROTARY DRILL: W/MUD: W/WATER	TO
DIAMOND CORE	TO

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT _____

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME _____ GROUND SURFACE ELEV. _____

DATE 10-02-91 WEATHER COOL-RAIN INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B36-1091

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	1.0'	4	3	2			DARK GRAY SANDY SILT - OILY, STRONG ODOR
	2.5'						AUGER REFUSAL @ 2.0'
					5		BORING TERMINATED @ 2.0'
					0		
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 2.0'
BORING REFUSAL 2.0'
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 2.0'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 10-02-91 WEATHER COOL-RAIN INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B36-1091A

SAMPLING				SCALE	UD	SOIL CLASSIFICATION AND REMARKS
	1ST 6"	2ND 6"	3RD 6"			
				0		
						AUGER REFUSAL @ 1.5'
				5		
				0		
				5		
				0		
				5		
				0		
				5		
				0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 1.5'
BORING REFUSAL 1.5'
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 1.5'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____
JOB NAME ENVIRONMENTAL SAMPLING
DATE 10-02-91 WEATHER COOL-RAIN

STARTING TIME N/A
GROUND SURFACE ELEV. _____
HRS. DRILLING N/A HRS. MOVING N/A
INSPECTOR E CHAPMAN BORING NO. B36-1091B

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	4.0' - 5.5'	2	3	3	5		GRAY SILTY CLAY - SLIGHT ODOR
2	7.0' - 8.5'	2	2	2			GRAY CLAYEY SILT - SLIGHT ODOR
3	10.0' - 11.5'	2	2	2	10		OLIVE GRAY SANDY SILT
							BORING TERMINATED @ 10.0'
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 10.0'
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0 TO 10.0'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 10-03-91 WEATHER SUNNY-MILD INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. B37-1091

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	1.0'	PUSHED					DARK GRAY SILTY CLAY - ODOR DETECTED
	3.0'						
2	4.0'	PUSHED			5		VERY DARK GRAYISH BROWN SILTY CLAY CHANGING
	6.0						TO BLACK FINE TO MEDIUM SAND VERY STRONG
							ODOR, OILY TAR
							AUGER REFUSAL @ 6.1'
					0		
					5		
					0		
					5		
					0		
					5		
					0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 6.1'
BORING REFUSAL 6.1'
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0.0' TO 6.1'
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

Form 25630 (R3-87)

FORM M-26C | REVISION 2

PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL TEST BORING FIELD REPORT

JOB NO. _____ STARTING TIME N/A

JOB NAME ENVIRONMENTAL SAMPLING GROUND SURFACE ELEV. _____

DATE 10-03-91 WEATHER SUNNY-MILD INSPECTOR E CHAPMAN HRS. DRILLING N/A HRS. MOVING N/A BORING NO. SEE BELOW

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		
					B37-1091A AUGER REFUSAL @ 6.1'
					BLACK OILY TAR ON AUGER CUTTINGS
			5		
					B37-1091B AUGER REFUSAL @ G.D.
					DARK GRAY FINE TO MEDIUM SAND - AUGER
			0		CUTTINGS - STRONG ODOR
			5		
			0		
			5		
			0		
			5		
			0		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1 3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED N/A
BORING REFUSAL N/A
WATER TOB DEPTH N/A
WATER 24 HR: DEPTH N/A
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	~~TO~~
HAND CHOP: W/MUD: W/WATER	~~TO~~
ROTARY DRILL: W/MUD: W/WATER	~~TO~~
DIAMOND CORE	~~TO~~

APPENDIX C

LABORATORY REPORTS

Data Available Upon Request

APPENDIX D

GRAIN SIZE ANALYSIS

October 8, 1991

Ron Santini

Re: South Boulevard
Grain Size Analysis

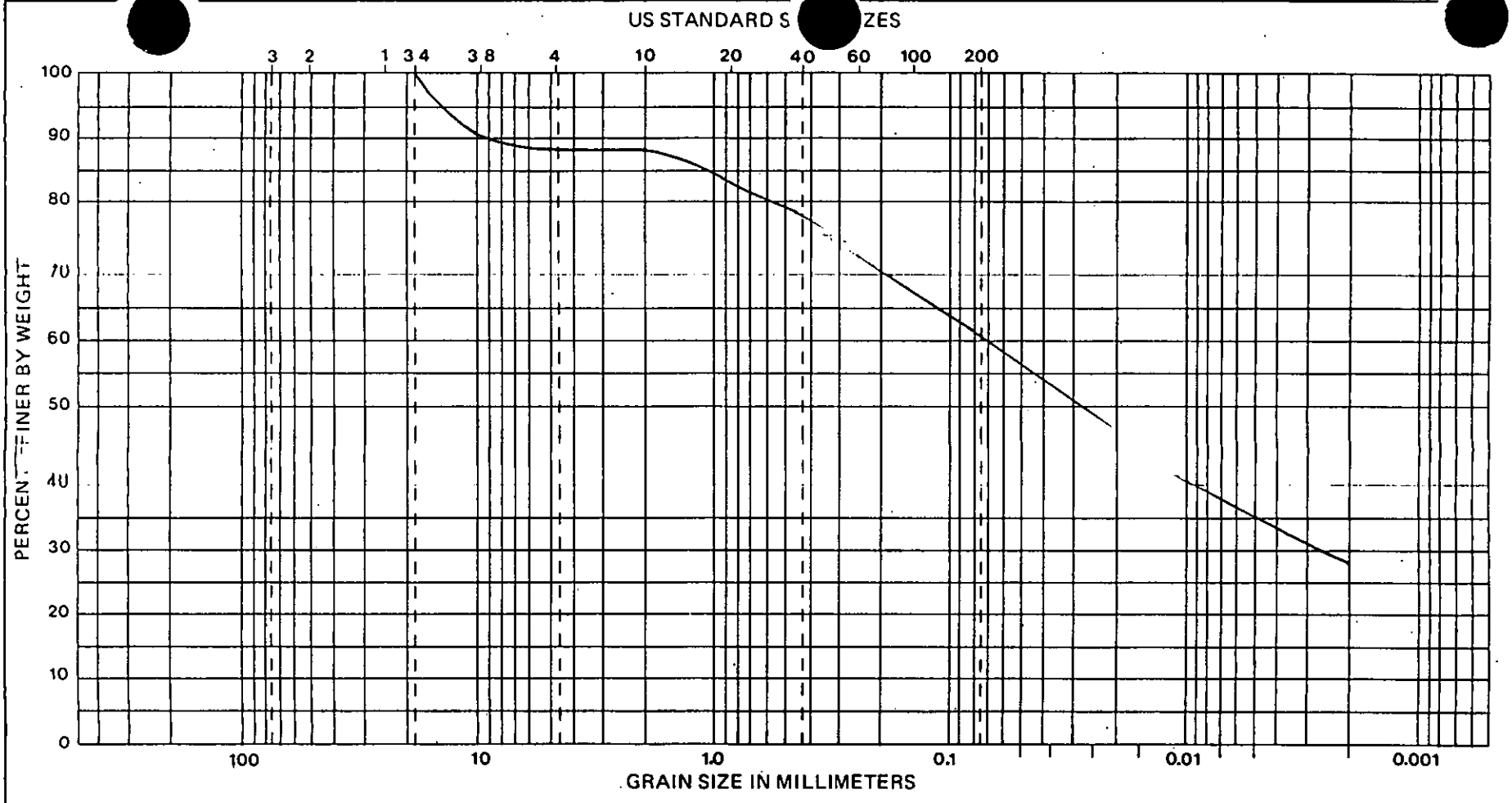
Please find attached the Grain Size Analysis for the South Boulevard site.

If you have any questions, please call me at 885-4017.

S. F. Blackwell
Geotechnical Testing Supervisor
Geotechnical Center

SFB:tbm

cc: Ralph Roberts



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

PROJECT SOUTH BOULEVARD

BORING NO	~~ELEV OR~~ DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B06-991	1.0' - 2.5'	24.2	N/A	N/A	N/A	DARK BROWN FINE GRAVELLY FINE TO COARSE SANDY VERY CLAYEY SILT ML

GRAIN SIZE DISTRIBUTION

TEST NO. N/A JOB NO. N/A

INSPECTOR J. S. Jatum

DATE 10-8-91

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT

LEVEL II EVALUATION N/A

QA APPROVAL _____ DATE _____

25565 (R9-85)

FORM M-1L

REV. 5

25563 (R9-85) 372. | FORM M-1J | REV. 7

3/8" - 15.0 - 89.9%
#4 - ~~17.1~~ 17.4 - 88.2%
MSH

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL PARTICLE SIZE ANALYSIS

SOURCE OF SAMPLE B06-991 1.0'-2.5' DATE SAMPLED N/A SAMPLE NUMBER 1

SAMPLE PREPARATION

A) INITIAL WEIGHT OF SAMPLE 147.8
B) WT RETAINED ON #10 SIEVE 17.4
C) WT PASSING #10 (A-B) 130.4
D) %PASSING #10 (C ÷ A) X 100 88.2
SCALE SER NO. SYSTL 10069

E) DRY WT OF SAMPLE 50
F) (PORTION PASSING #10 SIEVE) 88.2
F) FACTOR (D ÷ E) 1.764
SPECIFIC GRAVITY N/A
SIEVE SER. NO. SYSTL 10043
OVEN SER. NO. 17423

HYDROMETER ANALYSIS

HYDROMETER NO. 1 DISPERSING AGENT Sodium Hexametaphosphate
THERMOMETER SER. NO. 2F
STARTING TIME 8:30 TEMPERATURE 22°C DATE TESTED 10-8-91

TIME (MIN)	HYDROMETER READING	TEMPERATURE CORRECTION: SOLUTION CORRECTION	TEMPERATURE CORRECTION: MENISCUS CORRECTION	CORRECTED HYDROMETER READING	% OR F X HYDROMETER = TOTAL PASSING READING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
0.5	38	-7	+1	32		.050	56.4
1.0	36	-7	+1	30		.037	52.9
2.0	34	-7	+1	28		.025	49.4
5.0	32	-7	+1	26		.017	45.9
15.0	29	-7	+1	23		.010	40.6
30.0	27	-7	+1	21		.007	37.0
60.0	25	-7	+1	19		.005	33.5
250.0	21	-6	+1	16		.002	28.2
1440.0						.001	

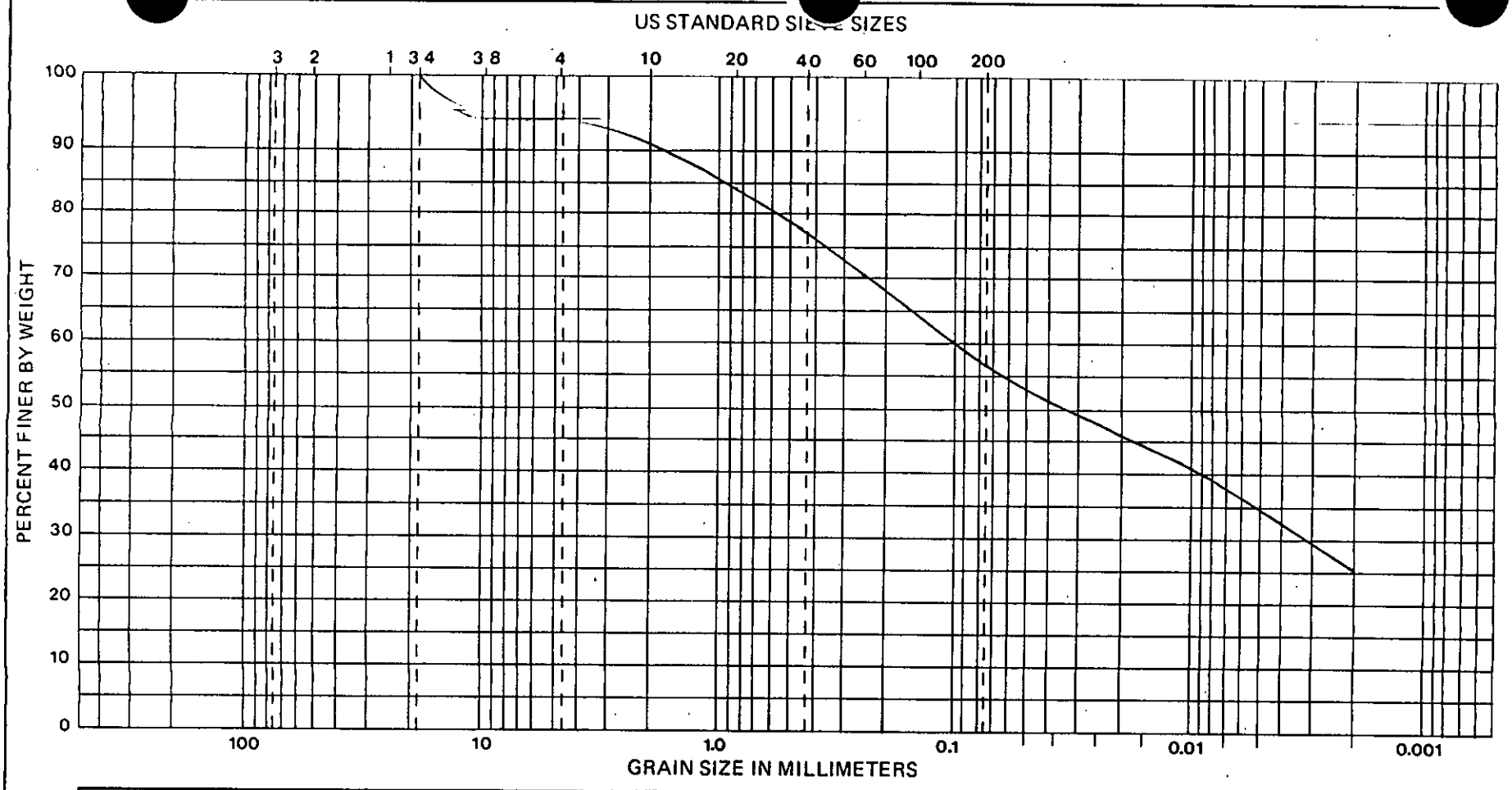
8:35
8:45
9:00
9:30
12:40

372

SIEVE ANALYSIS

SIEVE NO.	SIEVE SER. NO.	CUMULATIVE WT. RETAINED	CUMULATIVE WT. PASSING	CUMULATIVE % OF TOTAL PASSING = F X WEIGHT PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
10	SYSTL 10043	0	50		.00	88.2
20	SYSTL 10013	3.0	47.0		.841	82.9
40	SYSTL 10104	5.8	44.2		.420	78.0
60	SYSTL 10048	8.9	41.1		.250	72.5
140	SYSTL 10111	13.7	36.3		.105	64.0
200	SYSTL 10105	15.6	34.4		.074	60.7
PAN						

INSPECTOR MSH J. S. Tatum DATE 10-8-91
LEVEL II EVALUATION N/A DATE N/A
QA APPROVAL DATE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

PROJECT SOUTH BOULEVARD

BORING NO	~~ELEV OR~~ DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B06-991	4.0' - 5.2'	23.0	N/A	N/A	N/A	DARK BROWN FINE GRAVELLY FINE TO COARSE SANDY VERY CLAYEY SILT ML

GRAIN SIZE DISTRIBUTION

TEST NO. N/A JOB NO. N/A

INSPECTOR J. S. Tatum

DATE 10-8-91

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT

LEVEL II EVALUATION N/A

QA APPROVAL _____ DATE _____

25565 (R9-85)

FORM M-1L

REV. 5

25563 (R9-85) 306 | FORM M-1J | REV. 7

3/8". 5.2 - 94.7%
#4. 5.2 - 94.7%

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL PARTICLE SIZE ANALYSIS

SOURCE OF SAMPLE B06-991 4.0'-5.2' DATE SAMPLED _____ SAMPLE NUMBER 2

SAMPLE PREPARATION

A) INITIAL WEIGHT OF SAMPLE 97.9
B) WT RETAINED ON #10 SIEVE 8.8
C) WT PASSING #10 (A-B) 89.1
D) %PASSING #10 (C ÷ A) X 100 91.0
SCALE SER NO. SYSTL 10068

E) DRY WT OF SAMPLE 50
F) (PORTION PASSING #10 SIEVE) 91
F) FACTOR (D ÷ E) 1.820
SPECIFIC GRAVITY N/A
SIEVE SER. NO. SYSTL 10043
OVEN SER. NO. 19423

HYDROMETER ANALYSIS

HYDROMETER NO. 2 DISPERSING AGENT SODIUM HEXAMETAPHOSPHATE
THERMOMETER SER. NO. 2A
STARTING TIME 8:35 TEMPERATURE 22°C DATE TESTED 10-8-91

TIME (MIN)	HYDROMETER READING	TEMPERATURE CORRECTION: SOLUTION CORRECTION	TEMPERATURE CORRECTION: MENISCUS CORRECTION	CORRECTED HYDROMETER READING	% OR F X HYDROMETER = TOTAL CORRECTED READING PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
0.5	37.5	-1	+1	31.5		.050	57.3
1.0	35.5	-1	+1	27.5		.037	53.7
2.0	33.5	-1	+1	27.5		.025	50.1
5.0	31	-1	+1	25		.017	45.5
15.0	28.5	-1	+1	22.5		.010	41.0
30.0	26	-1	+1	20		.007	36.4
60.0	22.5	-1	+1	16.5		.005	30.0
250.0	19	-1	+1	14		.002	25.5
1440.0	KT mit	-5 mcA				.001	

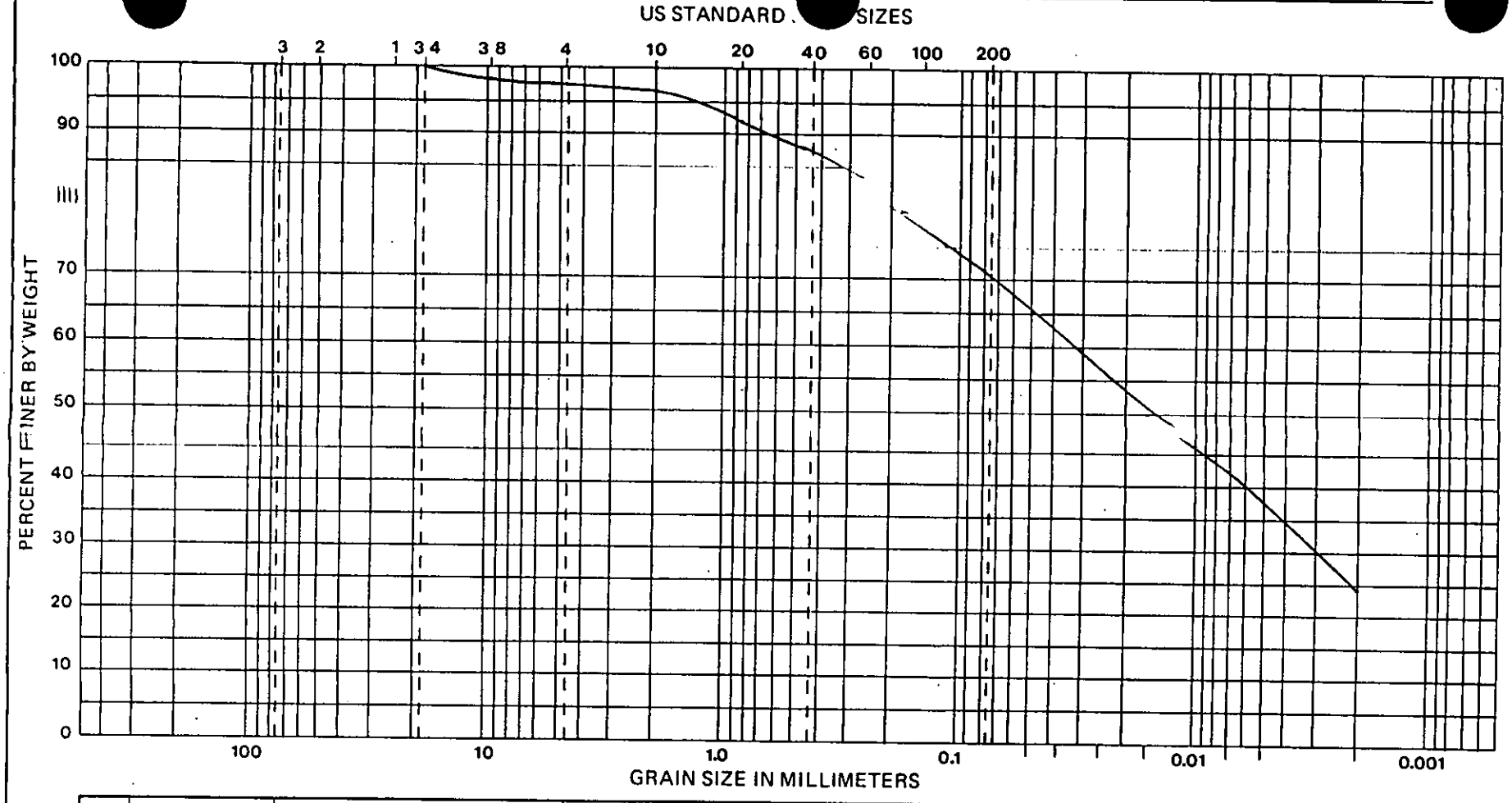
8:40
8:50
9:05
9:35
2:45

303

SIEVE ANALYSIS

SIEVE NO.	SIEVE SER. NO.	CUMULATIVE WT. RETAINED	CUMULATIVE WT. PASSING	CUMMULATIVE WEIGHT PASSING = F X % OF TOTAL PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
10	SYSTL 10043	0	50		.00	91.0
20	SYSTL 10013	3.7	46.3		.841	84.3
40	SYSTL 10102	7.6	42.4		.420	77.2
60	SYSTL 10048	11.3	38.7		.250	70.4
140	SYSTL 10111	16.9	33.1		.105	60.2
200	SYSTL 10133	18.8	31.2		.074	56.8
PAN						

INSPECTOR J.S. Jatum DATE 10 8 91
LEVEL II EVALUATION N/A DATE N/A
QA APPROVAL _____ DATE _____



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

PROJECT SOUTH BOULEVARD

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B06-991D	7.8' - 9.3'	48.6	N/A	N/A	N/A	STRONG BROWN FINE TO MEDIUM SANDY CLAYEY SILT ML

GRAIN SIZE DISTRIBUTION

TEST NO. N/A JOB NO. N/A

INSPECTOR J. S. Tatum

DATE 10-8-91

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT

LEVEL II EVALUATION N/A

QA APPROVAL _____ DATE _____

25565 (R9-85)

FORM M-1L

REV. 5

25563 (R9-85) 301 | FORM M-1J | REV. 7

3/8" - 2.5 - 98.1%
#4 - 3.1 - 97.7%

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

7.8'-9.3' **SOIL PARTICLE SIZE ANALYSIS**

SOURCE OF SAMPLE B06-9910 DATE SAMPLED N/A SAMPLE NUMBER 2.

SAMPLE PREPARATION

A) INITIAL WEIGHT OF SAMPLE 132.8
B) WT RETAINED ON #10 SIEVE 4.4
C) WT PASSING #10 (A-B) 128.4
D) %PASSING #10 (C ÷ A) X 100 96.7
SCALE SER NO. SYST. 10068

E) DRY WT OF SAMPLE 50
F) (PORTION PASSING #10 SIEVE) 96.7
F) FACTOR (D ÷ E) 1.934
SPECIFIC GRAVITY N/A
SIEVE SER. NO. SYST. 10043
OVEN SER. NO. 19423

HYDROMETER ANALYSIS

HYDROMETER NO. 3 DISPERSING AGENT SODIUM HEXAMETA PHOSPHATE
THERMOMETER SER. NO. 2A
STARTING TIME 8:40 TEMPERATURE 22°C DATE TESTED 10-8-91

TIME (MIN)	HYDROMETER READING	TEMPERATURE CORRECTION: SOLUTION CORRECTION	TEMPERATURE CORRECTION: MENISCUS CORRECTION	CORRECTED HYDROMETER READING	% OR F X HYDROMETER = TOTAL PASSING READING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
0.5	41	-7	+1	35		.050	67.7
1.0	40	-7	+1	34		.037	65.8
2.0	38	-7	+1	32		.025	61.9
5.0	35	-7	+1	29		.017	56.1
15.0	30	-7	+1	24		.010	46.4
30.0	27	-7	+1	21		.007	40.6
60.0	23.5	-7	+1	17.5		.005	33.8
250.0	17.5	-6	+1	12.5		.002	24.2
1440.0						.001	

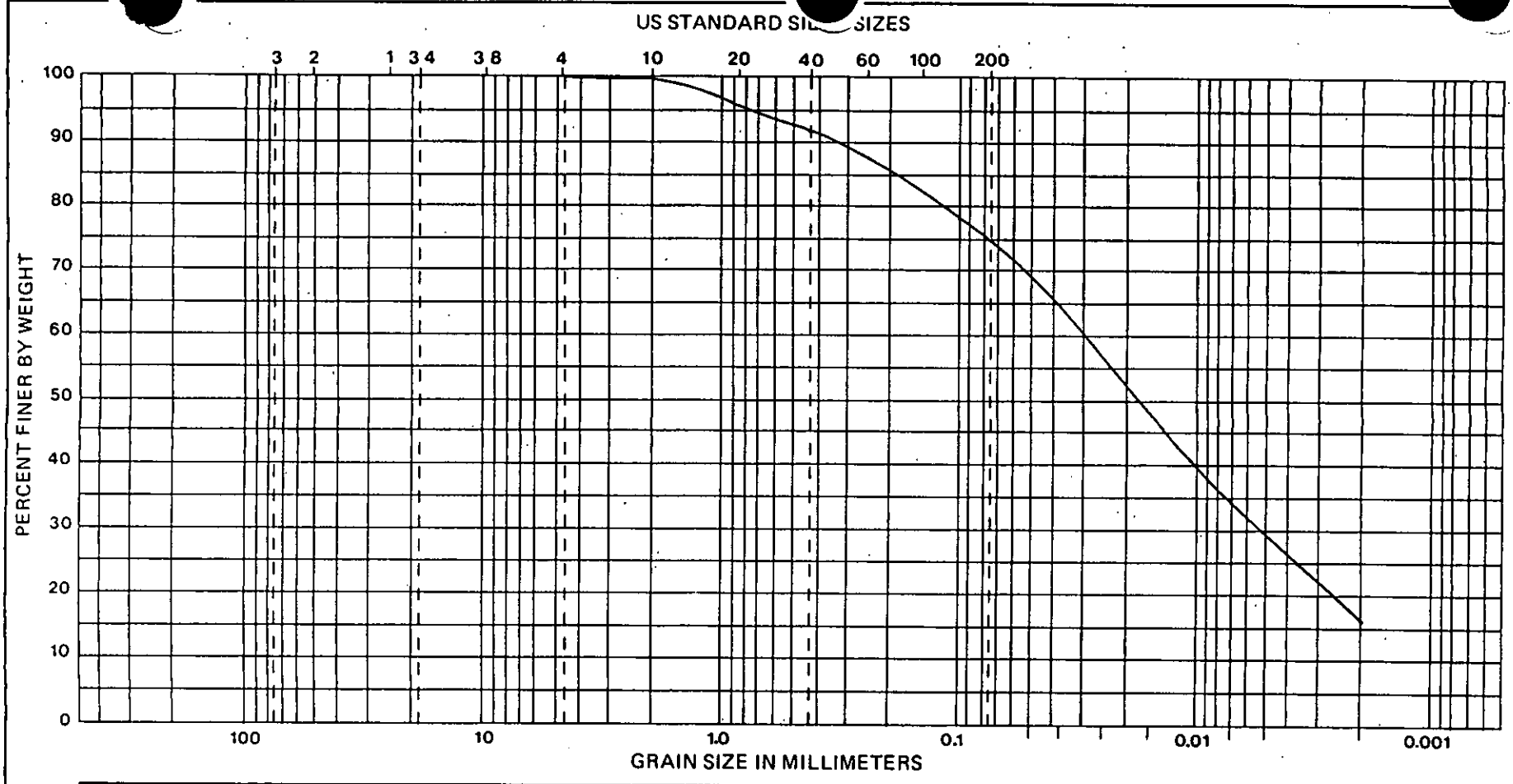
8:45
8:55
9:10
11:40
2:50

349

SIEVE ANALYSIS

SIEVE NO.	SIEVE SER. NO.	CUMULATIVE WT. RETAINED	CUMULATIVE WT. PASSING	CUMMULATIVE F X WEIGHT PASSING = % OF TOTAL PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
10	SYSTL 10043	0	50		.00	96.7
20	SYSTL 10013	2.4	47.6		.841	92.1
40	SYSTL 10102	4.8	45.2		.420	87.4
60	SYSTL 10043	7.2	42.8		.250	82.8
140	SYSTL 10111	11.3	38.2		.105	73.9
200	SYSTL 10103	13.4	36.6		.074	70.8
PAN						

INSPECTOR mSH J. S. Tatum DATE 10-8-91
LEVEL II EVALUATION N/A DATE N/A
QA APPROVAL DATE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

PROJECT SOUTH BOULEVARD

BORING NO	~~ELEV OR~~ DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B06-991D	10.0' - 11.5'	53.0	N/A	N/A	N/A	BROWNISH YELLOW FINE TO MEDIUM SANDY CLAYEY SILT ML

GRAIN SIZE DISTRIBUTION

TEST NO. N/A JOB NO. N/A

INSPECTOR J.S. Tatum

DATE 10-8-91

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT

LEVEL II EVALUATION N/A

QA APPROVAL _____ DATE _____

25565 (R9-85)

FORM M-1L

REV. 5

25563 (R9-85) 313 | FORM M-1J | REV. 7

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

10.0'-11.5' **SOIL PARTICLE SIZE ANALYSIS**

SOURCE OF SAMPLE B06-991 D DATE SAMPLED _____ SAMPLE NUMBER 3

SAMPLE PREPARATION

A) INITIAL WEIGHT OF SAMPLE 99.8
B) WT RETAINED ON #10 SIEVE 0.1
C) WT PASSING #10 (A-B) 99.7
D) %PASSING #10 (C ÷ A) X 100 99.9
SCALE SER NO. SYSTL 10048

E) DRY WT OF SAMPLE 50
F) (PORTION PASSING #10 SIEVE) 99.9
F) FACTOR (D ÷ E) 1.998
SPECIFIC GRAVITY N/A
SIEVE SER. NO. SYSTL 10043
OVEN SER. NO. 19423

HYDROMETER ANALYSIS

HYDROMETER NO. 4 DISPERSING AGENT SODIUM HEXAMETAPHOSPHATE
THERMOMETER SER. NO. 2A
STARTING TIME 8:45 TEMPERATURE 22°C DATE TESTED 10-8-91

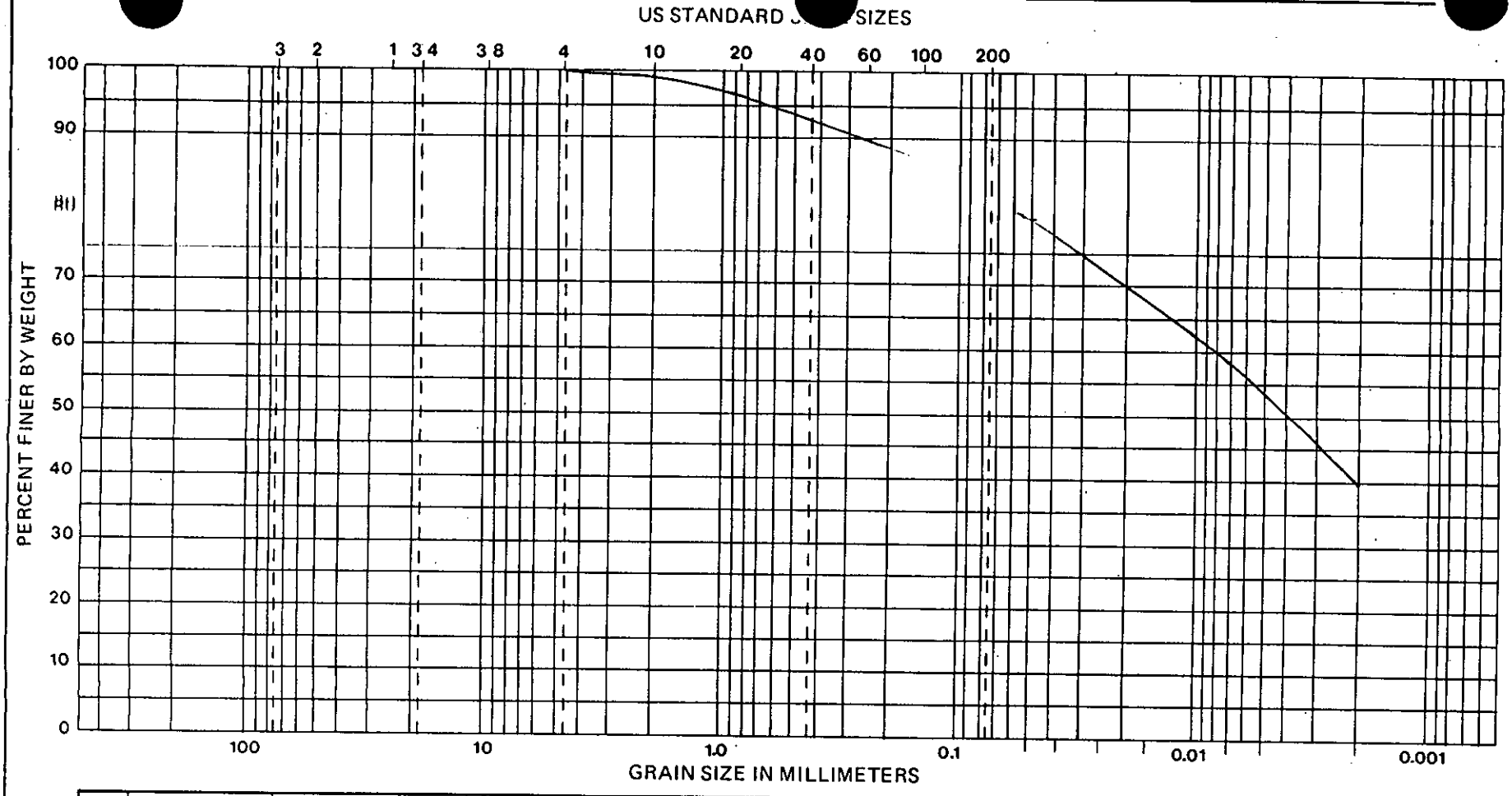
TIME (MIN)	HYDROMETER READING	TEMPERATURE CORRECTION: SOLUTION CORRECTION	TEMPERATURE CORRECTION: MENISCUS CORRECTION	CORRECTED HYDROMETER READING	% OR F X HYDROMETER = TOTAL READING PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
0.5	41.5	-7	+1	35.5		.050	70.9
1.0	39.5	-7	+1	33.5		.037	66.9
2.0	37	-7	+1	31		.025	61.9
5.0	32	-7	+1	26		.017	51.9
15.0	26	-7	+1	20		.010	40.0
30.0	22.5	-7	+1	16.5		.007	33.0
60.0	20.5	-7	+1	14.5		.005	29.0
250.0	13	-6	+1	8		.002	16.0
1440.0						.001	

319

SIEVE ANALYSIS

SIEVE NO.	SIEVE SER. NO.	CUMULATIVE WT. RETAINED	CUMULATIVE WT. PASSING	CUMMULATIVE F X WEIGHT PASSING = % OF TOTAL PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
10	SYSTL 10043	0	50		.00	99.9
20	SYSTL 10013	2.1	47.9		.841	95.7
40	SYSTL 10102	4.1	45.9		.420	91.7
60	SYSTL 10048	6.1	43.9		.250	87.7
140	SYSTL 10111	10.8	39.2		.105	78.3
200	SYSTL 10103	12.5	37.5		.074	74.9
PAN						

INSPECTOR HSP\ J.S. Tatum DATE 10-8-91
LEVEL II EVALUATION N/A DATE N/A
QA APPROVAL _____ DATE _____



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

PROJECT SOUTH BOULEVARD

BORING NO	~~ELEV OR~~ DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-30	1.0' - 2.5'	33.9	N/A	N/A	N/A	YELLOWISH RED FINE TO MEDIUM SANDY VERY CLAYEY SILT ML

GRAIN SIZE DISTRIBUTION

TEST NO. N/A JOB NO. N/A

INSPECTOR J. S. Tatum

DATE 10-8-91

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT

LEVEL II EVALUATION N/A

QA APPROVAL _____ DATE _____

25565 (R9-85)

FORM M-1L

REV. 5

25563 (R9-85) 327 | FORM M-1J | REV. 7

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL PARTICLE SIZE ANALYSIS

SOURCE OF SAMPLE B-30 1.0'-2.5' DATE SAMPLED N/A SAMPLE NUMBER 1

SAMPLE PREPARATION

A. INITIAL WEIGHT OF SAMPLE 90.3
B WT RETAINED ON #10 SIEVE 0.7
C WT PASSING #10 (A-B) 89.6
D %PASSING #10 (C ÷ A) X 100 99.2
SCALE SER NO. SYST: 10068

E) DRY WT OF SAMPLE 50
F) (PORTION PASSING #10 SIEVE) 99.2
F) FACTOR (D ÷ E) 1.984
SPECIFIC GRAVITY N/A
SIEVE SER. NO. SYSTL 10043
OVEN SER. NO. 19423

HYDROMETER ANALYSIS

HYDROMETER NO. 5 DISPERSING AGENT SODIUM HEXAMETAPHOSPHATE
THERMOMETER SER. NO. 2A
STARTING TIME 8:50 TEMPERATURE 22°C DATE TESTED 10-8-91

TIME (MIN)	HYDROMETER READING	TEMPERATURE CORRECTION: SOLUTION CORRECTION	TEMPERATURE CORRECTION: MENISCUS CORRECTION	CORRECTED HYDROMETER READING	% OR F X HYDROMETER = TOTAL CORRECTED READING PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
0.5	48	-7	+1	42		.050	83.3
1.0	46	-7	+1	40		.037	79.4
2.0	45	-7	+1	39		.025	77.4
5.0	42	-7	+1	36		.017	71.4
15.0	37.5	-7	+1	31.5		.010	62.5
30.0	35	-7	+1	29		.007	57.5
60.0	31	-7	+1	25		.005	49.6
250.0	25	-6	+1	20		.002	39.7
1440.0						.001	

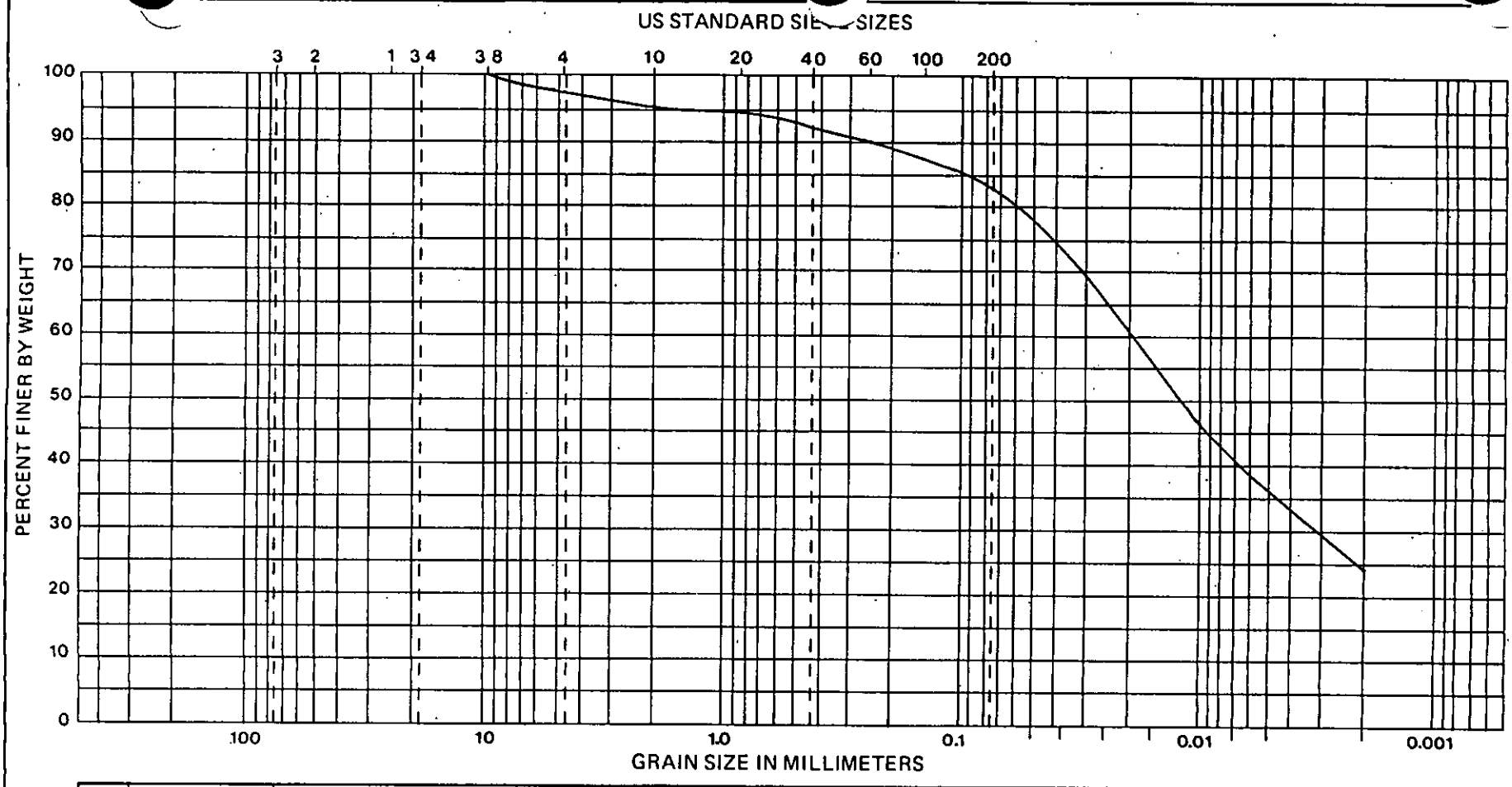
55 35 20 50 00

3 2

SIEVE ANALYSIS

SIEVE NO.	SIEVE SER. NO.	CUMULATIVE WT. RETAINED	CUMULATIVE WT. PASSING	CUMMULATIVE F X WEIGHT PASSING = % OF TOTAL PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
10	SYSTL 10043	0	50		.00	99.2
20	SYSTL 10013	1.4	48.6		.841	96.4
40	SYSTL 10102	3.2	46.8		.420	92.9
60	SYSTL 10048	4.8	45.2		.250	89.7
140	SYSTL [illegible]	7.1	42.9		.105	85.1
200	SYSTL 10053	8.1	41.9		.074	83.1
PAN						

INSPECTOR [illegible] J.S. Tatum DATE 10-8-91
LEVEL II EVALUATION N/A DATE N/A
QA APPROVAL DATE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

PROJECT SOUTH BOULEVARD

BORING NO	~~ELEV OR~~ DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-30	4.0'-5.5'	37.0	N/A	N/A	N/A	BROWNISH YELLOW FINE TO MEDIUM SANDY CLAYEY SILT ML

GRAIN SIZE DISTRIBUTION

TEST NO. N/A JOB NO. N/A

INSPECTOR J. S. Tatum

DATE 10-8-91

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT

LEVEL II EVALUATION N/A

QA APPROVAL _____ DATE _____

25565 (R9-85)

FORM M-1L

REV. 5

25563 (R9-85) 3367 | FORM M-1J | REV. 7

#4 - 2,6 - 97.8%

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL PARTICLE SIZE ANALYSIS

SOURCE OF SAMPLE B 30 4.0'-5.5' DATE SAMPLED N/A SAMPLE NUMBER 2

SAMPLE PREPARATION

A) INITIAL WEIGHT OF SAMPLE 117.0
B) WT RETAINED ON #10 SIEVE 4.0
C) WT PASSING #10 (A-B) 113.0
D) %PASSING #10 (C ÷ A) X 100 96.6
SCALE SER NO. SYSTL 10068

E) DRY WT OF SAMPLE 50
F) (PORTION PASSING #10 SIEVE) 96.6
F) FACTOR (D ÷ E) 1.932
SPECIFIC GRAVITY N/A
SIEVE SER. NO. SYSTL 10043
OVEN SER. NO. 19423

HYDROMETER ANALYSIS

HYDROMETER NO. 6 DISPERSING AGENT SODIUM HEXAMETAPHOSPHATE
THERMOMETER SER. NO. 3A
STARTING TIME 8:55 TEMPERATURE 22°C DATE TESTED 10-8-91

TIME (MIN)	HYDROMETER READING	TEMPERATURE CORRECTION: SOLUTION CORRECTION	TEMPERATURE CORRECTION: MENISCUS CORRECTION	CORRECTED HYDROMETER READING	% OR F X HYDROMETER = TOTAL PASSING READING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
0.5	45.5	-7	+1	39.5		.050	76.3
1.0	43	-7	+1	37		.037	71.5
2.0	41	-7	+1	35		.025	67.6
5.0	36.5	-7	+1	30.5		.017	58.9
15.0	30	-7	+1	24		.010	46.4
30.0	26	-7	+1	20		.007	38.6
60.0	23.5	-7	+1	17.5		.005	33.8
250.0	17.5	-6	+1	12.5		.002	24.2
1440.0						.001	

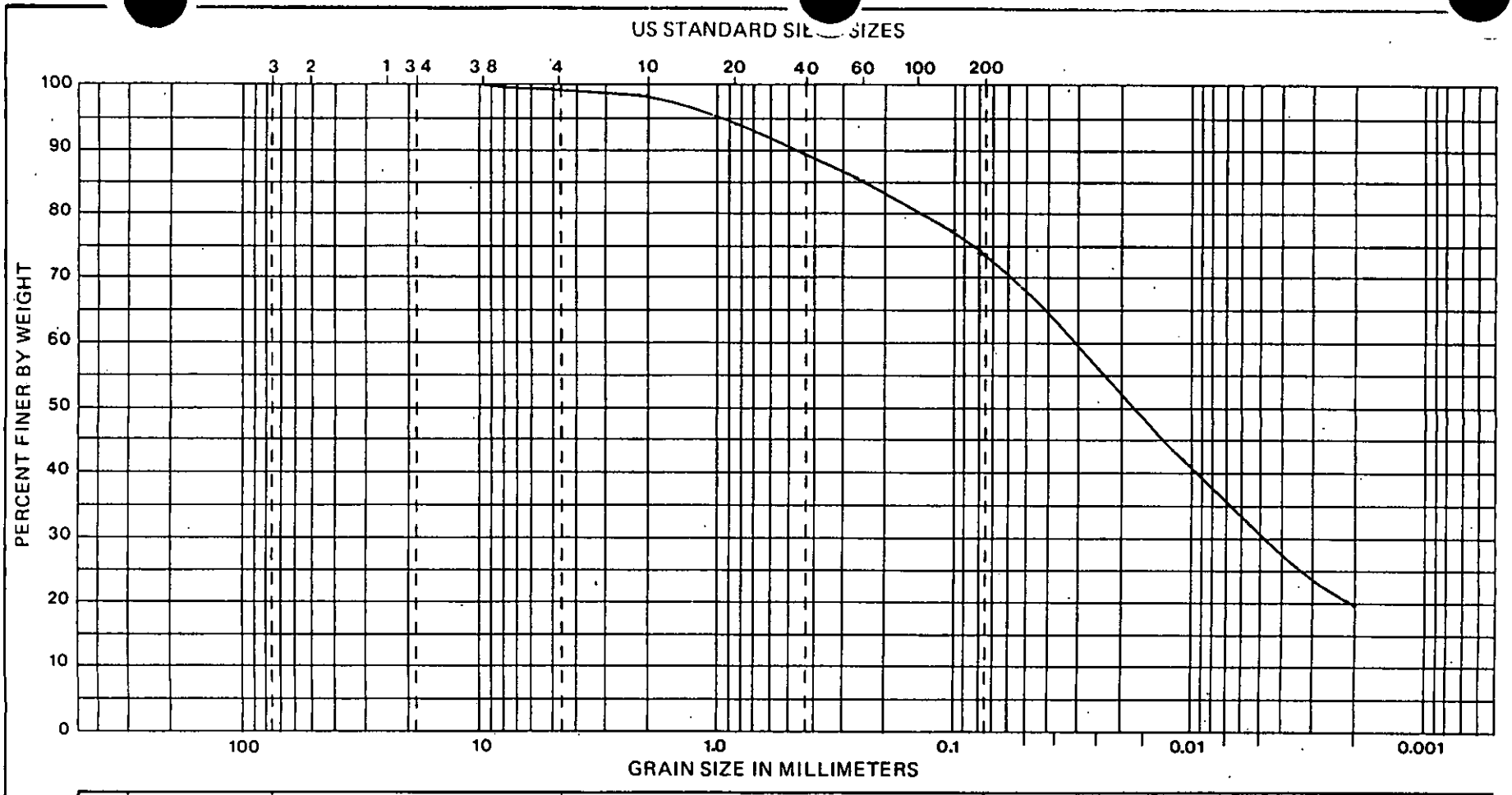
9:00
9:10
9:25
9:55
10:05

366

SIEVE ANALYSIS

SIEVE NO.	SIEVE SER. NO.	CUMULATIVE WT. RETAINED	CUMULATIVE WT. PASSING	CUMMULATIVE % OF TOTAL PASSING = F X WEIGHT PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
10	SYSTL 10043	0	50		.00	96.6
20	SYSTL 10013	0.7	49.1		.841	94.9
40	SYSTL 10102	1.2	47.8		.420	92.3
60	SYSTL 10048	3.4	46.6		.250	90.0
140	SYSTL 10111	5.7	44.3		.105	85.6
200	SYSTL 10103	7.7	42.3		.074	82.7
PAN						

INSPECTOR MSH / J.S. Tatum DATE 10-8-91
LEVEL II EVALUATION N/A DATE N/A
QA APPROVAL DATE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

PROJECT SOUTH BOULEVARD

BORING NO	~~ELEV OR~~ DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-30	7.0' - 8.5'	39.2	N/A	N/A	N/A	YELLOWISH BROWN FINE TO MEDIUM SANDY CLAYEY SILT ML

GRAIN SIZE DISTRIBUTION

TEST NO. N/A JOB NO. N/A

INSPECTOR J. S. Tatum

DATE 10-9-91

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT

LEVEL II EVALUATION N/A

QA APPROVAL _____ DATE _____

25565 (R9-85)

FORM M-1L

REV. 5

25563 (R9-85) 337 | FORM M-1J | REV. 7

#4 - 0.6 - 99 3%

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL PARTICLE SIZE ANALYSIS

SOURCE OF SAMPLE B-30 7.0'-8.5' DATE SAMPLED N/A SAMPLE NUMBER 3

SAMPLE PREPARATION

A) INITIAL WEIGHT OF SAMPLE 908
B) WT RETAINED ON #10 SIEVE 1.5
C) WT PASSING #10 (A-B) 89.3
D) %PASSING #10 (C ÷ A) X 100 98.3
SCALE SER NO. SYSTL 10068

E) DRY WT OF SAMPLE 50
F) (PORTION PASSING #10 SIEVE) 98.3
F) FACTOR (D ÷ E) 1.966
SPECIFIC GRAVITY N/A
SIEVE SER. NO. SYSTL 10043
OVEN SER. NO. 1942.3

HYDROMETER ANALYSIS

HYDROMETER NO. 7 DISPERSING AGENT SODIUM HEXAMETAPHOSPHATE
THERMOMETER SER. NO. 2A
STARTING TIME 8: 9:00 TEMPERATURE 22°C DATE TESTED 10-3-91

TIME (MIN)	HYDROMETER READING	TEMPERATURE CORRECTION: SOLUTION CORRECTION	TEMPERATURE CORRECTION: MENISCUS CORRECTION	CORRECTED HYDROMETER READING	% OR F X HYDROMETER = TOTAL CORRECTED READING PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
0.5	43.5	-7	+1	37.5		.050	73.7
1.0	41	-7	+1	35		.037	68.8
2.0	38.5	-7	+1	32.5		.025	63.9
5.0	33.5	-7	+1	27.5		.017	54.1
15.0	27	-7	+1	21		.010	41.3
30.0	23.5	-7	+1	17.5		.007	34.4
60.0	20.5	-7	+1	14.5		.005	28.5
250.0	15	-6	+1	10		.002	19.7
1440.0						.001	

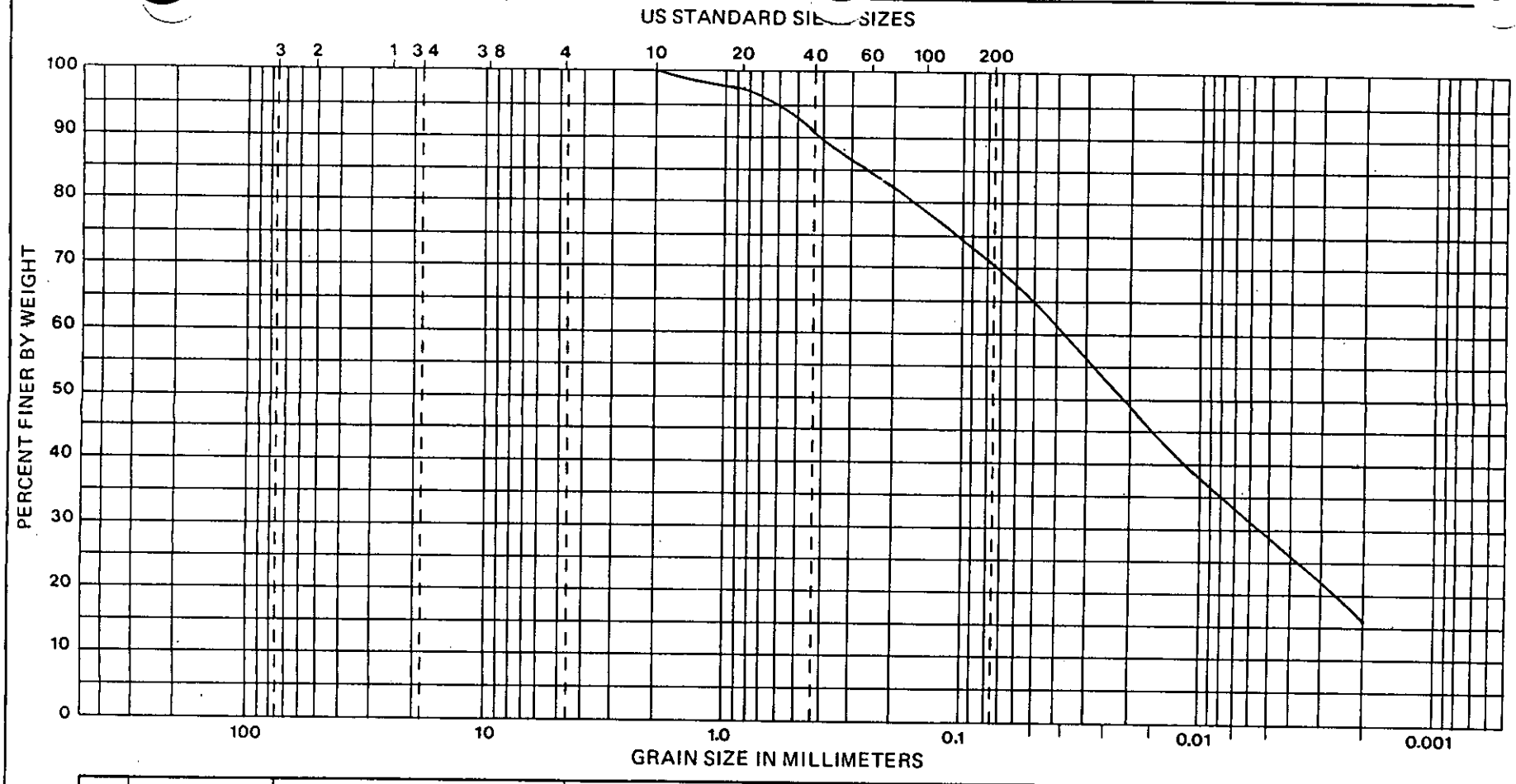
9:05
9:15
9:30
9:59
10:10

334

SIEVE ANALYSIS

SIEVE NO.	SIEVE SER. NO.	CUMULATIVE WT. RETAINED	CUMULATIVE WT. PASSING	CUMMULATIVE F X WEIGHT PASSING = % OF TOTAL PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
10	SYSTL 10043	0	50		.00	98.3
20	SYSTL 10013	2.1	47.9		.841	94.2
40	SYSTL 10102	4.6	45.4		.420	89.3
60	SYSTL 10048	6.7	43.3		.250	85.1
140	SYSTL 10111	10.6	39.4		.105	77.5
200	SYSTL 10103	12.5	37.5		.074	73.7
PAN						

INSPECTOR M&H J.S. Tatum DATE 10-8-91
LEVEL II EVALUATION N/A DATE N/A
QA APPROVAL DATE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

PROJECT SOUTH BOULEVARD

BORING NO	~~ELEV OR~~ DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-30	10.0' - 11.5'	46.0	N/A	N/A	N/A	YELLOWISH BROWN FINE TO MEDIUM SANDY CLAYEY SILT

GRAIN SIZE DISTRIBUTION

TEST NO. N/A JOB NO. N/A

INSPECTOR J.S. Tatum

DATE 10-9-91

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT

LEVEL II EVALUATION N/A

QA APPROVAL _____ DATE _____

25565 (R9-85)

FORM M-1L

REV. 5

25563 (R9-85) 393 | FORM M-1J | REV. 7

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL PARTICLE SIZE ANALYSIS

SOURCE OF SAMPLE B 30 10.0'-11.5' DATE SAMPLED N/A SAMPLE NUMBER 4

SAMPLE PREPARATION

A) INITIAL WEIGHT OF SAMPLE 99.5
B) WT RETAINED ON #10 SIEVE 0
C) WT PASSING #10 (A-B) 99.5
D) %PASSING #10 (C ÷ A) X 100 100
SCALE SER NO. SYSTL 10018

E) DRY WT OF SAMPLE 50
F) (PORTION PASSING #10 SIEVE) 100
F) FACTOR (D ÷ E) 2
SPECIFIC GRAVITY N/A
SIEVE SER. NO. SYSTL 10043
OVEN SER. NO. 19+23

HYDROMETER ANALYSIS

HYDROMETER NO. 8 DISPERSING AGENT SODIUM HEXAMETAPHOSPHATE
THERMOMETER SER. NO. 2A
STARTING TIME 9:05 TEMPERATURE 22°C DATE TESTED 10-8-91

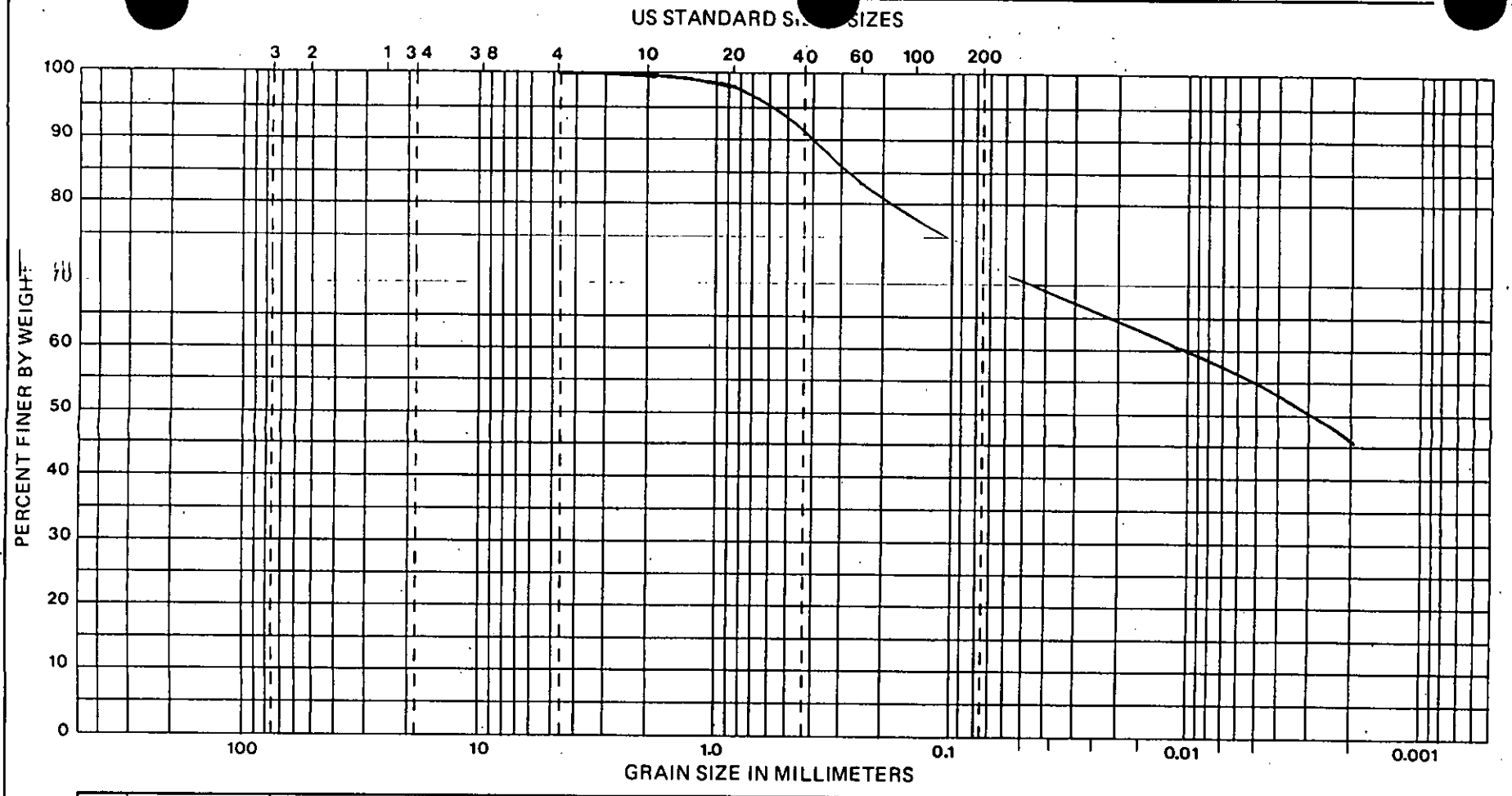
TIME (MIN)	HYDROMETER READING	TEMPERATURE CORRECTION: SOLUTION CORRECTION	TEMPERATURE CORRECTION: MENISCUS CORRECTION	CORRECTED HYDROMETER READING	% OR F X HYDROMETER = TOTAL PASSING READING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
0.5	42	-7	+1	36		.050	72.0
1.0	38.5	-7	+1	32.5		.037	65.0
2.0	35.5	-7	+1	29.5		.025	59.0
5.0	31	-7	+1	25		.017	50.0
15.0	25	-7	+1	19		.010	38.0
30.0	22	-7	+1	16		.007	32.0
60.0	16.5	-7	+1	12.5		.005	25.0
250.0	13	-6	+1	8		.002	16.0
1440.0						.001	

330

SIEVE ANALYSIS

SIEVE NO.	SIEVE SER. NO.	CUMULATIVE WT. RETAINED	CUMULATIVE WT. PASSING	CUMULATIVE WEIGHT PASSING % OF TOTAL PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
10	SYSTL 10043	0	50		.00	100.0
20	SYSTL 10013	1.2	48.8		.841	97.6
40	SYSTL 10102	4.5	45.5		.420	91.0
60	SYSTL 10048	7.7	42.3		.250	84.6
140	SYSTL 10111	12.7	37.3		.105	74.6
200	SYSTL 10103	14.7	35.3		.074	70.6
PAN						

INSPECTOR M.S.F. / J.S. Tatum DATE 10-8-91
LEVEL II EVALUATION N/A DATE N/A
QA APPROVAL DATE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

PROJECT SOUTH BOULEVARD

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-10-991B	5.0'-6.5'	19.5	N/A	N/A	N/A	REDDISH YELLOW FINE TO MEDIUM SANDY CLAYEY SILT ML

GRAIN SIZE DISTRIBUTION

TEST NO. 1 JOB NO. N/A

INSPECTOR msh J.S. Tatum

DATE 10-9-91

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT

LEVEL II EVALUATION N/A

QA APPROVAL _____ DATE _____

25565 (R9-85)

FORM M-1L

REV. 5

25563 (R9-85) 369 | FORM M-1J | REV. 7

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL PARTICLE SIZE ANALYSIS

SOURCE OF SAMPLE B-10-91B 5.0'-6.5' DATE SAMPLED N/A SAMPLE NUMBER 1

SAMPLE PREPARATION

A) INITIAL WEIGHT OF SAMPLE 186.5
B) WT RETAINED ON #10 SIEVE 0.4
C) WT PASSING #10 (A-B) 186.1
D) %PASSING #10 (C ÷ A) X 100 99.8
SCALE SER NO. SYSTL 10068

E) DRY WT OF SAMPLE 50
F) (PORTION PASSING #10 SIEVE) 99.8
F) FACTOR (D ÷ E) 1.996
SPECIFIC GRAVITY N/A
SIEVE SER. NO. SYSTL 10043
OVEN SER. NO. 1942.3

HYDROMETER ANALYSIS

HYDROMETER NO. 9 DISPERSING AGENT SODIUM HEXAMETAPHOSPHATE
THERMOMETER SER. NO. 2A
STARTING TIME 9:10 TEMPERATURE 22°C DATE TESTED 10-8-91

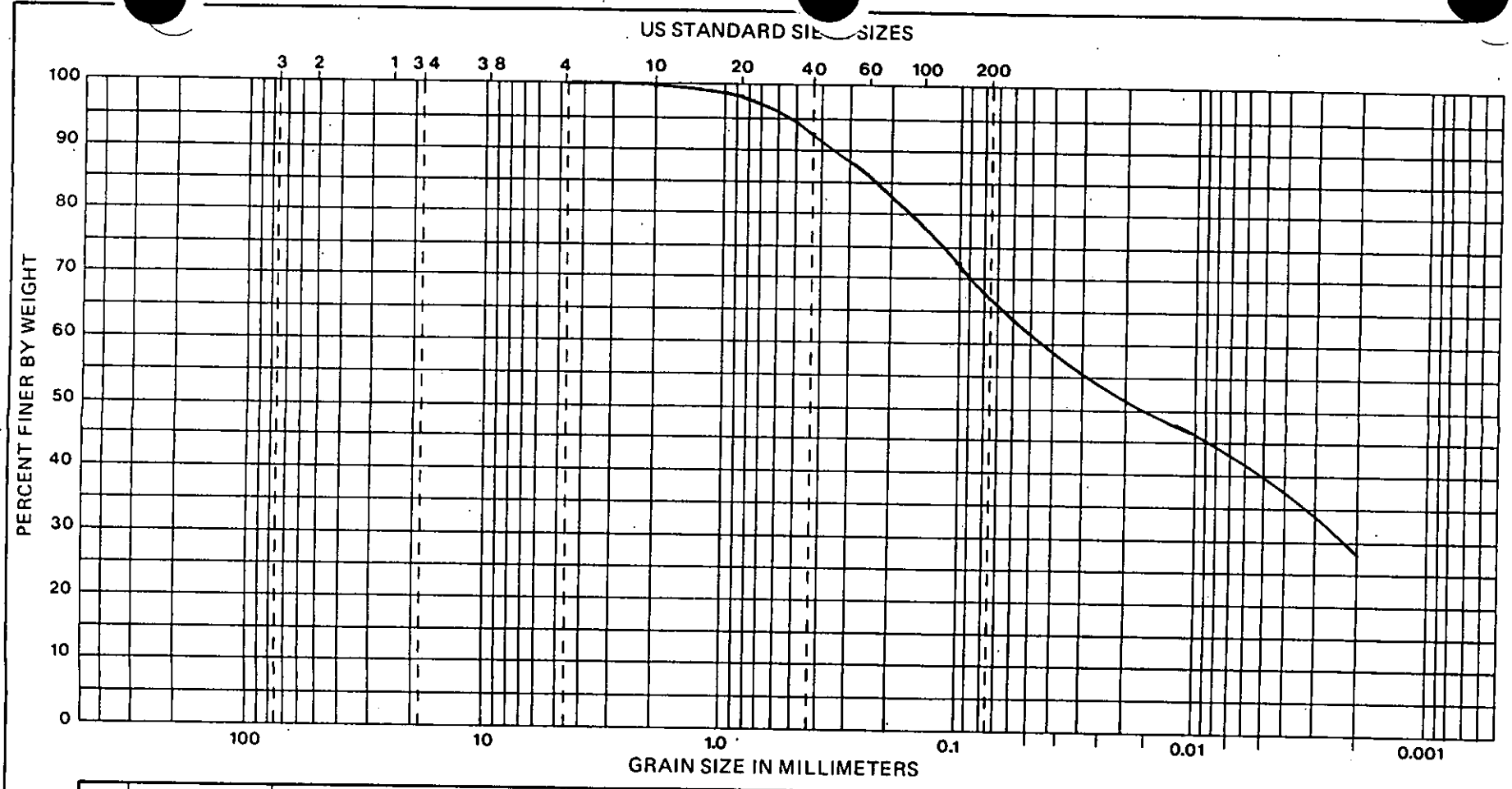
TIME (MIN)	HYDROMETER READING	TEMPERATURE CORRECTION: SOLUTION CORRECTION	TEMPERATURE CORRECTION: MENISCUS CORRECTION	CORRECTED HYDROMETER READING	% OR F X HYDROMETER = TOTAL PASSING READING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
0.5	43	-7	+1	37		.050	73.9
1.0	42	-7	+1	36		.037	71.9
2.0	41	-7	+1	35		.025	69.9
5.0	39	-7	+1	33		.017	65.9
15.0	36	-7	+1	30		.010	59.9
30.0	34.5	-7	+1	28.5		.007	56.9
60.0	33	-7	+1	27		.005	53.9
250.0	28	-6	+1	23		.002	45.9
1440.0						.001	

383

SIEVE ANALYSIS

SIEVE NO.	SIEVE SER. NO.	CUMULATIVE WT. RETAINED	CUMULATIVE WT. PASSING	CUMMULATIVE WEIGHT PASSING = F X % OF TOTAL PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
10	SYSTL 10043	0	50		.00	99.8
20	SYSTL 10013	0.9	49.1		.841	98.0
40	SYSTL 10002	4.4	45.6		.420	91.0
60	SYSTL 10042	8.5	41.5		.250	82.9
140	SYSTL 10011	12.6	37.4		.105	74.7
200	SYSTL 10003	13.5	36.5		.074	72.9
PAN						

INSPECTOR mst / J.S. Tatum DATE 10-8-91
LEVEL II EVALUATION N/A DATE N/A
QA APPROVAL DATE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

PROJECT SOUTH BOULEVARD

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B10-991B	8.0'-9.5'	22.2	N/A	N/A	N/A	LIGHT YELLOWISH BROWN FINE TO MEDIUM SANDY CLAYEY SILT ML

GRAIN SIZE DISTRIBUTION

TEST NO. 2 JOB NO. N/A

INSPECTOR mgH / J.S. Tatum

DATE 10-9-91

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT

LEVEL II EVALUATION N/A

QA APPROVAL _____ DATE _____

25565 (R9-85)

FORM M-1L

REV. 5

25563 (R9-85) 394 | FORM M-1J | REV. 7

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL PARTICLE SIZE ANALYSIS

SOURCE OF SAMPLE B1D-991B 8.0'-9.5' DATE SAMPLED _____ SAMPLE NUMBER 2

SAMPLE PREPARATION

A) INITIAL WEIGHT OF SAMPLE 140.7
B) WT RETAINED ON #10 SIEVE 0.5
C) WT PASSING #10 (A-B) 140.2
D) %PASSING #10 (C ÷ A) X 100 99.6
SCALE SER NO. SYSTL 10068

E) DRY WT OF SAMPLE 50
F) (PORTION PASSING #10 SIEVE) 99.6
F) FACTOR (D ÷ E) 1.992
SPECIFIC GRAVITY N/A
SIEVE SER. NO. SYSTL 10043
OVEN SER. NO. 19423

HYDROMETER ANALYSIS

HYDROMETER NO. 10 DISPERSING AGENT SODIUM HEXAMETAPHOSPHATE
THERMOMETER SER. NO. 3A
STARTING TIME 9:15 TEMPERATURE 22°C DATE TESTED 10-8-91

TIME (MIN)	HYDROMETER READING	TEMPERATURE CORRECTION: SOLUTION CORRECTION	TEMPERATURE CORRECTION: MENISCUS CORRECTION	CORRECTED HYDROMETER READING	% OR F X HYDROMETER = TOTAL PASSING READING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
0.5	41	-7	+1	35		.050	69.7
1.0	37.5	-7	+1	31.5		.037	62.7
2.0	36	-7	+1	30		.025	59.8
5.0	33	-7	+1	27		.017	53.8
15.0	29	-7	+1	23		.010	45.8
30.0	26.5	-7	+1	20.5		.007	40.6
60.0	24	-7	+1	18		.005	35.9
250.0	19	-6	+1	14		.002	27.9
1440.0						.001	

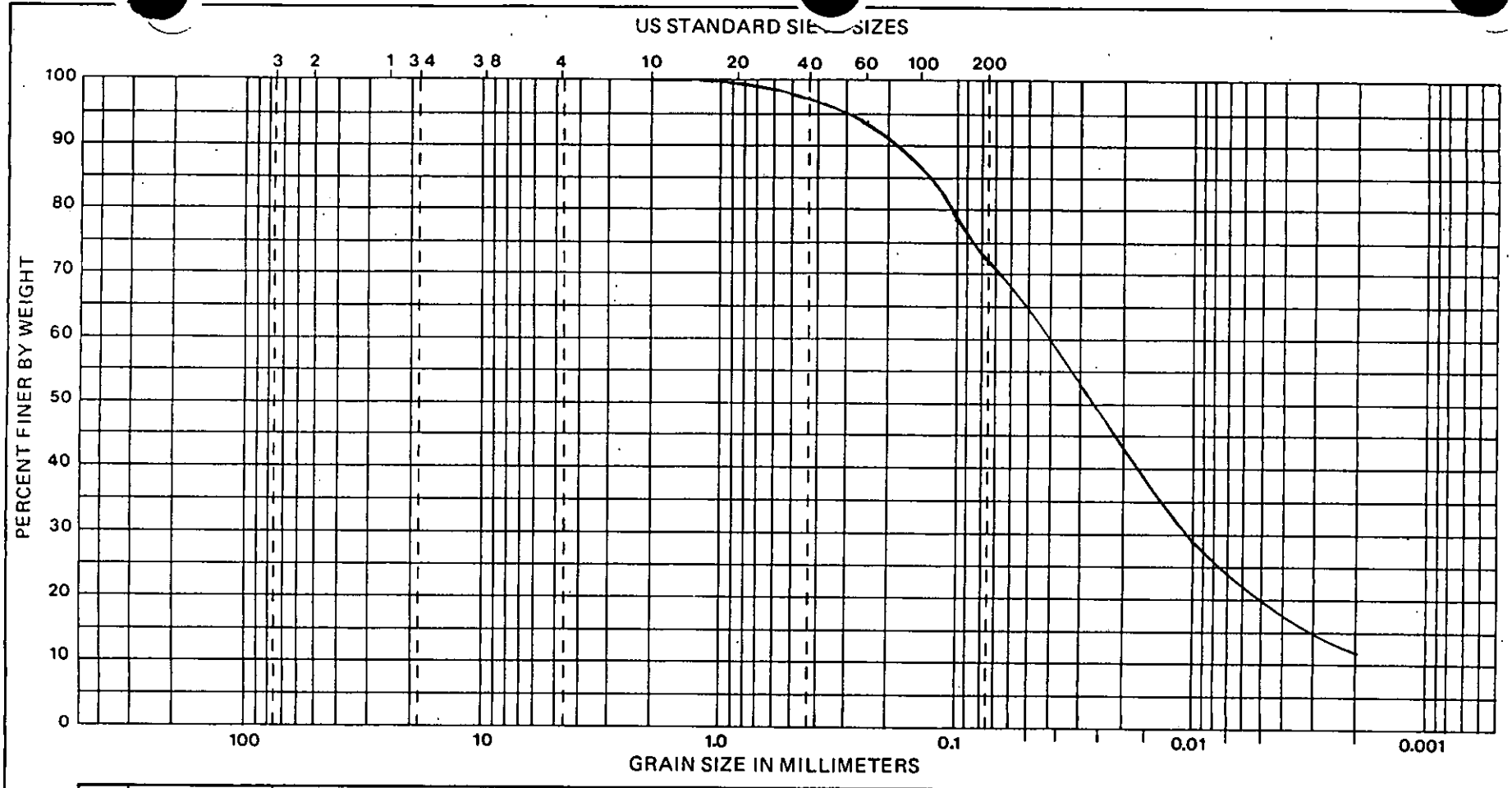
9:20
9:30
9:45
10:15
1:25

357

SIEVE ANALYSIS

SIEVE NO.	SIEVE SER. NO.	CUMULATIVE WT. RETAINED	CUMULATIVE WT. PASSING	CUMMULATIVE WEIGHT PASSING = F X % OF TOTAL PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
10	SYSTL 10043	0	50		.00	99.6
20	SYSTL 10043	0.7	49.3		.841	98.2
40	SYSTL 10102	3.4	46.6		.420	92.8
60	SYSTL 10055	7.0	43.0		.250	85.7
140	SYSTL 10111	13.7	36.3		.105	72.3
200	SYSTL 10093	16.4	33.6		.074	66.9
PAN						

INSPECTOR J.S. Tatum DATE 10-8-91
LEVEL II EVALUATION N/A DATE N/A
QA APPROVAL _____ DATE _____



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

PROJECT SOUTH BOULEVARD

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B10-991B	11.0'-12.5'	27.5	N/A	N/A	N/A	BROWN MICACEOUS FINE SANDY CLAYEY SILT ML

GRAIN SIZE DISTRIBUTION

TEST NO. 3 JOB NO. N/A

INSPECTOR msh / J.S. Jatum

DATE 10-9-91

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT

LEVEL II EVALUATION N/A

QA APPROVAL _____ DATE _____

25565 (R9-85)

FORM M-1L

REV. 5

25563 (R9-85) 554 | FORM M-1J | REV. 7

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL PARTICLE SIZE ANALYSIS

SOURCE OF SAMPLE B10-991B 11.0'-12.5' DATE SAMPLED N/A SAMPLE NUMBER 3

SAMPLE PREPARATION

A) INITIAL WEIGHT OF SAMPLE 164.6
B) WT RETAINED ON #10 SIEVE 0.0
C) WT PASSING #10 (A-B) 164.6
D) %PASSING #10 (C ÷ A) X 100 100
SCALE SER NO. SYSTL 10068

E) DRY WT OF SAMPLE 50
F) (PORTION PASSING #10 SIEVE) 100
F) FACTOR (D ÷ E) 2
SPECIFIC GRAVITY N/A
SIEVE SER. NO. SYSTL 10043
OVEN SER. NO. 19123

HYDROMETER ANALYSIS

HYDROMETER NO. 11 DISPERSING AGENT SODIUM HEXAMETAPHOSPHATE
THERMOMETER SER. NO. 2A
STARTING TIME 9:20 TEMPERATURE 22°C DATE TESTED 10-8-91

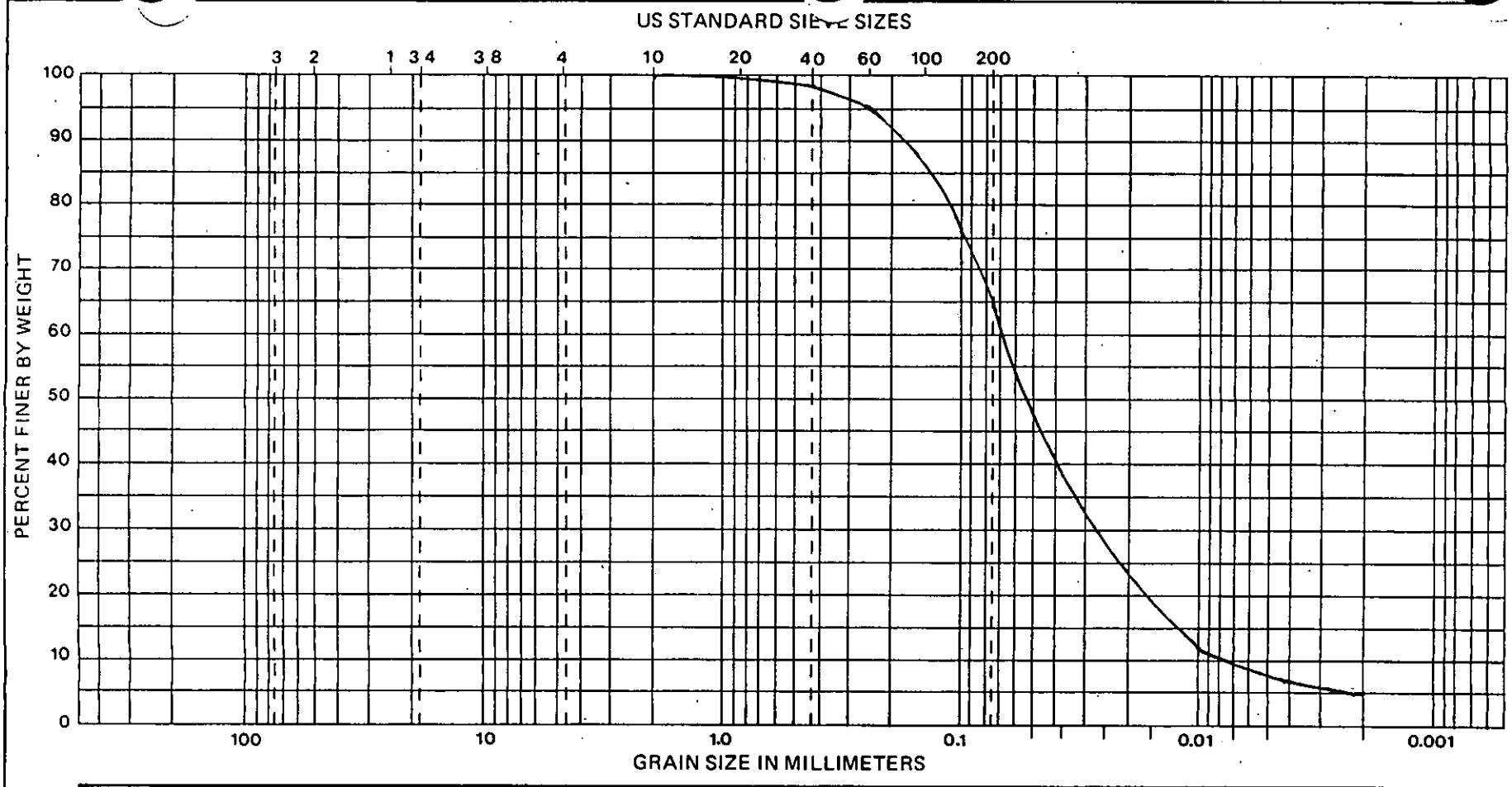
TIME (MIN)	HYDROMETER READING	TEMPERATURE CORRECTION: SOLUTION CORRECTION	TEMPERATURE CORRECTION: MENISCUS CORRECTION	CORRECTED HYDROMETER READING	% OR F X HYDROMETER = TOTAL PASSING READING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
0.5	41	-7	+1	35		.050	70
1.0	36	-7	+1	30		.037	60
2.0	33	-7	+1	27		.025	54
5.0	27	-7	+1	21		.017	42
15.0	20.5	-7	+1	14.5		.010	29
30.0	18	-7	+1	12		.007	24
60.0	16	-7	+1	10		.005	20
250.0	11	-6	+1	6		.002	12
1440.0						.001	

1:25
1:35
1:50
2:20
335

SIEVE ANALYSIS

SIEVE NO.	SIEVE SER. NO.	CUMULATIVE WT. RETAINED	CUMULATIVE WT. PASSING	CUMMULATIVE % OF TOTAL PASSING = F X WEIGHT PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
10	SYSTL 10043	0	50		.00	100
20	SYSTL 10013	0.7	49.3		.841	98.6
40	SYSTL 10102	1.3	48.7		.420	97.4
60	SYSTL 10048	3.3	46.7		.250	93.4
140	SYSTL 10111	10.9	39.1		.105	78.2
200	SYSTL 10103	15.7	34.3		.074	71.6
PAN						

INSPECTOR J.S. Jatum DATE 10-8-91
LEVEL II EVALUATION N/A DATE N/A
QA APPROVAL DATE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

PROJECT SOUTH BOULEVARD

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B10-991B	14.0'-15.5'	25.3	N/A	N/A	N/A	BROWN MICACEOUS FINE SANDY, CLAYEY SILT ML

GRAIN SIZE DISTRIBUTION

TEST NO. 4 JOB NO. N/A

INSPECTOR MSH / J.S. Tatum

DATE 10-9-91

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT

LEVEL II EVALUATION N/A

QA APPROVAL _____ DATE _____

25565 (R9-85)

FORM M-1L

REV. 5

25563 (R9-85) 396 | FORM M-1J | REV. 7

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BOULEVARD

SOIL PARTICLE SIZE ANALYSIS

SOURCE OF SAMPLE B-10 991B 14.0'-15.5' DATE SAMPLED N/A SAMPLE NUMBER 4

SAMPLE PREPARATION

A) INITIAL WEIGHT OF SAMPLE 13.6
B) WT RETAINED ON #10 SIEVE 0.0
C) WT PASSING #10 (A-B) 13.6
D) %PASSING #10 (C ÷ A) X 100 100
SCALE SER NO. SYSTL 10068

E) DRY WT OF SAMPLE 50
F) (PORTION PASSING #10 SIEVE) 100
F) FACTOR (D ÷ E) 2
SPECIFIC GRAVITY N/A
SIEVE SER. NO. SYSTL 10043
OVEN SER. NO. 19423

HYDROMETER ANALYSIS

HYDROMETER NO. 12 DISPERSING AGENT SODIUM HEXAMETAPHOSPHATE
THERMOMETER SER. NO. 2A
STARTING TIME 9:25 TEMPERATURE 22°C DATE TESTED 10-8-91

TIME (MIN)	HYDROMETER READING	TEMPERATURE CORRECTION: SOLUTION CORRECTION	TEMPERATURE CORRECTION: MENISCUS CORRECTION	CORRECTED HYDROMETER READING	% OR F X HYDROMETER = TOTAL READING PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
0.5	36	-7	+1	30		.050	60
1.0	32	-7	+1	26		.037	52
2.0	25	-7	+1	19		.025	38
5.0	19	-7	+1	13		.017	26
15.0	12	-7	+1	6		.010	12
30.0	10	-7	+1	4		.007	8
60.0	8.5	-7	+1	2.5		.005	5
250.0	7.5	-6	+1	2.5		.002	5
1440.0						.001	

1:30
1.40
1.55
2:25
3:5

308

SIEVE ANALYSIS

SIEVE NO.	SIEVE SER. NO.	CUMULATIVE WT. RETAINED	CUMULATIVE WT. PASSING	CUMMULATIVE WEIGHT PASSING = F X % OF TOTAL PASSING	PARTICLE DIAMETER (MM)	% OF TOTAL PASSING
10	SYSTL 10043	0	50		.00	100
20	SYSTL 10013	0.1	49.9		.841	99.8
40	SYSTL 10102	0.6	49.4		.420	98.8
60	SYSTL 10048	2.4	47.6		.250	95.2
140	SYSTL 10111	12.1	37.9		.105	75.8
200	SYSTL 10103	17.2	32.8		.074	65.6
PAN						

INSPECTOR Basil J. S. Tatum DATE 10-8-91
LEVEL II EVALUATION N/A DATE N/A
QA APPROVAL DATE

APPENDIX E

SITE SAMPLING PLAN

SITE SAMPLING PLAN

FOR
DUKE POWER COMPANY
SOUTH BLVD. MANUFACTURED GAS PLANT
CHARLOTTE, N.C.

Prepared By:
Duke Power Company
Generation Services Department
Environmental Chemistry
1991

Table Of Contents

SECTION

1.0 INTRODUCTION

2.0 SITE BACKGROUND

- 2.1 Site Location
- 2.2 Site History

3.0 PRELIMINARY ACTIVITIES

- 3.1 Establish A field Office
- 3.2 Establish Site Laboratory
- 3.3 Soil Gas Survey
- 3.4 Identify Sampling Locations
- 3.5 Mobilize Heavy Equipment

4.0 SUBSURFACE INVESTIGATIONS

- 4.1 Sample Collection
- 4.2 Sample Documentation
- 4.3 Laboratory Samples
- 4.4 Equipment Cleaning

5.0 SAMPLE DOCUMENTATION AND SHIPPING

FIGURES:

- Figure 1: Site Location Map
- Figure 2: Site Map Showing Location of Proposed Substation
- Figure 3: Site Map Showing Historic MGP Facilities
- Figure 4: Site Map Showing Soil Gas Ssampling Grid
- Figure 5: Depiction of Sampling Scheme

TABLES:

- Table 1: Analysis Requirements

1.0 INTRODUCTION

This site sampling plan describes the various field tasks included in the investigation of Duke Power Company's, South Blvd. Manufactured Gas Plant (MGP) site, by Generation Services Department / Environmental Chemistry. The objectives of the site investigation phase are: to identify areas of contamination associated with past site activities, and to identify potential environmental pathways of contaminant migration. Included in this plan are procedures for mobilization and site investigation start-up, identification of sampling locations, and sampling site subsurface soils.

The investigation plan presented here is part of a phased plan for overall site characterization. These phases are:

Phase I - Preliminary Site Investigation
Phase II - Site Characterization

Part of Phase I (Preliminary Site Investigation) has been completed and the relevant information obtained is presented in Section 2.0 (Site Background) of this plan. The information obtained during the remainder of the site investigation phase will be used in the development of the full Phase II site characterization program.

The following plan is generally organized according to chronological order of events, starting with preliminary activities and progressing through sample documentation and shipping.

2.0 SITE BACKGROUND

The following section summarizes site use and waste handling practices at Duke Power Company's, South Blvd. MGP site.

2.1 SITE LOCATION

The South Blvd. MGP site is located in Charlotte, North Carolina, south of the downtown area. The plant runs parallel to South Boulevard, and is bounded to the north by Southern Railway tracks, and to the east by Bland Street. The site is 7.5 acres in area with approximately 1.5 acres at the east end covered by a garage and office building. The site is currently being used as a service center with areas for utility pole and transformer storage. The area not covered by the garage building is approximately 40% paved and 60% gravel.

2.2 SITE HISTORY

The site has been used by Duke Power Co. since _____. The facility has a long history of various uses, including MGP

processes, operation of a trolley station, storage area for utility poles, line truck and equipment parking, and vehicle refueling areas.

A previous environmental assessment was conducted in June 1989 with a follow-up in February, 1991. The study area consisted of approximately a 200 sq. foot area on the west end of the site, proposed for construction of a new substation (Figures 1 and 2). Reports on these activities were submitted on September 13, 1989 and April 29, 1991, respectively. This site plan will not address that area of the site previously studied.

The South Blvd. MGP site used the carburetted water gas (CWG) process for the manufacturing of gas for lighting and heating. Figure 4 shows the locations of the various MGP process facilities on the South Blvd. site. By-products and waste associated with the process include:

- CWG Tar
- CWG Tar/Water Emulsion
- Clinkers
- Wastewaters (BTX, PAHs)
- Spent Oxides*

* Traces of iron cyanide depending on nitrogen in feedstocks

MGP type waste found in test pits on the west end of the site during previous investigations, indicate that some by-products and waste were buried on-site.

3.0 PRELIMINARY ACTIVITIES

3.1 ESTABLISH A FIELD OFFICE

A field office with facilities suitable for a field laboratory will be established in vacated office space on the ground floor of the garage building. The area is equipped with power, water, toilet, air-conditioning, and phone survice.

3.2 ESTABLISH SITE LABORATORY

A field laboratory will be established in the field office area.
A Photovac portable gas chromatograph equipped with a photo-ionization detector (PID) will be used to analyze for volatile organic vapors.
A HNU-Hanby field test will be used to analyze for aromatic hydrocarbons in soil samples.

3.3 SOIL GAS SURVEY

As part of the Phase I investigation , a soil gas survey will be conducted on the study area of the South Blvd. MGP site. The soil gas survey will consist of extracting soil gas vapors

through stainless steel probes, driven 3-ft into the subsurface. The extracted vapors will be injected into a portable gas chromatograph equipped with a PID.

Similar surveys have proven valuable on sites with shallow groundwater (<15-ft), and are most effective when the sample site is capped with pavement. Fewer soil borings are needed for site characterization based on a review of these results.

The soil gas survey will be conducted prior to the field mobilization activities for subsurface sampling. The survey will be conducted at the grid nodes of a 50-ft by 50-ft grid, covering the MGP process areas of the site (Figure 4).

3.4 IDENTIFY SAMPLING LOCATIONS

During the mobilization phase, all boring locations will be marked using orange fluorescent paint. Boring locations will be selected based on soil gas assessment data and historic knowledge of MGP site process locations.

3.5 MOBILIZE HEAVY EQUIPMENT

A drill rig for test hole borings will be scheduled by Ralph Roberts and delivered and operated by personnel from Duke Power Geotech Laboratory.

4.0 SUBSURFACE INVESTIGATIONS

4.1 SAMPLE COLLECTION

Subsurface soils will be collected with a 24" split tube sampler. Bore holes will be advanced using a drill rig with a rotary operated, hollow-stem auger. Soil samples will be collected from depths of 1 to 3 ft, 4 to 6 ft, 7 to 9 ft, and 10 to 12 ft (Figure 5). Some adjustment from this sampling scheme may be necessary due to subsurface conditions.

All borings and split-tube sampling will be conducted by personnel from the Duke Power Geotech Laboratory. Each sample will be logged and classified by the drill inspector.

4.2 SAMPLE DOCUMENTATION

Each soil sample will be logged and numbered (Figure 5) according to the following scheme:

Example: SBMGP-B0102-0892
where: SBMGP = Site designation
B01 = Bore hole number
02 = Second sample from the bore hole
892 = Month/Year

Each sample will be photographed, and additional observations made and recorded by personnel from Environmental Chemistry.

All bore holes will be surveyed for location and elevation. These locations and elevations will be plotted on the site map.

4.3 LABORATORY SAMPLES

Samples will be screened using analysis of head-space concentrated organics by GC and additionally by HNU-Hanby field screen for aromatics in soil.

The field screen results in conjunction with physical observations of the samples, will be the basis for selection of samples to be returned for laboratory analysis. In most instances, the two most contaminated samples from a bore hole will be submitted for laboratory analysis. Some parameters (TCPL, TOC, Method 8310 and grain size), will only be analyzed on selected samples per the following criteria.

TCLP: Samples which exhibit extremely high field screen results

TOC: Samples which exhibit extremely low field screen results

8310: Samples which exhibit extremely low field screen results

Grain Size: Selected bore holes and depths for aerial and vertical coverage of the site

Samples will be processed and placed in containers according to EPA accepted procedures. A summary of the laboratory analyses to be performed are presented in Table 1.

4.4 EQUIPMENT CLEANING

Sample processing equipment will be cleaned between samples according to established procedures. Split-tube samplers be will steam cleaned between samples and drill augers will be steam cleaned between each bore hole.

5.0 SAMPLE DOCUMENTATION AND SHIPPING

All samples will be placed in clean containers and stored on ice until delivered to the laboratory. Chain-of-custody procedures will be followed and will be the final documentation of the preservation and requested analyses.

All samples submitted for laboratory analysis will be delivered by the sampling team to the Duke Power Company environmental laboratories. Any analyses being subcontracted to other labs will be coordinated by the environmental laboratory personnel.

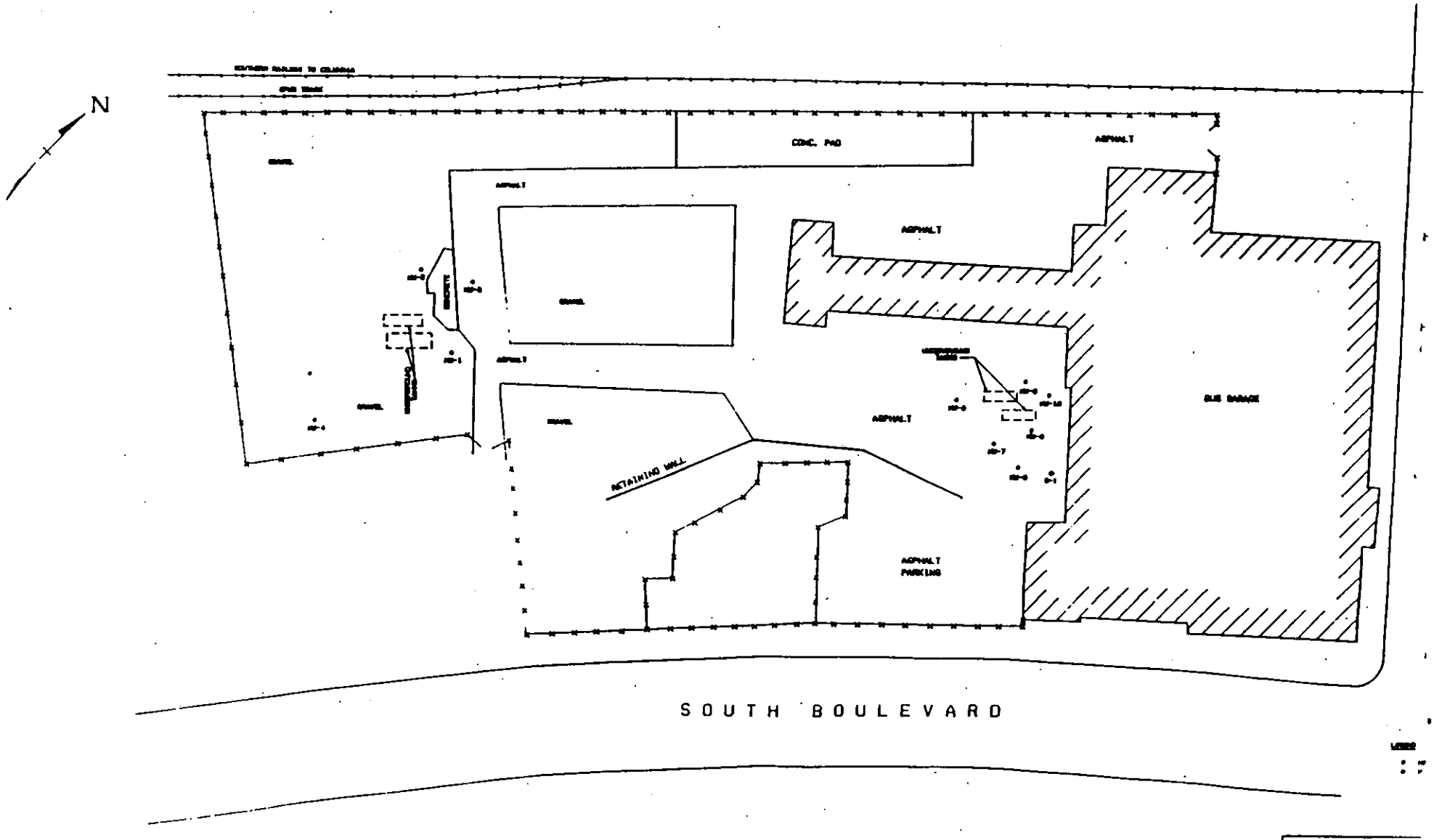


FIGURE 1

DUKE POWER
S. BLVD. OPERA
CHARLOTTE

FIGURE

LOCATION OF

AND MONITORI

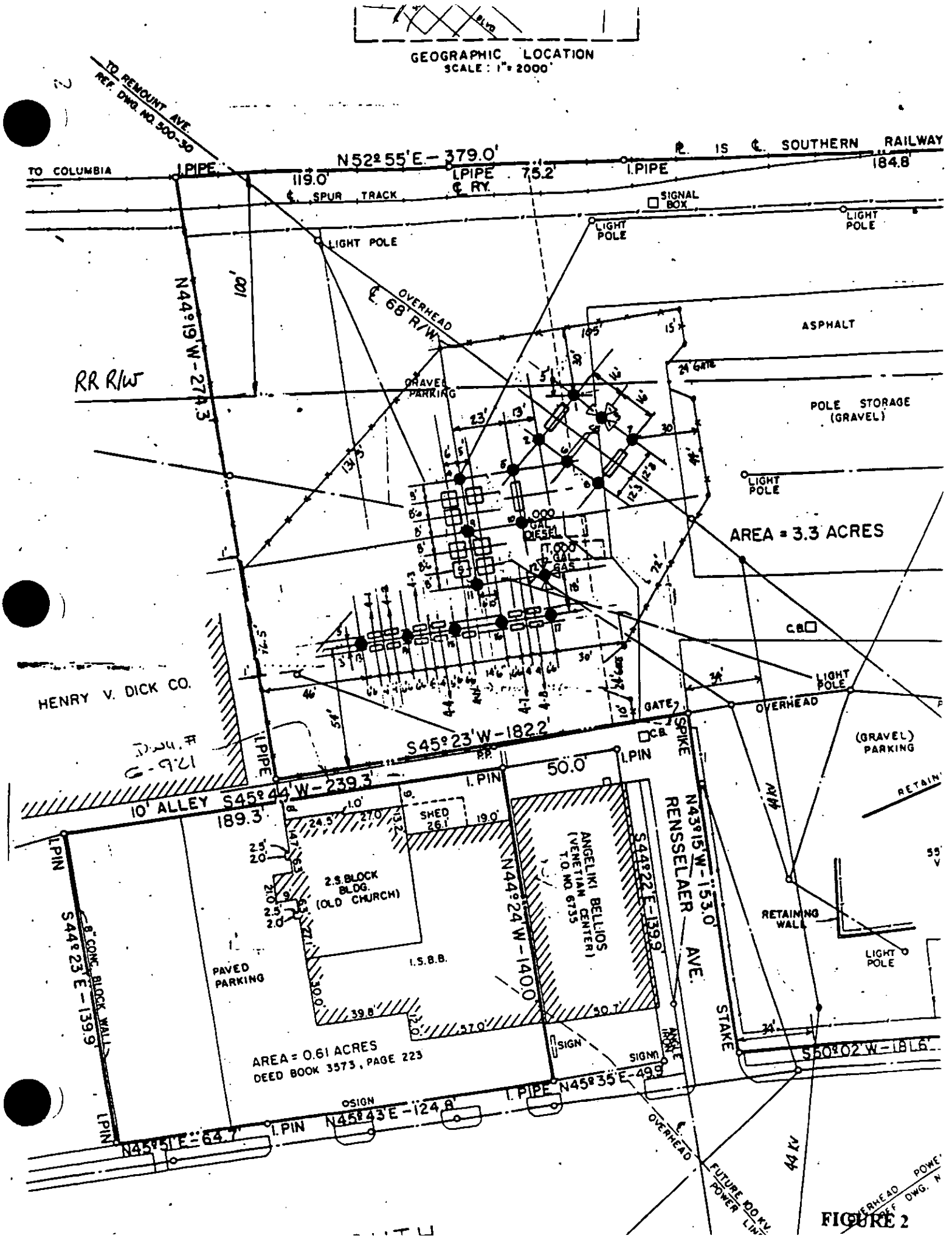

GEOGRAPHIC LOCATION
SCALE: 1" = 2000'
TO REMOUNT AVE.
REF. DWG. NO. 500-30
TO COLUMBIA
℄ IS ℄ SOUTHERN RAILWAY
N52° 55' E - 379.0'
I. PIPE
119.0'
I. PIPE
75.2'
℄ RY.
I. PIPE
184.8
℄ SPUR TRACK
SIGNAL BOX
LIGHT POLE
LIGHT POLE
LIGHT POLE
OVERHEAD
℄ 68' R/W
N44° 19' W - 274.3'
101'
RR R/W
ASPHALT
GRAVEL PARKING
24' GATE
POLE STORAGE (GRAVEL)
LIGHT POLE
AREA = 3.3 ACRES
C.B.
HENRY V. DICK CO.
LIGHT POLE
OVERHEAD
GATE
S45° 23' W - 182.2'
SPIKE
(GRAVEL) PARKING
I. PIPE
I. PIN
50.0'
I. PIN
10' ALLEY S45° 44' W - 239.3'
189.3'
SHED
2.5 BLOCK BLDG. (OLD CHURCH)
ANGELIKI BELLIOS (VENETIAN CENTER) T.O. NO. 6735
N44° 24' W - 140.0'
S44° 22' E - 139.9'
N43° 15' W - 153.0'
RENSSELAER AVE.
44 KV
RETAINING WALL
LIGHT POLE
I. PIN
8" CONC. BLOCK WALL
S44° 23' E - 139.9'
PAVED PARKING
I.S.B.B.
AREA = 0.61 ACRES
DEED BOOK 3573, PAGE 223
SIGN
SIGN
STAKE
S50° 02' W - 18.6'
OSIGN
I. PIPE
N45° 35' E - 49.9'
I. PIN
N45° 43' E - 124.8'
I. PIN
N45° 51' E - 64.7'
OVERHEAD
FUTURE 100 KV POWER LINE
44 KV

FIGURE 2

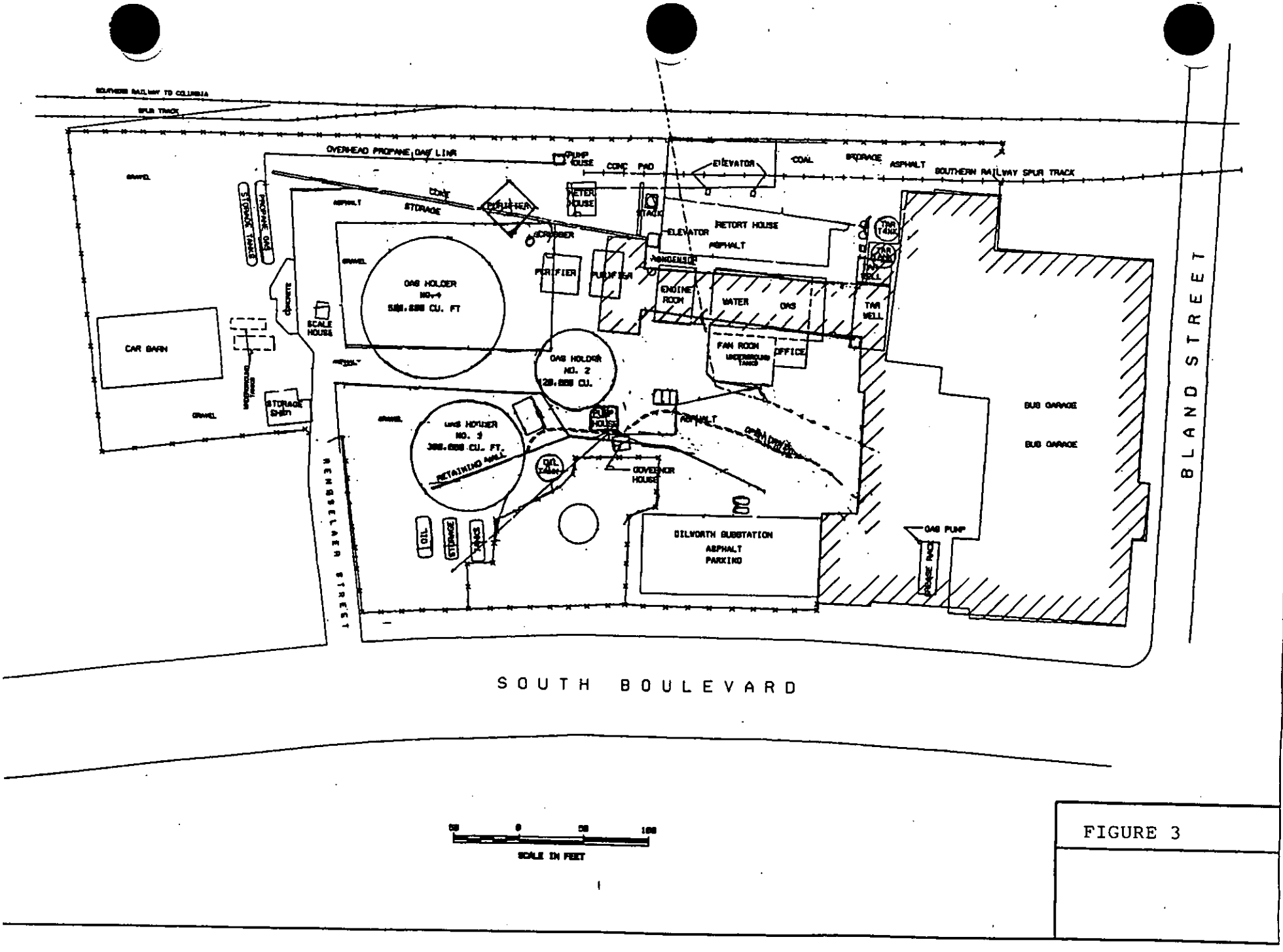

SOUTHERN RAILWAY TO COLUMBIA
SPUR TRACK
OVERHEAD PROPANE GAS LINE
PUMP HOUSE
CONC PAD
ELEVATOR
COAL STORAGE
ASPHALT
SOUTHERN RAILWAY SPUR TRACK
GRAVEL
STORAGE TANKS
PROPANE GAS
ASPHALT
COAL STORAGE
EXCAVATOR
METER HOUSE
TRACK
SCRUBBER
ELEVATOR
RETORT HOUSE
ASPHALT
CONDENSER
GRAVEL
GAS HOLDER NO-4 500,000 CU. FT
PURIFIER
PURIFIER
ENGINE ROOM
WATER GAS
TAR WELL
TAR TANK
TAR TANK
TAR WELL
CONCRETE
SCALE HOUSE
CAR BARN
GAS HOLDER NO. 2 120,000 CU.
FAN ROOM
UNDERGROUND TANKS
OFFICE
BUS GARAGE
BUS GARAGE
GRAVEL
STORAGE SHED
GAS HOLDER NO. 3 300,000 CU. FT.
PUMP HOUSE
ASPHALT
RETAINING WALL
OIL TANK
GOVERNOR HOUSE
OIL
STORAGE
TANKS
OILWORTH SUBSTATION
ASPHALT
PARKING
GAS PUMP
PROPANE TANK
REMSELAER STREET
BLAND STREET
SOUTH BOULEVARD
SCALE IN FEET

FIGURE 3

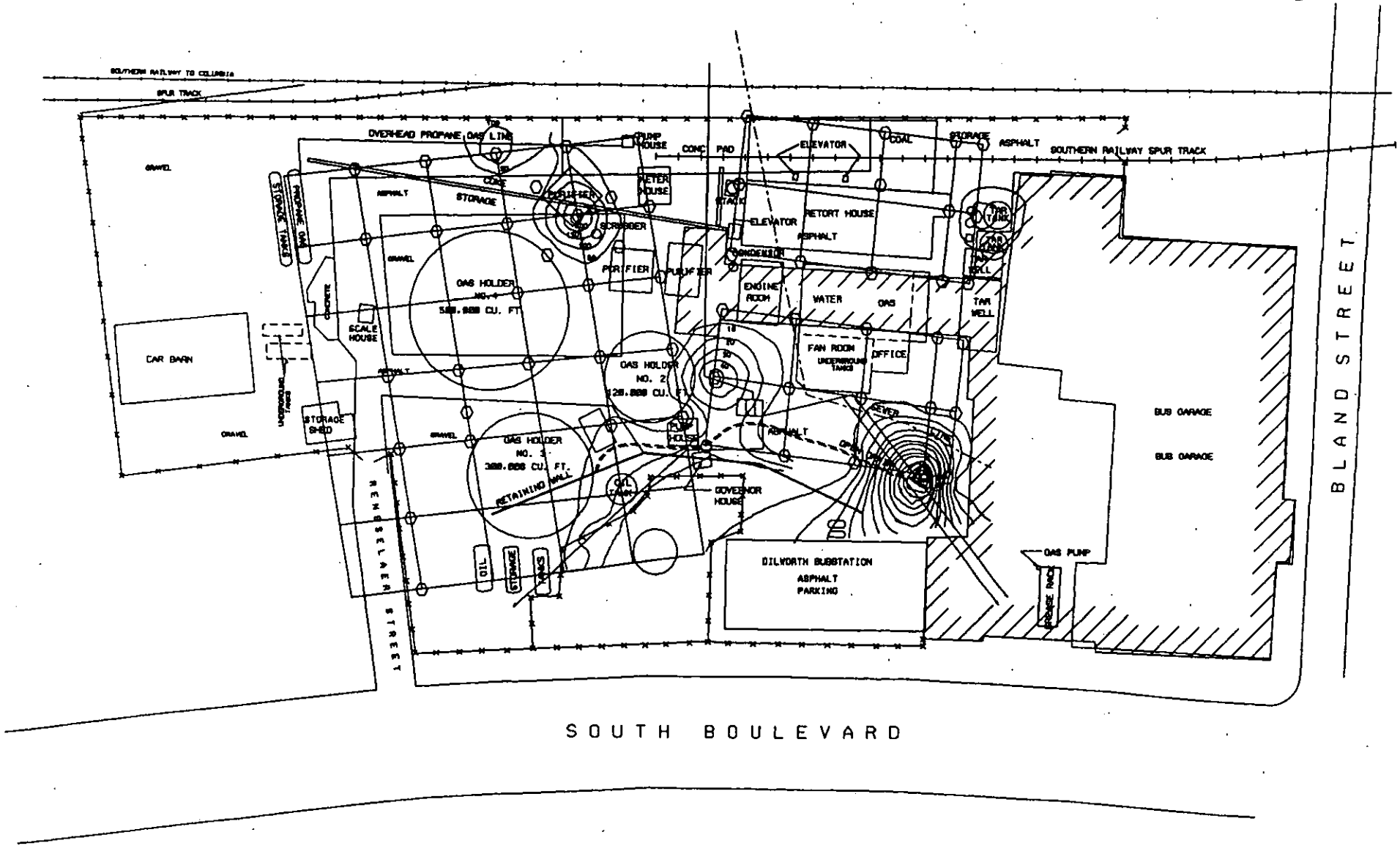

N
SOUTHERN RAILWAY TO COLUMBIA
SPUR TRACK
OVERHEAD PROPANE GAS LINE
PUMP HOUSE
CONC PAD
ELEVATOR
COAL
STORAGE
ASPHALT
SOUTHERN RAILWAY SPUR TRACK
GRAVEL
COKE
STORAGE
ASPHALT
METER HOUSE
STACK
RETORT HOUSE
ELEVATOR
ASPHALT
SCRUBBER
CONDENSER
PURIFIER
PURIFIER
GAS HOLDER
NO. 4
500,000 CU. FT
ENGINE ROOM
WATER
GAS
TAR WELL
TAR TANK
TAR WELL
SCALE HOUSE
CAR BARN
GAS HOLDER
NO. 2
FAN ROOM
UNDERGROUND TANKS
OFFICE
BUS GARAGE
BUS GARAGE
STORAGE SHED
GRAVEL
GAS HOLDER
NO. 3
300,000 CU. FT.
RETAINING WALL
OIL TANK
PUMP HOUSE
ASPHALT
SEWER
GOVERNOR HOUSE
HENDERSON STREET
OIL
STORAGE
TANKS
DILWORTH SUBSTATION
ASPHALT
PARKING
GAS PUMP
PROPANE TANK
BLAND STREET
SOUTH BOULEVARD
50
0
50
100
SCALE IN FEET

FIGURE 4

Sampling Scheme

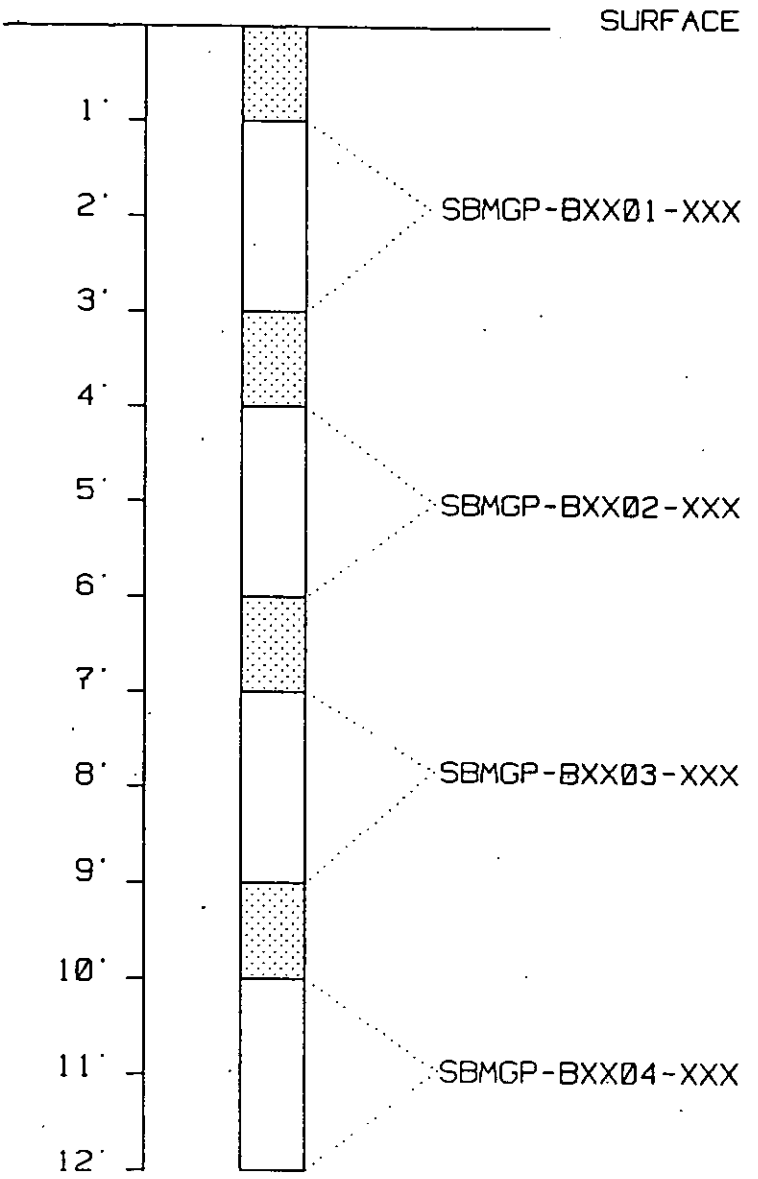


Figure 5

Report Number 10

Phase II Environmental Assessment
Supplemental Data
Soil and Groundwater Sampling
1992

SOUTH BOULEVARD MANUFACTURED GAS PLAN
PHASE II ENVIRONMENTAL ASSESSMENT
SUPPLEMENTAL SAMPLING

Based on data presented in the 1992 Phase II Environmental Assessment report (1) of the above site, placement for additional groundwater monitoring wells and soil borings were selected (Figure 1) to further characterize site contamination. Soil sampling protocols generally followed those outlined in the above referenced report. Ground water sampling was conducted in accordance with Duke Power Company's Groundwater Sampling and Analysis Plan. Additionally, a single surface water sample (stream/storm water) was collected for analysis.

SOIL ASSESSMENT

Well Construction Borings

Construction of the new monitoring wells (MW-11, 12, 13, 14, 15, and 16) was performed by Duke Power's Geotech personnel in July and August 1992. Holes were advanced using mechanically advanced, hollow-stem augers. Soil samples were collected at regular intervals in general accordance with ASTM D 1586. Boring information is presented on the Soil Test Boring Field Reports (Appendix A). Each soil sample collected was screened on site using the HNU-Hanby field test for aromatics in soil. The most contaminated sample from each boring (designated as B-MW-12, B-MW-13, etc.), based on field screening analysis (Table 1), was submitted for laboratory analysis of total metals, semi-volatile and volatile organics. Sampling methods were unable to retrieve a soil sample from MW-14. In addition, samples were collected for grain size analysis (Appendix D). Sample collection and processing was in accordance with U.S. EPA protocol as referenced in the Phase II Assessment (1).

Additional Soil Borings

Three additional soil borings (B-38, 39 and 40) were conducted by Environmental Chemistry personnel using the Geoprobe sampling systems. These samples were collected beneath the concrete floor inside the operations warehouse (Figure 1). Laboratory samples consisted of soil composited through the depth of the boring. Soil from B-38 was submitted for laboratory analysis of total metals. All three boring samples were submitted for semi-volatile and volatile organics analysis.

GROUNDWATER SAMPLING

Static Water Levels and Free Product Measurements

Static water level was determined prior to purging water from each

well. The static water level was measured to the nearest 0.01-ft using an electronic water level meter and is reported on the groundwater monitoring data sheets (Appendix B). Free product measurements were made using an electronic interface probe. Both light aqueous phase liquid (LNAPL) and dense aqueous phase liquid (DNAPL) measurements were made at all wells having a detectable hydrocarbon odor. Free product (LNAPL) was removed prior to purging using disposable bailers at wells having measurable LNAPL (MW-6).

Well Purging

Each well was purged and sampled using a Watson-Marlowe peristaltic pump and dedicated tubing. A combination of well volumes removed and measurement of aquifer stabilization characteristics (ph, specific conductance, and temperature) were used to determine when representative groundwater was present in the well. This determination was based on the removal of three to five well volumes and minimal variance in the stabilization parameters. Wells that purged to dryness or near dryness prior to the removal of three well volumes were sampled immediately after well recovery. Well purging information is presented in Appendix B.

Sample Collection, Preservation, and Analysis

Each well sampling was completed within three hours after final purge. Samples were collected in the following order: VOC, PAH, total cyanides, total metals, alkalinity, acidity, chlorides, and sulfates. Prior to sampling VOC's, the pumping rate was reduced to 50-ml per minute to minimize the loss of VOC's through sample aeration. Appropriate preservations were added to samples, custody sheet documentation completed (Appendix C), and samples stored on ice at 4°C until delivery, within required holding times, to the Environmental Division Laboratory on Lake Norman. All samples were analyzed by the methods outlined in Table 2.

Surface Water Sampling

A single surface water sample was collected from a storm culvert beneath the operations building. At the time of sampling, a rain event was occurring and flow was noted as heavy due to storm runoff.

The sample was collected as a "grab" through an access hatch in the bottom floor of the building. Sample preservation, and analysis followed the same criteria as used for groundwater samples.

RESULTS AND DISCUSSION

SOILS

Organic Chemistry

Polycyclic aromatic hydrocarbons (PAH's) and volatile organic carbons (VOC's) were detected in several of the soil samples submitted for laboratory analyses (Table 3). Only soil from MW-12 contained greater than 100 ppm PAH's and additionally contained the highest observed VOC's (29.4 ppm). Although no soil sample was obtained from MW-14, concentrations would be expected to be high due to observed free product in the soil water and auger cuttings.

Inorganic Chemistry
Total digestible metals concentrations (Table 4) were consistent with concentrations observed for previous samplings.

GROUNDWATER

Groundwater Classification
The water quality classification assigned to the groundwater in the Charlotte area is Class GA. Class GA is a groundwater that, under natural conditions, has a chloride concentration less than 250 mg/l. Substances which are not naturally occurring and for which no standard is specified shall not be permitted in detectable concentrations in Class GA groundwaters( ). PAH compounds, in general, do not have specific standards established. As a result, MGP-type PAH compounds cannot be present in detectable concentrations.

Groundwater Assessment
A total of 11 groundwater monitoring wells, including preexisting and new wells, were sampled for physical, inorganic and organic chemistry parameters. Monitoring well locations are identified in Figure 2.

Organic Chemistry
Volatile organic compounds (Table 5) were detected in numerous monitoring wells. Six of the eleven well samples had benzene concentrations greater than the method quantitation limit of three ug/l. The NC groundwater quality standard for benzene is 1.0 ug/l. Four wells exceeded the ethyl benzene groundwater quality standard of 29 ug/l, one well exceeded the toluene standard of 1000 ug/l, and two wells exceeded the standard of 400 ug/l for total xylenes.

PAH compounds generally associated with MGP waste (Table 6) were observed at elevated concentrations in four monitoring wells (MW-6, 10A, 12, and 14). MW-15 contained 150 ug/l naphthalene and 889 ug/l total VOC's but lacked detectable concentrations of other PAH's indicative of MGP waste and, was described in field notes as having odors associated with gasoline or fuel oil.

Inorganic Chemistry
Table 6, Inorganic Chemistry Data, summarizes the inorganic groundwater chemistry of the site. Of the inorganic parameters tested, only iron, manganese, cyanide, sulfate, and pH exceeded North Carolina Groundwater Standards. Low pH and high iron and manganese concentrations can be associated with the natural soil conditions. Total cyanides were detected in MW-1 and MW-14 at concentrations of 0.26 mg/l and 0.64 mg/l respectively. These concentrations were above the groundwater quality standard of 0.154 mg/l total cyanide. The groundwater quality standard for sulfate (250 mg/l) was exceeded in MW-1 with a concentration of 764 mg/l.

SURFACE WATER ASSESSMENT

A single surface water sample was collected from a stream running through a culvert, beneath the operations building. Organic and inorganic chemistry data for the surface water sample are presented in Table 7 & 8 respectively. All organic compounds were at or below the method detections limits. Similar to the groundwater of the site, iron and manganese exceeded the groundwater quality standards.

SUMMARY AND CONCLUSIONS

Soil, groundwater, and surface water samples were collected from the site to further evaluate the extent of contamination resulting from past activities. During the placement of additional groundwater monitoring wells on the site, soil samples were collected, screened an selectively submitted for laboratory analyses. Two additional soil samples were collected beneath the concrete floor of the operations building to assess the migration of MGP waste in that direction. Inorganic and organic analyses were conducted on 11 groundwater and one surface water samples.

TABLE 1

FIELD SCREEN ANALYSIS

HNU-HANBY

LOCATION	DEPTH	PARAMETER	RESULT (mg/k	COMMENTS
MW-11	4.5'-5.0'	Coal Tar	>200	Concrete At 5'
	9.7'-11-7'	Coal Tar	100	
	14.7'-16.9'	Coal Tar	30	
	19.7'-21.7'	Coal Tar	10	
MW-12	4.8'-6.8'	Coal Tar	>200	
	9.8'-11.8'	Coal Tar	>200	
	14.8'-16.8'	Coal Tar	200	
	19.8'-21.8'	Coal Tar	40	
MW-13	4.8'-6.8'	—	—	No Sample (Bricks)
	9.8'-11.8'	Coal Tar	5	
	14.8'-16.8'	Coal Tar	5	
	19.8'-21.8'	Coal Tar	2	
[illegible]5	—	—	—	No Sample Collected (High Contamination And Groundwate
	4.9'-5.2'	Coal Tar	10	
	9.8'-10.8'	Gasoline	100	
	14.8'-15.8'	Gasoline	50	
	19.8'-20.8'	Gasoline	<10	
MW-16	4.9'-6.4'	Coal Tar	<1	
	9.9'-11.4'	Coal Tar	2	
	14.9'-16.4'	Coal Tar	1	
	21.9'-23.4'	Coal Tar	1	
B38-0892	6.0'-11.5'	Coal Tar	<10	Clay / No Vieible Contamination or Odors
B39-0892	6.0'-9.0'	Coal Tar	100	Narrow Layer Of Contamination At 9'
B40-0892	6.0'-12.0'	Coal Tar	<10	Clay / No Vieible Contamination or Odors

TABLE 2

LABORATORY ANALYSES
METHODS

	METHOD	Duke Power Co. Environmental Divisi	EMS Laboratories
Metals*	(Soil) EPA 3050 and 200 series	S	
	(Water) Note 1	W	
Cyanide	(Water) SW846-9010		W
Ammonia	Note 1.	W	
Chloride	Note 1.	W	
Total Sulfur	Note 1.	W	
Alkalinity	Note 1.	W	
Acidity	Note 1.	W	
VOC	(Soil) EPA 8260	S	
	(Water) EPA 624	W	
AH	(Soil) EPA 8270	S	
	(Water) EPA 625	W	

S = SOIL SAMPLES / W = WATER SAMPLES

* Modified method 3050, using microwave heat source and no HCl; use nitric acid and hydrogen peroxide

Note 1: Procedures with reference to appropriate EPA, ASTM, etc. procedures

Duke Power Co.
Environmental Services

13339 Hagers Ferry Road,
Huntersville, N.C. 28078

Heritage (EMS) Laboratories Inc.

4132 Pompano St.
Charlotte, N.C. 28216

TABLE 3

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B-MW-12		B-MW-13		B-MW-15		B-MW-16	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
Acenaphthyle	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
Anthracene	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
Benzo(a) anthracene	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
Benzo(b) fluoranthene	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
Benzo(k) fluoranthene	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
Benzo(a)pyren	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
Benzo(ghi) perylene	< 56000	56	2700	2.7	650	0.65	650	0.65
Chrysene	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
Dibenzo(ah) nthracene	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
luoranthene	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
Fluorene	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
Indeno(1,2,3,-pyrene	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
Naphthalene	150000	150	< 2700	2.7	700	0.7	< 650	0.65
Phenanthrene	89000	89	< 2700	2.7	< 650	0.65	< 650	0.65
Pyrene	< 56000	56	< 2700	2.7	< 650	0.65	< 650	0.65
TOTAL PAH	1023000	1023	43200	43.2	10450	10.45	10400	10.4
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	4900	4.9	< 2	0.002	260	0.26	< 2	0.002
Etyhl Benzene	9200	9.2	< 2	0.002	1800	1.8	< 2	0.002
Toluene	< 700	0.7	< 2	0.002	100	0.1	< 2	0.002
Total Xylene	14600	14.6	< 2	0.002	5850	5.85	< 2	0.002
TOTAL VOC	29400	29.4	8	0.008	8010	8.01	8	0.008

TABLE 3

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS							
SAMPLE LOCATION	B38-0892		B39-0892		B40-0892			
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Acenaphthene	< 670	0.67	1200	1.2	< 660	0.66		0
Acenaphthyle	< 670	0.67	< 670	0.67	< 660	0.66		0
Anthracene	< 670	0.67	1100	1.1	< 660	0.66		0
Benzo(a) anthracene	< 670	0.67	< 670	0.67	< 660	0.66		0
Benzo(b) fluoranthene	< 670	0.67	< 670	0.67	< 660	0.66		0
Benzo(k) fluoranthene	< 670	0.67	< 670	0.67	< 660	0.66		0
Benzo(a)pyren	< 670	0.67	< 670	0.67	< 660	0.66		0
Benzo(ghi) perylene	< 670	0.67	< 670	0.67	< 660	0.66		0
Chrysene	< 670	0.67	< 670	0.67	< 660	0.66		0
Dibenzo(ah) anthracene	< 670	0.67	< 670	0.67	< 660	0.66		0
Fluoranthene	< 670	0.67	920	0.92	< 660	0.66		0
Fluorene	< 670	0.67	1100	1.1	< 660	0.66		0
Indeno(1,2,3,-pyrene	< 670	0.67	< 670	0.67	< 660	0.66		0
Naphthalene	< 670	0.67	850	0.85	< 660	0.66		0
Phenanthrene	< 670	0.67	3800	3.8	< 660	0.66		0
Pyrene	< 670	0.67	1400	1.4	< 660	0.66		0
TOTAL PAH	10720	10.72	16400	16.4	10560	10.56	0	0
	VOLATILE ORGANIC CARBON COMPOUNDS							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
Benzene	< 2	0.002	7	0.007	< 4	0.004		0
Etyhl Benzene	< 2	0.002	8	0.008	< 4	0.004		0
Toluene	< 2	0.002	< 4	0.004	< 4	0.004		0
Total Xylene	< 2	0.002	16	0.016	< 4	0.004		0
TOTAL VOC	8	0.008	35	0.035	16	0.016	0	0

TABLE 4

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B-MW-12		B-MW-13		B-MW-15		B-MW-16	
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	30000	30	10000	10	14000	14	13000	13
(T) Barium	250000	250	50000	50	160000	160	111000	111
(T) Cadmium	30000	30	10000	10	20000	20	22000	22
(T) Chromium	60000	60	50000	50	58000	58	67000	67
(T) Iron	5.74E+07	57420	1.93E+07	19310	0	N/A	0	N/A
(T) Lead	340000	340	230000	230	573000	573	290000	290
(T) Arsenic	27000	27	23000	23	32000	32	32000	32
(T) Selenium	3600	3.6	4100	4.1	< 350	0.35	< 370	0.37
(T) Mercury	< 20	0.02	30	0.03	90	0.09	130	0.13
(L) Ammonia	0		0		0		0	
(T) Oil & Grea	0		0		0		0	
(A) Cyanide	0		0		0		0	
(B) Cyanide	0		0		0		0	
) Cyanide	0		0		0		0	
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur		0		0		0		0
Nitrogen		0		0		0		0
Hydrogen		0		0		0		0
Carbon		0		0		0		0

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

TABLE 4

SOUTH BLVD. MGP SITE ENVIRONMENTAL ASSESSMENT SOIL CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	B38-0892							
Units	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)	(ug/kg)	(ppm)
(T) Silver	10000	10	0		0		0	
(T) Barium	194000	194	0		0		0	
(T) Cadmium	14000	14	0		0		0	
(T) Chromium	63000	63	0		0		0	
(T) Iron	3.34E+07	33404	0		0		0	
(T) Lead	191000	191	0		0		0	
(T) Arsenic	14000	14	0		0		0	
(T) Selenium	2000	2	0		0		0	
(T) Mercury	0	NA	0		0		0	
(L) Ammonia	0		0		0		0	
(T) Oil & Grea	0		0		0		0	
(A) Cyanide	0		0		0		0	
(B) Cyanide	0		0		0		0	
(T) Cyanide	0		0		0		0	
Units	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)	(%)	(ppm)
Sulfur	0		0		0		0	
Nitrogen	0		0		0		0	
Hydrogen	0		0		0		0	
Carbon	0		0		0		0	

NOTES: (T) = TOTAL (A) = ACID LEACHATE
(L) = LEACHABLE (B) = BASIC LEACHATE

BLE 6

SOUTH BOULEVARD MGP SITE ENVIRONMENTAL ASSESSMENT GROUNDWATER CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	MW-1		MW-3		MW-4		MW-6	
Units	(ug/l)	(mg/l)	(ug/l)	(mg/l)	(ug/l)	(mg/l)	(ug/l)	(mg/l)
Barium	240	0.24	40	0.04	180	0.18	120	0.12
Calcium	185000	185	24000	24	36000	36	54000	54
Iron	3400	3.4	590	0.59	3800	3.8	16000	16
Potassium	8900	8.9	1800	1.8	4200	4.2	2600	2.6
Magnesium	2400	2.4	8600	8.6	16000	16	20000	20
Manganese	27000	27	40	0.04	1800	1.8	3000	3
Sodium	17000	17	14000	14	20000	20	20000	20
Tin	3000	3	1100	1.1	2200	2.2	2700	2.7
Silver	< 0.2	0.0002	< 0.2	0.0002	< 0.2	0.0002	< 0.2	0.0002
Cadmium	0.21	0.0002	< 0.1	0.0001	0.2	0.0002	< 0.1	0.0001
[illegible]romium	3.8	0.0038	6.2	0.0062	4.9	0.0049	2.7	0.0027
[illegible]pper	4.8	0.0048	1	0.001	3	0.003	1.8	0.0018
Nickel	4.4	0.0044	< 3	0.003	8.3	0.0083	< 3	0.003
Lead	< 20	0.02	< 20	0.02	< 20	0.02	< 20	0.02
Arsenic	< 1	0.001	< 1	0.001	< 1	0.001	5.4	0.0054
Selenium	< 2	0.002	< 2	0.002	< 2	0.002	< 2	0.002
Mercury	< 0.1	0.0001	< 0.1	0.0001	< 0.1	0.0001	< 0.1	0.0001
Chloride	13000	13	14000	14	9200	9.2	38000	38
Ammonia	600	0.6	< 50	0.05	140	0.14	10000	10
Acidity	9800	9.8	32000	32	52000	52	23000	23
Alkalinity	210000	210	87000	87	127000	127	239000	239
Sulfate	764000	764	9900	9.9	185000	185	15000	15
Cyanide	260	0.26	< 10	0.01	40	0.04	100	0.1
Total Solids	841000	841	209000	209	312000	312	431000	431
Suspen. Solid	9000	9	4000	4	16000	16	39000	39
TOC	8200	8.2	400	0.4	2600	2.6	25000	25

TABLE 6

SOUTH BOULEVARD MGP SITE ENVIRONMENTAL ASSESSMENT GROUNDWATER CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	MW-10A		MW-11		MW-12		MW-13	
Units	(ug/l)	(mg/l)	(ug/l)	(mg/l)	(ug/l)	(mg/l)	(ug/l)	(mg/l)
Barium	50	0.05	120	0.12	280	0.28	120	0.12
Calcium	39000	39	83000	83	133000	133	33000	33
Iron	7900	7.9	250	0.25	14000	14	2600	2.6
Potassium	2000	2	1700	1.7	2500	2.5	1300	1.3
Magnesium	13000	13	30000	30	45000	45	19000	19
Manganese	3700	3.7	1900	1.9	7600	7.6	1600	1.6
Sodium	12000	12	21000	21	23000	23	21000	21
Tin	1900	1.9	3900	3.9	5600	5.6	2700	2.7
Silver	< 0.2	0.0002	< 0.2	0.0002	< 0.2	0.0002	< 0.2	0.0002
Cadmium	< 0.1	0.0001	0.38	0.0004	< 0.1	0.0001	0.13	0.0001
Chromium	2.6	0.0026	1.9	0.0019	4.4	0.0044	2.5	0.0025
Copper	1.6	0.0016	3.8	0.0038	3.5	0.0035	2.1	0.0021
Nickel	< 3	0.003	6.3	0.0063	< 3	0.003	4.2	0.0042
Lead	< 20	0.02	< 20	0.02	< 20	0.02	< 20	0.02
Arsenic	3.9	0.0039	< 1	0.001	4	0.004	< 1	0.001
Selenium	< 2	0.002	< 2	0.002	< 2	0.002	< 2	0.002
Mercury	< 0.1	0.0001	< 0.1	0.0001	< 0.1	0.0001	< 0.1	0.0001
Chloride	34000	34	20000	20	24000	24	26000	26
Ammonia	400	0.4	1800	1.8	770	0.77	2000	2
Acidity	28000	28	26000	26	57000	57	16000	16
Alkalinity	114000	114	74000	74	511000	511	138000	138
Sulfate	15000	15	487000	487	25000	25	31000	31
Cyanide	< 10	0.01	< 10	0.01	120	0.12	< 10	0.01
Total Solids	285000	285	713000	713	749000	749	283000	283
Suspen. Solid	9000	9	25000	25	57000	57	10000	10
TOC	1800	1.8	3100	3.1	32000	32	2200	2.2

ABLE 6

SOUTH BOULEVARD MGP SITE ENVIRONMENTAL ASSESSMENT GROUNDWATER CHEMISTRY DATA	INORGANIC ANALYSES							
SAMPLE LOCATION	MW-14		MW-15		MW-16		FLD. BLK.	
Units	(ug/l)	(mg/l)	(ug/l)	(mg/l)	(ug/l)	(mg/l)	(ug/l)	(mg/l)
Barium	20	0.02	80	0.08	170	0.17	< 10	0.01
Calcium	15000	15	48000	48	36000	36	< 240	0.24
Iron	2400	2.4	6600	6.6	710	0.71	< 50	0.05
Potassium	4400	4.4	2600	2.6	1500	1.5	< 500	0.5
Magnesium	410	0.41	17000	17	20000	20	< 90	0.09
Manganese	40	0.04	3700	3.7	360	0.36	< 20	0.02
Sodium	12000	12	9300	9.3	21000	21	< 300	0.3
Tin	< 500	0.5	2300	2.3	2700	2.7	< 500	0.5
Silver	< 0.2	0.0002	< 0.2	0.0002	< 0.2	0.0002	< 0.2	0.0002
Cadmium	0.14	0.0001	< 0.1	0.0001	0.16	0.0002	< 0.1	0.0001
romium	8.3	0.0083	2.6	0.0026	7	0.007	< 1.3	0.0013
pper	7.1	0.0071	1.8	0.0018	1.8	0.0018	< 0.5	0.0005
Nickel	< 3	0.003	< 3	0.003	8.8	0.0088	< 3	0.003
Lead	< 20	0.02	< 20	0.02	< 20	0.02	< 20	0.02
Arsenic	11	0.011	< 1	0.001	< 1	0.001	< 1	0.001
Selenium	4.6	0.0046	< 2	0.002	< 2	0.002	< 2	0.002
Mercury	< 0.1	0.0001	< 0.1	0.0001	< 0.1	0.0001	< 0.1	0.0001
Chloride	48000	48	20000	20	83000	83	< 1000	1
Ammonia	78000	78	< 50	0.05	< 50	0.05	< 50	0.05
Acidity	0	0	23000	23	30000	30	2600	2.6
Alkalinity	285000	285	101000	101	96000	96	280	0.28
Sulfate	94000	94	7200	7.2	16000	16	5600	5.6
Cyanide	640	0.64	< 10	0.01	< 10	0.01	< 10	0.01
Total Solids	235000	235	318000	318	399000	399	22000	22
Suspen. Solid	< 4000	4	36000	36	37000	37	< 4000	4
TOC	39000	39	8800	8.8	4900	4.9	1600	1.6

TABLE 5

SOUTH BOULEVARD MGP SITE ENVIRONMENTAL ASSESSMENT GROUNDWATER CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS			
SAMPLE LOCATION	MW-1	MW-3	MW-4	MW-6
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)
Acenaphthene	< 1	< 1	< 1	> 2400
Acenaphthyle	< 1	< 1	< 1	< 20
Anthracene	< 1	< 1	< 1	< 20
Benzo(a) anthracene	< 1	< 1	< 1	1700
Benzo(b) fluoranthene	< 4	< 4	< 4	850
Benzo(k) fluoranthene	< 1	< 1	< 1	590
Benzo(a)pyren	< 1	< 1	< 1	910
Benzo(ghi) perylene	< 1	< 1	< 1	510
Chrysene	< 1	< 1	< 1	1600
Dibenzo(ah) nthracene	< 1	< 1	< 1	140
luoranthene	< 1	< 1	< 1	> 2400
Fluorene	< 1	< 1	< 1	> 2400
Indeno(1,2,3,-pyrene	< 1	< 1	< 1	410
Naphthalene	3	< 1	< 1	> 2400
Phenanthrene	< 1	< 1	< 1	> 2400
Pyrene	< 1	< 1	< 1	> 2400
TOTAL PAH	21	19	19	21150
	VOLATILE ORGANIC CARBON COMPOUNDS			
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)
Benzene	4	< 3	< 3	4700
Etyhl Benzene	< 3	< 3	< 3	460
Toluene	< 3	< 3	< 3	320
Total Xylene	< 8	< 8	< 8	1460
TOTAL VOC	18	17	17	6940

TABLE 5

GREENSBORO MGP SITE ENVIRONMENTAL ASSESSMENT GROUNDWATER CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS			
SAMPLE LOCATION	MW-10A	MW-11	MW-12	MW-13
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)
Acenaphthene	24	< 1	68	< 1
Acenaphthyle	11	1	< 10	< 1
Anthracene	4	1	39	< 1
Benzo(a) anthracene	< 1	< 1	22	< 1
Benzo(b) fluoranthene	< 4	< 4	< 36	< 4
Benzo(k) fluoranthene	< 1	< 1	14	< 1
Benzo(a)pyren	< 1	< 1	16	< 1
Benzo(ghi) perylene	< 1		20	< 1
Chrysene	< 1	< 1	19	< 1
Dibenzo(ah) thracene	< 1	< 1	< 11	< 1
uoranthene	6	2	55	< 1
Fluorene	9	2	61	< 1
Indeno(1,2,3,-pyrene	< 1	< 1	12	< 1
Naphthalene	91	7	> 1200	2
Phenanthrene	36	5	120	< 1
Pyrene	7	2	51	< 1
TOTAL PAH	199	31	1754	20
	VOLATILE ORGANIC CARBON COMPOUNDS			
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)
Benzene	6	< 3	6300	< 3
Etyhl Benzene	9	< 3	83	< 3
Toluene	< 3	< 3	100	< 3
Total Xylene	< 8	< 8	< 105	< 8
TOTAL VOC	26	17	6588	17

TABLE 5

GREENSBORO MGP SITE ENVIRONMENTAL ASSESSMENT GROUNDWATER CHEMISTRY DATA	POLYCYCLIC AROMATIC HYDROCARBONS			
SAMPLE LOCATION	MW-14	MW-15	MW-16	FLD. BLK.
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)
Acenaphthene	86	< 1	< 1	< 1
Acenaphthyle	180	< 1	< 1	< 1
Anthracene	23	< 1	< 1	< 1
Benzo(a) anthracene	< 20	< 1	< 1	< 1
Benzo(b) fluoranthene	< 72	< 4	< 4	< 4
Benzo(k) fluoranthene	< 24	< 1	< 1	< 1
Benzo(a)pyren	< 20	< 1	< 1	< 1
Benzo(ghi) perylene	< 21	< 1	< 1	< 1
Chrysene	< 20	< 1	< 1	< 1
Dibenzo(ah) nthracene	< 22	< 1	< 1	< 1
luoranthene	< 24	< 1	< 1	< 1
Fluorene	110	< 1	< 1	< 1
Indeno(1,2,3,-pyrene	< 21	< 1	< 1	< 1
Naphthalene	1700	120	5	3
Phenanthrene	110	< 1	< 1	< 1
Pyrene	< 27	< 1	< 1	< 1
TOTAL PAH	2480	138	23	21
	VOLATILE ORGANIC CARBON COMPOUNDS			
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)
Benzene	1600	120	< 3	< 3
Etyhl Benzene	87	520	< 3	< 3
Toluene	1500	39	< 3	< 3
Total Xylene	680	210	< 8	< 8
TOTAL VOC	3867	889	17	17

TABLE 7

GREENSBORO MGP SITE ENVIRONMENTAL ASSESSMENT SURFACE WATER CHEMISTRY DATA		POLYCYCLIC AROMATIC HYDROCARBONS
SAMPLE LOCATION	SW-1	
Units	(ug/l)	
Acenaphthene	1	
Acenaphthyle	< 1	
Anthracene	< 1	
Benzo(a) anthracene	< 1	
Benzo(b) fluoranthene	< 4	
Benzo(k) fluoranthene	< 1	
Benzo(a)pyren	< 1	
Benzo(ghi) perylene	< 1	
Chrysene	< 1	
Dibenzo(ah) nthracene	< 1	
luoranthene	< 1	
Fluorene	1	
Indeno(1,2,3,-pyrene	< 1	
Naphthalene	1	
Phenanthrene	< 1	
Pyrene	< 1	
TOTAL PAH	19	
		VOLATILE ORGANIC CARBON COMPOUNDS
Units	(ug/l)	
Benzene	< 3	
Etyhl Benzene	< 3	
Toluene	< 3	
Total Xylene	< 8	
TOTAL VOC	17	

TABLE 8

SOUTH BOULEVARD MGP SITE ENVIRONMENTAL ASSESSMENT SURFACE WATER CHEMISTRY DATA		INORGANIC ANALYSES	
SAMPLE LOCATION	SW-1		
Units	(ug/l)	(mg/l)	
Barium	40	0.04	
Calcium	17000	17	
Iron	1800	1.8	
Potassium	2100	2.1	
Magnesium	3100	3.1	
Manganese	700	0.7	
Sodium	3000	3	
Tin	< 500	0.5	
Silver	< 0.2	0.0002	
Cadmium	0.47	0.0005	
Chromium	0.4	0.0004	
Copper	16	0.016	
Nickel	< 3	0.003	
Lead	< 20	0.02	
Arsenic	3.9	0.0039	
Selenium	< 2	0.002	
Mercury	< 0.1	0.0001	
Chloride	3500	3.5	
Ammonia	80	0.08	
Acidity	2400	2.4	
Alkalinity	28000	28	
Sulfate	26000	26	
Cyanide	50	0.05	
Total Solids	140000	140	
Suspen. Solid	15000	15	
TOC	7000	7	

APPENDIX A

SOIL TEST BORING
FIELD REPORTS

August 26, 1992

Ralph Roberts

RE: South Boulevard Operation Center
Ground Water Monitoring Well Installation

Please find enclosed the soil test boring field reports, well installations records, and well construction records for borings MW-11, MW-12, MW-13, MW-14, MW-15, and MW-16.

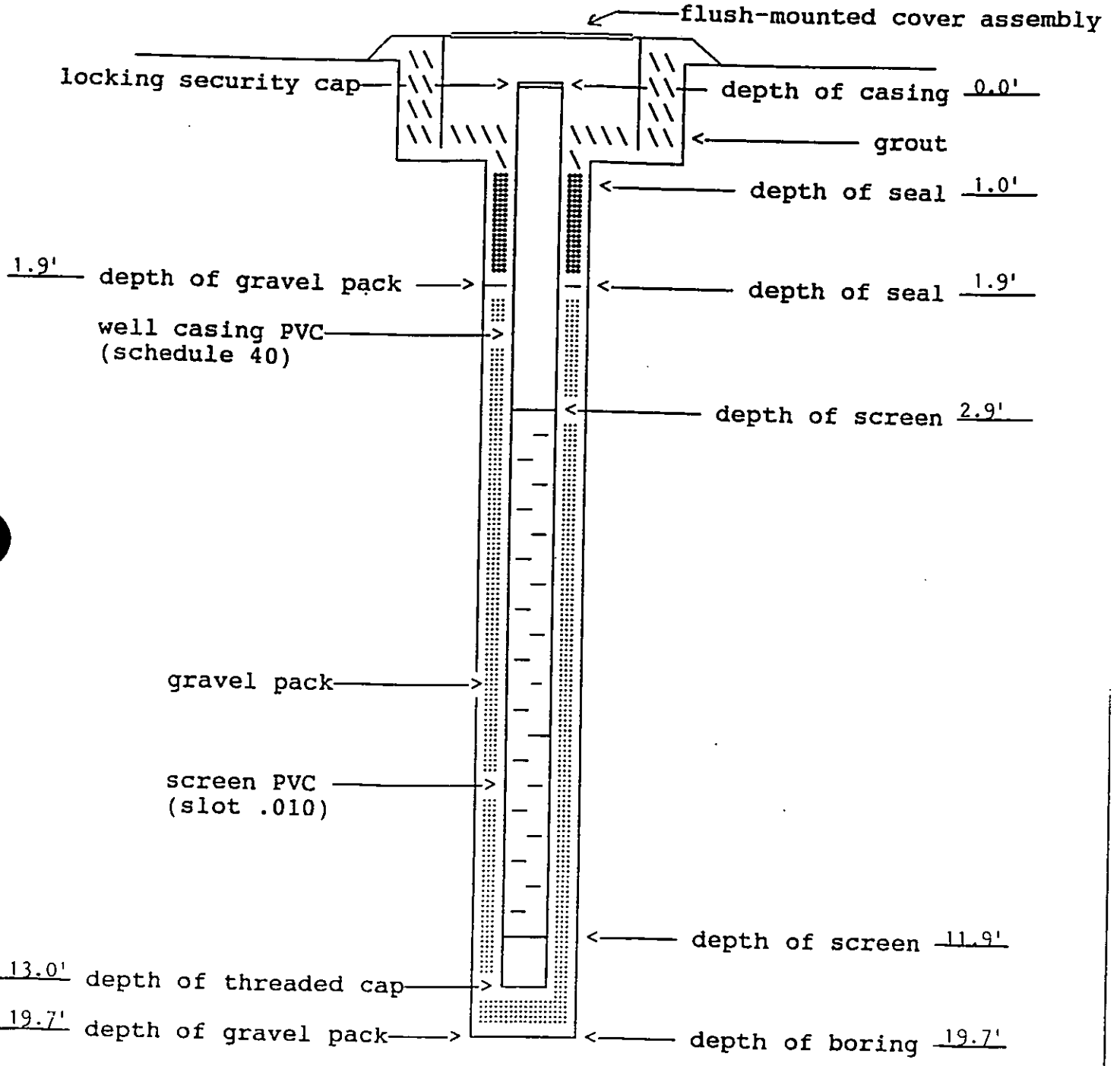
If you have any questions, please give me a call at 885-4016.

B G Burton
Drilling Supervisor
Geotechnical Center

BGB/jph
Enclosures

MONITORING WELL INSTALLATION RECORD

JOB NAME: SOUTH BOULEVARD



INSTALLED: 7-29-92 INSPECTOR: J.W. MEADERS	DUKE POWER COMPANY GEOTECHNICAL CENTER	MONITORING WELL NUMBER: MW- 11

DIVISION OF ENVIRONMENTAL MANAGEMENT – GROUNDWATER SECTION
P.O. BOX 27687 – RALEIGH, N.C. 27611, PHONE (919) 733-5083

MW-11

WELL CONSTRUCTION RECORD

Quad. No. _____ Serial No. _____
Lat. _____ Long. _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent.

[redacted]ING CONTRACTOR DUKE POWER COMPANY

DRILLER REGISTRATION NUMBER 921

STATE WELL CONSTRUCTION PERMIT NUMBER: 59-1217-WM-0898

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: CHARLOTTE N.C.
1400 S. BLVD.
(Road, Community, or Subdivision and Lot No.)
County: MECKLENBURG

2. OWNER DUKE POWER COMPANY
ADDRESS P.O. BOX 33189 (Street or Route No.)
CHARLOTTE (City or Town) N.C. (State) 28242 (Zip Code)

3. DATE DRILLED 7-28-92 USE OF WELL MONITORING
4. TOTAL DEPTH 19.7 CUTTINGS COLLECTED ☒ Yes ☐ No
5. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
6. STATIC WATER LEVEL: 2.9 FT. ☐ above ☒ below TOP OF CASING,
TOP OF CASING IS 0.0 FT. ABOVE LAND SURFACE.
7. YIELD (gpm): N/A METHOD OF TEST _____
8. WATER ZONES (depth): N/A
9 [redacted]RINATION: Type N/A Amount N/A

DRILLING LOG From	To	Formation Description
		SEE ATTACHMENT

If additional space is needed use back of form.

10. CASING:

	Depth		Diameter	Wall Thickness or Weight/Ft.	Material
From	0.0	To 2.9 Ft.	2"	SCH 40	PVC
From		To Ft.			
From		To Ft.			

11. GROUT:

	Depth		Material	Method
From	0.0	To 1.0 Ft.	PORTLAND	FREE POUR
From		To Ft.		

12. SCREEN:

	Depth		Diameter	Slot Size	Material
From	2.9	To 11.9 Ft.	2 in.	.010 in.	PVC
From		To Ft.	in.	in.	
From		To Ft.	in.	in.	

13. GRAVEL PACK:

	Depth		Size	Material
From	1.9	To 19.7 Ft.	ES = .010 UC = 3.1	SAND
From		To Ft.		

14. [redacted]RKS:

LOCATION SKETCH
(Show direction and distance from at least two State Ro or other map reference points)

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTIC STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CONTRACTOR OR AGENT — DATE 7-29-92

GW-1 Revised 11/84

Submit original to Division of Environmental Management and copy to well owr

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT S. BLVD

SOIL TEST BORING FIELD REPORT

JOB NO. N/A
JOB NAME SOUTH BLVD.
DATE 7-28-92 WEATHER P.C. WARM INSPECTOR J.W. Meeders BORING NO. MW-11

STARTING TIME N/A
GROUND SURFACE ELEV. ____
HRS. DRILLING N/A HRS. MOVING N/A

SAMPLING					SCALE 4TH'S	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"	0		
1	9.7' 11.7	2	3	3	5 10		BRNISH YEL, MICA, FINE SANDY SILT
2	14.7 16.9	2	2	3	4 15		YELISH BRN W/ ST BRN, MICA, CLAYEY, FINE SANDY SILT.
3	19.7 21.7	2	1	2	3 20		OLIVE YEL. MICA, FINE SANDY SILT.
							BORING TERMINATED @ 19.7
					25		
					30		
					35		
					40		

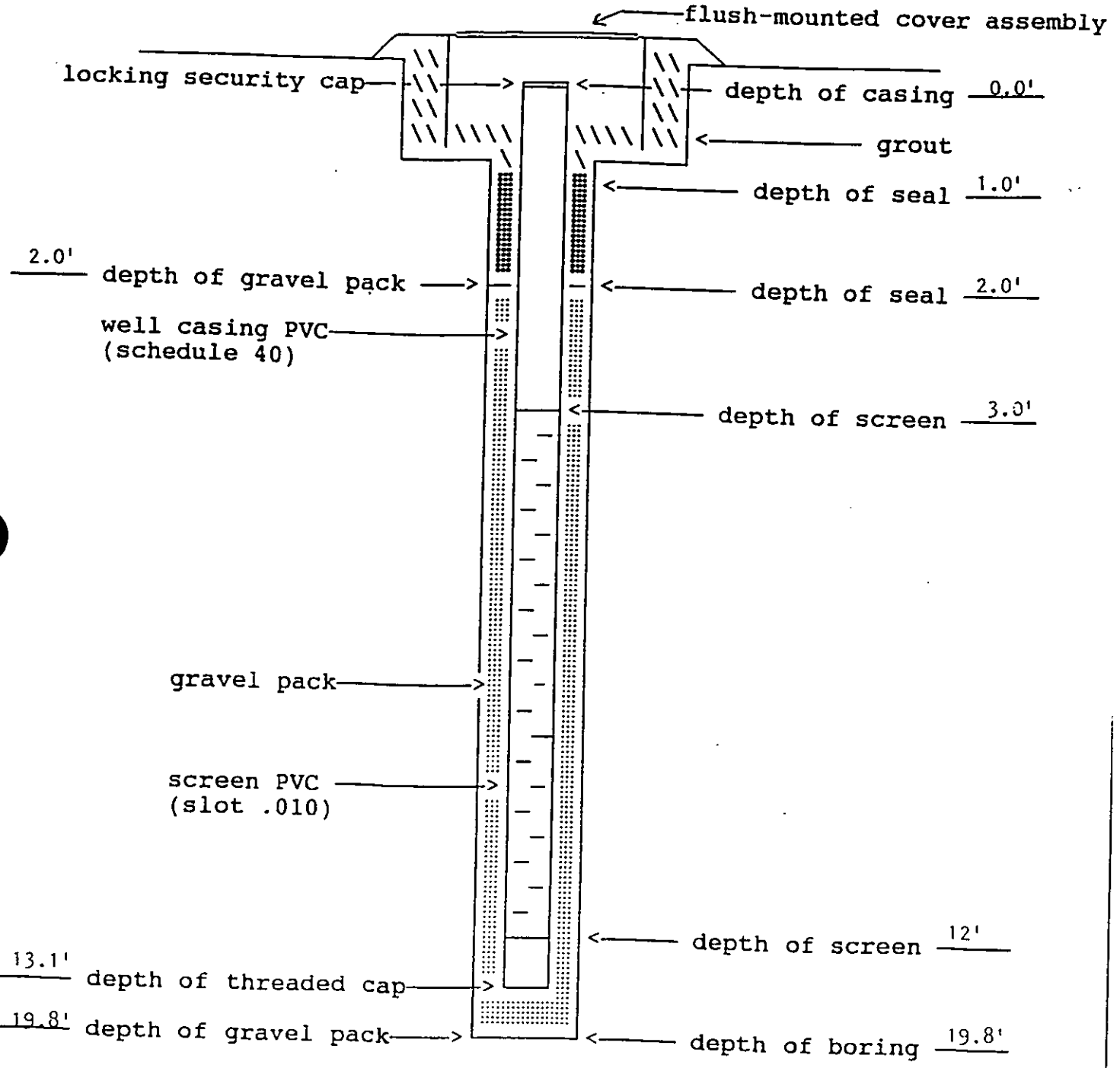
1 STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" IN DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 19.7
BORING REFUSAL N/A
WATER TOB DEPTH 17.0
WATER 24 HR: DEPTH 2.9
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0 TO 19.7
HAND CHOP: W/MUD: W/WATER	TO
ROTARY DRILL: W/MUD: W/WATER	TO
DIAMOND CORE	TO

MONITORING WELL INSTALLATION RECORD

JOB NAME: SOUTH BOULEVARD



INSTALLED: 7-9-92

INSPECTOR: J.W. MEADERS

DUKE POWER COMPANY

GEOTECHNICAL CENTER

MONITORING WELL

NUMBER: MW-12

DIVISION OF ENVIRONMENTAL MANAGEMENT – GROUNDWATER SECTION
P.O. BOX 27687 – RALEIGH,N.C. 27611, PHONE (919) 733-6083

Quad. No. _____ Serial No. ___
Lat. _____ Long. _____ P
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

MW-12

[redacted]NG CONTRACTOR DUKE POWER COMPANY

DRILLER REGISTRATION NUMBER 921

STATE WELL CONSTRUCTION PERMIT NUMBER: 59-1217-WM-0898

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: CHARLOTTE N.C.
1400 S. BLVD.
(Road, Community, or Subdivision and Lot No.)

County: MECKLENBURG

2. OWNER DUKE POWER COMPANY
ADDRESS P.O. BOX 33189 (Street or Route No.)
CHARLOTTE N.C. 28242
City or Town State Zip Code

3. DATE DRILLED 7-8-92 USE OF WELL MONITORING
4. TOTAL DEPTH 19.8 CUTTINGS COLLECTED ☒ Yes ☐ No
5. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
6. STATIC WATER LEVEL: 4.0 FT. ☐ above ☒ below TOP OF CASING.
TOP OF CASING IS 0.0 FT. ABOVE LAND SURFACE.
7. YIELD (gpm): N/A METHOD OF TEST _____
8. WATER ZONES (depth): N/A
9. [redacted]RINATION: Type N/A Amount _____
10. CASING:

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
	0.0	3.0 Ft.	2"	Sch.40	PVC
From		To Ft.			
From		To Ft.			

11. GROUT:

	Depth From	To	Material	Method
	0.0	1.0 Ft.	PORTLAND	FREEPOUR
From		To Ft.		

12. SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	3.0	12.0 Ft.	2 in.	.010 in.	PVC
From		To Ft.	in.	in.	
From		To Ft.	in.	in.	

13. GRAVEL PACK:

	Depth From	To	Size	Material
	2.0	19.8 Ft.	ES=.010 UC=3.1	SAND
From		To Ft.		

14. R[redacted]KS: _____

Depth From	To	DRILLING LOG Formation Description
		SEE ATTACHMENTS

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Road or other map reference points)

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CONTRACTOR OR AGENT _____ DATE 7-9-92

GW-1 Revised 11/84

Submit original to Division of Environmental Management and copy to well owner

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT S. BLVD

SOIL TEST BORING FIELD REPORT

JOB NO. N/A
JOB NAME S. BLVD. MW'S
DATE 7-8-92 WEATHER P.C. HOT

STARTING TIME N/A
GROUND SURFACE ELEV.
HRS. DRILLING N/A HRS. MOVING N/A
INSPECTOR J.W. Manders BORING NO. MW-12

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		4" Ø
1	4.8' 6.8	2	2	3	2/5		DARK GRAY, MICA, FINE SANDY SILT. W/ODOR
2	9.8 11.8	1	1	2	3/10		OLIVE GRAY, MICA, FINE SANDY SILT. W/ODOR
3	14.8 16.8	3	4	7	9/15		OLIVE GRAY, MICA, VERY SANDY SILT. W/ODOR
4	19.8 21.8	4	9	15	24/20		OLIVE/OLIVE YELLOW, MICA, FINE SANDY SILT, W/ODOR
							BORING TERMINATED @ 19.8'
					5		
					0		
					5		
					0		

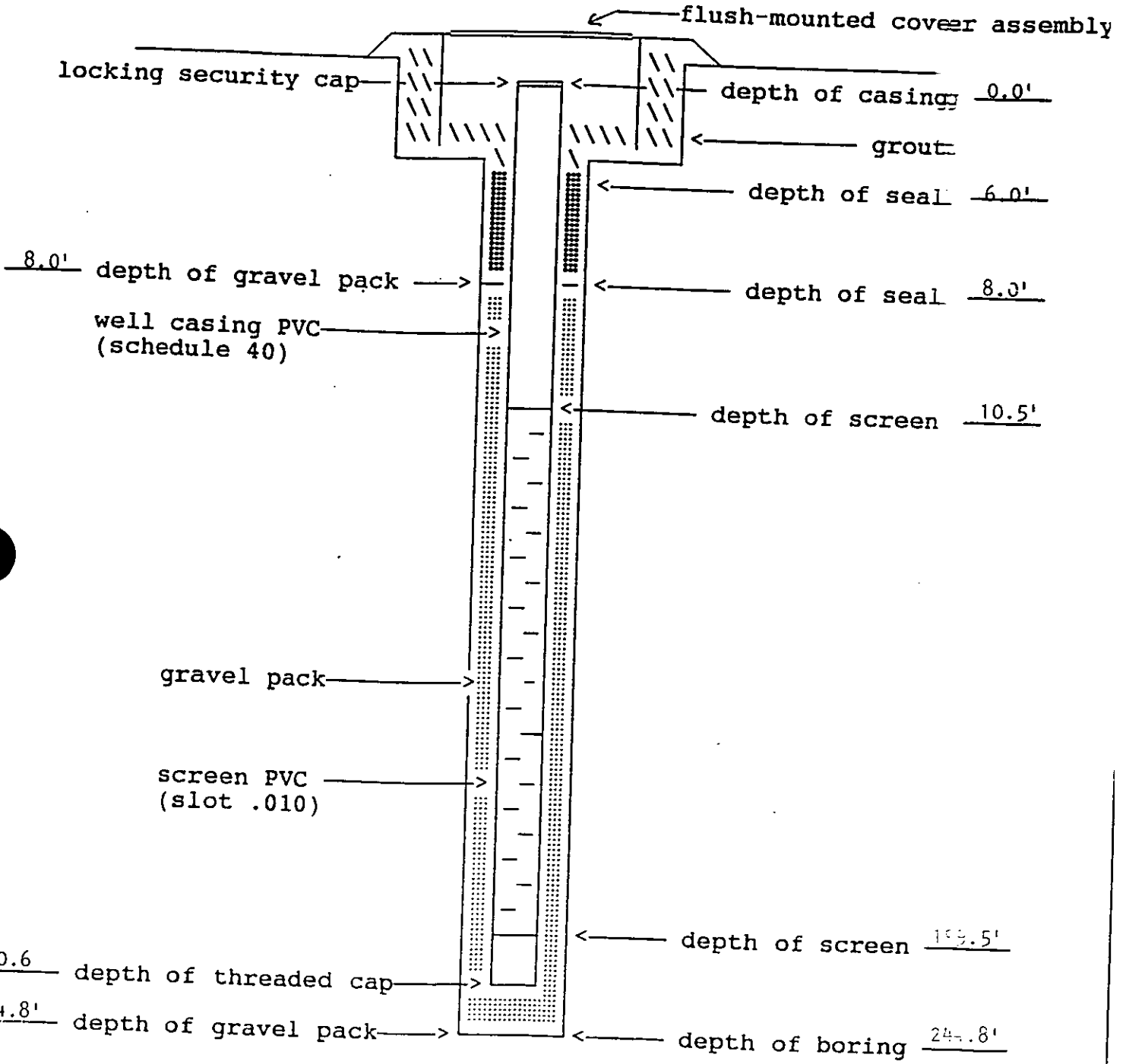
+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 19.8
BORING REFUSAL N/A
WATER TOB DEPTH 11.65
WATER 24 HR: DEPTH 4.0
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	Ø TO 19.8
HAND CHOP: W/MUD: W/WATER	— TO —
ROTARY DRILL: W/MUD: W/WATER	— TO —
DIAMOND CORE	— TO —

MONITORING WELL INSTALLATION RECORD

JOB NAME: SOUTH BOULEVARD



DATE INSTALLED: 7-9-92 INSPECTOR: J.W. MEADERS	DUKE POWER COMPANY GEOTECHNICAL CENTER	MONITORING WELL NUMBER: MW-13

NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT
DIVISION OF ENVIRONMENTAL MANAGEMENT – GROUNDWATER SECTION
P.O. BOX 27687 – RALEIGH,N.C. 27611, PHONE (919) 733-5083

FOR OFFICE USE ONLY
Quad. No. _____ Serial No. _____
Lat. _____ Long. _____ Pc. _____
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

MW-13

[redacted]NG CONTRACTOR DUKE POWER COMPANY

DRILLER REGISTRATION NUMBER 921

STATE WELL CONSTRUCTION PERMIT NUMBER: 59-1217-WM-0898

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: CHARLOTTE N.C.
1400 S. BLVD.
(Road, Community, or Subdivision and Lot No.)

County: MECKLENBURG

2. OWNER DUKE POWER COMPANY
ADDRESS P.O. BOX 33189 (Street or Route No.)
CHARLOTTE (City or Town) N.C. (State) 28242 (Zip Code)

3. DATE DRILLED 7-8-92 USE OF WELL MONITORING
4. TOTAL DEPTH _____ CUTTINGS COLLECTED ☒ Yes ☐ No
5. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
6. STATIC WATER LEVEL: 14.0' FT. ☐ above ☒ below TOP OF CASING,
TOP OF CASING IS 0.0 FT. ABOVE LAND SURFACE.
7. YIELD (gpm): N/A METHOD OF TEST _____
8. WATER ZONES (depth): N/A
9. [redacted]INATION: Type N/A Amount _____
10. CASING:

	Depth		Diameter	Wall Thickness or Weight/Ft.	Material
From	0.0	To 10.5 Ft.	2	SCH 40	PVC
From		To Ft.			
From		To Ft.			

11. GROUT:

	Depth		Material	Method
From	0.0	To 6.0 Ft.	PORTLAND	FREEPOUR
From		To Ft.		

12. SCREEN:

	Depth		Diameter	Slot Size	Material
From	10.5	To 19.5 Ft.	2" in.	.010 in.	PVC
From		To Ft.	in.	in.	
From		To Ft.	in.	in.	

13. GRAVEL PACK:

	Depth		Size	Material
From	6.0	To 24.8 Ft.	ES=.010 UC=3.1	SAND
From		To Ft.		

14. [redacted]KS:

DRILLING LOG

From	To	Formation Description
		SEE ATTACHMENTS

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Jeff Meade 7-9-92
SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 Revised 11/84

Submit original to Division of Environmental Management and copy to well owner

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT S. BLVD

SOIL TEST BORING FIELD REPORT

JOB NO. N/A
JOB NAME S. BLVD. MW.'S
DATE 7-8-92 WEATHER P.C. HOT
STARTING TIME N/A
GROUND SURFACE ELEV.
HRS. DRILLING N/A HRS. MOVING N/A
INSPECTOR J.W. Meaders BORING NO. MW-13

SAMPLING		1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
					0		
1	4.8' 6.8'	14	10	11	14		VERY LITTLE RECOVERY, DRILLED THROUGH BURIED BRICKS,
2	9.8 11.8	3	3	4	7		REDDISH YEL. MICA, SILTY, FINE/MED. SAND W/ SLIGHT ODOR
3	14.8 16.8	1	2	3	5		OLIVE GRAY, MICA, SILTY, FINE/MED SAND W/ODOR
4	19.8 21.8	1	1	2	3		ST. BRN. MICA, SILTY, FINE/COARSE SAND W/ SLIGHT ODOR
							BORING TERMINATED @ ~~19.8'~~ 24.8
					10		
					15		
					20		
					25		
					30		
					35		
					40		

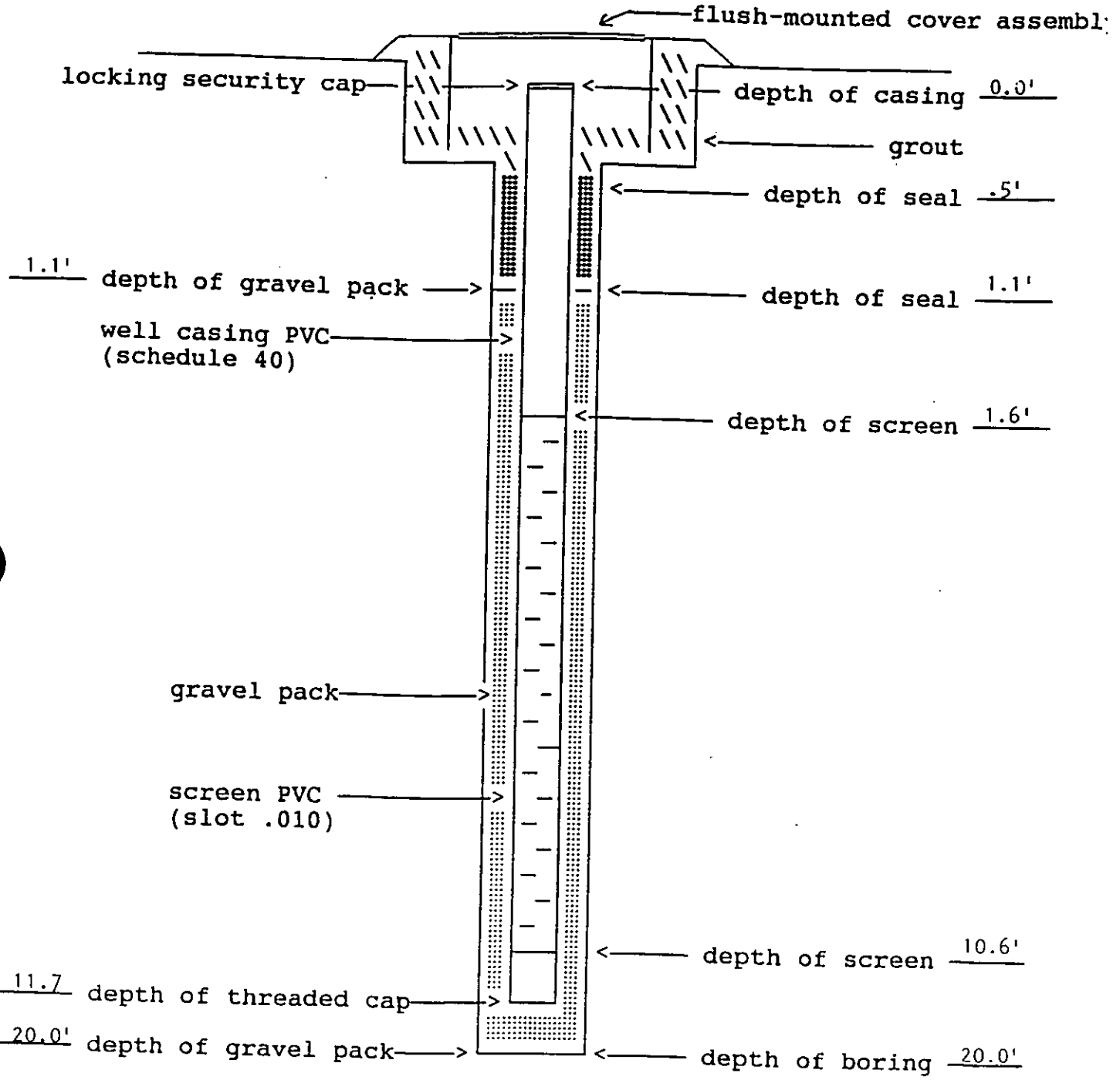
+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED ~~19.8~~ 24.8
BORING REFUSAL N/A
WATER TOB DEPTH –
WATER 24 HR: DEPTH 14.0
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	G TO ~~19.8~~
HAND CHOP: W/MUD: W/WATER	TO 24.8
ROTARY DRILL: W/MUD: W/WATER	TO
DIAMOND CORE	TO

MONITORING WELL INSTALLATION RECORD

JOB NAME: SOUTH BOULEVARD



DATE INSTALLED: 7-29-92 INSPECTOR: J.W. MEADERS	DUKE POWER COMPANY GEOTECHNICAL CENTER	MONITORING WELL NUMBER: MW-14

DIVISION OF ENVIRONMENTAL MANAGEMENT – GROUNDWATER SECTION
P.O. BOX 27687 – RALEIGH, N.C. 27611, PHONE (919) 733-6083

Quad. No. _____ Serial No. _____
Lat. _____ Long. _____ Pc
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

WELL CONSTRUCTION RECORD

MW-14

[redacted]NG CONTRACTOR DUKE POWER COMPANY

[redacted]LER REGISTRATION NUMBER 921

STATE WELL CONSTRUCTION PERMIT NUMBER: 59-1217-WM-0898

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: CHARLOTTE N.C.
1400 S. BLVD.
(Road, Community, or Subdivision and Lot No.)

County: MECKLENBURG

2. OWNER DUKE POWER COMPANY
ADDRESS P.O. BOX 33189 (Street or Route No.)
CHARLOTTE N.C. 28242
City or Town State Zip Code

3. DATE DRILLED 7-28-92 USE OF WELL MONITORING
4. TOTAL DEPTH 20.0' CUTTINGS COLLECTED ☒ Yes ☐ No
5. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
6. STATIC WATER LEVEL: 1.5' FT. ☐ above ☒ below TOP OF CASING,
TOP OF CASING IS 0.0' FT. ABOVE LAND SURFACE.
7. YIELD (gpm): N/A METHOD OF TEST N/A
8. WATER ZONES (depth): N/A

[redacted]. [redacted]NATION: Type N/A Amount N/A

10. CASING:

	Depth		Diameter	Wall Thickness or Weight/Ft.	Material
From	0.0	To 1.6 Ft.	2"	SCH 40	PVC
From		To Ft.			
From		To Ft.			

11. GROUT:

	Depth		Material	Method
From	0.0	To .5 Ft.	PORTLAND	FREE POUR
From		To Ft.		

12. SCREEN:

	Depth		Diameter	Slot Size	Material
From	1.6	To 10.6 Ft.	2 in.	.010 in.	PVC
From		To Ft.	in.	in.	
From		To Ft.	in.	in.	

GRAVEL PACK:

	Depth		Size	Material
From	1.1	To 20.0 Ft.	ES=010 UC=3.1	SAND
From		To Ft.		

RE[redacted]: _____

Depth From	Depth To	DRILLING LOG Formation Description
		SEE ATTACHMENT

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Road or other map reference points)

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Jeff Mead 8-6-92
SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 Revised 11/84

Submit original to Division of Environmental Management and copy to well owner.

Form 25630 (R3-87)

FORM M–26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BLVD

SOIL TEST BORING FIELD REPORT

JOB NO. N/A
JOB NAME SOUTH BLVD. MW'S
DATE 7-28-92 WEATHER P.C. HOT

STARTING TIME N/A
GROUND SURFACE ELEV. _____
HRS. DRILLING N/A HRS. MOVING N/A
INSPECTOR J.W. Masters BORING NO. MW-14

SAMPLING					SCALE	UD	SOIL CLASSIFICATION AND REMARKS
		1ST 6"	2ND 6"	3RD 6"			
					0		NO SAMPLE TAKEN
					5		
					10		
					15		
					20		BORING TERMINATED @ 20.0'
					25		
					30		
					35		
					40		

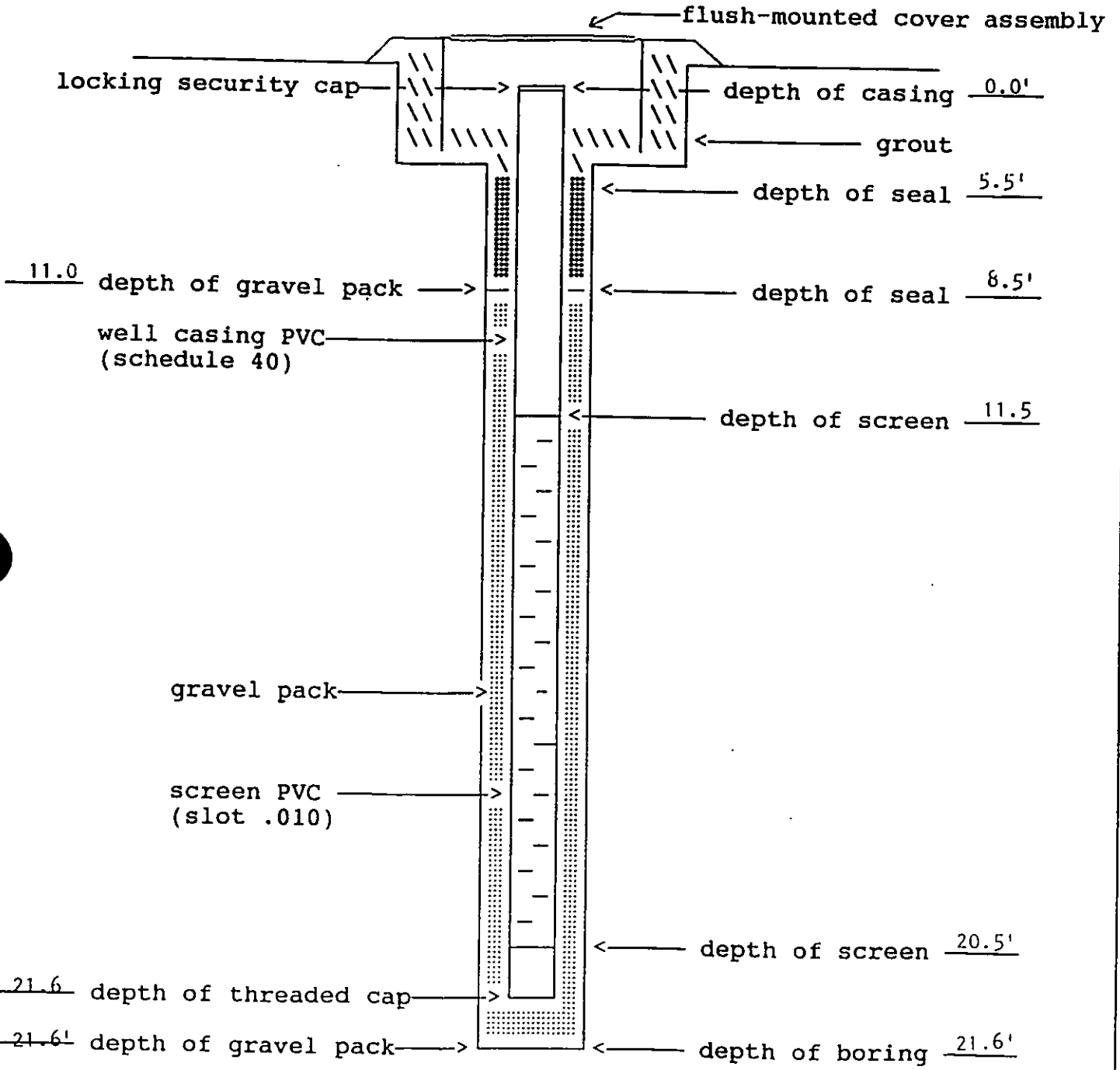
+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 20.0
BORING REFUSAL N/A
WATER TOB DEPTH 3.0
WATER 24 HR: DEPTH 1.5'
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0 TO 20
HAND CHOP: W/MUD: W/WATER	— TO —
ROTARY DRILL: W/MUD: W/WATER	— TO —
DIAMOND CORE	— TO —

MONITORING WELL INSTALLATION RECORD

JOB NAME: SOUTH BOULEVARD



DATE INSTALLED: 8-10-92 INSPECTOR: J.W. MEADERS	DUKE POWER COMPANY GEOTECHNICAL CENTER	MONITORING WELL NUMBER: MW-15

P.O. BOX 27687 – RALEIGH, N.C. 27611, PHONE (919) 733-6083

MW-15

WELL CONSTRUCTION RECORD

Quad. No. _____ Serial No. _____
Lat. _____ Long. _____ P
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

[redacted] CONTRACTOR DUKE POWER COMPANY

[redacted] REGISTRATION NUMBER 921

STATE WELL CONSTRUCTION PERMIT NUMBER: 59-1217-WM-0898

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: CHARLOTTE N.C.
1400 S. BLVD.
(Road, Community, or Subdivision and Lot No.)
County: MECKLENBURG

2. OWNER DUKE POWER COMPANY
ADDRESS P.O. BOX 33189 (Street or Route No.)
CHARLOTTE (City or Town) N.C. (State) 28242 (Zip Code)

3. DATE DRILLED 7-8-92 USE OF WELL MONITORING
4. TOTAL DEPTH 19.8' CUTTINGS COLLECTED ☒ Yes ☐ No
5. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
6. STATIC WATER LEVEL: 4.0' FT. ☐ above ☒ below TOP OF CASING.
TOP OF CASING IS 0.0 FT. ABOVE LAND SURFACE.
7. YIELD (gpm): N/A METHOD OF TEST N/A
WATER ZONES (depth): N/A

[redacted] ATION: Type N/A Amount N/A
[redacted]:

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
	0.0	11.5 Ft.	2"	Sch. 40	PVC
		Ft.			
		Ft.			

GROUT:

	Depth From	To	Material	Method
	0.0	8.5 Ft.	PORTLAND	FREEPOUR
		Ft.		

SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	11.5	20.5 Ft.	2" in.	.010 in.	PVC
		Ft.	in.	in.	
		Ft.	in.	in.	

GRAVEL PACK:

	Depth From	To	Size	Material
	11.0	21.6 Ft.	ES = .010 UC = 3.1	SAND
		Ft.		

EM[redacted]

Depth From	To	DRILLING LOG Formation Description
		SEE ATTACHMENTS

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Roads or other map reference points)

[redacted] HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Jeff Mead — 8-10-92
SIGNATURE OF CONTRACTOR OR AGENT — DATE

Revised 11/84

Submit original to Division of Environmental Management and copy to well owner

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT S. BLVD

SOIL TEST BORING FIELD REPORT

JOB NO. N/A
JOB NAME S. BLVD. MW'S
DATE 8-6-92 WEATHER P.C. WARM INSPECTOR J.W. Meadors BORING NO. MW-15
STARTING TIME N/A
GROUND SURFACE ELEV.
HRS. DRILLING N/A HRS. MOVING N/A

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		S.P.T. NOT TAKEN SAMPLE OBTAINED BY PUSHING TUBES.
			5		UD*1 @ 4.8, PUSHED 0
			10		UD#2 @ 9.8'-10.8', LT. OLIVE GRAY, MICA. FINE/MED. SAND.
			15		UD#3 @ 14.8'-15.8', LT. OLIVE GRAY/ST. BROWN, MICA, SILTY, FINE/MED. SAND.
			20		UD*4 @ 19.8'-20.8' OLIVE BROWN, MICA, SILTY, FINE/MED. SAND.
					BORING TERMINATED @ ~~19.8'~~ 21.6' TWM
			25		
			30		
			35		
			40		

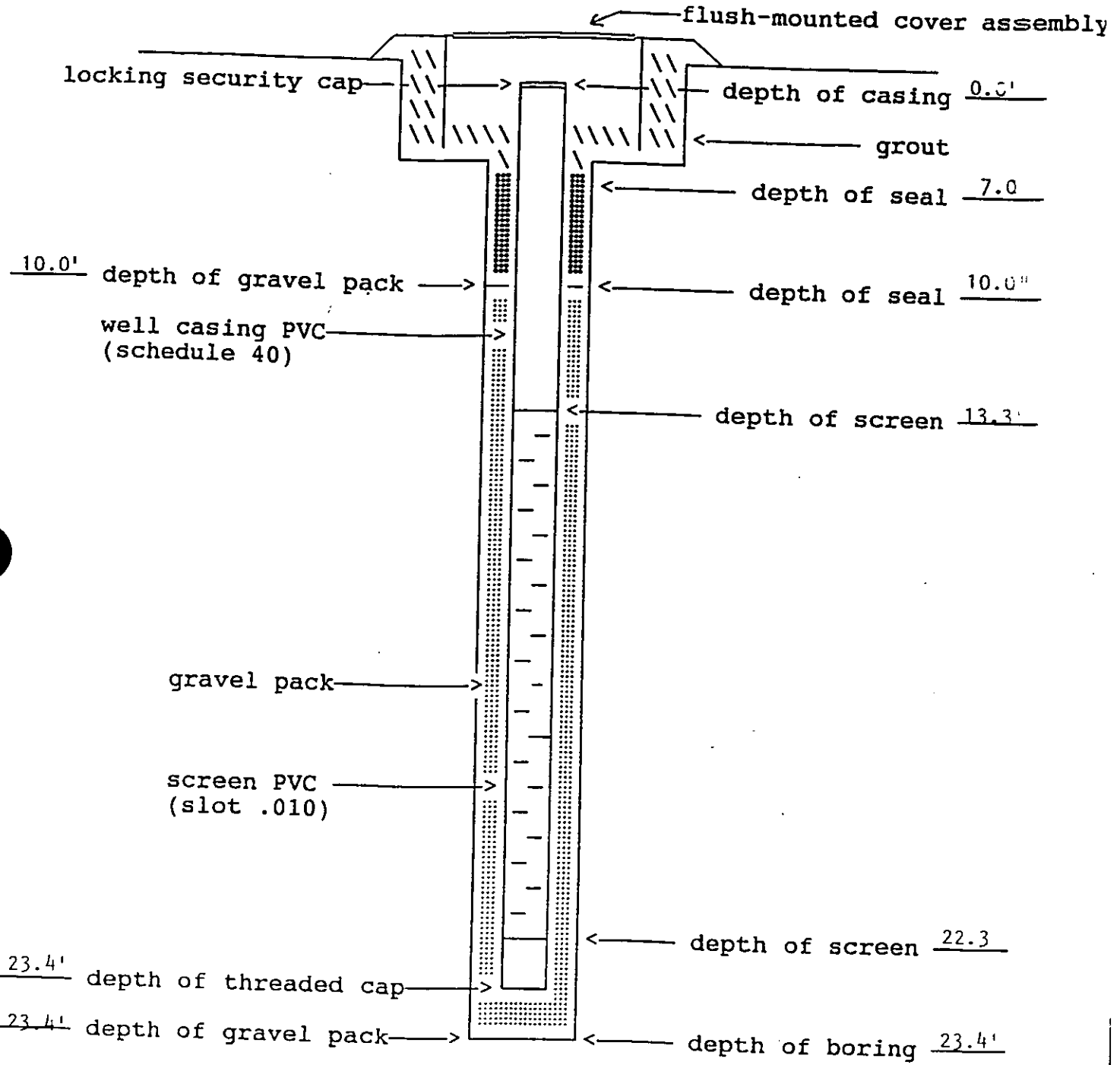
+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED 19.8 21.6
BORING REFUSAL N/A
WATER TOB DEPTH MUDDY BOTTOM
WATER 24 HR: DEPTH 14.0
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0 TO 19.8 21.6
HAND CHOP: W/MUD: W/WATER	TO
ROTARY DRILL: W/MUD: W/WATER	TO
DIAMOND CORE	TO

MONITORING WELL INSTALLATION RECORD

JOB NAME: SOUTH BOULEVARD



DATE INSTALLED: 8-6-92 INSPECTOR: J.W. MEADERS	DUKE POWER COMPANY GEOTECHNICAL CENTER	MONITORING WELL NUMBER: MW-16

DIVISION OF ENVIRONMENTAL MANAGEMENT – GROUNDWATER SECTION
P.O. BOX 27687 – RALEIGH, N.C. 27611, PHONE (919) 733-5083

MW-16

WELL CONSTRUCTION RECORD

Quad. No. _____ Serial No. _____
Lat. _____ Long. _____ Pc
Minor Basin _____
Basin Code _____
Header Ent. _____ GW-1 Ent. _____

[redacted] NG CONTRACTOR DUKE POWER COMPANY

DRILLER REGISTRATION NUMBER 921

STATE WELL CONSTRUCTION PERMIT NUMBER: 59-1217-WM-0898

1. WELL LOCATION: (Show sketch of the location below)
Nearest Town: CHARLOTTE N.C.
1400 S. BLVD.
(Road, Community, or Subdivision and Lot No.)

County: MECKLENBURG

2. OWNER DUKE POWER COMPANY
ADDRESS P.O. BOX 33189 (Street or Route No.)
CHARLOTTE (City or Town) N.C. (State) 28242 (Zip Code)

3. DATE DRILLED 8-5-92 USE OF WELL MONITORING
4. TOTAL DEPTH 23.4 CUTTINGS COLLECTED ☒ Yes ☐ No
5. DOES WELL REPLACE EXISTING WELL? ☐ Yes ☒ No
6. STATIC WATER LEVEL: 14.3 FT. ☐ above ☒ below TOP OF CASING,
TOP OF CASING IS 0.0 FT. ABOVE LAND SURFACE.
7. YIELD (gpm): N/A METHOD OF TEST _____
8. WATER ZONES (depth): N/A
9. C[redacted]NATION: Type N/A Amount _____
10. CASING:

	Depth From	To	Diameter	Wall Thickness or Weight/Ft.	Material
	0.0	13.3 Ft.	2"	SCH 40	
From		To Ft.			
From		To Ft.			

11. GROUT:

	Depth From	To	Material	Method
	0.0	7.0 Ft.	PORTLAND	FREE POUR
From		To Ft.		

12. SCREEN:

	Depth From	To	Diameter	Slot Size	Material
	13.3	22.3 Ft.	2 in.	.010 in.	PVC
From		To Ft.	in.	in.	
From		To Ft.	in.	in.	

GRAVEL PACK:

	Depth From	To	Size	Material
	10.0	23.4 Ft.	ES=.010 UC=3.1	SAND
From		To Ft.		

REM[redacted]:

Depth From	To	DRILLING LOG Formation Description
		SEE ATTACHMENTS

If additional space is needed use back of form.

LOCATION SKETCH
(Show direction and distance from at least two State Roads or other map reference points)

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15 NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Jeff Mead 8-6-92
SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 Revised 11/84

Submit original to Division of Environmental Management and copy to well owner.

Form 25630 (R3-87)

FORM M-26C | REVISION 2 | PAGE 1 OF 1

DUKE POWER COMPANY
CONSTRUCTION DEPARTMENT
PROJECT SOUTH BLVD.

SOIL TEST BORING FIELD REPORT

JOB NO. N/A
JOB NAME SOUTH BLVD.
DATE 8-5-92 WEATHER P.C. WARM INSPECTOR J.W. Meadors

STARTING TIME N/A
GROUND SURFACE ELEV.
HRS. DRILLING N/A HRS. MOVING N/A
BORING NO. MW-16

SAMPLING 1ST 6"	2ND 6"	3RD 6"	SCALE	UD	SOIL CLASSIFICATION AND REMARKS
			0		S.P.T. NOT TAKEN SAMPLE OBTAINED BY PUSHING TUBES
			5		UD#1 @ 4.9-6.4 REDDISH YEL. MICA, SILTY, FINE / MED. SAND.
			10		UD#2 @ 9.9' - 11.4', OLIVE GRAY, MICA, CLAYEY, FINE SANDY SILT.
			15		UD#3 @ 14.9' - 16.4', OLIVE GRAY, MICA, CLAYEY, FINE SANDY SILT.
			20		UD#4 @ 19.9' - 21.4' OLIVE YELLOW, MICA, FINE SANDY SILT.
					BORING TERMINATED @ ~~19.9~~ 23.4'
			25		
			30		
			35		
			40		

+ STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES

BORING TERMINATED ~~19.9~~ 23.4
BORING REFUSAL N/A
WATER TOB DEPTH MUDDY BOTTOM
WATER 24 HR: DEPTH 14.3
WATER LOSSES N/A
CASING SIZE N/A LENGTH N/A

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	0 TO ~~19.9~~ 23.4
HAND CHOP: W/MUD: W/WATER	TO
ROTARY DRILL: W/MUD: W/WATER	TO
DIAMOND CORE	TO

APPENDIX B

GROUNDWATER MONITORING
DATA SHEETS

*August 26, 1992

FIELD OVERVIEW CHECKLIST

GROUND WATER WELLS

1. Type of site sampled? (Landfill, Landfarm, UST, etc.) SOUTH BLVD ABANDONED MGP Site

2. Were wells locked and protected? Yes ✓ No ___
   Comments SOME WELLS (MW7, MW9) COVERED W/ASPHALT

3. Were identification marks (labels) affixed to the wells? Yes ✓ No ___
   Comments ___

4. What were the sizes and construction materials of the well casings? 2" PVC

5. Were the boreholes sealed with a concrete pad to prevent surface infiltration? Yes ✓ No ___
   Comments ___

6. Was clean plastic sheeting placed around the wells to prevent contamination of sampling equipment and containers? Yes ___ No ✓

7. Were total depths and depths to water determined before purging? Yes ✓ No ___

8. What device was used to determine depths? Interface Probe/Water Level Meter

9. Were measurements made to the nearest 0.05 ft? Yes ✓ No ___

10. Was the measuring device properly cleaned between wells? Yes ✓ No ___
    Comments ___

11. Was the standing water volume in each well determined? Yes ✓ No ___

12. Was a sufficient volume purged prior to sampling? Yes ✓ No ___
    Comments 3-5 well volumes or sampled after evacuating

13. How many well volumes? 3-5

14. How was the purged volume measured? Calibrated Container

15. What was the method of purging? Revista Pumps

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	SOUTH BLVD		
PROJECT TITLE:	MGP SITE		
SAMPLING DATE:	8/26/92	FIELD CREW	DHD, TMH, RAS

MONITORING WELL NUMBER: MW01

WATER LEVEL METER #: #7

TIME SAMPLE COLLECTED: 11:30

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	12.90	-	3.18	=	9.72	X	0.0218	=	0.2119
4"		-		=		X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	6.0	0
5	12.0	0
10	60.0	0
20	120.0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:	✓		

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
	P	6	6		6.8	23.4	560		Y
N/A	P	4	10		6.6	25.7	756		Y
	P	3	13		7.1	26.0	822		Y
			Sampled		DHD				

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

REFERENCE PROBE DEPTH: [illegible]

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	SOUTH BLVD MGP SITE		
PROJECT TITLE:			
SAMPLING DATE:	AUGUST 26, 1992	FIELD CREW	DHO, TMH, RAS

MONITORING WELL NUMBER: MW3

WATER LEVEL METER #: H7

TIME SAMPLE COLLECTED: 1125

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	12.15	-	3.50	=	8.65 0.00	X	0.0218	=	0.1886 0.0
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 L/FT^3)	
	2" WELL	4" WELL
1	5.34 0	0
5	26.70 0	0
10	53.40 0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:	✓		

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
	P	1	5		5.16	24.4	HZ254		N
N/A	P	1	3		6.3	23.7	226		Y
	P				6.9	22.2	254		Y
		Sampled @	1125						

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

REFERENCE PROBE DEPTH: [redacted]

12.15

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	SOUTH BLVD		
PROJECT TITLE:	MGP SITE		
SAMPLING DATE:	8/27/92	FIELD CREW	DHD, CAF, TSH, RAS

MONITORING WELL NUMBER: MW-9

WATER LEVEL METER #: KECK KIB-87

TIME SAMPLE COLLECTED: 1150

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	12.48	-	2.84	=	9.64 0.00	X	0.0218	=	0.210 0.0
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	5.95 0	0
5	29.7 0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:	TPH/GAS	OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)	pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)	COMPLETE EVACUATION (Y/N)
	P	1	6	5.5	22.6	502	Y
N/A	P		1.5	6.5	23.8	444	Y
	P		1.5	6.4	24.1	376	Y

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

REFERENCE PROBE DEPTH: [redacted]

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	SOUTH BLVD		
PROJECT TITLE:	MGP SITE		
SAMPLING DATE:	8/27/92	FIELD CREW	

MONITORING WELL NUMBER: MW-6

WATER LEVEL METER #: KECK-KM-97

TIME SAMPLE COLLECTED: 1100

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	12.00	-	2.50	=	9.50 0.00	X	0.0218	=	0.207 0.0
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 L/FT^3)	
	2" WELL	4" WELL
1	5.8 0	0
5	29.2 0	0
10	0	0
20	117.2 0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:	COAL TAR	METHOD:	KECK KM-97 SONIC
STRONG:	✓	THICKNESS:	0.21 FT
MINOR:		OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
	T								
N/A	↓								
	V								

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

REFERENCE PROBE DEPTH: [redacted]

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	SOUTH BLVD
PROJECT TITLE:	MGP SITE
SAMPLING DATE:	8/27/92
FIELD CREW	

MONITORING WELL NUMBER: MW10A

WATER LEVEL METER #: KECK KIR-89

TIME SAMPLE COLLECTED: 1100

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	11.96	-	1.61	=	10.35 0.00	X	0.0218	=	0.226 0.0
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	6.39 0	0
5	31.9 0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:	L	OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)	pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)	COMPLETE EVACUATION (Y/N)
	B	6	6	6.0	22.1	454	N
N/A	B	6	12	6.3	22.2	460	N
	B	5	17	6.4	22.6	400	Y
	B	1	18	6.4	22.2	386	Y
	B			Ran out of H2O			Y
	B						

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

REFERENCE PROBE DEPTH: [redacted]

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	SOUTH BLVD		
PROJECT TITLE:	SOUTH BLVD MNGP		
SAMPLING DATE:	8/26/92	FIELD CREW	DHD, TMH, RAS

MONITORING WELL NUMBER: MW11

WATER LEVEL METER #: KECK Bulk.

TIME SAMPLE COLLECTED: 1430

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	12.81	-	2.83	=	9.98 0.00	X	0.0218	=	0.2176 0.0
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	6.16 0	0
5	30.8 0	0
10	62 0	0
20	124 0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:	✓		

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
	P	1.0	6		6.8	26.1	834		N
N/A	P	0.7	4 (10)		6.9	24.4	760		Y
	P	0.3	2 (12)		6.8	24.0	758		Y
		Sampled			1430	8/26/92			

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

REFERENCE PROBE DEPTH: [redacted]

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	[illegible]		
PROJECT TITLE:	South Ash Pond CSP		
SAMPLING DATE:	8/24/22	FIELD CREW	DHD, TAW, RAS

MONITORING WELL NUMBER: MW-12

WATER LEVEL METER #: KJR-89

TIME SAMPLE COLLECTED: 0930

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	12.31	-	3.5	=	8.81 0.00	X	0.0218	=	0.192 0.0
4"	/ / /	-	/ / /	=	/ / / 0.00	X	/ 0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 L/FT^3)	
	2" WELL	4" WELL
1	5.[illegible] 0	0
5	27.19 0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:	?	METHOD:	
STRONG:		THICKNESS:	
MINOR:	✓	OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)	pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)	COMPLETE EVACUATION (Y/N)
	P	5	5	7.3	28.1	874	Y
N/A	P			6.5	25.2	922	Y
	Sampled:		8/24/22				
			8/24/22	0930			

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

REFERENCE PROBE DEPTH: [illegible]

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	[illegible] MGP		
PROJECT TITLE:			
SAMPLING DATE:	8/26/92	FIELD CREW	DHC, TMH, TAS

MONITORING WELL NUMBER: MW-13

WATER LEVEL METER #: KIR-25

TIME SAMPLE COLLECTED: 1350

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	-	WATER LEVEL (FEET)	=	WATER COLUMN (FEET)	X	3.14 x r^2	=	VOLUME (FT^3)
2"	20.90	-	14.46	=	6.44 0.00	X	0.0218	=	0.1404 0.00
4"	~~X~~	-		=	0.00	X	0.0873	=	0.00

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	3.7 0	0
5	19.8 0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:	?	METHOD:	
STRONG:		THICKNESS:	
MINOR:	✓	OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
	P	4	4		7.1	25.0	418		Y
N/A	P	2	6		6.6	24.0	426		Y
			[illegible]		[illegible]				
					Dry				

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

REFERENCE PROBE DEPTH: [illegible]

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	SOUTH BLVD		
PROJECT TITLE:	MGP SITE		
SAMPLING DATE:	8/27/92	FIELD CREW	DHD, TSH, RAS, RHC

MONITORING WELL NUMBER: MW 14

WATER LEVEL METER #: KIR-89

TIME SAMPLE COLLECTED: 1630

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	11.50	-	0.60	=	10.90 ~~0.00~~	X		=	6.238 0.0
4"		-		=	~~0.00~~	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 L/FT^3)	
	2" WELL	4" WELL
1	6.7	0
5	33.6	0
10	67	0
20	134	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:	COAL TAR	METHOD:	
STRONG:	✓	THICKNESS:	
MINOR:		OTHER:	N/A
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)	pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)	COMPLETE EVACUATION (Y/N)
	P	7	7	8.8	28.5	472	N
N/A	|	7	14	8.8	28.2	594	N
	|	7	21	8.9	27.8	592	N
	|	7	28	8.8	27.3	320	N
	|	7	35	8.9	27.4	370	N
	V	7	42	8.9	27.4	532	N
	Sampled @		1630	MS			

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

REFERENCE PROBE DEPTH: ~~BELOW~~ water a pale brown color; Not much odor, but coal tar odor resembles that of cyanide waste type odor.

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	SOUTH BLVD		
PROJECT TITLE:	MGP SITE		
SAMPLING DATE:	8/27/92	FIELD CREW	DHD, TSH, RAS, RHC

MONITORING WELL NUMBER: MW 15

WATER LEVEL METER #: KIR-89

TIME SAMPLE COLLECTED: 1510

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	20.98	-	9.03	=	11.95 ~~0.00~~	X	0.0218	=	0.261 ~~0.0~~
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	7.4 0	0
5	36.9 0	0
10	74 0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	N/A
NONE:	✓		

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)	pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)	COMPLETE EVACUATION (Y/N)
	P	2.4	2.4	6.7		492	N
N/A			14	6.8		488	N
			21	6.6		474	N
			28	6.8		464	N
			35	7.5		462	Y
			42	6.4		452	N
			49	6.7		460	N
			56	6.8		370	Y
				Sampled DHD			

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

REFERENCE PROBE DEPTH: [redacted]

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	SOUTH BLVD		
PROJECT TITLE:	MGP SITE		
SAMPLING DATE:	8/27/92	FIELD CREW	DHD, TSH, RAS, RHC

MONITORING WELL NUMBER: MW16

WATER LEVEL METER #: KIR-89

TIME SAMPLE COLLECTED: 1535

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	23.26	-	11.70	=	11.56 0.00	X	0.0218	=	0.252 0.0
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	7.1 0	0
5	35.7 0	0
10	71.0 0	0
20	142 0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	N/A
NONE:	✓		

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)	pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)	COMPLETE EVACUATION (Y/N)
	P	7.1	7.1	6.7		488	N
N/A		7.1	14	7.3		480	N
	DNF	7.1	21	7.5		462	Y
		7.1	21	6.9		490	N
		7.1	28	6.2		486	Y
		7	35	6.4		398	N
		7	42	6.2		394	Y
				6.2		396	
			Sampled	DRY			

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

REFERENCE PROBE DEPTH: [illegible]

South Boulevard MGP Si[redacted]gust 26 & 27, 1992

DATE	WELL #	WELL DEPTH (feet)	WATER LEVEL (feet)	WELL VOLUME (liters)	PURGED VOLUME (liters)	COMPLETE EVACUATION (Y/N)	pH	SPECIFIC CONDUCTANCE (umho/cm)	ODOR
08/26/92	MW-1	12.9	3.2	6	13	Y	6.8, 6.6, 7.1	560, 756, 822	NONE
08/26/92	MW-3	12.2	3.5	5	8	Y	5.6, 6.3	254, 226	NONE
08/27/93	MW-4	12.5	2.8	6	9	Y	5.5, 6.5, 6.4	502, 444, 376	MINOR
08/27/93	MW-6	12.0	2.5	6			NO DATA AVAILABLE		STRONG
08/27/93	MW-10A	12.0	1.6	6	18	Y	6.0, 6.3, 6.7, 6.4	454, 460, 400, 386	MINOR
08/26/92	MW-11	12.8	2.8	6	12	Y	6.8, 6.9, 6.8	834, 760, 758	NONE
08/26/92	MW-12	12.3	3.5	5	10	Y	7.0, 6.5	874, 922	MINOR
08/26/92	MW-13	20.9	14.5	4	6	Y	7.1, 6.6	418, 426	MINOR
08/27/93	MW-14	11.5	0.6	7	42	N	8.8, 8.8, 8.9, 8.8	472, 594, 592, 320	STRONG
08/27/93	MW-15	21.0	9.0	7	56	Y	6.7, 6.8, 6.6, 6.8, 7.5	492, 488, 475, 464, 4	NONE
							6.4, 6.7, 6.8	452, 460, 370	
08/27/93	MW-16	23.3	11.7	7	42	N	6.7, 7.3, 6.9, 6.2	488, 480, 490, 486	NONE
							6.4, 6.2, 6.2	398, 394, 396	

Water levels and well depths are referenced to top of PVC casing.

Form 18570 (R7-87)

FIELD SAMPLING CALIBRATION FORM

Study: South Blvd MGP site

Date: 8/26/92 Water Collector: TMH, DHD, RAS

Crew: DHD, TMH, RAS Surface Unit Reader: DHD, TMH, RAS

Weather & Lake Conditions: Clear, Hot

Equipment: Sonde#: _____ Other Instruments: _____

Cable#: _____ _____

Battery#: _____ _____

Surface Unit#: _____ _____

Procedure Number: PESCS/ _____ Water Quality Analyzer: 4041

Calibration Time		Time: 0900			Time: 1450			Time:		
Variable	Calib. Std.	Initial (Hydrolab)	→	Adj. To (Std.)	Initial (Hydrolab)	→	Adj. To (Std.)	Initial (Hydrolab)	→	Adj. To (Std.)
Temp. °C										
Therm.#: _____		.	-/->	.	.	-/->	.	.	-/->	.
Therm.#: _____		.	-/->	.	.	-/->	.	.	-/->	.
DO mg/l	W			.			.			.
	W			.			.			.
	W			.			.			.
	AW	.	→	.	.	→	.	.	→	.
pH	B	7.0	→	7.00	7.1	→	7.00	.	→	7.00
	B	4.1	→	4.01	4.2	→	4.01	.	→	4.01
	B	.	→	9.18	.	→	9.18	.	→	9.18
SP COND umho/cm	SS	700.	→	720	690	→	720	.	→	.
	SS	.	→	.	.	→	.	.	→	.
	SS	.	→	.	.	→	.	.	→	.

KEY:
B – Buffer
W – Winkler
AW – Average Winkler
SS – Standard Solution
NA – Not Applicable
IM – Instrument Malfunction
→ – Adjusted to
-/-> – Not Adjusted to

Form 18570 (R7-87)

FIELD SAMPLING CALIBRATION FORM

Study: South Blvd

Date: 8-27-92 Water Collector: Same

Crew: DHD - RAS - TSH - RHC Surface Unit Reader: Same

Weather & Lake Conditions: Cloudy

Equipment: Sonde#: 4041 Other Instruments: _____

Cable#: _____ _____

Battery#: _____ _____

Surface Unit#: _____ _____

Procedure Number: PESCS/ _____ Water Quality Analyzer: 4041

Calibration Time		Time: 0850			Time: 1645			Time:		
Variable	Calib. Std.	Initial (Hydrolab)	→	Adj. To (Std.)	Initial (Hydrolab)	→	Adj. To (Std.)	Initial (Hydrolab)	→	Adj. To (Std.)
Temp. °C										
Therm.#: _____		.	-/->	.	.	-/->	.	.	-/->	.
Therm.#: _____		.	-/->	.	.	-/->	.	.	-/->	.
DO mg/l	W			.			.			.
	W			.			.			.
	W			.			.			.
	AW	.	→	.	.	→	.	.	→	.
pH	B	7.00	→	7.00	7.10	→	7.00	.	→	7.00
	B	4.00	→	4.01	4.10	→	4.01	.	→	4.01
	B	.	→	9.18	.	→	9.18	.	→	9.18
SP COND umho/cm	SS	100	→	720	716	→	7200	.	→	.
	SS	.	→	.	.	→	.	.	→	.
	SS	.	→	.	.	→	.	.	→	.

KEY:
- B – Buffer
- W – Winkler
- AW – Average Winkler
- SS – Standard Solution
- NA – Not Applicable
- IM – Instrument Malfunction
- → – Adjusted to
- -/-> – Not Adjusted to

APPENDIX C

CHAIN OF CUSTODY SHEETS

DUKE P[redacted]COMPANY
Production[redacted]ironmental Services
Applied Science Center (MG03A)
13339 Hagers Ferry Road
Huntersville, NC 28078

CHAIN OF CU[redacted]DY RECORD AND ANALYSIS REQUEST FORM *

[redacted]5226 (R2-91)

PES CLIENT CONTACT/GROUP/PHONE[1]:

CLIENT[2]: Tim Hanswekar
Project Name[3]: South Bend MGP Site
Results to/Phone[4]: Tim Hanswekar
Address and/or PROFS[5]: MG03A
Matrix (type of samples)/QC Level[6]: Soil / I
Date results requested[7]: 30 Days

ANALYSES REQUESTED by bottle type—MUST NOTE PRESERVATIVE [12] (may note special DL or Method)[13]

SAM No. with dash[8]	CHEMPLOT Number[9]	Sample Description or ID[10]	Collection[11] Date	Time	Name	TOC, Total Metals, Available NH3	Wt. (C,H,N) Total S % Moisture	Cyanide (Acid & Base)	8270 ✓	8240	TCLP (Organics only)	BTU					
8255-01A		SBMGP-B38-0892	8/27/92	1530	TSH	1		1	1	1							
02A		SBMGP-B39-0892	8/28/92	1050	TSH				1	1							
03A		SBMGP-B40-0892	8/28/92	1200	TSH				1	1							

Preservation by[14]: TSH 8/28/92 ICE

Total # of samples[15]:	1	0	1	3	3	0	0					

Delivered by[16]: TSH	Delivered by:	Delivered by:	Delivered by:	Delivered by:
Date/Time: 8/28/92 1400	Date/Time:	Date/Time:	Date/Time:	Date/Time:
Received by: JLW 8/28/92 1401	Received by:	Received by:	Received by:	Received by:

Comments[17]: To EMS 9208256 = Total Cyanide.

* See instructions on back of form.
[18] White, canary, pink — PES files. Goldenrod — Returned to Client after signatures.

DUKE P[illegible] COMPANY
Product[illegible] [illegible]ironmental Services
Applied [illegible]e Center (MG03A)
13339 Hagers Ferry Road
Huntersville, NC 28078

CHAIN OF CU[illegible]DY RECORD A[illegible] ANALYSIS REQUEST FORM *

[illegible]3226 (R2-91)

PES CLIENT CONTACT/GROUP/PHONE[1]:

CLIENT[2]: Tim Hunsucker
Project Name[3]: South Blvd MGP
Results to/Phone[4]: Tim Hunsucker
Address and/or PROFS[5]:
Matrix (type of samples)/QC Level[6]: Soil
Date results requested[7]:

ANALYSES REQUESTED by bottle type—MUST NOTE PRESERVATIVE [12] (may note special DL or Method)[13]

SAM No. with dash[8]	CHEMPLOT Number [9]	Sample Description or ID[10]	Collection[11] Date	Time	Name	8240	8270	Total Metals
920[illegible]5-01A	N/A	MW-12-01	7/8/92	9:40	CWH	1	1	1
↓ 02A	N/A	MW-13-02	7/8/92	10:30	CWH	1	1	1

Preservation by[14]: CWH/Rite

Total # of samples[15]: 2 2 2

Delivered by[16]: CWH	Delivered by:	Delivered by:	Delivered by:	Delivered by:
Date/Time: 7/8/92 13:30	Date/Time:	Date/Time:	Date/Time:	Date/Time:
Received by: 7/8/92 13:31 [signature]	Received by:	Received by:	Received by:	Received by:

Comments[17]:

* See instructions on back of form.
[18] White, canary, pink — PES files. Goldenrod — Returned to Client after signatures.

DUKE F[illegible]R COMPANY
Produc[illegible]ironmental Services
Applied [illegible]e Center (MG03A)
13339 Hagers Ferry Road
Huntersville, NC 28078

CHAIN OF CU[illegible]ODY RECORD

35226 (R2-91)

ANALYSIS REQUEST FORM *

PES CLIENT CONTACT/GROUP/PHONE[1]: _____

CLIENT[2]: _____

Project Name[3]: S. Bud MGP

Results to/Phone[4]: Tim Hauswerker

Address and/or PROFS[5]: MG03A

Matrix (type of samples)/QC Level[6]: Soil

Date results requested[7]: By 30-92

SAM No. with dash[8]	CHEMPLOT Number[9]	Sample Description or ID[10]	Collection[11] Date	Time	Name
920806-01A		SB920805MW16	8/5/92	1620	MF
		~~SB920806MW16~~ TB4			
-02A		SB920806MW15	8/6/92	1050	TSH

ANALYSES REQUESTED by bottle type—MUST NOTE PRESERVATIVE[12] (may note special DL or Method)[13]

8270	8240	Total Metals									

Preservation by[14]: [illegible] (ICE)

Total # of samples[15]:

Delivered by[16]:	Delivered by:	Delivered by:	Delivered by:	Delivered by:
Date/Time: 8/6/92 1425	Date/Time:	Date/Time:	Date/Time:	Date/Time:
Received by: VBurleson	Received by:	Received by:	Received by:	Received by:

Comments[17]: _____

* See instructions on back of form.

[18] White, canary, pink — PES files. Goldenrod — Returned to Client after signatures.

THU, SEP-12-96 11:29AM REC CENTER 704 382 1376 P.02

DUKE P[redacted]OMPANY
Productio[redacted]onmental Services
Applied Science Center (MG03A)
13339 Hagers Ferry Road
Huntersville, NC 28078

CHAIN OF CU[redacted]DY RECORD AND ANALYSIS REQUEST FORM *

[redacted]226 (R2-91)

PES CLIENT CONTACT/GROUP/PHONE[1]:

CLIENT[2]: [illegible]
Project Name[3]: [illegible]
Results to/Phone[4]: [illegible]
Address and/or PROFS[5]: [illegible]
Matrix (type of samples)/QC Level[6]: [illegible]
Date results requested[7]:

ANALYSES REQUESTED by bottle type—MUST NOTE PRESERVATIVE [12] (may note special DL or Method)[13]

SAM No. with dash[8]	CHEMPLOT Number[9]	Sample Description or ID[10]	Collection[11] Date	Time	Name	Total Metals	[illegible] Moisture	Cyanide (Acid & Base)	8270	8240	TCLP (Organics Only)	BTU					
08-355-0[illegible]	A	SBMGP-B38-0892	8/28/92	1530	TSH	1		1	1	1							
02	A	SBMGP-B39-0892	8/28/92	1050	TSH				1	1							
03		SBMGP-B40 0892	8/28/92	1200	TSH				1	1							

Soil

Preservation by[14]:	Total # of samples[15]:	1	0	1	3	3	0	0					

Delivered by[16]:	Delivered by:	Delivered by:	Delivered by:	Delivered by:
Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:
Received by:	Received by:	Received by:	Received by:	Received by:

Comments[17]: To EMS 9208356 = TOTAL CYANIDE.

* See instructions on back of form.
[18] White, canary, pink — PES files. Goldenrod — Returned to Client after signatures.

DUKE F[redacted] COMPANY
Product [redacted]ronmental Services
Applied Sc[redacted]ce Center (MG03A)
13339 Hagers Ferry Road
Huntersville, NC 28078
PES CLIENT CONTACT/GROUP/PHONE[1]: R. Santini - 5229

CHAIN OF CU[redacted]DY RECORD AND ANALYSIS REQUEST FORM *

[redacted]35226 (R2-91)

CLIENT[2]:
Project Name[3]: SOUTH BLVD MGP
Results to/Phone[4]: R. SANTINI / 5229
Address and/or PROFS[5]:
Matrix (type of samples)/QC Level[6]: GROUNDWATER
Date results requested[7]:

ANALYSES REQUESTED by bottle type—MUST NOTE PRESERVATIVE [12] (may note special DL or Method)[13]

SAM No. with dash[8]	CHEMPLOT Number [9]	Sample Description or ID[10]	Collection[11] Date	Time	Name	(NaOH) TOTAL CYANIDES	EPA 624	EPA 625	Hg (2.5mL (HNO3))	NH3, Acidity, Cl, SO4, ALKALINITY	TOC (1:1 mg (H2SO4))	TS, TSS (ICE)	TOTAL METALS: Fe, Zn, Ba, Ca, Mg, Mn, Na, K, Sn	TOTAL METALS: As, Se, Cd, Cr, Pb, Ag, Cu, Ni		TOTAL Bottles
7208213-01A		SBMGPMW1	8/26/92	1145	DHO	1	1	1	1	1	1	1	1		=	8
02A		SBMGPMW2 — DID NOT SAMPLE														
03A		SBMGPMW3	8/26/92	1125	TMH	1	1	1	1	1	1	1	1		=	8
04A		SBMGPMW4	8/27/92	1150	TSH	1	1	1	1	1	1	1	1		=	8
05A		SBMGPMW5 — DID NOT SAMPLE														
06A		SBMGPMW6	8/27/92	1100	RJK	1	1	1	1	1	1	1	1		=	8
07A		SBMGPMW7 — DID NOT SAMPLE														
08A		SBMGPMW8 — DID NOT SAMPLE														
09A		SBMGPMW9 — DID NOT SAMPLE														
10A		SBMGPMW10A	8/27/92	1100	DHO	1	1	1	1	1	1	1	1		=	8
7208213-01A		SBMGPMW11	8/26/92	1430	DHO	1	1	1	1	1	1	1	1		=	8
02A		SBMGPMW12	8/27/92	0930	RJK	1	1	1	1	1	1	1	1		=	8
7208213-07A		SBMGPMW12 DUP	8/27/92	0930	RJK	1	1	1	1	1	1	1	1		=	8
03A		SBMGPMW13	8/26/92	1350	DHO	1	1	1	1	1	1	1	1		=	8
04A		SBMGPMW14	8/27/92	1630	RJS	1	1	1	1	1	1	1	1		=	8
05A		SBMGPMW15	8/27/92	1510	DHO	1	1	1	1	1	1	1	1		=	8
06A		SBMGPMW16	8/27/92	1535	DHO	1	1	1	1	1	1	1	1		=	8
08A		SBMGPFB	8/27/92	1645	DHO	1	1	1	1	1	1	1	1		=	8
Preservation by[14]: R. Santini			Total # of samples[15]:			13	13	13	13	13	13	13	13		=	104

Delivered by[16]: R. Santini	Delivered by:	Delivered by:	Delivered by:	Delivered by:
Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:
Received by: 6:55 RW 8/28/92	Received by:	Received by:	Received by:	Received by:

Comments[17]:

* See instructions on back of form.
[18] White, canary, pink — PES files. Goldenrod — Returned to Client after signatures.

APPENDIX D

GRAIN SIZE ANALYSIS

APPENDIX E

LABORATORY DATA (SOIL)

SECTION 1: 8260 ANALYSIS

SECTION 2: 8270 ANALYSIS

Data Available Upon Request

APPENDIX F

LABORATORY DATA (WATER)

SECTION 1: 624 ANALYSIS

SECTION 2: 625 ANALYSIS

SECTION 3: CYANIDE

Data Available Upon Request

Report Number 11

Phase II Environmental Assessment
Supplemental Data
Soil Gas Assessment, Hexavalent Chromium,
and Indoor/Outdoor Air Assessment
May 1993

ENVIRONMENTAL PROTECTION SECTION

MAY 0 3 1993

☐ FILE _____

☐ TICKLER DATE _____

☐ COPY _____ _____

_____ _____

☐ ROUTE _____ _____

_____ _____

April 29, 1993

TO: Mark McGary

RE: South Boulevard MGP Site
Total And Hexavalent Chromium Results

Three soil samples collected on 4/1/93 at bore hole locations B08, B35, and B24 at the South Boulevard MGP site were submitted to the Laboratory Services section for analysis of total and hexavalent chromium. Samples from B08 and B35 were each collected at a depth of ten to twelve feet. The sample from B24 was collected from 12 to 14 feet.

Due to a misunderstanding, the laboratory ran both total and hexavalent Chromium on a TCLP leach sample. Please note that the laboratory was unable to find another method for the hexavalent species. The total chromium values should not be compared to data from the 1992 phase II assessment data since the previous data was by a different procedure. All three samples contained less than the laboratory detection limit for both total (0.5 mg/l) and hexavalent (5.0 ug/l) chromium in the TCLP leachate.

If you have any questions concerning the data or analysis methods please contact me at 875-5228.

Tim

Tim Hunsucker
Assistant Scientist
Environmental Chemistry

cc: R. Santini

DUKE PC[illegible]OMPANY
Production [illegible]ronmental Services
Applied Science Center (MG03A)
13339 Hagers Ferry Road
Huntersville, NC 28078

CHAIN OF CU[illegible]DY RECORD AN[illegible] ANALYSIS REQUEST FORM *

[illegible]35226 (R2-91)

PES CLIENT CONTACT/GROUP/PHONE[1]:

CLIENT[2]: Tim Hunsucker
Project Name[3]: [illegible] MGP
Results to/Phone[4]: Tim Hunsucker / 5228
Address and/or PROFS[5]: MG03A3
Matrix (type of samples)/QC Level[6]: Soil / I
Date results requested[7]: 7 Days

ANALYSES REQUESTED by bottle type—MUST NOTE PRESERVATIVE [12] (may note special DL or Method)[13]

SAM No. with dash[8]	CHEMPLOT Number[9]	Sample Description or ID[10]	Collection[11] Date	Time	Name	TC Total Cr.	HC * Hex. Cr.										
		SBMGP-130[illegible] 10'-12'	4/1/93	0845	TSH	1	1										
		[illegible]	4/1/93	0940	TSH	1	1										
		[illegible] -14'	4/1/93	1420	TSH	1	1										
Preservation by[14]: [illegible]			Total # of samples[15]:			3	3										

Delivered by[16]: [illegible]	Delivered by:	Delivered by:	Delivered by:	Delivered by:
Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:
Received by: 4/5/93 0730 [illegible]	Received by:	Received by:	Received by:	Received by:

Comments[17]: * See ANG For Method

* See instructions on back of form.
[18] White, canary, pink — PES files. Goldenrod — Returned to Client after signatures.

SOIL GAS DATA SUMMARY
Units: ppb

Sampling Date:	4/1/93								5/24/93								AVG	MAX
Sample Location:	SG1	SG2	SG3	SG4	SG5	SG6	SG7	SG8	SG1	SG2	SG3	SG4	SG5	SG6	SG7	SG8	Detects	Detected
Compound																		
Benzene	240	70	ND	760	20	5	9	ND	6	8	3	890	1	ND	6	18	157	890
Toluene	0.4	0.4	0.9	20	ND	10	0.6	0.6	170	130	50	160	110	140	140	170	74	170
m&p Xylenes	0.8	ND	ND	ND	ND	7	ND	ND	30	30	20	60	20	30	30	90	32	90
o Xylenes	24	ND	ND	80	ND	ND	ND	ND	30	20	ND	17	72	12	10	ND	33	80
Total Xylenes	25	ND	ND	80	ND	7	ND	ND	60	50	20	77	92	42	40	90	53	92

TABLE 2-3

February 24, 1993

To: Ron Santini

From: Mark McGary

Subject: Additional sampling requirements for the South Boulevard MGP site

As we discussed, please schedule the following additional sampling for the subject site:

SOIL GAS SAMPLING:

Description: 8 sampling locations around the perimeter of the building as indicated on the attached sketch. Samples will be taken through asphalt pavement and from 1 to 2 feet below the existing building foundation.

Scheduling: Sampling should be scheduled between the hours of 9:00 am and 3:00 pm to avoid the bulk of the vehicular traffic associated with operation center activities. In addition, every attempt should be made to coordinate soil gas sampling and air sampling on the same day. Air samples will probably be taken by IH (Chuck Woolen).

Methodology: Analyze for the following compounds:

VOC's - benzene, toluene, ethyl benzene, and xylene.

Light PAH's - naphthalene and acenaphthalene

Other Light SVOC's - phenol and cresol

Soil gas should be measured and reported in terms of concentrations (ppm) with detection limits no greater than 0.1 ppm for each analyte.

SOIL SAMPLING

Description: Approximately 3 samples should be taken from previous boring locations B08, B24 and B35. Samples should be taken at the deeper depths associated with prior sampling from these borings.

Scheduling: Sampling should be scheduled between the hours of 9:00 am and 3:00 pm as stated above. This sampling does not need to be coordinated with air sampling.

Methodology: Samples should be split and analyzed for total chromium and hexavalent chromium.

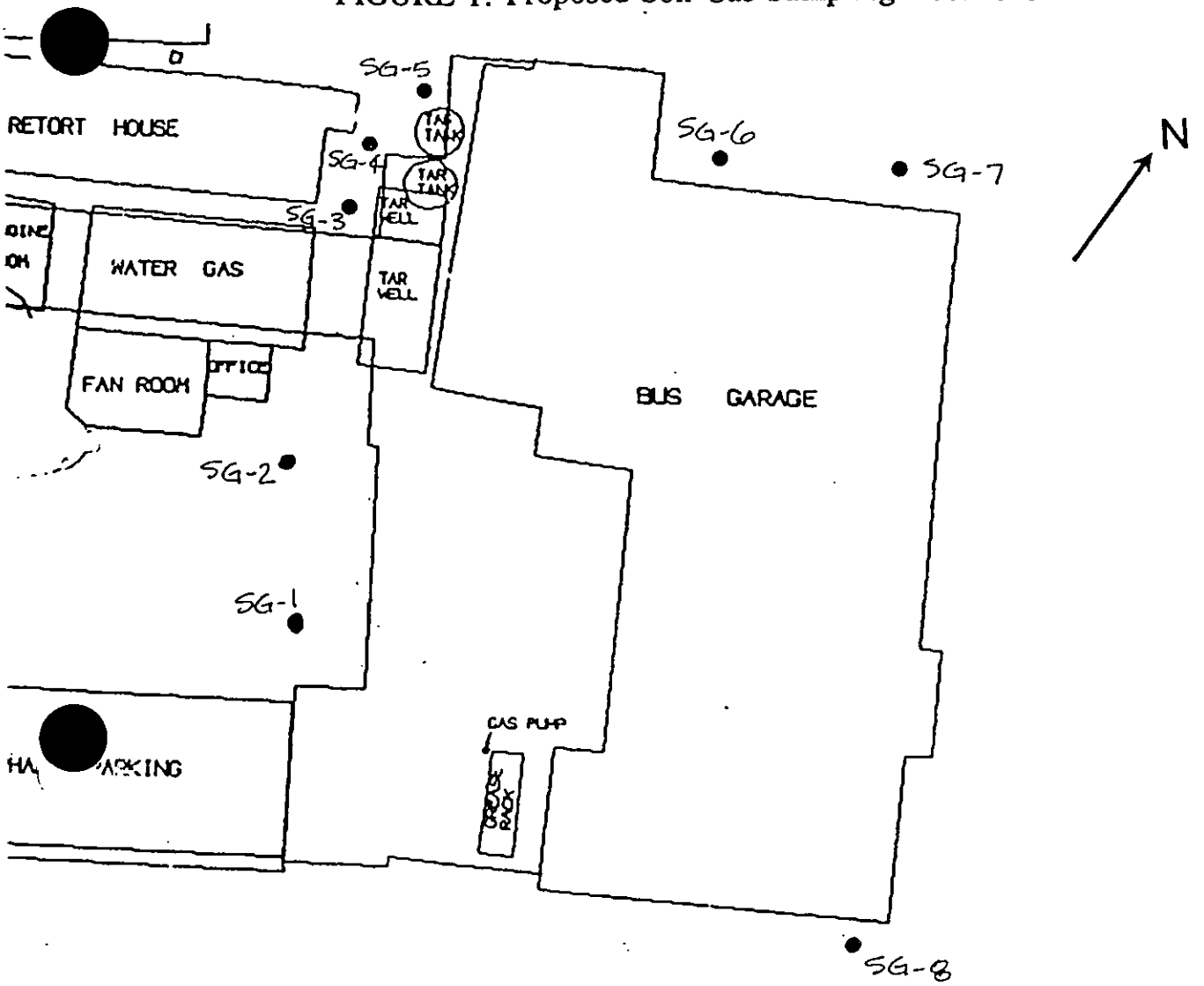
Please let me know your schedule so I can coordinate the air sampling with IH.

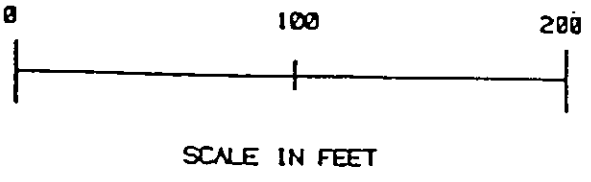
Thanks,

Mark McGary

.cc WJM
DEMS
Ralph Roberts

FIGURE 1. Proposed Soil Gas Sampling Locations





LEGEND

● Soil Gas Sample Location

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL GAS INFORMATION

ENVIRONMENTAL CHEMISTRY
SCIENTIFIC SERVICES
DUKE POWER COMPANY

DATE:	APRIL 1, 1993
LOCATION:	SOUTH BLVD. / CHARLOTTE NC
ANALYSIS DATE:	APRIL 1, 1993
ANALYST:	RGW

PROCEDURE #:	
WORK ID:	4012MGPGVL32
REVIEWED BY:	
PAGE:	

SAMPLE ID	SAMPLE DEPTH	INJEC. VOL.	FIELD GC (QUALITATIVE USE ONLY) SOIL GAS ANALYSIS									
			ISOPENTANE		BENZENE		TOLUENE		M&P XYLENE		O XYLENE	
RUN TIME (SEC)			23		72		156		361		456	
			VOLTS	ppm	VOLTS	ppm	VOLTS	ppm	VOLTS	ppm	VOLTS	ppm
STANDARD			1	1	2.5	1	1.4	1	1.5	1	0.667	1
BLANK			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SG 1			30	3	6.1	0.24	0.006	0.0004	0.0012	0.0008	0.16	0.024
SG 2			126	13	1.7	0.07	0.006	0.0004	ND	ND	ND	ND
SG 3			0.767	0.08	ND	ND	0.013	0.0009	ND	ND	ND	ND
SG 5			6	0.6	0.498	0.02	ND	ND	ND	ND	ND	ND
STD - P			1		2.5		1.4		1.4		0.662	
		P =	0		0		0		1.5		0.75	
SG 4			0.234	0.02	19.1	0.76	0.265	0.02	ND	ND	0.543	0.08
SG 6			2.4	0.24	0.117	0.005	0.179	0.01	0.1	0.007	ND	ND
SG 7			1.1	0.11	0.234	0.009	0.009	0.0006	ND	ND	ND	ND
SG 8			ND	ND	ND	ND	0.009	0.0006	ND	ND	ND	ND
STD - P			1		2.5		1.5		1.6		0.77	
		P=	0		0		6.9		6.5		14	

P = PRECISION ND = NOT DETECTED

NA = NOT APPLICABLE

ENVIRONMENTAL ASSESSMENT FIELD LOG
SOIL GAS INFORMATION

ENVIRONMENTAL CHEMISTRY
SCIENTIFIC SERVICES
DUKE POWER COMPANY

DATE:	MAY 24, 1993
LOCATION:	SOUTH BLVD. / CHARLOTTE NC
ANALYSIS DATE:	MAY 24, 1993
ANALYST:	RGW, PAC

PROCEDURE #:	
WORK ID:	4012MGPGVL32
REVIEWED BY:	PAC
PAGE: 1 OF 1	

SAMPLE ID	SAMPLE DEPTH	INJEC. VOL.	FIELD GC (QUALITATIVE USE ONLY) SOIL GAS ANALYSIS									
			ISOPENTANE		BENZENE		TOLUENE		M&P XYLENE		O XYLENE	
RUN TIME (SEC)			26.8		84.7		184.5		423.6		534.6	
			VOLTS	ppm	VOLTS	ppm	VOLTS	ppm	VOLTS	ppm	VOLTS	ppm
STANDARD BLANK			0.641	1	2.2	1	1.5	1	2.2	1	0.877	1
SG2A				1.2		0.008		0.13		0.03		0.02
SG1A				2.2		0.006		0.17		0.03		0.03
SG3A				0.85		0.003		0.05		0.02		ND
SG4A				0.20		0.89		0.16		0.06		0.017
SG5A				2.1		0.001		0.11		0.02		0.072
SG6A				2.8		ND		0.14		0.03		0.012
SG7A				1.1		0.006		0.14		0.03		0.01
SG8A				1.2		0.018		0.17		0.09		ND
STD - P				0.611		2.1		1.5		2.9		1

P = PRECISION
ND = NOT DETECTED
NA = NOT APPLICABLE

SG4A: LARGE UNIDENTIFIED PEAKS AT 47.1, 99.7, 118.0, 141.0, AND 621.1 SECONDS
SG5A: LARGE UNIDENTIFIED PEAKS AT 40.2, 71.3, 98.5, AND 117.5 SECONDS.
SG6A: LARGE UNIDENTIFIED PEAK AT 40.7 SECONDS.
SG7A: LARGE UNIDENTIFIED PEAK AT 41.5 SECONDS.

SG8A: LARGE UNIDENTIFIED PEAK AT 41.3 SECONDS.

CHEMICALS OF INTEREST

AIR CONTAMINANTS

Sampling Date:	4/1/93										4/8/93										Maximum Conference Rooms
Sample Location:	Crawlspace		Loading Dock		Conference Room		Unused Conf Room		Manhole		Crawlspace		Loading Dock		Conference Room		Unused Conf Room		Manhole		
Compound	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb
VOCs:																					
Benzene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	1.7	1	1.1	1	<PQL	1.1	3.2	1	3.7	1	27	1.2	3.7
Ethylbenzene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	52	1	1.6	1.1	3.9	1	3.2	1	7	1.2	3.9
Toluene	1.9	1	1.2	1.2	1.9	1.2	2.6	1.1	2	1	4.3	1	5.9	1.1	14	1	9.6	1	23	1.2	14
Xylenes (total)	2.6	1	<PQL	1.2	1.8	1.2	2.5	1.1	1.7	1	300	1	9.4	1.1	19	1	15	1	13	1.2	19
Methylated/Chlorinated Aromatics:																					
1,4-Dichlorobenzene	<PQL	1	<PQL	1.2	<PQL	1.2	3.5	1.1	<PQL	1	<PQL	1	<PQL	1.1	15	1	11	1	<PQL	1.2	15
a-methyl styrene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	1.2	1.2	0
1,2,4-Trimethylbenzene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	3.6	1.1	2.6	1	2.1	1	2.6	1.2	2.6
Alkanes:																					
n-Decane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	1.2	1	1	1	<PQL	1.2	1.2
n-Hexane	<PQL	1	<PQL	1.2	1.7	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	3.7	1	1.8	1	<PQL	1.2	3.7
n-Pentane	1.5	1	<PQL	1.2	1.4	1.2	1.5	1.1	2.8	1	1.3	1	1.9	1.1	8	1	6	1	1.9	1.2	8

PQL: Practical Quantitation Limit

TABLE 2-6

SOUTH BLVD MGP SITE
AIR SAMPLING DATA SUMMARY

Lab No:	6		8		7		9		10		5		4		3		1		2	
Canister No:	00032		00047		00017		00048		00016		00045		00044		00046		00020		00043	
Sampling Date:	4/1/93		4/1/93		4/1/93		4/1/93		4/1/93		4/8/93		4/8/93		4/8/93		4/8/93		4/8/93	
Location:	Crawlspace		Loading Dock		Conference Room		Unused Conf Room		Manhole		Crawlspace		Loading Dock		Conference Room		Unused Conf Room		Manhole	
Compound	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL	Conc ppb	PQL
Benzene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	1.7	1	1.1	1	<PQL	1.1	3.2	1	3.7	1	27	1.2
Benzyl Chloride	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Bromodichloromethane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Bromoform	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Bromomethane	<PQL	2	<PQL	2.4	<PQL	2.3	<PQL	2.1	<PQL	2.1	<PQL	2	<PQL	2.2	<PQL	2.1	<PQL	2	<PQL	2.3
Carbon Disulfide	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Carbon Tetrachloride	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Chlorobenzene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Chlorodifluormethane	<PQL	2	<PQL	2.4	<PQL	2.3	4.6	2.1	<PQL	2.1	<PQL	2	<PQL	2.2	6.1	2.1	6.9	2	<PQL	2.3
Chloroethane	<PQL	2	<PQL	2.4	<PQL	2.3	<PQL	2.1	<PQL	2.1	<PQL	2	<PQL	2.2	<PQL	2.1	<PQL	2	<PQL	2.3
Chloroform	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	2.5	1	<PQL	1.1	<PQL	1	<PQL	1	1.4	1.2
Chloromethane	<PQL	2	<PQL	2.4	<PQL	2.3	<PQL	2.1	<PQL	2.1	<PQL	2	<PQL	2.2	<PQL	2.1	<PQL	2	<PQL	2.3
Cumene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
n-Decane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	1.2	1	1.1	1	<PQL	1.2
Dibromochloromethane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,2-Dibromoethane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,2-Dichlorobenzene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,3-Dichlorobenzene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,4-Dichlorobenzene	<PQL	1	<PQL	1.2	<PQL	1.2	3.5	1.1	<PQL	1	<PQL	1	<PQL	1.1	15	1	11	1	<PQL	1.2
Dichlorodifluoromethane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,1-Dichloroethane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	1.7	1	<PQL	1.1	<PQL	1	<PQL	1	1.9	1.2
1,2-Dichloroethane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,1-Dichloroethene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
cis-1,2-Dichloroethene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
trans-1,2-Dichloroethene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,2-Dichloropropane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
cis-1,3-Dichloropropene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
trans-1,3-Dichloropropene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,2-Dichlorotetrafluoroethane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
n-Dodecane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	52	1	1.6	1.1	3.9	1	3.2	1	7	1.2
Ethylbenzene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
n-Heptane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Hexachlorobutadiene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	3.7	1	1.8	1	<PQL	1.2
n-Hexane	<PQL	1	<PQL	1.2	1.7	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Methylene Chloride	9	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	1.2	1.2
a-methyl styrene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
n-Nonane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
n-Octane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
n-Pentane	1.5	1	<PQL	1.2	1.4	1.2	1.5	1.1	2.8	1	1.3	1	1.9	1.1	8	1	6	1	1.9	1.2
Styrene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,1,1,2-Tetrachloroethane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,1,2,2-Tetrachloroethane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Tetrachloroethene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Toluene	1.9	1	1.2	1.2	1.9	1.2	2.6	1.1	2	1	4.3	1	5.9	1.1	14	1	9.6	1	23	1.2
1,2,4-Trichlorobenzene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,1,1-Trichloroethane	1.8	1	<PQL	1.2	2.1	1.2	<PQL	1.1	<PQL	1	14	1	<PQL	1.1	1.7	1	1.7	1	3.5	1.2
1,1,2-Trichloroethane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	3.2	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Trichloroethene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Trichlorofluoromethane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,2,4-Trimethylbenzene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	3.6	1.1	2.6	1	2.1	1	2.6	1.2
1,3,5-Trimethylbenzene	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
1,1,2-Trichlorotrifluoroethane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	1.6	1	<PQL	1	<PQL	1.1	<PQL	1	1.2	1	16	1.2
n-Undecane	<PQL	1	<PQL	1.2	<PQL	1.2	<PQL	1.1	<PQL	1	2.4	1	<PQL	1.1	<PQL	1	<PQL	1	<PQL	1.2
Vinyl Chloride	<PQL	2	<PQL	2.4	<PQL	2.3	<PQL	2.1	<PQL	2.1	<PQL	2	<PQL	2.2	<PQL	2.1	<PQL	2	<PQL	2.3
Xylenes (total)	2.6	1	<PQL	1.2	1.8	1.2	2.5	1.1	1.7	1	300	1	9.4	1.1	19	1	15	1	13	1.2

LAW ENGINEERING

Report of Air Sampling Results

DUKE POWER OPERATIONS CENTER
SOUTH BOULEVARD
CHARLOTTE, NORTH CAROLINA

-Prepared For-

Duke Power Company
13339 Hagers Ferry Road
Huntersville, North Carolina

Law Job No. 225-93142-01

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

May 5, 1993

Duke Power Company
13339 Hagers Ferry Road
Huntersville, North Carolina 28078

Attention: Mr. Mark McGary

Subject: Report of Air Sampling Results
Duke Power Operations Center
South Boulevard
Charlotte, North Carolina
Law Job No. 225-93142-01

Dear Mr. McGary:

Law Engineering (LAW) has completed air sampling at the Operations Center on South Boulevard in Charlotte, North Carolina. The purpose of our services was to obtain and analyze air samples for volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), phenol and cresols at locations as directed by you. This report contains background project information, a description of the field work, and laboratory results. This work was authorized by your acceptance of our Work Authorization Sheet on March 29, 1993.

PROJECT INFORMATION

The South Boulevard site was formerly occupied by a manufactured gas plant (MGP) which produced fuel gas from the destructive distillation of coal. Duke Power provided LAW with specific sampling requirements and locations.

The above project information was obtained from conversations with Mr. McGary and our Mr. Jim Mann.

LAW ENGINEERING, INC.
P.O. BOX 11297
CHARLOTTE, NC 28220
4333 WILMONT ROAD, SUITE 100
CHARLOTTE, NC 28208

704-357-8600
FAX 704-357-8639

ONE OF THE LAW COMPANIES

FIELD WORK

On April 1 and 8, 1993, Mr. Mann performed the sampling survey and obtained air samples for the following contaminants:

Volatile Organic Compounds (VOCs)
Polynuclear Aromatic Hydrocarbons (PAHs)
Phenol and Cresols

The following samples were obtained between 9:00 a.m. and 3:00 p.m. from locations as directed by Duke Power:

		Sample Numbers		
Sampling Date	Sample Location	VOCs	PAHs	Phenol+Cresols
4/01/93	Loading Dock	00047	PNA-2	P-2
	Crawlspace Under Dock	00032	PNA-1	P-5
	Conference Room	00017	PNA-3	P-4
	Manhole	00016	PNA-4	P-3
	Unused Conference Room	00048	PNA-5	P-1
4/08/93	Loading Dock	00044	PAH-7	P-7
	Crawlspace Under Dock	00045	PAH-6	P-6
	Conference Room	00046	PAH-8	P-8
	Manhole	00043	PAH-10	P-10
	Unused Conference Room	00020	PAH-9	P-9

Samples for VOCs were obtained using evacuated Summa™ stainless steel canisters equipped with pressure regulators/flow controllers. Following sampling, the valves were closed and canisters were forwarded to Ross Analytical Services in Strongsville, Ohio. Analysis was performed in general accordance with EPA Method TO-14.

Samples for PAHs were obtained on 37 millimeter Teflon™ filters followed by Orbo™ 43 adsorbent tubes using battery-powered sampling pumps. After sampling, the filters and tubes were capped, wrapped with aluminum foil for protection from light, and shipped refrigerated to Roche Analytics Laboratory in Richmond, Virginia. Analysis was performed in general accordance with NIOSH Method 5506.

Samples for phenol and cresols were obtained on XAD-7™ adsorbent tubes using battery-powered sampling pumps. Following sampling, the tubes were capped and forwarded to Roche Analytics for analysis generally following OSHA Method 32.

LABORATORY RESULTS

Results of VOC analysis indicated the following compounds were measured at concentrations above analytical detection limits:

Compound

Benzene
Chlorodifluromethane
n-Decane
1,4-Dichlorobenzene
1,1-Dichloroethane
Ethyl benzene
n-Hexane
α-methyl styrene
Methylene chloride
n-Pentane
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
1,2,4-Trimethylbenzene
1,1,2-Trichlorotrifluoroethane
Xylenes
Chloroform
n-Undecane

The specific results for each sample are found in Appendix A.

Results of PAH analysis indicated concentrations were less than the detection limits for 17 PAH analytes. The specific results for each sample are found in Appendix B.

Analytical results for phenol and cresols indicated concentrations were less than detection limits. Specific results for each sample are found in Appendix C.

QUALIFICATIONS

This report provides the results of air sampling at the Duke Power Operations Center. The contaminants sampled, sampling locations and sampling dates were determined by Duke Power Company. Conditions and information discovered which deviate from the data contained in this report should be presented to us for our evaluation.

CLOSING

We appreciate the opportunity to have provided our professional air quality engineering services. Mr. Mann will be contacting you regarding any questions you may have about this report or when we can be of further services.

Sincerely,

LAW ENGINEERING

James H. Mann, Jr., CIH
Industrial Hygienist

Robert E. Smith, Jr., P.E.
Chief Engineer

JHM/RES:cag
Attachments

APPENDIX A

VOC Sampling Results

ROSS® Ross Analytical Services, Inc.
16433 Foltz Industrial Parkway • Strongsville, Ohio 44136
(216) 572-3200 • Fax (216) 572-7620 • 1-800-325-7737

CERTIFICATE OF ANALYSIS

Client:

Law Engineering, Inc.
4333 Wilmont Road Suite 100
Charlotte, NC 28208

Attn: Jim Mann

Work Order #: 93-04-103
Client Code: LAW_ENGINEER
Report Date: 04/27/93
Work ID: Canisters for TO-14
Date Received: 04/13/93

Purchase Order: 225-93142-01

SAMPLE IDENTIFICATION

Lab Number	Sample Description	Lab Number	Sample Description
01	Canister # 00020	02	Canister # 00043
03	Canister # 00046	04	Canister # 00044
05	Canister # 00045	06	Canister # 00032
07	Canister # 00017	08	Canister # 00047
09	Canister # 00048	10	Canister # 00016

Data are reported on an as-received basis unless stated otherwise. Practical Quantitation Levels (PQL's) are listed for most analytes. PQL's are the lowest concentration for which a confident numerical result can be reported. Metals and other inorganic data are corrected for laboratory blank values; organic data are not. Unless otherwise noted organic analysis blanks had no targets found above their PQL's.

Certificate approved by
Peggy J. Schuler

TEST METHODOLOGIES

Volatile organics were determined by aliquoting from a SUMMA-polished canister followed by gas chromatography/mass spectrometry as in EPA Method TO-14.

Work Order # 93-04-103 Ross Analytical Services, Inc Reported: 04/27/93

RESULTS BY SAMPLE

Sample Description Canister # 00020 Lab No. 01
Test Description Canisters by TO-14 Test Code TO_14

DATE RUN 04/23/93 UNITS ppbv
INITIAL PRESSURE, TORR 750 FINAL PRESSURE, TORR 1526 DILUTION FACTOR 1.02

CAS No.	COMPOUND	RESULT	PQL	CAS No.	COMPOUND	RESULT	PQL
71-43-2	Benzene	3.7	1.0	76-14-2	1,2-Dichlorotetrafluoroethane	<PQL	1.0
100-44-7	Benzyl chloride	<PQL	1.0	112-40-3	n-Dodecane	<PQL	1.0
75-27-4	Bromodichloromethane	<PQL	1.0	100-41-4	Ethylbenzene	3.2	1.0
75-25-2	Bromoform	<PQL	1.0	142-82-5	n-Heptane	<PQL	1.0
74-83-9	Bromomethane	<PQL	2.0	87-68-3	Hexachlorobutadiene	<PQL	1.0
75-15-0	Carbon disulfide	<PQL	1.0	110-54-3	n-Hexane	1.8	1.0
56-23-5	Carbon tetrachloride	<PQL	1.0	75-09-2	Methylene chloride	<PQL	1.0
108-90-7	Chlorobenzene	<PQL	1.0	98-83-9	α-methyl styrene	<PQL	1.0
75-45-6	Chlorodifluoromethane	6.9	2.0	111-84-2	n-Nonane	<PQL	1.0
75-00-3	Chloroethane	<PQL	2.0	111-65-9	n-Octane	<PQL	1.0
67-66-3	Chloroform	<PQL	1.0	109-66-0	n-Pentane	6.0	1.0
74-87-3	Chloromethane	<PQL	2.0	100-42-5	Styrene	<PQL	1.0
98-82-8	Cumene	<PQL	1.0	630-20-6	1,1,1,2-Tetrachloroethane	<PQL	1.0
124-18-5	n-Decane	1.1	1.0	79-34-5	1,1,2,2-Tetrachloroethane	<PQL	1.0
124-48-1	Dibromochloromethane	<PQL	1.0	127-18-4	Tetrachloroethene	<PQL	1.0
106-93-4	1,2-Dibromoethane	<PQL	1.0	108-88-3	Toluene	9.6	1.0
95-50-16	1,2-Dichlorobenzene	<PQL	1.0	120-82-1	1,2,4-Trichlorobenzene	<PQL	1.0
541-73-1	1,3-Dichlorobenzene	<PQL	1.0	71-55-6	1,1,1-Trichloroethane	1.7	1.0
106-46-7	1,4-Dichlorobenzene	11	1.0	79-00-5	1,1,2-Trichloroethane	<PQL	1.0
75-71-8	Dichlorodifluoromethane	<PQL	1.0	79-01-6	Trichloroethene	<PQL	1.0
75-34-3	1,1-Dichloroethane	<PQL	1.0	75-69-4	Trichlorofluoromethane	<PQL	1.0
107-06-2	1,2-Dichloroethane	<PQL	1.0	96-63-6	1,2,4-Trimethylbenzene	2.1	1.0
75-35-4	1,1-Dichloroethene	<PQL	1.0	108-67-8	1,3,5-Trimethylbenzene	<PQL	1.0
156-59-2	cis-1,2-Dichloroethene	<PQL	1.0	76-13-1	1,1,2-Trichlorotrifluoroethane	1.2	1.0
156-60-5	trans-1,2-Dichloroethene	<PQL	1.0	1120-21-4	n-Undecane	<PQL	1.0
78-87-5	1,2-Dichloropropane	<PQL	1.0	75-01-4	Vinyl chloride	<PQL	2.0
10061-01-5	cis-1,3-Dichloropropene	<PQL	1.0	1330-20-7	Xylenes (total)	15	1.0
10061-02-6	trans-1,3-Dichloropropene	<PQL	1.0				

SURROGATE	%RECOVERY	LIMITS
1,2-Dichloroethane-d4	107	75 - 125
Toluene-d8	97	75 - 125
4-Bromofluorobenzene	99	75 - 125

Work Order # 93-04-103 Ross Analytical Services, Inc Reported: 04/27/93

ple Description Canister # 00043 Lab No. 02
t Description Canisters by TO-14 Test Code TO_14

DATE RUN 04/23/93 UNITS ppbv
INITIAL PRESSURE, TORR 666 FINAL PRESSURE, TORR 1526 DILUTION FACTOR 1.15

CAS No.	COMPOUND	RESULT	PQL	CAS No.	COMPOUND	RESULT	PQL
71-43-2	Benzene	27	1.2	76-14-2	1,2-Dichlorotetrafluoroethane	<PQL	1.2
100-44-7	Benzyl chloride	<PQL	1.2	112-40-3	n-Dodecane	<PQL	1.2
75-27-4	Bromodichloromethane	<PQL	1.2	100-41-4	Ethylbenzene	7.0	1.2
75-25-2	Bromoform	<PQL	1.2	142-82-5	n-Heptane	<PQL	1.2
74-83-9	Bromomethane	<PQL	2.3	87-68-3	Hexachlorobutadiene	<PQL	1.2
75-15-0	Carbon disulfide	<PQL	1.2	110-54-3	n-Hexane	<PQL	1.2
56-23-5	Carbon tetrachloride	<PQL	1.2	75-09-2	Methylene chloride	<PQL	1.2
108-90-7	Chlorobenzene	<PQL	1.2	98-83-9	α-methyl styrene	1.2	1.2
75-45-6	Chlorodifluoromethane	<PQL	2.3	111-84-2	n-Nonane	<PQL	1.2
75-00-3	Chloroethane	<PQL	2.3	111-65-9	n-Octane	<PQL	1.2
67-66-3	Chloroform	1.4	1.2	109-66-0	n-Pentane	1.9	1.2
74-87-3	Chloromethane	<PQL	2.3	100-42-5	Styrene	<PQL	1.2
98-82-8	Cumene	<PQL	1.2	630-20-6	1,1,1,2-Tetrachloroethane	<PQL	1.2
124-18-5	n-Decane	<PQL	1.2	79-34-5	1,1,2,2-Tetrachloroethane	<PQL	1.2
124-48-1	Dibromochloromethane	<PQL	1.2	127-18-4	Tetrachloroethene	<PQL	1.2
106-93-4	1,2-Dibromoethane	<PQL	1.2	108-88-3	Toluene	23	1.2
95-50-16	1,2-Dichlorobenzene	<PQL	1.2	120-82-1	1,2,4-Trichlorobenzene	<PQL	1.2
541-73-1	1,3-Dichlorobenzene	<PQL	1.2	71-55-6	1,1,1-Trichloroethane	3.5	1.2
106-46-7	1,4-Dichlorobenzene	<PQL	1.2	79-00-5	1,1,2-Trichloroethane	<PQL	1.2
75-71-8	Dichlorodifluoromethane	<PQL	1.2	79-01-6	Trichloroethene	<PQL	1.2
75-34-3	1,1-Dichloroethane	1.9	1.2	75-69-4	Trichlorofluoromethane	<PQL	1.2
107-06-2	1,2-Dichloroethane	<PQL	1.2	96-63-6	1,2,4-Trimethylbenzene	2.6	1.2
75-35-4	1,1-Dichloroethene	<PQL	1.2	108-67-8	1,3,5-Trimethylbenzene	<PQL	1.2
156-59-2	cis-1,2-Dichloroethene	<PQL	1.2	76-13-1	1,1,2-Trichlorotrifluoroethane	16	1.2
156-60-5	trans-1,2-Dichloroethene	<PQL	1.2	1120-21-4	n-Undecane	<PQL	1.2
78-87-5	1,2-Dichloropropane	<PQL	1.2	75-01-4	Vinyl chloride	<PQL	2.3
10061-01-5	cis-1,3-Dichloropropene	<PQL	1.2	1330-20-7	Xylenes (total)	13	1.2
10061-02-6	trans-1,3-Dichloropropene	<PQL	1.2				

SURROGATE	%RECOVERY	LIMITS
1,2-Dichloroethane-d4	107	75 - 125
Toluene-d8	100	75 - 125
4-Bromofluorobenzene	99	75 - 125

Work Order # 93-04-103 Ross Analytical Services, Inc Reported: 04/27/93

mple Description Canister # 00046 Lab No. 03
st Description Canisters by TO-14 Test Code TO_14

DATE RUN 04/23/93 UNITS ppbv
INITIAL PRESSURE, TORR 736 FINAL PRESSURE, TORR 1526 DILUTION FACTOR 1.04

CAS No.	COMPOUND	RESULT	PQL	CAS No.	COMPOUND	RESULT	PQL
71-43-2	Benzene	3.2	1.0	76-14-2	1,2-Dichlorotetrafluoroethane	<PQL	1.0
100-44-7	Benzyl chloride	<PQL	1.0	112-40-3	n-Dodecane	<PQL	1.0
75-27-4	Bromodichloromethane	<PQL	1.0	100-41-4	Ethylbenzene	3.9	1.0
75-25-2	Bromoform	<PQL	1.0	142-82-5	n-Heptane	<PQL	1.0
74-83-9	Bromomethane	<PQL	2.1	87-68-3	Hexachlorobutadiene	<PQL	1.0
75-15-0	Carbon disulfide	<PQL	1.0	110-54-3	n-Hexane	3.7	1.0
56-23-5	Carbon tetrachloride	<PQL	1.0	75-09-2	Methylene chloride	<PQL	1.0
108-90-7	Chlorobenzene	<PQL	1.0	98-83-9	α-methyl styrene	<PQL	1.0
75-45-6	Chlorodifluoromethane	6.1	2.1	111-84-2	n-Nonane	<PQL	1.0
75-00-3	Chloroethane	<PQL	2.1	111-65-9	n-Octane	<PQL	1.0
67-66-3	Chloroform	<PQL	1.0	109-66-0	n-Pentane	8.0	1.0
74-87-3	Chloromethane	<PQL	2.1	100-42-5	Styrene	<PQL	1.0
98-82-8	Cumene	<PQL	1.0	630-20-6	1,1,1,2-Tetrachloroethane	<PQL	1.0
124-18-5	n-Decane	1.2	1.0	79-34-5	1,1,2,2-Tetrachloroethane	<PQL	1.0
124-48-1	Dibromochloromethane	<PQL	1.0	127-18-4	Tetrachloroethene	<PQL	1.0
106-93-4	1,2-Dibromoethane	<PQL	1.0	108-88-3	Toluene	14	1.0
95-50-16	1,2-Dichlorobenzene	<PQL	1.0	120-82-1	1,2,4-Trichlorobenzene	<PQL	1.0
541-73-1	1,3-Dichlorobenzene	<PQL	1.0	71-55-6	1,1,1-Trichloroethane	1.7	1.0
106-46-7	1,4-Dichlorobenzene	15	1.0	79-00-5	1,1,2-Trichloroethane	<PQL	1.0
75-71-8	Dichlorodifluoromethane	<PQL	1.0	79-01-6	Trichloroethene	<PQL	1.0
75-34-3	1,1-Dichloroethane	<PQL	1.0	75-69-4	Trichlorofluoromethane	<PQL	1.0
107-06-2	1,2-Dichloroethane	<PQL	1.0	96-63-6	1,2,4-Trimethylbenzene	2.6	1.0
75-35-4	1,1-Dichloroethene	<PQL	1.0	108-67-8	1,3,5-Trimethylbenzene	<PQL	1.0
156-59-2	cis-1,2-Dichloroethene	<PQL	1.0	76-13-1	1,1,2-Trichlorotrifluoroethane	<PQL	1.0
156-60-5	trans-1,2-Dichloroethene	<PQL	1.0	1120-21-4	n-Undecane	<PQL	1.0
78-87-5	1,2-Dichloropropane	<PQL	1.0	75-01-4	Vinyl chloride	<PQL	2.1
10061-01-5	cis-1,3-Dichloropropene	<PQL	1.0	1330-20-7	Xylenes (total)	19	1.0
10061-02-6	trans-1,3-Dichloropropene	<PQL	1.0				

SURROGATE	%RECOVERY	LIMITS
1,2-Dichloroethane-d4	105	75 - 125
Toluene-d8	98	75 - 125
4-Bromofluorobenzene	100	75 - 125

Work Order # 93-04-103 Ross Analytical Services, Inc Reported: 04/27/93

Sample Description Canister # 00044 Lab No. 04
Test Description Canisters by TO-14 Test Code TO_14

DATE RUN 04/23/93 UNITS ppbv
INITIAL PRESSURE, TORR 706 FINAL PRESSURE, TORR 1526 DILUTION FACTOR 1.08

CAS No.	COMPOUND	RESULT	PQL
71-43-2	Benzene	<PQL	1.1
100-44-7	Benzyl chloride	<PQL	1.1
75-27-4	Bromodichloromethane	<PQL	1.1
75-25-2	Bromoform	<PQL	1.1
74-83-9	Bromomethane	<PQL	2.2
75-15-0	Carbon disulfide	<PQL	1.1
56-23-5	Carbon tetrachloride	<PQL	1.1
108-90-7	Chlorobenzene	<PQL	1.1
75-45-6	Chlorodifluoromethane	<PQL	2.2
75-00-3	Chloroethane	<PQL	2.2
67-66-3	Chloroform	<PQL	1.1
74-87-3	Chloromethane	<PQL	2.2
98-82-8	Cumene	<PQL	1.1
124-18-5	n-Decane	<PQL	1.1
124-48-1	Dibromochloromethane	<PQL	1.1
106-93-4	1,2-Dibromoethane	<PQL	1.1
95-50-16	1,2-Dichlorobenzene	<PQL	1.1
541-73-1	1,3-Dichlorobenzene	<PQL	1.1
106-46-7	1,4-Dichlorobenzene	<PQL	1.1
75-71-8	Dichlorodifluoromethane	<PQL	1.1
75-34-3	1,1-Dichloroethane	<PQL	1.1
107-06-2	1,2-Dichloroethane	<PQL	1.1
75-35-4	1,1-Dichloroethene	<PQL	1.1
156-59-2	cis-1,2-Dichloroethene	<PQL	1.1
156-60-5	trans-1,2-Dichloroethene	<PQL	1.1
78-87-5	1,2-Dichloropropane	<PQL	1.1
10061-01-5	cis-1,3-Dichloropropene	<PQL	1.1
10061-02-6	trans-1,3-Dichloropropene	<PQL	1.1
76-14-2	1,2-Dichlorotetrafluoroethane	<PQL	1.1
112-40-3	n-Dodecane	<PQL	1.1
100-41-4	Ethylbenzene	1.6	1.1
142-82-5	n-Heptane	<PQL	1.1
87-68-3	Hexachlorobutadiene	<PQL	1.1
110-54-3	n-Hexane	<PQL	1.1
75-09-2	Methylene chloride	<PQL	1.1
98-83-9	α-methyl styrene	<PQL	1.1
111-84-2	n-Nonane	<PQL	1.1
111-65-9	n-Octane	<PQL	1.1
109-66-0	n-Pentane	1.9	1.1
100-42-5	Styrene	<PQL	1.1
630-20-6	1,1,1,2-Tetrachloroethane	<PQL	1.1
79-34-5	1,1,2,2-Tetrachloroethane	<PQL	1.1
127-18-4	Tetrachloroethene	<PQL	1.1
108-88-3	Toluene	5.9	1.1
120-82-1	1,2,4-Trichlorobenzene	<PQL	1.1
71-55-6	1,1,1-Trichloroethane	<PQL	1.1
79-00-5	1,1,2-Trichloroethane	<PQL	1.1
79-01-6	Trichloroethene	<PQL	1.1
75-69-4	Trichlorofluoromethane	<PQL	1.1
96-63-6	1,2,4-Trimethylbenzene	3.6	1.1
108-67-8	1,3,5-Trimethylbenzene	<PQL	1.1
76-13-1	1,1,2-Trichlorotrifluoroethane	<PQL	1.1
1120-21-4	n-Undecane	2.4	1.1
75-01-4	Vinyl chloride	<PQL	2.2
1330-20-7	Xylenes (total)	9.4	1.1

SURROGATE	%RECOVERY	LIMITS
1,2-Dichloroethane-d4	105	75 - 125
Toluene-d8	100	75 - 125
4-Bromofluorobenzene	98	75 - 125

Work Order # 93-04-103 Ross Analytical Services, Inc Reported: 04/27/93

mple Description Canister # 00045 Lab No. 05
st Description Canisters by TO-14 Test Code TO_14

DATE RUN 04/23/93 UNITS ppbv
INITIAL PRESSURE, TORR 776 FINAL PRESSURE, TORR 1526 DILUTION FACTOR 0.98

CAS No.	COMPOUND	RESULT	PQL	CAS No.	COMPOUND	RESULT	PQL
71-43-2	Benzene	1.1	1.0	76-14-2	1,2-Dichlorotetrafluoroethane	<PQL	1.0
100-44-7	Benzyl chloride	<PQL	1.0	112-40-3	n-Dodecane	<PQL	1.0
75-27-4	Bromodichloromethane	<PQL	1.0	100-41-4	Ethylbenzene	52	1.0
75-25-2	Bromoform	<PQL	1.0	142-82-5	n-Heptane	<PQL	1.0
74-83-9	Bromomethane	<PQL	2.0	87-68-3	Hexachlorobutadiene	<PQL	1.0
75-15-0	Carbon disulfide	<PQL	1.0	110-54-3	n-Hexane	<PQL	1.0
56-23-5	Carbon tetrachloride	<PQL	1.0	75-09-2	Methylene chloride	<PQL	1.0
108-90-7	Chlorobenzene	<PQL	1.0	98-83-9	α-methyl styrene	<PQL	1.0
75-45-6	Chlorodifluoromethane	<PQL	2.0	111-84-2	n-Nonane	<PQL	1.0
75-00-3	Chloroethane	<PQL	2.0	111-65-9	n-Octane	<PQL	1.0
67-66-3	Chloroform	2.5	1.0	109-66-0	n-Pentane	1.3	1.0
74-87-3	Chloromethane	<PQL	2.0	100-42-5	Styrene	<PQL	1.0
98-82-8	Cumene	<PQL	1.0	630-20-6	1,1,1,2-Tetrachloroethane	<PQL	1.0
124-18-5	n-Decane	<PQL	1.0	79-34-5	1,1,2,2-Tetrachloroethane	<PQL	1.0
124-48-1	Dibromochloromethane	<PQL	1.0	127-18-4	Tetrachloroethene	<PQL	1.0
106-93-4	1,2-Dibromoethane	<PQL	1.0	108-88-3	Toluene	4.3	1.0
95-50-16	1,2-Dichlorobenzene	<PQL	1.0	120-82-1	1,2,4-Trichlorobenzene	<PQL	1.0
541-73-1	1,3-Dichlorobenzene	<PQL	1.0	71-55-6	1,1,1-Trichloroethane	14	1.0
106-46-7	1,4-Dichlorobenzene	<PQL	1.0	79-00-5	1,1,2-Trichloroethane	<PQL	1.0
75-71-8	Dichlorodifluoromethane	<PQL	1.0	79-01-6	Trichloroethene	<PQL	1.0
75-34-3	1,1-Dichloroethane	1.7	1.0	75-69-4	Trichlorofluoromethane	<PQL	1.0
107-06-2	1,2-Dichloroethane	<PQL	1.0	96-63-6	1,2,4-Trimethylbenzene	<PQL	1.0
75-35-4	1,1-Dichloroethene	<PQL	1.0	108-67-8	1,3,5-Trimethylbenzene	<PQL	1.0
156-59-2	cis-1,2-Dichloroethene	<PQL	1.0	76-13-1	1,1,2-Trichlorotrifluoroethane	<PQL	1.0
156-60-5	trans-1,2-Dichloroethene	<PQL	1.0	1120-21-4	n-Undecane	<PQL	1.0
78-87-5	1,2-Dichloropropane	<PQL	1.0	75-01-4	Vinyl chloride	<PQL	2.0
10061-01-5	cis-1,3-Dichloropropene	<PQL	1.0	1330-20-7	Xylenes (total)	300	1.0
10061-02-6	trans-1,3-Dichloropropene	<PQL	1.0				

SURROGATE	%RECOVERY	LIMITS
1,2-Dichloroethane-d4	107	75 - 125
Toluene-d8	98	75 - 125
4-Bromofluorobenzene	101	75 - 125

Work Order # 93-04-103 Ross Analytical Services, Inc Reported: 04/27/93

mple Description Canister # 00032 Lab No. 06
est Description Canisters by TO-14 Test Code TO_14

DATE RUN 04/23/93 UNITS ppbv
INITIAL PRESSURE, TORR 752 FINAL PRESSURE, TORR 1526 DILUTION FACTOR 1.01

CAS No.	COMPOUND	RESULT	PQL	CAS No.	COMPOUND	RESULT	PQL
71-43-2	Benzene	<PQL	1.0	76-14-2	1,2-Dichlorotetrafluoroethane	<PQL	1.0
100-44-7	Benzyl chloride	<PQL	1.0	112-40-3	n-Dodecane	<PQL	1.0
75-27-4	Bromodichloromethane	<PQL	1.0	100-41-4	Ethylbenzene	<PQL	1.0
75-25-2	Bromoform	<PQL	1.0	142-82-5	n-Heptane	<PQL	1.0
74-83-9	Bromomethane	<PQL	2.0	87-68-3	Hexachlorobutadiene	<PQL	1.0
75-15-0	Carbon disulfide	<PQL	1.0	110-54-3	n-Hexane	<PQL	1.0
56-23-5	Carbon tetrachloride	<PQL	1.0	75-09-2	Methylene chloride	9.0	1.0
108-90-7	Chlorobenzene	<PQL	1.0	98-83-9	α-methyl styrene	<PQL	1.0
75-45-6	Chlorodifluoromethane	<PQL	2.0	111-84-2	n-Nonane	<PQL	1.0
75-00-3	Chloroethane	<PQL	2.0	111-65-9	n-Octane	<PQL	1.0
67-66-3	Chloroform	<PQL	1.0	109-66-0	n-Pentane	1.5	1.0
74-87-3	Chloromethane	<PQL	2.0	100-42-5	Styrene	<PQL	1.0
98-82-8	Cumene	<PQL	1.0	630-20-6	1,1,1,2-Tetrachloroethane	<PQL	1.0
124-18-5	n-Decane	<PQL	1.0	79-34-5	1,1,2,2-Tetrachloroethane	<PQL	1.0
124-48-1	Dibromochloromethane	<PQL	1.0	127-18-4	Tetrachloroethene	<PQL	1.0
106-93-4	1,2-Dibromoethane	<PQL	1.0	108-88-3	Toluene	1.9	1.0
95-50-16	1,2-Dichlorobenzene	<PQL	1.0	120-82-1	1,2,4-Trichlorobenzene	<PQL	1.0
541-73-1	1,3-Dichlorobenzene	<PQL	1.0	71-55-6	1,1,1-Trichloroethane	1.8	1.0
106-46-7	1,4-Dichlorobenzene	<PQL	1.0	79-00-5	1,1,2-Trichloroethane	<PQL	1.0
75-71-8	Dichlorodifluoromethane	<PQL	1.0	79-01-6	Trichloroethene	<PQL	1.0
75-34-3	1,1-Dichloroethane	<PQL	1.0	75-69-4	Trichlorofluoromethane	<PQL	1.0
107-06-2	1,2-Dichloroethane	<PQL	1.0	96-63-6	1,2,4-Trimethylbenzene	<PQL	1.0
75-35-4	1,1-Dichloroethene	<PQL	1.0	108-67-8	1,3,5-Trimethylbenzene	<PQL	1.0
156-59-2	cis-1,2-Dichloroethene	<PQL	1.0	76-13-1	1,1,2-Trichlorotrifluoroethane	<PQL	1.0
156-60-5	trans-1,2-Dichloroethene	<PQL	1.0	1120-21-4	n-Undecane	<PQL	1.0
78-87-5	1,2-Dichloropropane	<PQL	1.0	75-01-4	Vinyl chloride	<PQL	2.0
10061-01-5	cis-1,3-Dichloropropene	<PQL	1.0	1330-20-7	Xylenes (total)	2.6	1.0
10061-02-6	trans-1,3-Dichloropropene	<PQL	1.0				

SURROGATE	%RECOVERY	LIMITS
1,2-Dichloroethane-d4	105	75 - 125
Toluene-d8	99	75 - 125
4-Bromofluorobenzene	100	75 - 125

Work Order # 93-04-103 Ross Analytical Services, Inc Reported: 04/27/93

mple Description Canister # 00017 Lab No. 07
st Description Canisters by TO-14 Test Code TO_14

DATE RUN 04/23/93 UNITS ppbv
INITIAL PRESSURE, TORR 652 FINAL PRESSURE, TORR 1526 DILUTION FACTOR 1.17

CAS No.	COMPOUND	RESULT	PQL	CAS No.	COMPOUND	RESULT	PQL
71-43-2	Benzene	<PQL	1.2	76-14-2	1,2-Dichlorotetrafluoroethane	<PQL	1.2
100-44-7	Benzyl chloride	<PQL	1.2	112-40-3	n-Dodecane	<PQL	1.2
75-27-4	Bromodichloromethane	<PQL	1.2	100-41-4	Ethylbenzene	<PQL	1.2
75-25-2	Bromoform	<PQL	1.2	142-82-5	n-Heptane	<PQL	1.2
74-83-9	Bromomethane	<PQL	2.3	87-68-3	Hexachlorobutadiene	<PQL	1.2
75-15-0	Carbon disulfide	<PQL	1.2	110-54-3	n-Hexane	1.7	1.2
56-23-5	Carbon tetrachloride	<PQL	1.2	75-09-2	Methylene chloride	<PQL	1.2
108-90-7	Chlorobenzene	<PQL	1.2	98-83-9	α-methyl styrene	<PQL	1.2
75-45-6	Chlorodifluoromethane	<PQL	2.3	111-84-2	n-Nonane	<PQL	1.2
75-00-3	Chloroethane	<PQL	2.3	111-65-9	n-Octane	<PQL	1.2
67-66-3	Chloroform	<PQL	1.2	109-66-0	n-Pentane	1.4	1.2
74-87-3	Chloromethane	<PQL	2.3	100-42-5	Styrene	<PQL	1.2
98-82-8	Cumene	<PQL	1.2	630-20-6	1,1,1,2-Tetrachloroethane	<PQL	1.2
124-18-5	n-Decane	<PQL	1.2	79-34-5	1,1,2,2-Tetrachloroethane	<PQL	1.2
124-48-1	Dibromochloromethane	<PQL	1.2	127-18-4	Tetrachloroethene	<PQL	1.2
106-93-4	1,2-Dibromoethane	<PQL	1.2	108-88-3	Toluene	1.9	1.2
95-50-16	1,2-Dichlorobenzene	<PQL	1.2	120-82-1	1,2,4-Trichlorobenzene	<PQL	1.2
541-73-1	1,3-Dichlorobenzene	<PQL	1.2	71-55-6	1,1,1-Trichloroethane	2.1	1.2
106-46-7	1,4-Dichlorobenzene	<PQL	1.2	79-00-5	1,1,2-Trichloroethane	<PQL	1.2
75-71-8	Dichlorodifluoromethane	<PQL	1.2	79-01-6	Trichloroethene	<PQL	1.2
75-34-3	1,1-Dichloroethane	<PQL	1.2	75-69-4	Trichlorofluoromethane	<PQL	1.2
107-06-2	1,2-Dichloroethane	<PQL	1.2	96-63-6	1,2,4-Trimethylbenzene	<PQL	1.2
75-35-4	1,1-Dichloroethene	<PQL	1.2	108-67-8	1,3,5-Trimethylbenzene	<PQL	1.2
156-59-2	cis-1,2-Dichloroethene	<PQL	1.2	76-13-1	1,1,2-Trichlorotrifluoroethane	<PQL	1.2
156-60-5	trans-1,2-Dichloroethene	<PQL	1.2	1120-21-4	n-Undecane	<PQL	1.2
78-87-5	1,2-Dichloropropane	<PQL	1.2	75-01-4	Vinyl chloride	<PQL	2.3
10061-01-5	cis-1,3-Dichloropropene	<PQL	1.2	1330-20-7	Xylenes (total)	1.8	1.2
10061-02-6	trans-1,3-Dichloropropene	<PQL	1.2				

SURROGATE	%RECOVERY	LIMITS
1,2-Dichloroethane-d4	105	75 - 125
Toluene-d8	97	75 - 125
4-Bromofluorobenzene	97	75 - 125

Work Order # 93-04-103 Ross Analytical Services, Inc Reported: 04/27/93

Sample Description Canister # 00047 Lab No. 08
Test Description Canisters by TO-14 Test Code TO_14

DATE RUN 04/23/93 UNITS ppbv
INITIAL PRESSURE, TORR 644 FINAL PRESSURE, TORR 1526 DILUTION FACTOR 1.18

CAS No.	COMPOUND	RESULT	PQL
71-43-2	Benzene	<PQL	1.2
100-44-7	Benzyl chloride	<PQL	1.2
75-27-4	Bromodichloromethane	<PQL	1.2
75-25-2	Bromoform	<PQL	1.2
74-83-9	Bromomethane	<PQL	2.4
75-15-0	Carbon disulfide	<PQL	1.2
56-23-5	Carbon tetrachloride	<PQL	1.2
108-90-7	Chlorobenzene	<PQL	1.2
75-45-6	Chlorodifluoromethane	<PQL	2.4
75-00-3	Chloroethane	<PQL	2.4
67-66-3	Chloroform	<PQL	1.2
74-87-3	Chloromethane	<PQL	2.4
98-82-8	Cumene	<PQL	1.2
124-18-5	n-Decane	<PQL	1.2
124-48-1	Dibromochloromethane	<PQL	1.2
106-93-4	1,2-Dibromoethane	<PQL	1.2
95-50-16	1,2-Dichlorobenzene	<PQL	1.2
541-73-1	1,3-Dichlorobenzene	<PQL	1.2
106-46-7	1,4-Dichlorobenzene	<PQL	1.2
75-71-8	Dichlorodifluoromethane	<PQL	1.2
75-34-3	1,1-Dichloroethane	<PQL	1.2
107-06-2	1,2-Dichloroethane	<PQL	1.2
75-35-4	1,1-Dichloroethene	<PQL	1.2
156-59-2	cis-1,2-Dichloroethene	<PQL	1.2
156-60-5	trans-1,2-Dichloroethene	<PQL	1.2
78-87-5	1,2-Dichloropropane	<PQL	1.2
10061-01-5	cis-1,3-Dichloropropene	<PQL	1.2
10061-02-6	trans-1,3-Dichloropropene	<PQL	1.2
76-14-2	1,2-Dichlorotetrafluoroethane	<PQL	1.2
112-40-3	n-Dodecane	<PQL	1.2
100-41-4	Ethylbenzene	<PQL	1.2
142-82-5	n-Heptane	<PQL	1.2
87-68-3	Hexachlorobutadiene	<PQL	1.2
110-54-3	n-Hexane	<PQL	1.2
75-09-2	Methylene chloride	<PQL	1.2
98-83-9	α-methyl styrene	<PQL	1.2
111-84-2	n-Nonane	<PQL	1.2
111-65-9	n-Octane	<PQL	1.2
109-66-0	n-Pentane	<PQL	1.2
100-42-5	Styrene	<PQL	1.2
630-20-6	1,1,1,2-Tetrachloroethane	<PQL	1.2
79-34-5	1,1,2,2-Tetrachloroethane	<PQL	1.2
127-18-4	Tetrachloroethene	<PQL	1.2
108-88-3	Toluene	1.2	1.2
120-82-1	1,2,4-Trichlorobenzene	<PQL	1.2
71-55-6	1,1,1-Trichloroethane	<PQL	1.2
79-00-5	1,1,2-Trichloroethane	<PQL	1.2
79-01-6	Trichloroethene	<PQL	1.2
75-69-4	Trichlorofluoromethane	<PQL	1.2
96-63-6	1,2,4-Trimethylbenzene	<PQL	1.2
108-67-8	1,3,5-Trimethylbenzene	<PQL	1.2
76-13-1	1,1,2-Trichlorotrifluoroethane	<PQL	1.2
1120-21-4	n-Undecane	<PQL	1.2
75-01-4	Vinyl chloride	<PQL	2.4
1330-20-7	Xylenes (total)	<PQL	1.2

SURROGATE	%RECOVERY	LIMITS
1,2-Dichloroethane-d4	106	75 - 125
Toluene-d8	98	75 - 125
4-Bromofluorobenzene	97	75 - 125

Work Order # 93-04-103 Ross Analytical Services, Inc Reported: 04/27/93

Sample Description Canister # 00048 Lab No. 09
Test Description Canisters by TO-14 Test Code TO_14

DATE RUN 04/23/93 UNITS ppbv
INITIAL PRESSURE, TORR 720 FINAL PRESSURE, TORR 1526 DILUTION FACTOR 1.06

CAS No.	COMPOUND	RESULT	PQL
71-43-2	Benzene	<PQL	1.1
100-44-7	Benzyl chloride	<PQL	1.1
75-27-4	Bromodichloromethane	<PQL	1.1
75-25-2	Bromoform	<PQL	1.1
74-83-9	Bromomethane	<PQL	2.1
75-15-0	Carbon disulfide	<PQL	1.1
56-23-5	Carbon tetrachloride	<PQL	1.1
108-90-7	Chlorobenzene	<PQL	1.1
75-45-6	Chlorodifluoromethane	4.6	2.1
75-00-3	Chloroethane	<PQL	2.1
67-66-3	Chloroform	<PQL	1.1
74-87-3	Chloromethane	<PQL	2.1
98-82-8	Cumene	<PQL	1.1
124-18-5	n-Decane	<PQL	1.1
124-48-1	Dibromochloromethane	<PQL	1.1
106-93-4	1,2-Dibromoethane	<PQL	1.1
95-50-16	1,2-Dichlorobenzene	<PQL	1.1
541-73-1	1,3-Dichlorobenzene	<PQL	1.1
106-46-7	1,4-Dichlorobenzene	3.5	1.1
75-71-8	Dichlorodifluoromethane	<PQL	1.1
75-34-3	1,1-Dichloroethane	<PQL	1.1
107-06-2	1,2-Dichloroethane	<PQL	1.1
75-35-4	1,1-Dichloroethene	<PQL	1.1
156-59-2	cis-1,2-Dichloroethene	<PQL	1.1
156-60-5	trans-1,2-Dichloroethene	<PQL	1.1
78-87-5	1,2-Dichloropropane	<PQL	1.1
10061-01-5	cis-1,3-Dichloropropene	<PQL	1.1
10061-02-6	trans-1,3-Dichloropropene	<PQL	1.1
76-14-2	1,2-Dichlorotetrafluoroethane	<PQL	1.1
112-40-3	n-Dodecane	<PQL	1.1
100-41-4	Ethylbenzene	<PQL	1.1
142-82-5	n-Heptane	<PQL	1.1
87-68-3	Hexachlorobutadiene	<PQL	1.1
110-54-3	n-Hexane	<PQL	1.1
75-09-2	Methylene chloride	<PQL	1.1
98-83-9	α-methyl styrene	<PQL	1.1
111-84-2	n-Nonane	<PQL	1.1
111-65-9	n-Octane	<PQL	1.1
109-66-0	n-Pentane	1.5	1.1
100-42-5	Styrene	<PQL	1.1
630-20-6	1,1,1,2-Tetrachloroethane	<PQL	1.1
79-34-5	1,1,2,2-Tetrachloroethane	<PQL	1.1
127-18-4	Tetrachloroethene	<PQL	1.1
108-88-3	Toluene	2.6	1.1
120-82-1	1,2,4-Trichlorobenzene	<PQL	1.1
71-55-6	1,1,1-Trichloroethane	<PQL	1.1
79-00-5	1,1,2-Trichloroethane	<PQL	1.1
79-01-6	Trichloroethene	<PQL	1.1
75-69-4	Trichlorofluoromethane	<PQL	1.1
96-63-6	1,2,4-Trimethylbenzene	<PQL	1.1
108-67-8	1,3,5-Trimethylbenzene	<PQL	1.1
76-13-1	1,1,2-Trichlorotrifluoroethane	<PQL	1.1
1120-21-4	n-Undecane	<PQL	1.1
75-01-4	Vinyl chloride	<PQL	2.1
1330-20-7	Xylenes (total)	2.5	1.1

SURROGATE	%RECOVERY	LIMITS
1,2-Dichloroethane-d4	104	75 - 125
Toluene-d8	98	75 - 125
4-Bromofluorobenzene	100	75 - 125

Work Order # 93-04-103 Ross Analytical Services, Inc Reported: 04/27/93

mple Description Canister # 00016 Lab No. 10
st Description Canisters by TO-14 Test Code TO_14

DATE RUN 04/23/93 UNITS ppbv
INITIAL PRESSURE, TORR 742 FINAL PRESSURE, TORR 1526 DILUTION FACTOR 1.03

CAS No.	COMPOUND	RESULT	PQL
71-43-2	Benzene	1.7	1.0
100-44-7	Benzyl chloride	<PQL	1.0
75-27-4	Bromodichloromethane	<PQL	1.0
75-25-2	Bromoform	<PQL	1.0
74-83-9	Bromomethane	<PQL	2.1
75-15-0	Carbon disulfide	<PQL	1.0
56-23-5	Carbon tetrachloride	<PQL	1.0
108-90-7	Chlorobenzene	<PQL	1.0
75-45-6	Chlorodifluoromethane	<PQL	2.1
75-00-3	Chloroethane	<PQL	2.1
67-66-3	Chloroform	<PQL	1.0
74-87-3	Chloromethane	<PQL	2.1
98-82-8	Cumene	<PQL	1.0
124-18-5	n-Decane	<PQL	1.0
124-48-1	Dibromochloromethane	<PQL	1.0
106-93-4	1,2-Dibromoethane	<PQL	1.0
95-50-16	1,2-Dichlorobenzene	<PQL	1.0
541-73-1	1,3-Dichlorobenzene	<PQL	1.0
106-46-7	1,4-Dichlorobenzene	<PQL	1.0
75-71-8	Dichlorodifluoromethane	<PQL	1.0
75-34-3	1,1-Dichloroethane	<PQL	1.0
107-06-2	1,2-Dichloroethane	<PQL	1.0
75-35-4	1,1-Dichloroethene	<PQL	1.0
156-59-2	cis-1,2-Dichloroethene	<PQL	1.0
156-60-5	trans-1,2-Dichloroethene	<PQL	1.0
78-87-5	1,2-Dichloropropane	<PQL	1.0
10061-01-5	cis-1,3-Dichloropropene	<PQL	1.0
10061-02-6	trans-1,3-Dichloropropene	<PQL	1.0
76-14-2	1,2-Dichlorotetrafluoroethane	<PQL	1.0
112-40-3	n-Dodecane	<PQL	1.0
100-41-4	Ethylbenzene	<PQL	1.0
142-82-5	n-Heptane	<PQL	1.0
87-68-3	Hexachlorobutadiene	<PQL	1.0
110-54-3	n-Hexane	<PQL	1.0
75-09-2	Methylene chloride	<PQL	1.0
98-83-9	α-methyl styrene	<PQL	1.0
111-84-2	n-Nonane	<PQL	1.0
111-65-9	n-Octane	<PQL	1.0
109-66-0	n-Pentane	2.8	1.0
100-42-5	Styrene	<PQL	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<PQL	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<PQL	1.0
127-18-4	Tetrachloroethene	<PQL	1.0
108-88-3	Toluene	2.0	1.0
120-82-1	1,2,4-Trichlorobenzene	<PQL	1.0
71-55-6	1,1,1-Trichloroethane	<PQL	1.0
79-00-5	1,1,2-Trichloroethane	3.2	1.0
79-01-6	Trichloroethene	<PQL	1.0
75-69-4	Trichlorofluoromethane	<PQL	1.0
96-63-6	1,2,4-Trimethylbenzene	<PQL	1.0
108-67-8	1,3,5-Trimethylbenzene	<PQL	1.0
76-13-1	1,1,2-Trichlorotrifluoroethane	1.6	1.0
1120-21-4	n-Undecane	<PQL	1.0
75-01-4	Vinyl chloride	<PQL	2.1
1330-20-7	Xylenes (total)	1.7	1.0

SURROGATE	%RECOVERY	LIMITS
1,2-Dichloroethane-d4	105	75 - 125
Toluene-d8	98	75 - 125
4-Bromofluorobenzene	100	75 - 125

APPENDIX B

PAH Sampling Results

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.

P.O. BOX 25249
PICHMOND. VA. 23260

ANALYSIS REPORT

Analytics No. 092-531-0076
Account # 32819230-7
Date APR-06-1993

JIM MANN
LAW ENGINEERING CO INC
P O BOX 11297
CHARLOTTE NC 28220

Sample No. PNA-1
Date Received APR-02-1993
Sample Type FILTER & TUBE

SAMPLE VOLUME (L) 402

ANALYTE	ug Per Sample Filter	Tube Front	Tube Back	UG Total	ug/M3
ACENAPHTHALENE	< 22	ND	ND	< 22	< 54.7
ACENAPHTHENE	< 19	ND	ND	< 19	< 47.3
ANTHRACENE	< 0.5	ND	ND	< 0.5	< 1.2
BENZO[a]PYRENE	< 2.5	ND	ND	< 2.5	< 6.2
BENZO[b]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.5
BENZO[e]PYRENE	< 0.2	ND	ND	< 0.2	< 0.5
BENZO[ghi]PERYLENE	< 1.0	ND	ND	< 1.0	< 2.5
BENZO[k]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.5
BENZ[a]ANTHRACENE	< 0.8	ND	ND	< 0.8	< 2.0
CHRYSENE	< 5.0	ND	ND	< 5.0	< 12.4
DIBENZ[a,h]ANTHRACENE	< 1.4	ND	ND	< 1.4	< 3.5
FLUORANTHRENE	< 1.4	ND	ND	< 1.4	< 3.5
FLUORENE	< 2.8	ND	ND	< 2.8	< 7.0
INDENO[1,2,3-cd]PYRENE	< 0.6	ND	ND	< 0.6	< 1.5
NAPHTHALENE	< 12.8	ND	ND	< 12.8	< 31.8
PHENANTHRENE	< 5.0	ND	ND	< 5.0	< 12.4
PYRENE	< 5.0	ND	ND	< 5.0	< 12.4

Sue E Calpin, IHIT for
JAMES A. CALPIN, CIH
LABORATORY DIRECTOR
INDUSTRIAL HYGIENE

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.
P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

Analytics No. 092-531-0076
Account # 32819230-7
Date APR-06-1993

JIM MANN
LAW ENGINEERING CO INC
P O BOX 11297
CHARLOTTE NC 28220

Sample No. PNA-1
Date Received APR-02-1993
Sample Type FILTER & TUBE

SAMPLE VOLUME (L) 493

ANALYTE	ug Per Sample Filter	Tube Front	Tube Back	UG Total	ug/M3
ACENAPHTHALENE	< 22	ND	ND	< 22	< 44.6
ACENAPHTHENE	< 19	ND	ND	< 19	< 38.5
ANTHRACENE	< 0.5	ND	ND	< 0.5	< 1.0
BENZO[a]PYRENE	< 2.5	ND	ND	< 2.5	< 5.1
BENZO[b]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.4
BENZO[e]PYRENE	< 0.2	ND	ND	< 0.2	< 0.4
BENZO[ghi]PERYLENE	< 1.0	ND	ND	< 1.0	< 2.0
BENZO[k]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.4
BENZ[a]ANTHRACENE	< 0.8	ND	ND	< 0.8	< 1.6
CHRYSENE	< 5.0	ND	ND	< 5.0	< 10.1
DIBENZ[a,h]ANTHRACENE	< 1.4	ND	ND	< 1.4	< 2.8
FLUORANTHRENE	< 1.4	ND	ND	< 1.4	< 2.8
FLUORENE	< 2.8	ND	ND	< 2.8	< 5.7
INDENO[1,2,3-cd]PYRENE	< 0.6	ND	ND	< 0.6	< 1.2
NAPHTHALENE	< 12.8	ND	ND	< 12.8	< 26.0
PHENANTHRENE	< 5.0	ND	ND	< 5.0	< 10.1
PYRENE	< 5.0	ND	ND	< 5.0	< 10.1

Sue E Calpin, IHIT for
JAMES A. CALPIN, CIH
LABORATORY DIRECTOR
INDUSTRIAL HYGIENE

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.

P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

Analytics No. 092-531-0076
Account # 32819230-7
Date APR-06-1993

JIM MANN
LAW ENGINEERING CO INC
P O BOX 11297
CHARLOTTE NC 28220

Sample No. PNA-2
Date Received APR-02-1993
Sample Type FILTER & TUBE

SAMPLE VOLUME (L) 664

ANALYTE	ug Per Sample: Filter	Tube: Front	Tube: Back	UG: Total	ug/M3
ACENAPHTHALENE	< 22	ND	ND	< 22	< 33.1
ACENAPHTHENE	< 19	ND	ND	< 19	< 28.6
ANTHRACENE	< 0.5	ND	ND	< 0.5	< 0.8
BENZO[a]PYRENE	< 2.5	ND	ND	< 2.5	< 3.8
BENZO[b]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[e]PYRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[ghi]PERYLENE	< 1.0	ND	ND	< 1.0	< 1.5
BENZO[k]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZ[a]ANTHRACENE	< 0.8	ND	ND	< 0.8	< 1.2
CHRYSENE	< 5.0	ND	ND	< 5.0	< 7.5
DIBENZ[a,h]ANTHRACENE	< 1.4	ND	ND	< 1.4	< 2.1
FLUORANTHRENE	< 1.4	ND	ND	< 1.4	< 2.1
FLUORENE	< 2.8	ND	ND	< 2.8	< 4.2
INDENO[1,2,3-cd]PYRENE	< 0.6	ND	ND	< 0.6	< 0.9
NAPHTHALENE	< 12.8	ND	ND	< 12.8	< 19.3
PHENANTHRENE	< 5.0	ND	ND	< 5.0	< 7.5
PYRENE	< 5.0	ND	ND	< 5.0	< 7.5

Sue E Saltin, IHIT for
JAMES A. CALPIN, CIH
LABORATORY DIRECTOR
INDUSTRIAL HYGIENE

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.
P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

Analytics No. 092-531-0076
Account # 32819230-7
Date APR-06-1993

JIM MANN
LAW ENGINEERING CO INC
P O BOX 11297
CHARLOTTE NC 28220

Sample No. PNA-3
Date Received APR-02-1993
Sample Type FILTER & TUBE

SAMPLE VOLUME (L) 648

ANALYTE	ug Per Sample Filter	Tube Front	Tube Back	UG Total	ug/M3
ACENAPHTHALENE	< 22	ND	ND	< 22	< 34.0
ACENAPHTHENE	< 19	ND	ND	< 19	< 29.3
ANTHRACENE	< 0.5	ND	ND	< 0.5	< 0.8
BENZO[a]PYRENE	< 2.5	ND	ND	< 2.5	< 3.9
BENZO[b]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[e]PYRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[ghi]PERYLENE	< 1.0	ND	ND	< 1.0	< 1.5
BENZO[k]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZ[a]ANTHRACENE	< 0.8	ND	ND	< 0.8	< 1.2
CHRYSENE	< 5.0	ND	ND	< 5.0	< 7.7
DIBENZ[a,h]ANTHRACENE	< 1.4	ND	ND	< 1.4	< 2.2
FLUORANTHRENE	< 1.4	ND	ND	< 1.4	< 2.2
FLUORENE	< 2.8	ND	ND	< 2.8	< 4.3
INDENO[1,2,3-cd]PYRENE	< 0.6	ND	ND	< 0.6	< 0.9
NAPHTHALENE	< 12.8	ND	ND	< 12.8	< 19.8
PHENANTHRENE	< 5.0	ND	ND	< 5.0	< 7.7
PYRENE	< 5.0	ND	ND	< 5.0	< 7.7

Susie E Griffin, IHIT for
JAMES A. CALPIN, CIH
LABORATORY DIRECTOR
INDUSTRIAL HYGIENE

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.

P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

Analytics No. 092-531-0076
Account # 32819230-7
Date APR-06-1993

JIM MANN
LAW ENGINEERING CO INC
P O BOX 11297
CHARLOTTE NC 28220

Sample No. PNA-4
Date Received APR-02-1993
Sample Type FILTER & TUBE

SAMPLE VOLUME (L) 661

ANALYTE	ug Per Sample: Filter	Tube: Front	Tube: Back	UG: Total	ug/M3
ACENAPHTHALENE	< 22	ND	ND	< 22	< 33.3
ACENAPHTHENE	< 19	ND	ND	< 19	< 28.7
ANTHRACENE	< 0.5	ND	ND	< 0.5	< 0.8
BENZO[a]PYRENE	< 2.5	ND	ND	< 2.5	< 3.8
BENZO[b]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[e]PYRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[ghi]PERYLENE	< 1.0	ND	ND	< 1.0	< 1.5
BENZO[k]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZ[a]ANTHRACENE	< 0.8	ND	ND	< 0.8	< 1.2
CHRYSENE	< 5.0	ND	ND	< 5.0	< 7.6
DIBENZ[a,h]ANTHRACENE	< 1.4	ND	ND	< 1.4	< 2.1
FLUORANTHRENE	< 1.4	ND	ND	< 1.4	< 2.1
FLUORENE	< 2.8	ND	ND	< 2.8	< 4.2
INDENO[1,2,3-cd]PYRENE	< 0.6	ND	ND	< 0.6	< 0.9
NAPHTHALENE	< 12.8	ND	ND	< 12.8	< 19.4
PHENANTHRENE	< 5.0	ND	ND	< 5.0	< 7.6
PYRENE	< 5.0	ND	ND	< 5.0	< 7.6

Sue E Saltin, IHIT for
JAMES A. CALPIN, CIH
LABORATORY DIRECTOR
INDUSTRIAL HYGIENE

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.
P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

Analytice No. 092-531-0076
Account # 32819230-7
Date APR-06-1993

JIM MANN
LAW ENGINEERING CO INC
P O BOX 11297
CHARLOTTE NC 28220

Sample No. PNA-5
Date Received APR-02-1993
Sample Type FILTER & TUBE

SAMPLE VOLUME (L) 624

ANALYTE	ug Per Sample Filter	Tube Front	Tube Back	UG Total	ug/M3
ACENAPHTHALENE	< 22	ND	ND	< 22	< 35.3
ACENAPHTHENE	< 19	ND	ND	< 19	< 30.4
ANTHRACENE	< 0.5	ND	ND	< 0.5	< 0.8
BENZO[a]PYRENE	< 2.5	ND	ND	< 2.5	< 4.0
BENZO[b]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[e]PYRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[ghi]PERYLENE	< 1.0	ND	ND	< 1.0	< 1.6
BENZO[k]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZ[a]ANTHRACENE	< 0.8	ND	ND	< 0.8	< 1.3
CHRYSENE	< 5.0	ND	ND	< 5.0	< 8.0
DIBENZ[a,h]ANTHRACENE	< 1.4	ND	ND	< 1.4	< 2.2
FLUORANTHRENE	< 1.4	ND	ND	< 1.4	< 2.2
FLUORENE	< 2.8	ND	ND	< 2.8	< 4.5
INDENO[1,2,3-cd]PYRENE	< 0.6	ND	ND	< 0.6	< 1.0
NAPHTHALENE	< 12.8	ND	ND	< 12.8	< 20.5
PHENANTHRENE	< 5.0	ND	ND	< 5.0	< 8.0
PYRENE	< 5.0	ND	ND	< 5.0	< 8.0

Sue E Calpin, IH/IT for
JAMES A. CALPIN, CIH
LABORATORY DIRECTOR
INDUSTRIAL HYGIENE

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.

P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

Analytics No. 092-531-0076
Account # 32819230-7
Date APR-06-1993

JIM MANN
LAW ENGINEERING CO INC
P O BOX 11297
CHARLOTTE NC 28220

Sample No. BLANK
Date Received APR-02-1993
Sample Type FILTER & TUBE

SAMPLE VOLUME (L) 0

ANALYTE	ug Per Sample Filter	Tube Front	Tube Back	UG Total	ug/M3
ACENAPHTHALENE	< 22	ND	ND	< 22	---
ACENAPHTHENE	< 19	ND	ND	< 19	---
ANTHRACENE	< 0.5	ND	ND	< 0.5	---
BENZO[a]PYRENE	< 2.5	ND	ND	< 2.5	---
BENZO[b]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	---
BENZO[e]PYRENE	< 0.2	ND	ND	< 0.2	---
BENZO[ghi]PERYLENE	< 1.0	ND	ND	< 1.0	---
BENZO[k]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	---
BENZ[a]ANTHRACENE	< 0.8	ND	ND	< 0.8	---
CHRYSENE	< 5.0	ND	ND	< 5.0	---
DIBENZ[a,h]ANTHRACENE	< 1.4	ND	ND	< 1.4	---
FLUORANTHRENE	< 1.4	ND	ND	< 1.4	---
FLUORENE	< 2.8	ND	ND	< 2.8	---
INDENO[1,2,3-cd]PYRENE	< 0.6	ND	ND	< 0.6	---
NAPHTHALENE	< 12.8	ND	ND	< 12.8	---
PHENANTHRENE	< 5.0	ND	ND	< 5.0	---
PYRENE	< 5.0	ND	ND	< 5.0	---

Sue E Salkin, IH/T for
JAMES A. CALPIN, CIH
LABORATORY DIRECTOR
INDUSTRIAL HYGIENE

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.

P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

Analytics No. 099-531-0097
Account # 32819230-7
Date APR-15-1993

JIM MANN
LAW ENGINEERING CO INC
P O BOX 11297
CHARLOTTE NC 28220

Sample No. PAH-6
Date Received APR-09-1993
Sample Type FILTER & TUBE

SAMPLE VOLUME (L) 658

ANALYTE	ug Per Sample: Filter	Tube: Front	Tube: Back	UG: Total	ug/M3
ACENAPHTHALENE	< 22	ND	ND	< 22	< 33.4
ACENAPHTHENE	< 19	ND	ND	< 19	< 28.9
ANTHRACENE	< 0.5	ND	ND	< 0.5	< 0.8
BENZO[a]PYRENE	< 2.5	ND	ND	< 2.5	< 3.8
BENZO[b]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[e]PYRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[ghi]PERYLENE	< 1.0	ND	ND	< 1.0	< 1.5
BENZO[k]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZ[a]ANTHRACENE	< 0.8	ND	ND	< 0.8	< 1.2
CHRYSENE	< 5.0	ND	ND	< 5.0	< 7.6
DIBENZ[a,h]ANTHRACENE	< 1.4	ND	ND	< 1.4	< 2.1
FLUORANTHRENE	< 1.4	ND	ND	< 1.4	< 2.1
FLUORENE	< 2.8	ND	ND	< 2.8	< 4.3
INDENO[1,2,3-cd]PYRENE	< 0.6	ND	ND	< 0.6	< 0.9
NAPHTHALENE	< 12.8	ND	ND	< 12.8	< 19.5
PHENANTHRENE	< 5.0	ND	ND	< 5.0	< 7.6
PYRENE	< 5.0	ND	ND	< 5.0	< 7.6

JAMES A. CALPIN, CIH
LABORATORY DIRECTOR
INDUSTRIAL HYGIENE

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.

P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

Analytics No. 099-531-0097
Account # 32819230-7
Date APR-15-1993

JIM MANN
LAW ENGINEERING CO INC
P O BOX 11297
CHARLOTTE NC 28220

Sample No. PAH-7
Date Received APR-09-1993
Sample Type FILTER & TUBE

SAMPLE VOLUME (L) 472

ANALYTE	ug Per Sample: Filter	Tube: Front	Tube: Back	UG: Total	ug/M3
ACENAPHTHALENE	< 22	ND	ND	< 22	< 46.6
ACENAPHTHENE	< 19	ND	ND	< 19	< 40.3
ANTHRACENE	< 0.5	ND	ND	< 0.5	< 1.1
BENZO[a]PYRENE	< 2.5	ND	ND	< 2.5	< 5.3
BENZO[b]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.4
BENZO[e]PYRENE	< 0.2	ND	ND	< 0.2	< 0.4
BENZO[ghi]PERYLENE	< 1.0	ND	ND	< 1.0	< 2.1
BENZO[k]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.4
BENZ[a]ANTHRACENE	< 0.8	ND	ND	< 0.8	< 1.7
CHRYSENE	< 5.0	ND	ND	< 5.0	< 10.6
DIBENZ[a,h]ANTHRACENE	< 1.4	ND	ND	< 1.4	< 3.0
FLUORANTHRENE	< 1.4	ND	ND	< 1.4	< 3.0
FLUORENE	< 2.8	ND	ND	< 2.8	< 5.9
INDENO[1,2,3-cd]PYRENE	< 0.6	ND	ND	< 0.6	< 1.3
NAPHTHALENE	< 12.8	ND	ND	< 12.8	< 27.1
PHENANTHRENE	< 5.0	ND	ND	< 5.0	< 10.6
PYRENE	< 5.0	ND	ND	< 5.0	< 10.6

JAMES A. CALPIN, CIH
LABORATORY DIRECTOR
INDUSTRIAL HYGIENE

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.

P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

Analytics No. 099-531-0097
Account # 32819230-7
Date APR-15-1993

JIM MANN
LAW ENGINEERING CO INC
P O BOX 11297
CHARLOTTE NC 28220

Sample No. PAH-8
Date Received APR-09-1993
Sample Type FILTER & TUBE

SAMPLE VOLUME (L) 687

ANALYTE	ug Per Sample Filter	Tube Front	Tube Back	UG Total	ug/M3
ACENAPHTHALENE	< 22	ND	ND	< 22	< 32.0
ACENAPHTHENE	< 19	ND	ND	< 19	< 27.7
ANTHRACENE	< 0.5	ND	ND	< 0.5	< 0.7
BENZO[a]PYRENE	< 2.5	ND	ND	< 2.5	< 3.6
BENZO[b]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[e]PYRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[ghi]PERYLENE	< 1.0	ND	ND	< 1.0	< 1.5
BENZO[k]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZ[a]ANTHRACENE	< 0.8	ND	ND	< 0.8	< 1.2
CHRYSENE	< 5.0	ND	ND	< 5.0	< 7.3
DIBENZ[a,h]ANTHRACENE	< 1.4	ND	ND	< 1.4	< 2.0
FLUORANTHRENE	< 1.4	ND	ND	< 1.4	< 2.0
FLUORENE	< 2.8	ND	ND	< 2.8	< 4.1
INDENO[1,2,3-cd]PYRENE	< 0.6	ND	ND	< 0.6	< 0.9
NAPHTHALENE	< 12.8	ND	ND	< 12.8	< 18.6
PHENANTHRENE	< 5.0	ND	ND	< 5.0	< 7.3
PYRENE	< 5.0	ND	ND	< 5.0	< 7.3

JAMES A. CALPIN, CIH
LABORATORY DIRECTOR
INDUSTRIAL HYGIENE

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.

P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

Analytics No. 099-531-0097
Account # 32819230-7
Date APR-15-1993

JIM MANN
LAW ENGINEERING CO INC
P O BOX 11297
CHARLOTTE NC 28220

Sample No. PAH-9
Date Received APR-09-1993
Sample Type FILTER & TUBE

SAMPLE VOLUME (L) 540

ANALYTE	ug Per Sample: Filter	Tube: Front	Tube: Back	UG: Total	ug/M3
ACENAPHTHALENE	< 22	ND	ND	< 22	< 40.7
ACENAPHTHENE	< 19	ND	ND	< 19	< 35.2
ANTHRACENE	< 0.5	ND	ND	< 0.5	< 0.9
BENZO[a]PYRENE	< 2.5	ND	ND	< 2.5	< 4.6
BENZO[b]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.4
BENZO[e]PYRENE	< 0.2	ND	ND	< 0.2	< 0.4
BENZO[ghi]PERYLENE	< 1.0	ND	ND	< 1.0	< 1.9
BENZO[k]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.4
BENZ[a]ANTHRACENE	< 0.8	ND	ND	< 0.8	< 1.5
CHRYSENE	< 5.0	ND	ND	< 5.0	< 9.3
DIBENZ[a,h]ANTHRACENE	< 1.4	ND	ND	< 1.4	< 2.6
FLUORANTHRENE	< 1.4	ND	ND	< 1.4	< 2.6
FLUORENE	< 2.8	ND	ND	< 2.8	< 5.2
INDENO[1,2,3-cd]PYRENE	< 0.6	ND	ND	< 0.6	< 1.1
NAPHTHALENE	< 12.8	ND	ND	< 12.8	< 23.7
PHENANTHRENE	< 5.0	ND	ND	< 5.0	< 9.3
PYRENE	< 5.0	ND	ND	< 5.0	< 9.3

JAMES A. CALPIN, CIH
LABORATORY DIRECTOR
INDUSTRIAL HYGIENE

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.

P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

Analytics No. 099-531-0097
Account # 32819230-7
Date APR-15-1993

JIM MANN
LAW ENGINEERING CO INC
P O BOX 11297
CHARLOTTE NC 28220

Sample No. PAH-10
Date Received APR-09-1993
Sample Type FILTER & TUBE

SAMPLE VOLUME (L) 672

ANALYTE	ug Per Sample Filter	Tube Front	Tube Back	UG Total	ug/M3
ACENAPHTHALENE	< 22	ND	ND	< 22	< 32.7
ACENAPHTHENE	< 19	ND	ND	< 19	< 28.3
ANTHRACENE	< 0.5	ND	ND	< 0.5	< 0.7
BENZO[a]PYRENE	< 2.5	ND	ND	< 2.5	< 3.7
BENZO[b]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[e]PYRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZO[ghi]PERYLENE	< 1.0	ND	ND	< 1.0	< 1.5
BENZO[k]FLUORANTHRENE	< 0.2	ND	ND	< 0.2	< 0.3
BENZ[a]ANTHRACENE	< 0.8	ND	ND	< 0.8	< 1.2
CHRYSENE	< 5.0	ND	ND	< 5.0	< 7.4
DIBENZ[a,h]ANTHRACENE	< 1.4	ND	ND	< 1.4	< 2.1
FLUORANTHRENE	< 1.4	ND	ND	< 1.4	< 2.1
FLUORENE	< 2.8	ND	ND	< 2.8	< 4.2
INDENO[1,2,3-cd]PYRENE	< 0.6	ND	ND	< 0.6	< 0.9
NAPHTHALENE	< 12.8	ND	ND	< 12.8	< 19.0
PHENANTHRENE	< 5.0	ND	ND	< 5.0	< 7.4
PYRENE	< 5.0	ND	ND	< 5.0	< 7.4

JAMES A. GALPIN, CIH
LABORATORY DIRECTOR
INDUSTRIAL HYGIENE

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

APPENDIX C

Phenol and Cresols Sampling Results

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.
P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

ANALYTICS NO: 096-0081
ACCOUNT NO: 32819230
DATE: April 8, 1993

[redacted]Mann
Law Engineering Co Inc
P O Box 11297
Charlotte, NC 28220

SAMPLE TYPE: 6 XAD-7 Tubes

DATE RECEIVED: 04/06/93

REMARKS: µg = micrograms, ppm = parts per million
ND = Not Detected, L = Liters
OSHA Method #32
Project #225-93142-01

Sample #	Analytics #	Volume(L)	Analyte	µg Found Front	Back	Total	Results, ppm
P-1	0965310081-001	62.7	Phenol	< 20	ND	< 20	< 0.1
			Cresols	< 20	ND	< 20	< 0.1
P-2	-002	64.1	Phenol	< 20	ND	< 20	< 0.1
			Cresols	< 20	ND	< 20	< 0.1
[redacted]	-003	63.6	Phenol	< 20	ND	< 20	< 0.1
			Cresols	< 20	ND	< 20	< 0.1
P-4	-004	68.7	Phenol	< 20	ND	< 20	< 0.1
			Cresols	< 20	ND	< 20	< 0.1
P-5	-005	63.4	Phenol	< 20	ND	< 20	< 0.1
			Cresols	< 20	ND	< 20	< 0.1
BLANK	-006	--	Phenol	< 20	ND	< 20	--
		--	Cresols	< 20	ND	< 20	--

for
James A. Calpin, CIH
Laboratory Director
Industrial Hygiene

F:LD09681

Roche Analytics Laboratory
a division of Roche Biomedical Laboratories, Inc.
P.O. BOX 25249
RICHMOND, VA. 23260

ANALYSIS REPORT

ANALYTICS NO: 099-0098
ACCOUNT NO: 3281-9230
DATE: April 13, 1993

Jim Mann
Law Engineering Co., Inc.
PO Box 11297
Charlotte, NC 28220

SAMPLE TYPE: 5 XAD-7 Tubes

DATE RECEIVED: 04/09/93

REMARKS: µg = micrograms, ppm = parts per million
ND = Not Detected, L = Liters
OSHA Method #32 For Phenol & Cresols
Project Number: 225-93142-01

Sample #	Analytics #	Volume(L)	Analyte	µg Found Front	Back	Total	Results, ppm
P-6	0995310098-001	65.1	Phenol	< 20	ND	< 20	< 0.1
			Cresols	< 20	ND	< 20	< 0.1
	-002	65.9	Phenol	< 20	ND	< 20	< 0.1
			Cresols	< 20	ND	< 20	< 0.1
P-8	-003	66.1	Phenol	< 20	ND	< 20	< 0.1
			Cresols	< 20	ND	< 20	< 0.1
P-9	-004	71.4	Phenol	< 20	ND	< 20	< 0.1
			Cresols	< 20	ND	< 20	< 0.1
P-10	-005	64.6	Phenol	< 20	ND	< 20	< 0.1
			Cresols	< 20	ND	< 20	< 0.1

Sue E Sackett, IHIT for
James A. Calpin, CIH
Laboratory Director
Industrial Hygiene

F:mh09998

Report Number 13

Phase II Environmental Assessment
Supplemental Data
Groundwater Sampling
February 1996

GROUNDWATER SAMPLING CHECKLIST SHEET

Location CHARLOTTE S. BLVD Site MGP SITE
Field Crew GF, RLW Sample Date 2-26&27-96
Weather conditions clear, mild, upper 70s

YES	NO	SITE CONDITIONS SURING GROUNDWATER SAMPLING EVENT
✓		Was access to the wells clear and adequate? except the wells that are assumed to be paved over
	✓	Were wells locked / are locks in good shape? replaced locks on MW-10A & 5
✓		Were wells properly labeled?
	✓	Were well PVC and protective casings in good shape? MW-11 outer top (to protect from vehicles) is in 3 pieces
	✓	Were concrete pads in good shape? Most were cracked or non-existent
	✓	Any wasps, ants, etc. in the casing?
✓		Any evidence of construction, earthmoving, or the use of pesticides/herbicides etc. in the vicinity (at what distance)? Some wells appeared to be covered from paving
✓		Are well caps in good shape (especially: do flush mount gaskets and bolts, and twist-lock caps keep out rain)?
	✓	Any evidence of unauthorized activity (ex. dumping) in the area?

Any other notes:

Form 35489 (R12-88)

FIELD SAMPLING CALIBRATION DATA FORM

Study CHARLOTTE MGP

2-27-96 Weather Conditions clear, mild, upper 70's

Collectors GLF, RLW Surface Unit Reader

Equipment: Surface Unit # Transmitter #

Cable# Battery #

Other Equipment:

Procedure Number 3210 Water Quality Analyzer H20 GW-1

Calibration Time		Time 0745				Time 1035				Time			
Variable	Calib.	Initial Value			Adjust To	Initial Value			Adjust To	Initial Value			Adjust To
Temp. (°C)		21.44	-/>		20.9	21.58	-/>		21.3	___.__	-->		___.__
		___.__	-->		___.__	___.__	-->		___.__	___.__	-->		___.__
m # ECH1M3137		___.__	-->		___.__	___.__	-->		___.__	___.__	-->		___.__
DO (mg/1)	W				___.__				___.__				___.__
	W				___.__				___.__				___.__
	W				___.__				___.__				___.__
	AW	___.__	-->		___.__	___.__	-->		___.__	___.__	-->		___.__
	B	___.__	-->		___.__	___.__	-->		___.__	___.__	-->		___.__
pH (units)	B	6.98	-->		7.00	7.03	-/>		7.00	___.__	-->		7.00
	B	4.00	-/>		4.00	4.04	-/>		4.00	___.__	-->		4.00
	B	___.__	-->		10.00	___.__	-->		10.00	___.__	-->		10.00
SP Cond. (umho/cm)	SS	717.0	-->		720.0	699.0	-/>		720.0	___.__	-->		___.__
	SS	___.__	-->		___.__	___.__	-->		___.__	___.__	-->		___.__
	SS	___.__	-->		___.__	___.__	-->		___.__	___.__	-->		___.__
Orp. (mv)	SS	_____	-->		_____	_____	-->		_____	_____	-->		_____
	SS	_____	-->		_____	_____	-->		_____	_____	-->		_____

B = Buffer
SS = Standard Solution
-- > = Adjusted To

W = Winkler
AW = Average Winkler
-/-> = Not Adjusted To

NA = Not Applicable

Form 35489 (R12-88)

FIELD SAMPLING CALIBRATION DATA FORM

dy CHARLOTTE MGP

e 2-26-96 Weather Conditions clear, mild mid 70's

Collectors GF, RLW Surface Unit Reader

Equipment: Surface Unit # Transmitter #

Cable# Battery #

Other Equipment:

Procedure Number 3210 Water Quality Analyzer H20 GW-1

Calibration Time		Time 0730			Time 1605			Time		
Variable	Calib.	Initial Value		Adjust To	Initial Value		Adjust To	Initial Value		Adjust To
Temp. (°C)		13.10	-/>	13.7	29.54	-/>	28.9	___.__	-->	___.__
		___.__	-->	___.__	___.__	-->	___.__	___.__	-->	___.__
m # ELCHM31307		___.__	-->	___.__	___.__	-->	___.__	___.__	-->	___.__
DO (mg/1)	W			___.__			___.__			___.__
	W			___.__			___.__			___.__
	W			___.__			___.__			___.__
	AW	___.__	-->	___.__	___.__	-->	___.__	___.__	-->	___.__
	B	___.__	-->	___.__	___.__	-->	___.__	___.__	-->	___.__
pH (units)	B	7.04	-->	7.00	7.00	-/>	7.00	___.__	-->	7.00
	B	4.00	-/>	4.00	4.03	-/>	4.00	___.__	-->	4.00
	B	___.__	-->	10.00	___.__	-->	10.00	___.__	-->	10.00
SP Cond. (umho/cm)	SS	708.0	-->	720.0	703.0	-/>	720.0	___.__	-->	___.__
	SS	___.__	-->	___.__	___.__	-->	___.__	___.__	-->	___.__
	SS	___.__	-->	___.__	___.__	-->	___.__	___.__	-->	___.__
Orp. (mv)	SS	_____	-->	_____	_____	-->	_____	_____	-->	_____
	SS	_____	-->	_____	_____	-->	_____	_____	-->	_____

B = Buffer
SS = Standard Solution
-- > = Adjusted To

W = Winkler
AW = Average Winkler
-/-> = Not Adjusted To

NA = Not Applicable

1990 7.3 33

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3600		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: ~~MW-1~~

WATER LEVEL METER #: #8

TIME SAMPLE COLLECTED: 1040

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	12.96	-	2.55	=	10.41	X	0.0218	=	0.22269
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	6.4	0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:	✓		

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
2.55	P	6	6		6.16	15.6	230		N
N/A		3	9		7.84	17.37	243		Y
			Collected Sample						
		5	14			14.80	331		Y
					7.33				

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

PID = 0.0 ppm

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-2

WATER LEVEL METER #:

TIME SAMPLE COLLECTED:

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"		-		=		X	0.0218	=	
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1		0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
N/A									

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

Could not find well

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-13

WATER LEVEL METER #: #8

TIME SAMPLE COLLECTED: 0920

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	12.20	-	3.62	=	8.58	X	0.0218	=	0.187
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	5.29	0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:	✓		

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
3.62	P	5	5		5.48	17.15	256		N
N/A	↓	5	10		6.04	18.61	260		Y
↓	↓	Collected		Sample	—	—	—		—
		5	15		5.98	17.93	243		N

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

Pumped out upper well compartment casing.

PID = 0.0 ppm

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-4

WATER LEVEL METER #:

TIME SAMPLE COLLECTED:

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"		-		=		X		=	
4"		-		=	0.00	X	0.0218	=	
		-		=		X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1		0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
N/A									

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

covered up by new switchyard

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-5

WATER LEVEL METER #: INV

TIME SAMPLE COLLECTED: 0910

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	11.11	-	0.9	=	10.21	X	0.0218	=	0.2226
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	6.3	0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:	diesel	METHOD:	
STRONG:		THICKNESS:	
MINOR:	✓	OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
0.9	P	6	6		6.50	15.93	426		N
N/A		4	10		6.51	16.66	412		Y
			SAMPLE COLLECTED						

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

purge water has strong odor - gray/brown color

PID = 40.5 ppm inner casing full of mud & pumped out water. - concrete pad not visible (paved over)

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-6

WATER LEVEL METER #: INV

TIME SAMPLE COLLECTED:

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"		-		=		X	0.0218	=	
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1		0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:	✓	THICKNESS:	0.54 ft
MINOR:		OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
N/A									
			NO		SAMPLE		PRODUCT		
					FREE				
			DUE		TO				

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

PID: 176ppm upon entry

2.48
1.94
0.54

concrete pad is chipped & cracked

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-7

WATER LEVEL METER #:

TIME SAMPLE COLLECTED:

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"		-		=		X	0.0218	=	
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1		0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
N/A									

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

COULD NOT FIND WELL - APPEARS TO BE PAVED OVER

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-8

WATER LEVEL METER #: #8

TIME SAMPLE COLLECTED: 0820

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	-	WATER LEVEL (FEET)	=	WATER COLUMN (FEET)	X	3.14 x r^2	=	VOLUME (FT^3)
2"	13.32	-	3.90	=	9.42	X	0.0218	=	0.2054
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	5.8	0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:	✓	THICKNESS:	
MINOR:		OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
3.90	P	6	6		6.56	16.86	607		Y
N/A	↓	Collected Sample			6.75	18.99	512		Y
↓	↓								

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

PID= 169 ppm upon entry

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-9

WATER LEVEL METER #: 1

TIME SAMPLE COLLECTED: 0910

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	12.74	-	2.18	=	10.56	X	0.0218	=	0.2302
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	6.5	0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:	✓		

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
2.18	P	7	7		6.72	15.66	666		N
N/A		7	14		6.63	15.23	676		N
		7	21		6.64	15.13	675		N
			Collected		Sample				

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

PID = 0.7 ppm

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-10A

WATER LEVEL METER #: INV

TIME SAMPLE COLLECTED: 0825

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	11.96	-	0.28	=	11.68	X	0.0218	=	0.2546
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	7.2	0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:	diesel	METHOD:	
STRONG:		THICKNESS:	
MINOR:	✓	OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
0.28	P	7	7		6.08	15.75	427		N
N/A		7	14		6.37	15.26	430		N
		7	21		6.49	15.31	427		N
		5	26		6.62	18.40	380		Y
			SAMPLE COLLECTED						

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

Concrete pad is cracked

PID = 20.8 ppm

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-11

WATER LEVEL METER #: 3

TIME SAMPLE COLLECTED: 1315

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	12.81	-	2.3	=	10.51	X	0.0218	=	0.2291
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	6.5	0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:	✓		

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
2.3	P	7	7		6.36	16.25	706		N
N/A		7	14		6.22	18.71	652		Y
		5	19		6.00	18.78	695		N
		✓	SAMPLE		COLLECTED				

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

PID = 0.0 ppm

protective well top (metal top) broken into 3 pieces - not providing a barrier for runoff.

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-12

WATER LEVEL METER #: Inverting after #8

TIME SAMPLE COLLECTED: 1340

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	12.3	-	2.44	=	9.86	X	0.0218	=	0.215
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	6.09	0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG	Y	THICKNESS:	
MINOR:		OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
2.44	P	6	6		6.41	18.13	874		Y
N/A			Collected		Sample				
↓	↓	5	11		6.43	20.02	994		Y
↓	↓								

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

(PID) 29.6 upon entry into casing.

Pumped out upper casing before opening.

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-13

WATER LEVEL METER #: 3

TIME SAMPLE COLLECTED: 1450

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	20.90	-	12.85	=	8.05	X	0.0218	=	0.1755
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	5.0	0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:	✓		

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
12.85	P	5	5		5.75	21.53	271		N
N/A		4	9		6.41	21.99	383		Y
			SAMPLE COLLECTED						

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

Concrete pad is cracked

PID: 0.0 ppm

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-14

WATER LEVEL METER #: INV

TIME SAMPLE COLLECTED: 1100

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	11.50	-	0.80	=	10.70	X	0.0218	=	0.2332
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	6.6	0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	sheen
MINOR:	✓	OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
0.80	P	7	7		8.70	15.58	697		N
N/A		7	14		8.68	15.60	690		N
		7	21		8.64	15.31	679		N
		7	28		8.65	15.38	667		N
			SAMPLE COLLECTED						
↓	↓								

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

Sample is a light brown/yellow color

PID = 185 ppm

coal tar residue covering inside of well casing where visible

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-15

WATER LEVEL METER #:

TIME SAMPLE COLLECTED:

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"		-		=		X	0.0218	=	
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1		0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:			

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
N/A									

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

could not find well - appears to be covered in concrete

DUKE POWER COMPANY
GROUNDWATER MONITORING DATA SHEET

LOCATION:	CHARLOTTE SOUTH BLVD MGP SITE		
PROCEDURE NUMBER:	3500		
SAMPLING DATE:	2/26/96	FIELD CREW	GLF, RLW

MONITORING WELL NUMBER: MW-16

WATER LEVEL METER #: 3

TIME SAMPLE COLLECTED: 0935

WELL VOLUME CALCULATION

WELL DIAMETER (INCHES)	WELL DEPTH (FEET)		WATER LEVEL (FEET)		WATER COLUMN (FEET)		3.14 x r^2		VOLUME (FT^3)
2"	23.26	-	10.27	=	12.99	X	0.0218	=	0.2832
4"		-		=	0.00	X	0.0873	=	0.0

LITERS PER WELL VOLUME REMOVED:

WELL VOLUME	LITERS TO REMOVE: (FT^3 x 28.32 l/FT^3)	
	2" WELL	4" WELL
1	8.0	0
5	0	0
10	0	0
20	0	0

OBSERVATIONS:

ODORS DETECTED:		FREE PRODUCT MEASUREMENT:	
TYPE:		METHOD:	
STRONG:		THICKNESS:	
MINOR:		OTHER:	
NONE:	✓		

WATER LEVEL (FEET)	METHOD (P=PUMP) (B=BAIL)	VOLUME (LITERS)	EVACUATED VOLUME (LITERS)		pH (SU)	TEMP (deg C)	SPECIFIC CONDUCT. (umho/cm)		COMPLETE EVACUATION (Y/N)
10.27	P	8	8		5.60	19.63	409		N
N/A		8	16		5.66	19.78	421		N
		8	24		5.65	20.20	414		N

COMMENTS: WATER LEVEL AND WELL DEPTH REFERENCED TO TOP OF PVC WELL CASING.

PID = 0.6 ppm

DUKE P[redacted]MPANY
Laborato[redacted]ces
MNS Bldg. # 7405 (MG[redacted]A1)
13339 Hagers Ferry Road
Huntersville, NC 28078

CHAIN OF CU[redacted]DY RECORD AND ANALYSIS REQUEST FORM *

[redacted]226 (R10-93)

LS CLIENT CONTACT/PHONE[1]:
CLIENT[2]: 0702MGPCLTSBLVD
Project Name[3]: CHARLOTTE MGP
Results to/Phone[4]: RAS/5229 & RALPH ROBERTS
Address and/or PROFS[5]:
Matrix (type of samples)/QC Level[6]:
SAM No.[7]: 4602142

FRAC[8]	CHEMPLOT Number[9]	Sample Description or ID[10]	Collected using sampling instructions[11] Date	Time	Name	TOTAL CYANIDES	EPA 624	EPA 625	Hg	NH_3, Acidity, Cl, SO_4, Alk	TOC	TS/TSS	Fe, Zn, Ba, Ca, Mg, Mn, Na, K, Sn, As,	Se, Cd, Cr, Pb, Ag, Cu, Ni,			
		MW-1	2/26/96	1040	GF	1	3	1	1	1	1	1	1				
		MW-2	NO SAMPLE														
		MW-3	2/26/96	0920		1	3	1	1	1	1	1	1				
		MW-4	NO SAMPLE														
	-	MW-5	2/27/96	0910													
		MW-6	NO SAMPLE														
	-	MW-7	NO SAMPLE														
	-	MW-8	2/27/96	0820		1	3	1	1	1	1	1	1				
	-	MW-9	2/27/96	0910		1	3	1	1	1	1	1	1				
	-	MW-10A	2/27/96	0905		1	3	1	1	1	1	1	1				
		MW-11	2/26/96	1315		1	3	1	1	1	1	1	1				
	+	MW-12	2/27/96	1340		1	3	1	1	1	1	1	1				
	+	MW-13	2/26/96	1450		1	3	1	1	1	1	1	1				
		MW-14	2/26/96	1100		1	3	1	1	1	1	1	1				
		MW-15	NO SAMPLE														
		MW-16	2/26/96	0935		1	3	1	1	1	1	1	1				
		TRIP BLANK	2/26/96	0625			3	1									
	-	FIELD BLANK	2/27/96	1045		1	3	1	1	1	1		1				
						11	36	12	11	11	11	10	11				

ANALYSES REQUESTED by bottle type—MUST NOTE PRESERVATIVE[12] (may note special DL or Method)[13]

Total # of samples[15]:

Sample Preserved: ☒ Yes ☐ No
Name: Virginia Frall

Delivered by[16]: Virginia Frall	Delivered by:	Delivered by:
Date/Time: 2-27-96 / 1320	Date/Time:	Date/Time:
Received by: Julie Bowen	Received by:	Received by:

Turnaround Requested[19]:
☐ Routine (3 weeks)
☐ Rush (2 weeks)
☐ Emergency Rush
☐ Date Results Requested

Comments[17]:

* See instructions on back of form.
[18] White, canary — LS Files Pink — Client Copy

Duke Power REPORT Work Order # 96-02-142

Received: 02/27/96

03/25/96 15:59:52

[redacted] DUKE POWER CMPANY
CHARLOTTE
DPC

PREPARED
BY LABORATORY SERVICES

CERTIFIED BY

ATTEN RON SANTINI

ATTEN LABORATORY SUPPORT
PHONE 875-5209

CONTACT TLW

CLIENT GW CHARLOTTE SAMPLES 21
COMPANY DUKE POWER CMPANY
FACILITY CHARLOTTE

ACIDITY DETERMINED PAST 14 DAY HOLDING TIME.

WORK ID CHARLOTTE MGP (S. BLVD)
TAKEN 2/26/96 - 2/27/96
TRANS
TYPE GROUNDWATER SAMPLES
P.O. #
INVOICE under separate cover

SAMPLE IDENTIFICATION		TEST CODES and NAMES used on this workorder	
01	CHARLOTTE MGP MW-1	1230IF	NC GW ICP/FLAMEAA ACID EXT
02	CHARLOTTE MGP MW-2	700 TC	TOTAL ORGANIC CARBON
03	CHARLOTTE MGP MW-3	AA CL	CHLORIDE
04	CHARLOTTE MGP MW-4	AA NH3	AMMONIA
05	CHARLOTTE MGP MW-5	F ACID	ACIDITY TITRATION #13
06	CHARLOTTE MGP MW-6	F ALKF	TFE ALKALINITY
07	[redacted]TTE MGP MW-7	ICPD24	DIG ICP 24 ELEMENT SCAN
08	[redacted]TTE MGP MW-8	PE HGW	HG IN WATER
09	[redacted]OTTE MGP MW-9	S TSE	TOTAL SOLIDS (EPA)
10	CHARLOTTE MGP MW-10A	S TSSE	TOTAL SUSP SOLIDS (EPA)
11	CHARLOTTE MGP MW-11	UV SO4	SULFATE UV-VIS
12	CHARLOTTE MGP MW-12		
13	CHARLOTTE MGP MW-13		
14	CHARLOTTE MGP MW-14		
15	CHARLOTTE MGP MW-15		
16	CHARLOTTE MGP MW-16		
17	CHARLOTTE MGP TRIP BLANK		
18	CHARLOTTE MGP FIELD BLANK		

[redacted]

SAMPLE ID CHARLOTTE MGP MW-1 SAMPLE # 01 FRACTIONS: A,B
Date & Time Collected 02/26/96 10:40:00 Category

1230IF	02/28/96	700_TC	0.93	AA_CL	13.4	AA_NH3	0.39	F_ACID	4.3	F_ALKF	190
	100 MLS		MG/L		MG/L		MG-N/L		MG-CACO3/L		MG/L
PE_HGW	< 0.10	S_TSE	202.0	S_TSSE	4.0	UV_SO4	25.0				
	UG/L		MG/L		MG/L		MG/L				

SAMPLE ID CHARLOTTE MGP MW-1 FRACTION 01B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 10:40:00 Category

VER

DATE ANALYZED 03/21/96

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	< 0.005	K	Potassium	2.330	SI	Silicon	NOT RUN
AL	Aluminum	< 0.020	LI	Lithium	NOT RUN	SN	Tin	< 0.045
AS	Arsenic	< 0.060	MG	Magnesium	10.084	SR	Strontium	NOT RUN
B	Boron	NOT RUN	MN	Manganese	0.442	TI	Titanium	NOT RUN
BA	Barium	0.063	MO	Molybdenum	NOT RUN	TL	Thallium	NOT RUN
BE	Beryllium	NOT RUN	NA	Sodium	10.910	V	Vanadium	NOT RUN
CA	Calcium	36.048	NI	Nickel	< 0.020	ZN	Zinc	NOT RUN
CD	Cadmium	0.011	P	Phosphorus	NOT RUN			NA
CO	Cobalt	NOT RUN	PB	Lead	< 0.090			NA
CR	Chromium	< 0.020	S	Sulfur	NOT RUN			
CU	Copper	< 0.005	SB	Antimony	NOT RUN			
FE	Iron	0.184	SE	Selenium	< 0.060			

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-2 SAMPLE # 02 FRACTIONS: A,B
Date & Time Collected 02/26/96 Category

1230IF	NO SAMPLE	700_TC	NO SAMPLE	AA_CL	NO SAMPLE	AA_NH3	NO SAMPLE	F_ACID	NO SAMPLE	F_ALKF	NO SAMPLE
	MG/L		MG/L		MG/L		MG-N/L		MG-CACO3/L		MG/L
PE_HGW	SAMPLE	S_TSE	NO SAMPLE	S_TSSE	NO SAMPLE	UV_SO4	NO SAMPLE				
	UG/L		MG/L		MG/L		MG/L				

Duke Power REPORT Work Order # 96-02-142

Received: 02/27/96

Results by Sample

SAMPLE ID CHARLOTTE MGP MW-2 FRACTION 02B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN

Date & Time Collected 02/26/96 Category

DATE ANALYZED 03/21/96 VER

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	NO SAMPLE	K	Potassium	NA	SI	Silicon	NA
AL	Aluminum	NA	LI	Lithium	NA	SN	Tin	NA
AS	Arsenic	NA	MG	Magnesium	NA	SR	Strontium	NA
B	Boron	NA	MN	Manganese	NA	TI	Titanium	NA
BA	Barium	NA	MO	Molybdenum	NA	TL	Thallium	NA
BE	Beryllium	NA	NA	Sodium	NA	V	Vanadium	NA
CA	Calcium	NA	NI	Nickel	NA	ZN	Zinc	NA
CD	Cadmium	NA	P	Phosphorus	NA			NA
CO	Cobalt	NA	PB	Lead	NA			NA
[redacted]	Chromium	NA	S	Sulfur	NA			
J	Copper	NA	SB	Antimony	NA			
FE	Iron	NA	SE	Selenium	NA			

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-3 SAMPLE # 03 FRACTIONS: A,B

Date & Time Collected 02/26/96 09:20:00 Category

1230IF 02/28/96	700_TC 0.46	AA_CL 13.9	AA_NH3 <0.05	F_ACIDNO RESULT	F_ALKF 150
100 MLS	MG/L	MG/L	MG-N/L	MG-CACO3/L	MG/L
PE_HGW < 0.10	S_TSE 183.0	S_TSSE 10.0	UV_SO4 10.7		
UG/L	MG/L	MG/L	MG/L		

SAMPLE ID CHARLOTTE MGP MW-3 FRACTION 03B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN

Date & Time Collected 02/26/96 09:20:00 Category

DATE ANALYZED 03/21/96 VER

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
[redacted]	Silver	< 0.005	K	Potassium	1.950	SI	Silicon	NOT RUN
AL	Aluminum	0.022	LI	Lithium	NOT RUN	SN	Tin	< 0.045

SAMPLE ID CHARLOTTE MGP MW-3 FRACTION 03B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 09:20:00 Category

AS	Arsenic	< 0.060	MG	Magnesium	8.308	SR	Strontium	NOT RUN
B	Boron	NOT RUN	MN	Manganese	0.191	TI	Titanium	NOT RUN
BA	Barium	0.015	MO	Molybdenum	NOT RUN	TL	Thallium	NOT RUN
BE	Beryllium	NOT RUN	NA	Sodium	12.150	V	Vanadium	NOT RUN
CA	Calcium	22.561	NI	Nickel	< 0.020	ZN	Zinc	NOT RUN
CD	Cadmium	0.018	P	Phosphorus	NOT RUN			NA
CO	Cobalt	NOT RUN	PB	Lead	< 0.090			NA
CR	Chromium	< 0.020	S	Sulfur	NOT RUN			
CU	Copper	< 0.005	SB	Antimony	NOT RUN			
FE	Iron	0.113	SE	Selenium	< 0.060			

NOTES AND DEFINITIONS FOR THIS REPORT.

[redacted]ll results reported in MG/L unless otherwise specified.
[redacted]NK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-4 SAMPLE # 04 FRACTIONS: A,B
Date & Time Collected 02/26/96 Category

1230IF NO SAMPLE	700_TCR NO SAMPLE	AA_CL NO SAMPLE	AA_NH3 NO SAMPLE	F_ACID NO SAMPLE	F_ALKF NO SAMPLE
MG/L	MG/L	MG/L	MG-N/L	MG-CACO3/L	MG/L
PE_HGM NO SAMPLE	S_TSK NO SAMPLE	S_TSS NO SAMPLE	UV_SO4 NO SAMPLE		
UG/L	MG/L	MG/L	MG/L		

SAMPLE ID CHARLOTTE MGP MW-4 FRACTION 04B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 Category

VER

DATE ANALYZED 03/21/96

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	NO SAMPLE	K	Potassium	NA	SI	Silicon	NA
AL	Aluminum	NA	LI	Lithium	NA	SN	Tin	NA
AS	Arsenic	NA	MG	Magnesium	NA	SR	Strontium	NA
[redacted]	Boron	NA	MN	Manganese	NA	TI	Titanium	NA
[redacted]A	Barium	NA	MO	Molybdenum	NA	TL	Thallium	NA
BE	Beryllium	NA	NA	Sodium	NA	V	Vanadium	NA

SAMPLE ID CHARLOTTE MGP MW-4 FRACTION 04B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 Category

CA	Calcium	NA	NI	Nickel	NA	ZN	Zinc	NA
CD	Cadmium	NA	P	Phosphorus	NA			NA
CO	Cobalt	NA	PB	Lead	NA			NA
CR	Chromium	NA	S	Sulfur	NA			
CU	Copper	NA	SB	Antimony	NA			
FE	Iron	NA	SE	Selenium	NA			

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-5 SAMPLE # 05 FRACTIONS: A,B
Date & Time Collected 02/27/96 09:10:00 Category

1230IF	02/28/96	700_TC	3.47	AA_CL	36.8	AA_NH3	1.01	F_ACID	19	F_ALKF	410
	100 MLS		MG/L		MG/L		MG-N/L		MG-CACO3/L		MG/L
	< 0.10	S_TSE	256.0	S_TSSE	45.0	UV_SO4	24.9				
	UG/L		MG/L		MG/L		MG/L				

SAMPLE ID CHARLOTTE MGP MW-5 FRACTION 05B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/27/96 09:10:00 Category

VER

DATE ANALYZED 03/21/96

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	< 0.005	K	Potassium	1.900	SI	Silicon	NOT RUN
AL	Aluminum	0.448	LI	Lithium	NOT RUN	SN	Tin	< 0.045
AS	Arsenic	< 0.060	MG	Magnesium	15.858	SR	Strontium	NOT RUN
B	Boron	NOT RUN	MN	Manganese	4.748	TI	Titanium	NOT RUN
BA	Barium	0.083	MO	Molybdenum	NOT RUN	TL	Thallium	NOT RUN
BE	Beryllium	NOT RUN	NA	Sodium	9.710	V	Vanadium	NOT RUN
CA	Calcium	32.463	NI	Nickel	< 0.020	ZN	Zinc	NOT RUN
	Cadmium	0.018	P	Phosphorus	NOT RUN			NA
	Cobalt	NOT RUN	PB	Lead	< 0.090			NA
CR	Chromium	< 0.020	S	Sulfur	NOT RUN			

SAMPLE ID CHARLOTTE MGP MW-5 FRACTION 05B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/27/96 09:10:00 Category

CU	Copper	< 0.005	SB	Antimony	NOT RUN
FE	Iron	21.443	SE	Selenium	< 0.060

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-6 SAMPLE # 06 FRACTIONS: A,B
Date & Time Collected 02/26/96 Category

1230IF	700_TC	AA_CL	AA_NH3	F_ACID	F_ALK
NO SAMPLE	NO SAMPLE	NO SAMPLE	NO SAMPLE	NO SAMPLE	NO SAMPLE
MG/L	MG/L	MG/L	MG-N/L	MG-CACO3/L	MG/L

PE_HG	S_TSE	S_TSS	UV_SO4
NO SAMPLE	NO SAMPLE	NO SAMPLE	NO SAMPLE
UG/L	MG/L	MG/L	MG/L

SAMPLE ID CHARLOTTE MGP MW-6 FRACTION 06B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 Category

VER

E ANALYZED 03/21/96

DE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	NO SAMPLE	K	Potassium	NA	SI	Silicon	NA
AL	Aluminum	NA	LI	Lithium	NA	SN	Tin	NA
AS	Arsenic	NA	MG	Magnesium	NA	SR	Strontium	NA
B	Boron	NA	MN	Manganese	NA	TI	Titanium	NA
BA	Barium	NA	MO	Molybdenum	NA	TL	Thallium	NA
BE	Beryllium	NA	NA	Sodium	NA	V	Vanadium	NA
CA	Calcium	NA	NI	Nickel	NA	ZN	Zinc	NA
CD	Cadmium	NA	P	Phosphorus	NA			NA
CO	Cobalt	NA	PB	Lead	NA			NA
CR	Chromium	NA	S	Sulfur	NA			
CU	Copper	NA	SB	Antimony	NA			
	Iron	NA	SE	Selenium	NA			

NOT. D DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-7 SAMPLE # 07 FRACTIONS: A,B
Date & Time Collected 02/27/96 Category

1230IF NO SAMPLE	700_TC NO SAMPLE	AA_CL NO SAMPLE	AA_NH3 NO SAMPLE	F_ACID NO SAMPLE	F_ALKF NO SAMPLE
MG/L	MG/L	MG/L	MG-N/L	MG-CACO3/L	MG/L
PE_HG NO SAMPLE	S_TSE NO SAMPLE	S_TSSE NO SAMPLE	UV_SO4 NO SAMPLE		
UG/L	MG/L	MG/L	MG/L		

SAMPLE ID CHARLOTTE MGP MW-7 FRACTION 07B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/27/96 Category

DATE ANALYZED 03/21/96

VER

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	NO SAMPLE	K	Potassium	NA	SI	Silicon	NA
AL	Aluminum	NA	LI	Lithium	NA	SN	Tin	NA
AS	Arsenic	NA	MG	Magnesium	NA	SR	Strontium	NA
B	Boron	NA	MN	Manganese	NA	TI	Titanium	NA
[redacted]	Barium	NA	MO	Molybdenum	NA	TL	Thallium	NA
[redacted]	Beryllium	NA	NA	Sodium	NA	V	Vanadium	NA
CA	Calcium	NA	NI	Nickel	NA	ZN	Zinc	NA
CD	Cadmium	NA	P	Phosphorus	NA			NA
CO	Cobalt	NA	PB	Lead	NA			NA
CR	Chromium	NA	S	Sulfur	NA			
CU	Copper	NA	SB	Antimony	NA			
FE	Iron	NA	SE	Selenium	NA			

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-8 SAMPLE # 08 FRACTIONS: A,B
Date & Time Collected 02/27/96 08:20:00 Category

1230IF 02/28/96	700_TC 5.19	AA_CL 33.7	AA_NH3 0.07	F_ACID 5.0	F_ALKF 340
100 MLS	MG/L	MG/L	MG-N/L	MG-CACO3/L	MG/L
PE [redacted] < 0.10	S_TSE 4302.0	S_TSSE 3728	UV_SO4 16.3		
UG/L	MG/L	MG/L	MG/L		

SAMPLE ID CHARLOTTE MGP MW-8 FRACTION 08B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/27/96 08:20:00 Category

VE

DATE ANALYZED 03/21/96

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	< 0.005	K	Potassium	0.860	SI	Silicon	NOT RUN
AL	Aluminum	5.887	LI	Lithium	NOT RUN	SN	Tin	< 0.045
AS	Arsenic	< 0.060	MG	Magnesium	32.275	SR	Strontium	NOT RUN
B	Boron	NOT RUN	MN	Manganese	3.511	TI	Titanium	NOT RUN
BA	Barium	0.124	MO	Molybdenum	NOT RUN	TL	Thallium	NOT RUN
BE	Beryllium	NOT RUN	NA	Sodium	13.990	V	Vanadium	NOT RUN
CA	Calcium	47.000	NI	Nickel	< 0.020	ZN	Zinc	NOT RUN
CD	Cadmium	0.012	P	Phosphorus	NOT RUN			NA
CO	Cobalt	NOT RUN	PB	Lead	< 0.090			NA
CR	Chromium	< 0.020	S	Sulfur	NOT RUN			
CU	Copper	0.013	SB	Antimony	NOT RUN			
FE	Iron	14.436	SE	Selenium	< 0.060			

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-9 SAMPLE # 09 FRACTIONS: A,B
Date & Time Collected 02/27/96 09:10:00 Category

1230IF 02/28/96	700_TC 3.66	AA_CL 32.6	AA_NH3 <0.05	F_ACID 8.8	F_ALKF 420	
100 MLS	MG/L	MG/L	MG-N/L	MG-CACO3/L	MG/L	
PE_HGW < 0.10	S_TSR 461.0	S_TSSE 4.0	UV_SO4 60.1			
UG/L	MG/L	MG/L	MG/L			

SAMPLE ID CHARLOTTE MGP MW-9 FRACTION 09B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/27/96 09:10:00 Category

VER

DATE ANALYZED 03/21/96

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	< 0.005	K	Potassium	1.610	SI	Silicon	NOT RUN
AL	Aluminum	< 0.020	LI	Lithium	NOT RUN	SN	Tin	< 0.045

SAMPLE ID CHARLOTTE MGP MW-9 FRACTION 09B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/27/96 09:10:00 Category

AS	Arsenic	< 0.060	MG	Magnesium	30.771	SR	Strontium	NOT RUN
B	Boron	NOT RUN	MN	Manganese	0.096	TI	Titanium	NOT RUN
BA	Barium	0.045	MO	Molybdenum	NOT RUN	TL	Thallium	NOT RUN
BE	Beryllium	NOT RUN	NA	Sodium	14.780	V	Vanadium	NOT RUN
CA	Calcium	80.317	NI	Nickel	< 0.020	ZN	Zinc	NOT RUN
CD	Cadmium	< 0.010	P	Phosphorus	NOT RUN			NA
CO	Cobalt	NOT RUN	PB	Lead	< 0.090			NA
CR	Chromium	< 0.020	S	Sulfur	NOT RUN			
CU	Copper	< 0.005	SB	Antimony	NOT RUN			
FE	Iron	0.148	SE	Selenium	< 0.060			

NOTES AND DEFINITIONS FOR THIS REPORT.

results reported in MG/L unless otherwise specified.
K FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-10A SAMPLE # 10 FRACTIONS: A,B
Date & Time Collected 02/27/96 08:25:00 Category

1230IF	02/28/96	700_TC	1.06	AA_CL	35.0	AA_NH3	0.29	F_ACID	14	F_ALKF	220
	100 MLS		MG/L		MG/L		MG-N/L		MG-CACO3/L		MG/L
PE_HGW	< 0.10	S_TSE	265.0	S_TSSE	26.0	UV_SO4	16.7				
	UG/L		MG/L		MG/L		MG/L				

SAMPLE ID CHARLOTTE MGP MW-10A FRACTION 10B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/27/96 08:25:00 Category

VER

DATE ANALYZED 03/21/96

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	< 0.005	K	Potassium	2.060	SI	Silicon	NOT RUN
AL	Aluminum	0.440	LI	Lithium	NOT RUN	SN	Tin	< 0.045
AS	Arsenic	< 0.060	MG	Magnesium	14.176	SR	Strontium	NOT RUN
B	Boron	NOT RUN	MN	Manganese	2.860	TI	Titanium	NOT RUN
BA	Barium	0.047	MO	Molybdenum	NOT RUN	TL	Thallium	NOT RUN
BE	Beryllium	NOT RUN	NA	Sodium	9.910	V	Vanadium	NOT RUN

SAMPLE ID CHARLOTTE MGP MW-10A FRACTION 10B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/27/96 08:25:00 Category

CA	Calcium	35.007	NI	Nickel	0.020	ZN	Zinc	NOT RUN
CD	Cadmium	< 0.010	P	Phosphorus	NOT RUN			NA
CO	Cobalt	NOT RUN	PB	Lead	< 0.090			NA
CR	Chromium	< 0.020	S	Sulfur	NOT RUN			
CU	Copper	< 0.005	SB	Antimony	NOT RUN			
FE	Iron	7.306	SE	Selenium	< 0.060			

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-11 SAMPLE # 11 FRACTIONS: A,B
Date & Time Collected 02/26/96 13:15:00 Category

1230IF	02/28/96	700_TC	1.69	AA_CL	18.5	AA_NH3	6.88	F_ACID	11	F_ALKF	170
	100 MLS		MG/L		MG/L		MG-N/L		MG-CACO3/L		MG/L
	< 0.10	S_TSE	457.0	S_TSSE	44.0	UV_SO4	32.7				
	UG/L		MG/L		MG/L		MG/L				

SAMPLE ID CHARLOTTE MGP MW-11 FRACTION 11B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 13:15:00 Category

VER

DATE ANALYZED 03/21/96

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	< 0.005	K	Potassium	1.650	SI	Silicon	NOT RUN
AL	Aluminum	0.158	LI	Lithium	NOT RUN	SN	Tin	< 0.045
AS	Arsenic	< 0.060	MG	Magnesium	27.005	SR	Strontium	NOT RUN
B	Boron	NOT RUN	MN	Manganese	0.606	TI	Titanium	NOT RUN
BA	Barium	0.046	MO	Molybdenum	NOT RUN	TL	Thallium	NOT RUN
BE	Beryllium	NOT RUN	NA	Sodium	17.090	V	Vanadium	NOT RUN
CA	Calcium	72.214	NI	Nickel	< 0.020	ZN	Zinc	NOT RUN
CD	Cadmium	< 0.010	P	Phosphorus	NOT RUN			NA
CO	Cobalt	NOT RUN	PB	Lead	< 0.090			NA
CR	Chromium	< 0.020	S	Sulfur	NOT RUN			

SAMPLE ID CHARLOTTE MGP MW-11 FRACTION 11B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 13:15:00 Category

CU	Copper	< 0.005	SB	Antimony	NOT RUN
FE	Iron	0.144	SE	Selenium	< 0.060

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-12 SAMPLE # 12 FRACTIONS: A,B
Date & Time Collected 02/26/96 13:40:00 Category

1230IF	02/28/96	700_TC	40.0	AA_CL	21.7	AA_NH3	0.77	F_ACID	41	F_ALKF	780
	100 MLS		MG/L		MG/L		MG-N/L		MG-CACO3/L		MG/L
PE_HGW	< 0.10	S_TSE	10616.0	S_TSSE	10635	UV_SO4	9.68				
	UG/L		MG/L		MG/L		MG/L				

SAMPLE ID CHARLOTTE MGP MW-12 FRACTION 12B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 13:40:00 Category

E ANALYZED 03/21/96

VER

DE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	< 0.005	K	Potassium	2.790	SI	Silicon	NOT RUN
AL	Aluminum	25.140	LI	Lithium	NOT RUN	SN	Tin	0.060
AS	Arsenic	< 0.060	MG	Magnesium	61.977	SR	Strontium	NOT RUN
B	Boron	NOT RUN	MN	Manganese	7.226	TI	Titanium	NOT RUN
BA	Barium	0.905	MO	Molybdenum	NOT RUN	TL	Thallium	NOT RUN
BE	Beryllium	NOT RUN	NA	Sodium	18.900	V	Vanadium	NOT RUN
CA	Calcium	131.070	NI	Nickel	0.095	ZN	Zinc	NOT RUN
CD	Cadmium	0.041	P	Phosphorus	NOT RUN			NA
CO	Cobalt	NOT RUN	PB	Lead	< 0.090			NA
CR	Chromium	0.023	S	Sulfur	NOT RUN			
CU	Copper	0.057	SB	Antimony	NOT RUN			
	Iron	77.150	SE	Selenium	< 0.060			

NOT. DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-13 SAMPLE # 13 FRACTIONS: A,B
Date & Time Collected 02/26/96 14:50:00 Category

1230IF 02/28/96	700_TC 2.81	AA_CL 18.2	AA_NH3 <0.05	F_ACIDNO RESULT	F_ALKF 170	
100 MLS	MG/L	MG/L	MG-N/L	MG-CACO3/L	MG/L	
PE_HGW < 0.10	S_TSE 316.0	S_TSSE 93	UV_SO4 54.6			
UG/L	MG/L	MG/L	MG/L			

SAMPLE ID CHARLOTTE MGP MW-13 FRACTION 13B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 14:50:00 Category

VRI

DATE ANALYZED 03/21/96

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	< 0.005	K	Potassium	2.520	SI	Silicon	NOT RUN
AL	Aluminum	0.290	LI	Lithium	NOT RUN	SN	Tin	< 0.045
AS	Arsenic	< 0.060	MG	Magnesium	10.983	SR	Strontium	NOT RUN
B	Boron	NOT RUN	MN	Manganese	0.231	TI	Titanium	NOT RUN
BA	Barium	0.113	MO	Molybdenum	NOT RUN	TL	Thallium	NOT RUN
BE	Beryllium	NOT RUN	NA	Sodium	19.930	V	Vanadium	NOT RUN
CA	Calcium	28.440	NI	Nickel	< 0.020	ZN	Zinc	NOT RUN
CD	Cadmium	< 0.010	P	Phosphorus	NOT RUN			NA
CO	Cobalt	NOT RUN	PB	Lead	< 0.090			NA
CR	Chromium	< 0.020	S	Sulfur	NOT RUN			
CU	Copper	< 0.005	SB	Antimony	NOT RUN			
FE	Iron	0.369	SE	Selenium	< 0.060			

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-14 SAMPLE # 14 FRACTIONS: A,B
Date & Time Collected 02/26/96 11:00:00 Category

1230IF 02/28/96	700_TC 32.3	AA_CL 48.0	AA_NH3 115	F_ACIDNO RESULT	F_ALKF 510	
100 MLS	MG/L	MG/L	MG-N/L	MG-CACO3/L	MG/L	
< 0.10	S_TSE 199.0	S_TSSE 24	UV_SO4 61.3			
UG/L	MG/L	MG/L	MG/L			

SAMPLE ID CHARLOTTE MGP MW-14 FRACTION 14B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 11:00:00 Category

VER

DATE ANALYZED 03/21/96

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	< 0.005	K	Potassium	3.030	SI	Silicon	NOT RUN
AL	Aluminum	0.526	LI	Lithium	NOT RUN	SN	Tin	< 0.045
AS	Arsenic	< 0.060	MG	Magnesium	0.750	SR	Strontium	NOT RUN
B	Boron	NOT RUN	MN	Manganese	0.028	TI	Titanium	NOT RUN
BA	Barium	0.037	MO	Molybdenum	NOT RUN	TL	Thallium	NOT RUN
BE	Beryllium	NOT RUN	NA	Sodium	9.600	V	Vanadium	NOT RUN
CA	Calcium	10.320	NI	Nickel	0.020	ZN	Zinc	NOT RUN
CD	Cadmium	< 0.010	P	Phosphorus	NOT RUN			NA
CO	Cobalt	NOT RUN	PB	Lead	< 0.090			NA
[redacted]	Chromium	< 0.020	S	Sulfur	NOT RUN			
[redacted]	Copper	< 0.005	SB	Antimony	NOT RUN			
FE	Iron	0.406	SE	Selenium	< 0.060			

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-15 SAMPLE # 15 FRACTIONS: A,B
Date & Time Collected 02/26/96 Category

1230IFNO SAMPLE	700_TCNO SAMPLE	AA_CL_NO SAMPLE	AA_NH3NO SAMPLE	F_ACIDNO SAMPLE	F_ALKFNO SAMPLE
MG/L	MG/L	MG/L	MG-N/L	MG-CACO3/L	MG/L

PE_HGMNO SAMPLE	S_TSE_NO SAMPLE	S_TSSENO SAMPLE	UV_SO4NO SAMPLE
UG/L	MG/L	MG/L	MG/L

SAMPLE ID CHARLOTTE MGP MW-15 FRACTION 15B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 Category

VER

DATE ANALYZED 03/21/96

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
[redacted]	Silver	NO SAMPLE	K	Potassium	NA	SI	Silicon	NA
AL	Aluminum	NA	LI	Lithium	NA	SN	Tin	NA

SAMPLE ID CHARLOTTE MGP MW-15 FRACTION 15B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 Category

AS	Arsenic	NA	MG	Magnesium	NA	SR	Strontium	NA
B	Boron	NA	MN	Manganese	NA	TI	Titanium	NA
BA	Barium	NA	MO	Molybdenum	NA	TL	Thallium	NA
BE	Beryllium	NA	NA	Sodium	NA	V	Vanadium	NA
CA	Calcium	NA	NI	Nickel	NA	ZN	Zinc	NA
CD	Cadmium	NA	P	Phosphorus	NA			NA
CO	Cobalt	NA	PB	Lead	NA			NA
CR	Chromium	NA	S	Sulfur	NA			
CU	Copper	NA	SB	Antimony	NA			
FE	Iron	NA	SE	Selenium	NA			

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP MW-16 SAMPLE # 16 FRACTIONS: A,B
Date & Time Collected 02/26/96 09:35:00 Category

1230IF	02/28/96	700_TC	4.25	AA_CL	71.7	AA_NH3	0.12	F_ACID	44	F_ALKF	98.0
	100 MLS		MG/L		MG/L		MG-N/L		MG-CACO3/L		MG/L
PE_HGW	< 0.10	S_TSE	254.0	S_TSSE	<4	UV_SO4	14.6				
	UG/L		MG/L		MG/L		MG/L				

SAMPLE ID CHARLOTTE MGP MW-16 FRACTION 16B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 09:35:00 Category

VEF

DATE ANALYZED 03/21/96

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	< 0.005	K	Potassium	1.670	SI	Silicon	NOT RUN
AL	Aluminum	< 0.020	LI	Lithium	NOT RUN	SN	Tin	< 0.045
AS	Arsenic	< 0.060	MG	Magnesium	18.136	SR	Strontium	NOT RUN
B	Boron	NOT RUN	MN	Manganese	0.425	TI	Titanium	NOT RUN
BA	Barium	0.140	MO	Molybdenum	NOT RUN	TL	Thallium	NOT RUN
BE	Beryllium	NOT RUN	NA	Sodium	16.370	V	Vanadium	NOT RUN

SAMPLE ID [redacted] CHARLOTTE MGP MW-16 FRACTION 16B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/26/96 09:35:00 Category

CA	Calcium	30.510	NI	Nickel	< 0.020	ZN	Zinc NOT RUN
CD	Cadmium	0.014	P	Phosphorus	NOT RUN		NA
CO	Cobalt	NOT RUN	PB	Lead	< 0.090		NA
CR	Chromium	< 0.020	S	Sulfur	NOT RUN		
CU	Copper	< 0.005	SB	Antimony	NOT RUN		
FE	Iron	0.189	SE	Selenium	< 0.060		

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

SAMPLE ID CHARLOTTE MGP FIELD BLANK SAMPLE # 18 FRACTIONS: A,B
Date & Time Collected 02/27/96 10:45:00 Category

1230IF 02/28/96	700_TC 0.95	AA_CL <1.0	AA_NH3 <0.05	F_ACID 0.33	F_ALKF 1.5
100 MLS	MG/L	MG/L	MG-N/L	MG-CACO3/L	MG/L
[redacted] < 0.10	UV_SO4 9.55				
UG/L	MG/L				

SAMPLE ID CHARLOTTE MGP FIELD BLANK FRACTION 18B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/27/96 10:45:00 Category

VER

DATE ANALYZED 03/21/96

CODE	METAL	RESULT	CODE	METAL	RESULT	CODE	METAL	RESULT
AG	Silver	< 0.005	K	Potassium	0.130	SI	Silicon	NOT RUN
AL	Aluminum	0.025	LI	Lithium	NOT RUN	SN	Tin	< 0.045
AS	Arsenic	< 0.060	MG	Magnesium	< 0.030	SR	Strontium	NOT RUN
B	Boron	NOT RUN	MN	Manganese	< 0.005	TI	Titanium	NOT RUN
BA	Barium	< 0.005	MO	Molybdenum	NOT RUN	TL	Thallium	NOT RUN
BE	Beryllium	NOT RUN	NA	Sodium	< 1.500	V	Vanadium	NOT RUN
CA	Calcium	0.072	NI	Nickel	< 0.020	ZN	Zinc	NOT RUN
[redacted]	Cadmium	< 0.010	P	Phosphorus	NOT RUN			NA
[redacted]	Cobalt	NOT RUN	PB	Lead	< 0.090			NA
CR	Chromium	< 0.020	S	Sulfur	NOT RUN			

SAMP[redacted] CHARLOTTE MGP FIELD BLANK FRACTION 18B TEST CODE ICPD24 NAME DIG ICP 24 ELEMENT SCAN
Date & Time Collected 02/27/96 10:45:00 Category

CU	Copper	< 0.005	SB	Antimony	NOT RUN
FE	Iron	< 0.010	SE	Selenium	< 0.060

NOTES AND DEFINITIONS FOR THIS REPORT.

All results reported in MG/L unless otherwise specified.
BLANK FIELD = NOT ANALYZED

9602142

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Analytical

March 14, 1996

Mr. Troy Whisenant
Duke Power Company
13339 Hagers Ferry Road
Huntersville, NC 28075

RE: PACE Project No. 660229.520
Client Reference: Charlotte MGP Site

Dear Mr. Whisenant:

Enclosed is the report of laboratory analyses for samples received February 29, 1996.

Footnotes are given at the end of the report.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Clevecia M. Harris

Clevecia M. Harris
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Analytical

Duke Power Company
13339 Hagers Ferry Road
Huntersville, NC 28075

March 14, 1996
PACE Project Number: 6602295

Attn: Mr. Troy Whisenant

Client Reference: Charlotte MGP Site

Parameter	Units	MDL	92 0560108 02/26/96 02/29/96 9602142- 1a	DATE ANALYZED
PACE Sample Number:				
Date Collected:				
Date Received:				
Client Sample ID:				
INORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Cyanide, Total	mg/L	0.002	0.005	03/09/96

Parameter	Units	MDL	92 0560116 02/26/96 02/29/96 9602142- 3a	DATE ANALYZED
PACE Sample Number:				
Date Collected:				
Date Received:				
Client Sample ID:				
Parameter	Units	MDL	3a	DATE ANALYZED
INORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Cyanide, Total	mg/L	0.002	0.003	03/09/96

Parameter	Units	MDL	92 0560124 02/26/96 02/29/96 9602142- 5a	DATE ANALYZED
PACE Sample Number:				
Date Collected:				
Date Received:				
Client Sample ID:				
INORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Cyanide, Total	mg/L	0.002	ND	03/09/96

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

1	FIELD ID::	Charlotte MGP MW-16	LAB ID::	9602142X16A

Tentatively Identified Compounds Report

Compound	Probable Molecular Weight	Estimated Concentration (ug/L)	Library Match Probability (%)	Retention Time (RT) (Minutes)	Identification Basis: Library Match	Identification Basis: Manual Interpretation	Identification Basis: RT	Scan Number
NO TICS IDENTIFIED		X	X	X	X	X		X

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Troy Whisenant

March 14, 1996
PACE Project Number: 660229520

Client Reference: Charlotte MGP Site

PACE Sample Number:			92 0560132	
Date Collected:			02/26/96	
Date Received:			02/29/96	
Client Sample ID:			9602142-8a	
Parameter	Units	MDL		DATE ANALYZED
INORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Cyanide, Total	mg/L	0.002	0.003	03/09/96

PACE Sample Number:			92 0560140	
Date Collected:			02/26/96	
Date Received:			02/29/96	
Client Sample ID:			9602142-9a	
Parameter	Units	MDL		DATE ANALYZED
INORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Cyanide, Total	mg/L	0.002	0.009	03/09/96

PACE Sample Number:			92 0560159	
Date Collected:			02/26/96	
Date Received:			02/29/96	
Client Sample ID:			9602142-10a	
Parameter	Units	MDL		DATE ANALYZED
INORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Cyanide, Total	mg/L	0.002	0.005	03/09/96

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services Inc

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Analytical

Troy Whisenant

March 14, 1996
PACE Project Number: 660229520

Client Reference: Charlotte MGP Site

PACE Sample Number:			92 0560167	
Date Collected:			02/26/96	
Date Received:			02/29/96	
Client Sample ID:			9602142-11a	
Parameter	Units	MDL		DATE ANALYZED
INORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Cyanide, Total	mg/L	0.002	0.005	03/09/96

PACE Sample Number:			92 0560175	
Date Collected:			02/26/96	
Date Received:			02/29/96	
Client Sample ID:			9602142-12a	
Parameter	Units	MDL		DATE ANALYZED
INORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Cyanide, Total	mg/L	0.05	0.70	03/09/96

PACE Sample Number:			92 0560183	
Date Collected:			02/26/96	
Date Received:			02/29/96	
Client Sample ID:			9602142-13a	
Parameter	Units	MDL		DATE ANALYZED
INORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Cyanide, Total	mg/L	0.002	ND	03/09/96

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

[redacted] Troy Whisenant
Page 4

March 14, 1996
PACE Project Number: 660229520

Client Reference: Charlotte MGP Site

PACE Sample Number:			92 0560191	
Date Collected:			02/26/96	
Date Received:			02/29/96	
Client Sample ID:			9602142-	
Parameter	Units	MDL	14a	DATE ANALYZED
INORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Cyanide, Total	mg/L	0.002	0.012	03/09/96

PACE Sample Number:			92 0560205	
Date Collected:			02/26/96	
Date Received:			02/29/96	
Client Sample ID:			9602142-	
Parameter	Units	MDL	16a	DATE ANALYZED
INORGANIC ANALYSIS				
[redacted]VIDUAL PARAMETERS				
Cyanide, Total	mg/L	0.002	0.003	03/13/96

PACE Sample Number:			92 0560213	
Date Collected:			02/26/96	
Date Received:			02/29/96	
Client Sample ID:			9602142-	
Parameter	Units	MDL	18a	DATE ANALYZED
INORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Cyanide, Total	mg/L	0.002	0.004	03/13/96

These data have been reviewed and are approved for release.

Margaret S. Harding
Manager, Laboratory Operations

[redacted]

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc

Pace Analytical

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

FOOTNOTES
for pages 1 through 4

March 14, 1996
PACE Project Number: 660229520

Client Reference: Charlotte MGP Site

MDL Method Detection Limit
ND Not detected at or above the MDL.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

QUALITY CONTROL DATA

March 14, 1996
PACE Project Number: 660229520

Client Reference: Charlotte MGP Site

Cyanide, Total
Batch: 92 44633
Samples: 92 0560108, 92 0560116, 92 0560124, 92 0560132, 92 0560140
92 0560159, 92 0560167, 92 0560183, 92 0560191

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	920560299	Duplicate of 92 0560299	RPD
Cyanide, Total	mg/L	0.002	ND	0.005	0.006	18%

LABORATORY CONTROL SAMPLE:

Parameter	Units	MDL	Reference Value	Recv
Cyanide, Total	mg/L	0.002	0.020	110%

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Analytical

QUALITY CONTROL DATA

March 14, 1996
PACE Project Number: 660229520

Client Reference: Charlotte MGP Site

Cyanide, Total
Batch: 92 44708
Samples: 92 0560175, 92 0560205, 92 0560213

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	920564120	Duplicate of 92 0564120	RPD
Cyanide, Total	mg/L	0.002	ND	0.014	0.014	0%

LABORATORY CONTROL SAMPLE:

Parameter	Units	MDL	Reference Value	Recv
Cyanide, Total	mg/L	0.002	0.020	95%

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Analytical

FOOTNOTES
for pages 6 through 7

March 14, 1996
PACE Project Number: 660229520

Client Reference: Charlotte MGP Site

MDL	Method Detection Limit
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services Inc

USEPA Method 625 Analysis Results

Organic Chemistry Group

DUKE POWER COMPANY Laboratory Services

⇨⇨⇨ ENVIRONMENTAL CENTER. MCGUIRE NUCLEAR COMPLEX. (704) 875-5325 ⇦⇦⇦

New York Department of Health Laboratory Identification # 11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification # 248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Charlotte MGP Field Blank

Reviewed by:: GCS 3/22/96

Lab ID:: 9602142X18A Filename:: 19M13.D

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
Pyridine	NOT DETECTED	10
N-nitrosodimethylamine	NOT DETECTED	10
Aniline	NOT DETECTED	10
Phenol	NOT DETECTED	10
Bis(2-chloroethyl)ether	NOT DETECTED	10
2-chlorophenol	NOT DETECTED	10
1,3-Dichlorobenzene	NOT DETECTED	10
1,4-dichlorobenzene	NOT DETECTED	10
Benzyl Alcohol	NOT DETECTED	10
1,2-dichlorobenzene	NOT DETECTED	10
2-methylphenol	NOT DETECTED	10
Bis(2-chloroisopropyl)ether	NOT DETECTED	10
4-methylphenol	NOT DETECTED	10
Hexachloroethane	NOT DETECTED	10
N-Nitrosodi-n-propyl amine	NOT DETECTED	10
Nitrobenzene	NOT DETECTED	10
Isophorone	NOT DETECTED	10
2-nitrophenol	NOT DETECTED	10
2,4-dimethylphenol	NOT DETECTED	10
Bis(2-chloroethoxy)methane	NOT DETECTED	10
2,4-dichlorophenol	NOT DETECTED	10
Benzoic acid	NOT DETECTED	10
1,2,4-Trichlorobenzene	NOT DETECTED	10
Naphthalene	NOT DETECTED	10
4-chloroaniline	NOT DETECTED	10
Hexachlorobutadiene	NOT DETECTED	10
4-chloro-3-methylphenol	NOT DETECTED	10
Hexachlorocyclopentadiene	NOT DETECTED	10

19M13.D Charlotte MGP Field Blank 9602142X18A

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	10
2,4,5-Trichlorophenol	NOT DETECTED	10
2-Chloronaphthalene	NOT DETECTED	10
2-Nitroaniline	NOT DETECTED	10
Dimethylphthalate	NOT DETECTED	10
Acenaphthylene	NOT DETECTED	10
2,6-Dinitrotoluene	NOT DETECTED	10
3-Nitroaniline	NOT DETECTED	10
Acenaphthene	NOT DETECTED	10
2,4-Dinitrophenol	NOT DETECTED	10
4-Nitrophenol	NOT DETECTED	10
Dibenzofuran	NOT DETECTED	10
2,4-Dinitrotoluene	NOT DETECTED	10
Diethylphthalate	NOT DETECTED	10
Fluorene	NOT DETECTED	10
4-chlorophenyl phenyl ether	NOT DETECTED	10
4-Nitroaniline	NOT DETECTED	10
4,6-dinitro-2-methylphenol	NOT DETECTED	10
N-Nitrosodiphenylamine	NOT DETECTED	10
1,2-Diphenylhydrazine	NOT DETECTED	10
4-bromophenyl phenyl ether	NOT DETECTED	10
Hexachlorobenzene	NOT DETECTED	10
Pentachlorophenol	NOT DETECTED	10
Phenanthrene	NOT DETECTED	10
Anthracene	NOT DETECTED	10
Di-n-Butylphthalate	NOT DETECTED	10
Fluoranthene	NOT DETECTED	10
Benzidine	NOT DETECTED	50
Pyrene	NOT DETECTED	10
Butylbenzylphthalate	NOT DETECTED	10
3,3'-Dichlorobenzidine	NOT DETECTED	10
Benzo[a]anthracene	NOT DETECTED	10
Chrysene	NOT DETECTED	10
Bis(2-ethylhexyl)phthalate	NOT DETECTED	10
Di-n-octylphthalate	NOT DETECTED	10
Benzo[b]fluoranthene	NOT DETECTED	10
Benzo[k]fluoranthene	NOT DETECTED	10
Benzo[a]pyrene	NOT DETECTED	10
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	10
Dibenzo[a,h]anthracene	NOT DETECTED	10
Benzo[g,h,i]perylene	NOT DETECTED	10

Not Detected = Less than Quantitation Limit

(B) = Compound also identified in Laboratory Blank

-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)

All reported concentrations have been rounded to two significant figures

**** Note: The following compounds cannot be accurately quantitated using EPA Method 625; - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations.*

.D FIELD ID:: Charlotte MGP Field Bla LAB ID:: 9602142X18A

Tentatively Identified Compounds Report

Compound	Probable Molecular Weight	Estimated Concentration (ug/L)	Library Match Probability (%)	Retention Time (RT) (Minutes)	Identification Basis: Library Match	Identification Basis: Manual Interpretation	Identification Basis: RT	Scan Number
NO TICS IDENTIFIED		X	X	X	X	X		X

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

USEPA Method 625 Analysis Results

Organic Chemistry Group

⇨⇨⇨ ENVIRONMENTAL CENTER MCGUIRE NUCLEAR COMPLEX (704) 875-5325 ⇦⇦⇦

New York Department of Health Laboratory Identification # 11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification # 248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Charlotte MGP MW-1

Reviewed by:: GCA 3/22/96

Lab ID:: 9602142X01A Filename:: 19M01.D

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
Pyridine	NOT DETECTED	10
N-nitrosodimethylamine	NOT DETECTED	10
Aniline	NOT DETECTED	10
Phenol	NOT DETECTED	10
Bis(2-chloroethyl)ether	NOT DETECTED	10
2-chlorophenol	NOT DETECTED	10
1,3-Dichlorobenzene	NOT DETECTED	10
1,4-dichlorobenzene	NOT DETECTED	10
Benzyl Alcohol	NOT DETECTED	10
1,2-dichlorobenzene	NOT DETECTED	10
2-methylphenol	NOT DETECTED	10
Bis(2-chloroisopropyl)ether	NOT DETECTED	10
4-methylphenol	NOT DETECTED	10
Hexachloroethane	NOT DETECTED	10
N-Nitrosodi-n-propyl amine	NOT DETECTED	10
Nitrobenzene	NOT DETECTED	10
Isophorone	NOT DETECTED	10
2-nitrophenol	NOT DETECTED	10
2,4-dimethylphenol	NOT DETECTED	10
Bis(2-chloroethoxy)methane	NOT DETECTED	10
2,4-dichlorophenol	NOT DETECTED	10
Benzoic acid	NOT DETECTED	10
1,2,4-Trichlorobenzene	NOT DETECTED	10
Naphthalene	NOT DETECTED	10
4-chloroaniline	NOT DETECTED	10
Hexachlorobutadiene.	NOT DETECTED	10
4-chloro-3-methylphenol	NOT DETECTED	10
Hexachlorocyclopentadiene	NOT DETECTED	10

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	10
2,4,5-Trichlorophenol	NOT DETECTED	10
2-Chloronaphthalene	NOT DETECTED	10
2-Nitroaniline	NOT DETECTED	10
Dimethylphthalate	NOT DETECTED	10
Acenaphthylene	NOT DETECTED	10
2,6-Dinitrotoluene	NOT DETECTED	10
3-Nitroaniline	NOT DETECTED	10
Acenaphthene	NOT DETECTED	10
2,4-Dinitrophenol	NOT DETECTED	10
4-Nitrophenol	NOT DETECTED	10
Dibenzofuran	NOT DETECTED	10
2,4-Dinitrotoluene	NOT DETECTED	10
Diethylphthalate	NOT DETECTED	10
Fluorene	NOT DETECTED	10
4-chlorophenyl phenyl ether	NOT DETECTED	10
4-Nitroaniline	NOT DETECTED	10
4,6-dinitro-2-methylphenol	NOT DETECTED	10
N-Nitrosodiphenylamine	NOT DETECTED	10
1,2-Diphenylhydrazine	NOT DETECTED	10
4-bromophenyl phenyl ether	NOT DETECTED	10
Hexachlorobenzene	NOT DETECTED	10
Pentachlorophenol	NOT DETECTED	10
Phenanthrene	NOT DETECTED	10
Anthracene	NOT DETECTED	10
Di-n-Butylphthalate	NOT DETECTED	10
Fluoranthene	NOT DETECTED	10
Benzidine	NOT DETECTED	50
Pyrene	NOT DETECTED	10
Butylbenzylphthalate	NOT DETECTED	10
3,3'-Dichlorobenzidine	NOT DETECTED	10
Benzo[a]anthracene	NOT DETECTED	10
Chrysene	NOT DETECTED	10
Bis(2-ethylhexyl)phthalate	NOT DETECTED	10
Di-n-octylphthalate	NOT DETECTED	10
Benzo[b]fluoranthene	NOT DETECTED	10
Benzo[k]fluoranthene	NOT DETECTED	10
Benzo[a]pyrene	NOT DETECTED	10
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	10
Dibenzo[a,h]anthracene	NOT DETECTED	10
Benzo[g,h,i]perylene .	NOT DETECTED	10

Not Detected = Less than Quantitation Limit
(B) = Compound also identified in Laboratory Blank
-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)
All reported concentrations have been rounded to two significant figures
*** *Note: The following compounds cannot be accurately quantitated using EPA Method 625: - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations.*

1.D FIELD ID:: Charlotte MGP MW-1 LAB ID:: 9602142X01A

Tentatively Identified Compounds Report

Compound	Probable Molecular Weight	Estimated Concentration (ug/L)	Library Match Probability (%)	Retention Time (RT) (Minutes)	Identification Basis: Library Match	Identification Basis: Manual Interpretation	Identification Basis: RT	Scan Number
NO TICS IDENTIFIED		X	X	X	X	X		X

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

USEPA Method 625 Analysis Results

Organic Chemistry Group

DUKE POWER COMPANY Laboratory Services

ENVIRONMENTAL CENTER MCGUIRE NUCLEAR COMPLEX (704) 875-5325

New York Department of Health Laboratory Identification # 11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification # 248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Charlotte MGP MW-3

Reviewed by:: GCS 3/22/96

Lab ID:: 9602142x03A Filename:: 19M02.D

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
Pyridine	NOT DETECTED	10
N-nitrosodimethylamine	NOT DETECTED	10
Aniline	NOT DETECTED	10
Phenol	NOT DETECTED	10
Bis(2-chloroethyl)ether	NOT DETECTED	10
2-chlorophenol	NOT DETECTED	10
1,3-Dichlorobenzene	NOT DETECTED	10
1,4-dichlorobenzene	NOT DETECTED	10
Benzyl Alcohol	NOT DETECTED	10
1,2-dichlorobenzene	NOT DETECTED	10
2-methylphenol	NOT DETECTED	10
Bis(2-chloroisopropyl)ether	NOT DETECTED	10
4-methylphenol	NOT DETECTED	10
Hexachloroethane	NOT DETECTED	10
N-Nitrosodi-n-propyl amine	NOT DETECTED	10
Nitrobenzene	NOT DETECTED	10
Isophorone	NOT DETECTED	10
2-nitrophenol	NOT DETECTED	10
2,4-dimethylphenol	NOT DETECTED	10
Bis(2-chloroethoxy)methane	NOT DETECTED	10
2,4-dichlorophenol	NOT DETECTED	10
Benzoic acid	NOT DETECTED	10
1,2,4-Trichlorobenzene	NOT DETECTED	10
Naphthalene	NOT DETECTED	10
4-chloroaniline	NOT DETECTED	10
Hexachlorobutadiene	NOT DETECTED	10
4-chloro-3-methylphenol	NOT DETECTED	10
Hexachlorocyclopentadiene	NOT DETECTED	10

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	10
2,4,5-Trichlorophenol	NOT DETECTED	10
2-Chloronaphthalene	NOT DETECTED	10
2-Nitroaniline	NOT DETECTED	10
Dimethylphthalate	NOT DETECTED	10
Acenaphthylene	NOT DETECTED	10
2,6-Dinitrotoluene	NOT DETECTED	10
3-Nitroaniline	NOT DETECTED	10
Acenaphthene	NOT DETECTED	10
2,4-Dinitrophenol	NOT DETECTED	10
4-Nitrophenol	NOT DETECTED	10
Dibenzofuran	NOT DETECTED	10
2,4-Dinitrotoluene	NOT DETECTED	10
Diethylphthalate	NOT DETECTED	10
Fluorene	NOT DETECTED	10
4-chlorophenyl phenyl ether	NOT DETECTED	10
4-Nitroaniline	NOT DETECTED	10
4,6-dinitro-2-methylphenol	NOT DETECTED	10
N-Nitrosodiphenylamine	NOT DETECTED	10
1,2-Diphenylhydrazine	NOT DETECTED	10
4-bromophenyl phenyl ether	NOT DETECTED	10
Hexachlorobenzene	NOT DETECTED	10
Pentachlorophenol	NOT DETECTED	10
Phenanthrene	NOT DETECTED	10
Anthracene	NOT DETECTED	10
Di-n-Butylphthalate	NOT DETECTED	10
Fluoranthene	NOT DETECTED	10
Benzidine	NOT DETECTED	50
Pyrene	NOT DETECTED	10
Butylbenzylphthalate	NOT DETECTED	10
3,3'-Dichlorobenzidine	NOT DETECTED	10
Benzo[a]anthracene	NOT DETECTED	10
Chrysene	NOT DETECTED	10
Bis(2-ethylhexyl)phthalate	NOT DETECTED	10
Di-n-octylphthalate	NOT DETECTED	10
Benzo[b]fluoranthene	NOT DETECTED	10
Benzo[k]fluoranthene	NOT DETECTED	10
Benzo[a]pyrene	NOT DETECTED	10
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	10
Dibenzo[a,h]anthracene	NOT DETECTED	10
Benzo[g,h,i]perylene .	NOT DETECTED	10

Not Detected = Less than Quantitation Limit
(B) = Compound also identified in Laboratory Blank
-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)
All reported concentrations have been rounded to two significant figures
*** *Note: The following compounds cannot be accurately quantitated using EPA Method 625; - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations*

.D FIELD ID:: Charlotte MGP MW-3 LAB ID:: 9602142x03A

Tentatively Identified Compounds Report

Compound	Probable Molecular Weight	Estimated Concentration (ug/L)	Library Match Probability (%)	Retention Time (RT) (Minutes)	Identification Basis			Scan Number
					Library Match	Manual Interpretation	RT	
NO TICS IDENTIFIED		X	X	X	X	X		X

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

USEPA Method 625 Analysis Results

Organic Chemistry Group

⇦⇦⇦ ENVIRONMENTAL CENTER. MCGUIRE NUCLEAR COMPLEX. (704) 875-5325 ⇦⇦⇦

New York Department of Health Laboratory Identification # 11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification # 248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Charlotte MGP MW-5

Reviewed by:: GCA 3/22/96

Lab ID:: 9602142x05A Filename:: 20M07.D

Compound Name	Concentration (ug/L)		Quantitation Limit (ug/L)
Pyridine	NOT DETECTED		10
N-nitrosodimethylamine	NOT DETECTED		10
Aniline	NOT DETECTED		10
Phenol	NOT DETECTED		10
Bis(2-chloroethyl)ether	NOT DETECTED		10
2-chlorophenol	NOT DETECTED		10
1,3-Dichlorobenzene	NOT DETECTED		10
1,4-dichlorobenzene	NOT DETECTED		10
Benzyl Alcohol	NOT DETECTED		10
1,2-dichlorobenzene	NOT DETECTED		10
2-methylphenol	NOT DETECTED		10
Bis(2-chloroisopropyl)ether	NOT DETECTED		10
4-methylphenol	NOT DETECTED		10
Hexachloroethane	NOT DETECTED		10
N-Nitrosodi-n-propyl amine	NOT DETECTED		10
Nitrobenzene	NOT DETECTED		10
Isophorone	NOT DETECTED		10
2-nitrophenol	NOT DETECTED		10
2,4-dimethylphenol	NOT DETECTED		10
Bis(2-chloroethoxy)methane	NOT DETECTED		10
2,4-dichlorophenol	NOT DETECTED		10
Benzoic acid	NOT DETECTED		10
1,2,4-Trichlorobenzene	NOT DETECTED		10
Naphthalene	11000	est.	1000
4-chloroaniline	NOT DETECTED		10
Hexachlorobutadiene	NOT DETECTED		10
4-chloro-3-methylphenol	NOT DETECTED		10
Hexachlorocyclopentadiene	NOT DETECTED		10

Compound Name	Concentration (ug/L)		Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED		10
2,4,5-Trichlorophenol	NOT DETECTED		10
2-Chloronaphthalene	NOT DETECTED		10
2-Nitroaniline	NOT DETECTED		10
Dimethylphthalate	NOT DETECTED		10
Acenaphthylene	NOT DETECTED		10
2,6-Dinitrotoluene	NOT DETECTED		10
3-Nitroaniline	NOT DETECTED		10
Acenaphthene	160	est.	10
2,4-Dinitrophenol	NOT DETECTED		10
4-Nitrophenol	NOT DETECTED		10
Dibenzofuran	12		10
2,4-Dinitrotoluene	NOT DETECTED		10
Diethylphthalate	NOT DETECTED		10
Fluorene	44		10
4-chlorophenyl phenyl ether	NOT DETECTED		10
4-Nitroaniline	NOT DETECTED		10
4,6-dinitro-2-methylphenol	NOT DETECTED		10
N-Nitrosodiphenylamine	NOT DETECTED		10
1,2-Diphenylhydrazine	NOT DETECTED		10
4-bromophenyl phenyl ether	NOT DETECTED		10
Hexachlorobenzene	NOT DETECTED		10
Pentachlorophenol	NOT DETECTED		10
Phenanthrene	48		10
Anthracene	NOT DETECTED		10
Di-n-Butylphthalate	NOT DETECTED		10
Fluoranthene	NOT DETECTED		10
Benzidine	NOT DETECTED		50
Pyrene	NOT DETECTED		10
Butylbenzylphthalate	NOT DETECTED		10
3,3'-Dichlorobenzidine	NOT DETECTED		10
Benzo[a]anthracene	NOT DETECTED		10
Chrysene	NOT DETECTED		10
Bis(2-ethylhexyl)phthalate	NOT DETECTED		10
Di-n-octylphthalate	NOT DETECTED		10
Benzo[b]fluoranthene	NOT DETECTED		10
Benzo[k]fluoranthene	NOT DETECTED		10
Benzo[a]pyrene	NOT DETECTED		10
Indeno(1,2,3-c,d)pyrene	NOT DETECTED		10
Dibenzo[a,h]anthracene	NOT DETECTED		10
Benzo[g,h,i]perylene	NOT DETECTED		10

Not Detected = Less than Quantitation Limit
(B) = Compound also identified in Laboratory Blank
-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)
All reported concentrations have been rounded to two significant figures
*** *Note: The following compounds cannot be accurately quantitated using EPA Method 625; - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations.*

07.D FIELD ID:: Charlotte MGP MW-5 LAB ID:: 9602142x05A

Tentatively Identified Compounds Report

Compound	Probable Molecular Weight	Estimated Concentration (ug/L)	Library Match Probability (%)	Retention Time (RT) (Minutes)	Identification Basis: Library Match	Identification Basis: Manual Interpretation	Identification Basis: RT	Scan Number
2-Methylnaphthalene		1900		17.7		X		1925
Substituted Benzene		330	68%	7.70	X			523
Dimethyl Benzene		140	94%	7.90	X			548
Ethyl-Methyl Benzene		110	91%	10.40	X			893
Trimethyl Benzene		160	91%	11.20	X			1007
Trimethyl Benzene		140	91%	11.90	X			1102
Substituted Naphthalene		22	95%	19.60	X			2174
Substituted Naphthalene		30	96%	20.10	X			2240

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

USEPA Method 625 Analysis Results

Organic Chemistry Group

ENVIRONMENTAL CENTER, MCGUIRE NUCLEAR COMPLEX (704) 875-5325

New York Department of Health Laboratory Identification # 11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification # 248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Charlotte MGP MW-8

Reviewed by:: GCA 3/22/96

Lab ID:: 9602142X08A Filename:: 19M04.D

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
Pyridine	NOT DETECTED	10
N-nitrosodimethylamine	NOT DETECTED	10
Aniline	NOT DETECTED	10
Phenol	NOT DETECTED	10
Bis(2-chloroethyl)ether	NOT DETECTED	10
2-chlorophenol	NOT DETECTED	10
1,3-Dichlorobenzene	NOT DETECTED	10
1,4-dichlorobenzene	NOT DETECTED	10
Benzyl Alcohol	NOT DETECTED	10
1,2-dichlorobenzene	NOT DETECTED	10
2-methylphenol	NOT DETECTED	10
Bis(2-chloroisopropyl)ether	NOT DETECTED	10
4-methylphenol	NOT DETECTED	10
Hexachloroethane	NOT DETECTED	10
N-Nitrosodi-n-propyl amine	NOT DETECTED	10
Nitrobenzene	NOT DETECTED	10
Isophorone	NOT DETECTED	10
2-nitrophenol	NOT DETECTED	10
2,4-dimethylphenol	NOT DETECTED	10
Bis(2-chloroethoxy)methane	NOT DETECTED	10
2,4-dichlorophenol	NOT DETECTED	10
Benzoic acid	NOT DETECTED	10
1,2,4-Trichlorobenzene	NOT DETECTED	10
Naphthalene	NOT DETECTED	10
4-chloroaniline	NOT DETECTED	10
Hexachlorobutadiene	NOT DETECTED	10
4-chloro-3-methylphenol	NOT DETECTED	10
Hexachlorocyclopentadiene	NOT DETECTED	10

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	10
2,4,5-Trichlorophenol	NOT DETECTED	10
2-Chloronaphthalene	NOT DETECTED	10
2-Nitroaniline	NOT DETECTED	10
Dimethylphthalate	NOT DETECTED	10
Acenaphthylene	NOT DETECTED	10
2,6-Dinitrotoluene	NOT DETECTED	10
3-Nitroaniline	NOT DETECTED	10
Acenaphthene	NOT DETECTED	10
2,4-Dinitrophenol	NOT DETECTED	10
4-Nitrophenol	NOT DETECTED	10
Dibenzofuran	NOT DETECTED	10
2,4-Dinitrotoluene	NOT DETECTED	10
Diethylphthalate	NOT DETECTED	10
Fluorene	NOT DETECTED	10
4-chlorophenyl phenyl ether	NOT DETECTED	10
4-Nitroaniline	NOT DETECTED	10
4,6-dinitro-2-methylphenol	NOT DETECTED	10
N-Nitrosodiphenylamine	NOT DETECTED	10
1,2-Diphenylhydrazine	NOT DETECTED	10
4-bromophenyl phenyl ether	NOT DETECTED	10
Hexachlorobenzene	NOT DETECTED	10
Pentachlorophenol	NOT DETECTED	10
Phenanthrene	NOT DETECTED	10
Anthracene	NOT DETECTED	10
Di-n-Butylphthalate	NOT DETECTED	10
Fluoranthene	NOT DETECTED	10
Benzidine	NOT DETECTED	50
Pyrene	NOT DETECTED	10
Butylbenzylphthalate	NOT DETECTED	10
3,3'-Dichlorobenzidine	NOT DETECTED	10
Benzo[a]anthracene	NOT DETECTED	10
Chrysene	NOT DETECTED	10
Bis(2-ethylhexyl)phthalate	NOT DETECTED	10
Di-n-octylphthalate	NOT DETECTED	10
Benzo[b]fluoranthene	NOT DETECTED	10
Benzo[k]fluoranthene	NOT DETECTED	10
Benzo[a]pyrene	NOT DETECTED	10
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	10
Dibenzo[a,h]anthracene	NOT DETECTED	10
Benzo[g,h,i]perylene	NOT DETECTED	10

Not Detected = Less than Quantitation Limit
(B) = Compound also identified in Laboratory Blank
-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)
All reported concentrations have been rounded to two significant figures
**** Note: The following compounds cannot be accurately quantitated using EPA Method 625; - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations*

4.D FIELD ID:: *Charlotte MGP MW-8* LAB ID:: *9602142X08A*

Tentatively Identified Compounds Report

Compound	*Probable Molecular Weight*	*Estimated Concentration (ug/L)*	*Library Match Probability (%)*	*Retention Time (RT) (Minutes)*	*Identification Basis*			
					Library Match	*Manual Interpretation*	*RT*	*Scan Number*
NO TICS IDENTIFIED		X	X	X	X	X		X

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

USEPA Method 625 Analysis Results

Organic Chemistry Group

ENVIRONMENTAL CENTER MCGUIRE NUCLEAR COMPLEX (704) 875-5325

New York Department of Health Laboratory Identification # 11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification # 248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Charlotte MGP MW-9

Reviewed by:: GLP 3/22/96

Lab ID:: 9602142X09A Filename:: 19M05.D

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
Pyridine	NOT DETECTED	10
N-nitrosodimethylamine	NOT DETECTED	10
Aniline	NOT DETECTED	10
Phenol	NOT DETECTED	10
Bis(2-chloroethyl)ether	NOT DETECTED	10
2-chlorophenol	NOT DETECTED	10
1,3-Dichlorobenzene	NOT DETECTED	10
1,4-dichlorobenzene	NOT DETECTED	10
Benzyl Alcohol	NOT DETECTED	10
1,2-dichlorobenzene	NOT DETECTED	10
2-methylphenol	NOT DETECTED	10
Bis(2-chloroisopropyl)ether	NOT DETECTED	10
4-methylphenol	NOT DETECTED	10
Hexachloroethane	NOT DETECTED	10
N-Nitrosodi-n-propyl amine	NOT DETECTED	10
Nitrobenzene	NOT DETECTED	10
Isophorone	NOT DETECTED	10
2-nitrophenol	NOT DETECTED	10
2,4-dimethylphenol	NOT DETECTED	10
Bis(2-chloroethoxy)methane	NOT DETECTED	10
2,4-dichlorophenol	NOT DETECTED	10
Benzoic acid	NOT DETECTED	10
1,2,4-Trichlorobenzene	NOT DETECTED	10
Naphthalene	NOT DETECTED	10
4-chloroaniline	NOT DETECTED	10
Hexachlorobutadiene	NOT DETECTED	10
4-chloro-3-methylphenol	NOT DETECTED	10
Hexachlorocyclopentadiene	NOT DETECTED	10

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	10
2,4,5-Trichlorophenol	NOT DETECTED	10
2-Chloronaphthalene	NOT DETECTED	10
2-Nitroaniline	NOT DETECTED	10
Dimethylphthalate	NOT DETECTED	10
Acenaphthylene	NOT DETECTED	10
2,6-Dinitrotoluene	NOT DETECTED	10
3-Nitroaniline	NOT DETECTED	10
Acenaphthene	NOT DETECTED	10
2,4-Dinitrophenol	NOT DETECTED	10
4-Nitrophenol	NOT DETECTED	10
Dibenzofuran	NOT DETECTED	10
2,4-Dinitrotoluene	NOT DETECTED	10
Diethylphthalate	NOT DETECTED	10
Fluorene	NOT DETECTED	10
4-chlorophenyl phenyl ether	NOT DETECTED	10
4-Nitroaniline	NOT DETECTED	10
4,6-dinitro-2-methylphenol	NOT DETECTED	10
N-Nitrosodiphenylamine	NOT DETECTED	10
1,2-Diphenylhydrazine	NOT DETECTED	10
4-bromophenyl phenyl ether	NOT DETECTED	10
Hexachlorobenzene	NOT DETECTED	10
Pentachlorophenol	NOT DETECTED	10
Phenanthrene	NOT DETECTED	10
Anthracene	NOT DETECTED	10
Di-n-Butylphthalate	NOT DETECTED	10
Fluoranthene	NOT DETECTED	10
Benzidine	NOT DETECTED	50
Pyrene	NOT DETECTED	10
Butylbenzylphthalate	NOT DETECTED	10
3,3'-Dichlorobenzidine	NOT DETECTED	10
Benzo[a]anthracene	NOT DETECTED	10
Chrysene	NOT DETECTED	10
Bis(2-ethylhexyl)phthalate	NOT DETECTED	10
Di-n-octylphthalate	NOT DETECTED	10
Benzo[b]fluoranthene	NOT DETECTED	10
Benzo[k]fluoranthene	NOT DETECTED	10
Benzo[a]pyrene	NOT DETECTED	10
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	10
Dibenzo[a,h]anthracene	NOT DETECTED	10
Benzo[g,h,i]perylene	NOT DETECTED	10

Not Detected = Less than Quantitation Limit
(B) = Compound also identified in Laboratory Blank
-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)
All reported concentrations have been rounded to two significant figures
**** Note: The following compounds cannot be accurately quantitated using EPA Method 625; - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations.*

.D FIELD ID:: Charlotte MGP MW-9 LAB ID:: 9602142X09A

Tentatively Identified Compounds Report

Compound	Probable Molecular Weight	Estimated Concentration (ug/L)	Library Match Probability (%)	Retention Time (RT) (Minutes)	Identification Basis: Library Match	Identification Basis: Manual Interpretation	Identification Basis: RT	Scan Number
NO TICS IDENTIFIED		X	X	X	X	X		X

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

USEPA Method 625 Analysis Results

Organic Chemistry Group

DUKE POWER COMPANY Laboratory Services
ENVIRONMENTAL CENTER, MCGUIRE NUCLEAR COMPLEX (704) 875-5325
New York Department of Health Laboratory Identification # 11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification # 248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Charlotte MGP MW-10A

Reviewed by:: GCS 3/27/96

Lab ID:: 9602142X10A Filename:: 19M06.D

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
Pyridine	NOT DETECTED	10
N-nitrosodimethylamine	NOT DETECTED	10
Aniline	NOT DETECTED	10
Phenol	NOT DETECTED	10
Bis(2-chloroethyl)ether	NOT DETECTED	10
2-chlorophenol	NOT DETECTED	10
1,3-Dichlorobenzene	NOT DETECTED	10
1,4-dichlorobenzene	NOT DETECTED	10
Benzyl Alcohol	NOT DETECTED	10
1,2-dichlorobenzene	NOT DETECTED	10
2-methylphenol	NOT DETECTED	10
Bis(2-chloroisopropyl)ether	NOT DETECTED	10
4-methylphenol	NOT DETECTED	10
Hexachloroethane	NOT DETECTED	10
N-Nitrosodi-n-propyl amine	NOT DETECTED	10
Nitrobenzene	NOT DETECTED	10
Isophorone	NOT DETECTED	10
2-nitrophenol	NOT DETECTED	10
2,4-dimethylphenol	NOT DETECTED	10
Bis(2-chloroethoxy)methane	NOT DETECTED	10
2,4-dichlorophenol	NOT DETECTED	10
Benzoic acid	NOT DETECTED	10
1,2,4-Trichlorobenzene	NOT DETECTED	10
Naphthalene	19	10
4-chloroaniline	NOT DETECTED	10
Hexachlorobutadiene	NOT DETECTED	10
4-chloro-3-methylphenol	NOT DETECTED	10
Hexachlorocyclopentadiene	NOT DETECTED	10

19M06.D Charlotte MGP MW-10A 9602142X10A

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	10
2,4,5-Trichlorophenol	NOT DETECTED	10
2-Chloronaphthalene	NOT DETECTED	10
2-Nitroaniline	NOT DETECTED	10
Dimethylphthalate	NOT DETECTED	10
Acenaphthylene	NOT DETECTED	10
2,6-Dinitrotoluene	NOT DETECTED	10
3-Nitroaniline	NOT DETECTED	10
Acenaphthene	11	10
2,4-Dinitrophenol	NOT DETECTED	10
4-Nitrophenol	NOT DETECTED	10
Dibenzofuran	NOT DETECTED	10
2,4-Dinitrotoluene	NOT DETECTED	10
Diethylphthalate	NOT DETECTED	10
Fluorene	NOT DETECTED	10
4-chlorophenyl phenyl ether	NOT DETECTED	10
4-Nitroaniline	NOT DETECTED	10
4,6-dinitro-2-methylphenol	NOT DETECTED	10
N-Nitrosodiphenylamine	NOT DETECTED	10
1,2-Diphenylhydrazine	NOT DETECTED	10
4-bromophenyl phenyl ether	NOT DETECTED	10
Hexachlorobenzene	NOT DETECTED	10
Pentachlorophenol	NOT DETECTED	10
Phenanthrene	13	10
Anthracene	NOT DETECTED	10
Di-n-Butylphthalate	NOT DETECTED	10
Fluoranthene	NOT DETECTED	10
Benzidine	NOT DETECTED	50
Pyrene	NOT DETECTED	10
Butylbenzylphthalate	NOT DETECTED	10
3,3'-Dichlorobenzidine	NOT DETECTED	10
Benzo[a]anthracene	NOT DETECTED	10
Chrysene	NOT DETECTED	10
Bis(2-ethylhexyl)phthalate	NOT DETECTED	10
Di-n-octylphthalate	NOT DETECTED	10
Benzo[b]fluoranthene	NOT DETECTED	10
Benzo[k]fluoranthene	NOT DETECTED	10
Benzo[a]pyrene	NOT DETECTED	10
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	10
Dibenzo[a,h]anthracene	NOT DETECTED	10
Benzo[g,h,i]perylene	NOT DETECTED	10

Not Detected = Less than Quantitation Limit

(B) = Compound also identified in Laboratory Blank

-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)

All reported concentrations have been rounded to two significant figures

**** Note: The following compounds cannot be accurately quantitated using EPA Method 625; - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations.*

D FIELD ID:: *Charlotte MGP MW-10A* LAB ID:: *9602142X10A*

Tentatively Identified Compounds Report

Compound	Probable Molecular Weight	Estimated Concentration (ug/L)	Library Match Probability (%)	Retention Time (RT) (Minutes)	Identification Basis: Library Match	Identification Basis: Manual Interpretation	Identification Basis: RT	Scan Number
TrichloroPropene		25	87%	9.9	X			832
2-Methylnaphthalene		15		18.00		x		1973

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

USEPA Method 625 Analysis Results

Organic Chemistry Group

⇨⇨⇨ ENVIRONMENTAL CENTER. MCGUIRE NUCLEAR COMPLEX. (704) 875-5325 ⇦⇦⇦

New York Department of Health Laboratory Identification # 11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification # 248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Charlotte MGP MW-11

Reviewed by:: GCS 3/22/96

Lab ID:: **9602142X11A** *Filename::* **19M07.D**

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
Pyridine	NOT DETECTED	10
N-nitrosodimethylamine	NOT DETECTED	10
Aniline	NOT DETECTED	10
Phenol	NOT DETECTED	10
Bis(2-chloroethyl)ether	NOT DETECTED	10
2-chlorophenol	NOT DETECTED	10
1,3-Dichlorobenzene	NOT DETECTED	10
1,4-dichlorobenzene	NOT DETECTED	10
Benzyl Alcohol	NOT DETECTED	10
1,2-dichlorobenzene	NOT DETECTED	10
2-methylphenol	NOT DETECTED	10
Bis(2-chloroisopropyl)ether	NOT DETECTED	10
4-methylphenol	NOT DETECTED	10
Hexachloroethane	NOT DETECTED	10
N-Nitrosodi-n-propyl amine	NOT DETECTED	10
Nitrobenzene	NOT DETECTED	10
Isophorone	NOT DETECTED	10
2-nitrophenol	NOT DETECTED	10
2,4-dimethylphenol	NOT DETECTED	10
Bis(2-chloroethoxy)methane	NOT DETECTED	10
2,4-dichlorophenol	NOT DETECTED	10
Benzoic acid	NOT DETECTED	10
1,2,4-Trichlorobenzene	NOT DETECTED	10
Naphthalene	NOT DETECTED	10
4-chloroaniline	NOT DETECTED	10
Hexachlorobutadiene	NOT DETECTED	10
4-chloro-3-methylphenol	NOT DETECTED	10
Hexachlorocyclopentadiene	NOT DETECTED	10

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	10
2,4,5-Trichlorophenol	NOT DETECTED	10
2-Chloronaphthalene	NOT DETECTED	10
2-Nitroaniline	NOT DETECTED	10
Dimethylphthalate	NOT DETECTED	10
Acenaphthylene	NOT DETECTED	10
2,6-Dinitrotoluene	NOT DETECTED	10
3-Nitroaniline	NOT DETECTED	10
Acenaphthene	NOT DETECTED	10
2,4-Dinitrophenol	NOT DETECTED	10
4-Nitrophenol	NOT DETECTED	10
Dibenzofuran	NOT DETECTED	10
2,4-Dinitrotoluene	NOT DETECTED	10
Diethylphthalate	NOT DETECTED	10
Fluorene	NOT DETECTED	10
4-chlorophenyl phenyl ether	NOT DETECTED	10
4-Nitroaniline	NOT DETECTED	10
4,6-dinitro-2-methylphenol	NOT DETECTED	10
N-Nitrosodiphenylamine	NOT DETECTED	10
1,2-Diphenylhydrazine	NOT DETECTED	10
4-bromophenyl phenyl ether	NOT DETECTED	10
Hexachlorobenzene	NOT DETECTED	10
Pentachlorophenol	NOT DETECTED	10
Phenanthrene	NOT DETECTED	10
Anthracene	NOT DETECTED	10
Di-n-Butylphthalate	NOT DETECTED	10
Fluoranthene	NOT DETECTED	10
Benzidine	NOT DETECTED	50
Pyrene	NOT DETECTED	10
Butylbenzylphthalate	NOT DETECTED	10
3,3'-Dichlorobenzidine	NOT DETECTED	10
Benzo[a]anthracene	NOT DETECTED	10
Chrysene	NOT DETECTED	10
Bis(2-ethylhexyl)phthalate	NOT DETECTED	10
Di-n-octylphthalate	NOT DETECTED	10
Benzo[b]fluoranthene	NOT DETECTED	10
Benzo[k]fluoranthene	NOT DETECTED	10
Benzo[a]pyrene	NOT DETECTED	10
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	10
Dibenzo[a,h]anthracene	NOT DETECTED	10
Benzo[g,h,i]perylene	NOT DETECTED	10

Not Detected = Less than Quantitation Limit
(B) = Compound also identified in Laboratory Blank
-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)
All reported concentrations have been rounded to two significant figures
**** Note: The following compounds cannot be accurately quantitated using EPA Method 625; - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations.*

.D FIELD ID:: *Charlotte MGP MW-11* LAB ID:: *9602142X11A*

Tentatively Identified Compounds Report

Compound	*Probable Molecular Weight*	*Estimated Concentration (ug/L)*	*Library Match Probability (%)*	*Retention Time (RT) (Minutes)*	*Identification Basis*			*Scan Number*
					Library Match	*Manual Interpretation*	*RT*	
NO TICS IDENTIFIED		X	X	X	X	X		X

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

USEPA Method 625 Analysis Results

Organic Chemistry Group

DUKE POWER COMPANY Laboratory Services

ENVIRONMENTAL CENTER MCGUIRE NUCLEAR COMPLEX (704) 875-5325

New York Department of Health Laboratory Identification # 11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification # 248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Charlotte MGP MW-12

Reviewed by:: QCS 3/22/96

Lab ID:: 9602142x12A Filename:: 20M06.D

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
Pyridine	NOT DETECTED	20
N-nitrosodimethylamine	NOT DETECTED	20
Aniline	NOT DETECTED	20
Phenol	33	20
Bis(2-chloroethyl)ether	NOT DETECTED	20
2-chlorophenol	NOT DETECTED	20
1,3-Dichlorobenzene	NOT DETECTED	20
1,4-dichlorobenzene	NOT DETECTED	20
Benzyl Alcohol	NOT DETECTED	20
1,2-dichlorobenzene	NOT DETECTED	20
2-methylphenol	NOT DETECTED	20
Bis(2-chloroisopropyl)ether	NOT DETECTED	20
4-methylphenol	NOT DETECTED	20
Hexachloroethane	NOT DETECTED	20
N-Nitrosodi-n-propyl amine	NOT DETECTED	20
Nitrobenzene	NOT DETECTED	20
Isophorone	NOT DETECTED	20
2-nitrophenol	NOT DETECTED	20
2,4-dimethylphenol	NOT DETECTED	20
Bis(2-chloroethoxy)methane	NOT DETECTED	20
2,4-dichlorophenol	NOT DETECTED	20
Benzoic acid	NOT DETECTED	20
1,2,4-Trichlorobenzene	NOT DETECTED	20
Naphthalene	940	400
4-chloroaniline	NOT DETECTED	20
Hexachlorobutadiene	NOT DETECTED	20
4-chloro-3-methylphenol	NOT DETECTED	20
Hexachlorocyclopentadiene	NOT DETECTED	20

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	20
2,4,5-Trichlorophenol	NOT DETECTED	20
2-Chloronaphthalene	NOT DETECTED	20
2-Nitroaniline	NOT DETECTED	20
Dimethylphthalate	NOT DETECTED	20
Acenaphthylene	NOT DETECTED	20
2,6-Dinitrotoluene	NOT DETECTED	20
3-Nitroaniline	NOT DETECTED	20
Acenaphthene	21	20
2,4-Dinitrophenol	NOT DETECTED	20
4-Nitrophenol	NOT DETECTED	20
Dibenzofuran	NOT DETECTED	20
2,4-Dinitrotoluene	NOT DETECTED	20
Diethylphthalate	NOT DETECTED	20
Fluorene	NOT DETECTED	20
4-chlorophenyl phenyl ether	NOT DETECTED	20
4-Nitroaniline	NOT DETECTED	20
4,6-dinitro-2-methylphenol	NOT DETECTED	20
N-Nitrosodiphenylamine	NOT DETECTED	20
1,2-Diphenylhydrazine	NOT DETECTED	20
4-bromophenyl phenyl ether	NOT DETECTED	20
Hexachlorobenzene	NOT DETECTED	20
Pentachlorophenol	NOT DETECTED	20
Phenanthrene	21	20
Anthracene	NOT DETECTED	20
Di-n-Butylphthalate	NOT DETECTED	20
Fluoranthene	NOT DETECTED	20
Benzidine	NOT DETECTED	100
Pyrene	NOT DETECTED	20
Butylbenzylphthalate	NOT DETECTED	20
3,3'-Dichlorobenzidine	NOT DETECTED	20
Benzo[a]anthracene	NOT DETECTED	20
Chrysene	NOT DETECTED	20
Bis(2-ethylhexyl)phthalate	NOT DETECTED	20
Di-n-octylphthalate	NOT DETECTED	20
Benzo[b]fluoranthene	NOT DETECTED	20
Benzo[k]fluoranthene	NOT DETECTED	20
Benzo[a]pyrene	NOT DETECTED	20
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	20
Dibenzo[a,h]anthracene	NOT DETECTED	20
Benzo[g,h,i]perylene	NOT DETECTED	20

Not Detected = Less than Quantitation Limit
(B) = Compound also identified in Laboratory Blank
-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)
All reported concentrations have been rounded to two significant figures
*** *Note: The following compounds cannot be accurately quantitated using EPA Method 625: - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations.*

.D FIELD ID:: *Charlotte MGP MW-12* LAB ID:: *9602142x12A*

Tentatively Identified Compounds Report

Compound	*Probable Molecular Weight*	*Estimated Concentration (ug/L)*	*Library Match Probability (%)*	*Retention Time (RT) (Minutes)*	*Identification Basis*			*Scan Number*
					Library Match	*Manual Interpretation*	*RT*	
2 Methylnaphthalene		180		17.7		X		1920
Substituted Benzene		230	64%	12.20	X			1146
Substituted Naphthalene		72	83%	15.70	X			1627
Substituted Naphthalene		60	96%	20.10	X			2230

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

USEPA Method 625 Analysis Results

Organic Chemistry Group

ENVIRONMENTAL CENTER. MCGUIRE NUCLEAR COMPLEX. (704) 875-5325

New York Department of Health Laboratory Identification # 11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification # 248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Charlotte MGP MW-13

Reviewed by:: GCA 3/22/96

Lab ID:: 9602142X13A Filename:: 19M09.D

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
Pyridine	NOT DETECTED	10
N-nitrosodimethylamine	NOT DETECTED	10
Aniline	NOT DETECTED	10
Phenol	NOT DETECTED	10
Bis(2-chloroethyl)ether	NOT DETECTED	10
2-chlorophenol	NOT DETECTED	10
1,3-Dichlorobenzene	NOT DETECTED	10
1,4-dichlorobenzene	NOT DETECTED	10
Benzyl Alcohol	NOT DETECTED	10
1,2-dichlorobenzene	NOT DETECTED	10
2-methylphenol	NOT DETECTED	10
Bis(2-chloroisopropyl)ether	NOT DETECTED	10
4-methylphenol	NOT DETECTED	10
Hexachloroethane	NOT DETECTED	10
N-Nitrosodi-n-propyl amine	NOT DETECTED	10
Nitrobenzene	NOT DETECTED	10
Isophorone	NOT DETECTED	10
2-nitrophenol	NOT DETECTED	10
2,4-dimethylphenol	NOT DETECTED	10
Bis(2-chloroethoxy)methane	NOT DETECTED	10
2,4-dichlorophenol	NOT DETECTED	10
Benzoic acid	NOT DETECTED	10
1,2,4-Trichlorobenzene	NOT DETECTED	10
Naphthalene	NOT DETECTED	10
4-chloroaniline	NOT DETECTED	10
Hexachlorobutadiene.	NOT DETECTED	10
4-chloro-3-methylphenol	NOT DETECTED	10
Hexachlorocyclopentadiene	NOT DETECTED	10

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	10
2,4,5-Trichlorophenol	NOT DETECTED	10
2-Chloronaphthalene	NOT DETECTED	10
2-Nitroaniline	NOT DETECTED	10
Dimethylphthalate	NOT DETECTED	10
Acenaphthylene	NOT DETECTED	10
2,6-Dinitrotoluene	NOT DETECTED	10
3-Nitroaniline	NOT DETECTED	10
Acenaphthene	NOT DETECTED	10
2,4-Dinitrophenol	NOT DETECTED	10
4-Nitrophenol	NOT DETECTED	10
Dibenzofuran	NOT DETECTED	10
2,4-Dinitrotoluene	NOT DETECTED	10
Diethylphthalate	NOT DETECTED	10
Fluorene	NOT DETECTED	10
4-chlorophenyl phenyl ether	NOT DETECTED	10
4-Nitroaniline	NOT DETECTED	10
4,6-dinitro-2-methylphenol	NOT DETECTED	10
N-Nitrosodiphenylamine	NOT DETECTED	10
1,2-Diphenylhydrazine	NOT DETECTED	10
4-bromophenyl phenyl ether	NOT DETECTED	10
Hexachlorobenzene	NOT DETECTED	10
Pentachlorophenol	NOT DETECTED	10
Phenanthrene	NOT DETECTED	10
Anthracene	NOT DETECTED	10
Di-n-Butylphthalate	NOT DETECTED	10
Fluoranthene	NOT DETECTED	10
Benzidine	NOT DETECTED	50
Pyrene	NOT DETECTED	10
Butylbenzylphthalate	NOT DETECTED	10
3,3'-Dichlorobenzidine	NOT DETECTED	10
Benzo[a]anthracene	NOT DETECTED	10
Chrysene	NOT DETECTED	10
Bis(2-ethylhexyl)phthalate	NOT DETECTED	10
Di-n-octylphthalate	NOT DETECTED	10
Benzo[b]fluoranthene	NOT DETECTED	10
Benzo[k]fluoranthene	NOT DETECTED	10
Benzo[a]pyrene	NOT DETECTED	10
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	10
Dibenzo[a,h]anthracene	NOT DETECTED	10
Benzo[g,h,i]perylene	NOT DETECTED	10

No Detected = Less than Quantitation Limit
(B) = Compound also identified in Laboratory Blank
-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)
All reported concentrations have been rounded to two significant figures
*** *Note: The following compounds cannot be accurately quantitated using EPA Method 625; - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations.*

D FIELD ID:: *Charlotte MGP MW-13* LAB ID:: *9602142X13A*

Tentatively Identified Compounds Report

Compound	Probable Molecular Weight	Estimated Concentration (ug/L)	Library Match Probability (%)	Retention Time (RT) (Minutes)	Identification Basis: Library Match	Identification Basis: Manual Interpretation	Identification Basis: RT	Scan Number
NO TICS IDENTIFIED		X	X	X	X	X		X

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

USEPA Method 625 Analysis Results

Organic Chemistry Group

⇔⇔⇔ ENVIRONMENTAL CENTER. MCGUIRE NUCLEAR COMPLEX. (704) 875-5325 ⇔⇔⇔

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification #99005

Client Report Form

Charlotte MGP MW-14

Reviewed by:: GCS 3/22/96

Lab ID:: 9602142x14A Filename:: 20M05.D

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
Pyridine	NOT DETECTED	20
N-nitrosodimethylamine	NOT DETECTED	20
Aniline	NOT DETECTED	20
Phenol	91	20
Bis(2-chloroethyl)ether	NOT DETECTED	20
2-chlorophenol	NOT DETECTED	20
1,3-Dichlorobenzene	NOT DETECTED	20
1,4-dichlorobenzene	NOT DETECTED	20
Benzyl Alcohol	NOT DETECTED	20
1,2-dichlorobenzene	NOT DETECTED	20
2-methylphenol	45	20
Bis(2-chloroisopropyl)ether	NOT DETECTED	20
4-methylphenol	140	20
Hexachloroethane	NOT DETECTED	20
N-Nitrosodi-n-propyl amine	NOT DETECTED	20
Nitrobenzene	NOT DETECTED	20
Isophorone	NOT DETECTED	20
2-nitrophenol	NOT DETECTED	20
2,4-dimethylphenol	240 Est.	20
Bis(2-chloroethoxy)methane	NOT DETECTED	20
2,4-dichlorophenol	NOT DETECTED	20
Benzoic acid	NOT DETECTED	20
1,2,4-Trichlorobenzene	NOT DETECTED	20
Naphthalene	2400	2000
4-chloroaniline	NOT DETECTED	20
Hexachlorobutadiene	NOT DETECTED	20
4-chloro-3-methylphenol	NOT DETECTED	20
Hexachlorocyclopentadiene	NOT DETECTED	20

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	20
2,4,5-Trichlorophenol	NOT DETECTED	20
2-Chloronaphthalene	NOT DETECTED	20
2-Nitroaniline	NOT DETECTED	20
Dimethylphthalate	NOT DETECTED	20
Acenaphthylene	66	20
2,6-Dinitrotoluene	NOT DETECTED	20
3-Nitroaniline	NOT DETECTED	20
Acenaphthene	29	20
2,4-Dinitrophenol	NOT DETECTED	20
4-Nitrophenol	NOT DETECTED	20
Dibenzofuran	NOT DETECTED	20
2,4-Dinitrotoluene	NOT DETECTED	20
Diethylphthalate	NOT DETECTED	20
Fluorene	29	20
4-chlorophenyl phenyl ether	NOT DETECTED	20
4-Nitroaniline	NOT DETECTED	20
4,6-dinitro-2-methylphenol	NOT DETECTED	20
N-Nitrosodiphenylamine	NOT DETECTED	20
1,2-Diphenylhydrazine	NOT DETECTED	20
4-bromophenyl phenyl ether	NOT DETECTED	20
Hexachlorobenzene	NOT DETECTED	20
Pentachlorophenol	NOT DETECTED	20
Phenanthrene	25	20
Anthracene	NOT DETECTED	20
Di-n-Butylphthalate	NOT DETECTED	20
Fluoranthene	NOT DETECTED	20
Benzidine	NOT DETECTED	100
Pyrene	NOT DETECTED	20
Butylbenzylphthalate	NOT DETECTED	20
3,3'-Dichlorobenzidine	NOT DETECTED	20
Benzo[a]anthracene	NOT DETECTED	20
Chrysene	NOT DETECTED	20
Bis(2-ethylhexyl)phthalate	NOT DETECTED	20
Di-n-octylphthalate	NOT DETECTED	20
Benzo[b]fluoranthene	NOT DETECTED	20
Benzo[k]fluoranthene	NOT DETECTED	20
Benzo[a]pyrene	NOT DETECTED	20
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	20
Dibenzo[a,h]anthracene	NOT DETECTED	20
Benzo[g,h,i]perylene	NOT DETECTED	20

Not Detected = Less than Quantitation Limit
(B) = Compound also identified in Laboratory Blank
-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)
All reported concentrations have been rounded to two significant figures
*** *Note: The following compounds cannot be accurately quantitated using EPA Method 625; - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations.*

20M05.D FIELD ID:: Charlotte MGP MW-14 LAB ID:: 9602142x14A

Tentatively Identified Compounds Report

Compound	Probable Molecular Weight	Estimated Concentration (ug/L)	Library Match Probability (%)	Retention Time (RT) (Minutes)	Identification Basis: Library Match	Identification Basis: Manual Interpretation	Identification Basis: RT	Scan Number
2-Methylnaphthalene		440	X	17.7		X		1925
Toluene		760	90%	5.10	X			156
Dimethyl Benzene		420	94%	7.90	X			545
Substituted Benzene		640	90%	8.50	X			628
Benzofuran		500	76%	11.30	X			1014
Substituted Naphthalene		200	64%	15.80	X			1641
Substituted Naphthalene		66	90%	18.20	X			1976
Substituted Phenol		72	60%	18.60	X			2023
Substituted Naphthalene		160	96%	20.00	X			2235
Substituted Naphthalene		100	83%	24.70	X			2864

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

USEPA Method 625 Analysis Results

Organic Chemistry Group

DUKE POWER COMPANY Laboratory Services

ENVIRONMENTAL CENTER MCGUIRE NUCLEAR COMPLEX (704) 875-5325

New York Department of Health Laboratory Identification # 11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification # 248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Charlotte MGP MW-16

Reviewed by:: GCA 3/22/96

Lab ID:: 9602142X16A Filename:: 19M11.D

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
Pyridine	NOT DETECTED	10
N-nitrosodimethylamine	NOT DETECTED	10
Aniline	NOT DETECTED	10
Phenol	NOT DETECTED	10
Bis(2-chloroethyl)ether	NOT DETECTED	10
2-chlorophenol	NOT DETECTED	10
1,3-Dichlorobenzene	NOT DETECTED	10
1,4-dichlorobenzene	NOT DETECTED	10
Benzyl Alcohol	NOT DETECTED	10
1,2-dichlorobenzene	NOT DETECTED	10
2-methylphenol	NOT DETECTED	10
Bis(2-chloroisopropyl)ether	NOT DETECTED	10
4-methylphenol	NOT DETECTED	10
Hexachloroethane	NOT DETECTED	10
N-Nitrosodi-n-propyl amine	NOT DETECTED	10
Nitrobenzene	NOT DETECTED	10
Isophorone	NOT DETECTED	10
2-nitrophenol	NOT DETECTED	10
2,4-dimethylphenol	NOT DETECTED	10
Bis(2-chloroethoxy)methane	NOT DETECTED	10
2,4-dichlorophenol	NOT DETECTED	10
Benzoic acid	NOT DETECTED	10
1,2,4-Trichlorobenzene	NOT DETECTED	10
Naphthalene	NOT DETECTED	10
4-chloroaniline	NOT DETECTED	10
Hexachlorobutadiene.	NOT DETECTED	10
4-chloro-3-methylphenol	NOT DETECTED	10
Hexachlorocyclopentadiene	NOT DETECTED	10

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	10
2,4,5-Trichlorophenol	NOT DETECTED	10
2-Chloronaphthalene	NOT DETECTED	10
2-Nitroaniline	NOT DETECTED	10
Dimethylphthalate	NOT DETECTED	10
Acenaphthylene	NOT DETECTED	10
2,6-Dinitrotoluene	NOT DETECTED	10
3-Nitroaniline	NOT DETECTED	10
Acenaphthene	NOT DETECTED	10
2,4-Dinitrophenol	NOT DETECTED	10
4-Nitrophenol	NOT DETECTED	10
Dibenzofuran	NOT DETECTED	10
2,4-Dinitrotoluene	NOT DETECTED	10
Diethylphthalate	NOT DETECTED	10
Fluorene	NOT DETECTED	10
4-chlorophenyl phenyl ether	NOT DETECTED	10
4-Nitroaniline	NOT DETECTED	10
4,6-dinitro-2-methylphenol	NOT DETECTED	10
N-Nitrosodiphenylamine	NOT DETECTED	10
1,2-Diphenylhydrazine	NOT DETECTED	10
4-bromophenyl phenyl ether	NOT DETECTED	10
Hexachlorobenzene	NOT DETECTED	10
Pentachlorophenol	NOT DETECTED	10
Phenanthrene	NOT DETECTED	10
Anthracene	NOT DETECTED	10
Di-n-Butylphthalate	NOT DETECTED	10
Fluoranthene	NOT DETECTED	10
Benzidine	NOT DETECTED	50
Pyrene	NOT DETECTED	10
Butylbenzylphthalate	NOT DETECTED	10
3,3'-Dichlorobenzidine	NOT DETECTED	10
Benzo[a]anthracene	NOT DETECTED	10
Chrysene	NOT DETECTED	10
Bis(2-ethylhexyl)phthalate	NOT DETECTED	10
Di-n-octylphthalate	NOT DETECTED	10
Benzo[b]fluoranthene	NOT DETECTED	10
Benzo[k]fluoranthene	NOT DETECTED	10
Benzo[a]pyrene	NOT DETECTED	10
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	10
Dibenzo[a,h]anthracene	NOT DETECTED	10
Benzo[g,h,i]perylene	NOT DETECTED	10

Not Detected = Less than Quantitation Limit
(B) = Compound also identified in Laboratory Blank
-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)
All reported concentrations have been rounded to two significant figures
*** *Note: The following compounds cannot be accurately quantitated using EPA Method 625: - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations.*

19M11.D FIELD ID:: Charlotte MGP MW-16 LAB ID:: 9602142X16A

Tentatively Identified Compounds Report

Compound	Probable Molecular Weight	Estimated Concentration (ug/L)	Library Match Probability (%)	Retention Time (RT) (Minutes)	Identification Basis: Library Match	Identification Basis: Manual Interpretation	Identification Basis: RT	Scan Number
NO TICS IDENTIFIED		X	X	X	X	X		X

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

19M11.D Charlotte MGP MW-16 9602142X16A

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	10
2,4,5-Trichlorophenol	NOT DETECTED	10
2-Chloronaphthalene	NOT DETECTED	10
2-Nitroaniline	NOT DETECTED	10
Dimethylphthalate	NOT DETECTED	10
Acenaphthylene	NOT DETECTED	10
2,6-Dinitrotoluene	NOT DETECTED	10
3-Nitroaniline	NOT DETECTED	10
Acenaphthene	NOT DETECTED	10
2,4-Dinitrophenol	NOT DETECTED	10
4-Nitrophenol	NOT DETECTED	10
Dibenzofuran	NOT DETECTED	10
2,4-Dinitrotoluene	NOT DETECTED	10
Diethylphthalate	NOT DETECTED	10
Fluorene	NOT DETECTED	10
4-chlorophenyl phenyl ether	NOT DETECTED	10
4-Nitroaniline	NOT DETECTED	10
4,6-dinitro-2-methylphenol	NOT DETECTED	10
N-Nitrosodiphenylamine	NOT DETECTED	10
1,2-Diphenylhydrazine	NOT DETECTED	10
4-bromophenyl phenyl ether	NOT DETECTED	10
Hexachlorobenzene	NOT DETECTED	10
Pentachlorophenol	NOT DETECTED	10
Phenanthrene	NOT DETECTED	10
Anthracene	NOT DETECTED	10
Di-n-Butylphthalate	NOT DETECTED	10
Fluoranthene	NOT DETECTED	10
Benzidine	NOT DETECTED	50
Pyrene	NOT DETECTED	10
Butylbenzylphthalate	NOT DETECTED	10
3,3'-Dichlorobenzidine	NOT DETECTED	10
Benzo[a]anthracene	NOT DETECTED	10
Chrysene	NOT DETECTED	10
Bis(2-ethylhexyl)phthalate	NOT DETECTED	10
Di-n-octylphthalate	NOT DETECTED	10
Benzo[b]fluoranthene	NOT DETECTED	10
Benzo[k]fluoranthene	NOT DETECTED	10
Benzo[a]pyrene	NOT DETECTED	10
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	10
Dibenzo[a,h]anthracene	NOT DETECTED	10
Benzo[g,h,i]perylene	NOT DETECTED	10

Not Detected = Less than Quantitation Limit

(B) = Compound also identified in Laboratory Blank

-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)

All reported concentrations have been rounded to two significant figures

**** Note: The following compounds cannot be accurately quantitated using EPA Method 625: - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations*

19M11.D FIELD ID:: Charlotte MGP MW-16 LAB ID:: 9602142X16A

Tentatively Identified Compounds Report

Compound	Probable Molecular Weight	Estimated Concentration (ug/L)	Library Match Probability (%)	Retention Time (RT) (Minutes)	Identification Basis: Library Match	Identification Basis: Manual Interpretation	Identification Basis: RT	Scan Number
		X	X	X	X	X		X
NO TICS IDENTIFIED								

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

USEPA Method 625 Analysis Results

Organic Chemistry Group

DUKE POWER COMPANY Laboratory Services

ENVIRONMENTAL CENTER, MCGUIRE NUCLEAR COMPLEX (704) 875-5325

New York Department of Health Laboratory Identification # 11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification # 248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Charlotte MGP Trip Blank

Reviewed by:: GCA 3/21/96

Lab ID:: 9602142X17A Filename:: 19M12.D

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
Pyridine	NOT DETECTED	10
N-nitrosodimethylamine	NOT DETECTED	10
Aniline	NOT DETECTED	10
Phenol	NOT DETECTED	10
Bis(2-chloroethyl)ether	NOT DETECTED	10
2-chlorophenol	NOT DETECTED	10
1,3-Dichlorobenzene	NOT DETECTED	10
1,4-dichlorobenzene	NOT DETECTED	10
Benzyl Alcohol	NOT DETECTED	10
1,2-dichlorobenzene	NOT DETECTED	10
2-methylphenol	NOT DETECTED	10
Bis(2-chloroisopropyl)ether	NOT DETECTED	10
4-methylphenol	NOT DETECTED	10
Hexachloroethane	NOT DETECTED	10
N-Nitrosodi-n-propyl amine	NOT DETECTED	10
Nitrobenzene	NOT DETECTED	10
Isophorone	NOT DETECTED	10
2-nitrophenol	NOT DETECTED	10
2,4-dimethylphenol	NOT DETECTED	10
Bis(2-chloroethoxy)methane	NOT DETECTED	10
2,4-dichlorophenol	NOT DETECTED	10
Benzoic acid	NOT DETECTED	10
1,2,4-Trichlorobenzene	NOT DETECTED	10
Naphthalene	NOT DETECTED	10
4-chloroaniline	NOT DETECTED	10
Hexachlorobutadiene	NOT DETECTED	10
4-chloro-3-methylphenol	NOT DETECTED	10
Hexachlorocyclopentadiene	NOT DETECTED	10

Compound Name	Concentration (ug/L)	Quantitation Limit (ug/L)
2,4,6-Trichlorophenol	NOT DETECTED	10
2,4,5-Trichlorophenol	NOT DETECTED	10
2-Chloronaphthalene	NOT DETECTED	10
2-Nitroaniline	NOT DETECTED	10
Dimethylphthalate	NOT DETECTED	10
Acenaphthylene	NOT DETECTED	10
2,6-Dinitrotoluene	NOT DETECTED	10
3-Nitroaniline	NOT DETECTED	10
Acenaphthene	NOT DETECTED	10
2,4-Dinitrophenol	NOT DETECTED	10
4-Nitrophenol	NOT DETECTED	10
Dibenzofuran	NOT DETECTED	10
2,4-Dinitrotoluene	NOT DETECTED	10
Diethylphthalate	NOT DETECTED	10
Fluorene	NOT DETECTED	10
4-chlorophenyl phenyl ether	NOT DETECTED	10
4-Nitroaniline	NOT DETECTED	10
4,6-dinitro-2-methylphenol	NOT DETECTED	10
N-Nitrosodiphenylamine	NOT DETECTED	10
1,2-Diphenylhydrazine	NOT DETECTED	10
4-bromophenyl phenyl ether	NOT DETECTED	10
Hexachlorobenzene	NOT DETECTED	10
Pentachlorophenol	NOT DETECTED	10
Phenanthrene	NOT DETECTED	10
Anthracene	NOT DETECTED	10
Di-n-Butylphthalate	NOT DETECTED	10
Fluoranthene	NOT DETECTED	10
Benzidine	NOT DETECTED	50
Pyrene	NOT DETECTED	10
Butylbenzylphthalate	NOT DETECTED	10
3,3'-Dichlorobenzidine	NOT DETECTED	10
Benzo[a]anthracene	NOT DETECTED	10
Chrysene	NOT DETECTED	10
Bis(2-ethylhexyl)phthalate	NOT DETECTED	10
Di-n-octylphthalate	NOT DETECTED	10
Benzo[b]fluoranthene	NOT DETECTED	10
Benzo[k]fluoranthene	NOT DETECTED	10
Benzo[a]pyrene	NOT DETECTED	10
Indeno(1,2,3-c,d)pyrene	NOT DETECTED	10
Dibenzo[a,h]anthracene	NOT DETECTED	10
Benzo[g,h,i]perylene.	NOT DETECTED	10

Not Detected = Less than Quantitation Limit
(B) = Compound also identified in Laboratory Blank
-Est- = Estimated Concentration (Exceeds Demonstrated Linear Range of Method)
All reported concentrations have been rounded to two significant figures
*** *Note: The following compounds cannot be accurately quantitated using EPA Method 625; - Aniline - Benzoic Acid - Benzidine, in addition, Hexachlorocyclopentadiene is a difficult compound to consistantly extract from water samples. Any concentrations reported for these compounds should be regarded as approximations.*

[redacted].D	FIELD ID::	Charlotte MGP Trip Bl[redacted]	LAB ID:: 9602142X17A

Tentatively Identified Compounds Report

Compound	Probable Molecular Weight	Estimated Concentration (ug/L)	Library Match Probability (%)	Retention Time (RT) (Minutes)	Identification Basis: Library Match	Identification Basis: Manual Interpretation	Identification Basis: RT	Scan Number
NO TICS IDENTIFIED		X	X	X	X	X		X

USEPA--625 G.C. Conditions

25m x 0.2mm x 0.33um Ultra Two Crosslinked 5% Methyl Silicon Column

He, 0.5 ml/min, 45°C (hold 4.0 min), 45°C to 300°C (8.0°C/min), hold 300° for 21 min.

(Flags are described on page #2 of Client Report Form)

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
0	No TICs Identified	0

Below LOQ = Less than Limit of Quantitation

(B) = Compound also identified in Laboratory Blank

All reported concentrations have been rounded to two significant figures

Note: *The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.*

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Field ID	Laboratory Blank

Date Collected :	03/01/96	Lab ID # :	9603021X01A
Date Analyzed :	03/01/96	S.A.M. Number :	96-03-021-01A

Data Reviewed By: GCA Date: 3/7/96

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	2
CHLOROMETHANE	Below LOQ	2
CHLOROETHENE	Below LOQ	2
BROMOMETHANE	Below LOQ	2
CHLOROETHANE	Below LOQ	2
TRICHLOROFLUOROMETHANE	Below LOQ	2
ACROLEIN	Below LOQ	10
1,1-DICHLOROETHENE	Below LOQ	2
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	2
ACETONE	Below LOQ	5
IODOMETHANE	Below LOQ	2
CARBON DISULFIDE	Below LOQ	2
METHYLENE CHLORIDE	Below LOQ	5
ACRYLONITRILE	Below LOQ	10
TRANS-1,2-DICHLOROETHENE	Below LOQ	2
1,1-DICHLOROETHANE	Below LOQ	2
VINYL ACETATE	Below LOQ	2
CIS-1,2-DICHLOROETHENE	Below LOQ	2
2-BUTANONE(MEK)	Below LOQ	5

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	2
CHLOROFORM	Below LOQ	5
1,1,1-TRICHLOROETHANE	Below LOQ	2
CARBON TETRACHLORIDE	Below LOQ	2
BENZENE	Below LOQ	2
1,2-DICHLOROETHANE	Below LOQ	5
TRICHLOROETHENE	Below LOQ	2
1,2-DICHLOROPROPANE	Below LOQ	5
DIBROMOMETHANE	Below LOQ	2
BROMODICHLOROMETHANE	Below LOQ	2
2-CHLOROETHYL VINYL ETHER	Below LOQ	2
CIS-1,3-DICHLOROPROPENE	Below LOQ	2
[redacted]METHYL-2-PENTANONE (MIBK)	Below LOQ	2
TOLUENE	Below LOQ	2
TRANS-1,3-DICHLOROPROPENE	Below LOQ	2
1,1,2-TRICHLOROETHANE	Below LOQ	2
TETRACHLOROETHYLENE	Below LOQ	2
2(HEXANONE)	Below LOQ	2
DIBROMOCHLOROMETHANE	Below LOQ	2
CHLOROBENZENE	Below LOQ	2
ETHYL BENZENE	Below LOQ	2
M-,P-XYLENE	Below LOQ	2
O-XYLENE	Below LOQ	2
STYRENE	Below LOQ	2
BROMOFORM	Below LOQ	2
1,4-DICHLOROBUTANE	Below LOQ	2
[redacted]1,2,2-TETRACHLOROETHANE	Below LOQ	2
1,2,3-TRICHLOROPROPANE	Below LOQ	2

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
0	No TICs Identified	0

Below LOQ = Less than Limit of Quantitation

(B) = Compound also identified in Laboratory Blank

All reported concentrations have been rounded to two significant figures

Note: *The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.*

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Field ID **Charlotte MGP MW - 1**

Date Collected : 02/26/96 Lab ID # : 9602142X01A

Date Analyzed : 03/01/96 S.A.M. Number : 96-02-142-01A

Data Reviewed By: GCS Date: 3/7/96

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	2
CHLOROMETHANE	Below LOQ	2
CHLOROETHENE	Below LOQ	2
BROMOMETHANE	Below LOQ	2
CHLOROETHANE	Below LOQ	2
TRICHLOROFLUOROMETHANE	Below LOQ	2
ACROLEIN	Below LOQ	10
1,1-DICHLOROETHENE	Below LOQ	2
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	2
ACETONE	Below LOQ	5
IODOMETHANE	Below LOQ	2
CARBON DISULFIDE	Below LOQ	2
METHYLENE CHLORIDE	Below LOQ	5
ACRYLONITRILE	Below LOQ	10
TRANS-1,2-DICHLOROETHENE	Below LOQ	2
1,1-DICHLOROETHANE	Below LOQ	2
VINYL ACETATE	Below LOQ	2
CIS-1,2-DICHLOROETHENE	Below LOQ	2
2-BUTANONE(MEK)	Below LOQ	5

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	2
CHLOROFORM	Below LOQ	5
1,1,1-TRICHLOROETHANE	Below LOQ	2
CARBON TETRACHLORIDE	Below LOQ	2
BENZENE	Below LOQ	2
1,2-DICHLOROETHANE	Below LOQ	5
TRICHLOROETHENE	Below LOQ	2
1,2-DICHLOROPROPANE	Below LOQ	5
DIBROMOMETHANE	Below LOQ	2
BROMODICHLOROMETHANE	Below LOQ	2
2-CHLOROETHYL VINYL ETHER	Below LOQ	2
CIS-1,3-DICHLOROPROPENE	Below LOQ	2
[redacted]-METHYL-2-PENTANONE (MIBK)	Below LOQ	2
TOLUENE	Below LOQ	2
TRANS-1,3-DICHLOROPROPENE	Below LOQ	2
1,1,2-TRICHLOROETHANE	Below LOQ	2
TETRACHLOROETHYLENE	Below LOQ	2
2(HEXANONE)	Below LOQ	2
DIBROMOCHLOROMETHANE	Below LOQ	2
CHLOROBENZENE	Below LOQ	2
ETHYL BENZENE	Below LOQ	2
M-,P-XYLENE	Below LOQ	2
O-XYLENE	Below LOQ	2
STYRENE	Below LOQ	2
BROMOFORM	Below LOQ	2
1,4-DICHLOROBUTANE	Below LOQ	2
[redacted]1,2,2-TETRACHLOROETHANE	Below LOQ	2
1,2,3-TRICHLOROPROPANE	Below LOQ	2

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Field ID **Charlotte MGP MW - 3**

Date Collected : 02/26/96 Lab ID # : 9602142X03A

Date Analyzed : 03/01/96 S.A.M. Number : 96-02-142-03A

Data Reviewed By: GLS Date: 3/7/96

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	2
CHLOROMETHANE	Below LOQ	2
CHLOROETHENE	Below LOQ	2
BROMOMETHANE	Below LOQ	2
CHLOROETHANE	Below LOQ	2
TRICHLOROFLUOROMETHANE	Below LOQ	2
ACROLEIN	Below LOQ	10
1,1-DICHLOROETHENE	Below LOQ	2
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	2
ACETONE	Below LOQ	5
IODOMETHANE	Below LOQ	2
CARBON DISULFIDE	Below LOQ	2
METHYLENE CHLORIDE	Below LOQ	5
ACRYLONITRILE	Below LOQ	10
TRANS-1,2-DICHLOROETHENE	Below LOQ	2
1,1-DICHLOROETHANE	Below LOQ	2
VINYL ACETATE	Below LOQ	2
CIS-1,2-DICHLOROETHENE	Below LOQ	2
2-BUTANONE(MEK)	Below LOQ	5

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	-
CHLOROFORM	Below LOQ	-
1,1,1-TRICHLOROETHANE	Below LOQ	-
CARBON TETRACHLORIDE	Below LOQ	-
BENZENE	Below LOQ	-
1,2-DICHLOROETHANE	Below LOQ	-
TRICHLOROETHENE	Below LOQ	-
1,2-DICHLOROPROPANE	Below LOQ	-
DIBROMOMETHANE	Below LOQ	-
BROMODICHLOROMETHANE	Below LOQ	-
2-CHLOROETHYL VINYL ETHER	Below LOQ	-
CIS-1,3-DICHLOROPROPENE	Below LOQ	-
4-METHYL-2-PENTANONE (MIBK)	Below LOQ	-
TOLUENE	Below LOQ	-
TRANS-1,3-DICHLOROPROPENE	Below LOQ	-
1,1,2-TRICHLOROETHANE	Below LOQ	-
TETRACHLOROETHYLENE	Below LOQ	-
2(HEXANONE)	Below LOQ	-
DIBROMOCHLOROMETHANE	Below LOQ	-
CHLOROBENZENE	Below LOQ	-
ETHYL BENZENE	Below LOQ	-
M-,P-XYLENE	Below LOQ	-
O-XYLENE	Below LOQ	-
STYRENE	Below LOQ	-
BROMOFORM	Below LOQ	-
1,4-DICHLOROBUTANE	Below LOQ	-
1,1,2,2-TETRACHLOROETHANE	Below LOQ	-
1,2,3-TRICHLOROPROPANE	Below LOQ	-

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
0	No TICs Identified	0

Below LOQ = Less than Limit of Quantitation

(B) = Compound also identified in Laboratory Blank

All reported concentrations have been rounded to two significant figures

Note: *The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.*

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #45
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification #[illegible]0005

Client Report Form

Field ID	Charlotte MGP MW - 5

Date Collected :	02/26/96	Lab ID # :	9602142X05A
Date Analyzed :	03/01/96	S.A.M. Number :	96-02-142-05A

Data Reviewed By: GCA Date: 3/7/96

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	50
CHLOROMETHANE	Below LOQ	50
CHLOROETHENE	Below LOQ	50
BROMOMETHANE	Below LOQ	50
CHLOROETHANE	Below LOQ	50
TRICHLOROFLUOROMETHANE	Below LOQ	50
ACROLEIN	Below LOQ	250
1,1-DICHLOROETHENE	Below LOQ	50
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	50
ACETONE	Below LOQ	130
IODOMETHANE	Below LOQ	50
CARBON DISULFIDE	Below LOQ	50
METHYLENE CHLORIDE	Below LOQ	130
ACRYLONITRILE	Below LOQ	250
TRANS-1,2-DICHLOROETHENE	Below LOQ	50
1,1-DICHLOROETHANE	Below LOQ	50
VINYL ACETATE	Below LOQ	50
CIS-1,2-DICHLOROETHENE	Below LOQ	50
2-BUTANONE(MEK)	Below LOQ	130

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	50
CHLOROFORM	Below LOQ	130
1,1,1-TRICHLOROETHANE	Below LOQ	50
CARBON TETRACHLORIDE	Below LOQ	50
BENZENE	400	50
1,2-DICHLOROETHANE	Below LOQ	130
TRICHLOROETHENE	Below LOQ	50
1,2-DICHLOROPROPANE	Below LOQ	130
DIBROMOMETHANE	Below LOQ	50
BROMODICHLOROMETHANE	Below LOQ	50
2-CHLOROETHYL VINYL ETHER	Below LOQ	50
CIS-1,3-DICHLOROPROPENE	Below LOQ	50
[redacted]METHYL-2-PENTANONE (MIBK)	Below LOQ	50
TOLUENE	Below LOQ	50
TRANS-1,3-DICHLOROPROPENE	Below LOQ	50
1,1,2-TRICHLOROETHANE	Below LOQ	50
TETRACHLOROETHYLENE	Below LOQ	50
2(HEXANONE)	Below LOQ	50
DIBROMOCHLOROMETHANE	Below LOQ	50
CHLOROBENZENE	Below LOQ	50
ETHYL BENZENE	1,100	50
M-,P-XYLENE	160	50
O-XYLENE	50	50
STYRENE	Below LOQ	50
BROMOFORM	Below LOQ	50
1,4-DICHLOROBUTANE	Below LOQ	50
[redacted]1,2,2-TETRACHLOROETHANE	Below LOQ	50
1,2,3-TRICHLOROPROPANE	Below LOQ	50

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
7 Scans	Benzene Deratives	610
2 Scans	Indene Deratives	800
1 Scan	Naphthalene	1,300

Below LOQ = Less than Limit of Quantitation

(B) = Compound also identified in Laboratory Blank

All reported concentrations have been rounded to two significant figures

Note: *The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.*

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification #99005

Client Report Form

Field ID **Charlotte MGP MW - 8**

Date Collected : 02/27/96 Lab ID # : 9602142X08A

Date Analyzed : 03/01/96 S.A.M. Number : 96-02-142-08A

Data Reviewed By: GCA Date: 3/7/96

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	2
CHLOROMETHANE	Below LOQ	2
CHLOROETHENE	Below LOQ	2
BROMOMETHANE	Below LOQ	2
CHLOROETHANE	Below LOQ	2
TRICHLOROFLUOROMETHANE	Below LOQ	2
ACROLEIN	Below LOQ	10
1,1-DICHLOROETHENE	Below LOQ	2
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	2
ACETONE	Below LOQ	5
IODOMETHANE	Below LOQ	2
CARBON DISULFIDE	Below LOQ	2
METHYLENE CHLORIDE	Below LOQ	5
ACRYLONITRILE	Below LOQ	10
TRANS-1,2-DICHLOROETHENE	Below LOQ	2
1,1-DICHLOROETHANE	Below LOQ	2
VINYL ACETATE	Below LOQ	2
CIS-1,2-DICHLOROETHENE	Below LOQ	2
2-BUTANONE(MEK)	Below LOQ	5

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	2
CHLOROFORM	Below LOQ	5
1,1,1-TRICHLOROETHANE	Below LOQ	2
CARBON TETRACHLORIDE	Below LOQ	2
BENZENE	Below LOQ	2
1,2-DICHLOROETHANE	Below LOQ	5
TRICHLOROETHENE	Below LOQ	2
1,2-DICHLOROPROPANE	Below LOQ	5
DIBROMOMETHANE	Below LOQ	2
BROMODICHLOROMETHANE	Below LOQ	2
2-CHLOROETHYL VINYL ETHER	Below LOQ	2
CIS-1,3-DICHLOROPROPENE	Below LOQ	2
4-METHYL-2-PENTANONE (MIBK)	Below LOQ	2
TOLUENE	Below LOQ	2
TRANS-1,3-DICHLOROPROPENE	Below LOQ	2
1,1,2-TRICHLOROETHANE	Below LOQ	2
TETRACHLOROETHYLENE	Below LOQ	2
2(HEXANONE)	Below LOQ	2
DIBROMOCHLOROMETHANE	Below LOQ	2
CHLOROBENZENE	Below LOQ	2
ETHYL BENZENE	Below LOQ	2
M-,P-XYLENE	Below LOQ	2
O-XYLENE	Below LOQ	2
STYRENE	Below LOQ	2
BROMOFORM	Below LOQ	2
1,4-DICHLOROBUTANE	Below LOQ	2
1,1,2,2-TETRACHLOROETHANE	Below LOQ	2
1,2,3-TRICHLOROPROPANE	Below LOQ	2

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
1 Scan	Unknown	2
1 Scan	Naphthalene	4

Below LOQ = Less than Limit of Quantitation
(B) = Compound also identified in Laboratory Blank
All reported concentrations have been rounded to two significant figures
Note: *The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.*

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Field ID	Charlotte MGP MW - 9

Date Collected :	02/27/96	Lab ID # :	9602142X09A
Date Analyzed :	03/01/96	S.A.M. Number :	96-02-1142-09A

Data Reviewed By: GCA Date: 3/7/96

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	2
CHLOROMETHANE	Below LOQ	2
CHLOROETHENE	Below LOQ	2
BROMOMETHANE	Below LOQ	2
CHLOROETHANE	Below LOQ	2
TRICHLOROFLUOROMETHANE	Below LOQ	2
ACROLEIN	Below LOQ	10
1,1-DICHLOROETHENE	Below LOQ	2
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	2
ACETONE	Below LOQ	5
IODOMETHANE	Below LOQ	2
CARBON DISULFIDE	Below LOQ	2
METHYLENE CHLORIDE	Below LOQ	5
ACRYLONITRILE	Below LOQ	10
TRANS-1,2-DICHLOROETHENE	Below LOQ	2
1,1-DICHLOROETHANE	Below LOQ	2
VINYL ACETATE	Below LOQ	2
CIS-1,2-DICHLOROETHENE	Below LOQ	2
2-BUTANONE(MEK)	Below LOQ	5

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	2
CHLOROFORM	Below LOQ	5
1,1,1-TRICHLOROETHANE	Below LOQ	2
CARBON TETRACHLORIDE	Below LOQ	2
BENZENE	Below LOQ	2
1,2-DICHLOROETHANE	Below LOQ	5
TRICHLOROETHENE	Below LOQ	2
1,2-DICHLOROPROPANE	Below LOQ	5
DIBROMOMETHANE	Below LOQ	2
BROMODICHLOROMETHANE	Below LOQ	2
2-CHLOROETHYL VINYL ETHER	Below LOQ	2
CIS-1,3-DICHLOROPROPENE	Below LOQ	2
[redacted]-METHYL-2-PENTANONE (MIBK)	Below LOQ	2
TOLUENE	Below LOQ	2
TRANS-1,3-DICHLOROPROPENE	Below LOQ	2
1,1,2-TRICHLOROETHANE	Below LOQ	2
TETRACHLOROETHYLENE	Below LOQ	2
2(HEXANONE)	Below LOQ	2
DIBROMOCHLOROMETHANE	Below LOQ	2
CHLOROBENZENE	Below LOQ	2
ETHYL BENZENE	Below LOQ	2
M-,P-XYLENE	Below LOQ	2
O-XYLENE	Below LOQ	2
STYRENE	Below LOQ	2
BROMOFORM	Below LOQ	2
1,4-DICHLOROBUTANE	Below LOQ	2
[redacted]1,2,2-TETRACHLOROETHANE	Below LOQ	2
1,2,3-TRICHLOROPROPANE	Below LOQ	2

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
0 Scans	No TIC's Identified	0

Below LOQ = Less than Limit of Quantitation
(B) = Compound also identified in Laboratory Blank
All reported concentrations have been rounded to two significant figures
Note: *The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.*

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Field ID **Charlotte MGP MW - 10**

Date Collected :	02/27/96	Lab ID # :	9602142X10A
Date Analyzed :	03/01/96	S.A.M. Number :	96-02-142-10A

Data Reviewed By: GCA Date: 3/7/97

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	2
CHLOROMETHANE	Below LOQ	2
CHLOROETHENE	Below LOQ	2
BROMOMETHANE	Below LOQ	2
CHLOROETHANE	Below LOQ	2
TRICHLOROFLUOROMETHANE	Below LOQ	2
ACROLEIN	Below LOQ	10
1,1-DICHLOROETHENE	Below LOQ	2
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	2
ACETONE	Below LOQ	5
IODOMETHANE	Below LOQ	2
CARBON DISULFIDE	Below LOQ	2
METHYLENE CHLORIDE	Below LOQ	5
ACRYLONITRILE	Below LOQ	10
TRANS-1,2-DICHLOROETHENE	Below LOQ	2
1,1-DICHLOROETHANE	Below LOQ	2
VINYL ACETATE	Below LOQ	2
CIS-1,2-DICHLOROETHENE	Below LOQ	2
2-BUTANONE(MEK)	Below LOQ	5

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	2
CHLOROFORM	Below LOQ	5
1,1,1-TRICHLOROETHANE	Below LOQ	2
CARBON TETRACHLORIDE	Below LOQ	2
BENZENE	Below LOQ	2
1,2-DICHLOROETHANE	Below LOQ	5
TRICHLOROETHENE	Below LOQ	2
1,2-DICHLOROPROPANE	Below LOQ	5
DIBROMOMETHANE	Below LOQ	2
BROMODICHLOROMETHANE	Below LOQ	2
2-CHLOROETHYL VINYL ETHER	Below LOQ	2
CIS-1,3-DICHLOROPROPENE	Below LOQ	2
[redacted]-METHYL-2-PENTANONE (MIBK)	Below LOQ	2
TOLUENE	Below LOQ	2
TRANS-1,3-DICHLOROPROPENE	Below LOQ	2
1,1,2-TRICHLOROETHANE	Below LOQ	2
TETRACHLOROETHYLENE	Below LOQ	2
2(HEXANONE)	Below LOQ	2
DIBROMOCHLOROMETHANE	Below LOQ	2
CHLOROBENZENE	Below LOQ	2
ETHYL BENZENE	2	2
M-,P-XYLENE	Below LOQ	2
O-XYLENE	Below LOQ	2
STYRENE	Below LOQ	2
BROMOFORM	Below LOQ	2
1,4-DICHLOROBUTANE	Below LOQ	2
[redacted]1,1,2,2-TETRACHLOROETHANE	Below LOQ	2
1,2,3-TRICHLOROPROPANE	Below LOQ	2

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
1 Scan	Indene Derative	11
1 Scan	Naphthalene	8

Below LOQ = Less than Limit of Quantitation
(B) = Compound also identified in Laboratory Blank
All reported concentrations have been rounded to two significant figures
Note: *The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.*

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Field ID **Charlotte MGP MW - 11**

Date Collected : 02/26/96 Lab ID # : 9602142X11A

Date Analyzed : 03/01/96 S.A.M. Number : 96-02-142-11A

Data Reviewed By: GCA Date: 3/7/97

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	2
CHLOROMETHANE	Below LOQ	2
CHLOROETHENE	Below LOQ	2
BROMOMETHANE	Below LOQ	2
CHLOROETHANE	Below LOQ	2
TRICHLOROFLUOROMETHANE	Below LOQ	2
ACROLEIN	Below LOQ	10
1,1-DICHLOROETHENE	Below LOQ	2
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	2
ACETONE	Below LOQ	5
IODOMETHANE	Below LOQ	2
CARBON DISULFIDE	Below LOQ	2
METHYLENE CHLORIDE	Below LOQ	5
ACRYLONITRILE	Below LOQ	10
TRANS-1,2-DICHLOROETHENE	Below LOQ	2
1,1-DICHLOROETHANE	Below LOQ	2
VINYL ACETATE	Below LOQ	2
CIS-1,2-DICHLOROETHENE	Below LOQ	2
2-BUTANONE(MEK)	Below LOQ	5

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	2
CHLOROFORM	Below LOQ	5
1,1,1-TRICHLOROETHANE	Below LOQ	2
CARBON TETRACHLORIDE	Below LOQ	2
BENZENE	Below LOQ	2
1,2-DICHLOROETHANE	Below LOQ	5
TRICHLOROETHENE	Below LOQ	2
1,2-DICHLOROPROPANE	Below LOQ	5
DIBROMOMETHANE	Below LOQ	2
BROMODICHLOROMETHANE	Below LOQ	2
2-CHLOROETHYL VINYL ETHER	Below LOQ	2
CIS-1,3-DICHLOROPROPENE	Below LOQ	2
METHYL-2-PENTANONE (MIBK)	Below LOQ	2
TOLUENE	Below LOQ	2
TRANS-1,3-DICHLOROPROPENE	Below LOQ	2
1,1,2-TRICHLOROETHANE	Below LOQ	2
TETRACHLOROETHYLENE	Below LOQ	2
2(HEXANONE)	Below LOQ	2
DIBROMOCHLOROMETHANE	Below LOQ	2
CHLOROBENZENE	Below LOQ	2
ETHYL BENZENE	Below LOQ	2
M-,P-XYLENE	Below LOQ	2
O-XYLENE	Below LOQ	2
STYRENE	Below LOQ	2
BROMOFORM	Below LOQ	2
1,4-DICHLOROBUTANE	Below LOQ	2
1,2,2-TETRACHLOROETHANE	Below LOQ	2
1,2,3-TRICHLOROPROPANE	Below LOQ	2

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
0 Scan	No TIC's Identified	0

Below LOQ = Less than Limit of Quantitation

(B) = Compound also identified in Laboratory Blank

All reported concentrations have been rounded to two significant figures

Note: *The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.*

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Field ID **Charlotte MGP MW - 12**

Date Collected : 02/26/96 Lab ID # : 9602142X12A

Date Analyzed : 03/01/96 S.A.M. Number : 96-02-142-12A

Data Reviewed By: GLA Date: 3/7/97

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	50
CHLOROMETHANE	Below LOQ	50
CHLOROETHENE	Below LOQ	50
BROMOMETHANE	Below LOQ	50
CHLOROETHANE	Below LOQ	50
TRICHLOROFLUOROMETHANE	Below LOQ	50
ACROLEIN	Below LOQ	250
1,1-DICHLOROETHENE	Below LOQ	50
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	50
ACETONE	Below LOQ	130
IODOMETHANE	Below LOQ	50
CARBON DISULFIDE	Below LOQ	50
METHYLENE CHLORIDE	Below LOQ	130
ACRYLONITRILE	Below LOQ	250
TRANS-1,2-DICHLOROETHENE	Below LOQ	50
1,1-DICHLOROETHANE	Below LOQ	50
VINYL ACETATE	Below LOQ	50
CIS-1,2-DICHLOROETHENE	Below LOQ	50
2-BUTANONE(MEK)	Below LOQ	130

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	50
CHLOROFORM	Below LOQ	130
1,1,1-TRICHLOROETHANE	Below LOQ	50
CARBON TETRACHLORIDE	Below LOQ	50
BENZENE	8,000	500
1,2-DICHLOROETHANE	Below LOQ	130
TRICHLOROETHENE	Below LOQ	50
1,2-DICHLOROPROPANE	Below LOQ	130
DIBROMOMETHANE	Below LOQ	50
BROMODICHLOROMETHANE	Below LOQ	50
2-CHLOROETHYL VINYL ETHER	Below LOQ	50
CIS-1,3-DICHLOROPROPENE	Below LOQ	50
[redacted]METHYL-2-PENTANONE (MIBK)	Below LOQ	50
TOLUENE	Below LOQ	50
TRANS-1,3-DICHLOROPROPENE	Below LOQ	50
1,1,2-TRICHLOROETHANE	Below LOQ	50
TETRACHLOROETHYLENE	Below LOQ	50
2(HEXANONE)	Below LOQ	50
DIBROMOCHLOROMETHANE	Below LOQ	50
CHLOROBENZENE	Below LOQ	50
ETHYL BENZENE	240	50
M-,P-XYLENE	110	50
O-XYLENE	58	50
STYRENE	Below LOQ	50
BROMOFORM	Below LOQ	50
1,4-DICHLOROBUTANE	Below LOQ	50
[redacted]1,2,2-TETRACHLOROETHANE	Below LOQ	50
1,2,3-TRICHLOROPROPANE	Below LOQ	50

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
2 Scans	Benzene Deratives	150
1 Scan	Indene Deratives	310
1 Scan	Naphthalene	490

Below LOQ = Less than Limit of Quantitation

(B) = Compound also identified in Laboratory Blank

All reported concentrations have been rounded to two significant figures

Note: *The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.*

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification #99005

Client Report Form

Field ID **Charlotte MGP MW - 13**

Date Collected : 02/26/96 Lab ID # : 9602142X13A

Date Analyzed : 03/01/96 S.A.M. Number : 96-02-142-13A

Data Reviewed By: GCD Date: 3/7/96

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	2
CHLOROMETHANE	Below LOQ	2
CHLOROETHENE	Below LOQ	2
BROMOMETHANE	Below LOQ	2
CHLOROETHANE	Below LOQ	2
TRICHLOROFLUOROMETHANE	Below LOQ	2
ACROLEIN	Below LOQ	10
1,1-DICHLOROETHENE	Below LOQ	2
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	2
ACETONE	Below LOQ	5
IODOMETHANE	Below LOQ	2
CARBON DISULFIDE	Below LOQ	2
METHYLENE CHLORIDE	Below LOQ	5
ACRYLONITRILE	Below LOQ	10
TRANS-1,2-DICHLOROETHENE	Below LOQ	2
1,1-DICHLOROETHANE	Below LOQ	2
VINYL ACETATE	Below LOQ	2
CIS-1,2-DICHLOROETHENE	Below LOQ	2
2-BUTANONE(MEK)	Below LOQ	5

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	2
CHLOROFORM	Below LOQ	5
1,1,1-TRICHLOROETHANE	Below LOQ	2
CARBON TETRACHLORIDE	Below LOQ	2
BENZENE	Below LOQ	2
1,2-DICHLOROETHANE	Below LOQ	5
TRICHLOROETHENE	Below LOQ	2
1,2-DICHLOROPROPANE	Below LOQ	5
DIBROMOMETHANE	Below LOQ	2
BROMODICHLOROMETHANE	Below LOQ	2
2-CHLOROETHYL VINYL ETHER	Below LOQ	2
CIS-1,3-DICHLOROPROPENE	Below LOQ	2
[redacted]METHYL-2-PENTANONE (MIBK)	Below LOQ	2
TOLUENE	Below LOQ	2
TRANS-1,3-DICHLOROPROPENE	Below LOQ	2
1,1,2-TRICHLOROETHANE	Below LOQ	2
TETRACHLOROETHYLENE	Below LOQ	2
2(HEXANONE)	Below LOQ	2
DIBROMOCHLOROMETHANE	Below LOQ	2
CHLOROBENZENE	Below LOQ	2
ETHYL BENZENE	Below LOQ	2
M-,P-XYLENE	Below LOQ	2
O-XYLENE	Below LOQ	2
STYRENE	Below LOQ	2
BROMOFORM	Below LOQ	2
1,4-DICHLOROBUTANE	Below LOQ	2
[redacted]1,2,2-TETRACHLOROETHANE	Below LOQ	2
1,2,3-TRICHLOROPROPANE	Below LOQ	2

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
0 Scan	No TIC's Identified	0

Below LOQ = Less than Limit of Quantitation
(B) = Compound also identified in Laboratory Blank
All reported concentrations have been rounded to two significant figures
Note: The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Field ID **Charlotte MGP MW - 14**

Date Collected : 02/26/96 Lab ID # : 9602142X14A

Date Analyzed : 03/01/96 S.A.M. Number : 96-02-142-14A

Data Reviewed By: GCA Date: 3/7/96

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	100
CHLOROMETHANE	Below LOQ	100
CHLOROETHENE	Below LOQ	100
BROMOMETHANE	Below LOQ	100
CHLOROETHANE	Below LOQ	100
TRICHLOROFLUOROMETHANE	Below LOQ	100
ACROLEIN	Below LOQ	500
1,1-DICHLOROETHENE	Below LOQ	100
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	100
ACETONE	Below LOQ	250
IODOMETHANE	Below LOQ	100
CARBON DISULFIDE	Below LOQ	100
METHYLENE CHLORIDE	Below LOQ	250
ACRYLONITRILE	Below LOQ	500
TRANS-1,2-DICHLOROETHENE	Below LOQ	100
1,1-DICHLOROETHANE	Below LOQ	100
VINYL ACETATE	Below LOQ	100
CIS-1,2-DICHLOROETHENE	Below LOQ	100
2-BUTANONE(MEK)	Below LOQ	250

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	100
CHLOROFORM	Below LOQ	250
1,1,1-TRICHLOROETHANE	Below LOQ	100
CARBON TETRACHLORIDE	Below LOQ	100
BENZENE	900	100
1,2-DICHLOROETHANE	Below LOQ	250
TRICHLOROETHENE	Below LOQ	100
1,2-DICHLOROPROPANE	Below LOQ	250
DIBROMOMETHANE	Below LOQ	100
BROMODICHLOROMETHANE	Below LOQ	100
2-CHLOROETHYL VINYL ETHER	Below LOQ	100
CIS-1,3-DICHLOROPROPENE	Below LOQ	100
4-METHYL-2-PENTANONE (MIBK)	Below LOQ	100
TOLUENE	2,000	100
TRANS-1,3-DICHLOROPROPENE	Below LOQ	100
1,1,2-TRICHLOROETHANE	Below LOQ	100
TETRACHLOROETHYLENE	Below LOQ	100
2(HEXANONE)	Below LOQ	100
DIBROMOCHLOROMETHANE	Below LOQ	100
CHLOROBENZENE	Below LOQ	100
ETHYL BENZENE	100	100
M-,P-XYLENE	560	100
O-XYLENE	300	100
STYRENE	440	100
BROMOFORM	Below LOQ	100
1,4-DICHLOROBUTANE	Below LOQ	100
1,1,2,2-TETRACHLOROETHANE	Below LOQ	100
1,2,3-TRICHLOROPROPANE	Below LOQ	100

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
12 Scans	Benzene Deratives	1,127
5 Scans	Indene Deratives	877
1 Scan	Benzofuran	28
1 Scan	Unknown	38

Below LOQ = Less than Limit of Quantitation
(B) = Compound also identified in Laboratory Blank
All reported concentrations have been rounded to two significant figures
Note: *The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.*

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005
Client Report Form

Field ID	Charlotte MGP MW - 16

Date Collected :	02/26/96	Lab ID # :	9602142X16A
Date Analyzed :	03/01/96	S.A.M. Number :	96-02-142-16A

Data Reviewed By: GCS Date: 3/7/96

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	2
CHLOROMETHANE	Below LOQ	2
CHLOROETHENE	Below LOQ	2
BROMOMETHANE	Below LOQ	2
CHLOROETHANE	Below LOQ	2
TRICHLOROFLUOROMETHANE	Below LOQ	2
ACROLEIN	Below LOQ	10
1,1-DICHLOROETHENE	Below LOQ	2
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	2
ACETONE	Below LOQ	5
IODOMETHANE	Below LOQ	2
CARBON DISULFIDE	Below LOQ	2
METHYLENE CHLORIDE	Below LOQ	5
ACRYLONITRILE	Below LOQ	10
TRANS-1,2-DICHLOROETHENE	Below LOQ	2
1,1-DICHLOROETHANE	Below LOQ	2
VINYL ACETATE	Below LOQ	2
CIS-1,2-DICHLOROETHENE	Below LOQ	2
2-BUTANONE(MEK)	Below LOQ	5

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	2
CHLOROFORM	Below LOQ	5
1,1,1-TRICHLOROETHANE	Below LOQ	2
CARBON TETRACHLORIDE	Below LOQ	2
BENZENE	Below LOQ	2
1,2-DICHLOROETHANE	Below LOQ	5
TRICHLOROETHENE	Below LOQ	2
1,2-DICHLOROPROPANE	Below LOQ	5
DIBROMOMETHANE	Below LOQ	2
BROMODICHLOROMETHANE	Below LOQ	2
2-CHLOROETHYL VINYL ETHER	Below LOQ	2
CIS-1,3-DICHLOROPROPENE	Below LOQ	2
[redacted]-METHYL-2-PENTANONE (MIBK)	Below LOQ	2
TOLUENE	Below LOQ	2
TRANS-1,3-DICHLOROPROPENE	Below LOQ	2
1,1,2-TRICHLOROETHANE	Below LOQ	2
TETRACHLOROETHYLENE	Below LOQ	2
2(HEXANONE)	Below LOQ	2
DIBROMOCHLOROMETHANE	Below LOQ	2
CHLOROBENZENE	Below LOQ	2
ETHYL BENZENE	Below LOQ	2
M-,P-XYLENE	Below LOQ	2
O-XYLENE	Below LOQ	2
STYRENE	Below LOQ	2
BROMOFORM	Below LOQ	2
1,4-DICHLOROBUTANE	Below LOQ	2
[redacted]1,1,2,2-TETRACHLOROETHANE	Below LOQ	2
1,2,3-TRICHLOROPROPANE	Below LOQ	2

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
1 Scan	Benzene Derative	6
1 Scan	Isopropyl Ether	64
1 Scan	Naphthalene	17

Below LOQ = Less than Limit of Quantitation
(B) = Compound also identified in Laboratory Blank
All reported concentrations have been rounded to two significant figures
Note: *The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.*

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Field ID **Charlotte MGP Trip Blank**

Date Collected :	02/26/96	Lab ID # :	9602142X17A
Date Analyzed :	03/01/96	S.A.M. Number :	96-02-142-17A

Data Reviewed By: GCA Date: 3/7/96

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	2
CHLOROMETHANE	Below LOQ	2
CHLOROETHENE	Below LOQ	2
BROMOMETHANE	Below LOQ	2
CHLOROETHANE	Below LOQ	2
TRICHLOROFLUOROMETHANE	Below LOQ	2
ACROLEIN	Below LOQ	10
1,1-DICHLOROETHENE	Below LOQ	2
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	2
ACETONE	Below LOQ	5
IODOMETHANE	Below LOQ	2
CARBON DISULFIDE	Below LOQ	2
METHYLENE CHLORIDE	Below LOQ	5
ACRYLONITRILE	Below LOQ	10
TRANS-1,2-DICHLOROETHENE	Below LOQ	2
1,1-DICHLOROETHANE	Below LOQ	2
VINYL ACETATE	Below LOQ	2
CIS-1,2-DICHLOROETHENE	Below LOQ	2
2-BUTANONE(MEK)	Below LOQ	5

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	2
CHLOROFORM	Below LOQ	5
1,1,1-TRICHLOROETHANE	Below LOQ	2
CARBON TETRACHLORIDE	Below LOQ	2
BENZENE	Below LOQ	2
1,2-DICHLOROETHANE	Below LOQ	5
TRICHLOROETHENE	Below LOQ	2
1,2-DICHLOROPROPANE	Below LOQ	5
DIBROMOMETHANE	Below LOQ	2
BROMODICHLOROMETHANE	Below LOQ	2
2-CHLOROETHYL VINYL ETHER	Below LOQ	2
CIS-1,3-DICHLOROPROPENE	Below LOQ	2
[redacted]-METHYL-2-PENTANONE (MIBK)	Below LOQ	2
TOLUENE	Below LOQ	2
TRANS-1,3-DICHLOROPROPENE	Below LOQ	2
1,1,2-TRICHLOROETHANE	Below LOQ	2
TETRACHLOROETHYLENE	Below LOQ	2
2(HEXANONE)	Below LOQ	2
DIBROMOCHLOROMETHANE	Below LOQ	2
CHLOROBENZENE	Below LOQ	2
ETHYL BENZENE	Below LOQ	2
M-,P-XYLENE	Below LOQ	2
O-XYLENE	Below LOQ	2
STYRENE	Below LOQ	2
BROMOFORM	Below LOQ	2
1,4-DICHLOROBUTANE	Below LOQ	2
[redacted]1,1,2,2-TETRACHLOROETHANE	Below LOQ	2
1,2,3-TRICHLOROPROPANE	Below LOQ	2

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
0 Scans	No TIC's Identified	0

Below LOQ = Less than Limit of Quantitation
(B) = Compound also identified in Laboratory Blank
All reported concentrations have been rounded to two significant figures
Note: The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.

USEPA Method 624 Analysis Report

ELECTRIC SYSTEM SUPPORT
DUKE POWER COMPANY

Organic Chemistry Group

New York Department of Health Laboratory Identification #11366
North Carolina Department of Environment, Health and Natural Resources (DEHNR) Certification #248
South Carolina Department of Health and Environmental Control (DHEC) Laboratory Identification # 99005

Client Report Form

Field ID **Charlotte MGP Field Blank**

Date Collected :	02/27/96	Lab ID # :	9602142X18A
Date Analyzed :	03/01/96	S.A.M. Number :	96-02-142-18A

Data Reviewed By: GLA Date: 3/7/96

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
DICHLORODIFLUOROMETHANE	Below LOQ	2
CHLOROMETHANE	Below LOQ	2
CHLOROETHENE	Below LOQ	2
BROMOMETHANE	Below LOQ	2
CHLOROETHANE	Below LOQ	2
TRICHLOROFLUOROMETHANE	Below LOQ	2
ACROLEIN	Below LOQ	10
1,1-DICHLOROETHENE	Below LOQ	2
1,1,2TRICHLORO-1,2,2TRIFLUOROETHANE	Below LOQ	2
ACETONE	Below LOQ	5
IODOMETHANE	Below LOQ	2
CARBON DISULFIDE	Below LOQ	2
METHYLENE CHLORIDE	Below LOQ	5
ACRYLONITRILE	Below LOQ	10
TRANS-1,2-DICHLOROETHENE	Below LOQ	2
1,1-DICHLOROETHANE	Below LOQ	2
VINYL ACETATE	Below LOQ	2
CIS-1,2-DICHLOROETHENE	Below LOQ	2
2-BUTANONE(MEK)	Below LOQ	5

Compound Name	Concentration (ug/L)	Limit of Quantitation (ug/L)
BROMOCHLOROMETHANE	Below LOQ	2
CHLOROFORM	Below LOQ	5
1,1,1-TRICHLOROETHANE	Below LOQ	2
CARBON TETRACHLORIDE	Below LOQ	2
BENZENE	Below LOQ	2
1,2-DICHLOROETHANE	Below LOQ	5
TRICHLOROETHENE	Below LOQ	2
1,2-DICHLOROPROPANE	Below LOQ	5
DIBROMOMETHANE	Below LOQ	2
BROMODICHLOROMETHANE	Below LOQ	2
2-CHLOROETHYL VINYL ETHER	Below LOQ	2
CIS-1,3-DICHLOROPROPENE	Below LOQ	2
[redacted]-METHYL-2-PENTANONE (MIBK)	Below LOQ	2
TOLUENE	Below LOQ	2
TRANS-1,3-DICHLOROPROPENE	Below LOQ	2
1,1,2-TRICHLOROETHANE	Below LOQ	2
TETRACHLOROETHYLENE	Below LOQ	2
2(HEXANONE)	Below LOQ	2
DIBROMOCHLOROMETHANE	Below LOQ	2
CHLOROBENZENE	Below LOQ	2
ETHYL BENZENE	Below LOQ	2
M-,P-XYLENE	Below LOQ	2
O-XYLENE	Below LOQ	2
STYRENE	Below LOQ	2
BROMOFORM	Below LOQ	2
1,4-DICHLOROBUTANE	Below LOQ	2
[redacted]1,1,2,2-TETRACHLOROETHANE	Below LOQ	2
1,2,3-TRICHLOROPROPANE	Below LOQ	2

Tentatively Identified Compounds Report

Scan #	Compound	Estimated Concentration (ug/L)
0 Scans	No TIC's Identified	0

Below LOQ = Less than Limit of Quantitation

(B) = Compound also identified in Laboratory Blank

All reported concentrations have been rounded to two significant figures

Note: *The following compounds may not be accurately quantitated using EPA Method 624, Acrolein, Acrylonitrile, and the Ketones. Any concentrations reported for these compounds should be regarded as estimates.*

Report Number 14

Phase II Environmental Assessment
Supplemental Data
Hexavalent Chromium and TOX
May 1996

July 15, 1996

To: Ralph Roberts

Subject: South Boulevard MGP Site
May 24, 1996 Soil Sample Analysis Results

On May 24, 1996 soil samples were collected at four location at the South Boulevard MGP site. The locations correspond to map locations previously identified in the 1992 Phase II report for this site. All samples were collected using Geoprobe large bore soil samplers with disposable plastic liners. Field descriptions of the samples are summarized below:

Location B31 (1-2 foot depth) - dark black material with coal clinkers and brick fragments.
Strong PAH odor

Location B6 (4-5.5 foot depth) - dark brown/black sandy silt with brick fragments
PAH odor

Location B13 (1-2.5 foot depth) - dark gray/black sandy clayey silt
PAH odor

Location B27 (1-3.5 foot depth) - Gray/brown silty clay
PAH odor

Samples were originally submitted for Cr (hex) and TOX analyses but additional parameters were requested by Troy Whisenant. All analysis results are summarized on the attached table and laboratory data sheets are attached for your records.

If you have any questions concerning the sampling or analysis results please feel free to contact me.

Tim Hunsucker
Environmental Chemistry

attachments

ENVIRONMENTAL CHEMISTRY SERVICES REQUEST FORM

This form is to be completed for all field activities requested through Environmental Chemistry as required by the DQO (Data Quality Objectives) Section of the Environmental Chemistry QA/QC Plan. This information is also necessary for Environmental Chemistry to effectively allocate resources to to meet our customer requests. NOTE: Services will not be performed until this form is received.

Individual Making Request: RALPH ROBERTS **Date:** 5/15/96

Which Env Chem Team Member/s is/are Requested for this Project?

SERVICES REQUESTED:

1. ASSESSMENT OF ISSUE OR PROBLEM:

Give a brief description of the issue or problem: South Blvd MGP ~~SA~~ SITE: Need Cr6 and TOX soil data for air permit modelling.

Expected Duration: 1 day

Expected Deliverables: 5 soil samples analyzed from Chromium 6 and TOX

Locations: ~~B-12~~ B-13 1-2.5'; ~~B-26~~ B-27 0AB23' 4-5'; ~~B-29~~ B-27 1-3.5'; B-6 4-5.5'; ~~B-30~~ B-31 1-2'

2. FIELD SERVICES:

Groundwater Sampling:		Aquifer Testing	
Geoprobe Services	✓	Mobile Lab Services	
Soil Sampling	✓	Soil Gas Sampling	
Surface Water Sampling		Stormwater Sampling	
Drinking Water Sampling		Haz Waste Sampling	
NPDES Sampling		Field Assessments	
Time-of-Travel Studies		Other:	

3. LEVEL OF DATA QUALITY REQUIRED:

How will the data be used?

What QA/QC Level is Required?

4. PROJECT MANAGEMENT/BUDGET INFORMATION:

Project Lead: RALPH ROBERTS

Project WID 0702MGPCCTSBLVD

Project WO & Task Number: WMS CONTACT:

Other Project Members: Bobby McMurry

FOR:	RETURN FORM TO:
Surface Water:	Joanne Thornton, Mail Code MGO3A3, Copy To: Ron Santini
Hazardous Waste:	Bob Wolfe, Mail Code MGO3A3, Copy To: Ron Santini
All Other Sampling:	Ron Santini, Mail Code MGO3A3

South Boulevard MGP Site

Charlotte N.C.

May 24, 1996 Soil Samples

		B31 1-2 feet	B6 4-5.5 feet	B13 1-2.5 feet	B27 1-3.5 feet
Be	mg/kg	<0.70	<0.61	<0.61	0.70
Mn	mg/kg	310	142	378	401
Ni	mg/kg	77.5	925	17.1	26.9
Cr (Hex)	mg/kg	<5.6 *	<0.48	<0.49	0.60
TOX	mg/kg	<210	<180	<180	<190
Fluoride	mg/kg	<1.4	<1.2	<1.2	2.2
Moisture	%	28.7	17.4	18.3	19.9

*Sample required dilution dure to high turbitity

DUKE POWER COMPANY
Laboratory Services
NS Bldg. # 7405 (MG03A1)
39 Hagers Ferry Road
tersville, NC 28078

ANAL[redacted] AND REQUEST FORM *

H6E31012

Phone 704-875-5204
LS CLIENT CONTACT/PHONE[1]: 5209 5270 fax
281 3057 606
CLIENT[2]: Tim Hunsucker
Project Name[3]: South Blvd. MGP
Results to/Phone[4]: Tim Hunsucker
Address and/or PROFS[5]: MG03A.
Matrix (type of samples)/QC Level[6]: Soil
SAM No.[7]: 9605221

FRAC [8]	CHEMPLOT Number [9]	Sample Description or ID[10]	Collected using sampling instructions[11] Date	Time	Name	Hex. Cr	[redacted]									
01A		SBMGP-B31-1'-2'	5/24/96	0910	TJH/DHD	1										
02A		SBMGP-BG-4'-5.5'	↓	0950		1										
03A		SBMGP-B13-1'-2.5'	↓	1020	↓	1										
04A		SBMGP-B27-1'-3.5'	5/24/96	1045	TJH/DHD	1										

Normally cools received at 18°C
BRD 5-30-96

Sample Preserved ☒ Yes ☐ No [14]
Name: Tim Hunsucker
Total # of samples[15]: 4 4

Delivered by[16]:	Delivered by:	Delivered by:
Tim Hunsucker		
Date/Time: 5/24/96 1310	Date/Time:	Date/Time:
Received by: 5-24-96 1310	Received by: 0850 Rupak Kamra 5-30-96	Received by:

Turnaround Requested[19]:
☒ Routine (3 weeks) 0792 MGPCLTSBLVP
☐ Rush (2 weeks)
☐ Emergency Rush
☐ Date Results Requested

Comments[17]:

* See instructions on back of form.
[16] White, canary — LS Files Pink — Client Copy

SAMPLE RECEIPT DOCUMENTATION

Quanterra Environmental Services

Quanterra Condition Upon Receipt Anomaly Report (CUR)
QES - Knoxville

CUR No.
Lot HGE 31912 A

Client: DUKE POWER CO
Project Name:

Date Received: 5-30-96
Initiated By: BKD
RFA/COC Nos.:

Condition/Anomaly/Variance (select from legend - on back):

Client Sample ID	Analysis Requested	Condition (see legend)	Comments/Action
ALL	HF-X, CR.	2B, 5A	process "as is"

Corrective Action:

per Tracy Whisenant

- [x] Client informed verbally on 6-3-96 By: Tara A. Ripert In writing on: _____ By: _____
- [x] ple(s) processed "as is"
- [ ] le(s) ON HOLD until further notice
- [ ] action required (see above comments)
- [ ] No action required

Sample Control Reviewer: _____ Project Manager: _____

Quanterra Condition Upon Receipt Anomaly Report (CUR)
QES - Knoxville

Legend:

Cooler:
1a Not received, COC available
1b Leaking
1c Other: _____

Temperature:
2a Temp. Blank= _____
(2b) Cooler Temp= 18°C
(cooler temp should only be used if there is no Temp. Blank)

Containers:
3a Leaking
3b Broken
3c Extra
3d No labels
3e Headspace (VOA only)
3f Other: _____

Samples:
4a Samples received but not on COC
4b Samples not received but on COC
4c Holding Time Expired
4d Other: _____

Custody Seals:
(5a) None
5b Not intact
5c Other: _____

Chain of Custody(COC):
6a Not relinquished by client
6b incomplete information
6c Other: _____

Container Labels:
7a Doesn't match COC
7b Incomplete information
7c Marking smeared
7d Label torn
7e Other: _____

Other (8): _____
_____
_____

Invoice

Quanterra Inc - Knoxville Lab
5815 Middlebrook Pike
Knoxville, TN 37921
423 588-6401
423 584-4315

Quanterra Environmental Services

REMIT TO:

Quanterra Incorporated
P.O. Box 98301
Chicago, IL 60693-8301

Number: 14030466
Date: 02 JUL 96
Quanterra Project Number: H6E310120
Customer Number: 00376374
Terms: NET 30 DAYS

Customer Contact
SAMPLE RECEIVING DATE : 5/30/96
REPORT DATE : 7/02/96
Harry St. Clair

Bill To:
Sue Ann Black
Duke Power Company
McGuire Site - Mail Code MG0281
13225 Hagers Ferry Rd - Hwy 73
Huntersville, NC 28078 8985

Duke Power Company
McGuire Site - Mail Code MG0281
13225 Hagers Ferry Rd - Hwy 73
Huntersville, NC 28078-8985

Line No.	Qty.	Matrix Code	Analysis Description	Unit Price	Extended Price
	4	SOLID	SOLID, Be, Mn, Ni by ICP	50.00	200.00
	4	SOLID	SOLID, 300.0A, Fluoride (300.0, Ion Chro	25.00	100.00
	4	SOLID	SOLID, 7196A, Hexavalent Chromium	35.00	140.00
	4	SOLID	SOLID, TOX, Halogens, Total Organic "TOX	120.00	480.00
	4	SOLID	SOLID, 160.3 MOD, Percent Moisture	.00	

NOTE: Applicable samples will be stored at no extra charge for a period of 30 days following the final report. Samples will be properly disposed of after 30 days, unless notified otherwise in writing.

Please reference Invoice number when remitting.

Customer Number / Contract Number / Reference
22 Duke Power

Quanterra Program Administrator: PIP
Tara L. Pipes

Salesperson

Sub Total
Tax 920.00
Total

DUPLICATE COPY

Quanterra
Environmental Services

ANALYTICAL REPORT

Duke Power
Lot#: H6E310120

Harry St. Clair

Duke Power Company

QUANTERRA INCORPORATED

Tara L. Pipes
Project Manager

July 2, 1996

Quanterra
Environmental Services

ANALYTICAL METHODS SUMMARY

H6E310120

Parameters	Methods
Fluoride	MCAWW 300.0A
Inductively Coupled Plasma (ICP) Metals	SW846 6010A
Hexavalent Chromium	SW846 7196A
Total Organic Halogens	STP TOX
Total Residue as Percent Moisture	MCAWW 160.3 MOD

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

STP 976 "Chemical and Biological Characterization of Sludges, Sediments, Dredge Spoils, and Drilling Muds", ASTM Philadelphia, PA, 1988, pp 176-183.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

Quanterra
Environmental Services

SAMPLE SUMMARY

The analytical results of the samples listed below are presented on the following pages.

WO #	LABORATORY ID	SAMPLE IDENTIFICATION	DATE/TIME SAMPLED
C4875	H6E310120-001	SBMGP-B31-1'-2'	5/24/96 9:10
C4876	H6E310120-002	SBMGP-B6-4'-5.5'	5/24/96 9:50
C4877	H6E310120-003	SBMGP-B13-1'-2.5'	5/24/96 10:20
C4878	H6E310120-004	SBMGP-B27-1'-3.5'	5/24/96 10:45

Quanterra
Environmental Services

PROJECT NARRATIVE

All holding times and QC criteria were met.

COMMENTS:

Samples arrived at the laboratory on May 30, 1996 for hexavalent chromium analysis only. As per Mr. Troy Whisenant, analyses for Be, Mn and Ni by SW846, Method 6010 were added as well as analyses for Fluoride (MCAWW, Method 300.0) and TOX (MCAWW).

Samples arrived at 18 degrees Celsius (see enclosed Condition Upon Receipt Variance Report). Per Mr. Troy Whisenant, analysis was performed on the samples "as is".

Hexavalent Chromium

The LCS was slightly outside of the method acceptance criteria of 80-120%. However, all of the MDL (Method Detection Limit) study recoveries were within these limits with the exception of one which was at 75%.

Sample SBMGP-B31-1'-2' required dilution due to high turbidity. The matrix spike/matrix spike duplicate of this sample were diluted out due to this interference.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Quanterra
Environmental Services

EXECUTIVE SUMMARY - Detection Highlights

H6E310120

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD
SBMGP-B31-1'-2' 05/24/96 09:10				
Total Residue as Percent Moisture	28.7	0.10 7	%	MCAWW 160.3
Manganese	310	2.1	mg/kg	SW846 6010A
Nickel	77.5	5.6	mg/kg	SW846 6010A
SBMGP-B6-4'-5.5' 05/24/96 09:50				
Total Residue as Percent Moisture	17.4	0.10	%	MCAWW 160.3
Beryllium	0.21 J	0.61	mg/kg	SW846 6010A
Manganese	142	1.8	mg/kg	SW846 6010A
Nickel	925	4.8	mg/kg	SW846 6010A
SBMGP-B13-1'-2.5' 05/24/96 10:20				
Total Residue as Percent Moisture	18.3	0.10	%	MCAWW 160.3
Beryllium	0.54 J	0.61	mg/kg	SW846 6010A
Manganese	378	1.8	mg/kg	SW846 6010A
Nickel	17.1	4.9	mg/kg	SW846 6010A
SBMGP-B27-1'-3.5' 05/24/96 10:45				
Total Residue as Percent Moisture	19.9	0.10	%	MCAWW 160.3
Hexavalent Chromium	0.60	0.50	mg/kg	SW846 7196A
Fluoride	2.2	1.2	mg/kg	MCAWW 300.0A
Beryllium	0.70	0.62	mg/kg	SW846 6010A
Manganese	401	1.9	mg/kg	SW846 6010A
Nickel	26.9	5.0	mg/kg	SW846 6010A

METALS

Quanterra
Environmental Services

Duke Power Company

SBMGP-B31-1'-2'

WO # : C4875
LAB # : H6E310120-001
MATRIX: SOLID

DATE SAMPLED : 5/24/96
TIME SAMPLED : 9:10
DATE RECEIVED: 5/30/96

% MOISTURE : 28.7

REQUESTED METALS

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Beryllium	ND	0.70	mg/kg	SW846 6010A	6/07- 6/10/96	6158117
Manganese	310	2.1	mg/kg	SW846 6010A	6/07- 6/10/96	6158117
Nickel	77.5	5.6	mg/kg	SW846 6010A	6/07- 6/10/96	6158117

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

Duke Power Company

SBMGP-B6-4'-5.5'

WO # : C4876
LAB # : H6E310120-002
MATRIX: SOLID

DATE SAMPLED : 5/24/96
TIME SAMPLED : 9:50
DATE RECEIVED: 5/30/96

% MOISTURE : 17.4

REQUESTED METALS

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Beryllium	ND	0.61	mg/kg	SW846 6010A	6/07- 6/10/96	6158117
Manganese	142	1.8	mg/kg	SW846 6010A	6/07- 6/10/96	6158117
Nickel	925	4.8	mg/kg	SW846 6010A	6/07- 6/10/96	6158117

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

Duke Power Company

SBMGP-B13-1'-2.5'

WO # : C4877
LAB # : H6E310120-003
MATRIX: SOLID

DATE SAMPLED : 5/24/96
TIME SAMPLED : 10:20
DATE RECEIVED: 5/30/96

% MOISTURE : 18.3

REQUESTED METALS

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Beryllium	ND	0.61	mg/kg	SW846 6010A	6/07- 6/10/96	6158117
Manganese	378	1.8	mg/kg	SW846 6010A	6/07- 6/10/96	6158117
Nickel	17.1	4.9	mg/kg	SW846 6010A	6/07- 6/10/96	6158117

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

Duke Power Company

SBMGP-B27-1'-3.5'

WO # : C4878
LAB # : H6E310120-004
MATRIX: SOLID

DATE SAMPLED : 5/24/96
TIME SAMPLED : 10:45
DATE RECEIVED: 5/30/96

% MOISTURE : 19.9

REQUESTED METALS

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Beryllium	0.70	0.62	mg/kg	SW846 6010A	6/07- 6/10/96	6158117
Manganese	401	1.9	mg/kg	SW846 6010A	6/07- 6/10/96	6158117
Nickel	26.9	5.0	mg/kg	SW846 6010A	6/07- 6/10/96	6158117

NOTE: DRY WEIGHT

Quanterra
Environmental Services

METHOD BLANK REPORT

LAB #: H6E310120 WO #: C4A1X

METALS

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE
		BATCH:6158117			
Beryllium	ND	0.50	mg/kg	SW846 6010A	6/07- 6/10/96
Manganese	ND	1.5	mg/kg	SW846 6010A	6/07- 6/10/96
Nickel	ND	4.0	mg/kg	SW846 6010A	6/07- 6/10/96

NOTE:

ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

LABORATORY CONTROL SAMPLE REPORT

LAB #.....: H6E310120

Metals

PARAMETER	TRUE SPIKE	MEASURED SPIKE	PERCENT RECOVERY	RECOVERY LIMITS	DATE PREP/ ANALYZED
BATCH:6158117 WORK ORDER: C4A1X UNITS: mg/kg					
Beryllium	5.0	4.4	88	(80-120)	6/07- 6/10/96
Manganese	50	44	89	(80-120)	6/07- 6/10/96
Nickel	50	46	93	(80-120)	6/07- 6/10/96

NOTE:

Calculations are performed before rounding to avoid round-off errors in calculated results.

WET CHEMISTRY

Quanterra
Environmental Services

Duke Power Company

SBMGP-B31-1'-2'

WO # : C4875
LAB # : H6E310120-001
MATRIX: SOLID

DATE SAMPLED : 5/24/96
TIME SAMPLED : 9:10
DATE RECEIVED: 5/30/96
% MOISTURE : 28.7

INORGANIC ANALYTICAL REPORT

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Fluoride	ND	1.4	mg/kg	MCAWW 300.0A	6/17/96	6169212
Hexavalent Chromium	ND	5.6	mg/kg	SW846 7196A	6/26- 6/28/96	6178144
Total Organic Halogens	ND	210	mg/kg	STP TOX	6/12/96	6164141

NC DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

Duke Power Company

SBMGP-B6-4'-5.5'

WO # : C4876
LAB # : H6E310120-002
MATRIX: SOLID

DATE SAMPLED : 5/24/96
TIME SAMPLED : 9:50
DATE RECEIVED: 5/30/96
% MOISTURE : 17.4

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Fluoride	ND	1.2	mg/kg	MCAWW 300.0A	6/17/96	6169212
Hexavalent Chromium	ND	0.48	mg/kg	SW846 7196A	6/26- 6/28/96	6178144
Total Organic Halogens	ND	180	mg/kg	STP TOX	6/12/96	6164141

NC DRY WEIGHT
D NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

Duke Power Company

SBMGP-B13-1'-2.5'

WO # : C4877
LAB # : H6E310120-003
MATRIX: SOLID

DATE SAMPLED : 5/24/96
TIME SAMPLED : 10:20
DATE RECEIVED: 5/30/96
% MOISTURE : 18.3

INORGANIC ANALYTICAL REPORT

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Fluoride	ND	1.2	mg/kg	MCAWW 300.0A	6/17/96	6169212
Hexavalent Chromium	ND	0.49	mg/kg	SW846 7196A	6/26- 6/28/96	6178144
Total Organic Halogens	ND	180	mg/kg	STP TOX	6/12/96	6164141

[redacted] DRY WEIGHT
[redacted]ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

Duke Power Company

SBMGP-B27-1'-3.5'

WO # : C4878
LAB # : H6E310120-004
MATRIX: SOLID

DATE SAMPLED : 5/24/96
TIME SAMPLED : 10:45
DATE RECEIVED: 5/30/96
% MOISTURE : 19.9

INORGANIC ANALYTICAL REPORT

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Fluoride	2.2	1.2	mg/kg	MCAWW 300.0A	6/17/96	6169212
Hexavalent Chromium	0.60	0.50	mg/kg	SW846 7196A	6/26- 6/28/96	6178144
Total Organic Halogens	ND	190	mg/kg	STP TOX	6/12/96	6164141

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

METHOD BLANK REPORT

LAB #: H6F170000-212

WO #: C4FQ2

INORGANIC ANALYTICAL REPORT

PARAMETER	RESULT	REPORTING LIMIT	UNIT	PREPARATION - ANALYSIS DATE	QC BATCH
Fluoride	ND	1.0	mg/kg	6/17/96	6169212
Hexavalent Chromium	ND	0.40	mg/kg	6/26- 6/28/96	6178144
Total Organic Halogens	ND	150	mg/kg	6/12/96	6164141

NOTE:
ND (NONE DETECTED)

Quanterra
Environmental Services

CHECK SAMPLE REPORT

LAB #: H6E310120

INORGANIC ANALYTICAL REPORT

COMPOUND	SPIKE PERCENT RECOVERY	LIMITS	PREPARATION - ANALYSIS DATE	Q/C BATCH
Fluoride	99	(80-120)	6/17/96	6169212
Hexavalent Chromium	78	(85-115)	6/26- 6/27/96	6178144

Refer to Section V.A.17

Refer to Section V.A.18

Refer to Section V.A.19

Refer to Section V.A.20