SDMS DocID 2117580

PFE
ORIGINAL
(Red)

TABLES

Geraghty & Miller Sampling Results
1995

PFE
ORIGINAL
(Red)

PFE ORIGINAL (Red)

Table 1

WATER LEVEL RECORD

Client: Va Power & City of Norfolk
Location: Former Norfolk MGP
Technician: Brian Newgent
Measured with: Int. probe & M-scope

Project # : MD0057.011
City: Norfollk
Measuring point description: Top of inner casing

Date: 9/26/95
State: Virginia

WELL #	Time	M.P. Elevation(3)	Measured DTW (feet)	Water-Table Elevation	Remarks (Product Bailed)
OW-1		108.15	4.80	103.35	casing leaks
MW-4		117.40	10.55	106.85	odor
MW-4B		118.50	19.05	99.45	
MW-5		117.37	11.72	105.65	globules
MW-8		109.41	6.93	102.48	
MW-9		114.80	12.08	102.72	
MW-10		114.99	9.72	105.27	dnapl
MW-12		112.82	8.26	104.56	
MW-13		113.59	8.78	104.81	
MW-13B		113.95			napl
MW-13C		111.61	12.63	98.98	globules
MW-14		112.58	9.84	102.74	
MW-15		110.81	8.12	102.69	
MW-16		113.98	7.05	106.93	
MW-17		111.58	6.04	105.54	
MW-18		111.28	5.57	105.71	
MW-19		110.79	5.44	105.35	
MW-19B		110.86	11.63	99.23	
MW-20		108.43	4.18	104.25	
MW-20B		108.56	9.46	99.10	
MW-21		108.90	4.65	104.25	
MW-21B		108.76	9.60	99.16	
MW-22		112.72	19.95	92.77	
RW-23		111.50	8.71	102.79	globules
RW-24B		110.28	11.3	98.98	globules
RW-25B		111.96	11.34	100.62	globules
MW-31		109.31	6.35	102.96	
MW-31B		108.79	9.47	99.32	
MW-32		106.89	5.01	101.88	
MW-32B		106.87	8.77	98.10	
MW-33		107.48	4.76	102.72	
MW-33B		107.57	9.48	98.09	

\NORFOLK\V\TABLES\WL9-95.XLS

PFE ORIGINAL (Red)

Table 2

WATER LEVEL RECORD

Client: Va Power & City of Norfolk
Location: Former Norfolk MGP
Technician: Brian Newgent
Measured with: Int. probe & M-scope

Project # : MD0057.011
City: Norfollk
Measuring point description: Top of inner casing

Date: 11/27/95
State: Virginia

WELL #	Time	M.P. Elevation(3)	Measured DTW (feet)	Water-Table Elevation	Remarks (Product Bailed)
OW-1	16.23	108.15	5.75	102.40	casing leaks
MW-4	14.47	117.40	10.16	107.24	odor
MW-4B	14.48	118.50	18.26	100.24	
MW-5	17.24	117.37	11.49	105.88	
MW-8	17.4	109.41	7.49	101.92	
MW-9	17.31	114.80	12.41	102.39	globules
MW-10	17.19	114.99	9.77	105.22	dnapl, globules
MW-12	15.08	112.82	8.46	104.36	
MW-13	15.1	113.59	11.25	102.34	
MW-13B	15.1	113.95	14.83	99.12	thick napl
MW-13C	15.23	111.61	12.26	99.35	globules
MW-14	17.13	112.58	10.28	102.30	
MW-15	17.1	110.81	8.60	102.21	
MW-16	14.41	113.98	6.66	107.32	
MW-17	15.03	111.58	5.56	106.02	
MW-18	14.57	111.28	5.25	106.03	
MW-19	16.35	110.79	5.15	105.64	
MW-19B	16.35	110.86	11.01	99.85	
MW-20	16.28	108.43	4.29	104.14	
MW-20B	16.28	108.56	8.81	99.75	
MW-21	16.15	108.90	4.47	104.43	
MW-21B	16.15	108.76	9.11	99.65	
MW-22	15.2	112.72	10.36	102.36	
RW-23	15.38	111.50	9.16	102.34	globules
RW-24B	15.3	110.28	10.57	99.71	dnapl@42'
RW-25B	16.01	111.96	12.67	99.29	dnapl 13-52'
MW-31	14.4	109.31	6.37	102.94	
MW-31B	14.3	108.79	8.85	99.94	
MW-32	16.44	106.89	5.05	101.84	
MW-32B	16.45	106.87	9.32	97.55	
MW-33	16.52	107.48	4.76	102.72	
MW-33B	16.52	107.57	9.99	97.58	

\NORFOLK\V\TABLES\WL11-95.XLS

PFE ORIGINAL (Red)

Table 3
Summary of D[illegible] Constituents in Groundwater
Former Norfolk Manufactured Gas Plant Site
Norfolk, Virginia

Well No.	OW-1	OW-1	OW-1	OW-1	MW-4	MW-4	MW-4	MW-4	MW-4B	MW-4B	MW-4B	MW-4B
Date Sampled	10-25-90 (1)	03-5-91 (1)	02-01-94 (2)	08-22-95	10-25-90 (1)	03-5-91 (1)	02-01-94 (2)	08-22-95	10-25-90 (1)	03-5-91	02-01-94(2)	08-22-95
Volatile Organics (ug/L)												
Benzene	<20	<1	--	--	37000	--	<1500 (B)	--	<1	--	90	--
Tuluene	<20	<1	--	--	13000	--	<750 (B)	--	<1	--	<1.4	--
Ethylbenzene	<20	<1	--	--	4700	--	1200	--	<1	--	2	--
Total Xylenes	<20	<1	--	--	10000	--	2400	--	<1	--	8.2	--
Total BTEX (ug/L)	**0**	**0**	--	--	**64700**	--	**3600**	--	**0**	--	**100.2**	--
Semivolatiles (ug/L)												
Non-PAH Compounds												
Phenol	<10	<10	--	--	130	--	<11	--	<10	--	<10 (R)	--
Benzyl Alcohol	<20	<20	--	--	32	--	<11	--	<20	--	<10	--
2-Methylphenol	<10	<10	--	--	32	--	<11	--	<10	--	<10 (R)	--
4-Methylphenol	<10	<10	--	--	39	--	<11	--	<10	--	<10 (R)	--
2-4, Dimethylphenol	<10	<10	--	--	26	--	<11	--	<10	--	<10 (R)	--
Benzoic Acid	<50	<50	--	--	31	--	<53	--	<50	--	<50	--
Dimethyl Phthalate	<10	<10	--	--	<10	--	<11	--	<10	--	<10	--
bis(2-Ethylhexyl)phthalate	<10	<10	--	--	<10	--	3.7	--	<10	--	<10	--
Diethylphathate	<10	<10	--	--	<10	--	<11	--	<10	--	<10	--
Di-N-octylphthalate	<10	<10	--	--	<10	--	<11	--	<10	--	<10	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	60	38	--	--	<10	--	<11	--	<10	--	<10	--
Polynuclear Aromatic Hydrocarbons												
Naphthalene	92	71	--	--	3700	--	<11	--	<10	--	<10	--
Acenaphthene	82	<10	--	--	15	--	<11	--	<10	--	<10	--
Acenaphthylene	<10	53	--	--	68	--	<11	--	<10	--	<10	--
Anthracene	110	46	--	--	<10	--	<11	--	<10	--	<10	--
Phenanthrene	240	127	--	--	48	--	<11	--	<10	--	<10	--
Fluorene	56	32	--	--	31	--	<11	--	<10	--	<10	--
Fluoranthene	230	92	--	--	11	--	<11	--	<10	--	<10	--
Pyrene	210	73	--	--	15	--	<11	--	<10	--	<10	--
Chrysene	110	34	--	--	<10	--	<11	--	<10	--	<10	--
Benzo(a)Anthrancene	120	39	--	--	<10	--	<11	--	<10	--	<10	--
Benzo(b)Fluoranthene	<10	44	--	--	<10	--	<11	--	<10	--	<10	--
Benzo(k)Fluoranthene	42	12	--	--	<10	--	<11	--	<10	--	<10	--
Benzo(a)Pyrene	170	29	--	--	<10	--	<11	--	<10	--	<10	--
Benzo(g,h,i)Perylene	42	12	--	--	<10	--	<11	--	<10	--	<10	--
Indeno(1,2,3-cd)Pyrene	50	14	--	--	<10	--	<11	--	<10	--	<10	--
Dibenzo(a,h)Anthrancene	14	<10	--	--	<10	--	<11	--	<10	--	<10	--
2-Methylnaphthalene	22	11	--	--	550	--	<11	--	<10	--	<10	--
Total PAHs (ug/L)	**1590**	**689**	--	--	**4438**	--	**0**	--	**0**	--	**0**	--
Inorganics (mg/L)												
Cyanide, total	0.01	<.010	--	--	0.68	--	0.29	--	0.19	--	0.1	--
Cyanide, free	0.01	<.010	--	--	0.56	--	0.13	--	0.1	--	<.020	--
Lead	0.13	<.005	--	--	<.050	--	0.008	--	<.050	--	<.0024	--
Aresenic	<.005	<.005	--	--	0.068	--	0.008	--	0.01	--	<.0035	--
Chromium	<.020	<.005	--	--	0.03	--	<.010	--	<.020	--	<.010	--
Barium	--	--	--	--	--	--	0.159	--	--	--	<.0333	--
Mercury	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	0.002	--	--	--	<.002	--

(1) Level II reporting package, data not validated by Geraghty & Miller Quality Assurance/Quality Control Department
(2) Level III reporting package, data not validated by Geraghty & Miller Quality Assurance/Quality Control Department
< Not detected, reported as "less than (<) quantitation limit"
-- Not sampled
(B) Detected in an associated blank at similar concentrations. Result qualified as non-detect.
(R) Non-detect result qualified as unusable due to Quality Assurance/Quality Control problems criteria
BTEX Benzene, Toluene, Ethylbenzene, and Xylenes
PAH PolynuclearAromatic Hydrocarbons
ug/L Micrograms per Liter
mg/L Milligrams per Liter
J The associated value is an estimated quantity

GERAGHTY & MILLER, INC.

PFE ORIGINAL (Red)

Table 3
Summary of [illegible] Constituents in Groundwater
Former Norfolk Manufactured Gas Plant Site
Norfolk, Virginia

Well No.	MW-8	MW-8	MW-8	MW-8	MW-12	MW-12	MW-12	MW-12	MW-13	MW-13	MW-13	MW-13
Date Sampled	10-25-90	03-5-91	02-01-94(2)	08-22-95	10-25-90 (1)	03-5-91	02-01-94 (2)	08-23-95	10-25-90 (1)	03-5-91	02-01-94 (2)	08-23-95
Volatile Organics (ug/L)												
Benzene	--	<1	<1	<2	<10	--	54	820	1600	--	800	500
Tuluene	--	2	<1	<2	97	--	<1.5 (B)	<50	<40	--	<150 (B)	<50
Ethylbenzene	--	<1	<1	<2	<10	--	9 1	370	1400	--	610	750
Total Xylenes	--	1	3 3	<6	230	--	6.4	3000	140	--	240	270
Total BTEX (ug/L)	--	3	3.3	0	327	--	69.5	4190	3140	--	1650	1520
Semivolatiles (ug/L)												
Non-PAH Compounds												
Phenol	--	<10	<10	--	46	--	13	--	17	--	4.2	--
Benzyl Alcohol	--	<20	<10	--	<20	--	<10	--	<20	--	<10	--
2-Methylphenol	--	<10	<10	--	<10	--	<10	--	<10	--	<10	--
4-Methylphenol	--	<10	<10	--	<10	--	<10	--	<10	--	<10	--
2-4, Dimethylphenol	--	<10	<10	<10	<10	--	1.4	2.1 (J)	12	--	6.8	7.4 (J)
Benzoic Acid	--	<50	<50	--	<50	--	<50	--	<50	--	<50	--
Dimethyl Phthalate	--	<10	<10	--	<10	--	<10	--	130	--	<10	--
bis(2-Ethylhexyl)phthalate	--	<10	<10	<10	<10	--	1.5	<10 (UJ)	<10	--	<10	<10 (UJ)
Diethylphathate	--	<10	<10	--	<10	--	<10	--	<10	--	<10	--
Di-N-octylphthalate	--	<10	<10	--	<10	--	<10	--	<10	--	<10	--
4-Nitrophenol	--	--	--	<52 (UJ)	--	--	--	<50	--	--	--	<50
Dibenzofuran	--	<10	<10	<10	<10	--	<10	1.5 (J)	<10	--	12	14
Polynuclear Aromatic Hydrocarbons												
Naphthalene	--	<10	<10	<10	200	--	13	15	570	--	160	340
Acenaphthene	--	<10	<10	<10	88	--	13	10 (J)	130	--	120	74
Acenaphthylene	--	<10	<10	<10	<10	--	1.7	<10	<10	--	11	2 8 (J)
Anthracene	--	<10	<10	<10	54	--	8.9	2.7 (J)	34	--	35	13
Phenanthrene	--	<10	<10	<10	170	--	25	11	120	--	110	22
Fluorene	--	<10	<10	<10 (UJ)	54	--	7 3	5 (J)	62	--	52	28
Fluoranthene	--	<10	<10	<10	60	--	12	2.1 (J)	40	--	42	16
Pyrene	--	<10	<10	<10	80	--	18	2.5 (J)	50	--	73	22
Chrysene	--	<10	<10	<10	38	--	8.1	<10	20	--	30	8.7 (J)
Benzo(a)Anthrancene	--	<10	<10	<10	40	--	7.5	<10	22	--	28	7.3 (J)
Benzo(b)Fluoranthene	--	<10	<10	<10	36	--	4.4	<10	16	--	15	4.2 (J)
Benzo(k)Fluoranthene	--	<10	<10	<10	14	--	3.3	<10 (UJ)	<10	--	17	5.6 (J)
Benzo(a)Pyrene	--	<10	<10	<10	60	--	3 7	<10	30	--	15	6.6 (J)
Benzo(g,h,i)Perylene	--	<10	<10	--	14	--	<10	--	<10	--	15	--
Indeno(1,2,3-cd)Pyrene	--	<10	<10	--	16	--	<10	--	<10	--	15	--
Dibenzo(a,h)Anthrancene	--	<10	<10	--	<10	--	<10	--	<10	--	7 6	--
2-Methylnaphthalene	--	<10	<10	<10	82	--	11	28	160	--	20	59 (J)
Total PAHs (ug/L)	--	0	0	0	1006	--	136.9	76.8 (J)	1254	--	765.6	635.2 (J)
Inorganics (mg/L)												
Cyanide, total	--	<.010	<.020	<.02	1.7	--	1.7	1.8	0.53	--	0.3	0.29
Cyanide, free	--	<.010	<.020	<.02	0.78	--	<.020	0.1	0.5	--	0 13	0 07
Lead	--	<.005	0 063	0.0502	<.050	--	0.00403	0.0143	0.08	--	0.0824	0 073
Aresenic	--	0.0068	<.0035	<.010	<.005	--	0.0079	0.0111	0.007	--	<.0035	<.010
Chromium	--	<.0005	<.010	<.010	<.020	--	0.032	0.0176	<.020	--	0.011	0 0165
Barium	--	--	0.589	1.4	--	--	0.0741	<.100	--	--	0.15	0.223
Mercury	--	--	--	0.00039	--		--	<.0002	--		--	0.0268
Selenium	--	--	<.010	--	--	--	<.002	--	--	--	<.002	--

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BTEX Benzene, Toluene, Ethylbenzene, and Xylenes
ug/L Micrograms per Liter
mg/L Milligrams per Liter
PAH PolynuclearAromatic Hydrocarbons
J The associated value is an estimated quantity

GERAGHTY & MILLER, INC.

PFE

ORIGINAL (Red)

able 3
Summary of D Constituents in Groundwater
Former Norfolk Manufactured Gas Plant Site
Norfolk, Virginia

Well No.	MW-13B	MW-13B	MW-13B	MW-13B	MW-13C	MW-13C	MW-13C	MW-13C	MW-14	MW-14	MW-14	MW-14
Date Sampled	10-25-90 (1)	03-5-91	02-01-94	08-22-95	11-25-90 (1)	03-5-91 (1)	02-01-94 (2)	08-22-95	10-25-90 (1)	03-5-91	02-01-94 (2)	08-23-95
Volatile Organics (ug/L)												
Benzene	48000	--	--	--	<1	<1	<1.2 (B)	<1	8300	--	720	1700
Tuluene	15000	--	--	--	<20(B)	2	<1.4 (B)	<1	<40	--	<100 (B)	<100
Ethylbenzene	19000	--	--	--	<17 (B)	1	1.3	<1	1600	--	310	510
Total Xylenes	24000	--	--	--	<45 (B)	3	<3	<3	<40	--	170	<300
Total BTEX (ug/L)	**106000**	--	--	--	**0**	**6**	**1.3**	**0**	**9900**	--	**1200**	**2210**
Semivolatiles (ug/L)												
Non-PAH Compounds												
Phenol	<240	--	--	--	<10	<10	<10	--	<10	--	<10	--
Benzyl Alcohol	<240	--	--	--	<20	<20	<10	--	<20	--	<10	--
2-Methylphenol	<240	--	--	--	<10	<10	<10	--	<10	--	<10	--
4-Methylphenol	<240	--	--	--	<10	<10	<10	--	<10	--	<10	--
2-4, Dimethylphenol	<240	--	--	--	<10	<10	<10	<10	<10	--	<10	<10
Benzoic Acid	<240	--	--	--	<50	<50	<50	--	<50	--	<10	--
Dimethyl Phthalate	<240	--	--	--	<10	<10	<10	--	<10	--	<50	--
bis(2-Ethylhexyl)phthalate	<240	--	--	--	<10	<10	<10	<10	<10	--	<10	<10 (UJ)
Diethylphathate	<240	--	--	--	<10	<10	<10	--	<10	--	<10	--
Di-N-octylphthalate	<240	--	--	--	<10	<10	5.3	--	<10	--	<10	--
4-Nitrophenol	--	--	--	--	--	--	--	<52 (UJ)	--	--	--	<51
Dibenzofuran	4500	--	--	--	<10	<10	<10	<10	38	--	4.3	4.9 (J)
Polynuclear Aromatic Hydrocarbons												
Naphthalene	320000	--	--	--	<10	<10	4.7	1.8 (J)	360	--	1000	1400
Acenaphthene	47000	--	--	--	<10	<10	<10	<10	270	--	80	45
Acenaphthylene	9000	--	--	--	<10	<10	<10	<10	36	--	3.7	1.5 (J)
Anthracene	29000	--	--	--	<10	<10	<10	<10	100	--	6.8	3.7 (J)
Phenanthrene	130000	--	--	--	<10	<10	<10	<10	280	--	29	17
Fluorene	39000	--	--	--	<10	<10	<10	<10 (UJ)	150	--	23	15
Fluoranthene	28000	--	--	--	<10	<10	<10	<10	140	--	7.2	3.7 (J)
Pyrene	40000	--	--	--	<10	<10	<10	<10	170	--	13	4.9 (J)
Chrysene	21000	--	--	--	<10	<10	<10	<10	<10	--	3.3	1.8 (J)
Benzo(a)Anthrancene	23000	--	--	--	<10	<10	<10	<10	90	--	3.4	1.6 (J)
Benzo(b)Fluoranthene	16000	--	--	--	<10	<10	<10	<10	90	--	<10	<10
Benzo(k)Fluoranthene	5100	--	--	--	<10	<10	<10	<10	40	--	1.5	<10 (UJ)
Benzo(a)Pyrene	16000	--	--	--	<10	<10	<10	<10	140	--	<10	<10
Benzo(g,h,i)Perylene	5500	--	--	--	<10	<10	<10	--	40	--	<10	--
Indeno(1,2,3-cd)Pyrene	49000	--	--	--	<10	<10	<10	--	40	--	<10	--
Dibenzo(a,h)Anthrancene	1800	--	--	--	<10	<10	<10	--	10	--	<10	--
2-Methylnaphthalene	220000	--	--	--	<10	<10	3.2	1.2 (J)	110	--	120	270
Total PAHs (ug/L)	**955300**	--	--	--	**0**	**0**	**7.9 (J)**	**3 (J)**	**2066**	--	**1290.9**	**1764.2**
Inorganics (mg/L)												
Cyanide, total	0.16	--	--	--	<.010	<.010	<.020	<.02		--	0.13	0.19
Cyanide, free	0.1	--	--	--	<.010	<.010	<.020	<.02	0.53	--	<.020	0.05
Lead	<.050	--	--	--	0.24	<.005	0.00243	0.011	0.21	--	0.003	<.010
Aresenic	0.013	--	--	--	0.006	<.005	0.0035	<.010	0.05	--	<.0035	<.010
Chromium	<.020	--	--	--	<.020	<.005	<.010	<.010	0.012	--	<.010	<.010
Barium	--	--	--	--	--	--	0.0752	0.126	0.02	--	0.0872	0.309
Mercury	--	--	--	--	--	--	--	<.0002	--	--	--	<.0002
Selenium	--	--	--	--	--	--	<.002	--	--	--	<.002	--

(1) Level II reporting package, data not validated by Geraghty & Miller Quality Assurance/Quality Control Department
(2) Level III reporting package, data not validated by Geraghty & Miller Quality Assurance/Quality Control Department
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-- Not sampled
(B) Detected in an associated blank at similar concentrations. Result qualified as non-detect.
(R) Non-detect result qualified as unusable due to Quality Assurance/Quality Control problems criteria
BETEX Benzene, Toluene, Ethylbenzene, and Xylenes
ug/L Micrograms per Liter
mg/L Milligrams per Liter
PAH PolynuclearAromatic Hydrocarbons
J The associated value is an estimated quantity

GERAGHTY & MILLER, INC.

ORIGINAL (Red)

Table 3
Summary of Detected Constituents in Groundwater
Former Norfolk Manufactured Gas Plant Site
Norfolk, Virginia

Well No.	MW-15	MW-15	MW-15	MW-15	MW-16	MW-16	MW-16	MW-16	MW-17	MW-17	MW-17	MW-17
Date Sampled	10-25-90 (1)	03-5-91 (1)	02-01-94 (2)	08-23-95	10-25-90 (1)	03-5-91	02-01-94 (2)	08-23-95	10-25-90 (1)	03-5-91	02-01-94 (2)	08-23-95
Volatile Organics (ug/L)												
Benzene	<1	<1	<1.3 (B)	<1	<1	--	<1	--	<1	--	<1.3 (B)	--
Tuluene	<1	<1	<1 4 (B)	<1	<1	--	<1 1 (B)	--	<1	--	<1.4 (B)	--
Ethylbenzene	<1	<1	<1	<1	<1	--	<1	--	<1	--	<1	--
Total Xylenes	<1	<1	3.3	<3	<1	--	<3	--	<1	--	3.3	--
Total BTEX (ug/L)	**0**	**0**	**3.3**	**0**	**0**	--	**0**	--	**0**	--	**3.3**	--
Semivolatiles (ug/L)												
Non-PAH Compounds												
Phenol	<10	<10	<10	--	<10	--	<11	--	<10	--	<10	--
Benzyl Alcohol	<20	<20	<20	--	<20	--	<11	--	<20	--	<10	--
2-Methylphenol	<10	<10	<10	--	<10	--	<11	--	<10	--	<10	--
4-Methylphenol	*<10*	*<10*	*<10*	--	*<10*	--	*<11*	--	*<10*	--	*<10*	--
2-4, Dimethylphenol	<10	<10	<10	<10	<10	--	<11	--	<10	--	<10	--
Benzoic Acid	<50	<50	<50	--	<50	--	<56	--	<50	--	<50	--
Dimethyl Phthalate	<10	<10	<10	--	<10	--	<11	--	<10	--	<10	--
bis(2-Ethylhexyl)phthalate	<10	<10	2.9	<2.9 (UJ)	<10	--	<11	--	<10	--	<10	--
Diethylphathate	<10	<10	<10	--	<10	--	<11	--	<10	--	<10	--
Di-N-octylphthalate	<10	<10	<10	--	<10	--	<11	--	<10	--	<10	--
4-Nitrophenol	--	--	--	<51	--	--	--	--	--	--	--	--
Dibenzofuran	<10	17	<10	<10	<10	--	<11	--	<10	--	<10	--
Polynuclear Aromatic Hydrocarbons												
Naphthalene	<10	27	<10	<10	<10	--	<11	--	<10	--	<10	--
Acenaphthene	20	36	1 3	2.3 (J)	<10	--	<11	--	<10	--	<10	--
Acenaphthylene	<10	<10	<10	<10	<10	--	<11	--	<10	--	<10	--
Anthracene	<10	37	<10	<10	<10	--	<11	--	<10	--	<10	--
Phenanthrene	*30*	*103*	*1.4*	*1.5 (J)*	*<10*	--	*<11*	--	*<10*	--	*<10*	--
Fluorene	<10	23	<10	<10	<10	--	<11	--	<10	--	<10	--
Fluoranthene	12	73	<10	<10	<10	--	<11	--	<10	--	<10	--
Pyrene	12	71	<10	<10 (UJ)	<10	--	<11	--	<10	--	<10	--
Chrysene	<10	32	<10	<10	<10	--	<11	--	<10	--	<10	--
Benzo(a)Anthrancene	<10	38	<10	<10	<10	--	<11	--	<10	--	<10	--
Benzo(b)Fluoranthene	<10	43	<10	<10	<10	--	<11	--	<10	--	<10	--
Benzo(k)Fluoranthene	<10	14	<10	<10 (UJ)	<10	--	<11	--	<10	--	<10	--
Benzo(a)Pyrene	<10	29	<10	<10	<10	--	<11	--	<10	--	<10	--
Benzo(g,h,i)Perylene	<10	13	<10	--	<10	--	<11	--	<10	--	<10	--
Indeno(1,2,3-cd)Pyrene	<10	17	<10	--	<10	--	<11	--	<10	--	<10	--
Dibenzo(a,h)Anthrancene	<10	<10	<10	--	<10	--	<11	--	<10	--	<10	--
2-Methylnaphthalene	<10	<10	<10	<10	<10	--	<11	--	<10	--	<10	--
Total PAHs (ug/L)	**74**	**556**	**2.7 (J)**	**3.8 (J)**	**0**	--	**0**	--	**0**	--	**0**	--
Inorganics (mg/L)												
Cyanide, total	0 52	0.33	0.18	0.33	<.010	--	< 020	--	<.010	--	<.020	--
Cyanide, free	0.31	0.05	<.020	0 05	<.010	--	< 020	--	<.010	--	<.020	--
Lead	0.26	<.005	0.664	0.0881	<.05	--	0.00119	--	0.06	--	0.0034	--
Aresenic	0.008	<.005	<.0035	<.010	0.007	--	<.0035	--	<.005	--	<.0035	--
Chromium	<.020	<.005	<.010	<.010	<.020	--	0 051	--	< 020	--	0.033	--
Barium	--	--	0 374	0.529	--	--	0 141	--	--	--	0.042	--
Mercury	--	--	--	0 0011	--	--	--	--	--	--	--	--
Selenium	--	--	<.002	--	--	--	<.002	--	--	--	0 0047	--

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BETEX Benzene, Toluene, Ethylbenzene, and Xylenes
ug/L Micrograms per Liter
mg/L Milligrams per Liter
PAH PolynuclearAromatic Hydrocarbons
J The associated value is an estimated quantity

GERAGHTY & MILLER, INC.

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PFE
ORIGINAL (Red)

Table 3
Summary of Detected Constituents in Groundwater
Former Norfolk Manufactured Gas Plant Site
Norfolk, Virginia

Well No.	MW-18	MW-18	MW-18	MW-18	MW-19	MW-19	MW-19	MW-19	MW-19B	MW-19B	MW-19B	MW-19B
Date Sampled	10-25-90 (1)	03-5-91	02-01-94 (2)	08-23-95	10-25-90 (1)	03-5-91	02-01-94 (2)	08-23-95	10-25-90 (1)	03-5-91	02-01-94 (2)	08-23-95
Volatile Organics (ug/L)												
Benzene	<1	--	<1.2 (B)	--	<1	--	<1.2 (B)	--	<1	--	<1.2 (B)	--
Tuluene	<1	--	<5.5 (B)	--	<1	--	<1.3 (B)	--	<1	--	<1.3 (B)	--
Ethylbenzene	<1	--	<1	--	<1	--	<1	--	<1	--	<1	--
Total Xylenes	<1	--	<3	--	<1	--	<3	--	<1	--	<3	--
Total BTEX (ug/L)	0	--	0	--	0	--	0	--	0	--	0	--
Semivolatiles (ug/L)												
Non-PAH Compounds												
Phenol	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Benzyl Alcohol	<20	--	<10	--	<20	--	<11	--	<20	--	<11	--
2-Methylphenol	<10	--	2.9	--	<10	--	<11	--	<10	--	<11	--
4-Methylphenol	<10	--	2.7	--	<10	--	<11	--	<10	--	<11	--
2-4, Dimethylphenol	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Benzoic Acid	<50	--	<50	--	<50	--	<50	--	<50	--	<50	--
Dimethyl Phthalate	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
bis(2-Ethylhexyl)phthalate	<10	--	<10	--	<10	--	<11	--	<10	--	1.6	--
Diethylphathate	<10	--	2.7	--	<10	--	<11	--	<10	--	<11	--
Di-N-octylphthalate	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
4-Nitrophenol	--	--	--	--	--	--	<11	--	--	--	<11	--
Dibenzofuran	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Polynuclear Aromatic Hydrocarbons												
Naphthalene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Acenaphthene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Acenaphthylene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Anthracene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Phenanthrene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Fluorene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Fluoranthene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Pyrene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Chrysene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Benzo(a)Anthrancene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Benzo(b)Fluoranthene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Benzo(k)Fluoranthene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Benzo(a)Pyrene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Benzo(g,h,i)Perylene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Indeno(1,2,3-cd)Pyrene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Dibenzo(a,h)Anthrancene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
2-Methylnaphthalene	<10	--	<10	--	<10	--	<11	--	<10	--	<11	--
Total PAHs (ug/L)	0	--	0	--	0	--	0	--	0	--	0	--
Inorganics (mg/L)												
Cyanide, total	<.010	--	<.020	--	<.010	--	<.020	--	<.010	--	<.020	--
Cyanide, free	<.010	--	<.020	--	<.010	--	<.020	--	<.010	--	<.020	--
Lead	<.05	--	0.0063	--	<.05	--	0.0115	--	<.05	--	<.0024	--
Aresenic	0.03	--	<.0175	--	<.005	--	<.0035	--	0.005	--	<.0035	--
Chromium	<.020	--	0.014	--	<.020	--	0.026	--	<.020	--	<.010	--
Barium	--	--	0.0805	--	--	--	0.0559	--	--	--	0.0816	--
Mercury	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	0.0043	--	--	--	<.002	--	--	--	<.002	--

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ug/L Micrograms per Liter
mg/L Milligrams per Liter
PAH PolynuclearAromatic Hydrocarbons
J The associated value is an estimated quantity

GERAGHTY & MILLER, INC.

PFE ORIGINAL (Red)

ble 3
Summary of Det onstituents in Groundwater
Former Norfolk Manufactured Gas Plant Site
Norfolk, Virginia

Well No.	MW-20	MW-20	MW-20	MW-20	MW-20B	MW-20B	MW-20B	MW-20B	MW-21	MW-21	MW-21	MW-21
Date Sampled	10-25-90 (1)	03-5-91	02-01-94 (2)	08-23-95	10-25-90 (1)	03-5-91 (1)	02-01-94 (2)	08-23-95	10-25-90 (1)	03-5-91 (1)	02-01-94 (2)	08-23-95
Volatile Organics (ug/L)												
Benzene	<1	<1	<1.3 (B)	--	<1	<1 (UJ)	<1.3 (B)	--	--	<1	<1.2 (B)	<1
Tuluene	<1	<1	<1 4 (B)	--	<1	<1 (UJ)	<1.4 (B)	--	--	<1	<1 3 (B)	<1
Ethylbenzene	<1	<1	<1	--	<1	<1 (UJ)	<1	--	--	<1	<1	12
Total Xylenes	<1	<1	<3	--	<1	<1 (UJ)	<3	--	--	<1	<3	100
Total BTEX (ug/L)	0	0	0	--	0	0	0	--	--	0	0	112
Semivolatiles (ug/L)												
Non-PAH Compounds												
Phenol	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	--
Benzyl Alcohol	<20	<20	<20	--	<20	<20	<11	--	--	<20	<20	--
2-Methylphenol	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	--
4-Methylphenol	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	--
2-4, Dimethylphenol	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Benzoic Acid	<50	<50	<50	--	<50	<50	<50	--	--	<50	<50	--
Dimethyl Phthalate	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	--
bis(2-Ethylhexyl)phthalate	<10	<10	<10	--	<10	<10	1.1	--	--	<10	<10	<10 (UJ)
Diethylphathate	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	--
Di-N-octylphthalate	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	<51
Dibenzofuran	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Polynuclear Aromatic Hydrocarbons												
Naphthalene	<10	<10	<10	--	14	<10	<11	--	--	<10	<10	<10
Acenaphthene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Acenaphthylene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Anthracene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Phenanthrene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Fluorene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Fluoranthene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Pyrene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10 (UJ)
Chrysene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Benzo(a)Anthrancene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Benzo(b)Fluoranthene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Benzo(k)Fluoranthene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10 (UJ)
Benzo(a)Pyrene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Benzo(g,h,i)Perylene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	--
Indeno(1,2,3-cd)Pyrene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	--
Dibenzo(a,h)Anthrancene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	--
2-Methylnaphthalene	<10	<10	<10	--	<10	<10	<11	--	--	<10	<10	<10
Total PAHs (ug/L)	0	0	0	--	14	0	0	--	--	0	0	0
Inorganics (mg/L)												
Cyanide, total	<.020	<.010	<.020	--	<.010	<.010	<.020	--	--	<.010	<.020	<.02
Cyanide, free	<.020	<.010	<.020	--	<.010	<.010	<.020	--	--	<.010	<.020	<.02
Lead	<.05	<.005	0.057	--	<.050	<.005	<.0024	--	--	<.05	0.0293	0.0252
Aresenic	0.011	0.0055	<.0035	--	<.005	<.005	<.0035	--	--	0.005	<.0035	0.0785
Chromium	<.020	<.005	0.041	--	<.020	<.005	<.010	--	--	<.005	0.043	0.0551
Barium	--		0.693	--	--	--	<.0333	--	--	--	0.141	0.227
Mercury	--		--	--	-	--	--	--	--	--	--	<.0002
Selenium	--		<.002	--	--	--	<.002	--	--	--	<.002	--

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BETEX Benzene, Toluene, Ethylbenzene, and Xylenes
ug/L Micrograms per Liter
mg/L Milligrams per Liter
PAH PolynuclearAromatic Hydrocarbons
J The associated value is an estimated quantity

GERAGHTY & MILLER, INC.

PFE
ORIGINAL
(Red)

ble 3
Summary of Det nstituents in Groundwater
Former Norfolk Manufactured Gas Plant Site
Norfolk, Virginia

Well No.	MW-21B	MW-21B	MW-21B	MW-21B	MW-31A	MW-31B	MW-32A	MW-32B	MW-33A	MW-33B
Date Sampled	10-25-90	03-5-91 (1)	02-01-94 (2)	08-23-95	08-22-95	08-22-95	08-22-95	08-22-95	08-22-95	08-22-95
Volatile Organics (ug/L)										
Benzene	--	<1	<1.2 (B)	<1	<1	<1	40	14(J)	44	<1
Tuluene	--	<1	<1.3 (B)	<1	<1	<1	1.1	<1	14	<1
Ethylbenzene	--	<1	<1	<1	<1	<1	<1	<1	1 6	5.2
Total Xylenes	--	<1	<3	<3	<3	<3	5.3	<3	20	43
Total BTEX (ug/L)	--	**0**	**0**	**0**	**0**	**0**	**46.4**	**14 (J)**	**79.6**	**48.2**
Semivolatiles (ug/L)										
Non-PAH Compounds										
Phenol	--	<10	<10 (R)	--	--	--	--	--	--	--
Benzyl Alcohol	--	<20	<10 (R)	--	--	--	--	--	--	--
2-Methylphenol	--	<10	<10 (R)	--	--	--	--	--	--	--
4-Methylphenol	--	<10	<10 (R)	--	--	--	--	--	--	--
2-4, Dimethylphenol	--	<10	<10 (R)	<10	<10	<10	<10	<10	<11	<10
Benzoic Acid	--	<50	<50 (R)	--	--	--	--	--	--	--
Dimethyl Phthalate	--	<10	<10 (R)	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	--	<10	<10 (R)	<10 (UJ)	<10	2(J)	<10	<10	<11	<10
Diethylphathate	--	<10	<10 (R)	--	--	--	--	--	--	--
Di-N-octylphthalate	--	<10	<10 (R)	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	<50	<50(UJ)	<51(UJ)	<52(UJ)	<51(UJ)	<53(UJ)	<51(UJ)
Dibenzofuran	--	<10	<10 (R)	<10	11	<10	<10	<10	<11	<10
Polynuclear Aromatic Hydrocarbons										
Naphthalene	--	<10	<10 (R)	<10	20	<10	<10	<10	<11	<10
Acenaphthene	--	<10	<10 (R)	<10	11	<10	<10	9.2(J)	<11	<10
Acenaphthylene	--	<10	<10 (R)	<10	<10	<10	<10	<10	<11	<10
Anthracene	--	<10	<10 (R)	<10	6.1(J)	<10	<10	<10	<11	<10
Phenanthrene	--	<10	<10 (R)	<10	13	<10	<10	<10	<11	<10
Fluorene	--	<10	<10 (R)	<10	8 9(J)	<10 (UJ)	<10 (UJ)	1.5(J)	<11(UJ)	<10 (UJ)
Fluoranthene	--	<10	<10 (R)	<10	6 1(J)	<10	<10	<10	<11	<10
Pyrene	--	<10	<10 (R)	<10 (UJ)	4.2(J)	<10	<10	<10	<11	<10
Chrysene	--	<10	<10 (R)	<10	2 5(J)	<10	<10	<10	<11	<10
Benzo(a)Anthrancene	--	<10	<10 (R)	<10	1.8(J)	<10	<10	<10	<11	<10
Benzo(b)Fluoranthene	--	<10	<10 (R)	<10	<10	<10	<10	<10	<11	<10
Benzo(k)Fluoranthene	--	<10	<10 (R)	<10 (UJ)	<10	<10	<10	<10	<11	<10
Benzo(a)Pyrene	--	<10	<10 (R)	<10	<10	<10	<10	<10	<11	<10
Benzo(g,h,i)Perylene	--	<10	<10 (R)	--	--	--	--	--	--	--
Indeno(1,2,3-cd)Pyrene	--	<10	<10 (R)	--	--	--	--	--	--	--
Dibenzo(a,h)Anthrancene	--	<10	<10 (R)	--	--	--	--	--	--	--
2-Methylnaphthalene	--	<10	<10 (R)	<10	5.5(J)	<10	<10	<10	<11	<10
Total PAHs (ug/L)	--	**0**	**0**	**0**	**79.1 (J)**	**0**	**0**	**10.7 (J)**	**0**	**0**
Inorganics (mg/L)										
Cyanide, total	--	<.010	<.020	<.02	<.02	0.025	<.02	0.48	<.02	0.03
Cyanide, free	--	< 010	<.020	<.02	<.02	0.1	<.02	0 12	<.02	0.03
Lead	--	<.005	<.0024	< 010	0.85	<.010	< 010	<.010	0.0143	0 014
Aresenic	--	<.005	<.0035	< 010	0 0256	<.010	0.0538	<.010	<.010	< 010
Chromium	--	<.005	<.010	<.010	0.0524	<.010	<.010	0.0831	<.010	<.010
Barium	--	--	0.0367	<.100	0 482	0 144	0 144	<.100	< 100	<.100
Mercury	--	--	--	<.0002	0 005	<.0002	<.0002	<.0002	<.0002	<.0002
Selenium	--	--	<.002	--	--	--	--	--	--	--

(1) Level II reporting package, data not validated by Geraghty & Miller Quality Assurance/Quality Control Department
(2) Level III reporting package, data not validated by Geraghty & Miller Quality Assurance/Quality Control Department
< Not detected, reported as "less than (<) quantitation limit"
-- Not sampled
(B) Detected in an associated blank at similar concentrations Result qualified as non-detect.
(R) Non-detect result qualified as unusable due to Quality Assurance/Quality Control problems criteria
BETEX Benzene, Toluene, Ethylbenzene, and Xylenes
ug/L Micrograms per Liter
mg/L Milligrams per Liter
PAH PolynuclearAromatic Hydrocarbons
J The associated value is an estimated quantity

GERAGHTY & MILLER, INC.

g:\prjcts\norfolk\V\tables\histgwq.xls

PFE ORIGINAL (Red)

Table 4: Summary of Biogeochemical Parameters
Concentrations in Groundwater,
Former MGP Site, August 1995.

Parameter	UNITS	Shallow Monitor Wells					Deep Monitor Wells		
		MW-31	MW-12	MW-13	MW-14	MW-15	MW-31B	MW-21B	MW-20B
Benzene	ug/L	<1	820	500	1700	<1	<1	<1	
Toluene	ug/L	<1	<50	<50	<100	<1	<1	<1	
Ethyl Benzene	ug/L	<1	370	750	510	<1	<1	<1	
Total Xylenes	ug/L	<3	3000	270	<300	<3	<3	<3	
Total BTEX	**ug/L**	**0**	**4190**	**1520**	**2210**	**0**	**0**	**0**	
Total PAH's	**ug/L**	**79.1**	**76.3**	**635.2**	**1764.2**	**3.8**	**0**	**0**	
Dissolved gases									
Carbon dioxide	mg/L	99.4	92.3	137.3	171.9	109.2	<1.6	15.9	<1.6
Oxygen-dissolved	mg/L	1.3	3.3	1.4	0.6	0.4	1.8	1.5	3.4
Nitrogen	mg/L	8.9	6.4	5.7	5.7	5	7.9	8.8	11.3
Methane	mg/L	<0.2	5	4.3	2.1	9.2	2.7	1.3	<0.2
Carbon monoxide	mg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Laboratory									
Alkalinity	mg/L	397	359	447	459	531	183	295	54.2
Chloride	mg/L	36.4	96.7	211	44	695	35.2	169	169
Ferrous Iron	mg/L	0.146	0.102	0.19	3	0.8	<0.020	<0.020	<0.020
Ammonia	mg/L	<0.20	5.6	2.8	11	14	1.4	1.4	1.4
Nitrate	mg/L	<0.08	10.08	<0.08	<0.08	<0.08	0.22	<0.08	0.17
Nitrite	mg/L	0.003	<0.08	0.008	0.01	0.009	1.835	0.018	2.94
Sulfate	mg/L	38	<20	16	<20	<10	70	<5	37
Sulfide	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.7	<0.2
TOC	mg/L	16.5	33.8	18	32.3	22.6	7.37	5.82	6.5
COD	mg/L	<10	69.3	41.3	95.8	49.9	19.1	<10	10.2
BOD5	mg/L	<3	7.8	19.4	20.7	24.4	4.6	12.3	<3
Iron	mg/L	58.45	27.18	81.62	58.38	31.38	2.3	1.465	1.193
Iron-dissolved	mg/L	1.041	0.6807	0.1322	3.353	0.2182	0.18	0.0483	0.0202
Manganese	mg/L	0.734	0.2817	0.7141	0.9829	0.7723	0.0335	0.2486	0.036
Mn-dissolved	mg/L	0.3936	0.1795	0.3154	0.9037	0.7098	<0.006	0.2374	0.0033
Field									
dis. oxygen	mg/L	1.04	1.56	1.03	1.07	1.3	1.33	1.14	0.85
Redox	mV	-110	-26	-181	-142	-200	-146	-152	-203
Conductance	ms/cm	97	110	321	124.4	700	100.8	137	183
pH		6.41	6.16	6.44	6.29	6.6	6.81	6.91	7.46
Temperature	F	69.6	74.7	69.1	69.8	67.1	65.6	68.3	69.4

ORIGINAL (Red)

Table 5

Stoichiometry of Common Biodegradation Reactions

Benzene Biodegradation Reactions	Mass Ration of Electron Acceptor to Benzene	Mass Ration of Metabolic Byproduct to Benzene	Average Mass Ratio of Electron Acceptor to Total BTEX (a/)	Average Mass Ration of Metabolic Byproduct to Total BTEX (a/)	Mass of BTEX Degraded per unit mass of Electron Acceptor Utilized (mg) (a/)	Mass of BTEX Degraded per unit mass of Metabolic Byproduct Produced (mg) (a/)
$7.5O_2 + C_6H_6 \Rightarrow 6CO_{2.8} + 3H_2O$ Benzene oxidation / aerobic respiration	3.1:1	-----	3.14:1	-----	0.32	-----
$6NO_3^- + 6H^+ + C_6H_6 \Rightarrow 6CO_{2.8} + 6H_2O + 3N_{2.8}$ Benzene oxidation / denitrification	4.8:1	-----	4.9:1	-----	0.21	-----
$60H^+ + 30Fe(0H)_3 + C_6H_6 \Rightarrow 6CO_2 + 30Fe^{2+} + 78H_2O$ Benzene oxidation / iron reduction	41.1:1	21.5:1	-----	21.8:1	-----	0.05
$7.5H^+ + 3.75SO_4^{-2} + C_6H_6 \Rightarrow 6CO_{2.8} + 3.75H_2S^0 + 3H_2O$ Benzene oxidation / methanogenesis	4.6:1	-----	4.7:1	-----	0.21	-----
$4.5H_2O + C_6H_6 \Rightarrow 2.25CO_{2.8} + 3.75\ CH_4$ Benzene oxidation / methanogenesis	-----	0.77:1	-----	0.78:1	-----	1.28

(a/) Simple average of all BTEX compounds based on individual compound stoichiometry. This stoichiometry assumes no cellular mass is produced.
Source: (Wiedemeir, et. Al., 1995)

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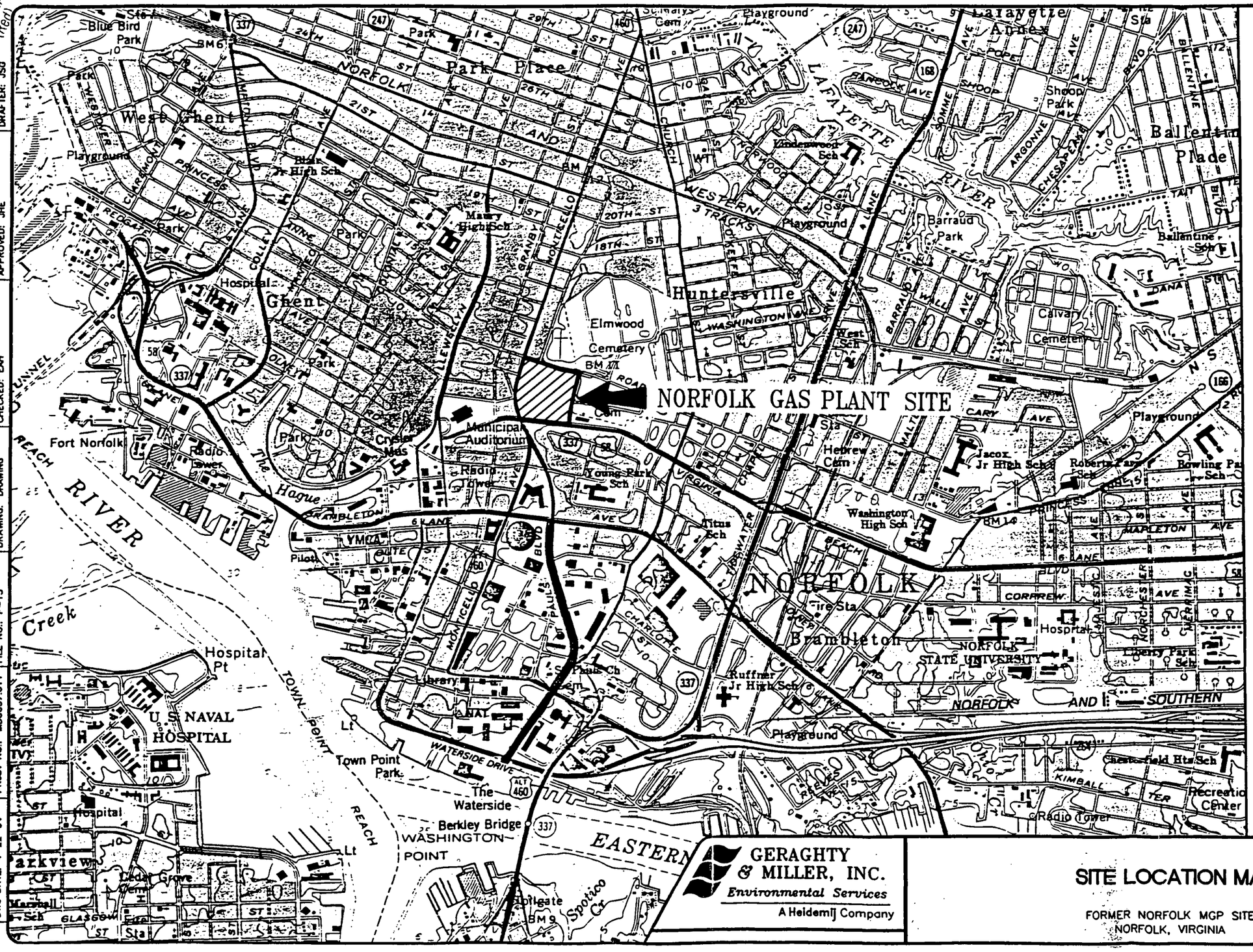
ORIGINAL (Red)

FIGURES

ORIGINAL (Red)



SOURCE: U.S.G.S. NORFOLK SOUTH QUAD. 1965

GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

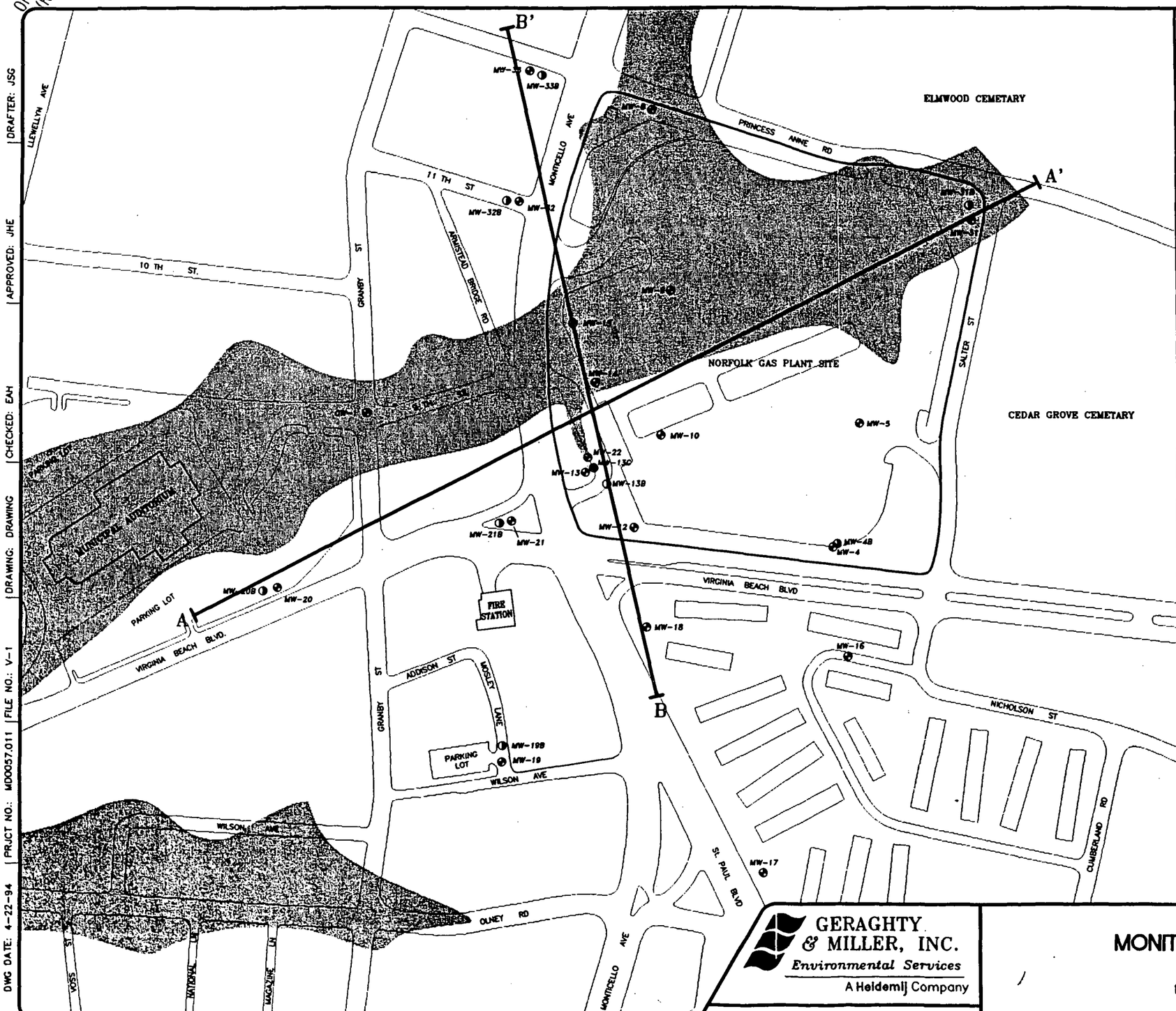
SITE LOCATION MAP

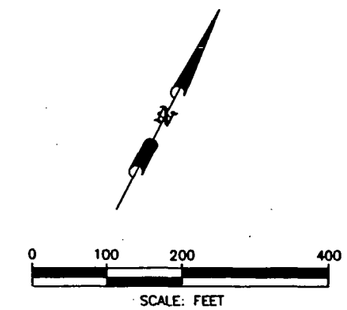
FORMER NORFOLK MGP SITE
NORFOLK, VIRGINIA

FIGURE 1

DRAFTER: JSG | APPROVED: JHE | CHECKED: EAH | DRAWING: DRAWING | FILE NO.: P-15 | PRJCT NO.: MD0057.011 | DWG DATE: 4-22-94

PFE
ORIGINAL (Red)





LEGEND:

MW-2	SHALLOW MONITOR WELL
MW-4B	INTERMEDIATE MONITOR WELL (B-SERIES)
MW-13C	DEEP MONITOR WELL (C-SERIES)

SOURCE: ABRAMS AERIAL SURVEY CORP. LANSING, MICH. 1983
BUILDINGS REFERENCED FOR LANDMARKS ARE SHOWN.

GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

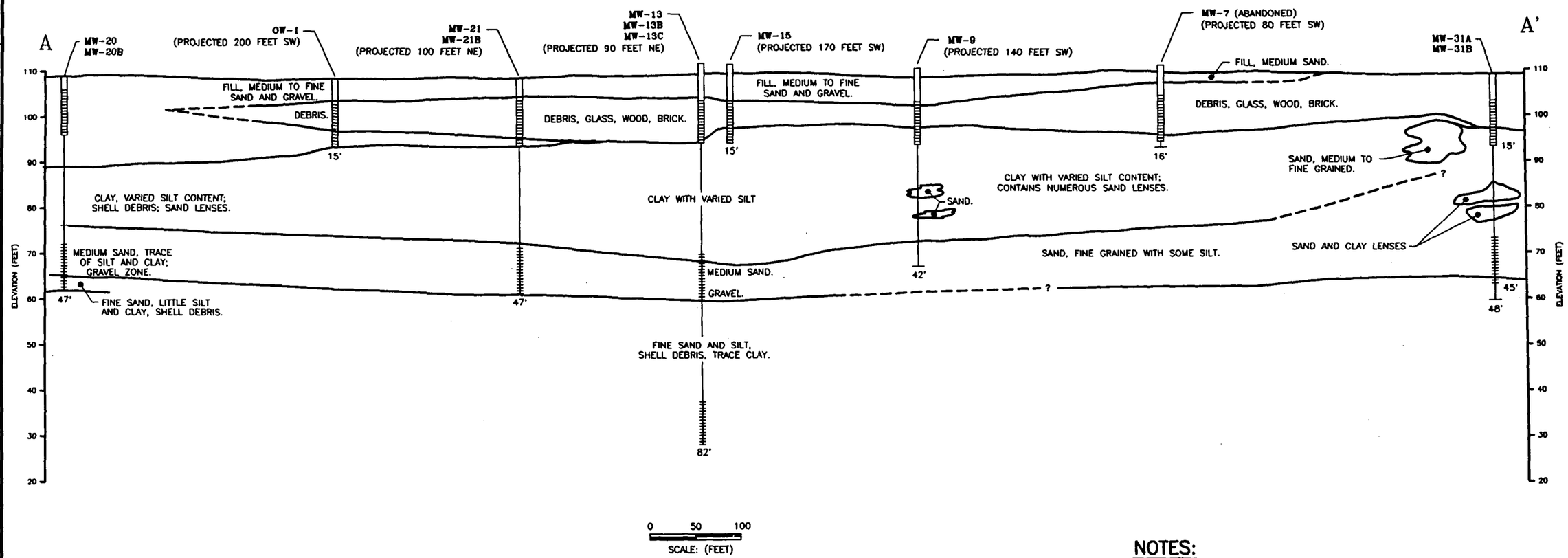
MONITOR WELL LOCATIONS

FORMER NORFOLK MGP SITE
NORFOLK, VIRGINIA

FIGURE
2

DRAFTER: JSG | APPROVED: JHE | CHECKED: EAH | DRAWING: DRAWING | FILE NO.: V-1 | PRJCT NO.: MD0057.011 | DWG DATE: 4-22-94

ORIGINAL (Red)



NOTES:

1. SEE FIGURE 2 FOR CROSS-SECTION LOCATION
2. ELEVATIONS ARE REFERENCED TO NORFOLK CITY DATUM. (99.00 = MEAN LOW WATER)
3. 5X VERTICAL EXAGGERATION.

LEGEND:

MW-7

MONITOR WELL

SHALLOW SCREENED INTERVAL

15.3' TOTAL DEPTH (FEET)

INFERRED CONTACT

MW-31A
MW-31B

MONITORING WELL CLUSTER

15' SHALLOW TOTAL DEPTH

DEEPER SCREENED INTERVAL

48' DEEP TOTAL DEPTH

GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

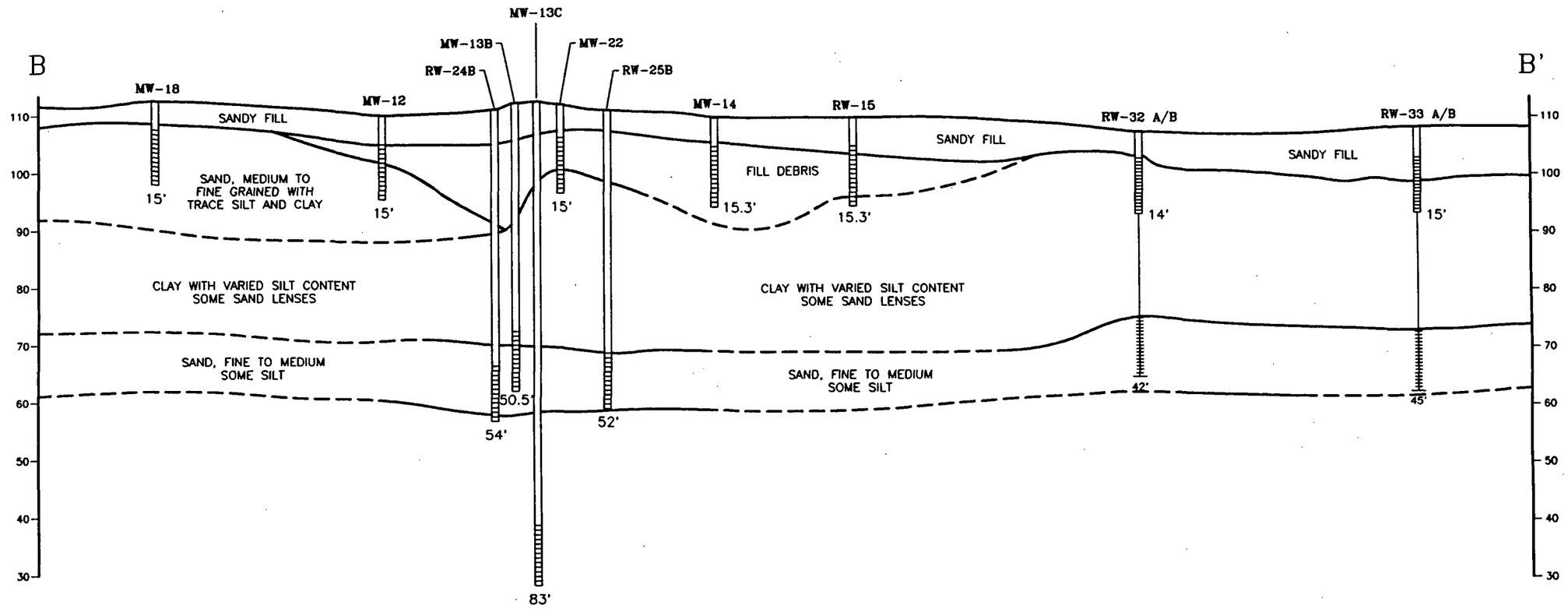
GEOLOGIC CROSS SECTION A-A'

FORMER NORFOLK MGP SITE
NORFOLK, VIRGINIA

FIGURE 3

DWG DATE: 4-22-94 | PRJCT NO.: MD0057.009 | FILE NO.: XS-1 | DRAWING: DRAWING | CHECKED: EAH | APPROVED: JHE | DRAFTER: JSG

PFE ORIGINAL (Red)



LEGEND:

MW-18

MONITOR WELL

SHALLOW SCREENED INTERVAL

15' TOTAL DEPTH (FEET)

INFERRED CONTACT

MW-31A
MW-31B

MONITORING WELL CLUSTER

15' SHALLOW TOTAL DEPTH

DEEPER SCREENED INTERVAL

48' DEEP TOTAL DEPTH

0 50 100
SCALE: (FEET)

NOTES:

1. SEE FIGURE 2 FOR CROSS-SECTION LOCATION
2. ELEVATIONS ARE REFERENCED TO NORFOLK CITY DATUM. (99.00 = MEAN LOW WATER)
3. 5X VERTICAL EXAGGERATION.

GERAGHTY & MILLER, INC.
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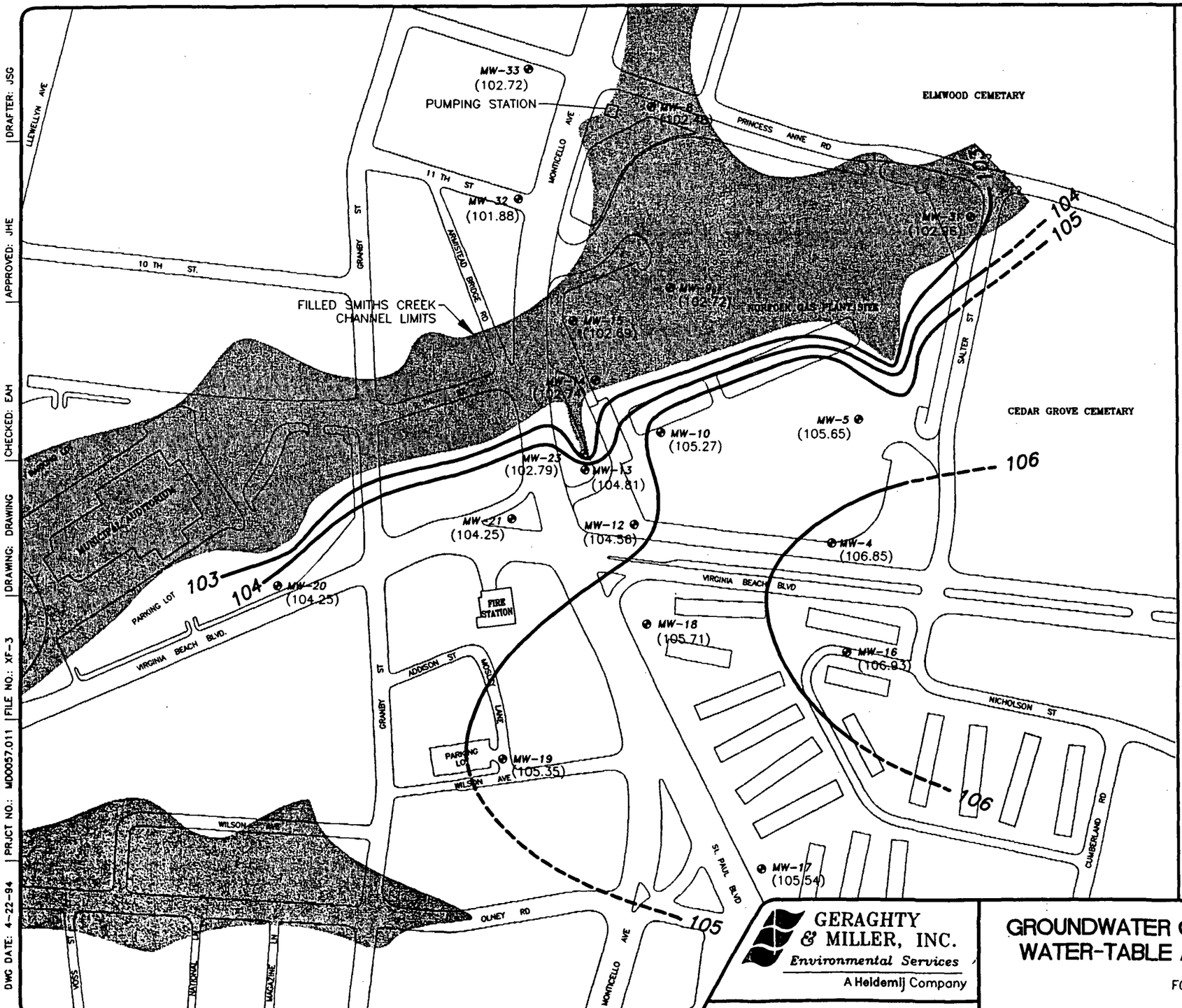
GEOLOGIC CROSS SECTION B-B'

FORMER NORFOLK MGP SITE
NORFOLK, VIRGINIA

FIGURE 4

DRAFTER: JSG | APPROVED: JHE | CHECKED: EAH | DRAWING: DRAWING | FILE NO.: XS-2 | PRJCT NO.: MD0057.009 | DWG DATE: 4-22-94

PFE
ORIGINAL (Red)



LEGEND:

MW-2 ◐ SHALLOW MONITOR WELL

103 —— GROUNDWATER ELEVATION CONTOURS

NOTES:

1. VERTICAL DATUM BASED ON CITY OF NORFOLK DATUM, (99.00 = MEAN LOW WATER).

SOURCE: ABRAMS AERIAL SURVEY CORP. LANSING, MICH. 1983
BUILDINGS REFERENCED FOR LANDMARKS ARE SHOWN.

GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

GROUNDWATER CONTOURS FOR THE SHALLOW WATER-TABLE AQUIFER, SEPTEMBER 26, 1995

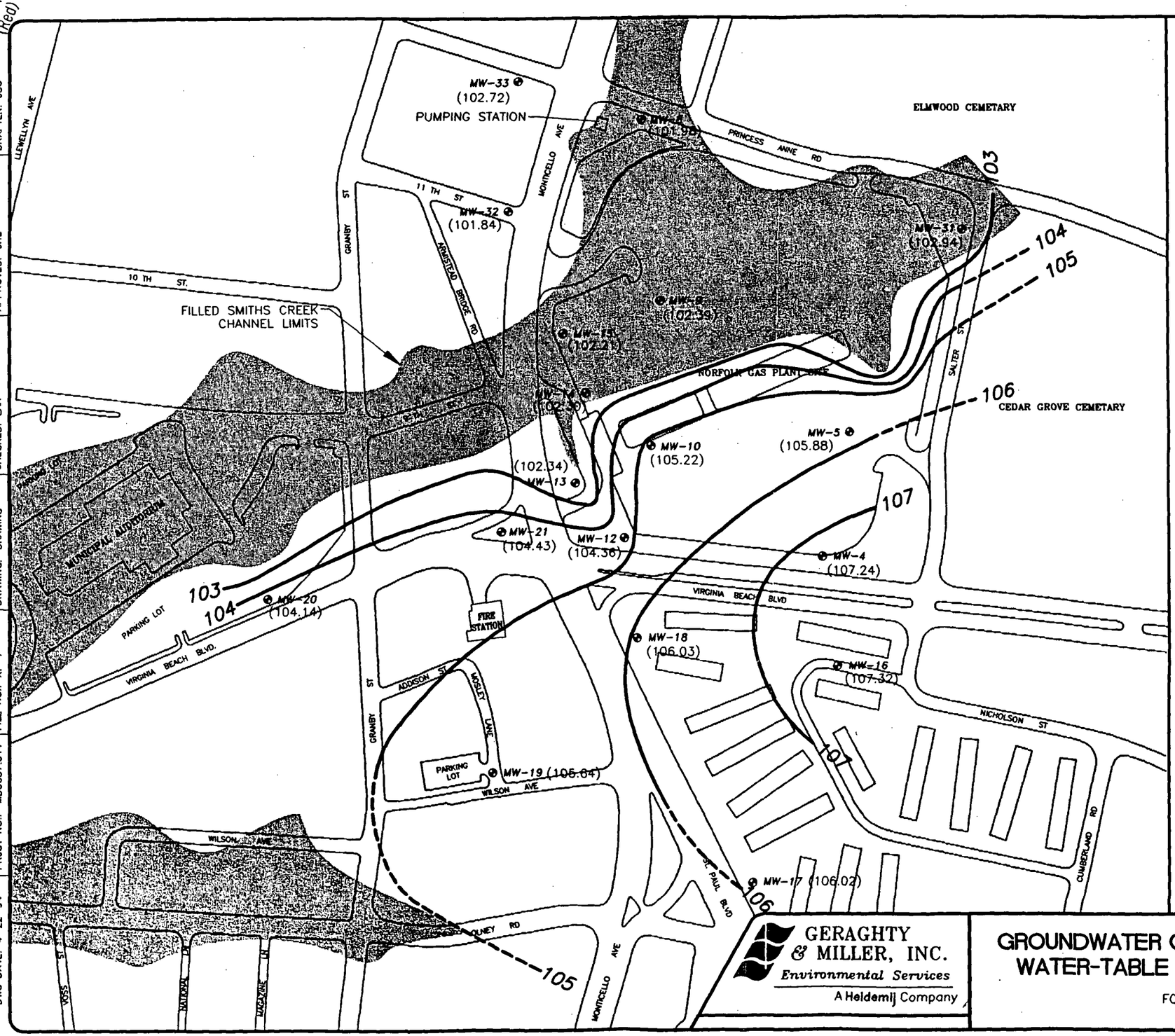
FORMER NORFOLK MGP SITE
NORFOLK, VIRGINIA

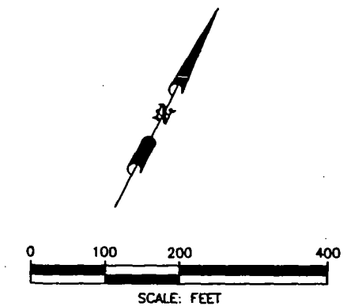
FIGURE
5

DRAFTER: JSG | APPROVED: JHE | CHECKED: EAH | DRAWING: DRAWING | FILE NO.: XF-3 | PRJCT NO.: MD0057.011 | DWG DATE: 4-22-94

PFE

ORIGINAL (Red)





LEGEND:

MW-2 ⊕ SHALLOW MONITOR WELL

NOTES:

1. VERTICAL DATUM BASED ON CITY OF NORFOLK DATUM, (99.00 = MEAN LOW WATER).

SOURCE: ABRAMS AERIAL SURVEY CORP. LANSING, MICH. 1983
BUILDINGS REFERENCED FOR LANDMARKS ARE SHOWN.

GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

GROUNDWATER CONTOURS FOR THE SHALLOW WATER-TABLE AQUIFER, NOVEMBER 27, 1995

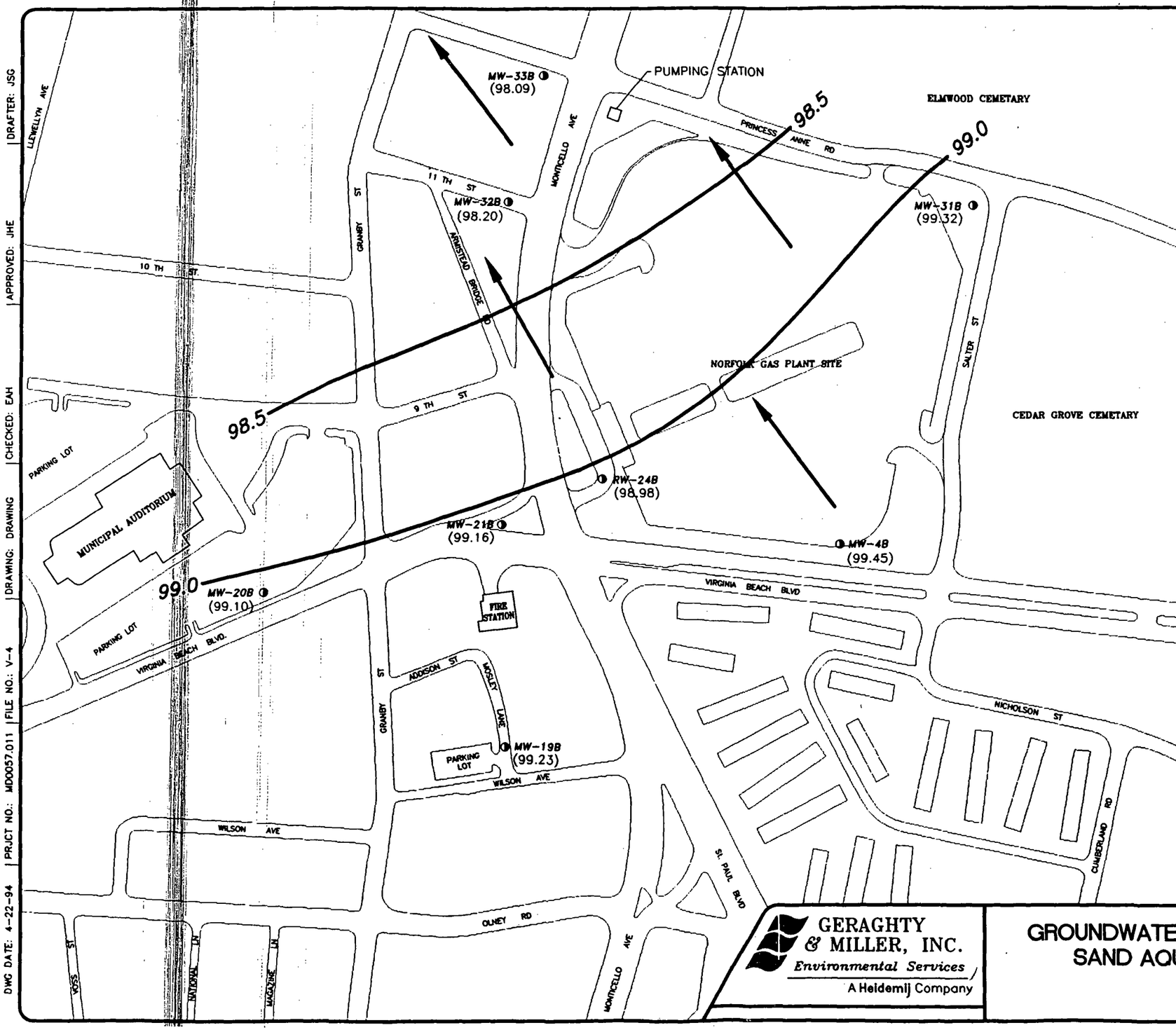
FORMER NORFOLK MGP SITE
NORFOLK, VIRGINIA

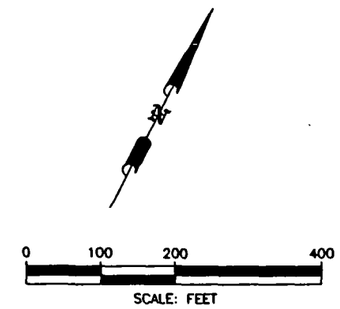
FIGURE 6

DRAFTER: JSG | APPROVED: JHE | CHECKED: EAH | DRAWING: DRAWING | FILE NO.: XF-7 | PRJCT NO.: MD0057.011 | DWG DATE: 4-22-94

ORIGINAL (Red)

DRAFTER: JSG | APPROVED: JHE | CHECKED: EAH | DRAWING: DRAWING | FILE NO.: V-4 | PRJCT NO.: MD0057.011 | DWG DATE: 4-22-94





LEGEND:

MW-4B ◑	INTERMEDIATE MONITOR WELL (B-SERIES)
(99.45)	WATER LEVEL ELEVATION
←	GROUNDWATER FLOW DIRECTION
99.0 ——	GROUNDWATER ELEVATION CONTOUR

NOTES:

1. VERTICAL DATUM BASED ON CITY OF NORFOLK DATUM, (99.00 = MEAN LOW WATER).

SOURCE: ABRAMS AERIAL SURVEY CORP. LANSING, MICH. 1983
BUILDINGS REFERENCED FOR LANDMARKS ARE SHOWN.

GERAGHTY & MILLER, INC.
Environmental Services
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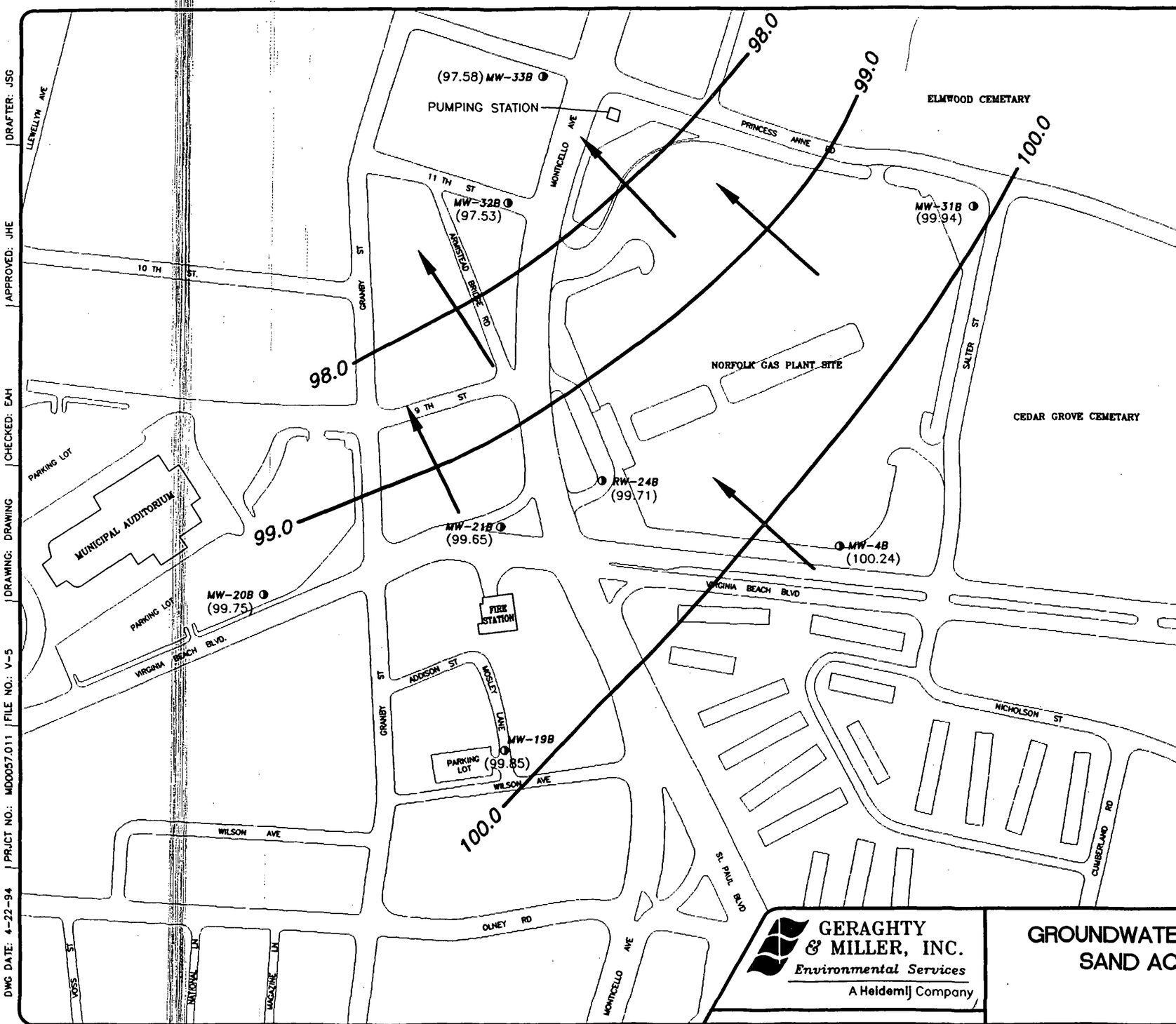
GROUNDWATER CONTOURS FOR THE LOWER SAND AQUIFER, SEPTEMBER 26, 1995

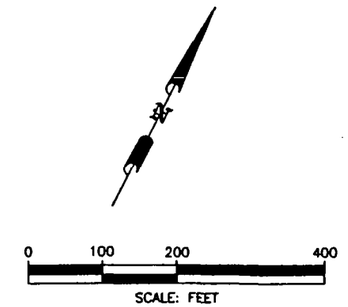
FORMER NORFOLK MGP SITE
NORFOLK, VIRGINIA

FIGURE 7

ORIGINAL (Red)

DRAFTER: JSG | APPROVED: JHE | CHECKED: EAH | DRAWING: DRAWING | FILE NO.: V-5 | PRJCT NO.: MD0057.011 | DWG DATE: 4-22-94





LEGEND:

MW-4B ◑	INTERMEDIATE MONITOR WELL (B-SERIES)
(99.71)	WATER LEVEL ELEVATION
←	GROUNDWATER FLOW DIRECTION
99.0	GROUNDWATER ELEVATION CONTOUR

NOTES:

1. VERTICAL DATUM BASED ON CITY OF NORFOLK DATUM, (99.00 = MEAN LOW WATER).

SOURCE: ABRAMS AERIAL SURVEY CORP. LANSING, MICH. 1983
BUILDINGS REFERENCED FOR LANDMARKS ARE SHOWN.

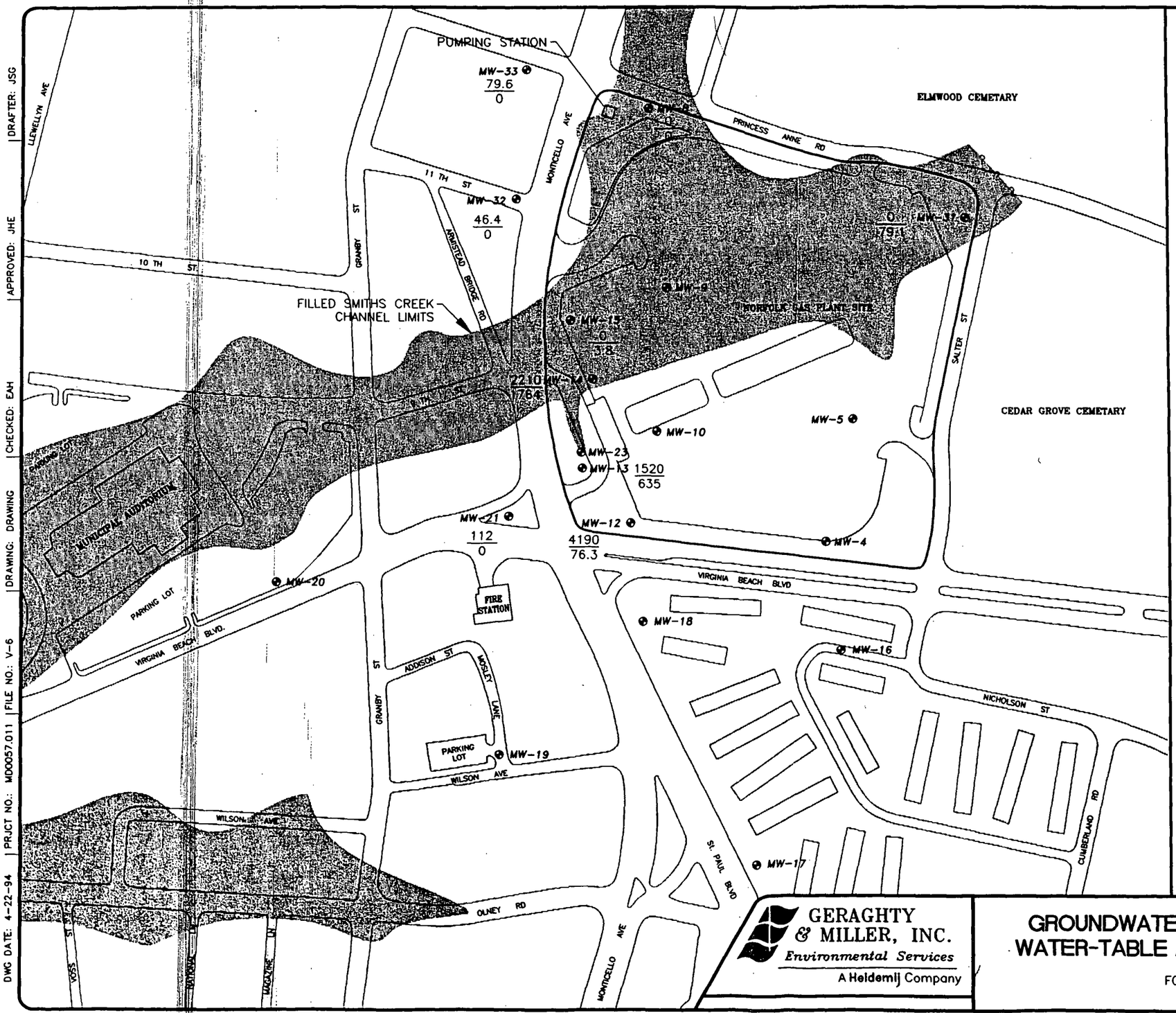
GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

GROUNDWATER CONTOURS FOR THE LOWER SAND AQUIFER, NOVEMBER 27, 1995

FORMER NORFOLK MGP SITE
NORFOLK, VIRGINIA

FIGURE 8

PFE
ORIGINAL (RED)



LEGEND:

MW-2	SHALLOW MONITOR WELL
4190 / 76.3	TOTAL BTEX / TOTAL PAHs

SOURCE: ABRAMS AERIAL SURVEY CORP. LANSING, MICH. 1983
BUILDINGS REFERENCED FOR LANDMARKS ARE SHOWN.

GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

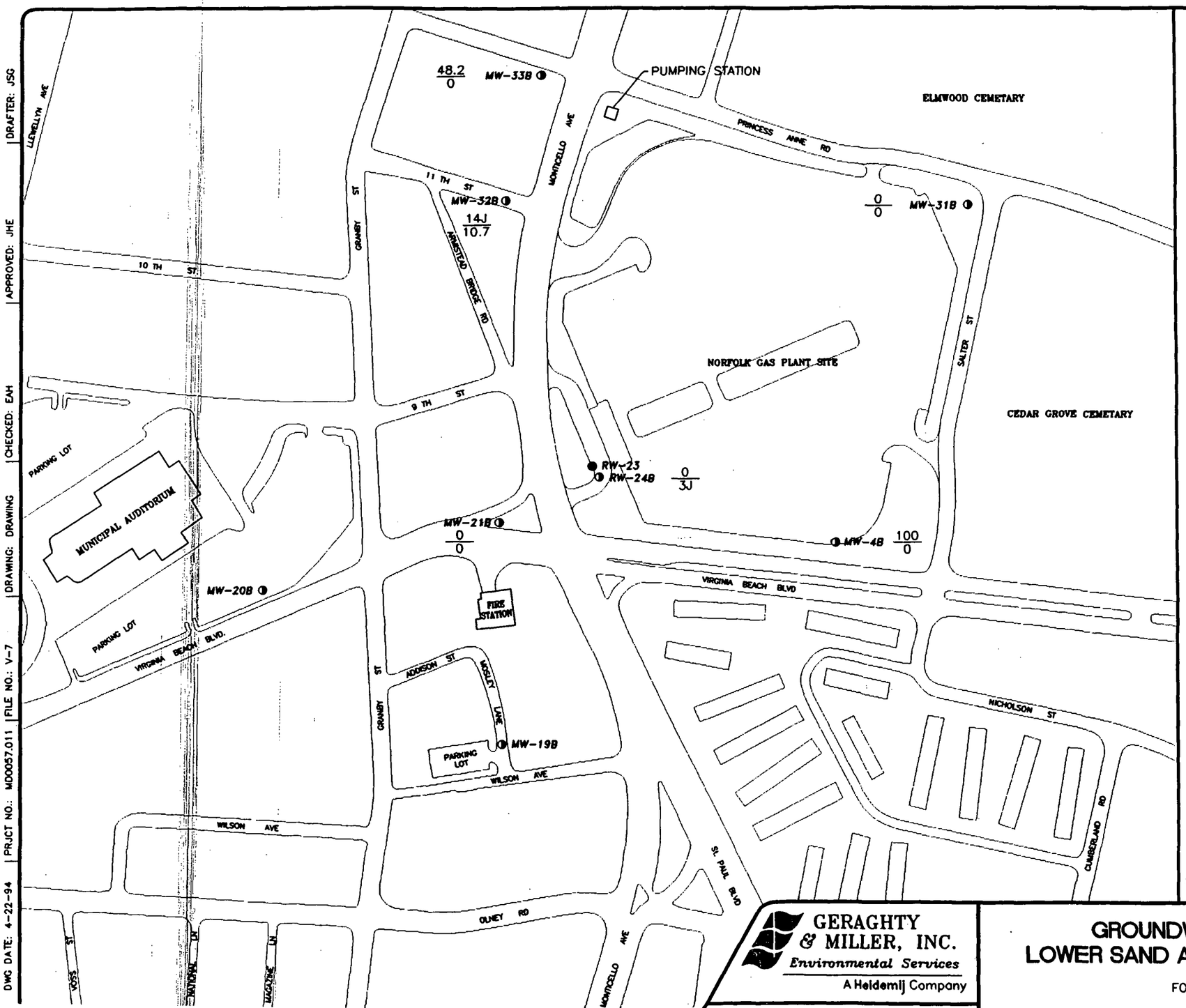
GROUNDWATER QUALITY IN THE SHALLOW WATER-TABLE AQUIFER, ON AUGUST 22, 1995

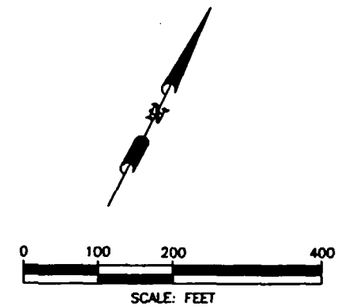
FORMER NORFOLK MGP SITE
NORFOLK, VIRGINIA

FIGURE 9

DRAFTER: JSG | APPROVED: JHE | CHECKED: EAH | DRAWING: DRAWING | FILE NO.: V-6 | PRJCT NO.: MD0057.011 | DWG DATE: 4-22-94

PFE
ORIGINAL (Red)





LEGEND:

MW-4B ◑	INTERMEDIATE MONITOR WELL (B-SERIES)
●	DEEP MONITOR WELL (C-SERIES)
14J / 10.7	TOTAL BTEX / TOTAL PAH

NOTES:

1. VERTICAL DATUM BASED ON CITY OF NORFOLK DATUM, (99.00 = MEAN LOW WATER).

SOURCE: ABRAMS AERIAL SURVEY CORP, LANSING, MICH. 1983
BUILDINGS REFERENCED FOR LANDMARKS ARE SHOWN.

GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

GROUNDWATER QUALITY IN THE LOWER SAND AQUIFER, ON AUGUST 22, 1995

FORMER NORFOLK MGP SITE
NORFOLK, VIRGINIA

FIGURE
10

DRAFTER: JSG | APPROVED: JHE | CHECKED: EAH | DRAWING: | FILE NO.: V-7 | PRJCT NO.: MD0057.011 | DWG DATE: 4-22-94

ORIGINAL
(Red)

APPENDIX A

ORIGINAL (Red)

APPENDIX A

BORING LOGS AND WELL CONSTRUCTION REPORTS

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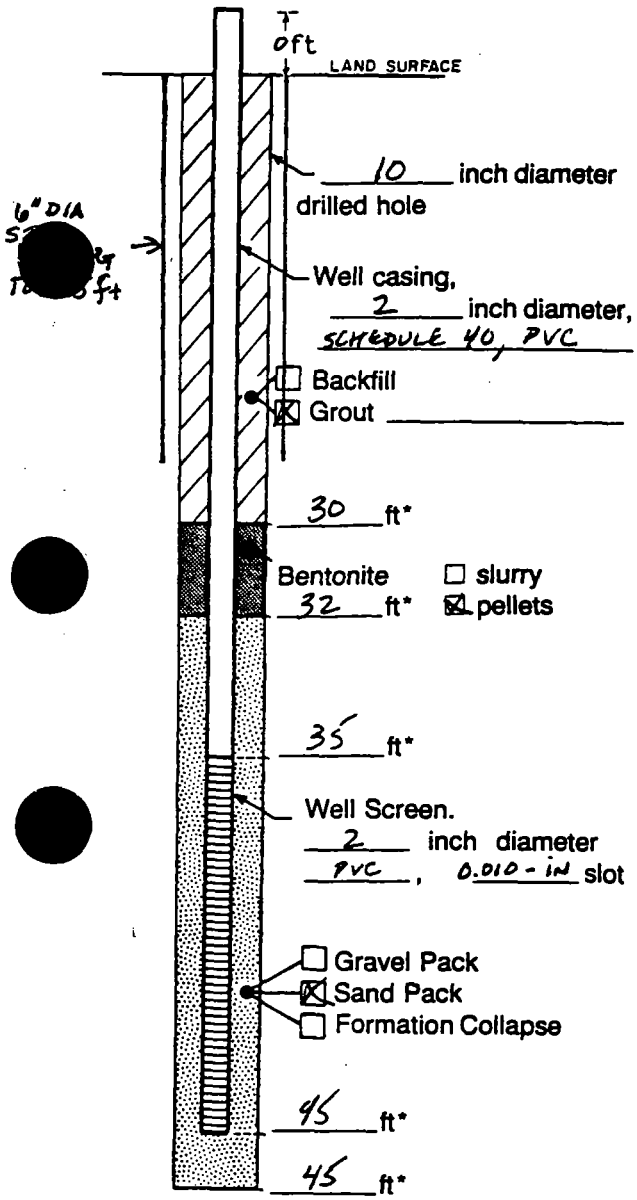
ORIGINAL (Red)

GERAGHTY & MILLER, INC.
Environmental Services

WELL CONSTRUCTION LOG
(UNCONSOLIDATED)



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project MD0057.011 Well MW-33B

Town/City NORFOLK

County N/A State VA

Permit No. N/A

Land-Surface Elevation and Datum 107.57 feet ☐ Surveyed ☑ Estimated

Installation Date(s) 8/14/95 - 8/15/95

Drilling Method MUD ROTARY

Drilling Contractor CT&E

Drilling Fluid QUICK GEL

Development Technique(s) and Date(s)
SUBMERSIBLE PUMP

Fluid Loss During Drilling 0 gallons

Water Removed During Development 110 gallons

Static Depth to Water 12.51 feet below M.P.

Pumping Depth to Water — feet below M.P.

Pumping Duration TIL CLEAR hours

Yield 40 gpm Date 8/11/95

Specific Capacity N/A gpm/ft

Well Purpose MONITOR DEEP AQUIFER

Remarks —

Prepared by MAURA HORN

G&M Form 05 12-88

Southprint 89-0978

PFE ORIGINAL (Red)

GERAGHTY & MILLER, INC.
Environmental Services

SAMPLE/CORE LOG

Boring/Well MW-33B Project/No. MD0057.011 Page 1 of 1

Site Location PRINCESS ANNE + MONTICELLO, SIDEWALK (SPICERS) Drilling Started 8/14/95 Drilling Completed 8/15/95

Total Depth Drilled 45 feet Hole Diameter 10 inches Type of Sample/Coring Device SPLIT SPOON

Length and Diameter of Coring Device 2' OF 2" DIA SPLIT SPOON Sampling Interval CONT 2 feet

Land-Surface Elev. 107.57 feet ☐ Surveyed ☑ Estimated Datum

Drilling Fluid Used QUICK GEL Drilling Method MUD ROTARY

Drilling Contractor CT & E Driller GREG PADDUCK Helper ED

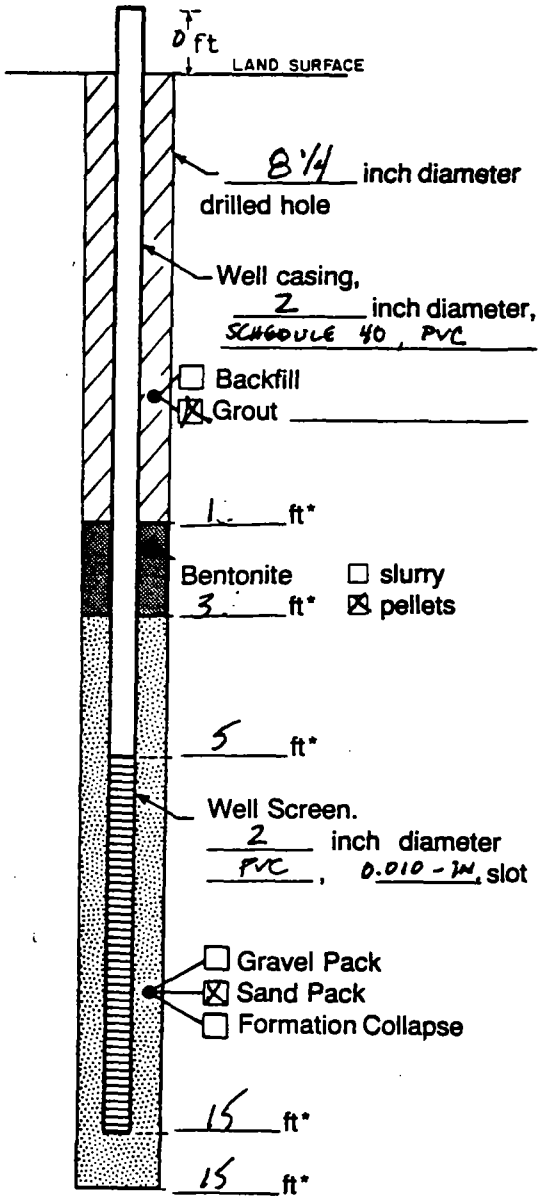
Prepared By MAURA HORN Hammer Weight 140 lb Hammer Drop 36 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	4			SIDEWALK / STREET SUBBASE
4	6	24	3-3-8-9	4-5.5 ORANGE SANDY FILL 5.5- GREY SILTY SAND
6	8	24	5-8-9-8	DARK STAINING, GREY MEDIUM SAND VERY SLIGHT ODOR, SATURATED AT 6'
8	10	24	5-5-5-3	GREY MED TO FINE SAND
10	12	24	1-1-1-1	GREY SILTY FINE SAND, NO ODOR
12	14	24	1-1-1-1	GREY SILTY FINE SAND, NO ODOR
15	17	24	1-1-1-1	GREY SILTY CLAY
17	19	24	1-1-2-3	GREY CLAY W/ SHELL FRAGMENTS 18.5-19 CLAY W/ MOSTLY SHELL FRAG.
19	21	24	1-1-1-2	GREY SILTY CLAY WITH SHELL FRAGMENTS, DRY
21	23	24	2-2-2-3	GREY SILTY CLAY WITH SHELL FRAG. 22.5-23 WET
23	25	24	2-2-1-2	GREY SILTY CLAY W/ SHELL FRAG. DRY GREEN CLAY LAST 0.5'
28	30	24	4-5-6-5	GREY CLAY 0.5' BROWN CLAY
30	32	24	3-5-8-10	GREY CLAY, DARK STAINING, NO ODOR
32	34	24	3-5-8-12	GREY SILTY SAND, ORGANIC DEBRIS DRY, NO ODOR, NO STAINING
34	36	6	16-36-50/5	GREY VERY FINE SILTY SAND
36	38	12	38-44-51-63	GREY FINE-MED SAND SATURATED
38	40	18	44-50/2	GREY MEDIUM SAND
40	42	12	48-42-49-61	MEDIUM GREY TO BROWN SAND
42	44	12	49-50/3	SAND TO MEDIUM BROWN SAND.

PFE ORIGINAL (Red)

GERAGHTY & MILLER, INC.
Environmental Services

WELL CONSTRUCTION LOG
(UNCONSOLIDATED)



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project MD0057.011 Well MW-33A
Town/City NORFOLK
County N/A State VA
Permit No. N/A
Land-Surface Elevation and Datum 107.48 feet ☐ Surveyed ☒ Estimated
Installation Date(s) 8/10/95
Drilling Method HSA
Drilling Contractor CT & E
Drilling Fluid N/A

Development Technique(s) and Date(s)
SUBMERSIBLE PUMP

Fluid Loss During Drilling N/A gallons
Water Removed During Development 5.0 gallons
Static Depth to Water 5.16 feet below M.P.
Pumping Depth to Water — feet below M.P.
Pumping Duration TIL CLEAR ~~hours~~
Yield < 2 gpm Date 8/11/95
Specific Capacity N/A gpm/ft
Well Purpose MONITOR SHALLOW WATER TABLE

Remarks USED SCHEDULE 80 SCREEN SO NO SURGING, END CAP DID NOT FIT PROPERLY, WAS FORCED ON.

Prepared by MAURA HORN

G&M Form 05 12-88

Southprint 89-0978

PFE

ORIGINAL (Red)

GERAGHTY & MILLER, INC.
Environmental Services

SAMPLE/CORE LOG

Boring/Well MW-33A Project/No. MD0057.011 Page 1 of 1

Site Location PRINCESS ANNE, MONTICELLO, SIDEWALK (SPIKES) Drilling Started 8/10/95 Drilling Completed 8/10/95

Total Depth Drilled 15 feet Hole Diameter 8 1/4 inches Type of Sample/Coring Device SPLIT SPOON

Length and Diameter of Coring Device 2' OF 2" SPLIT SPOON Sampling Interval CONT. 2 feet

Land-Surface Elev. 107.48 feet ☐ Surveyed ☑ Estimated Datum

Drilling Fluid Used N/A Drilling Method HSA

Drilling Contractor CT & E Driller GREG PATRICK Helper ED

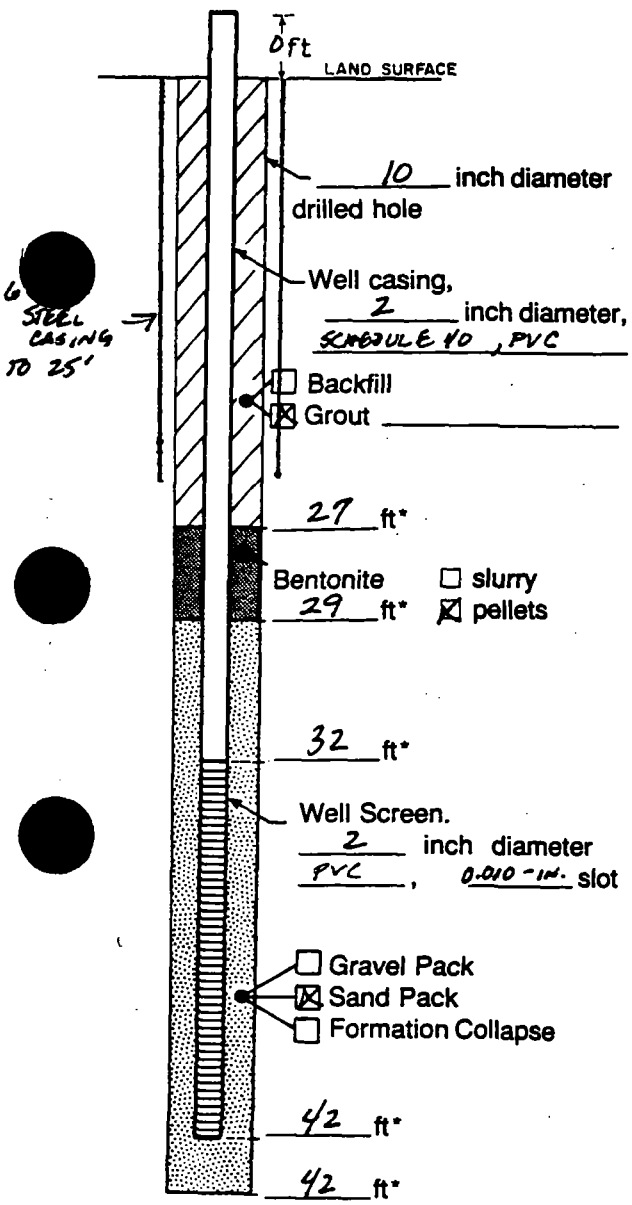
Prepared By MAURA HORN Hammer Weight 140 lb Hammer Drop 30 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	4	–	–	SIDEWALK / STREET SUBBASE
4	6	24	3-3-8-9	4-5.5 ORANGE SANDY FILL 5.5 - GREY SILTY SAND
6	8	24	5-8-9-8	DARK STAINING, GREY MEDIUM SAND VERY SLIGHT ODOR, SATURATED AT 6'
8	10	24	5-5-5-3	GREY MEDIUM SAND TO FINE SAND
10	12	24	1-1-1-1	GREY SILTY FINE SAND, NO ODOR
12	14	24	1-1-1-1	GREY SILTY FINE SAND, NO ODOR

PFE ORIGINAL (Red)

GERAGHTY & MILLER, INC.
Environmental Services

WELL CONSTRUCTION LOG
(UNCONSOLIDATED)



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project MD0057.011 Well MW-32B
Town/City NORFOLK
County N/A State VA
Permit No. N/A
Land-Surface Elevation and Datum 106.87 feet ☐ Surveyed ☒ Estimated
Installation Date(s) 8/15/95 - 8/16/95
Drilling Method MUD ROTARY
Drilling Contractor CT & E
Drilling Fluid QUICKGEL

Development Technique(s) and Date(s)
SUBMERSIBLE PUMP

Fluid Loss During Drilling N/A gallons
Water Removed During Development 110 gallons
Static Depth to Water 11.84 feet below M.P.
Pumping Depth to Water — feet below M.P.
Pumping Duration TIL CLEAR ~~hours~~
Yield ~35 gpm Date 8/11/95
Specific Capacity N/A gpm/ft
Well Purpose MONITOR DEEP AQUIFER

Remarks —

Prepared by MAURA HORN

GERAGHTY & MILLER, INC.
Environmental Services

ORIGINAL (Red)

SAMPLE/CORE LOG

Boring/Well MW-32B Project/No. MD0057.011 Page ____ of ____

Site Location 11TH & MONTICELLO AVE, STREET Drilling Started 8/15/95 Drilling Completed 8/16/95

Total Depth Drilled 42 feet Hole Diameter 10 inches Type of Sample/Coring Device SPLIT SPOON

Length and Diameter of Coring Device 2' OF 2" DIA. SPLIT SPOON Sampling Interval CONT 2 feet

Land-Surface Elev. 106.87 feet ☐ Surveyed ☑ Estimated Datum ____

Drilling Fluid Used QUICK GEL Drilling Method MUD ROTARY

Drilling Contractor CT & E Driller GREG PADRICK Helper ED

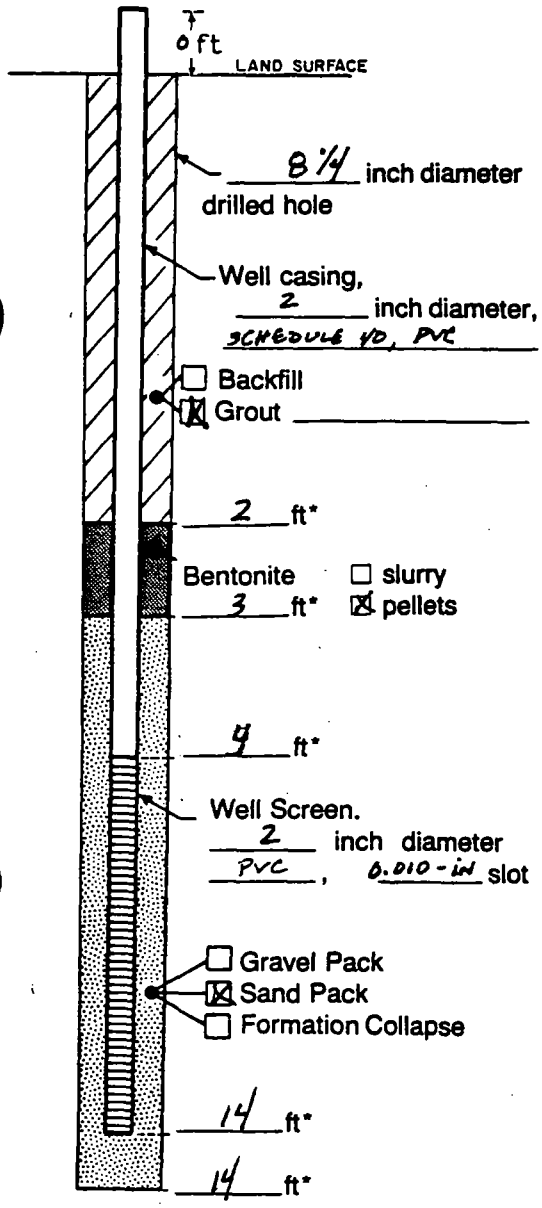
Prepared By MAURA HORN Hammer Weight 140 lb Hammer Drop 36 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
3	5	18	20-15-20-15	SILTY MEDIUM SAND, GREY
5	7	12	14-17-16-22	BLACK STAINING, NO ODOR GREY SILTY, MED SAND, SATURATED AT 7'
7	9	24	10-9-8-8	GREY CLAY, BLACK STAINING, SLIGHT ODOR
9	11	12	4-8-5-4	GREY SILTY SAND, BLACK & ORANGE STAINING, SLIGHT ODOR
11	13	12	1-1-1-2	GREY SILTY SAND, BLACK + ORANGE STAINING, SLIGHT ODOR
15	17	24	WT OF HAMMER 3-2	GREY CLAY, NO ODOR
17	19	24	4-4-3-2	GREY CLAY WITH SHELL FRAGMENTS DRY AT 18.5
19	21	20	1-1-1-1	DRY GREY CLAY WITH SHELL FRAGMENTS, NO ODOR
21	23	20	2-2-2-3	DRY GREY CLAY WITH SHELL FRAGMENTS
23	25	24	2-2-2-3	DRY GREY CLAY
30	32	24	9-14-15-21	30-31 GREY CLAY 31-32 SAND MED TO COARSE, STAINING, SLIGHT ODOR
32	34	24	15-21-28-55	MED GRADING TO COARSE SAND WITH BROWN AND GREEN STAINING, SLIGHT ODOR
34	36	12	32-60/3	COARSE SAND AND GRAVEL DARK STAINING, ODOROUS, SLIGHT OIL SHEEN ON DRILLING FLUID
40	42	24	41-24-25-38	40-42 MED SAND, BROWN-GREY, NO ODOR 42 GREEN SILTY SAND.

GERAGHTY & MILLER, INC.
Environmental Services

PFE
ORIGINAL (Red)

WELL CONSTRUCTION LOG
(UNCONSOLIDATED)



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project MD0057.011 Well MW-32A
Town/City NORFOLK
County N/A State VA
Permit No. N/A
Land-Surface Elevation and Datum 106.89 feet ☐ Surveyed ☒ Estimated
Installation Date(s) 8/9/95
Drilling Method HSA
Drilling Contractor CT & E
Drilling Fluid N/A

Development Technique(s) and Date(s)
SUBMERSIBLE PUMP

Fluid Loss During Drilling N/A gallons
Water Removed During Development 55 gallons
Static Depth to Water 5.17 feet below M.P.
Pumping Depth to Water — feet below M.P.
Pumping Duration TIL CLEAR ~~hours~~
Yield <2 gpm Date 8/11/95
Specific Capacity N/A gpm/ft
Well Purpose MONITOR SHALLOW WATER TABLE

Remarks WILL PUMP DRY W/O CHECK VALVE

Prepared by MAURA HORN

GERAGHTY & MILLER, INC.
Environmental Services

SAMPLE/CORE LOG

PFE ORIGINAL (Red)

Boring/Well MW-32A Project/No. MD0057.011 Page ____ of ____

Site Location 11TH & MONTICELLO, STREET Drilling Started 8/9/95 Drilling Completed 8/9/95

Total Depth Drilled 14 feet Hole Diameter 8 1/4 inches Type of Sample/Coring Device SPLIT SPOON

Length and Diameter of Coring Device 2' OF 2" SPLIT SPOON Sampling Interval CONT. 2' feet

Land-Surface Elev. 106.89 feet ☐ Surveyed ☒ Estimated Datum ____

Drilling Fluid Used N/A Drilling Method HSA

Drilling Contractor CT & E Driller GREG PADJUCK Helper RED

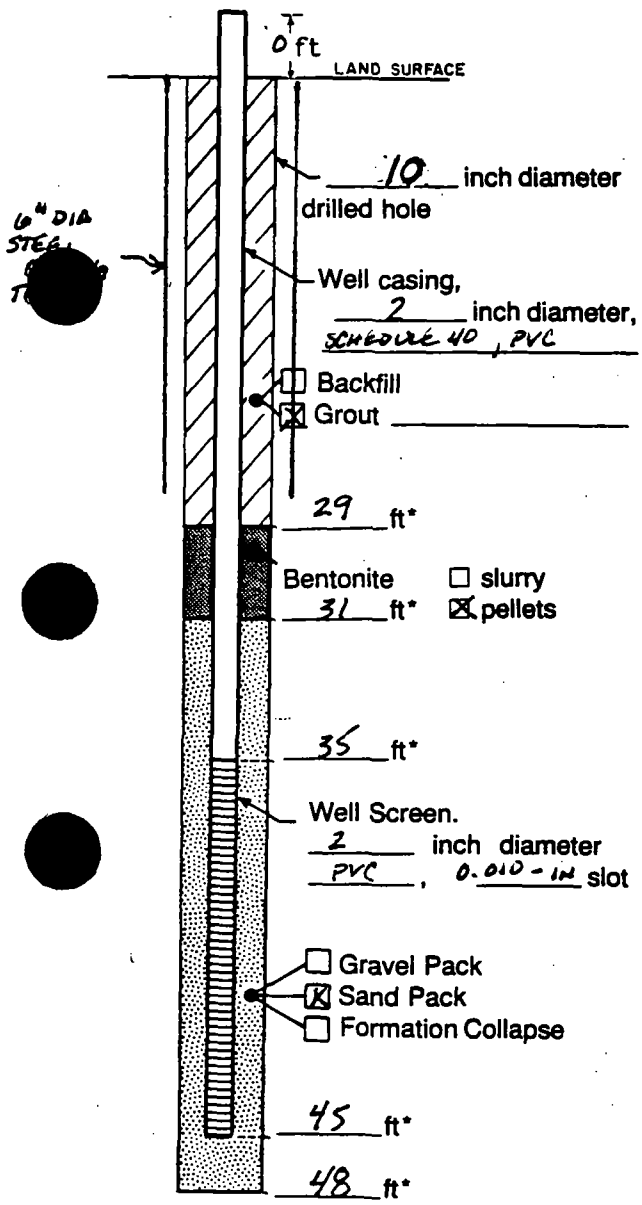
Prepared By MAURA HORN Hammer Weight 140 lb Hammer Drop 36 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
3	5	18	20-15-20-15	GREY SILTY, MEDIUM SAND
5	7	12	19-17-16-22	SILTY, MED SAND, GREY, SATURATED AT 7' BLACK STAINING, NO ODOR
7	9	24	10-9-8-8	GREY CLAY W/ BLACK STAINING, SLIGHT ODOR
9	11	12	4-8-5-4	GREY SILTY SAND, BLACK STAINING, SLIGHT ODOR
11	13	12	1-1-1-2	GREY SILTY SAND, BLACK + ORANGE STAINING, SLIGHT ODOR

PFE ORIGINAL (Red)

GERAGHTY & MILLER, INC.
Environmental Services

WELL CONSTRUCTION LOG
(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

*Depth Below Land Surface

Project MD0057.011 Well MW-31B
Town/City NORFOLK
County N/A State VA
Permit No. N/A
Land-Surface Elevation
and Datum 108.79 feet ☐ Surveyed
☒ Estimated
Installation Date(s) 8/9/95 - 8/10/95
Drilling Method MUD ROTARY
Drilling Contractor CT & E
Drilling Fluid QUICK GEL

Development Technique(s) and Date(s)
SUBMERSIBLE PUMP

Fluid Loss During Drilling 0 gallons
Water Removed During Development 110 gallons
Static Depth to Water 7.6 feet below M.P.
Pumping Depth to Water — feet below M.P.
Pumping Duration 0.167 hours
Yield ~40 gpm Date 8/11/95
Specific Capacity N/A gpm/ft
Well Purpose MONITOR DEEP AQUIFER

Remarks —

Prepared by MAURA HORN

GERAGHTY & MILLER, INC.
Environmental Services

SAMPLE/CORE LOG

Boring/Well MW-31B Project/No. MD0057.011 Page 1 of 1

Site Location FORMER NORFOLK MGP Drilling Started 8/9/95 Drilling Completed 8/10/95

Total Depth Drilled 48 feet Hole Diameter 10 inches Type of Sample/Coring Device SPLIT SPOONS

Length and Diameter of Coring Device 2' OF 2" DIA. SPLIT SPOON Sampling Interval CONT. 2 feet

Land-Surface Elev. 108.79 feet ☐ Surveyed ☑ Estimated Datum

Drilling Fluid Used QUICKGEL Drilling Method MUD ROTARY

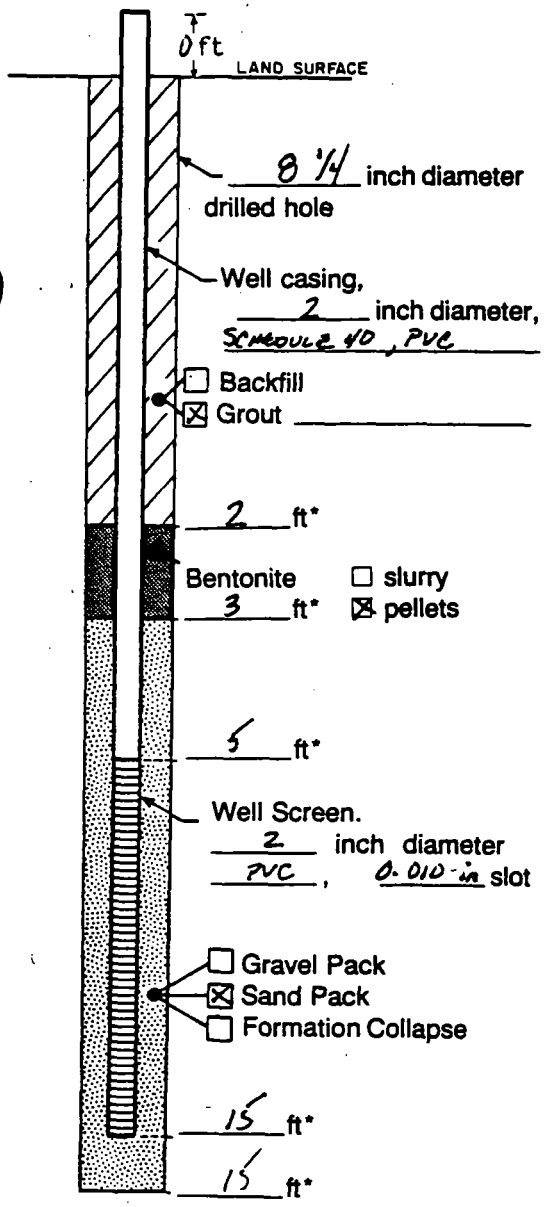
Drilling Contractor CT & E Driller GREG PADSUCK Helper ED

Prepared By MAURA HORN Hammer Weight 140 lb Hammer Drop 36 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
5	7	6	3-3-2-3	BROWN SILTY FILL W/ GLASS AND BRICK FRAGMENTS
7	8	12	1-2-4-6	DARK BROWN SANDY FILL, SATURATED AT 7'
8	10	12	3-2-8-6	DARK BROWN SAND FILL, GLASS, WOOD FRAGMENTS SOME CHANNEL SILT LAYERS AT 10'
10	12	12	1-2-1-5	OYSTER SHELLS FILL 10-11 11-12 FINE GREY SILTY SAND
12	14	12	1-2-1-5	CHANNEL DEPOSIT GREY SILTY CLAY W/ BRICK FRAGMENTS
14	16	24	3-3-2-3	14-15 FILL OYSTER SHELLS, GREY SANDY SILT, NO ODOR 15-16 GREY SILT, WOOD FRAG. ORGANIC DEBRIS, TRACE AMT OF SAND
16	18	12	5-10-10-5	GREY, FINE SILTY SAND
18	20	24	6-4-4-4	GREY, FINE SILTY SAND W/ORGANIC DEBRIS GREY, DRY SILT W/ ORGANIC DEBRIS
20	22	24	8-9-8-12	INTERSTRATIFIED CLAYEY SILT AND SILTY SAND GREY, W/ WOOD FRAGMENTS
22	24	24	4-3-4-4	GREY-GREEN SILTY FINE SAND
24	26	15	4-3-4-4	GREEN CLAY WITH SAND
28	30	20	8-24-31-37	28-29 HARD GREEN SILT TRENDING TOWARDS GREEN MED SAND, LITTLE SILT
30	32	24	40-53-61-25	GREEN FINE TO MED SAND
32	34	18	5-7-19-38	FINE GREEN SAND GRADING TO MEDIUM AND COARSE SANDY GRAVEL
34	36	12	19-24-25-35	INTERSTRATIFIED COARSE SANDY GRAVEL AND FINE TO MEDIUM SAND, BROWN
36	38	12	10-21-38-32	GREY MEDIUM + FINE SAND
38	40	12	33-26-40-57	MEDIUM TO FINE GREY SAND
40	42	8	9-14-19-23	GREY MEDIUM TO FINE SILTY SAND
42	44	6	15-22-30-34	GREY-GREEN FINE SAND TO MEDIUM-COARSE SAND SLIGHT ODOR (WEATHERED PETROLEUM)
45	47	18	12-16-21-32	GREEN-GREY SILT WITH SHELL FRAGMENTS SLIGHT ODOR

GERAGHTY & MILLER, INC.
Environmental Services

WELL CONSTRUCTION LOG
(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

*Depth Below Land Surface

Project MD0057.011 Well MW-31A
Town/City NORFOLK
County N/A State VA
Permit No. N/A
Land-Surface Elevation
and Datum 109.31 feet ☐ Surveyed
☒ Estimated
Installation Date(s) 8/8/95
Drilling Method HSA
Drilling Contractor CT & E
Drilling Fluid N/A

Development Technique(s) and Date(s)
PUMPED /SURGE BLOCK

Fluid Loss During Drilling N/A gallons
Water Removed During Development 55 gallons
Static Depth to Water 7.6 feet below M.P.
Pumping Depth to Water — feet below M.P.
Pumping Duration TIL CLEAR hours
Yield < 2 gpm Date 8/11/95
Specific Capacity N/A gpm/ft
Well Purpose MONITOR SHALLOW WATER TABLE

Remarks WILL DRY UP W/O CHECK VALVE

Prepared by MAURA HORN

05 12-88

Southprint 89-0978

GERAGHTY & MILLER, INC.
Environmental Services

SAMPLE/CORE LOG

ORIGINAL (RED)

Boring/Well MW-31A Project/No. MD0057.011 Page ____ of ____

Site Location FORMER NORFOLK MGP Drilling Started 8/8/95 Drilling Completed 8/8/95

Total Depth Drilled 15 feet Hole Diameter 8 1/4 inches Type of Sample/Coring Device SPLIT SPOON

Length and Diameter of Coring Device 2' OF 2" DIA. SPLIT SPOON Sampling Interval CONT. 2 feet

Land-Surface Elev. 109.31 feet ☐ Surveyed ☑ Estimated Datum ____

Drilling Fluid Used N/A Drilling Method HSA

Drilling Contractor CT & E Driller GREG PADJUCK Helper ED

Prepared By MAURA HORN Hammer Weight 140 lb Hammer Drop 36 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
5	7	6	3-3-2-3	BROWN SILTY FILL WITH GLASS AND SHELL FRAGMENTS
7	8	12	1-2-4-6	DARK BROWN SANDY FILL, SATURATED AT 7'
8	10	12	3-2-8-6	DARK BROWN SAND FILL, GLASS, WOOD FRAG; SOME CHANNEL SILT LAYERS AT 10'
10	12	12	1-2-1-5	OYSTER SHELLS FILL 10-11 11-12 FINE GREY SILTY SAND
12	14	12	1-2-1-5	CHANNEL DEPOSIT, GREY SILTY CLAY W/ BRICK FRAGMENTS

G&M Form 03 6-86

DFE
ORIGINAL
(Red)

APPENDIX B

PFE
ORIGINAL
(Red)

APPENDIX B

GROUNDWATER SAMPLING LOGS

DRAFT

DFE

ORIGINAL (Red)

GERAGHTY & MILLER, INC.
Environmental Services

WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location Norfolk MGP

Site/Well No. MW-31A Coded/ Replicate No. ____ Date 8/22/95

Weather 78° overcast Time Sampling Began 7:30 Time Sampling Completed 7:45

EVACUATION DATA

Description of Measuring Point (MP) Highest pt on PVC casing

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 15 Water-Level Elevation ____

Held ✓ Depth to Water Below MP 6.22 Diameter of Casing 2" PVC

Wet ✓ Water Column in Well 8.78 Gallons Pumped/Bailed Prior to Sampling 4.21

Gallons per Foot 0.16

Gallons in Well 1.40 Sampling Pump Intake Setting (feet below land surface) ✓

Evacuation Method Disposable Bailer

SAMPLING DATA/FIELD PARAMETERS

Color ____ Odor ____ Appearance ____ Temperature 69.6 °F/°C

8/24/95

Other (specific ion; OVA; HNU; etc.) Time 2:55 Redox -110.0 mv

DO: 1.04 mg/l

ORP

Specific Conductance, umhos/cm 97.0 pH 6.41

Sampling Method and Material Disposable Bailer w/ new string

Constituents Sampled	~~Container Description~~ From Lab X or G&M ____	~~Preservative~~
Fe, Mn (total)	Dissolved Fe, Mn (not filtered not preserved)	Volatiles, Semi-Volatiles
Sulfide	Ferrous Fe, Cl, Alk, NO_2, SO_4, BOD	RCRA metals
NO_3, COD, TOC, nitrogen, ammonia	Permanent Gases	Total Cyanide, Free Cyanide

Remarks ____

Sampling Personnel M.H.

B.N.

WELL CASING VOLUMES

GAL./FT.				
	1-1/8" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

PFE ORIGINAL

GERAGHTY & MILLER, INC.
Environmental Services

WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location Norfolk MGP

Site/Well No. MW-20B Coded/ Replicate No. ____ Date 8/23/95

Weather ____ Time Sampling Began 3:50 Time Sampling Completed 4:10

EVACUATION DATA

Description of Measuring Point (MP) Highest Pt on PVC Casing

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 47 Water-Level Elevation ____

Held / Depth to Water Below MP 10.95 Diameter of Casing 2"

Wet / Water Column in Well 36.05 Gallons Pumped/Bailed Prior to Sampling 17.30

Gallons per Foot 0.16

Gallons in Well 5.77 Sampling Pump Intake Setting (feet below land surface) ____

Evacuation Method Centrifugal Pump

SAMPLING DATA/FIELD PARAMETERS

~~Color~~ Time 12:30 Odor ____ Appearance ____ Temperature 69.4 °F °C

3/24/95 ORP

Other (specific ion; OVA; HNU; etc.) Redox -203 mV

DO 0.85 mg/l

Specific Conductance, umhos/cm 183 mS/cm pH 7.46

Sampling Method and Material Disposable Bailers w/ New String

Constituents Sampled	~~Container Description~~ From Lab K or G&M ____	~~Preservative~~
Fe, Mn (Total)	Dissolved Fe, Mn (not filtered not preserved)	
Sulfide	Ferrous Fe, Cl, Alk, NO_3, SO_4, BOD	
NO_3, COD, TOC, Nitrogen Ammonia	Permanent Gases	

Remarks ____

Sampling Personnel M.H., B.N.

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

GERAGHTY & MILLER, INC.
Environmental Services

ORIGINAL (Red)

WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location Norfolk MGP

Site/Well No. MW-13 Coded/ Replicate No. — Date 8/23/95

Weather 85°F Sunny, windy Time Sampling Began 11:05 Time Sampling Completed 11:20

EVACUATION DATA

Description of Measuring Point (MP) Highest pt on PVC Casing

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 15 Water-Level Elevation ____

Held ____ Depth to Water Below MP 8.56 Diameter of Casing 2"

Wet ____ Water Column in Well 6.64 Gallons Pumped/Bailed Prior to Sampling 3.18

Gallons per Foot 0.16

Gallons in Well 1.06 Sampling Pump Intake Setting (feet below land surface) ____

Evacuation Method Disposable Bailers w/ new string

SAMPLING DATA/FIELD PARAMETERS

Color ____ Odor ____ Appearance ____ Temperature 69.1 °F/°C

8/24 ORP Probe

Other (specific ion; OVA; HNU; etc.) Time 3:43 Redox: -181.00 mv

DO: 1.03 mg/l

Specific Conductance umhos/cm 321.000 pH 6.44

Sampling Method and Material Disposable Bailers w/ new string

Constituents Sampled	~~Container Description~~ From Lab X or G&M ____	~~Preservative~~
Fe, Mn (total)	Dissolved Fe, Mn (not filtered not preserved)	Volatiles, Semi-Volatiles
Sulfide	Ferrous Fe, Cl, Alk, NO_2, SO_4, BOD	RCRA metals
NO_3, COD, TOC, nitrogen ammonia	Permanent Gases	Total Cyanide, Free Cyanid

Remarks ____

Sampling Personnel MH, BN

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

PFE

GERAGHTY & MILLER, INC.
Environmental Services

WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location Norfolk MGP

Site/Well No. MW-21B Coded/ Replicate No. ____ Date 8/23/95

Weather ____ Time Sampling Began 2:10 Time Sampling Completed 2:30

EVACUATION DATA

Description of Measuring Point (MP) Highest pt on PVC casing

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 47 Water-Level Elevation ____

Held ____ Depth to Water Below MP 11.37 Diameter of Casing 2"

Wet ____ Water Column in Well 35.63 Gallons Pumped/Bailed Prior to Sampling ~~17.1~~ 22

Gallons per Foot 0.16

Gallons in Well 5.7 Sampling Pump Intake Setting (feet below land surface) /

Evacuation Method Centrifugal Pump

SAMPLING DATA/FIELD PARAMETERS

~~Color~~ TIME 12:06 Odor ____ Appearance ____ Temperature 68.3 °F °C

1/24/95 ORP

Other (specific ion; OVA; HNU; etc.) Redox -152.0 mv

DO 1.14 mg/l

Specific Conductance, umhos/cm 137.0 pH 6.91

Sampling Method and Material Disposable bailers w/ new string

Constituents Sampled	~~Container Description~~ From Lab K or G&M ____	~~Preservative~~
Fe, Mn (TOTAL)	Dissolved Fe, Mn (NOT FILTERED NOT PRESERVED)	Volatiles, Semi-Volatiles
Sulfide	Ferrous Fe, Cl, Alk, NO_2, SO_4, BOD	RCRA metals
NO_3, COD, TOC, NITROGEN AMMONIA	Permanent bases	Total Cyanide, Free Cyanide

Remarks ____

Sampling Personnel M.H., B.N.

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

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REF ORIGINAL (Red)

WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location NORFOLK MGP

Site/Well No. MW-31B Coded/ Replicate No. ____ Date 8/22/95

Weather 78° OVERCAST Time Sampling Began 7:45 Time Sampling Completed 8:15

EVACUATION DATA

Description of Measuring Point (MP) HIGHEST POINT ON PVC CASING

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 45' Water-Level Elevation ~~[illegible]~~

Held / Depth to Water Below MP 11.01 Diameter of Casing 2" PVC

Wet / Water Column in Well 33.99 Gallons Pumped/Bailed Prior to Sampling 16.32

Gallons per Foot 0.16

Gallons in Well 5.44 Sampling Pump Intake Setting (feet below land surface) /

Evacuation Method CENTRIFUGAL PUMP

SAMPLING DATA/FIELD PARAMETERS

~~Color~~ TIME 11:33 Odor ____ Appearance ____ Temperature 65.6° °F/°C

8/24/95 ORP

Other (specific ion; OVA; HNU; etc.) Redox -146 mV DO ~~[illegible]~~ 1.33 mg/l

Specific Conductance, umhos/cm 100.8 mS/cm pH 6.81

Sampling Method and Material ____

Constituents Sampled	~~Container Description~~ From Lab X or G&M ____	~~Preservative~~
Fe, Mn (Total)	Dissolved Fe, Mn (NOT FILTERED NOT PRESERVED)	Volatiles, Semi-Volatiles
Sulfides	Ferrous Fe, Cl, Alk, NO_2, SO_4, BOD	RCRA metals
NO_3, COD, TDC, NITROGEN AMMONIA	Permanent Gases	Total Cyanide, Free Cyanide

Remarks ____

Sampling Personnel MH, BN

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

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WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location Norfolk MGP

Site/Well No. MW-12 Coded/ Replicate No. ____ Date 8/23/95

Weather 85°F sunny, windy Time Sampling Began 9:40 AM Time Sampling Completed 10:00 AM

EVACUATION DATA

Description of Measuring Point (MP) Highest Pt on PVC casing

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 15 Water-Level Elevation ____

Held ____ Depth to Water Below MP 8.07 Diameter of Casing 2"

Wet ____ Water Column in Well 6.93 Gallons Pumped/Bailed Prior to Sampling 3.36

9:46 Dry at 2.50
9:54 Dry at 3.25

Gallons per Foot 0.16

Gallons in Well 1.12 Sampling Pump Intake Setting (feet below land surface) ____

Evacuation Method BAILER (DISPOSABLE) W/ NEW STRING

SAMPLING DATA/FIELD PARAMETERS

Color ____ Odor ____ Appearance ____ Temperature 74.7 °F/°C

Other (specific ion; OVA; HNU; etc.) 1:47 Redox -26.0 mV ~~DO 1.60 mg/l~~ DO: ~~1.~~ 1.56 mg/l

8/24 ORP

Specific Conductance, umhos/cm 110.0 pH 6.16

Sampling Method and Material DISPOSABLE BAILER W/ NEW STRING

Constituents Sampled	~~Container Description~~ From Lab X or G&M ____	Preservative
Fe, Mn (TOTAL)	Dissolved Fe, Mn (NOT FILTERED NOT PRESERVED)	Volatiles, Semi-Volatiles
Sulfide	Ferrous Fe, Cl, Alk, NO_2, SO_4, BOD	RCRA metals
NO_3, COD, TOC, NITROGEN, AMMONIA	Permanent Gases	Total Cyanide, Free Cyanide

Remarks had to wait (@ 10 min between samples for the well to recover
fine-grained sand abundant in well H_2O

Sampling Personnel MH, BN

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

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WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location Norfolk MGP

Site/Well No. MW-15 Coded/ Replicate No. ____ Date 8/23/95

Weather 85°F Sunny windy Time Sampling Began 8:05 Time Sampling Completed 8:15

EVACUATION DATA

Description of Measuring Point (MP) Highest Pt on PVC Casing

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 15.3 Water-Level Elevation ____

Held ____ Depth to Water Below MP 8.06 Diameter of Casing 2"

Wet ____ Water Column in Well 7.24 Gallons Pumped/Bailed Prior to Sampling 3.48

Gallons per Foot 0.16

Gallons in Well 1.16 Sampling Pump Intake Setting (feet below land surface) ____

Evacuation Method Disposable Bailers w/ New String

SAMPLING DATA/FIELD PARAMETERS

Color ____ Odor ____ Appearance ____ Temperature 67.1 °F/°C

3/24 ORP probe

Other (specific ion; OVA; HNU; etc.) Time 2:20 Redox -200.0 mv

DO: 1.30 mg/l

Specific Conductance, umhos/cm 700 µU mS/cm pH 6.60

Sampling Method and Material Disposable Bailers w/ New String

Constituents Sampled	~~Container Description~~ From Lab X or G&M ____	~~Preservative~~
Fe, Mn (total)	Dissolved Fe, Mn (not filtered not preserved)	Volatiles, Semi-Volatile
Sulfide	Ferrous Fe, Cl, Alk, NO_2, SO_4, BOD	RCRA metals
NO_3, COD, TDC, Nitrogen Ammonia	Permanent Gases	Total Cyanide, Free Cyanide

Remarks ____

Sampling Personnel M.H / B.N

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

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WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location Norfolk MGP

Site/Well No. MW-14 Coded/ Replicate No. — Date 8/23/95

Weather 85°F SUNNY, WINDY Time Sampling Began 8:55 AM Time Sampling Completed 9:05 AM

EVACUATION DATA

Description of Measuring Point (MP) Highest Pt on PVC Casing

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 15.3 Water-Level Elevation ____

Held — Depth to Water Below MP 9.71 Diameter of Casing 2"

Wet — Water Column in Well 5.59 Gallons Pumped/Bailed Prior to Sampling 2.67

Gallons per Foot 0.16

Gallons in Well 0.89 Sampling Pump Intake Setting (feet below land surface) ____

Evacuation Method DISPOSABLE BAILERS W/ NEW STRING

SAMPLING DATA/FIELD PARAMETERS

Color ____ Odor ____ Appearance ____ Temperature 69.8 °F/°C

Other (specific ion; OVA; HNU; etc.) Time 3:18 Redox -142.0

DO: 1.07 mg/l

Specific Conductance, umhos/cm 124.4 pH 6.29

0/24 ORP Probe

Sampling Method and Material DISPOSABLE BAILERS W/ NEW STRING

Constituents Sampled	~~Container Description~~ From Lab X or G&M ____	~~Preservative~~
Fe, Mn (TOTAL)	Dissolved Fe, Mn (NOT FILTERED NOT PRESERVED)	Volatile, Semi-Volatile
SULFIDE	Ferrous Fe, Cl, Alk, NO_2, SO_4, BOD	RCRA metals
NO_3, COD, TOC, NITROGEN AMMONIA	Permanent gases	Total Cyanide, Free Cyan

Remarks ____

Sampling Personnel M.H., B.N.

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

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WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location NORFOLK MGP

Site/Well No. MW-32B Coded/ Replicate No. DUPLICATE Date 8-22-95

Weather 85°F Overcast Time Sampling Began 3:30 Time Sampling Completed 3:45 PM

EVACUATION DATA

Description of Measuring Point (MP) Highest pt on PVC casing

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 42 Water-Level Elevation ____

Held ____ Depth to Water Below MP 11.12 Diameter of Casing 2"

Wet ____ Water Column in Well 30.88 Gallons Pumped/Bailed Prior to Sampling 14.82

Gallons per Foot 0.16

Gallons in Well 4.94 Sampling Pump Intake Setting (feet below land surface) ____

Evacuation Method Centrifugal pump

SAMPLING DATA/FIELD PARAMETERS

Color ____ Odor ____ Appearance ____ Temperature ____ °F/°C

Other (specific ion; OVA; HNU; etc.) ____

Specific Conductance, umhos/cm ____ pH ____

Sampling Method and Material Disposable Bailer w/ new string

Constituents Sampled	Container Description From Lab X or G&M ____	~~Preservative~~
Volatiles	Total Cyanide	
Semi-Volatiles	Free Cyanide	
RCRA metals		

Remarks ____

Sampling Personnel M.H. BN

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

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WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location Norfolk MGP

Site/Well No. MW-32A Coded/ Replicate No. ____ Date 8-22-95

Weather 85°F overcast Time Sampling Began 3:00 Time Sampling Completed 3:15

EVACUATION DATA

Description of Measuring Point (MP) Highest pt on PVC Casing

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 14 Water-Level Elevation ____

Held ____ Depth to Water Below MP 5.14 Diameter of Casing 2"

Wet ____ Water Column in Well 8.86 Gallons Pumped/Bailed Prior to Sampling 4.25

Gallons per Foot 0.14

Gallons in Well 1.42 Sampling Pump Intake Setting (feet below land surface) ____

Evacuation Method Disposable bailer w/ new string

SAMPLING DATA/FIELD PARAMETERS

Color ____ Odor ____ Appearance ____ Temperature ____ °F/°C

Other (specific ion; OVA; HNU; etc.) ____

Specific Conductance, umhos/cm ____ pH ____

Sampling Method and Material ____

Constituents Sampled	~~Container Description~~ From Lab X or G&M ____	~~Preservative~~
Volatiles	Total Cyanide	
Semi-Volatiles	Free Cyanide	
RCRA metals		

Remarks ____

Sampling Personnel MH, BN

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

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WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location Norfolk MGP

Site/Well No. MW-33B Coded/ Replicate No. ____ Date 8-22-95

Weather 85° PARTLY CLOUDY Time Sampling Began 2:00 PM Time Sampling Completed 2:15

EVACUATION DATA

Description of Measuring Point (MP) ____

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 45 Water-Level Elevation ____

Held ____ Depth to Water Below MP 12.49 Diameter of Casing 2"

Wet ____ Water Column in Well 32.51 Gallons Pumped/Bailed Prior to Sampling 15.6

Gallons per Foot 0.16

Gallons in Well 5.2 Sampling Pump Intake Setting (feet below land surface) ____

Evacuation Method CENTRIFUGAL PUMP

SAMPLING DATA/FIELD PARAMETERS

Color ____ Odor ____ Appearance ____ Temperature ____ °F/°C

Other (specific ion; OVA; HNU; etc.) ____

Specific Conductance, umhos/cm ____ pH ____

Sampling Method and Material DISPOSABLE BAILERS W/ NEW STRING

Constituents Sampled	~~Container Description~~ From Lab X or G&M ____	~~Preservative~~
Volatiles	Total Cyanide	
Semi-Volatiles	Free Cyanide	
RCRA metals		

Remarks ____

Sampling Personnel MH, BN

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

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WATER SAMPLING LOG

Project/No. MD0057-011 Page ____ of ____

Site Location NORFOLK MGP

Site/Well No. MW-33A Coded/ Replicate No. ____ Date 8-22-95

Weather ____ Time Sampling Began 1:30 Time Sampling Completed 1:45

EVACUATION DATA

Description of Measuring Point (MP) ____

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 15 Water-Level Elevation ____

Held ____ Depth to Water Below MP 5.08 Diameter of Casing 2"

Wet ____ Water Column in Well 9.92 Gallons Pumped/Bailed Prior to Sampling 4.76

Gallons per Foot 0.16

Gallons in Well 1.6 Sampling Pump Intake Setting (feet below land surface) ____

Evacuation Method DISP. BAILERS W/ NEW STRING

SAMPLING DATA/FIELD PARAMETERS

Color ____ Odor ____ Appearance ____ Temperature ____ °F/°C

Other (specific ion; OVA; HNU; etc.) ____

Specific Conductance, umhos/cm ____ pH ____

Sampling Method and Material DISP. BAILERS W/ NEW STRING

Constituents Sampled	~~Container Description~~ From Lab X or G&M ____	~~Preservative~~
Volatiles	Total Cyanide	
Semi-Volatiles	Free Cyanide	
RCRA metals		

Remarks ____

Sampling Personnel MH, BD

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

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WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location NORFOLK MGP

Site/Well No. MW-13C Coded/ Replicate No. ____ Date 8/22/95

Weather 85° SUNNY Time Sampling Began 9:55 AM Time Sampling Completed 11:05 AM

EVACUATION DATA

Description of Measuring Point (MP) HIGHEST PT ON PVC CASING

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 82' Water-Level Elevation ____

Held ____ Depth to Water Below MP 14.44 Diameter of Casing 2"

Wet ____ Water Column in Well 67.56 Gallons Pumped/Bailed Prior to Sampling 32.43

Gallons per Foot 6.16

Gallons in Well 10.81 Sampling Pump Intake Setting (feet below land surface) ____

Evacuation Method ~~DISPOSABLE BAILER W/ NEW STRING~~ CENTRIFUGAL PUMP

SAMPLING DATA/FIELD PARAMETERS

Color ____ Odor ____ Appearance ____ Temperature ____ °F/°C

Other (specific ion; OVA; HNU; etc.) ____

Specific Conductance, umhos/cm ____ pH ____

Sampling Method and Material DISPOSABLE BAILER W/ NEW STRING

Constituents Sampled	~~Container Description~~ From Lab X or G&M ____	Preservative
Volatiles	Total Cyanide	
Semi-Volatiles	Free Cyanide	
RCRA metals		

Remarks ____

Sampling Personnel MJ., B.N.

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

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WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location Norfolk MGP

Site/Well No. MW-8 Coded/ Replicate No. — Date 8/22/95

Weather ____ Time Sampling Began 8:55 AM Time Sampling Completed 9:10 AM

EVACUATION DATA

Description of Measuring Point (MP) Highest pt. on PVC Casing

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 15 Water-Level Elevation ____

Held ____ Depth to Water Below MP 5.07 Diameter of Casing 2"

Wet ____ Water Column in Well 9.93 Gallons Pumped/Bailed Prior to Sampling ~~4.76~~ 5.25

Gallons per Foot 0.16

Gallons in Well 1.6 Sampling Pump Intake Setting (feet below land surface) ____

Evacuation Method Disposable Bailers w/ New String

SAMPLING DATA/FIELD PARAMETERS

Color ____ Odor ____ Appearance ____ Temperature ____ °F/°C

Other (specific ion; OVA; HNU; etc.) ____

Specific Conductance, umhos/cm ____ pH ____

Sampling Method and Material Disposable Bailer w/ New String

Constituents Sampled	~~Container Description~~ From Lab X or G&M ____	~~Preservative~~
Volatiles	Total Cyanide	
Semi-Volatiles	Free Cyanide	
RCRA metals		

Remarks ____

Sampling Personnel M.H. / B.N.

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

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WATER SAMPLING LOG

Project/No. MD0057.011 Page ____ of ____

Site Location Norfolk MGP

Site/Well No. MW-21 Coded/ Replicate No. ____ Date 8/23/95

Weather 85° sunny, windy Time Sampling Began 1:45 Time Sampling Completed 1:55 PM

EVACUATION DATA

Description of Measuring Point (MP) Highest pt on PVC casing

Height of MP Above/Below Land Surface ____ MP Elevation ____

Total Sounded Depth of Well Below MP 15 Water-Level Elevation ____

Held ✓ Depth to Water Below MP 4.80 Diameter of Casing 2"

Wet ✓ Water Column in Well 10.2 Gallons Pumped/Bailed Prior to Sampling 4.89

Gallons per Foot 0.16

Gallons in Well 1.63 Sampling Pump Intake Setting (feet below land surface) ✓

Evacuation Method Disposable Bailers w/ new string

SAMPLING DATA/FIELD PARAMETERS

Color ____ Odor ____ Appearance ____ Temperature ____ °F/°C

Other (specific ion; OVA; HNU; etc.) ____

Specific Conductance, umhos/cm ____ pH ____

Sampling Method and Material Disposable bailers w/ new string

Constituents Sampled	~~Container Description~~ From Lab K or G&M ____	~~Preservative~~
Volatiles	Total Cyanide	
Semi-Volatiles	Free Cyanide	
RCRA metals		

Remarks ____

Sampling Personnel MH, BN

WELL CASING VOLUMES

GAL./FT.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

APPENDIX C

ORIGINAL (Red)

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(Red)

APPENDIX C

ANALYTICAL WATER QUALITY RESULTS

DRAFT

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NORFOLK MGP DATA VALIDATION SUMMARY FOR GROUNDWATER SAMPLES

Eighteen (18) samples, including 1 field duplicate (DUPLICATE is a duplicate of MW-32B), 1 field blank, and 2 trip blanks were collected on August 22 and 23, 1995 and submitted to the American Environmental Network laboratory in Columbia, MD for analysis. The parameters for which the samples were submitted were Volatile Organic Compounds (VOC) (the BTEX compounds by method 8020), and Base, Neutral, and Acid Extractable Compounds (BN/A or semi-volatiles), total metals, total cyanide, and dissolved cyanide. Validated results for these samples have been included as hand-flagged data summary forms from the laboratory, attached.

ORGANICS

The organic data were reviewed according to the criteria established in the "National Functional Guidelines for Organic Data Review, Multi-Media, Multi-Concentration (OLM01.0 - OLM01.6)" as appropriate. For analyses that are not included in the CLP guidance the method or laboratory QA/QC criteria were used.

The following document contains a brief description for each data validation outlier or concern identified by the data validator during review of the case. If there were no outliers or concerns for a particular QA/QC point in any fraction, no mention has been made of that QA/QC point. As an example, the GC/MS tunes for semi-volatiles were acceptable for all samples and runs, thus no mention of a problem is made in the text of the data validation summary. If there is a problem with only one fraction, the other fractions will be noted as acceptable in the text of the data validation summary.

1. INITIAL AND CONTINUING CALIBRATION

A. The volatile initial calibration and continuing calibration analyses were within the established laboratory control limits. No action required.

B. The extractable initial calibrations (2) and continuing calibrations (5) had percent relative standard deviation (%RSD) values greater than 30% or percent difference (%D) values greater than 25% for several compounds (see attached worksheets).

Associated results for compounds with %RSD values greater than 30% and %D values greater than 25% were qualified as estimated values and flagged "J" for detected results, and "UJ" for non-detect results. See the attached summary forms for specific results.

2. INTERNAL STANDARD RESPONSE

A. The volatile internal standard responses for all field samples were within acceptable quality control limits, no action required.

B. All extractable (semi-volatile) organic internal standard responses were within acceptable quality control limits for all field samples except MW-14 for which internal standard 2 (IS2- NPT) recovery was low, and MW-13 for which internal standards 2 (IS2- NPT), 5 (IS5- CRY), and 6 (IS6- PRY) were low. The samples were diluted due to concentrations of target analytes greater than the calibration range in the initial analysis and re-analyzed, with acceptable results . All results for these samples associated with out-of-control internal standard recoveries have been qualified as estimated values, and flagged "UJ" for non-detects and "J" for detected results.

3. SURROGATES

A. All volatile surrogate recoveries were within acceptable limits, no action required.

B. All semivolatile surrogate recoveries were within acceptable limit with the exception of one base-neutral surrogate (NBZ) for sample MW-14. No action is required for sample MW-14 since only one surrogate in the base-neutral fraction exceeds the QC limit.

4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A. No sample-specific matrix spike/matrix spike duplicate (MS/MSD) analyses were performed as part the volatiles QA/QC suite. Batch QC Blank Spike (LCS) analyses were performed with all spike recoveries within acceptable limits. No action required.

B. No sample-specific MS/MSD analyses were performed as part of the semi-volatiles QA/QC suite. A blank spike (SBLK01) analysis was performed, with all results within acceptable limits. No action required.

5. FIELD DUPLICATE ANALYSES

A. Sample DUPLICATE is a field duplicate of sample MW-32B. The VOC analyses of these two samples are comparable with the exception of the result for benzene which varies more than +/- 20% for values greater than five times the quantitation limit. Benzene results for both samples have been qualified as estimated values and flagged "J".

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(Red)

6. DILUTIONS/REANALYSES

For several samples a dilution was required to report data within calibration limits, or a reanalysis was performed due to QC outliers. When more than one result for each parameter has been reported for a single sample, the most representative data have been selected during data validation for reporting, and the second, less representative result has been qualified as unusable and flagged "R". None of the sample analyses had "R" flags for any analyte in both analyses (there is at least one acceptable result available for all parameters).

ORIGINAL (Red)

DATA VALIDATION CHECKLIST

Project Name: NORFOLK MGP
Project Number: MD0057.011
Sampling Date: 08-22 - 08-23-93 Validation Date: 09/20/95
Sample Identification: MW-8, MW-31A, MW-31B, MW-13C, MW-32A, MW-33A, MW-33B, MW-32B, FIELD BLANK, TRIP BLANK 1, TRIP BLANK 2, MW-15, MW-14, MW-12, MW-13, MW-21, MW-21B
Sampling Team: MAURA HORIV, BRIAN NEWLENT
Analyzing Laboratory: AEN
Analyses Performed: VOC (8020), SVOC (8270), METALS, TOTAL CN, FREE CN

Sample Matrix:
QA Reporting Level:

FIELD DATA PACKAGE DOCUMENTATION

Field Sampling Logs:	Reported	Performance Acceptable	Not Required
1. Sampling dates noted	✓		
2. Sampling team indicated	✓		
3. Sample identification traceable to location collected	✓		
4. Sample location	✓		
5. Sample depth for soils	N/A		
6. Collection technique (bailer, pump etc	✓		
7. Field sample preparation techniques	✓		
8. Sample type (grab, composite)	✓		
9. Sample container type	✓		
10. Preservation methods			
11. Chain of custody form completed	✓		
12. Required analytical methods requested	✓		
13. Field (water and soil) sample logs completed properly and signed	✓		
14. Number and type of field QC samples collected (blanks, replicates, splits, etc.)	✓		
15. Field equipment calibration	✓		
16. Field equipment decontamination	✓		
17. Sample shipping	N/A		
18. Laboratory Task Order	✓		

Comments:

PFE ORIGINAL (Red)

ANALYTICAL DATA VALIDATION CHECKLIST

SECTION ONE

Project Name: NORFOLK MGP
Project Number: MD0057.011
Sampling Date: 08-22 - 08-23-95 Validation Date: 09-20-95
Sample Identification: SEE PAGE 1

Sampling Team: MH BN
Analyzing Laboratory: AEN
Analyses Performed: VOC, SVOC, METALS, TCN, FCN

Sample Matrix: WATER
QA Reporting Level: II

General Information

ALL QA REPORTING LEVELS	Reported	Performance Acceptable	NOT Required
1. Sample results	✓		
2. Parameters analyzed	✓		
3. Method of analysis	✓		
4. Detection limits of analysis	✓		
5. Master tracking list	✓		
6. Sample collection date	✓		
7. Lab sample received date	✓		
8. Sample preparation/extraction date	✓		
9. Sample analysis date	✓		
10. Copy of Chain-of-Custody form signed by the lab sample custodian	✓		
11. A narrative summary of QA or sample problems is provided.	✓		

COMMENTS:

ORIGINAL (Red)

ANALYTICAL DATA VALIDATION CHECKLIST

SECTION TWO

Project Name: NORFOLK MGP
Project Number: MD 0057.001 QA Reporting Level: II
Sampling Date: 08-22/08-23-95 Validation Date: 09-20-95
Sample Identification: SEE PAGE 1

INORGANIC ANALYSES

METALS AND CLASSICAL WET CHEMISTRY METHODS

LEVEL I REQUIREMENTS	Reported	Within Limits	Outside Limits
1. Method Blanks			
2. Batch Specific Matrix Spike, or			
3. Reagent Water Spike			
4. Batch Specific Lab Duplicate, or			
5. Reagent Water Spike Duplicate			

LEVEL II REQUIREMENTS	Reported	Within Limits	Outside Limits
1. Method blanks	✓		
2. Batch Specific Matrix Spike,	✓		
3. Batch Specific Laboratory duplicate	✓		
4. Laboratory Control Sample (LCS)	✓		
5. ICVS Results	✓		

LEVEL III REQUIREMENTS	Reported	Within Limits	Outside Limits
1. Calibration Curve Standards			
2. ICVS Results			
3. CCVS Results			
4. LCS Results			
5. Method Blanks			
6. Interference Check Sample (ICS) (ICP Only)			
7. Dilution Check Sample (ICP Only)			
8. Sample Specific Laboratory Duplicate			
9. Sample Specific Matrix Spike			
10. Sample Specific Post Digestion Analytical Spike (Furnace Only)			

COMMENTS: LEVEL III DATA PROVIDED FOR THE RCRA METALS

PFE ORIGINAL (Red)

ANALYTICAL DATA VALIDATION CHECKLIST

SECTION THREE

Project Name: NORFOLK MGP
Project Number: MD 0057.011 QA Reporting Level: II
Sampling Date: 08-22 / 08-23-95 Validation Date: 09-20-95
Sample Identification: SEE PAGE 1

ORGANIC ANALYSES

LEVEL I REQUIREMENTS	Reported	Within Limits	Outside Limits
1. Results of Water Blanks (VOCs)			
2. Results of Extraction Blanks			
3. Reagent water spike			
4. Reagent water spike duplicate			

LEVEL II REQUIREMENTS

A. GAS CHROMATOGRAPHY (NO MASS SPEC) (VOL) 8020

1. Water blanks (VOC)	✓		
2. Extraction blanks	N/A		
3. Batch specific matrix spike	NO (1)		
4. Batch specific matrix spike duplicate or lab duplicate	NO (1)		
5. Reagent water spike (RWS)	✓		
6. Reagent water spike duplicate	NO (1)		
7. RWS RPD and control limits	✓		
8. Surrogate spikes	✓		

GAS CHROMATOGRAPH/MASS SPECTROMETER (SVOL) 8270

1. Water blanks (VOC)	✓		
2. Extraction blanks	✓		
3. Batch specific matrix spike	NO (2)		
4. Batch specific matrix spike duplicate, or	NO (2)		
5. Laboratory duplicate (optional)	NO (2)		
6. Surrogate spikes	✓		
7. MS/MSD RPD	NO (2)		
8. Reagent water spike	✓		
9. Reagent water spike duplicate	✓		

COMMENTS: (1) A BLANK SPIKE (LCS) WAS RUN W/ ACCEPTABLE RECOVERY
(2) A BLANK SPIKE (LCS) WAS RUN W/ ACCEPTABLE RECOVERIES

PFE ORIGINAL (Red)

Page

ANALYTICAL DATA VALIDATION CHECKLIST

SECTION THREE CONTINUED

Project Name: NORFOLK MGP
Project Number: MD0057.011 QA Reporting Level: III
Sampling Date: 08-22/08-23-95 Validation Date: 09-20-95
Sample Identification: SEE PAGE 1

ORGANIC ANALYSES

LEVEL III REQUIREMENTS

A. GAS CHROMATOGRAPH	Reported	Within Limits	Outside Limits
1. Water blanks (VOC)			
2. Extraction blanks			
3. Sample specific matrix spikes			
4. Sample specific matrix spike duplicates, or			
5. Laboratory duplicates			
6. Surrogate spikes			
7. Reagent water spike			
8. Reagent water spike duplicate			

B. GAS CHROMATOGRAPH/MASS SPECTROMETER			
1. BFB or DFTPP Tuning			
2. Initial Calibration (IC)			
a. SPCC Compounds (RRF >0.3/0.05)			
b. CCC Compounds (RSD < 30%)			
c. Other Compounds (RRF > 0.05)			
3. Continuing Calibration (CC)			
a. SPCC Compounds (RRF >0.3/0.05)			
b. CCC Compounds (Max %D < 25%)			
c. Other Compounds (RRF >0.05)			
4. Water blanks			
5. Extraction blanks			
6. Reagent water spike			
7. Reagent water spike duplicate			
8. RWS RPD			
9. Sample specific matrix spike			
10. Sample specific matrix spike duplicate			
11. Surrogate spike			

COMMENTS: LEVEL III DATA PROVIDED
MW-14 - IS 2 LOW - DILUTE ANALYSIS OK FLAG ASSOC UJ/J
MW-13 - IS 2, IS5, IS6 LOW - DILUTE ANALYSIS OK FLAG ASSOC J/UJ
MW-14 - NBZ SURROGATE SLT HIGH - ONLY ONE OUT - NO FLAGS.

SEE ATTACHED PAGES for CAL OUTLIERS - FLAG J/UJ

PFE ORIGINAL (Red)

ANALYTICAL DATA VALIDATION CHECKLIST

SECTION FOUR

Project Name: NORFOLK MGP
Project Number: MD0057.011 QA Reporting Level: II
Sampling Date: 08-22/08-23-95 Validation Date: 09-20-95
Sample Identification: See PAGE 1

DATA EVALUATION SUMMARY	Reported	Performance Acceptable	Not Required
1. Field measurements of pH and specific conductance are consistent with historical data	N/A		
2. Field Records	✓		
3. Methods (Gen.Info. Section I)	✓		
4. Extraction holding times	✓		
5. Analysis holding times	✓		
6. Detection limits (Section I)	✓		
7. Sampler (equipment) rinsate blanks	✗ N/A		
9. Field blanks	✓		
10. Trip blanks	✓		
11. Laboratory blanks	✓		
12. Field replicates	✓ (1)		
13. Field splits	N/A		
14. Geophysical comparisons			
a. Cation vs Anion	N/A		
b. TDS vs Spec. Conductance	↓		
c. pH vs Alk/Acidity	↓		
d. Other	↓		
15. Metals QA Data (Section II)	✓		
16. Classical Wet Chemistry (Section II)	✓		
17. Organic QA Data (Section III A)	✓		
18. Organic QA Data (Section III B)	✓		

COMMENTS: (1) MW-32B WAS FIELD REPED AS "DUPLICATE" THE BETWEEN RPD WAS 60% - FINAL BOTH U/W "J"

ORIGINAL (Red)

ANALYTICAL DATA VALIDATION CHECKLIST

SECTION FIVE

Project Name: NORFOLK MGP
Project Number: MD0057.011 QA Reporting Level: II
Sampling Date: 08-22/08-23-95 Validation Date: 09-20-95
Sample Identification: SEE PAGE 1

DATA VALIDATION CODING

1. Qualifier Codes Assigned to Data: R, U, J, U/J, B, No flag

2. Identification of samples and parameters with codes:

	Sample ID	Parameters
R code:	MW-13, MW-14	FIRST COMPOUNDS THAT EXCEED CAL. RANGE
		FIRST DILUTE RESULTS for COMPOUNDS THAT DID NOT EXCEED THE CAL. RANGE ON INITIAL ANALYSIS
B code:		
U code:		
J code:	SVOC SAMPLES (1)	SVOC CAL. OUTLIERS - HITS
	MW-13, MW-14 (SVOC)	INTERNAL STD OUTLIERS - HITS
	MW-32B / DUPLICATE	BENZENE - DUPLICATE RPD 60%
U/J code:	SVOC SAMPLES (1)	SVOC CAL. OUTLIERS - NON-DETECTS

Explanation: (1) SEE ATTACHED PAGES for SVOC OUTLIERS

PFE
ORIGINAL (Red)

TABLE ___

SEMIVOLATILE HSL COMPOUNDS – CALIBRATION OUTLIERS

Instrument # MSD 1	Inital Calib.		Cont. Calib.		Cont. Calib.		Cont. Calib.	
Date/Time:	8/24/95		8/28/95		8/29/95			
	RF	%RSD	RF	%D	RF	%D	RF	%D
Phenol								
bis(2-Chloroethyl)ether								
2-Chlorophenol								
1,3-Dichlorobenzene								
1,4-Dichlorobenzene								
1,2-Dichlorobenzene								
2-Methylphenol								
2,2'-oxybis(1-Chloropropane)								
4-Methylphenol								
N-Nitroso-di-n-propylamine								
Hexachloroethane								
Nitrobenzene								
Isophorone								
2-Nitrophenol								
2,4-Dimethylphenol								
bis(2-Chloroethoxy)methane								
2,4-Dichlorophenol								
1,2,4-Trichlorobenzene								
Naphthalene				26.7				
4-Chloroaniline								
Hexachlorobutadiene								
4-Chloro-3-methylphenol								
2-Methylnaphthalene								
Hexachlorocyclopentadiene								
2,4,6-Trichlorophenol								
2,4,5-Trichlorophenol								
2-Chloronaphthalene								
2-Nitroaniline								
Dimethylphthalate								
Acenaphthylene								
2,6-Dinitrotoluene								
3-Nitroaniline								
Acenaphthene								
Associated Samples:			SBLK01		MW-8			
			SBLK01MS		MW-31A			
					MW-31B			
					MW-13C			
					MW-32A			
					MW-33A			
					MW-33B			
					FB			
					DUPLICATE			
					MW-32B			

PFE

ORIGINAL (Red)

TABLE ___

SEMIVOLATILE HSL COMPOUNDS – CALIBRATION OUTLIERS

Instrument # MSD 1	Inital Calib.		Cont. Calib.		Cont. Calib.		Cont. Calib.	
Date/Time:	8/24		8/28		8/29			
	RF	%RSD	RF	%D	RF	%D	RF	%D
2,4-Dinitrophenol				39.9				
4-Nitrophenol						26.6		
Dibenzofuran								
2,4-Dinitrotoluene								
Diethylphthalate								
4-Chlorophenyl-phenylether								
Fluorene				26.4		27.3		
4-Nitroaniline								
4,6-Dinitro-2-methylphenol								
N-Nitrosodiphenylamine								
4-Bromophenyl-phenylether								
Hexachlorobenzene								
Pentachlorophenol								
Phenanthrene								
Anthracene								
Di-n-butylphthalate								
Fiuroanthene								
Carbazole								
Pyrene				31.7				
Butylbenzylphthalate								
3,3'-Dichlorobenzidine				25.6				
Benzo(a)anthracene								
bis(2-ethylhexyl)phthalate								
Di-n-octylphthalate								
Benzo(b)fluoranthene								
Benzo(k)fluoranthene				28.1				
Benzo(a)pyrene								
Indeno(1,2,3-cd)pyrene				32.3		29.2		
Dibenzo(a,h)anthracene				36.8		34.9		
Benzo(g,h,i)perylene				31.8		25.6		
Associated Samples:			SBLK01		MW-8			
			SBLK01MS		MW-31A			
					MW-31B			
					MW-13C			
					MW-32A			
					MW-33A			
					MW-33B			
					FB			
					DUPLICATE MW-32B			

PFE ORIGINAL (Red)

TABLE ___

SEMIVOLATILE HSL COMPOUNDS – CALIBRATION OUTLIERS

Instrument # MSD 1	Inital Calib.		Cont. Calib.		Cont. Calib.		Cont. Calib.	
Date/Time:	9/05/95		9/06		9/07			
	RF	%RSD	RF	%D	RF	%D	RF	%D
Phenol								
bis(2-Chloroethyl)ether								
2-Chlorophenol								
1,3-Dichlorobenzene								
1,4-Dichlorobenzene								
1,2-Dichlorobenzene								
2-Methylphenol								
~~2,2'-oxybis(1-Chloropropane)~~ {bis(2-Chloroisopropyl)Ether						43.7		
4-Methylphenol								
N-Nitroso-di-n-propylamine						32.1		
Hexachloroethane								
Nitrobenzene								
Isophorone						29.0		
2-Nitrophenol								
2,4-Dimethylphenol								
bis(2-Chloroethoxy)methane								
2,4-Dichlorophenol								
1,2,4-Trichlorobenzene								
Naphthalene								
4-Chloroaniline								
Hexachlorobutadiene								
4-Chloro-3-methylphenol								
2-Methylnaphthalene								
Hexachlorocyclopentadiene								
2,4,6-Trichlorophenol								
2,4,5-Trichlorophenol								
2-Chloronaphthalene								
2-Nitroaniline						37.1		
Dimethylphthalate						43.1		
Acenaphthylene						32.0		
2,6-Dinitrotoluene								
3-Nitroaniline								
Acenaphthene								
Associated Samples:			MW-15		MW-14DL			
			MW-14		MW-13DL			
			MW-12					
			MW-13					
			MW-21					
			MW-21B					

TABLE ___

SEMIVOLATILE HSL COMPOUNDS – CALIBRATION OUTLIERS

PFE ORIGINAL (Red)

Instrument #	Inital Calib.		Cont. Calib.		Cont. Calib.		Cont. Calib.	
Date/Time:	09/05		09/06		09/07			
	RF	%RSD	RF	%D	RF	%D	RF	%D
2,4-Dinitrophenol		30.9		57.8	→	→		
4-Nitrophenol								
Dibenzofuran								
2,4-Dinitrotoluene								
Diethylphthalate		37.5	→	~~37.5~~	→	→		
4-Chlorophenyl-phenylether		38.0	→	~~38.0~~		31.7		
Fluorene								
4-Nitroaniline				42.2		36.0		
4,6-Dinitro-2-methylphenol				41.1				
N-Nitrosodiphenylamine								
4-Bromophenyl-phenylether								
Hexachlorobenzene								
Pentachlorophenol								
Phenanthrene								
Anthracene								
Di-n-butylphthalate								
Fluroanthene								
Carbazole								
Pyrene				32.8				
Butylbenzylphthalate				34.3				
3,3'-Dichlorobenzidine				27.2		27.7		
Benzo(a)anthracene								
bis(2-ethylhexyl)phthalate				32.7				
Di-n-octylphthalate								
Benzo(b)fluoranthene								
Benzo(k)fluoranthene				34.5		27.2		
Benzo(a)pyrene								
Indeno(1,2,3-cd)pyrene								
Dibenzo(a,h)anthracene								
Benzo(g,h,i)perylene								
Associated Samples:			MW-15		MW-14 DL			
			MW-14		MW-12 DL			
			MW-12					
			MW-13					
			MW-21					
			MW-21B					

MW-32B → DUPLICATE

MW-0057 ON ORIGINAL (RED)

WELL	LAB ID	Coll	TCN	FCN	VOC	BNA	MFL
	9508277-						
MW-15	001	8/23/95			✓		
MW-14	002				✓		
MW-12	003				✓		
MW-13	004				✓		
MW-21	005				✓		
MW-21B	006				✓		
[illegible]-2	007				✓		
	9508266 -	8/22/95					
MW-8	001				✓		
MW-31A	002				✓		
MW-31B	003				✓		
[illegible]-13C	004				✓		
MW-32A	005				✓		
MW-33A	006				✓		
[illegible]33B	007				✓		
MW-32B	010				✓		
FB	008				✓		
DUPLICATE	009				✓		
TB-1	011				✓		

FIELD DUP for VOC, SVOC ONLY

METALS MW-8, MW-31A, MW-32A, MW-32D PH >2
Prcs. By LAB.

ICUS - OK

CCUS - OK

BLANKS - All < DL

ICP - OK

MS - (MW-14S) OK (MW-14M) OK
(Dup OK)
MW-21S For HG OK, Dup OK
(MW-31B-S) OK HG, (MW-32A-S) OK
Dup - MW-12D OK
MW-15D OK (Hg)
MW-32AD OK (HG) (MW-32B-D) - OK
LLS OK
OK

ICP SD OK

PFE ORIGINAL (Red)

TCN 8277 HT OK, BLANK OK, LCS OK, LCSD OK
8266 " (")

FCN 8277 HT OK, BLANK OK, LCS OK, LCSD OK
8266 " ( )

VOC (8266) - MW-8 DC=2 - ALL RESULTS ND ?
8010

FB - CLEAN, TB-1 CLEAN, VLBK = CLEAN, TB-2 CLEAN
VBLK 2 CLEAN VBLK3: CLEAN

→ FIELD DUP BE: 14, 26 DC=1 60% RPD

SURR - ALL W/I LAB LIMITS OF 50-150 %

LCS - OK

ICAL - OK

CCAL - OK

PFE ORIGINAL (Red)

LOW

SOOL NAM - IS (Pawls -dil) ~~HIGH~~ Fe MW-14, MW-13

BLANKS - SBLK clean FB clean

SOW MW-14 % MBZ = 154 % (34-114)
Dilution Analysis ok

(LCS)
MS/MSD - BS/~~BSD~~ ok

IS -
MW-14 IS2 (NPT) (Naphthalene -d8) SLT LOW ~~HIGH~~
MW-13 " " SLT LOW
IS5 (CRY) (Chrysene-d12) SLT LOW
IS6 (PRY) (Perylene-d12) SLT LOW

→ Both MW-14 and MW-13 run DIL - IS ok

(LCS) SBLK01MS IS6 (PRY) SLT HIGH

PFE
ORIGINAL (Red)

ORGANIC ANALYSIS DATA SHEET

Client: Geraghty & Miller-Maryland
Project: MD0057.001 Norfolk MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

Sample: MW-8

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 2
Level (low/med): LOW

Lab Sample ID: L9508266-001
Lab Name: AENI - MD
Contract: 9508266
Date Sampled: 08/22/95
Date Received: 08/23/95
Date Prepared: 09/01/95
Date Analyzed: 09/01/95
Time Analyzed: 21:49

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene		2.0	U
Toluene		2.0	U
Ethyl Benzene		2.0	U
Total Xylenes		6.0	U

DJM
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ORGANIC ANALYSIS DATA SHEET

PFE ORIGI (Red)

Client: Geraghty & Miller-Maryland
Project: MD0057.001 Norfolk MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-31A
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508266-002
Lab Name: AENI - MD
Contract: 9508266
Date Sampled: 08/22/95
Date Received: 08/23/95
Date Prepared: 09/01/95
Date Analyzed: 09/01/95
Time Analyzed: 8:29

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene		1.0	U
Toluene		1.0	U
Ethyl Benzene		1.0	U
Total Xylenes		3.0	U

PJM 09-20-95

PFE
ORIGINAL
(Red)

ORGANIC ANALYSIS DATA SHEET

Client: Geraghty & Miller-Maryland
Project: MD0057.001 Norfolk MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-31B
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508266-003
Lab Name: AENI - MD
Contract: 9508266
Date Sampled: 08/22/95
Date Received: 08/23/95
Date Prepared: 09/01/95
Date Analyzed: 09/01/95
Time Analyzed: 9:09

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene		1.0	U
Toluene		1.0	U
Ethyl Benzene		1.0	U
Total Xylenes		3.0	U

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ORGANIC ANALYSIS DATA SHEET

PFE ORIGINAL (Red)

Client: Geraghty & Miller-Maryland
Project: MD0057.001 Norfolk MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-13C
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508266-004
Lab Name: AENI - MD
Contract: 9508266
Date Sampled: 08/22/95
Date Received: 08/23/95
Date Prepared: 09/01/95
Date Analyzed: 09/01/95
Time Analyzed: 16:24

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene		1.0	U
Toluene		1.0	U
Ethyl Benzene		1.0	U
Total Xylenes		3.0	U

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PFE ORIGINAL (Red)

ORGANIC ANALYSIS DATA SHEET

Client: Geraghty & Miller-Maryland
Project: MD0057.001 Norfolk MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-32A
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508266-005
Lab Name: AENI - MD
Contract: 9508266
Date Sampled: 08/22/95
Date Received: 08/23/95
Date Prepared: 09/01/95
Date Analyzed: 09/01/95
Time Analyzed: 13:41

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene	40	1.0	
Toluene	1.1	1.0	
Ethyl Benzene		1.0	U
Total Xylenes	5.3	3.0	

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ORGANIC ANALYSIS DATA SHEET

PFE ORIGINAL (Red)

Client: Geraghty & Miller-Maryland
Project: MD0057.001 Norfolk MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-33A
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508266-006
Lab Name: AENI - MD
Contract: 9508266
Date Sampled: 08/22/95
Date Received: 08/23/95
Date Prepared: 09/01/95
Date Analyzed: 09/01/95
Time Analyzed: 14:23

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene	44	1.0	
Toluene	14	1.0	
Ethyl Benzene	1.6	1.0	
Total Xylenes	20	3.0	

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PFE
ORIGINAL
(Red)

ORGANIC ANALYSIS DATA SHEET

Client: Geraghty & Miller-Maryland
Project: MD0057.001 Norfolk MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-33B
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508266-007
Lab Name: AENI - MD
Contract: 9508266
Date Sampled: 08/22/95
Date Received: 08/23/95
Date Prepared: 09/01/95
Date Analyzed: 09/01/95
Time Analyzed: 15:02

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene		1.0	U
Toluene		1.0	U
Ethyl Benzene	5.2	1.0	
Total Xylenes	43	3.0	

Form I

DJM
09-20-95
DJM

ORGANIC ANALYSIS DATA SHEET

PFE ORIGINAL (Red)

Client: Geraghty & Miller-Maryland
Project: MD0057.001 Norfolk MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

FIELD BLANK
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508266-008
Lab Name: AENI - MD
Contract: 9508266
Date Sampled: 08/22/95
Date Received: 08/23/95
Date Prepared: 09/01/95
Date Analyzed: 09/01/95
Time Analyzed: 15:43

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene		1.0	U
Toluene		1.0	U
Ethyl Benzene		1.0	U
Total Xylenes		3.0	U

DJM 09-20-95

PFE
ORIGINAL (Red)

ORGANIC ANALYSIS DATA SHEET

Client: Geraghty & Miller-Maryland
Project: MD0057.001 Norfolk MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

DUPLICATE
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508266-009
Lab Name: AENI - MD
Contract: 9508266
Date Sampled: 08/22/95
Date Received: 08/23/95
Date Prepared: 09/01/95
Date Analyzed: 09/01/95
Time Analyzed: 18:26

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene	26	1.0	
Toluene		1.0	U
Ethyl Benzene	1.3	1.0	
Total Xylenes		3.0	U

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ORGANIC ANALYSIS DATA SHEET

PFE ORIGINAL

Client: Geraghty & Miller-Maryland
Project: MD0057.001 Norfolk MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-32B
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508266-010
Lab Name: AENI - MD
Contract: 9508266
Date Sampled: 08/22/95
Date Received: 08/23/95
Date Prepared: 09/01/95
Date Analyzed: 09/01/95
Time Analyzed: 19:07

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene	14	1.0	
Toluene		1.0	U
Ethyl Benzene		1.0	U
Total Xylenes		3.0	U

J

Form I

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PFE
ORIGINAL
(Red)

ORGANIC ANALYSIS DATA SHEET

Client: Geraghty & Miller-Maryland
Project: MD0057.001 Norfolk MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

Sample: TB1

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508266-011
Lab Name: AENI - MD
Contract: 9508266
Date Sampled: 08/22/95
Date Received: 08/23/95
Date Prepared: 09/01/95
Date Analyzed: 09/01/95
Time Analyzed: 19:48

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene		1.0	U
Toluene		1.0	U
Ethyl Benzene		1.0	U
Total Xylenes		3.0	U

DJM
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ORGANIC ANALYSIS DATA SHEET

PFE ORIGINAL (Red)

Client: Geraghty & Miller - Maryland
Project: MD0057.011 MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-15
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508277-001
Lab Name: AENI - MD
Contract: 9508277
Date Sampled: 08/23/95
Date Received: 08/24/95
Date Prepared: 09/01/95
Date Analyzed: 09/01/95
Time Analyzed: 23:09

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene		1.0	U
Toluene		1.0	U
Ethyl Benzene		1.0	U
Total Xylenes		3.0	U

DJM 09-20-95

PFE
GINAL
(Red)

ORGANIC ANALYSIS DATA SHEET

Client: Geraghty & Miller - Maryland
Project: MD0057.011 MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-14
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 100
Level (low/med): LOW

Lab Sample ID: L9508277-002
Lab Name: AENI - MD
Contract: 9508277
Date Sampled: 08/23/95
Date Received: 08/24/95
Date Prepared: 09/02/95
Date Analyzed: 09/02/95
Time Analyzed: 18:27

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene	1,700	100	
Toluene		100	U
Ethyl Benzene	510	100	
Total Xylenes		300	U

DSM
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ORGANIC ANALYSIS DATA SHEET

ORIGINAL (Red)

Client: Geraghty & Miller - Maryland
Project: MD0057.011 MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-12
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 50
Level (low/med): LOW

Lab Sample ID: L9508277-003
Lab Name: AENI - MD
Contract: 9508277
Date Sampled: 08/23/95
Date Received: 08/24/95
Date Prepared: 09/02/95
Date Analyzed: 09/03/95
Time Analyzed: 0:14

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene	820	50	
Toluene		50	U
Ethyl Benzene	370	50	
Total Xylenes	3,000	150	

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DJM 09-20

PFE ORIGINAL (Red)

ORGANIC ANALYSIS DATA SHEET

Client: Geraghty & Miller - Maryland
Project: MD0057.011 MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-13
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 50
Level (low/med): LOW

Lab Sample ID: L9508277-004
Lab Name: AENI - MD
Contract: 9508277
Date Sampled: 08/23/95
Date Received: 08/24/95
Date Prepared: 09/02/95
Date Analyzed: 09/02/95
Time Analyzed: 19:45

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene	500	50	
Toluene		50	U
Ethyl Benzene	750	50	
Total Xylenes	270	150	

Form I

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ORGANIC ANALYSIS DATA SHEET

PFE ORIGINAL (Red)

Client: Geraghty & Miller - Maryland
Project: MD0057.011 MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-21
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508277-005
Lab Name: AENI - MD
Contract: 9508277
Date Sampled: 08/23/95
Date Received: 08/24/95
Date Prepared: 09/01/95
Date Analyzed: 09/02/95
Time Analyzed: 1:49

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene		1.0	U
Toluene		1.0	U
Ethyl Benzene	12	1.0	
Total Xylenes	100	3.0	

Form I

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PFE
ORIGINAL
(Red)

ORGANIC ANALYSIS DATA SHEET

Client: Geraghty & Miller - Maryland
Project: MD0057.011 MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

MW-21B
Sample:

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508277-006
Lab Name: AENI - MD
Contract: 9508277
Date Sampled: 08/23/95
Date Received: 08/24/95
Date Prepared: 09/01/95
Date Analyzed: 09/02/95
Time Analyzed: 2:29

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene		1.0	U
Toluene		1.0	U
Ethyl Benzene		1.0	U
Total Xylenes		3.0	U

DJM
09-20-95

ORGANIC ANALYSIS DATA SHEET

PFF ORIGINAL (Red)

Client: Geraghty & Miller - Maryland
Project: MD0057.011 MGP
Analysis: VOA
Method: 8020
Instrument: GC - L (HP5890)

Sample: TB-2

Matrix: WATER
Sample: (ml) 5.0
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9508277-007
Lab Name: AENI - MD
Contract: 9508277
Date Sampled: 08/23/95
Date Received: 08/24/95
Date Prepared: 09/01/95
Date Analyzed: 09/02/95
Time Analyzed: 3:10

Compound	Concentration (ug/L)	Detection Limit	Qualifier
Benzene		1.0	U
Toluene		1.0	U
Ethyl Benzene		1.0	U
Total Xylenes		3.0	U

Form I

DJM 05-20-96

PFE
ORIGINAL (Red)

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-15

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #001

Sample wt/vol: 970.0 (g/mL) ML Lab File ID: DI060.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/6/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	52	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	52	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	52	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

DJM 09-20-95

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-15

ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #001

Sample wt/vol: 970.0 (g/mL) ML Lab File ID: DI060.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/6/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q	
83-32-9	Acenaphthene	2.3	J	
99-09-2	3-Nitroaniline	52	U	
51-28-5	2,4-Dinitrophenol	52	~~U~~	UJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
100-02-7	4-Nitrophenol	52	U	
86-73-7	Fluorene	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	~~U~~	UJ
84-66-2	Diethylphthalate	10	~~U~~	UJ
100-01-6	4-Nitroaniline	52	~~U~~	UJ
534-52-1	4,6-Dinitro-2-methylphenol	52	~~U~~	UJ
86-30-6	n-Nitrosodiphenylamine	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	52	U	
85-01-8	Phenanthrene	1.5	J	
120-12-7	Anthracene	10	U	
84-74-2	Di-n-butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	~~U~~	UJ
85-68-7	Butylbenzylphthalate	10	~~U~~	UJ
91-94-1	3,3'-Dichlorobenzidine	21	~~U~~	UJ
56-55-3	Benzo[a]anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	2.9	J	J
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo[b]fluoranthene	10	U	
207-08-9	Benzo[k]fluoranthene	10	~~U~~	UJ
50-32-8	Benzo[a]pyrene	10	U	
193-39-5	Indeno[1,2,3-cd]pyrene	10	U	
53-70-3	Dibenz[a,h]anthracene	10	U	
191-24-2	Benzo[g,h,i]perylene	10	U	

FORM I SV SW846

DJM 05-20-

PFE

ORIGINAL (Red)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-14

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #002

Sample wt/vol: 990.0 (g/mL) ML Lab File ID: DI061.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/6/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q	
111-44-4	bis(2-Chloroethyl)ether	10	U	
108-95-2	Phenol	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
100-56-1	Benzyl alcohol	10	U	
108-60-1	bis(2-chloroisopropyl)ether	10	U	
95-48-7	2-Methylphenol	10	U	
67-72-1	Hexachloroethane	10	U	
621-64-7	N-Nitroso-di-n-propylamine	10	U	
106-44-5	4-Methylphenol	10	U	
98-95-3	Nitrobenzene	10	~~U~~	UJ
78-59-1	Isophorone	10	~~U~~	
88-75-5	2-Nitrophenol	10	~~U~~	
105-67-9	2,4-Dimethylphenol	10	~~U~~	
65-85-0	Benzoic Acid	51	~~U~~	
111-91-1	bis(2-Chloroethoxy)methane	10	~~U~~	
120-83-2	2,4-Dichlorophenol	10	~~U~~	
120-82-1	1,2,4-Trichlorobenzene	10	~~U~~	
91-20-3	Naphthalene	730	~~E~~	R
106-47-8	4-Chloroaniline	10	~~U~~	UJ
87-68-3	Hexachlorobutadiene	10	~~U~~	
59-50-7	4-Chloro-3-methylphenol	10	~~U~~	
91-57-6	2-Methylnaphthalene	300	~~E~~	R
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	51	U	
91-58-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	51	U	
208-96-8	Acenaphthylene	1.5	J	
131-11-3	Dimethylphthalate	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	

FORM I SV SW846

DJM 09-20-95

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-14

ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #002

Sample wt/vol: 990.0 (g/mL) ML Lab File ID: DI061.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/6/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q	
83-32-9	Acenaphthene	45		
99-09-2	3-Nitroaniline	51	U	
51-28-5	2,4-Dinitrophenol	51	~~U~~	UJ
132-64-9	Dibenzofuran	4.9	J	
121-14-2	2,4-Dinitrotoluene	10	U	
100-02-7	4-Nitrophenol	51	U	
86-73-7	Fluorene	15		
7005-72-3	4-Chlorophenyl-phenylether	10	~~U~~	UJ
84-66-2	Diethylphthalate	10	~~U~~	UJ
100-01-6	4-Nitroaniline	51	~~U~~	UJ
534-52-1	4,6-Dinitro-2-methylphenol	51	~~U~~	UJ
86-30-6	n-Nitrosodiphenylamine	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	51	U	
85-01-8	Phenanthrene	17		
120-12-7	Anthracene	3.7	J	
84-74-2	Di-n-butylphthalate	10	U	
206-44-0	Fluoranthene	3.7	J	
129-00-0	Pyrene	4.9	J	J
85-68-7	Butylbenzylphthalate	10	~~U~~	UJ
91-94-1	3,3'-Dichlorobenzidine	20	~~U~~	UJ
56-55-3	Benzo(a)anthracene	1.6	J	
218-01-9	Chrysene	1.8	J	
117-81-7	bis(2-Ethylhexyl)phthalate	10	~~U~~	UJ
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo(b)fluoranthene	10	U	
207-08-9	Benzo(k)fluoranthene	10	~~U~~	UJ
50-32-8	Benzo(a)pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)pyrene	10	U	
53-70-3	Dibenz(a,h)anthracene	10	U	
191-24-2	Benzo(g,h,i)perylene	10	U	

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DJM 09-20

PFE

ORIGINAL (Red)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-14DL

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #002DL

Sample wt/vol: 990.0 (g/mL) ML Lab File ID: DI089.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/7/95

Injection Volume: 1.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
111-44-4	bis(2-Chloroethyl)ether	100	UD
108-95-2	Phenol	100	UD
95-57-8	2-Chlorophenol	100	UD
541-73-1	1,3-Dichlorobenzene	100	UD
106-46-7	1,4-Dichlorobenzene	100	UD
95-50-1	1,2-Dichlorobenzene	100	UD
100-56-1	Benzyl alcohol	100	UD
108-60-1	bis(2-chloroisopropyl)ether	100	UD
95-48-7	2-Methylphenol	100	UD
67-72-1	Hexachloroethane	100	UD
621-64-7	N-Nitroso-di-n-propylamine	100	UD
106-44-5	4-Methylphenol	100	UD
98-95-3	Nitrobenzene	100	UD
78-59-1	Isophorone	100	UD
88-75-5	2-Nitrophenol	100	UD
105-67-9	2,4-Dimethylphenol	35	JD
65-85-0	Benzoic Acid	510	UD
111-91-1	bis(2-Chloroethoxy)methane	100	UD
120-83-2	2,4-Dichlorophenol	100	UD
120-82-1	1,2,4-Trichlorobenzene	100	UD
91-20-3	Naphthalene	1400	~~D~~
106-47-8	4-Chloroaniline	100	UD
87-68-3	Hexachlorobutadiene	100	UD
59-50-7	4-Chloro-3-methylphenol	100	UD
91-57-6	2-Methylnaphthalene	270	~~D~~
77-47-4	Hexachlorocyclopentadiene	100	UD
88-06-2	2,4,6-Trichlorophenol	100	UD
95-95-4	2,4,5-Trichlorophenol	510	UD
91-58-7	2-Chloronaphthalene	100	UD
88-74-4	2-Nitroaniline	510	UD
208-96-8	Acenaphthylene	100	UD
131-11-3	Dimethylphthalate	100	UD
606-20-2	2,6-Dinitrotoluene	100	UD

R

R

R

FORM I SV SW846

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-14DL

ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #002DL

Sample wt/vol: 990.0 (g/mL) ML Lab File ID: DI089.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/7/95

Injection Volume: 1.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
83-32-9	Acenaphthene	120	D
99-09-2	3-Nitroaniline	510	UD
51-28-5	2,4-Dinitrophenol	510	UD
132-64-9	Dibenzofuran	100	UD
121-14-2	2,4-Dinitrotoluene	100	UD
100-02-7	4-Nitrophenol	510	UD
86-73-7	Fluorene	25	JD
7005-72-3	4-Chlorophenyl-phenylether	100	UD
84-66-2	Diethylphthalate	100	UD
100-01-6	4-Nitroaniline	510	UD
534-52-1	4,6-Dinitro-2-methylphenol	510	UD
86-30-6	n-Nitrosodiphenylamine	100	UD
101-55-3	4-Bromophenyl-phenylether	100	UD
118-74-1	Hexachlorobenzene	100	UD
87-86-5	Pentachlorophenol	510	UD
85-01-8	Phenanthrene	26	JD
120-12-7	Anthracene	100	UD
84-74-2	Di-n-butylphthalate	100	UD
206-44-0	Fluoranthene	100	UD
129-00-0	Pyrene	100	UD
85-68-7	Butylbenzylphthalate	100	UD
91-94-1	3,3'-Dichlorobenzidine	200	UD
56-55-3	Benzo[a]anthracene	100	UD
218-01-9	Chrysene	100	UD
117-81-7	bis(2-Ethylhexyl)phthalate	100	UD
117-84-0	Di-n-octylphthalate	100	UD
205-99-2	Benzo[b]fluoranthene	100	UD
207-08-9	Benzo[k]fluoranthene	100	UD
50-32-8	Benzo[a]pyrene	100	UD
193-39-5	Indeno[1,2,3-cd]pyrene	100	UD
53-70-3	Dibenz[a,h]anthracene	100	UD
191-24-2	Benzo[g,h,i]perylene	100	UD

R

DJM 09-20-95

FORM I SV SW846

PFE

ORIGINAL (Red)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-12

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #003

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: DI062.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/6/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	2.1	J
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	15	
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	28	
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

DJM 09-20-95

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-12

ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #003

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: DI062.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/6/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q	
83-32-9	Acenaphthene	10	J	
99-09-2	3-Nitroaniline	50	U	
51-28-5	2,4-Dinitrophenol	50	~~U~~	UJ
132-64-9	Dibenzofuran	1.5	J	
121-14-2	2,4-Dinitrotoluene	10	U	
100-02-7	4-Nitrophenol	50	U	
86-73-7	Fluorene	5	J	
7005-72-3	4-Chlorophenyl-phenylether	10	~~U~~	UJ
84-66-2	Diethylphthalate	10	~~U~~	UJ
100-01-6	4-Nitroaniline	50	~~U~~	UJ
534-52-1	4,6-Dinitro-2-methylphenol	50	~~U~~	UJ
86-30-6	n-Nitrosodiphenylamine	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	50	U	
85-01-8	Phenanthrene	11		
120-12-7	Anthracene	2.7	J	
84-74-2	Di-n-butylphthalate	10	U	
206-44-0	Fluoranthene	2.1	J	
129-00-0	Pyrene	2.5	J	J
85-68-7	Butylbenzylphthalate	10	~~U~~	UJ
91-94-1	3,3'-Dichlorobenzidine	20	~~U~~	UJ
56-55-3	Benzo[a]anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	10	~~U~~	UJ
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo[b]fluoranthene	10	U	
207-08-9	Benzo[k]fluoranthene	10	~~U~~	UJ
50-32-8	Benzo[a]pyrene	10	U	
193-39-5	Indeno[1,2,3-cd]pyrene	10	U	
53-70-3	Dibenz[a,h]anthracene	10	U	
191-24-2	Benzo[g,h,i]perylene	10	U	

FORM I SV SW846

DJM 08-20

PFE

ORIGINAL (Red)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-13

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #004

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: DI063.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/6/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q	
111-44-4	bis(2-Chloroethyl)ether	10	U	
108-95-2	Phenol	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
100-56-1	Benzyl alcohol	10	U	
108-60-1	bis(2-chloroisopropyl)ether	10	U	
95-48-7	2-Methylphenol	10	U	
67-72-1	Hexachloroethane	10	U	
621-64-7	N-Nitroso-di-n-propylamine	10	U	
106-44-5	4-Methylphenol	10	U	
98-95-3	Nitrobenzene	10	~~U~~	UJ
78-59-1	Isophorone	10	U	UJ
88-75-5	2-Nitrophenol	10	U	UJ
105-67-9	2,4-Dimethylphenol	7.4	J	J
65-85-0	Benzoic Acid	50	U	UJ
111-91-1	bis(2-Chloroethoxy)methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	220	~~E~~	R
106-47-8	4-Chloroaniline	10	U	UJ
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-methylphenol	10	U	
91-57-6	2-Methylnaphthalene	59		J
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	50	U	
91-58-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	50	U	
208-96-8	Acenaphthylene	2.8	J	
131-11-3	Dimethylphthalate	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	

FORM I SV SW846

DJM 09-20-95

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-13

PFE ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #004

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: D1063.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/6/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q	
83-32-9	Acenaphthene	74		
99-09-2	3-Nitroaniline	50	U	
51-28-5	2,4-Dinitrophenol	50	~~U~~	UJ
132-64-9	Dibenzofuran	14		
121-14-2	2,4-Dinitrotoluene	10	U	
100-02-7	4-Nitrophenol	50	U	
86-73-7	Fluorene	28		
7005-72-3	4-Chlorophenyl-phenylether	10	~~U~~	UJ
84-66-2	Diethylphthalate	10	~~U~~	UJ
100-01-6	4-Nitroaniline	50	~~U~~	UJ
534-52-1	4,6-Dinitro-2-methylphenol	50	~~U~~	UJ
86-30-6	n-Nitrosodiphenylamine	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	50	U	
85-01-8	Phenanthrene	48		
120-12-7	Anthracene	13		
84-74-2	Di-n-butylphthalate	10	U	
206-44-0	Fluoranthene	16		
129-00-0	Pyrene	22		J
85-68-7	Butylbenzylphthalate	10	~~U~~	UJ
91-94-1	3,3'-Dichlorobenzidine	20	~~U~~	UJ
56-55-3	Benzo[a]anthracene	7.3	J	J
218-01-9	Chrysene	8.7	J	J
117-81-7	bis(2-Ethylhexyl)phthalate	10	~~U~~	UJ
117-84-0	Di-n-octylphthalate	10	~~U~~	UJ
205-99-2	Benzo[b]fluoranthene	4.2	J	J
207-08-9	Benzo[k]fluoranthene	5.6	J	J
50-32-8	Benzo[a]pyrene	6.6	J	J
193-39-5	Indeno[1,2,3-cd]pyrene	10	~~U~~	UJ
53-70-3	Dibenz[a,h]anthracene	10	~~U~~	↓
191-24-2	Benzo[g,h,i]perylene	10	~~U~~	

DJM 09-20-95

FORM I SV SW846

PFE ORIGINAL (Red)

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-13DL

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #004DL

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: DI090.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/7/95

Injection Volume: 1.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
111-44-4	bis(2-Chloroethyl)ether	20	UD
108-95-2	Phenol	20	UD
95-57-8	2-Chlorophenol	20	UD
541-73-1	1,3-Dichlorobenzene	20	UD
106-46-7	1,4-Dichlorobenzene	20	UD
95-50-1	1,2-Dichlorobenzene	20	UD
100-56-1	Benzyl alcohol	20	UD
108-60-1	bis(2-chloroisopropyl)ether	20	UD
95-48-7	2-Methylphenol	20	UD
67-72-1	Hexachloroethane	20	UD
621-64-7	N-Nitroso-di-n-propylamine	20	UD
106-44-5	4-Methylphenol	20	UD
98-95-3	Nitrobenzene	20	UD
78-59-1	Isophorone	20	UD
88-75-5	2-Nitrophenol	20	UD
105-67-9	2,4-Dimethylphenol	7.6	JD
65-85-0	Benzoic Acid	100	UD
111-91-1	bis(2-Chloroethoxy)methane	20	UD
120-83-2	2,4-Dichlorophenol	20	UD
120-82-1	1,2,4-Trichlorobenzene	20	UD
91-20-3	Naphthalene	340	D
106-47-8	4-Chloroaniline	20	UD
87-68-3	Hexachlorobutadiene	20	UD
59-50-7	4-Chloro-3-methylphenol	20	UD
91-57-6	2-Methylnaphthalene	62	D
77-47-4	Hexachlorocyclopentadiene	20	UD
88-06-2	2,4,6-Trichlorophenol	20	UD
95-95-4	2,4,5-Trichlorophenol	100	UD
91-58-7	2-Chloronaphthalene	20	UD
88-74-4	2-Nitroaniline	100	UD
208-96-8	Acenaphthylene	2.8	JD
131-11-3	Dimethylphthalate	20	UD
606-20-2	2,6-Dinitrotoluene	20	UD

R

R

DJM 09-20-95

FORM I SV SW846

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-13DL

ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #0040L

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: D1090.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/7/95

Injection Volume: 1.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
83-32-9	Acenaphthene	120	D
99-09-2	3-Nitroaniline	100	UD
51-28-5	2,4-Dinitrophenol	100	UD
132-64-9	Dibenzofuran	15	JD
121-14-2	2,4-Dinitrotoluene	20	UD
100-02-7	4-Nitrophenol	100	UD
86-73-7	Fluorene	38	D
7005-72-3	4-Chlorophenyl-phenylether	20	UD
84-66-2	Diethylphthalate	20	UD
100-01-6	4-Nitroaniline	100	UD
534-52-1	4,6-Dinitro-2-methylphenol	100	UD
86-30-6	n-Nitrosodiphenylamine	20	UD
101-55-3	4-Bromophenyl-phenylether	20	UD
118-74-1	Hexachlorobenzene	20	UD
87-86-5	Pentachlorophenol	100	UD
85-01-8	Phenanthrene	56	D
120-12-7	Anthracene	16	JD
84-74-2	Di-n-butylphthalate	20	UD
206-44-0	Fluoranthene	6.6	JD
129-00-0	Pyrene	22	D
85-68-7	Butylbenzylphthalate	20	UD
91-94-1	3,3'-Dichlorobenzidine	40	UD
56-55-3	Benzo[a]anthracene	12	JD
218-01-9	Chrysene	11	JD
117-81-7	bis(2-Ethylhexyl)phthalate	20	UD
117-84-0	Di-n-octylphthalate	20	UD
205-99-2	Benzo[b]fluoranthene	6.3	JD
207-08-9	Benzo[k]fluoranthene	5.1	JD
50-32-8	Benzo[a]pyrene	11	JD
193-39-5	Indeno[1,2,3-cd]pyrene	6.2	JD
53-70-3	Dibenz[a,h]anthracene	3.5	JD
191-24-2	Benzo[g,h,i]perylene	2	JD

R

FORM I SV SW846

DJM 09-20

PFE ORIGINAL (Red)

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-21

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #005

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: DI064.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/6/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	51	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	51	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	51	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

DJM 07-20-95

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-21

ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #005

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: DI064.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/6/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

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

FORM I SV SW846

DJM 05-20

PFE
ORIGINAL (Red)

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-21B

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #006

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: DI065.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/6/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

DJM 09-20-95

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-21B

PFE ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508277 Site: NORFOLK Location: MPG Group:

Matrix: (soil/water) WATER Lab Sample ID: #006

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: DI065.D

Level: (low/med) Date Received: 8/24/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/6/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

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

FORM I SV SW846

DJM 09-20-95

PFE ORIGINAL (Red)

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-8

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #001

Sample wt/vol: 960.0 (g/mL) ML Lab File ID: DH480.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	52	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	52	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	52	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

DJM 09-20-95

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-8

PEE ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #001

Sample wt/vol: 960.0 (g/mL) ML Lab File ID: DH480.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q	
83-32-9	Acenaphthene	10	U	
99-09-2	3-Nitroaniline	52	U	
51-28-5	2,4-Dinitrophenol	52	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
100-02-7	4-Nitrophenol	52	~~U~~	UJ
86-73-7	Fluorene	10	~~U~~	UJ
7005-72-3	4-Chlorophenyl-phenylether	10	U	
84-66-2	Diethylphthalate	10	U	
100-01-6	4-Nitroaniline	52	U	
534-52-1	4,6-Dinitro-2-methylphenol	52	U	
86-30-6	n-Nitrosodiphenylamine	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	52	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
84-74-2	Di-n-butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	21	U	
56-55-3	Benzo[a]anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	10	U	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo[b]fluoranthene	10	U	
207-08-9	Benzo[k]fluoranthene	10	U	
50-32-8	Benzo[a]pyrene	10	U	
193-39-5	Indeno[1,2,3-cd]pyrene	10	~~U~~	UJ
53-70-3	Dibenz[a,h]anthracene	10	~~U~~	UJ
191-24-2	Benzo[g,h,i]perylene	10	~~U~~	UJ

FORM I SV SW846

DJM 09-2

PFE ORIGINAL (Red)

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-31A

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #002

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: DH481.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	20	
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	5.5	J
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

BJM 09-20-95

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-31A

ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #002

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: DH481.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q	
83-32-9	Acenaphthene	11		
99-09-2	3-Nitroaniline	50	U	
51-28-5	2,4-Dinitrophenol	50	U	
132-64-9	Dibenzofuran	11		
121-14-2	2,4-Dinitrotoluene	10	U	
100-02-7	4-Nitrophenol	50	~~U~~	UJ
86-73-7	Fluorene	8.9	J	J
7005-72-3	4-Chlorophenyl-phenylether	10	U	
84-66-2	Diethylphthalate	10	U	
100-01-6	4-Nitroaniline	50	U	
534-52-1	4,6-Dinitro-2-methylphenol	50	U	
86-30-6	n-Nitrosodiphenylamine	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	50	U	
85-01-8	Phenanthrene	13		
120-12-7	Anthracene	6.1	J	
84-74-2	Di-n-butylphthalate	10	U	
206-44-0	Fluoranthene	6.1	J	
129-00-0	Pyrene	4.2	J	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	20	U	
56-55-3	Benzo[a]anthracene	1.8	J	
218-01-9	Chrysene	2.5	J	
117-81-7	bis(2-Ethylhexyl)phthalate	10	U	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo[b]fluoranthene	10	U	
207-08-9	Benzo[k]fluoranthene	10	U	
50-32-8	Benzo[a]pyrene	10	U	
193-39-5	Indeno[1,2,3-cd]pyrene	10	~~U~~	UJ
53-70-3	Dibenz[a,h]anthracene	10	~~U~~	UJ
191-24-2	Benzo[g,h,i]perylene	10	~~U~~	UJ

FORM I SV SW846

DJM 09-

PFE ORIGINAL (Red)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-31B

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #003

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: DH482.0

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	51	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	51	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	51	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

DJM 09-20-95

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-31B

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #003

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: DH482.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

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

FORM I SV SW846

DSM 09-2

PFE ORIGINAL (Red)

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-13C

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #004

Sample wt/vol: 965.0 (g/mL) ML Lab File ID: DH483.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	52	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	1.8	J
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	1.2	J
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	52	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	52	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

DJM 09-20-95

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-13C

ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #004

Sample wt/vol: 965.0 (g/mL) ML Lab File ID: DH483.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q	
83-32-9	Acenaphthene	10	U	
99-09-2	3-Nitroaniline	52	U	
51-28-5	2,4-Dinitrophenol	52	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
100-02-7	4-Nitrophenol	52	~~U~~	UJ
86-73-7	Fluorene	10	~~U~~	UJ
7005-72-3	4-Chlorophenyl-phenylether	10	U	
84-66-2	Diethylphthalate	10	U	
100-01-6	4-Nitroaniline	52	U	
534-52-1	4,6-Dinitro-2-methylphenol	52	U	
86-30-6	n-Nitrosodiphenylamine	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	52	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
84-74-2	Di-n-butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	21	U	
56-55-3	Benzo(a)anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	10	U	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo(b)fluoranthene	10	U	
207-08-9	Benzo(k)fluoranthene	10	U	
50-32-8	Benzo(a)pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)pyrene	10	~~U~~	UJ
53-70-3	Dibenz(a,h)anthracene	10	~~U~~	UJ
191-24-2	Benzo(g,h,i)perylene	10	~~U~~	UJ

FORM I SV SW846

DJM 09-20

PFE

ORIGINAL (Red)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-32A

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #005

Sample wt/vol: 970.0 (g/mL) ML Lab File ID: DH484.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	52	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	52	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	52	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

DJM 09-20-95

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-32A

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #005

Sample wt/vol: 970.0 (g/mL) ML Lab File ID: DH484.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q	
83-32-9	Acenaphthene	10	U	
99-09-2	3-Nitroaniline	52	U	
51-28-5	2,4-Dinitrophenol	52	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
100-02-7	4-Nitrophenol	52	~~U~~	UJ
86-73-7	Fluorene	10	~~U~~	UJ
7005-72-3	4-Chlorophenyl-phenylether	10	U	
84-66-2	Diethylphthalate	10	U	
100-01-6	4-Nitroaniline	52	U	
534-52-1	4,6-Dinitro-2-methylphenol	52	U	
86-30-6	n-Nitrosodiphenylamine	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	52	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
84-74-2	Di-n-butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	21	U	
56-55-3	Benzo[a]anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	10	U	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo[b]fluoranthene	10	U	
207-08-9	Benzo[k]fluoranthene	10	U	
50-32-8	Benzo[a]pyrene	10	U	
193-39-5	Indeno[1,2,3-cd]pyrene	10	~~U~~	UJ
53-70-3	Dibenz[a,h]anthracene	10	~~U~~	UJ
191-24-2	Benzo[g,h,i]perylene	10	~~U~~	UJ

FORM I SV SW846

DJM 09/20/95

PFE ORIGINAL (Red)

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-33A

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #006

Sample wt/vol: 940.0 (g/mL) ML Lab File ID: DH485.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
111-44-4	bis(2-Chloroethyl)ether	11	U
108-95-2	Phenol	11	U
95-57-8	2-Chlorophenol	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
95-50-1	1,2-Dichlorobenzene	11	U
100-56-1	Benzyl alcohol	11	U
108-60-1	bis(2-chloroisopropyl)ether	11	U
95-48-7	2-Methylphenol	11	U
67-72-1	Hexachloroethane	11	U
621-64-7	N-Nitroso-di-n-propylamine	11	U
106-44-5	4-Methylphenol	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-Nitrophenol	11	U
105-67-9	2,4-Dimethylphenol	11	U
65-85-0	Benzoic Acid	53	U
111-91-1	bis(2-Chloroethoxy)methane	11	U
120-83-2	2,4-Dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-Chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-Chloro-3-methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-Trichlorophenol	11	U
95-95-4	2,4,5-Trichlorophenol	53	U
91-58-7	2-Chloronaphthalene	11	U
88-74-4	2-Nitroaniline	53	U
208-96-8	Acenaphthylene	11	U
131-11-3	Dimethylphthalate	11	U
606-20-2	2,6-Dinitrotoluene	11	U

FORM I SV SW846

DJM 09-20-95

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-33A

PFE ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #006

Sample wt/vol: 940.0 (g/mL) ML Lab File ID: DH485.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q	
83-32-9	Acenaphthene	11	U	
99-09-2	3-Nitroaniline	53	U	
51-28-5	2,4-Dinitrophenol	53	U	
132-64-9	Dibenzofuran	11	U	
121-14-2	2,4-Dinitrotoluene	11	U	
100-02-7	4-Nitrophenol	53	~~U~~	UJ
86-73-7	Fluorene	11	~~U~~	UJ
7005-72-3	4-Chlorophenyl-phenylether	11	U	
84-66-2	Diethylphthalate	11	U	
100-01-6	4-Nitroaniline	53	U	
534-52-1	4,6-Dinitro-2-methylphenol	53	U	
86-30-6	n-Nitrosodiphenylamine	11	U	
101-55-3	4-Bromophenyl-phenylether	11	U	
118-74-1	Hexachlorobenzene	11	U	
87-86-5	Pentachlorophenol	53	U	
85-01-8	Phenanthrene	11	U	
120-12-7	Anthracene	11	U	
84-74-2	Di-n-butylphthalate	11	U	
206-44-0	Fluoranthene	11	U	
129-00-0	Pyrene	11	U	
85-68-7	Butylbenzylphthalate	11	U	
91-94-1	3,3'-Dichlorobenzidine	21	U	
56-55-3	Benzo[a]anthracene	11	U	
218-01-9	Chrysene	11	U	
117-81-7	bis(2-Ethylhexyl)phthalate	11	U	
117-84-0	Di-n-octylphthalate	11	U	
205-99-2	Benzo[b]fluoranthene	11	U	
207-08-9	Benzo[k]fluoranthene	11	U	
50-32-8	Benzo[a]pyrene	11	U	
193-39-5	Indeno[1,2,3-cd]pyrene	11	~~U~~	UJ
53-70-3	Dibenz[a,h]anthracene	11	~~U~~	UJ
191-24-2	Benzo[g,h,i]perylene	11	~~U~~	UJ

FORM I SV SW846

DJM 09

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-33B

PFE ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #007

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: DH486.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	51	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	51	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	51	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

DJM 09-20-95

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-33B

ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #007

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: DH486.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units:

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

FORM I SV SW846

DJM 07-20-

PFE ORIGINAL (Red)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

FIELD BLANK

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #008

Sample wt/vol: 975.0 (g/mL) ML Lab File ID: DH487.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	51	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	51	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	51	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

DJM 09-20-95

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

FIELD BLANK

ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #008

Sample wt/vol: 975.0 (g/mL) ML Lab File ID: DH487.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q	
83-32-9	Acenaphthene	10	U	
99-09-2	3-Nitroaniline	51	U	
51-28-5	2,4-Dinitrophenol	51	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
100-02-7	4-Nitrophenol	51	~~U~~	UJ
86-73-7	Fluorene	10	~~U~~	UJ
7005-72-3	4-Chlorophenyl-phenylether	10	U	
84-66-2	Diethylphthalate	10	U	
100-01-6	4-Nitroaniline	51	U	
534-52-1	4,6-Dinitro-2-methylphenol	51	U	
86-30-6	n-Nitrosodiphenylamine	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	51	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
84-74-2	Di-n-butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	21	U	
56-55-3	Benzo[a]anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	10	U	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo[b]fluoranthene	10	U	
207-08-9	Benzo[k]fluoranthene	10	U	
50-32-8	Benzo[a]pyrene	10	U	
193-39-5	Indeno[1,2,3-cd]pyrene	10	~~U~~	UJ
53-70-3	Dibenz[a,h]anthracene	10	~~U~~	UJ
191-24-2	Benzo[g,h,i]perylene	10	~~U~~	UJ

FORM I SV SW846

DJM 07-20

PFE ORIGINAL (Red)

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
DUPLICATE

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #009

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: DH488.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	51	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	51	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	51	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

DJM 09-20-95

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

DUPLICATE

ORIGINAL (Red)

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #009

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: DH488.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q	
83-32-9	Acenaphthene	9.1	J	
99-09-2	3-Nitroaniline	51	U	
51-28-5	2,4-Dinitrophenol	51	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
100-02-7	4-Nitrophenol	3.4	J	J
86-73-7	Fluorene	1.4	J	J
7005-72-3	4-Chlorophenyl-phenylether	10	U	
84-66-2	Diethylphthalate	10	U	
100-01-6	4-Nitroaniline	51	U	
534-52-1	4,6-Dinitro-2-methylphenol	51	U	
86-30-6	n-Nitrosodiphenylamine	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	51	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
84-74-2	Di-n-butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	20	U	
56-55-3	Benzo[a]anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	10	U	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo[b]fluoranthene	10	U	
207-08-9	Benzo[k]fluoranthene	10	U	
50-32-8	Benzo[a]pyrene	10	U	
193-39-5	Indeno[1,2,3-cd]pyrene	10	~~U~~	UJ
53-70-3	Dibenz[a,h]anthracene	10	~~U~~	UJ
191-24-2	Benzo[g,h,i]perylene	10	~~U~~	UJ

FORM I SV SW846

DJM 09-20-

PFE ORIGINAL (Red)

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
MW-32B

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #010

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: DH489.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-56-1	Benzyl alcohol	10	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	51	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	51	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	51	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV SW846

DJM 09-20-95

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-32B

Lab Name: AENI MD Contract: G & M

Project No.: 9508266 Site: MD0057.01 Location: NORFOLK Group: MGP

Matrix: (soil/water) WATER Lab Sample ID: #010

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: DH489.D

Level: (low/med) Date Received: 8/23/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/25/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/29/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q	
83-32-9	Acenaphthene	9.2	J	
99-09-2	3-Nitroaniline	51	U	
51-28-5	2,4-Dinitrophenol	51	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
100-02-7	4-Nitrophenol	51	~~U~~	UJ
86-73-7	Fluorene	1.5	J	J
7005-72-3	4-Chlorophenyl-phenylether	10	U	
84-66-2	Diethylphthalate	10	U	
100-01-6	4-Nitroaniline	51	U	
534-52-1	4,6-Dinitro-2-methylphenol	51	U	
86-30-6	n-Nitrosodiphenylamine	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	51	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
84-74-2	Di-n-butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	20	U	
56-55-3	Benzo[a]anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	10	U	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo[b]fluoranthene	10	U	
207-08-9	Benzo[k]fluoranthene	10	U	
50-32-8	Benzo[a]pyrene	10	U	
193-39-5	Indeno[1,2,3-cd]pyrene	10	~~U~~	UJ
53-70-3	Dibenz[a,h]anthracene	10	~~U~~	UJ
191-24-2	Benzo[g,h,i]perylene	10	~~U~~	UJ

FORM I SV SW846

DJM 09-20

PFF ORIGINAL (Red)

PFE

ORIGINAL (Red)

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9508266
Report To: Geraghty & Miller - Maryland
Project: MD0057.011 Norfolk MGP
Date: September 06, 1995
Analysis: Total Cyanide, EPA 335.2

Client ID	AENI ID	Result	Date Analyzed
MW-8	9508266-001	<0.02	08/26/95
MW-31A	9508266-002	<0.02	08/26/95
MW-31B	9508266-003	0.25	08/26/95
MW-13C	9508266-004	<0.02	08/26/95
MW-32A	9508266-005	<0.02	08/26/95
MW-33A	9508266-006	<0.02	08/26/95
MW-33B	9508266-007	0.03	08/26/95
MW-32B	9508266-010	0.48	08/26/95

(1) Results Reported as mg/L.

(2) Distillation Date: 08/25-26/95

\gchem\002

DJM
09-20-95

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

ORIGINAL (Red)

Report Number: 9508266
Report To: Geraghty & Miller - Maryland
Project: MD0057.011 Norfolk MGP
Date: September 06, 1995
Analysis: Free Cyanide, SM 412G, Sixteenth Edition

Client ID	AENI ID	Result	Date Analyzed
MW-8	9508266-001	<0.02	08/26/95
MW-31A	9508266-002	<0.02	08/26/95
MW-31B	9508266-003	0.10	08/31/95
MW-13C	9508266-004	<0.02	08/26/95
MW-32A	9508266-005	<0.02	08/26/95
MW-33A	9508266-006	<0.02	08/26/95
MW-33B	9508266-007	0.03	08/31/95
MW-32B	9508266-010	0.12	08/31/95

(1) Results Reported as mg/L.

\gchem\002

09-20-95

PFE

ORIGINAL

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9508277
Report To: Geraghty & Miller - Maryland
Project: MD0057.011 Norfolk MGP
Date: September 06, 1995
Analysis: Total Cyanide, EPA 335.2

Client ID	AENI ID	Result	Date Analyzed
MW-15	9508277-001	0.33	08/26/95
MW-14	9508277-002	0.19	08/26/95
MW-12	9508277-003	1.8	08/26/95
MW-13	9508277-004	0.29	08/26/95
MW-21	9508277-005	<0.02	08/26/95
MW-21B	9508277-006	<0.02	08/26/95

(1) Results Reported as mg/L.

(2) Distillation Date: 08/26/95

\gchem\002

DJM
09-20-95

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9508277
Report To: Geraghty & Miller - Maryland
Project: MD0057.011 Norfolk MGP
Date: September 06, 1995
Analysis: Free Cyanide, SM 412G, Sixteenth Edition

Client ID	AENI ID	Result	Date Analyzed
MW-15	9508277-001	0.05	08/31/95
MW-14	9508277-002	0.05	08/31/95
MW-12	9508277-003	0.10	08/31/95
MW-13	9508277-004	0.07	08/31/95
MW-21	9508277-005	<0.02	08/26/95
MW-21B	9508277-006	<0.02	08/26/95

(1) Results Reported as mg/L.

\gchem\002

DJN
09-20-9

PFL ORIGINAL

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-31A

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTY_M

Lab Code: _____ Case No.: 950826 SAS No.: _____ SDG No.: 508266

Matrix (soil/water): WATER Lab Sample ID: 950826602

Level (low/med): LOW__ Date Received: 08/23/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	25.6			P_
7440-39-3	Barium___	482			P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	52.4			P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	850			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	5.0			AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
	Cyanide__				NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-31B

ORIGINAL (Red)

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTY_M

Lab Code: _____ Case No.: 950826 SAS No.: _____ SDG No.: 508266

Matrix (soil/water): WATER Lab Sample ID: 950826603

Level (low/med): LOW__ Date Received: 08/23/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	10.0	U		P_
7440-39-3	Barium___	100	U		P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____	10.0	U		P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
	Cyanide__				NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-32A

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTY_M

Lab Code: _____ Case No.: 950826 SAS No.: _____ SDG No.: 508266

Matrix (soil/water): WATER Lab Sample ID: 950826605

Level (low/med): LOW__ Date Received: 08/23/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	53.8			P_
7440-39-3	Barium___	144			P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	10.0	U		P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
	Cyanide__				NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-32B

ORIGINAL (Red)

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTY_M

Lab Code: _____ Case No.: 950826 SAS No.: _____ SDG No.: 508266

Matrix (soil/water): WATER Lab Sample ID: 950826610

Level (low/med): LOW__ Date Received: 08/23/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	10.0	U		P_
7440-39-3	Barium___	100	U		P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	83.1			P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	10.0	U		P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
	Cyanide__				NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

PFE ORIGINAL (Red)

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-33A

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTY_M

Lab Code: _____ Case No.: 950826 SAS No.: _____ SDG No.: 508266

Matrix (soil/water): WATER Lab Sample ID: 950826606

Level (low/med): LOW__ Date Received: 08/23/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	10.0	U		P_
7440-39-3	Barium___	100	U		P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	14.3			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
	Cyanide__				NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-33B

ORIGINAL (Red)

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTY_M

Lab Code: _____ Case No.: 950826 SAS No.: _____ SDG No.: 508266

Matrix (soil/water): WATER Lab Sample ID: 950826607

Level (low/med): LOW__ Date Received: 08/23/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	10.0	U		P_
7440-39-3	Barium___	100	U		P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	14.0			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
	Cyanide__				NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-8

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTY_M

Lab Code: _____ Case No.: 950826 SAS No.: _____ SDG No.: 508266

Matrix (soil/water): WATER Lab Sample ID: 950826601

Level (low/med): LOW__ Date Received: 08/23/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_		_		NR
7440-38-2	Arsenic__	10.0	U		P_
7440-39-3	Barium___	1400	_		P_
7440-41-7	Beryllium		_		NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___		_		NR
7440-50-8	Copper___		_		NR
7439-89-6	Iron_____		_		NR
7439-92-1	Lead_____	50.2	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.39	_		AV
7440-02-0	Nickel___		_		NR
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_		_		NR
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc_____		_		NR
	Cyanide__		_		NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-12

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTYMI

Lab Code: _____ Case No.: 950827 SAS No.: _____ SDG No.: 508277

Matrix (soil/water): WATER Lab Sample ID: 950827703

Level (low/med): LOW__ Date Received: 08/24/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	11.1			P_
7440-39-3	Barium___	100	U		P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	17.6			P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____	14.3			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
	Cyanide__				NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

PFE ORIGINAL (Red)

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-13

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTYMI

Lab Code: _____ Case No.: 950827 SAS No.: _____ SDG No.: 508277

Matrix (soil/water): WATER Lab Sample ID: 950827704

Level (low/med): LOW__ Date Received: 08/24/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	10.0	U		P_
7440-39-3	Barium___	223			P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	16.5			P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____	73.0			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	26.8			AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
	Cyanide__				NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-13C

ORIGINAL (Red)

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTY_M

Lab Code: _____ Case No.: 950826 SAS No.: _____ SDG No.: 508266

Matrix (soil/water): WATER Lab Sample ID: 950826604

Level (low/med): LOW__ Date Received: 08/23/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	10.0	U		P_
7440-39-3	Barium___	126			P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____	11.0			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
	Cyanide__				NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

PFE ORIGINAL (Red)

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-14

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTYMI

Lab Code: _____ Case No.: 950827 SAS No.: _____ SDG No.: 508277

Matrix (soil/water): WATER Lab Sample ID: 950827702

Level (low/med): LOW__ Date Received: 08/24/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	10.0	U		P_
7440-39-3	Barium___	309			P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	10.0	U		P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
	Cyanide__				NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-15

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTYMI

Lab Code: _____ Case No.: 950827 SAS No.: _____ SDG No.: 508277

Matrix (soil/water): WATER Lab Sample ID: 950827701

Level (low/med): LOW__ Date Received: 08/24/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	10.0	U		P_
7440-39-3	Barium___	529			P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____	88.1			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	1.1			AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
	Cyanide__				NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

PFE ORIGINAL (Red)

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-21

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTYMI

Lab Code: _____ Case No.: 950827 SAS No.: _____ SDG No.: 508277

Matrix (soil/water): WATER Lab Sample ID: 950827705

Level (low/med): LOW__ Date Received: 08/24/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	78.5			P_
7440-39-3	Barium___	227			P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	55.1			P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	25.2			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
	Cyanide__				NR

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ORIGINAL (Red)

MW-21B

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: GERAGHTYMI

Lab Code: _____ Case No.: 950827 SAS No.: _____ SDG No.: 508277

Matrix (soil/water): WATER Lab Sample ID: 950827706

Level (low/med): LOW__ Date Received: 08/24/95

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_		_		NR
7440-38-2	Arsenic__	10.0	U		P_
7440-39-3	Barium___	100	U		P_
7440-41-7	Beryllium		_		NR
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___		_		NR
7440-50-8	Copper___		_		NR
7439-89-6	Iron_____		_		NR
7439-92-1	Lead_____	10.0	U		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___		_		NR
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_		_		NR
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc_____		_		NR
	Cyanide__		_		NR
			_		

DJM 09-20-95

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

ORIGINAL
(Red)

APPENDIX D

PFE
ORIGINAL
(Red)

APPENDIX D

GEOCHEMICAL ANALYTICAL RESULTS

DRAFT

ORIGINAL (Red)

MICROSEEPS

FILE NOTE

SUBJECT: Permanent Gas Analysis of Water Samples

The VOA vials are removed from the refrigerator (4°C) and allowed to reach ambient temperature over a period of 4 hours. Samples are prepared by withdrawing 30 cc of water from the bottom of the vial into a 50 cc Hamilton gas tight, locking syringe. Then 10 cc of helium is withdrawn from a reservoir and the syringe is locked. The syringe is then shaken by hand for five minutes and allowed to equilibrate for 15 minutes. With the syringe in a near vertical position, the headspace is injected through a septum-fitting into a 0.5 cc sample loop. The loop is allowed to equilibrate at 1 atmosphere pressure prior to switching the valve to place the sample loop into the carrier gas flow stream.

First, headspace concentrations of the analyzed gases are determined by comparison to the results of analysis of the "237" gas standard. Subsequently, the headspace concentrations are converted to the dissolved water concentrations using Henry's Law.

Results of analysis and applicable quality control parameters are supplied on the attached data sheets.

THE RESULTS SUPPLIED ARE THE ORIGINAL DISSOLVED CONCENTRATIONS OF THE ANALYTES IN MG/L AS CALCULATED FROM DETERMINED HEADSPACE CONCENTRATIONS.

220 William Pitt Way, Pittsburgh, PA 15238 • Phone (412) 826-5245, Fax (412) 826-3433

MICROLEPS

ORIGINAL (Red)

GM952-952647

----- GERAGHTY & MILLER, INC -----
----- PROJECT NO. MD0057.011 -----
----- PROJECT LOCATION: NORFOLK MGP -----
----- CONCENTRATIONS IN (mg/l) -----

SAMPLE NAME	CARBON DIOXIDE	OXYGEN	NITROGEN	METHANE	CARBON MONOXIDE	FILE NAME	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED
MW-15	109.3	0.4	5.0	9.2	<.3	P6 291	08/23/95	08/25/95	08/25/95
MW-14	171.9	0.6	5.7	2.1	<.3	P6 292	08/23/95	08/25/95	08/25/95
MW-12	92.3	3.3	6.4	5.0	<.3	P6 293	08/23/95	08/25/95	08/25/95
MW-20B	<1.6	3.4	11.3	<.2	<.3	P6 294	08/23/95	08/25/95	08/25/95
MW-13	137.3	1.4	5.7	4.3	<.3	P6 295	08/23/95	08/25/95	08/25/95
MW-21B	15.9	1.5	8.8	1.3	<.3	P6 296	08/23/95	08/25/95	08/25/95
MDLs FOR ABOVE SAMPLES	<1.6	<.4	<.3	<.2	<.3				

25-Aug-95

ANALYST INITIALS JM

LAB MANAGER INITIALS DTM

MICROSEEPS

GM952-952647

**** QUALITY CONTROL ****

----- GERAGHTY & MILLER, INC -----
----- PROJECT NO. MD0057.011 -----
----- PROJECT LOCATION: NORFOLK MGP -----

CONTINUING CALIBRATION CHECK

STANDARD: "237"
REFERENCE: P6A2.85

COMPOUND	KNOWN (%)	RESULT (%)	PERCENT DIFFERENCE
CO2	15.00	14.14	5.71
OXYGEN	7.03	6.47	7.92
NITROGEN	66.47	62.37	6.17
METHANE	4.50	4.20	6.62
CO	7.00	6.67	4.73

LABORATORY BLANK RESULTS

BLANK: HE IN LOOP
REFERENCE: P6A2.90

COMPOUND	BLANK (%)	LOWER DETECTION LIMIT (%)
CO2	ND	0.01
OXYGEN	ND	0.01
NITROGEN	ND	0.01
METHANE	ND	0.01
CO	ND	0.01

25-[illegible]

ANA[illegible] INITIALS JM

LAB MANAGER [illegible]ALS [illegible]

ORIGINAL (Red)

MICROGEEPS

ORIGINAL (Red)

GM948-952639

----- GERAGHTY & MILLER, INC -----
----- PROJECT NO. MD0057.011 -----
----- PROJECT LOCATION: NORFOLK MGP -----
----- CONCENTRATIONS IN (mg/l) -----

SAMPLE NAME	CARBON DIOXIDE	OXYGEN	NITROGEN	METHANE	CARBON MONOXIDE	FILE NAME	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED
MW-31 A	99.4	1.3	8.9	<.2	<.3	P6 275	08/22/95	08/23/95	08/23/95
MW-31 B	<1.6	1.8	7.9	2.7	<.3	P6 276	08/22/95	08/23/95	08/23/95
MDLs FOR ABOVE SAMPLES	<1.6	<.4	<.3	<.2	<.3				

24-Aug-95

ANALYST INITIALS JM

LAB MANAGER INITIALS DOM

MICROSEEPS

GM948-952639

**** QUALITY CONTROL ****

----- GERAGHTY & MILLER, INC -----
----- PROJECT NO. MD0057.011 -----
----- PROJECT LOCATION: NORFOLK MGP -----

CONTINUING CALIBRATION CHECK

STANDARD: "237"
REFERENCE: P6A2.60

COMPOUND	KNOWN (%)	RESULT (%)	PERCENT DIFFERENCE
CO2	15.00	14.14	5.71
OXYGEN	7.03	6.47	7.92
NITROGEN	66.47	62.37	6.17
METHANE	4.50	4.20	6.62
CO	7.00	6.67	4.73

LABORATORY BLANK RESULTS

BLANK: HE IN LOOP
REFERENCE: P6A2.61

COMPOUND	BLANK (%)	LOWER DETECTION LIMIT (%)
CO2	ND	0.01
OXYGEN	ND	0.01
NITROGEN	ND	0.01
METHANE	ND	0.01
CO	ND	0.01

24 [illegible] 5 A[illegible] INITIALS JM LAB MANAGER [illegible] ALS [illegible]

ORIGINAL (Red)

GM948-952609

PFE

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Order No. 138

CHAIN-OF-CUSTODY RECORD

Page

ORIGINAL (Red)

Project Number MD0057.011

Project Location NORFOLK MGP

Laboratory MICROSEEPS / MACK

Sampler(s)/Affiliation HORN, NEWGENT G+M

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	Fe, Mn (TOTAL) 500 ml WHITE PLASTIC	SULFIDE 500 ml WHITE PLASTIC	NO3, COD, TOC, H, TRO4, AMMONIA 500 ml WHITE PLASTIC	DISSOLVED Fe, Mn 500 ml WHITE PLASTIC	Ferrous Fe, Cl, ALK, NO2, SO4, BOD 1L WHITE PLASTIC	PERMANENT GASES 40 ml AMBER GLASS VIALS				TOTAL
MW-31A	L	8-22-95 10:20 AM		2	2	2	1	2	2				11
MW-31B	L	8-22-95 10:40 AM		2	2	2	1	2	2				11

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 22

Relinquished by: Maura Horn	Organization: G+M	Date 8/22/95	Time 5:30 PM	Seal Intact? Yes No N/A
Received by: [signature]	Organization: MLI	Date 8/23/95	Time 9:35 AM	
Relinquished by: [signature]	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by: [signature]	Organization: MICROSEEPS	Date 8/23/95	Time 2:10 PM	

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

G&M Form 09.9.91

Southprint 91-1768

GM 852 – 852648

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No._____

CHAIN-OF-CUSTODY RECORD

Page_____ of_____

Project Number MD0057.011

Project Location NORFOLK MGP

Laboratory MICROSEEPS / MACK

Sampler(s)/Affiliation M HORN, B NEWGENT / G+M

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	NO3, COD, TOC, nitrogen, ammonia 500ml white plastic	Fe, Mn 500ml white plastic	Sulfide 500ml white plastic	Dissolved Fe, Mn 500ml white plastic	Ferrous Fe, Cl, Alk, NO2, SO4, BOD 1l white plastic	Permanent gases 40ml amber glass vials				TOTAL
MW-15	L	8-23-95 8:15 AM		2	2	2	1	2	2				11
MW-14	L	8-23-95 9:05 AM		2	2	2	1	2	2				11
MW-12	L	8-23-95		2	2	2	1	2	2				11

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 33

Relinquished by: [signature]	Organization: G+M	Date 8/23/95 Time 5:00	Seal Intact? Yes No N/A
Received by: Ruth Volk	Organization: MACK	Date 8/24/95 Time 0950	
Relinquished by: Ruth Volk	Organization: MACK	Date 8/24/95 Time 1000	Seal Intact? Yes No N/A
Received by: A Spraybery	Organization: MICROSEEPS	Date 8/25/95 Time 0800	

Special Instructions/Remarks: DISSOLVED Fe, MN SAMPLE NOT FIELD FILTERED AND NOT PRESERVED.

IF YOU HAVE ANY QUESTIONS PLEASE CALL JOHN ELSTON (410) 987-0032

ORIGINAL (Red)

Delivery Method: ☐ In Person ☒ Commercial Carrier Fedex (SPECIFY) ☐ Courier ☐ Other _____ (SPECIFY)

GM Form 09-9-91

Southprint 91-1768

GM952 - 952648

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task [redacted] No. _____ [redacted] **CHAIN-OF-CUSTODY RECORD** Page _____ [redacted] ORIGINAL (Red)

Project Number MD0057.011

Project Location NORFOLK MGP

Laboratory MICROSEEPS / MACK

Sampler(s)/Affiliation MH, BN
G+M

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	NO3, COD, TOC, NITROGEN AMMONIA 500 ml WHITE PLASTIC	Fe, Mn 500 ml WHITE PLASTIC	SULFIDE 500 ml WHITE PLASTIC	DISSOLVED Fe, Mn 500 ml WHITE PLASTIC	FERROUS Fe, Cl, Alk, NO2, SO4, BOD 1 l WHITE PLASTIC	Permanent Gases 40 ml AMBER GLASS VIALS				TOTAL
MW-20B	L	8-23-95 4:10 PM		2	2	2	1	2	2				11

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 11

Relinquished by: Maura Horn	Organization: Geraghty + Miller	Date 8/23/95	Time 5:00	Seal Intact?
Received by: Ruth Volk	Organization: MACK	Date 8/24/95	Time 0950	(Yes) No N/A
Relinquished by: Ruth Volk	Organization: MACK	Date 8/24/95	Time 1000	Seal Intact?
Received by: AD Spraberry	Organization: MICROSEEPS	Date 8/25/95	Time 0800	Yes No N/A

Special Instructions/Remarks: Dissolved Fe, Mn samples are NOT filtered or preserved.

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

G&M Form 09-9-91

Southprint 91 1768

GA952 - 952648

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. _____

CHAIN-OF-CUSTODY RECORD

Page _____ of _____

Project Number: MD0057.011

Project Location: NORFOLK MGP

Laboratory: MICROSEEPS/MACK

Sampler(s)/Affiliation: MH, BN / G+M

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	NO3, COD, TOC, NITROGEN, AMMONIA 500ml WHITE PLASTIC	Fe, Mn 500ml WHITE PLASTIC	Sulfate 500ml WHITE PLASTIC	DISSOLVED Fe, Mn 500ml WHITE PLASTIC	FERROUS Fe, Cl, ALK, NO2, SO4, BOD 1l WHITE PLASTIC	PERMANENT GASES 40ml AMBER GLASS VIAL				TOTAL
MW-13	L	8-23-95 11:20 AM		2	2	2	1	2	2				11
MW-21B	L	8-23-95 2:30 PM		2	2	2	1	2	2				11

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 22

Relinquished by: Maura Shore	Organization: G+M	Date 8/23/95 Time 5:00	Seal Intact? Yes No N/A
Received by: Ruth Volk	Organization: MACK	Date 8/24/95 Time 0950	
Relinquished by: Ruth Volk	Organization: MACK	Date 8/24/95 Time 1000	Seal Intact? Yes No N/A
Received by: A Spaulding	Organization: MICROSEEPS	Date 8/25/95 Time 0800	

Special Instructions/Remarks: DISSOLVED Fe, Mn SAMPLE NOT PRESERVED AND NOT FIELD FILTERED.

Delivery Method: ☐ In Person ☒ Commercial Carrier AIRFREIGHT (SPECIFY) ☐ Courier ☐ Other _____ (SPECIFY)

ORIGINAL (Red)

G&M Form 00.0.01

Southprint 91-1768

PFE ORIGINAL (Red)

MACK LABORATORIES INC.

Client: Geraghty & Miller (MD)
1131 Benfield Blvd.
Suite A
Millersville, MD 21108

Date: 09/12/95
Report No: 11797
Cocid No: 135116

Attention: John Elstner

ANALYTICAL REPORT

This report contains information for the following samples:

Mack Labs Sample No	Client Sample ID	Client Group ID	Mack Labs Sample No	Client Sample ID	Client Group ID
2[illegible]/0001	MW-31A	Proj. #MD0057.011	2792/0002	MW-31B	Proj. #MD0057.011

Approved: Yolanda N. Gaity

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MACK LABORATORIES INC.

ORIGINAL (Red)

Samp.#: 2792/0001 Samp.ID: MW-31A Group ID: Proj. #MD0057.011 Date Received: 08/23/95

Field Parameters-> Date Sampled:08/22/95 Time Sampled:10:20

Parameter	Result	Units	Method Reference
Alkalinity	397	mg/l CaCO3	EPA 310.1
Chloride	26.4	mg/l	EPA 325.3
Ferrous Iron	0.146	mg/L	3500-Fe D
Ammonia	< 0.20	mg/l as N	EPA 350.2
Nitrate	< 0.08	mg/l as N	EPA 353.1
Nitrite	0.003	mg/l as N	EPA 354.1
Sulfate	38.0	mg/l	EPA 375.4
Sulfide	< 0.2	mg/l	EPA 376.1
Total Organic Carbon	16.50	mg/l	EPA 415.1
Chemical Oxygen Demand	< 10	mg/l	HACH 8000
BOD5	< 3	mg/l as O2	EPA 405.1
Iron	58.45	mg/l	EPA 200.7
Iron-Dissolved	1.041	mg/l	EPA 200.7
Manganese	0.7340	mg/l	EPA 200.7
Manganese-Dissolved	0.3936	mg/l	EPA 200.7

Samp.#: 2792/0002 Samp.ID: MW-31B Group ID: Proj. #MD0057.011 Date Received: 08/23/95

Field Parameters-> Date Sampled:08/22/95 Time Sampled:10:40

Parameter	Result	Units	Method Reference
Alkalinity	183	mg/l CaCO3	EPA 310.1
Chloride	35.2	mg/l	EPA 325.3
Ferrous Iron	< 0.020	mg/L	3500-Fe D
Ammonia	1.4	mg/l as N	EPA 350.2
Nitrate	0.22	mg/l as N	EPA 353.1
Nitrite	1.835	mg/l as N	EPA 354.1
Sulfate	70.0	mg/l	EPA 375.4
Sulfide	< 0.2	mg/l	EPA 376.1
Total Organic Carbon	7.37	mg/l	EPA 415.1
Chemical Oxygen Demand	19.1	mg/l	HACH 8000
BOD5	4.6	mg/l as O2	EPA 405.1

Continued on next page.....

PFE
ORIGINAL (Red)

MACK LABORATORIES INC.

Samp.#: 2792/0002 Samp.ID: MW-31B Group ID: Proj. #MD0057.011 Date Received: 08/23/95

Continued from previous page.

Parameter	Result	Units	Method Reference
Iron	2.300	mg/l	EPA 200.7
Iron-Dissolved	0.1800	mg/l	EPA 200.7
Manganese	0.0335	mg/l	EPA 200.7
Manganese-Dissolved	< 0.006	mg/l	EPA 200.7

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PFE
ORIGINAL
(Red)

MACK LABORATORIES INC.

Client: Geraghty & Miller (MD)
1131 Benfield Blvd.
Suite A
Millersville, MD 21108

Date: 09/12/95
Report No: 11798
Cocid No: 135117

Attention: John Elstner

ANALYTICAL REPORT

This report contains information for the following samples:

Mack Labs Sample No	Client Sample ID	Client Group ID	Mack Labs Sample No	Client Sample ID	Client Group ID
2792/0003	MW-13	Proj. #MD0057.011	2792/0004	MW-21B	Proj. #MD0057.011

Approved: Yolanda A Gerty

ORIGINAL (Red)

MACK LABORATORIES INC.

Samp.#: 2792/0003 Samp.ID: MW-13 Group ID: Proj. #MD0057.011 Date Received: 08/24/95

Field Parameters-> Date Sampled:08/23/95 Time Sampled:11:20

Parameter	Result	Units	Method Reference
Alkalinity	447	mg/l CaCO3	EPA 310.1
Chloride	211	mg/l	EPA 325.3
Ferrous Iron	0.19	mg/L	3500-Fe D
Ammonia	2.8	mg/l as N	EPA 350.2
Nitrate	< 0.08	mg/l as N	EPA 353.1
Nitrite	0.008	mg/l as N	EPA 354.1
Sulfate	16	mg/l	EPA 375.4
Sulfide	< 0.2	mg/l	EPA 376.1
Total Organic Carbon	18.00	mg/l	EPA 415.1
Chemical Oxygen Demand	41.3	mg/l	HACH 8000
BOD5	19.4	mg/l as O2	EPA 405.1
Iron	81.62	mg/l	EPA 200.7
Iron-Dissolved	0.1322	mg/l	EPA 200.7
Manganese	0.7141	mg/l	EPA 200.7
Manganese-Dissolved	0.3154	mg/l	EPA 200.7

Samp.#: 2792/0004 Samp.ID: MW-21B Group ID: Proj. #MD0057.011 Date Received: 08/24/95

Field Parameters-> Date Sampled:08/23/95 Time Sampled:14:30

Parameter	Result	Units	Method Reference
Alkalinity	295	mg/l CaCO3	EPA 310.1
Chloride	169	mg/l	EPA 325.3
Ferrous Iron	< 0.020	mg/L	3500-Fe D
Ammonia	1.4	mg/l as N	EPA 350.2
Nitrate	< 0.08	mg/l as N	EPA 353.1
Nitrite	0.018	mg/l as N	EPA 354.1
Sulfate	< 5.0	mg/l	EPA 375.4
Sulfide	1.7	mg/l	EPA 376.1
Total Organic Carbon	5.82	mg/l	EPA 415.1
Chemical Oxygen Demand	< 10	mg/l	HACH 8000
BOD5	12.3	mg/l as O2	EPA 405.1

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PFE
ORIGINAL
(Red)

MACK LABORATORIES INC.

Samp.#: 2792/0004 Samp.ID: MW-21B Group ID: Proj. #MD0057.011 Date Received: 08/24/95

Continued from previous page.

Parameter	Result	Units	Method Reference
Iron	1.465	mg/l	EPA 200.7
Iron-Dissolved	0.0483	mg/l	EPA 200.7
Manganese	0.2486	mg/l	EPA 200.7
Manganese-Dissolved	0.2374	mg/l	EPA 200.7

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PFE
ORIGINAL
(Red)

MACK LABORATORIES INC.

Client: Geraghty & Miller (MD)
1131 Benfield Blvd.
Suite A
Millersville, MD 21108

Date: 09/12/95
Report No: 11799
Cocid No: 135118

Attention: John Elstner

ANALYTICAL REPORT

This report contains information for the following samples:

Mack Labs Sample No	Client Sample ID	Client Group ID	Mack Labs Sample No	Client Sample ID	Client Group ID
2792/0005	MW-15	Proj. #MD0057.011	2792/0006	MW-14	Proj. #MD0057.011
2792/0007	MW-12	Proj. #MD0057.011	2792/0008	MW-20B	Proj. #MD0057.011

Approved: Melinda A. Zaty

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ORIGINAL (Red)

MACK LABORATORIES INC.

Samp.#: 2792/0005 Samp.ID: MW-15 Group ID: Proj. #MD0057.011 Date Received: 08/24/95

Field Parameters-> Date Sampled:08/23/95 Time Sampled:08:15

Parameter	Result	Units	Method Reference
Alkalinity	531	mg/l CaCO3	EPA 310.1
Chloride	695	mg/l	EPA 325.3
Ferrous Iron	0.80	mg/L	3500-Fe D
Ammonia	14	mg/l as N	EPA 350.2
Nitrate	< 0.08	mg/l as N	EPA 353.1
Nitrite	0.009	mg/l as N	EPA 354.1
Sulfate	< 10.0	mg/l	EPA 375.4
Sulfide	< 0.2	mg/l	EPA 376.1
Total Organic Carbon	22.6	mg/l	EPA 415.1
Chemical Oxygen Demand	49.9	mg/l	HACH 8000
BOD5	24.4	mg/l as O2	EPA 405.1
Iron	31.38	mg/l	EPA 200.7
Iron-Dissolved	0.2182	mg/l	EPA 200.7
Manganese	0.7723	mg/l	EPA 200.7
Manganese-Dissolved	0.7098	mg/l	EPA 200.7

Samp.#: 2792/0006 Samp.ID: MW-14 Group ID: Proj. #MD0057.011 Date Received: 08/24/95

Field Parameters-> Date Sampled:08/23/95 Time Sampled:09:05

Parameter	Result	Units	Method Reference
Alkalinity	459	mg/l CaCO3	EPA 310.1
Chloride	44.0	mg/l	EPA 325.3
Ferrous Iron	3.0	mg/L	3500-Fe D
Ammonia	11	mg/l as N	EPA 350.2
Nitrate	< 0.08	mg/l as N	EPA 353.1
Nitrite	0.010	mg/l as N	EPA 354.1
Sulfate	< 20.0	mg/l	EPA 375.4
Sulfide	< 0.2	mg/l	EPA 376.1
Total Organic Carbon	32.3	mg/l	EPA 415.1
Chemical Oxygen Demand	95.8	mg/l	HACH 8000
BOD5	20.7	mg/l as O2	EPA 405.1

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ORIGINAL (Red)

MACK LABORATORIES INC.

Samp.#: 2792/0006 Samp.ID: MW-14 Group ID: Proj. #MD0057.011 Date Received: 08/24/95

Continued from previous page.

Parameter	Result	Units	Method Reference
Iron	58.38	mg/l	EPA 200.7
Iron-Dissolved	2.353	mg/l	EPA 200.7
Manganese	0.9829	mg/l	EPA 200.7
Manganese-Dissolved	0.9037	mg/l	EPA 200.7

Samp.#: 2792/0007 Samp.ID: MW-12 Group ID: Proj. #MD0057.011 Date Received: 08/24/95

Field Parameters-> Date Sampled:08/23/95 Time Sampled:10:00

Parameter	Result	Units	Method Reference
Alkalinity	359	mg/l CaCO3	EPA 310.1
Chloride	96.7	mg/l	EPA 325.3
Ferrous Iron	0.102	mg/L	3500-Fe D
Ammonia	5.6	mg/l as N	EPA 350.2
Nitrate	< 0.08	mg/l as N	EPA 353.1
Nitrite	0.005	mg/l as N	EPA 354.1
Sulfate	< 20.0	mg/l	EPA 375.4
Sulfide	< 0.2	mg/l	EPA 376.1
Total Organic Carbon	33.8	mg/l	EPA 415.1
Chemical Oxygen Demand	69.3	mg/l	HACH 8000
BOD5	7.8	mg/l as O2	EPA 405.1
Iron	27.18	mg/l	EPA 200.7
Iron-Dissolved	0.6807	mg/l	EPA 200.7
Manganese	0.2817	mg/l	EPA 200.7
Manganese-Dissolved	0.1795	mg/l	EPA 200.7

Samp.#: 2792/0008 Samp.ID: MW-20B Group ID: Proj. #MD0057.011 Date Received: 08/24/95

Field Parameters-> Date Sampled:08/23/95 Time Sampled:16:10

Parameter	Result	Units	Method Reference
Alkalinity	54.2	mg/l CaCO3	EPA 310.1

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MACK LABORATORIES INC.

ORIGINAL (Red)

Samp.#: 2792/0008 Samp.ID: MW-20B Group ID: Proj. #MD0057.011 Date Received: 08/24/95

Continued from previous page.

Parameter	Result	Units	Method Reference
Chloride	308	mg/l	EPA 325.3
Ferrous Iron	< 0.020	mg/L	3500-Fe D
Ammonia	1.4	mg/l as N	EPA 350.2
Nitrate	0.17	mg/l as N	EPA 353.1
Nitrite	2.94	mg/l as N	EPA 354.1
Sulfate	37	mg/l	EPA 375.4
Sulfide	< 0.2	mg/l	EPA 376.1
Total Organic Carbon	6.50	mg/l	EPA 415.1
Chemical Oxygen Demand	10.2	mg/l	HACH 8000
BOD5	< 3	mg/l as O2	EPA 405.1
Iron	1.193	mg/l	EPA 200.7
Iron-Dissolved	0.0202	mg/l	EPA 200.7
Manganese	0.0360	mg/l	EPA 200.7
Manganese-Dissolved	0.0033	mg/l	EPA 200.7

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