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DuPont Engineering

Received
2007
Waste Management

July 12, 2007

Mr. Ethan Brown
NCDENR
Solid Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646

Re: Semi-Annual Groundwater Monitoring Report
DuPont Industrial Landfills, NC Solid Waste Landfill Permit No. 10-06
Cape Fear Plant, Leland, NC

Dear Mr. Brown:

As required in Landfill Permit No.10-06, attached please find the results of the semi-annual groundwater monitoring program completed at the DuPont Cape Fear Plant in October of 2006. Please note that starting in 2007 these semi-annual reports will be prepared using the New Guidelines for Electronic Submittal of Environmental Data specified by NCDENR in a memorandum dated October 27, 2006. Monitoring wells MW-1, -2, -3, -8, and –9 are associated with the TPA Landfill (SWMU 53), MW-4, -5, -6, and –7 are associated with the Ash Landfill (SWMU 54), and MW-22, -23, and –24 are associated with the Demolition Landfill (SWMU 59). Attached to this letter are the following figure and tables:

Figure 1: Potentiometric Surface Map: Map showing the locations of the monitoring wells associated with the landfill monitoring program along with groundwater elevations at each well (measured in October 2006). Groundwater elevation contours showing groundwater flow direction are also included on this map.

Table 1: Summary of Analytical Results: List of the constituents that were detected in groundwater from the above monitoring wells and their corresponding concentrations (October 2006).

Table 2: Target Analyte List: A list of the parameters that were analyzed in the laboratory along with the practical quantitation limits (PQLs) and method detection limits (MDLs).

Table 3: Groundwater Field Parameters: Lists of the water quality parameters collected in the field (October 2006).

GENERAL

As part of an in-house quality control/quality assurance (QA/QC) process, the laboratory analytical data were reviewed and, in some cases, qualified by placing a "J" or "B" flag next to the resulting concentration (see Table 1). A "J" flag means that the value is estimated and a "B" flag indicates that the analyte was also detected in the associated laboratory (method) or field (equipment, trip) blank. Overall, the analytical data presented in this letter report is acceptable and considered usable.

TPA LANDFILL RESULTS

During the October 2006 sampling event at the TPA Landfill, 1,4-dioxane was detected in groundwater from monitoring wells MW-2, MW-8, and MW-9 at concentrations ranging from 0.013 to 0.070 milligrams per liter (mg/L). These values are above the NC 2L standard of 0.007 mg/L. Over the past three years, the concentration of 1,4-dioxane in groundwater at MW-2, MW-8, and MW-9 has ranged from 0.0095-0.028 mg/L, 0.015-0.041 mg/L, and 0.023-0.097 mg/L, respectively. Bis(2-ethylhexyl)phthalate (BEHP) was detected in groundwater from MW-1 at a concentration (0.0036 mg/L), slightly above the NC 2L standard of 0.003 mg/L. This detection is qualified ("B" flagged) because BEHP was detected at a concentration of 0.0023 mg/L in the equipment blank. The total dissolved solids (TDS) concentration in groundwater from MW-8 (1170 mg/L) was above the NC 2L standard of 500 mg/L.

Concentrations of the remaining constituents in the wells are below NC 2L standards and the downgradient levels (as measured at MW-8) have remained stable since 2003.

ASH LANDFILL RESULTS

During the October 2006 sampling event at the Ash Landfill, BEHP was detected in groundwater from MW-5 at a concentration (0.006 mg/L), slightly above the NC 2L standard of 0.003 mg/L. BEHP is a common laboratory contaminant and was detected in the equipment blank at a concentration of 0.0023 mg/L. The concentration of TDS in groundwater from MW-4 and MW-6 (728 and 889 mg/L, respectively) was slightly above the NC 2L standard of 500 mg/L. Also, the concentration of sulfate detected at MW-4 (302 mg/L) slightly exceeded the NC 2L standard of 250 mg/L. Terephthalic Acid (TPA) was detected in groundwater from MW-6 at a concentration of 2.2 mg/L, which is below the PQL of 5.0 mg/L for this compound (note that TPA does not have a corresponding NC 2L standard).

DEMOLITION LANDFILL RESULTS

During the October 2006 sampling event at the Demolition Landfill, methanol was detected at a concentration (3.8 mg/L) slightly above NC 2L standard of 3.5 mg/L. The concentration of TDS in groundwater from MW-23 (636 mg/L) was slightly above the NC 2L standard of 500 mg/L.

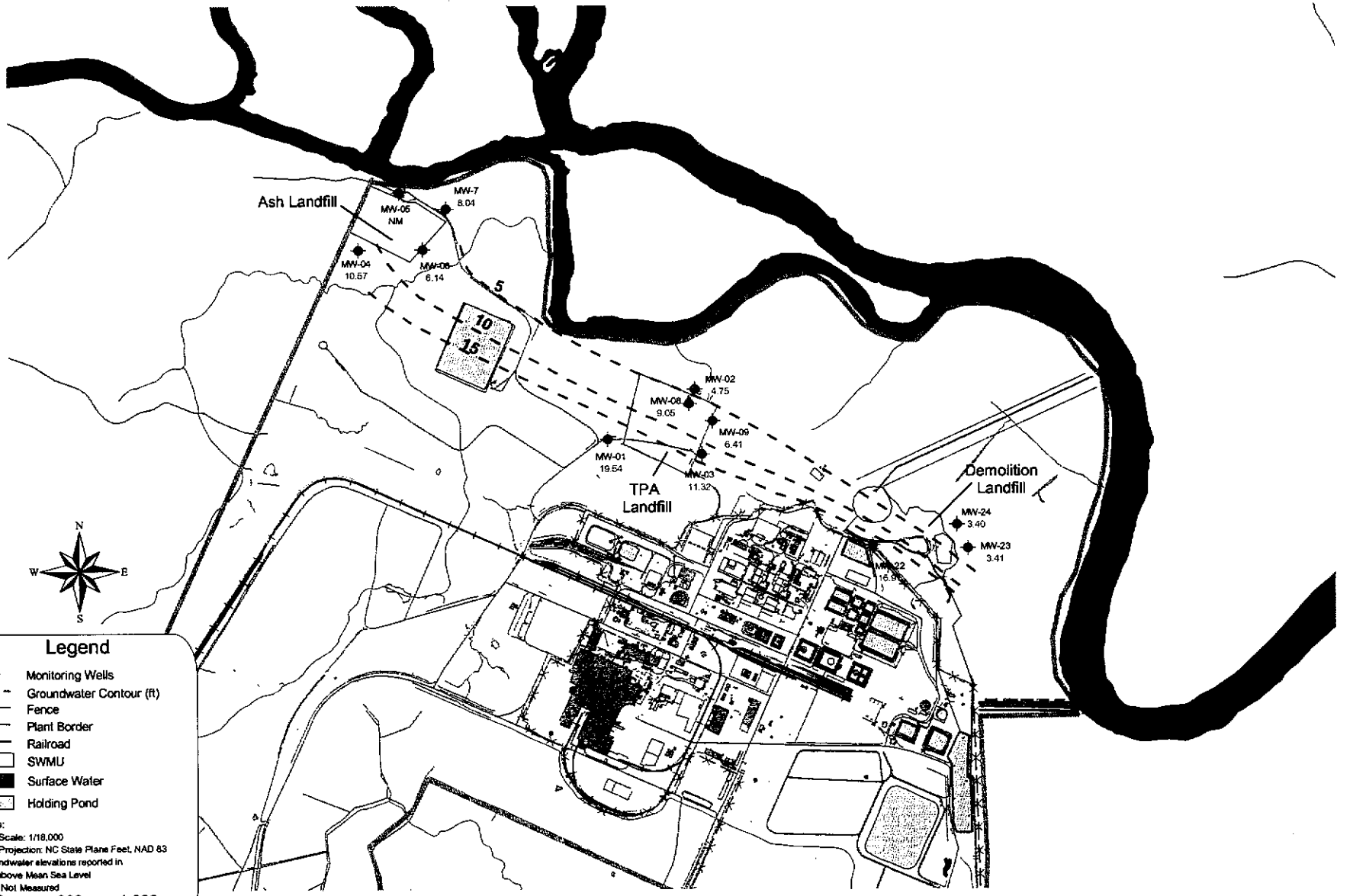
Please feel free to contact me at 704-362-6641 if you have any questions concerning this groundwater monitoring report.

Sincerely,

James K. Henderson

James K Henderson
Project Director
DuPont Corporate Remediation Group

cc: Mr. Larry Stanley, NCDENR, HWS
File



Legend

- Monitoring Wells
- Groundwater Contour (ft)
- Fence
- Plant Border
- Railroad
- SWMU
- Surface Water
- Holding Pond

Notes:
Map Scale: 1/18,000
Map Projection: NC State Plane Feet, NAD 83
Groundwater elevations reported in feet above Mean Sea Level
NM - Not Measured

0 800 1,600 Feet

CORPORATE REMEDIATION GROUP
An Alliance between
DuPont and URS Corporation - North Carolina
6324 Fairveiw Road
Charlotte, NC 28210

TITLE: Potentiometric Surface Map (October, 2006)
Cape Fear Landfill Semi-Annual Report
DAK Americas Cape Fear Plant
Leland, North Carolina

DRAWN: ND	DATE: 01/05/07	DuPont Project #: 8548
REVISION:	FIGURE NO.: 1	URSD Project #: 18983997
FILE NAME: G:/CapeFear/Gis/Project_figures/Landfill_Sampling_Annual_Report/2006/CF_Pot_map_10_06.mxd		

Table 1. Summary of Analytical
Results (October 2006)
Cape Fear Landfills

	TPA LANDFILL					
Analyte	MW-1	MW-2	MW-3	MW-8	MW-9	NC 2L
1,4-DIOXANE	ND	0.018	ND	0.035	0.097	0.007
ARSENIC	ND	ND	ND	0.0093 J	0.0028 J	0.05
BARIUM	0.025 J	0.019 J	0.011 J	0.64	0.029 J	2
BIS(2-ETHYLHEXYL)PHTHALATE	0.0036 B	0.0014 B	0.00096 B	0.0027 B	0.0022 B	0.003
CHLORIDE	12.9 J	10.1 J	4.9 J	38.2 J	9.3 J	250
FLUORIDE	0.121	0.0406 J	0.108	0.218	0.0720 J	2
MERCURY	0.000078 B	0.000064 B	0.000086 B	0.00010 B	0.000048 B	0.0011
SULFATE	10.2 J	15.7 J	22.6 J	ND	ND	250
TOTAL DISSOLVED SOLIDS	115	447	276	1170	436	500

	ASH LANDFILL					BLANK	
Analyte	MW-4	MW-5	MW-6	MW-7	NC 2L	EQBLK-1	TBLK-1
BARIUM	0.054 J	0.053 J	0.075 J	0.038 J	2	0.0017 J	NA
BIS(2-ETHYLHEXYL)PHTHALATE	0.00054 J	0.006 J	0.00053 J	ND	0.003	0.0023 J	NA
CHLORIDE	11.5 J	3.1 J	0.56 J	6.9 J	250	0.42 J	NA
FLUORIDE	0.129	0.0379 J	0.122	ND	2	ND	NA
MERCURY	0.00012 B	0.000079 B	0.000060 B	0.000079 B	0.0011	0.000085 J	NA
SELENIUM	ND	0.019 J	ND	ND	0.05	ND	NA
SULFATE	302 J	15.7 J	142 J	10.9 J	250	ND	NA
TEREPHTHALIC ACID	ND	ND	2.2 J	ND	N/A	ND	NA
TOLUENE	ND	0.00059 J	ND	ND	1	ND	ND
TOTAL DISSOLVED SOLIDS	728	278	889	49	500	22 J	NA

	DEMOLITION LANDFILL			
Analyte	MW-22	MW-23	MW-24	NC 2L
1,4-DIOXANE	ND	0.0055 J	ND	0.007
BARIUM	0.011 J	0.17 J	0.18 J	2
BIS(2-ETHYLHEXYL)PHTHALATE	0.0013 B	0.0022 B	0.00092 B	0.003
CHLORIDE	4.3 J	150 J	48.2 J	250
CHROMIUM	ND	ND	0.0011 J	0.05
FLUORIDE	0.102	0.0485 J	0.0493 J	2
METHANOL	3.8 J	ND	ND	3.5
MERCURY	0.000032 B	0.000059 B	0.000052 B	0.0011
SELENIUM	ND	ND	0.0034 J	0.05
SULFATE	17.3 J	ND	ND	250
TOTAL DISSOLVED SOLIDS	170	636	421	500

NOTE: Shaded values are above NC 2L standards

All units in milligrams per liter (MG/L)

ND = Not Detected

NA = Not Analyzed

N/A = Not Available

J = *In-House Qualifier*. Analyte present, reported value may not be accurate or precise.

B = *In-House Qualifier*. Not detected substantially above the level in the laboratory or field blanks.

Table 2. Target Analyte List - October 2006
Cape Fear Landfills

TYPE	CASNO	ANALYTE	MDL	PQL	UNIT
VOC	630206	1,1,1,2-TETRACHLOROETHANE	0.51	1.0	UG/L
VOC	71556	1,1,1-TRICHLOROETHANE	0.45	1.0	UG/L
VOC	79345	1,1,2,2-TETRACHLOROETHANE	0.59	1.0	UG/L
VOC	79005	1,1,2-TRICHLOROETHANE	0.46	1.0	UG/L
VOC	75343	1,1-DICHLOROETHANE	0.43	1.0	UG/L
VOC	75354	1,1-DICHLOROETHENE	0.33	1.0	UG/L
VOC	96184	1,2,3-TRICHLOROPROPANE	0.99	1.0	UG/L
VOC	96128	1,2-DIBROMO-3-CHLOROPROPANE	1.3	2.0	UG/L
VOC	106934	1,2-DIBROMOETHANE	0.49	1.0	UG/L
VOC	107062	1,2-DICHLOROETHANE	0.55	1.0	UG/L
VOC	78875	1,2-DICHLOROPROPANE	0.36	1.0	UG/L
VOC	123911	1,4-DIOXANE	1.6	20	UG/L
VOC	591786	2-HEXANONE	0.93	5.0	UG/L
VOC	67641	ACETONE	0.95	10	UG/L
VOC	107131	ACRYLONITRILE	0.61	20	UG/L
VOC	71432	BENZENE	0.38	1.0	UG/L
VOC	74975	BROMOCHLOROMETHANE	0.52	1.0	UG/L
VOC	75274	BROMODICHLOROMETHANE	0.46	1.0	UG/L
VOC	75252	BROMOFORM	0.62	1.0	UG/L
VOC	75150	CARBON DISULFIDE	0.39	1.0	UG/L
VOC	56235	CARBON TETRACHLORIDE	0.39	1.0	UG/L
VOC	108907	CHLOROBENZENE	0.41	1.0	UG/L
VOC	75003	CHLOROETHANE	0.39	2.0	UG/L
VOC	67663	CHLOROFORM	0.49	1.0	UG/L
VOC	156592	CIS-1,2-DICHLOROETHENE	0.41	0.50	UG/L
VOC	10061015	CIS-1,3-DICHLOROPROPENE	0.33	1.0	UG/L
VOC	124481	DIBROMOCHLOROMETHANE	0.51	1.0	UG/L
VOC	74953	DIBROMOMETHANE	0.13	1.0	UG/L
VOC	100414	ETHYLBENZENE	0.36	1.0	UG/L
VOC	107211	ETHYLENE GLYCOL	5.8	25	MG/L
VOC	74884	IODOMETHANE	0.50	1.0	UG/L
VOC	67561	METHANOL	2.6	5.0	MG/L
VOC	74839	METHYL BROMIDE	0.52	2.0	UG/L
VOC	74873	METHYL CHLORIDE	0.49	2.0	UG/L
VOC	78933	METHYL ETHYL KETONE	4.1	5.0	UG/L
VOC	75092	METHYLENE CHLORIDE	0.53	1.0	UG/L
VOC	108101	METHYL-ISO-BUTYL KETONE	0.14	5.0	UG/L
VOC	100425	STYRENE	0.32	1.0	UG/L
VOC	127184	TETRACHLOROETHENE	0.38	1.0	UG/L
VOC	108883	TOLUENE	0.36	1.0	UG/L
VOC	156605	TRANS-1,2-DICHLOROETHENE	0.41	0.50	UG/L
VOC	10061026	TRANS-1,3-DICHLOROPROPENE	0.34	1.0	UG/L
VOC	110576	TRANS-1,4-DICHLORO-2-BUTENE	0.92	1.0	UG/L
VOC	79016	TRICHLOROETHENE	0.36	1.0	UG/L
VOC	75694	TRICHLOROFLUOROMETHANE	0.36	2.0	UG/L
VOC	108054	VINYL ACETATE	0.73	2.0	UG/L
VOC	75014	VINYL CHLORIDE	0.38	2.0	UG/L
VOC	1330207	XYLENES (TOTAL)	0.98	2.0	UG/L
SVOC	120821	1,2,4-TRICHLOROBENZENE	1.5	10	UG/L
SVOC	95501	1,2-DICHLOROBENZENE	1.6	10	UG/L
SVOC	541731	1,3-DICHLOROBENZENE	1.5	10	UG/L
SVOC	106467	1,4-DICHLOROBENZENE	1.7	10	UG/L
SVOC	95954	2,4,5-TRICHLOROPHENOL	2.1	10	UG/L
SVOC	88062	2,4,6-TRICHLOROPHENOL	1.6	10	UG/L
SVOC	120832	2,4-DICHLOROPHENOL	1.9	10	UG/L
SVOC	105679	2,4-DIMETHYLPHENOL	1.9	10	UG/L
SVOC	51285	2,4-DINITROPHENOL	5.0	50	UG/L
SVOC	121142	2,4-DINITROTOLUENE	0.15	10	UG/L
SVOC	606202	2,6-DINITROTOLUENE	0.11	10	UG/L
SVOC	91587	2-CHLORONAPHTHALENE	1.7	10	UG/L
SVOC	95578	2-CHLOROPHENOL	1.9	10	UG/L
SVOC	91576	2-METHYLNAPHTHALENE	1.5	10	UG/L
SVOC	88755	2-NITROPHENOL	1.6	10	UG/L
SVOC	EVS-0197	3 OR 4-METHYLPHENOL	3.3	20	UG/L

MDL= Method Detection Limit
PQL= Practical Quantitation Limit

MG/L= milligrams per liter
UG/L= micrograms per liter

Table 2. Target Analyte List - October 2006
Cape Fear Landfills

TYPE	CASNO	ANALYTE	MDL	PQL	UNIT
SVOC	91941	3,3'-DICHLOROBENZIDINE	1.6	50	UG/L
SVOC	534521	4,6-DINITRO-2-METHYLPHENOL	5.6	50	UG/L
SVOC	101553	4-BROMOPHENYL PHENYL ETHER	1.5	10	UG/L
SVOC	59507	4-CHLORO-3-METHYLPHENOL	2.1	10	UG/L
SVOC	106478	4-CHLOROANILINE	1.7	10	UG/L
SVOC	7005723	4-CHLOROPHENYL PHENYL ETHER	1.7	10	UG/L
SVOC	100027	4-NITROPHENOL	2.8	50	UG/L
SVOC	83329	ACENAPHTHENE	1.6	10	UG/L
SVOC	208968	ACENAPHTHYLENE	1.6	10	UG/L
SVOC	120127	ANTHRACENE	1.7	10	UG/L
SVOC	56553	BENZO(A)ANTHRACENE	1.7	10	UG/L
SVOC	50328	BENZO(A)PYRENE	1.7	10	UG/L
SVOC	205992	BENZO(B)FLUORANTHENE	2.0	10	UG/L
SVOC	191242	BENZO(G,H,I)PERYLENE	2.0	10	UG/L
SVOC	207089	BENZO(K)FLUORANTHENE	2.2	10	UG/L
SVOC	111911	BIS(2-CHLOROETHOXY)METHANE	2.6	10	UG/L
SVOC	111444	BIS(2-CHLOROETHYL) ETHER	2.0	10	UG/L
SVOC	108601	BIS(2-CHLOROISOPROPYL)ETHER	2.3	10	UG/L
SVOC	117817	BIS(2-ETHYLHEXYL)PHTHALATE	2.2	10	UG/L
SVOC	85687	BUTYL BENZYL PHTHALATE	1.6	10	UG/L
SVOC	86748	CARBAZOLE	2.3	10	UG/L
SVOC	218019	CHRYSENE	1.7	10	UG/L
SVOC	53703	DIBENZO(A,H)ANTHRACENE	2.1	10	UG/L
SVOC	132649	DIBENZOFURAN	1.7	10	UG/L
SVOC	84662	DIETHYL PHTHALATE	2.0	10	UG/L
SVOC	131113	DIMETHYL PHTHALATE	1.9	10	UG/L
SVOC	84742	DI-N-BUTYL PHTHALATE	2.2	10	UG/L
SVOC	117840	DI-N-OCTYL PHTHALATE	2.5	10	UG/L
SVOC	101848	DIPHENYL ETHER	3.5	10	UG/L
SVOC	206440	FLUORANTHENE	1.9	10	UG/L
SVOC	86737	FLUORENE	1.8	10	UG/L
SVOC	118741	HEXACHLOROBENZENE	1.6	10	UG/L
SVOC	87683	HEXACHLOROBUTADIENE	1.4	10	UG/L
SVOC	77474	HEXACHLOROCYCLOPENTADIENE	5.0	50	UG/L
SVOC	67721	HEXACHLOROETHANE	1.5	10	UG/L
SVOC	193395	INDENO(1,2,3-CD)PYRENE	2.0	10	UG/L
SVOC	78591	ISOPHORONE	1.9	10	UG/L
SVOC	99092	M-NITROANILINE	1.7	50	UG/L
SVOC	91203	NAPHTHALENE	1.8	10	UG/L
SVOC	98953	NITROBENZENE	2.0	10	UG/L
SVOC	621647	N-NITROSODI-N-PROPYLAMINE	0.33	10	UG/L
SVOC	86306	N-NITROSODIPHENYLAMINE	3.4	10	UG/L
SVOC	95487	O-CRESOL	2.9	10	UG/L
SVOC	88744	O-NITROANILINE	1.7	50	UG/L
SVOC	87865	PENTACHLOROPHENOL	6.2	50	UG/L
SVOC	85018	PHENANTHRENE	1.7	10	UG/L
SVOC	108952	PHENOL	2.0	10	UG/L
SVOC	100016	P-NITROANILINE	1.9	50	UG/L
SVOC	129000	PYRENE	1.8	10	UG/L
METALS	7440360	ANTIMONY	0.0018	0.030	MG/L
METALS	7440382	ARSENIC	0.0027	0.020	MG/L
METALS	7440393	BARIUM	0.00050	0.0025	MG/L
METALS	7440439	CADMIUM	0.00022	0.0040	MG/L
METALS	7440473	CHROMIUM	0.00094	0.010	MG/L
METALS	7439921	LEAD	0.0014	0.010	MG/L
METALS	7439976	MERCURY	0.000063	0.00020	MG/L
METALS	7782492	SELENIUM	0.0026	0.020	MG/L
METALS	7440224	SILVER	0.0022	0.010	MG/L
MISC	16887006	CHLORIDE	0.36	1.0	MG/L
MISC	16984488	FLUORIDE	0.030	0.10	MG/L
MISC	14808798	SULFATE	1.6	5.0	MG/L
MISC	C-010	TOTAL DISSOLVED SOLIDS	17.8	40.0	MG/L
MISC	92524	1,1 -BIPHENYL	3.8	10	UG/L
MISC	111466	DIETHYLENE GLYCOL	3.7	25	MG/L

MDL= Method Detection Limit
PQL= Practical Quantitation Limit

MG/L= milligrams per liter
UG/L= micrograms per liter

Table 2. Target Analyte List - October 2006
Cape Fear Landfills

TYPE	CASNO	ANALYTE	MDL	PQL	UNIT
MISC	120616	DIMETHYLTEREPHTHALATE	4.2	10	UG/L
MISC	100210	TEREPHTHALIC ACID	0.20	5.0	MG/L
MISC	112276	TIETHYLENE GLYCOL	3.6	25	MG/L

MDL= Method Detection Limit
PQL= Practical Quantitation Limit

MG/L= milligrams per liter
UG/L= micrograms per liter

Table 3. Groundwater Field Parameters (October 2006)

SITE: Cape Fear (Leland, NC)
JOB NAME: Semi - Annual Landfill Sampling
PROJECT MANAGER: Marc Harder
FIELD PERSONNEL: Marc Harder, Ken Stuart

SAMPLE (WELL ID)	DATE SAMPLED	TIME SAMPLED	WATER ELEV (ft MSL)	pH	TEMP (C)	SPECIFIC CONDUCTANCE (mS/cm)	DISSOLVED OXYGEN (mg/l)	REDOX (mV)	TURBIDITY (NTU)	COLOR	ODOR
MW-1	10/25/2006	1015	19.54	5.54	18.9	0.90	2.35	216	7.7	CLEAR	NONE
MW-2	10/25/2006	1115	4.75	7.12	21.4	1.20	1.23	-10	5.8	CLEAR	NONE
MW-3	10/25/2006	1530	11.32	7.33	21.1	0.90	1.40	-50	5.0	CLEAR	NONE
MW-4	10/26/2006	1100	10.57	6.60	20.7	2.37	3.71	298	7.1	CLEAR	NONE
MW-5	10/26/2006	1000	NM	6.22	20.3	1.07	6.51	376	3.2	CLEAR	NONE
MW-6	10/26/2006	1330	6.14	8.38	19.3	1.09	2.21	-8	3.4	CLEAR	SLIGHT SULFUR
MW-7	10/26/2006	1430	8.04	6.35	21.2	0.205	5.70	116	1.7	CLEAR	NONE
MW-8	10/25/2006	1200	9.05	7.55	20.8	2.03	1.29	-110	4.4	CLEAR	NONE
MW-9	10/25/2006	1430	6.41	6.83	21.1	1.10	1.37	-60	4.9	CLEAR	NONE
MW-22	10/24/2006	1430	16.91	6.92	22.1	3.91	5.60	327	1.9	CLEAR	NONE
MW-23	10/24/2006	1700	3.41	5.80	17.5	0.90	2.57	45	11	LIGHT YELLOW	NONE
MW-24	10/24/2006	1600	3.40	5.78	17.7	2.16	2.03	54	3.4	LIGHT YELLOW	NONE

ft MSL = feet above Mean Sea Level mS/cm = milliSeimens per centimeter mV = milli-Volts
mg/l = milligrams per liter NTU = National Turbidity Unit C = degrees Celsius NM = Not Measured

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DuPont Engineering

Received
JUL 2007
Waste Management

July 12, 2007

Mr. Ethan Brown
NCDENR
Solid Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646

Re: Semi-Annual Groundwater Monitoring Report
DuPont Industrial Landfills, NC Solid Waste Landfill Permit No. 10-06
Cape Fear Plant, Leland, NC

Dear Mr. Brown:

As required in Landfill Permit No.10-06, attached please find the results of the semi-annual groundwater monitoring program completed at the DuPont Cape Fear Plant in October of 2006. Please note that starting in 2007 these semi-annual reports will be prepared using the New Guidelines for Electronic Submittal of Environmental Data specified by NCDENR in a memorandum dated October 27, 2006. Monitoring wells MW-1, -2, -3, -8, and –9 are associated with the TPA Landfill (SWMU 53), MW-4, -5, -6, and –7 are associated with the Ash Landfill (SWMU 54), and MW-22, -23, and –24 are associated with the Demolition Landfill (SWMU 59). Attached to this letter are the following figure and tables:

Figure 1: Potentiometric Surface Map: Map showing the locations of the monitoring wells associated with the landfill monitoring program along with groundwater elevations at each well (measured in October 2006). Groundwater elevation contours showing groundwater flow direction are also included on this map.

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Table 3: Groundwater Field Parameters: Lists of the water quality parameters collected in the field (October 2006).

GENERAL

As part of an in-house quality control/quality assurance (QA/QC) process, the laboratory analytical data were reviewed and, in some cases, qualified by placing a "J" or "B" flag next to the resulting concentration (see Table 1). A "J" flag means that the value is estimated and a "B" flag indicates that the analyte was also detected in the associated laboratory (method) or field (equipment, trip) blank. Overall, the analytical data presented in this letter report is acceptable and considered usable.

TPA LANDFILL RESULTS

During the October 2006 sampling event at the TPA Landfill, 1,4-dioxane was detected in groundwater from monitoring wells MW-2, MW-8, and MW-9 at concentrations ranging from 0.013 to 0.070 milligrams per liter (mg/L). These values are above the NC 2L standard of 0.007 mg/L. Over the past three years, the concentration of 1,4-dioxane in groundwater at MW-2, MW-8, and MW-9 has ranged from 0.0095-0.028 mg/L, 0.015-0.041 mg/L, and 0.023-0.097 mg/L, respectively. Bis(2-ethylhexyl)phthalate (BEHP) was detected in groundwater from MW-1 at a concentration (0.0036 mg/L), slightly above the NC 2L standard of 0.003 mg/L. This detection is qualified ("B" flagged) because BEHP was detected at a concentration of 0.0023 mg/L in the equipment blank. The total dissolved solids (TDS) concentration in groundwater from MW-8 (1170 mg/L) was above the NC 2L standard of 500 mg/L.

Concentrations of the remaining constituents in the wells are below NC 2L standards and the downgradient levels (as measured at MW-8) have remained stable since 2003.

ASH LANDFILL RESULTS

During the October 2006 sampling event at the Ash Landfill, BEHP was detected in groundwater from MW-5 at a concentration (0.006 mg/L), slightly above the NC 2L standard of 0.003 mg/L. BEHP is a common laboratory contaminant and was detected in the equipment blank at a concentration of 0.0023 mg/L. The concentration of TDS in groundwater from MW-4 and MW-6 (728 and 889 mg/L, respectively) was slightly above the NC 2L standard of 500 mg/L. Also, the concentration of sulfate detected at MW-4 (302 mg/L) slightly exceeded the NC 2L standard of 250 mg/L. Terephthalic Acid (TPA) was detected in groundwater from MW-6 at a concentration of 2.2 mg/L, which is below the PQL of 5.0 mg/L for this compound (note that TPA does not have a corresponding NC 2L standard).

DEMOLITION LANDFILL RESULTS

During the October 2006 sampling event at the Demolition Landfill, methanol was detected at a concentration (3.8 mg/L) slightly above NC 2L standard of 3.5 mg/L. The concentration of TDS in groundwater from MW-23 (636 mg/L) was slightly above the NC 2L standard of 500 mg/L.

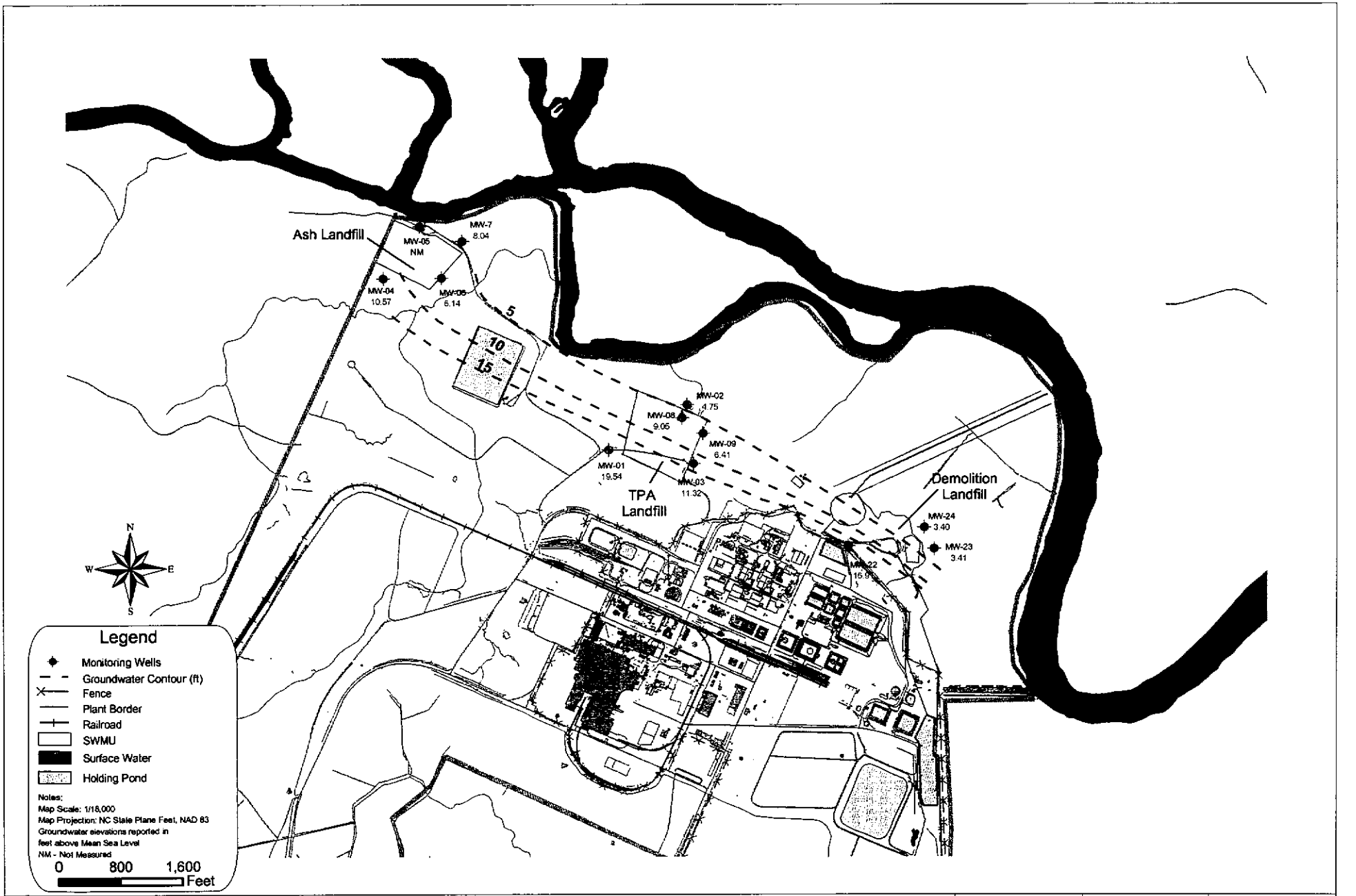
Please feel free to contact me at 704-362-6641 if you have any questions concerning this groundwater monitoring report.

Sincerely,

James K. Henderson

James K Henderson
Project Director
DuPont Corporate Remediation Group

cc: Mr. Larry Stanley, NCDENR, HWS
File



CORPORATE REMEDIATION GROUP
An Alliance between
DuPont and URS Corporation - North Carolina
6324 Fairveiw Road
Charlotte, NC 28210

TITLE:
Potentiometric Surface Map (October, 2006)
Cape Fear Landfill Semi-Annual Report
DAK Americas Cape Fear Plant
Leland, North Carolina

DRAWN: ND	DATE: 01/05/07	DuPont Project #: 8548
REVISION:	FIGURE NO.: 1	URSD Project #: 18983997

FILE NAME: G:/CapeFear/Gis/Project_figures/Landfill_Sampling_Annual_Report/2006/CF_Pot_map_10_06.mxd

Table 1. Summary of Analytical
Results (October 2006)
Cape Fear Landfills

	TPA LANDFILL					
Analyte	MW-1	MW-2	MW-3	MW-8	MW-9	NC 2L
1,4-DIOXANE	ND	0.018	ND	0.036	0.097	0.007
ARSENIC	ND	ND	ND	0.0093 J	0.0028 J	0.05
BARIUM	0.025 J	0.019 J	0.011 J	0.64	0.029 J	2
BIS(2-ETHYLHEXYL)PHTHALATE	0.0036 B	0.0014 B	0.00096 B	0.0027 B	0.0022 B	0.003
CHLORIDE	12.9 J	10.1 J	4.9 J	38.2 J	9.3 J	250
FLUORIDE	0.121	0.0406 J	0.108	0.218	0.0720 J	2
MERCURY	0.000078 B	0.000064 B	0.000086 B	0.00010 B	0.000048 B	0.0011
SULFATE	10.2 J	15.7 J	22.6 J	ND	ND	250
TOTAL DISSOLVED SOLIDS	115	447	276	1170	436	500

	ASH LANDFILL					BLANK	
Analyte	MW-4	MW-5	MW-6	MW-7	NC 2L	EQBLK-1	TBLK-1
BARIUM	0.054 J	0.053 J	0.075 J	0.038 J	2	0.0017 J	NA
BIS(2-ETHYLHEXYL)PHTHALATE	0.00054 J	0.006 J	0.00053 J	ND	0.003	0.0023 J	NA
CHLORIDE	11.5 J	3.1 J	0.56 J	6.9 J	250	0.42 J	NA
FLUORIDE	0.129	0.0379 J	0.122	ND	2	ND	NA
MERCURY	0.00012 B	0.000079 B	0.000060 B	0.000079 B	0.0011	0.000085 J	NA
SELENIUM	ND	0.019 J	ND	ND	0.05	ND	NA
SULFATE	302 J	15.7 J	142 J	10.9 J	250	ND	NA
TEREPHTHALIC ACID	ND	ND	2.2 J	ND	N/A	ND	NA
TOLUENE	ND	0.00059 J	ND	ND	1	ND	ND
TOTAL DISSOLVED SOLIDS	728	278	889	49	500	22 J	NA

	DEMOLITION LANDFILL			
Analyte	MW-22	MW-23	MW-24	NC 2L
1,4-DIOXANE	ND	0.0055 J	ND	0.007
BARIUM	0.011 J	0.17 J	0.18 J	2
BIS(2-ETHYLHEXYL)PHTHALATE	0.0013 B	0.0022 B	0.00092 B	0.003
CHLORIDE	4.3 J	150 J	48.2 J	250
CHROMIUM	ND	ND	0.0011 J	0.05
FLUORIDE	0.102	0.0485 J	0.0493 J	2
METHANOL	3.8 J	ND	ND	3.5
MERCURY	0.000032 B	0.000059 B	0.000052 B	0.0011
SELENIUM	ND	ND	0.0034 J	0.05
SULFATE	17.3 J	ND	ND	250
TOTAL DISSOLVED SOLIDS	170	636	421	500

NOTE: Shaded values are above NC 2L standards

All units in milligrams per liter (MG/L)

ND = Not Detected

NA = Not Analyzed

N/A = Not Available

J = *In-House Qualifier*. Analyte present, reported value may not be accurate or precise.

B = *In-House Qualifier*. Not detected substantially above the level in the laboratory or field blanks.

Table 2. Target Analyte List - October 2006
Cape Fear Landfills

TYPE	CASNO	ANALYTE	MDL	PQL	UNIT
VOC	630206	1,1,1,2-TETRACHLOROETHANE	0.51	1.0	UG/L
VOC	71556	1,1,1-TRICHLOROETHANE	0.45	1.0	UG/L
VOC	79345	1,1,2,2-TETRACHLOROETHANE	0.59	1.0	UG/L
VOC	79005	1,1,2-TRICHLOROETHANE	0.46	1.0	UG/L
VOC	75343	1,1-DICHLOROETHANE	0.43	1.0	UG/L
VOC	75354	1,1-DICHLOROETHENE	0.33	1.0	UG/L
VOC	96184	1,2,3-TRICHLOROPROPANE	0.99	1.0	UG/L
VOC	96128	1,2-DIBROMO-3-CHLOROPROPANE	1.3	2.0	UG/L
VOC	106934	1,2-DIBROMOETHANE	0.49	1.0	UG/L
VOC	107062	1,2-DICHLOROETHANE	0.55	1.0	UG/L
VOC	78875	1,2-DICHLOROPROPANE	0.36	1.0	UG/L
VOC	123911	1,4-DIOXANE	1.6	20	UG/L
VOC	591786	2-HEXANONE	0.93	5.0	UG/L
VOC	67641	ACETONE	0.95	10	UG/L
VOC	107131	ACRYLONITRILE	0.61	20	UG/L
VOC	71432	BENZENE	0.38	1.0	UG/L
VOC	74975	BROMOCHLOROMETHANE	0.52	1.0	UG/L
VOC	75274	BROMODICHLOROMETHANE	0.46	1.0	UG/L
VOC	75252	BROMOFORM	0.62	1.0	UG/L
VOC	75150	CARBON DISULFIDE	0.39	1.0	UG/L
VOC	56235	CARBON TETRACHLORIDE	0.39	1.0	UG/L
VOC	108907	CHLOROBENZENE	0.41	1.0	UG/L
VOC	75003	CHLOROETHANE	0.39	2.0	UG/L
VOC	67663	CHLOROFORM	0.49	1.0	UG/L
VOC	156592	CIS-1,2-DICHLOROETHENE	0.41	0.50	UG/L
VOC	10061015	CIS-1,3-DICHLOROPROPENE	0.33	1.0	UG/L
VOC	124481	DIBROMOCHLOROMETHANE	0.51	1.0	UG/L
VOC	74953	DIBROMOMETHANE	0.13	1.0	UG/L
VOC	100414	ETHYLBENZENE	0.36	1.0	UG/L
VOC	107211	ETHYLENE GLYCOL	5.8	25	MG/L
VOC	74884	IODOMETHANE	0.50	1.0	UG/L
VOC	67561	METHANOL	2.6	5.0	MG/L
VOC	74839	METHYL BROMIDE	0.52	2.0	UG/L
VOC	74873	METHYL CHLORIDE	0.49	2.0	UG/L
VOC	78933	METHYL ETHYL KETONE	4.1	5.0	UG/L
VOC	75092	METHYLENE CHLORIDE	0.53	1.0	UG/L
VOC	108101	METHYL-ISO-BUTYL KETONE	0.14	5.0	UG/L
VOC	100425	STYRENE	0.32	1.0	UG/L
VOC	127184	TETRACHLOROETHENE	0.38	1.0	UG/L
VOC	108883	TOLUENE	0.36	1.0	UG/L
VOC	156605	TRANS-1,2-DICHLOROETHENE	0.41	0.50	UG/L
VOC	10061026	TRANS-1,3-DICHLOROPROPENE	0.34	1.0	UG/L
VOC	110576	TRANS-1,4-DICHLORO-2-BUTENE	0.92	1.0	UG/L
VOC	79016	TRICHLOROETHENE	0.36	1.0	UG/L
VOC	75694	TRICHLOROFLUOROMETHANE	0.36	2.0	UG/L
VOC	108054	VINYL ACETATE	0.73	2.0	UG/L
VOC	75014	VINYL CHLORIDE	0.38	2.0	UG/L
VOC	1330207	XYLENES (TOTAL)	0.98	2.0	UG/L
SVOC	120821	1,2,4-TRICHLOROBENZENE	1.5	10	UG/L
SVOC	95501	1,2-DICHLOROBENZENE	1.6	10	UG/L
SVOC	541731	1,3-DICHLOROBENZENE	1.5	10	UG/L
SVOC	106467	1,4-DICHLOROBENZENE	1.7	10	UG/L
SVOC	95954	2,4,5-TRICHLOROPHENOL	2.1	10	UG/L
SVOC	88062	2,4,6-TRICHLOROPHENOL	1.6	10	UG/L
SVOC	120832	2,4-DICHLOROPHENOL	1.9	10	UG/L
SVOC	105679	2,4-DIMETHYLPHENOL	1.9	10	UG/L
SVOC	51285	2,4-DINITROPHENOL	5.0	50	UG/L
SVOC	121142	2,4-DINITROTOLUENE	0.15	10	UG/L
SVOC	606202	2,6-DINITROTOLUENE	0.11	10	UG/L
SVOC	91587	2-CHLORONAPHTHALENE	1.7	10	UG/L
SVOC	95578	2-CHLOROPHENOL	1.9	10	UG/L
SVOC	91576	2-METHYLNAPHTHALENE	1.5	10	UG/L
SVOC	88755	2-NITROPHENOL	1.6	10	UG/L
SVOC	EVS-0197	3 OR 4-METHYLPHENOL	3.3	20	UG/L

MDL= Method Detection Limit
PQL= Practical Quantitation Limit

MG/L= milligrams per liter
UG/L= micrograms per liter

Table 2. Target Analyte List - October 2006
Cape Fear Landfills

TYPE	CASNO	ANALYTE	MDL	PQL	UNIT
SVOC	91941	3,3'-DICHLOROBENZIDINE	1.6	50	UG/L
SVOC	534521	4,6-DINITRO-2-METHYLPHENOL	5.6	50	UG/L
SVOC	101553	4-BROMOPHENYL PHENYL ETHER	1.5	10	UG/L
SVOC	59507	4-CHLORO-3-METHYLPHENOL	2.1	10	UG/L
SVOC	106478	4-CHLOROANILINE	1.7	10	UG/L
SVOC	7005723	4-CHLOROPHENYL PHENYL ETHER	1.7	10	UG/L
SVOC	100027	4-NITROPHENOL	2.8	50	UG/L
SVOC	83329	ACENAPHTHENE	1.6	10	UG/L
SVOC	208968	ACENAPHTHYLENE	1.6	10	UG/L
SVOC	120127	ANTHRACENE	1.7	10	UG/L
SVOC	56553	BENZO(A)ANTHRACENE	1.7	10	UG/L
SVOC	50328	BENZO(A)PYRENE	1.7	10	UG/L
SVOC	205992	BENZO(B)FLUORANTHENE	2.0	10	UG/L
SVOC	191242	BENZO(G,H,I)PERYLENE	2.0	10	UG/L
SVOC	207089	BENZO(K)FLUORANTHENE	2.2	10	UG/L
SVOC	111911	BIS(2-CHLOROETHOXY)METHANE	2.6	10	UG/L
SVOC	111444	BIS(2-CHLOROETHYL) ETHER	2.0	10	UG/L
SVOC	108601	BIS(2-CHLOROISOPROPYL)ETHER	2.3	10	UG/L
SVOC	117817	BIS(2-ETHYLHEXYL)PHTHALATE	2.2	10	UG/L
SVOC	85687	BUTYL BENZYL PHTHALATE	1.6	10	UG/L
SVOC	86748	CARBAZOLE	2.3	10	UG/L
SVOC	218019	CHRYSENE	1.7	10	UG/L
SVOC	53703	DIBENZO(A,H)ANTHRACENE	2.1	10	UG/L
SVOC	132649	DIBENZOFURAN	1.7	10	UG/L
SVOC	84662	DIETHYL PHTHALATE	2.0	10	UG/L
SVOC	131113	DIMETHYL PHTHALATE	1.9	10	UG/L
SVOC	84742	DI-N-BUTYL PHTHALATE	2.2	10	UG/L
SVOC	117840	DI-N-OCTYL PHTHALATE	2.5	10	UG/L
SVOC	101848	DIPHENYL ETHER	3.5	10	UG/L
SVOC	206440	FLUORANTHENE	1.9	10	UG/L
SVOC	86737	FLUORENE	1.8	10	UG/L
SVOC	118741	HEXACHLOROBENZENE	1.6	10	UG/L
SVOC	87683	HEXACHLOROBUTADIENE	1.4	10	UG/L
SVOC	77474	HEXACHLOROCYCLOPENTADIENE	5.0	50	UG/L
SVOC	67721	HEXACHLOROETHANE	1.5	10	UG/L
SVOC	193395	INDENO(1,2,3-CD)PYRENE	2.0	10	UG/L
SVOC	78591	ISOPHORONE	1.9	10	UG/L
SVOC	99092	M-NITROANILINE	1.7	50	UG/L
SVOC	91203	NAPHTHALENE	1.8	10	UG/L
SVOC	98953	NITROBENZENE	2.0	10	UG/L
SVOC	621647	N-NITROSODI-N-PROPYLAMINE	0.33	10	UG/L
SVOC	86306	N-NITROSODIPHENYLAMINE	3.4	10	UG/L
SVOC	95487	O-CRESOL	2.9	10	UG/L
SVOC	88744	O-NITROANILINE	1.7	50	UG/L
SVOC	87865	PENTACHLOROPHENOL	6.2	50	UG/L
SVOC	85018	PHENANTHRENE	1.7	10	UG/L
SVOC	108952	PHENOL	2.0	10	UG/L
SVOC	100016	P-NITROANILINE	1.9	50	UG/L
SVOC	129000	PYRENE	1.8	10	UG/L
METALS	7440360	ANTIMONY	0.0018	0.030	MG/L
METALS	7440382	ARSENIC	0.0027	0.020	MG/L
METALS	7440393	BARIUM	0.00050	0.0025	MG/L
METALS	7440439	CADMIUM	0.00022	0.0040	MG/L
METALS	7440473	CHROMIUM	0.00094	0.010	MG/L
METALS	7439921	LEAD	0.0014	0.010	MG/L
METALS	7439976	MERCURY	0.000063	0.00020	MG/L
METALS	7782492	SELENIUM	0.0026	0.020	MG/L
METALS	7440224	SILVER	0.0022	0.010	MG/L
MISC	16887006	CHLORIDE	0.36	1.0	MG/L
MISC	16984488	FLUORIDE	0.030	0.10	MG/L
MISC	14808798	SULFATE	1.6	5.0	MG/L
MISC	C-010	TOTAL DISSOLVED SOLIDS	17.8	40.0	MG/L
MISC	92524	1,1 -BIPHENYL	3.8	10	UG/L
MISC	111466	DIETHYLENE GLYCOL	3.7	25	MG/L

MDL= Method Detection Limit
PQL= Practical Quantitation Limit

MG/L= milligrams per liter
UG/L= micrograms per liter

Table 2. Target Analyte List - October 2006
Cape Fear Landfills

TYPE	CASNO	ANALYTE	MDL	PQL	UNIT
MISC	120616	DIMETHYLTEREPHTHALATE	4.2	10	UG/L
MISC	100210	TEREPHTHALIC ACID	0.20	5.0	MG/L
MISC	112276	TIETHYLENE GLYCOL	3.6	25	MG/L

MDL= Method Detection Limit
PQL= Practical Quantitation Limit

MG/L= milligrams per liter
UG/L= micrograms per liter

Table 3. Groundwater Field Parameters (October 2006)

SITE: Cape Fear (Leland, NC)
JOB NAME: Semi - Annual Landfill Sampling
PROJECT MANAGER: Marc Harder
FIELD PERSONNEL: Marc Harder, Ken Stuart

SAMPLE (WELL ID)	DATE SAMPLED	TIME SAMPLED	WATER ELEV (ft MSL)	pH	TEMP (C)	SPECIFIC CONDUCTANCE (mS/cm)	DISSOLVED OXYGEN (mg/l)	REDOX (mV)	TURBIDITY (NTU)	COLOR	ODOR
MW-1	10/25/2006	1015	19.54	5.54	18.9	0.90	2.35	216	7.7	CLEAR	NONE
MW-2	10/25/2006	1115	4.75	7.12	21.4	1.20	1.23	-10	5.8	CLEAR	NONE
MW-3	10/25/2006	1530	11.32	7.33	21.1	0.90	1.40	-50	5.0	CLEAR	NONE
MW-4	10/26/2006	1100	10.57	6.60	20.7	2.37	3.71	298	7.1	CLEAR	NONE
MW-5	10/26/2006	1000	NM	6.22	20.3	1.07	6.51	376	3.2	CLEAR	NONE
MW-6	10/26/2006	1330	6.14	8.38	19.3	1.09	2.21	-8	3.4	CLEAR	SLIGHT SULFUR
MW-7	10/26/2006	1430	8.04	6.35	21.2	0.205	5.70	116	1.7	CLEAR	NONE
MW-8	10/25/2006	1200	9.05	7.55	20.8	2.03	1.29	-110	4.4	CLEAR	NONE
MW-9	10/25/2006	1430	6.41	6.83	21.1	1.10	1.37	-60	4.9	CLEAR	NONE
MW-22	10/24/2006	1430	16.91	6.92	22.1	3.91	5.60	327	1.9	CLEAR	NONE
MW-23	10/24/2006	1700	3.41	5.80	17.5	0.90	2.57	45	11	LIGHT YELLOW	NONE
MW-24	10/24/2006	1600	3.40	5.78	17.7	2.16	2.03	54	3.4	LIGHT YELLOW	NONE

ft MSL = feet above Mean Sea Level mS/cm = milliSeimens per centimeter mV = milli-Volts
mg/l = milligrams per liter NTU = National Turbidity Unit C = degrees Celsius NM = Not Measured

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6324 Fairview Road
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DuPont Engineering

Received
JUL 2007
Waste Management

July 12, 2007

Mr. Ethan Brown
NCDENR
Solid Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646

Re: Semi-Annual Groundwater Monitoring Report
DuPont Industrial Landfills, NC Solid Waste Landfill Permit No. 10-06
Cape Fear Plant, Leland, NC

Dear Mr. Brown:

As required in Landfill Permit No.10-06, attached please find the results of the semi-annual groundwater monitoring program completed at the DuPont Cape Fear Plant in October of 2006. Please note that starting in 2007 these semi-annual reports will be prepared using the New Guidelines for Electronic Submittal of Environmental Data specified by NCDENR in a memorandum dated October 27, 2006. Monitoring wells MW-1, -2, -3, -8, and –9 are associated with the TPA Landfill (SWMU 53), MW-4, -5, -6, and –7 are associated with the Ash Landfill (SWMU 54), and MW-22, -23, and –24 are associated with the Demolition Landfill (SWMU 59). Attached to this letter are the following figure and tables:

Figure 1: Potentiometric Surface Map: Map showing the locations of the monitoring wells associated with the landfill monitoring program along with groundwater elevations at each well (measured in October 2006). Groundwater elevation contours showing groundwater flow direction are also included on this map.

Table 1: Summary of Analytical Results: List of the constituents that were detected in groundwater from the above monitoring wells and their corresponding concentrations (October 2006).

Table 2: Target Analyte List: A list of the parameters that were analyzed in the laboratory along with the practical quantitation limits (PQLs) and method detection limits (MDLs).

Table 3: Groundwater Field Parameters: Lists of the water quality parameters collected in the field (October 2006).

GENERAL

As part of an in-house quality control/quality assurance (QA/QC) process, the laboratory analytical data were reviewed and, in some cases, qualified by placing a "J" or "B" flag next to the resulting concentration (see Table 1). A "J" flag means that the value is estimated and a "B" flag indicates that the analyte was also detected in the associated laboratory (method) or field (equipment, trip) blank. Overall, the analytical data presented in this letter report is acceptable and considered usable.

TPA LANDFILL RESULTS

During the October 2006 sampling event at the TPA Landfill, 1,4-dioxane was detected in groundwater from monitoring wells MW-2, MW-8, and MW-9 at concentrations ranging from 0.013 to 0.070 milligrams per liter (mg/L). These values are above the NC 2L standard of 0.007 mg/L. Over the past three years, the concentration of 1,4-dioxane in groundwater at MW-2, MW-8, and MW-9 has ranged from 0.0095-0.028 mg/L, 0.015-0.041 mg/L, and 0.023-0.097 mg/L, respectively. Bis(2-ethylhexyl)phthalate (BEHP) was detected in groundwater from MW-1 at a concentration (0.0036 mg/L), slightly above the NC 2L standard of 0.003 mg/L. This detection is qualified ("B" flagged) because BEHP was detected at a concentration of 0.0023 mg/L in the equipment blank. The total dissolved solids (TDS) concentration in groundwater from MW-8 (1170 mg/L) was above the NC 2L standard of 500 mg/L.

Concentrations of the remaining constituents in the wells are below NC 2L standards and the downgradient levels (as measured at MW-8) have remained stable since 2003.

ASH LANDFILL RESULTS

During the October 2006 sampling event at the Ash Landfill, BEHP was detected in groundwater from MW-5 at a concentration (0.006 mg/L), slightly above the NC 2L standard of 0.003 mg/L. BEHP is a common laboratory contaminant and was detected in the equipment blank at a concentration of 0.0023 mg/L. The concentration of TDS in groundwater from MW-4 and MW-6 (728 and 889 mg/L, respectively) was slightly above the NC 2L standard of 500 mg/L. Also, the concentration of sulfate detected at MW-4 (302 mg/L) slightly exceeded the NC 2L standard of 250 mg/L. Terephthalic Acid (TPA) was detected in groundwater from MW-6 at a concentration of 2.2 mg/L, which is below the PQL of 5.0 mg/L for this compound (note that TPA does not have a corresponding NC 2L standard).

DEMOLITION LANDFILL RESULTS

During the October 2006 sampling event at the Demolition Landfill, methanol was detected at a concentration (3.8 mg/L) slightly above NC 2L standard of 3.5 mg/L. The concentration of TDS in groundwater from MW-23 (636 mg/L) was slightly above the NC 2L standard of 500 mg/L.

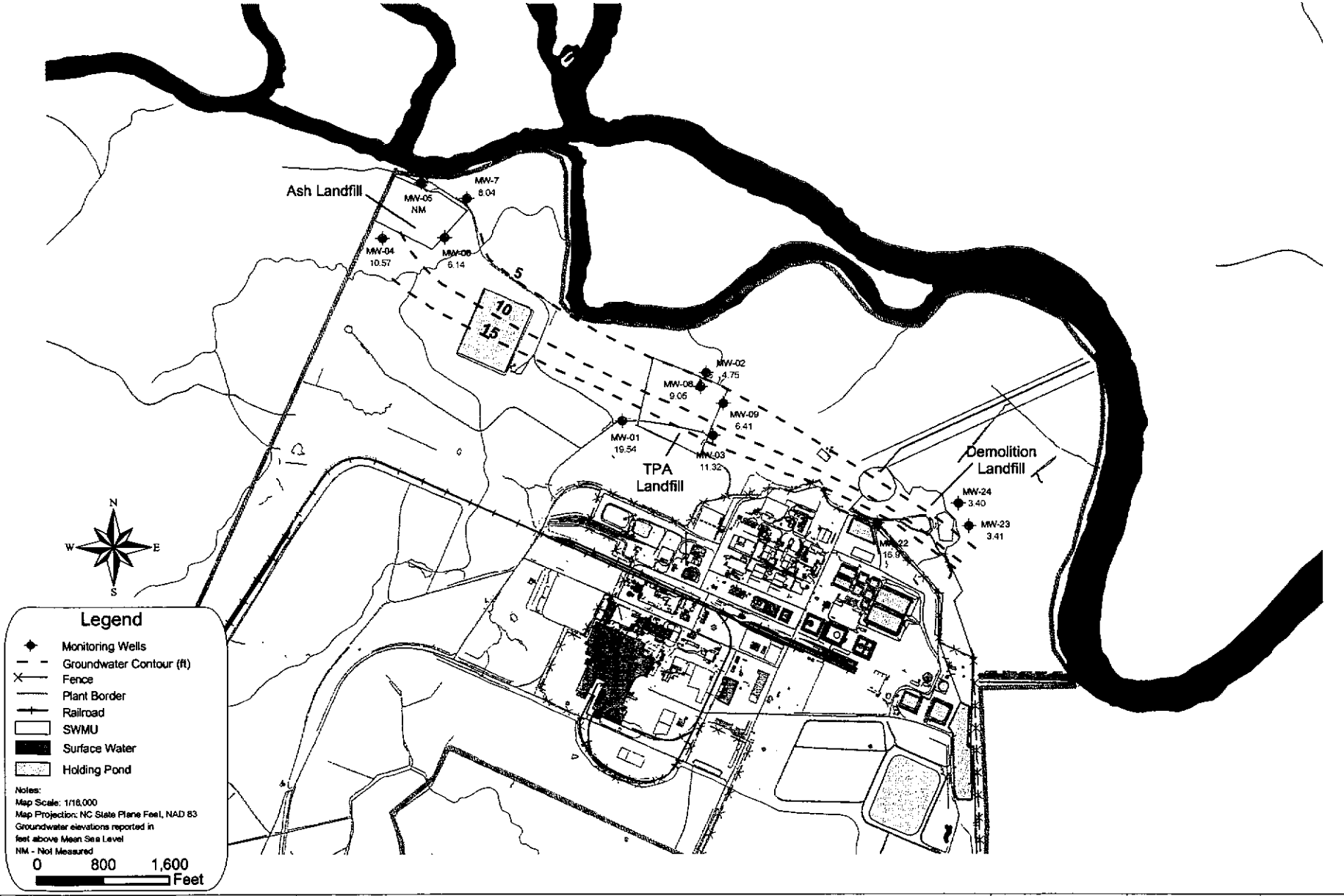
Please feel free to contact me at 704-362-6641 if you have any questions concerning this groundwater monitoring report.

Sincerely,

James K. Henderson

James K Henderson
Project Director
DuPont Corporate Remediation Group

cc: Mr. Larry Stanley, NCDENR, HWS
File



CORPORATE REMEDIATION GROUP
An Alliance between
DuPont and URS Corporation - North Carolina
6324 Fairveiw Road
Charlotte, NC 28210

TITLE:
Potentiometric Surface Map (October, 2006)
Cape Fear Landfill Semi-Annual Report
DAK Americas Cape Fear Plant
Leland, North Carolina

DRAWN: ND	DATE: 01/05/07	DuPont Project #: 8548
REVISION:	FIGURE NO.: 1	URSD Project #: 18963997

FILE NAME: G:/CapeFear/Gis/Project_figures/Landfill_Sampling_Annual_Report/2006/CF_Pot_map_10_06.mxd

Table 1. Summary of Analytical
Results (October 2006)
Cape Fear Landfills

	TPA LANDFILL					
Analyte	MW-1	MW-2	MW-3	MW-8	MW-9	NC 2L
1,4-DIOXANE	ND	0.018	ND	0.035	0.097	0.007
ARSENIC	ND	ND	ND	0.0093 J	0.0028 J	0.05
BARIUM	0.025 J	0.019 J	0.011 J	0.64	0.029 J	2
BIS(2-ETHYLHEXYL)PHTHALATE	0.0036 B	0.0014 B	0.00096 B	0.0027 B	0.0022 B	0.003
CHLORIDE	12.9 J	10.1 J	4.9 J	38.2 J	9.3 J	250
FLUORIDE	0.121	0.0406 J	0.108	0.218	0.0720 J	2
MERCURY	0.000078 B	0.000064 B	0.000086 B	0.00010 B	0.000048 B	0.0011
SULFATE	10.2 J	15.7 J	22.6 J	ND	ND	250
TOTAL DISSOLVED SOLIDS	115	447	276	1170	436	500

	ASH LANDFILL					BLANK	
Analyte	MW-4	MW-5	MW-6	MW-7	NC 2L	EQBLK-1	TBLK-1
BARIUM	0.054 J	0.053 J	0.075 J	0.038 J	2	0.0017 J	NA
BIS(2-ETHYLHEXYL)PHTHALATE	0.00054 J	0.006 J	0.00053 J	ND	0.003	0.0023 J	NA
CHLORIDE	11.5 J	3.1 J	0.56 J	6.9 J	250	0.42 J	NA
FLUORIDE	0.129	0.0379 J	0.122	ND	2	ND	NA
MERCURY	0.00012 B	0.000079 B	0.000060 B	0.000079 B	0.0011	0.000085 J	NA
SELENIUM	ND	0.019 J	ND	ND	0.05	ND	NA
SULFATE	302 J	15.7 J	142 J	10.9 J	250	ND	NA
TEREPHTHALIC ACID	ND	ND	2.2 J	ND	N/A	ND	NA
TOLUENE	ND	0.00059 J	ND	ND	1	ND	ND
TOTAL DISSOLVED SOLIDS	728	278	889	49	500	22 J	NA

	DEMOLITION LANDFILL			
Analyte	MW-22	MW-23	MW-24	NC 2L
1,4-DIOXANE	ND	0.0055 J	ND	0.007
BARIUM	0.011 J	0.17 J	0.18 J	2
BIS(2-ETHYLHEXYL)PHTHALATE	0.0013 B	0.0022 B	0.00092 B	0.003
CHLORIDE	4.3 J	150 J	48.2 J	250
CHROMIUM	ND	ND	0.0011 J	0.05
FLUORIDE	0.102	0.0485 J	0.0493 J	2
METHANOL	3.8 J	ND	ND	3.5
MERCURY	0.000032 B	0.000059 B	0.000052 B	0.0011
SELENIUM	ND	ND	0.0034 J	0.05
SULFATE	17.3 J	ND	ND	250
TOTAL DISSOLVED SOLIDS	170	636	421	500

NOTE: Shaded values are above NC 2L standards

All units in milligrams per liter (MG/L)

ND = Not Detected

NA = Not Analyzed

N/A = Not Available

J = *In-House Qualifier*. Analyte present, reported value may not be accurate or precise.

B = *In-House Qualifier*. Not detected substantially above the level in the laboratory or field blanks.

Table 2. Target Analyte List - October 2006
Cape Fear Landfills

TYPE	CASNO	ANALYTE	MDL	PQL	UNIT
VOC	630206	1,1,1,2-TETRACHLOROETHANE	0.51	1.0	UG/L
VOC	71556	1,1,1-TRICHLOROETHANE	0.45	1.0	UG/L
VOC	79345	1,1,2,2-TETRACHLOROETHANE	0.59	1.0	UG/L
VOC	79005	1,1,2-TRICHLOROETHANE	0.46	1.0	UG/L
VOC	75343	1,1-DICHLOROETHANE	0.43	1.0	UG/L
VOC	75354	1,1-DICHLOROETHENE	0.33	1.0	UG/L
VOC	96184	1,2,3-TRICHLOROPROPANE	0.99	1.0	UG/L
VOC	96128	1,2-DIBROMO-3-CHLOROPROPANE	1.3	2.0	UG/L
VOC	106934	1,2-DIBROMOETHANE	0.49	1.0	UG/L
VOC	107062	1,2-DICHLOROETHANE	0.55	1.0	UG/L
VOC	78875	1,2-DICHLOROPROPANE	0.36	1.0	UG/L
VOC	123911	1,4-DIOXANE	1.6	20	UG/L
VOC	591786	2-HEXANONE	0.93	5.0	UG/L
VOC	67641	ACETONE	0.95	10	UG/L
VOC	107131	ACRYLONITRILE	0.61	20	UG/L
VOC	71432	BENZENE	0.38	1.0	UG/L
VOC	74975	BROMOCHLOROMETHANE	0.52	1.0	UG/L
VOC	75274	BROMODICHLOROMETHANE	0.46	1.0	UG/L
VOC	75252	BROMOFORM	0.62	1.0	UG/L
VOC	75150	CARBON DISULFIDE	0.39	1.0	UG/L
VOC	56235	CARBON TETRACHLORIDE	0.39	1.0	UG/L
VOC	108907	CHLOROBENZENE	0.41	1.0	UG/L
VOC	75003	CHLOROETHANE	0.39	2.0	UG/L
VOC	67663	CHLOROFORM	0.49	1.0	UG/L
VOC	156592	CIS-1,2-DICHLOROETHENE	0.41	0.50	UG/L
VOC	10061015	CIS-1,3-DICHLOROPROPENE	0.33	1.0	UG/L
VOC	124481	DIBROMOCHLOROMETHANE	0.51	1.0	UG/L
VOC	74953	DIBROMOMETHANE	0.13	1.0	UG/L
VOC	100414	ETHYLBENZENE	0.36	1.0	UG/L
VOC	107211	ETHYLENE GLYCOL	5.8	25	MG/L
VOC	74884	IODOMETHANE	0.50	1.0	UG/L
VOC	67561	METHANOL	2.6	5.0	MG/L
VOC	74839	METHYL BROMIDE	0.52	2.0	UG/L
VOC	74873	METHYL CHLORIDE	0.49	2.0	UG/L
VOC	78933	METHYL ETHYL KETONE	4.1	5.0	UG/L
VOC	75092	METHYLENE CHLORIDE	0.53	1.0	UG/L
VOC	108101	METHYL-ISO-BUTYL KETONE	0.14	5.0	UG/L
VOC	100425	STYRENE	0.32	1.0	UG/L
VOC	127184	TETRACHLOROETHENE	0.38	1.0	UG/L
VOC	108883	TOLUENE	0.36	1.0	UG/L
VOC	156605	TRANS-1,2-DICHLOROETHENE	0.41	0.50	UG/L
VOC	10061026	TRANS-1,3-DICHLOROPROPENE	0.34	1.0	UG/L
VOC	110576	TRANS-1,4-DICHLORO-2-BUTENE	0.92	1.0	UG/L
VOC	79016	TRICHLOROETHENE	0.36	1.0	UG/L
VOC	75694	TRICHLOROFLUOROMETHANE	0.36	2.0	UG/L
VOC	108054	VINYL ACETATE	0.73	2.0	UG/L
VOC	75014	VINYL CHLORIDE	0.38	2.0	UG/L
VOC	1330207	XYLENES (TOTAL)	0.98	2.0	UG/L
SVOC	120821	1,2,4-TRICHLOROBENZENE	1.5	10	UG/L
SVOC	95501	1,2-DICHLOROBENZENE	1.6	10	UG/L
SVOC	541731	1,3-DICHLOROBENZENE	1.5	10	UG/L
SVOC	106467	1,4-DICHLOROBENZENE	1.7	10	UG/L
SVOC	95954	2,4,5-TRICHLOROPHENOL	2.1	10	UG/L
SVOC	88062	2,4,6-TRICHLOROPHENOL	1.6	10	UG/L
SVOC	120832	2,4-DICHLOROPHENOL	1.9	10	UG/L
SVOC	105679	2,4-DIMETHYLPHENOL	1.9	10	UG/L
SVOC	51285	2,4-DINITROPHENOL	5.0	50	UG/L
SVOC	121142	2,4-DINITROTOLUENE	0.15	10	UG/L
SVOC	606202	2,6-DINITROTOLUENE	0.11	10	UG/L
SVOC	91587	2-CHLORONAPHTHALENE	1.7	10	UG/L
SVOC	95578	2-CHLOROPHENOL	1.9	10	UG/L
SVOC	91576	2-METHYLNAPHTHALENE	1.5	10	UG/L
SVOC	88755	2-NITROPHENOL	1.6	10	UG/L
SVOC	EVS-0197	3 OR 4-METHYLPHENOL	3.3	20	UG/L

MDL= Method Detection Limit
PQL= Practical Quantitation Limit

MG/L= milligrams per liter
UG/L= micrograms per liter

Table 2. Target Analyte List - October 2006
Cape Fear Landfills

TYPE	CASNO	ANALYTE	MDL	PQL	UNIT
SVOC	91941	3,3'-DICHLOROBENZIDINE	1.6	50	UG/L
SVOC	534521	4,6-DINITRO-2-METHYLPHENOL	5.6	50	UG/L
SVOC	101553	4-BROMOPHENYL PHENYL ETHER	1.5	10	UG/L
SVOC	59507	4-CHLORO-3-METHYLPHENOL	2.1	10	UG/L
SVOC	106478	4-CHLOROANILINE	1.7	10	UG/L
SVOC	7005723	4-CHLOROPHENYL PHENYL ETHER	1.7	10	UG/L
SVOC	100027	4-NITROPHENOL	2.8	50	UG/L
SVOC	83329	ACENAPHTHENE	1.6	10	UG/L
SVOC	208968	ACENAPHTHYLENE	1.6	10	UG/L
SVOC	120127	ANTHRACENE	1.7	10	UG/L
SVOC	56553	BENZO(A)ANTHRACENE	1.7	10	UG/L
SVOC	50328	BENZO(A)PYRENE	1.7	10	UG/L
SVOC	205992	BENZO(B)FLUORANTHENE	2.0	10	UG/L
SVOC	191242	BENZO(G,H,I)PERYLENE	2.0	10	UG/L
SVOC	207089	BENZO(K)FLUORANTHENE	2.2	10	UG/L
SVOC	111911	BIS(2-CHLOROETHOXY)METHANE	2.6	10	UG/L
SVOC	111444	BIS(2-CHLOROETHYL) ETHER	2.0	10	UG/L
SVOC	108601	BIS(2-CHLOROISOPROPYL)ETHER	2.3	10	UG/L
SVOC	117817	BIS(2-ETHYLHEXYL)PHTHALATE	2.2	10	UG/L
SVOC	85687	BUTYL BENZYL PHTHALATE	1.6	10	UG/L
SVOC	86748	CARBAZOLE	2.3	10	UG/L
SVOC	218019	CHRYSENE	1.7	10	UG/L
SVOC	53703	DIBENZO(A,H)ANTHRACENE	2.1	10	UG/L
SVOC	132649	DIBENZOFURAN	1.7	10	UG/L
SVOC	84662	DIETHYL PHTHALATE	2.0	10	UG/L
SVOC	131113	DIMETHYL PHTHALATE	1.9	10	UG/L
SVOC	84742	DI-N-BUTYL PHTHALATE	2.2	10	UG/L
SVOC	117840	DI-N-OCTYL PHTHALATE	2.5	10	UG/L
SVOC	101848	DIPHENYL ETHER	3.5	10	UG/L
SVOC	206440	FLUORANTHENE	1.9	10	UG/L
SVOC	86737	FLUORENE	1.8	10	UG/L
SVOC	118741	HEXACHLOROBENZENE	1.6	10	UG/L
SVOC	87683	HEXACHLOROBUTADIENE	1.4	10	UG/L
SVOC	77474	HEXACHLOROCYCLOPENTADIENE	5.0	50	UG/L
SVOC	67721	HEXACHLOROETHANE	1.5	10	UG/L
SVOC	193395	INDENO(1,2,3-CD)PYRENE	2.0	10	UG/L
SVOC	78591	ISOPHORONE	1.9	10	UG/L
SVOC	99092	M-NITROANILINE	1.7	50	UG/L
SVOC	91203	NAPHTHALENE	1.8	10	UG/L
SVOC	98953	NITROBENZENE	2.0	10	UG/L
SVOC	621647	N-NITROSODI-N-PROPYLAMINE	0.33	10	UG/L
SVOC	86306	N-NITROSODIPHENYLAMINE	3.4	10	UG/L
SVOC	95487	O-CRESOL	2.9	10	UG/L
SVOC	88744	O-NITROANILINE	1.7	50	UG/L
SVOC	87865	PENTACHLOROPHENOL	6.2	50	UG/L
SVOC	85018	PHENANTHRENE	1.7	10	UG/L
SVOC	108952	PHENOL	2.0	10	UG/L
SVOC	100016	P-NITROANILINE	1.9	50	UG/L
SVOC	129000	PYRENE	1.8	10	UG/L
METALS	7440360	ANTIMONY	0.0018	0.030	MG/L
METALS	7440382	ARSENIC	0.0027	0.020	MG/L
METALS	7440393	BARIUM	0.00050	0.0025	MG/L
METALS	7440439	CADMIUM	0.00022	0.0040	MG/L
METALS	7440473	CHROMIUM	0.00094	0.010	MG/L
METALS	7439921	LEAD	0.0014	0.010	MG/L
METALS	7439976	MERCURY	0.000063	0.00020	MG/L
METALS	7782492	SELENIUM	0.0026	0.020	MG/L
METALS	7440224	SILVER	0.0022	0.010	MG/L
MISC	16887006	CHLORIDE	0.36	1.0	MG/L
MISC	16984488	FLUORIDE	0.030	0.10	MG/L
MISC	14808798	SULFATE	1.6	5.0	MG/L
MISC	C-010	TOTAL DISSOLVED SOLIDS	17.8	40.0	MG/L
MISC	92524	1,1'-BIPHENYL	3.8	10	UG/L
MISC	111466	DIETHYLENE GLYCOL	3.7	25	MG/L

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PQL= Practical Quantitation Limit

MG/L= milligrams per liter
UG/L= micrograms per liter

Table 2. Target Analyte List - October 2006
Cape Fear Landfills

TYPE	CASNO	ANALYTE	MDL	PQL	UNIT
MISC	120616	DIMETHYLTEREPHTHALATE	4.2	10	UG/L
MISC	100210	TEREPHTHALIC ACID	0.20	5.0	MG/L
MISC	112276	TIETHYLENE GLYCOL	3.6	25	MG/L

MDL= Method Detection Limit
PQL= Practical Quantitation Limit

MG/L= milligrams per liter
UG/L= micrograms per liter

Table 3. Groundwater Field Parameters (October 2006)

SITE: Cape Fear (Leland, NC)
JOB NAME: Semi - Annual Landfill Sampling
PROJECT MANAGER: Marc Harder
FIELD PERSONNEL: Marc Harder, Ken Stuart

SAMPLE (WELL ID)	DATE SAMPLED	TIME SAMPLED	WATER ELEV (ft MSL)	pH	TEMP (C)	SPECIFIC CONDUCTANCE (mS/cm)	DISSOLVED OXYGEN (mg/l)	REDOX (mV)	TURBIDITY (NTU)	COLOR	ODOR
MW-1	10/25/2006	1015	19.54	5.54	18.9	0.90	2.35	216	7.7	CLEAR	NONE
MW-2	10/25/2006	1115	4.75	7.12	21.4	1.20	1.23	-10	5.8	CLEAR	NONE
MW-3	10/25/2006	1530	11.32	7.33	21.1	0.90	1.40	-50	5.0	CLEAR	NONE
MW-4	10/26/2006	1100	10.57	6.60	20.7	2.37	3.71	298	7.1	CLEAR	NONE
MW-5	10/26/2006	1000	NM	6.22	20.3	1.07	6.51	376	3.2	CLEAR	NONE
MW-6	10/26/2006	1330	6.14	8.38	19.3	1.09	2.21	-8	3.4	CLEAR	SLIGHT SULFUR
MW-7	10/26/2006	1430	8.04	6.35	21.2	0.205	5.70	116	1.7	CLEAR	NONE
MW-8	10/25/2006	1200	9.05	7.55	20.8	2.03	1.29	-110	4.4	CLEAR	NONE
MW-9	10/25/2006	1430	6.41	6.83	21.1	1.10	1.37	-60	4.9	CLEAR	NONE
MW-22	10/24/2006	1430	16.91	6.92	22.1	3.91	5.60	327	1.9	CLEAR	NONE
MW-23	10/24/2006	1700	3.41	5.80	17.5	0.90	2.57	45	11	LIGHT YELLOW	NONE
MW-24	10/24/2006	1600	3.40	5.78	17.7	2.16	2.03	54	3.4	LIGHT YELLOW	NONE

ft MSL = feet above Mean Sea Level mS/cm = milliSeimens per centimeter mV = milli-Volts
mg/l = milligrams per liter NTU = National Turbidity Unit C = degrees Celsius NM = Not Measured