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Duke Power®

Carmen Johnson

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8503-

PROCUREMENT, CONSTRUCTION AND EH&S

Duke Power
526 South Church St.
Charlotte, NC 28202

Mailing Address:
EC13K / P. O. Box 1006
Charlotte, NC 28201

December 6, 2005

Mr. Bobby Lutfy
North Carolina Department of Environment,
and Natural Resources
Division of Solid Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Subject: Duke Energy Corporation - Belews Creek Steam Station
Flyash Landfill Permit #85-03
Groundwater Monitoring Report

Dear Mr. Lutfy:

The Belews Creek Flyash Landfill (including the Area 1 expansion) was sampled on October 10-12, 2005. Attached please find a copy of the Groundwater Monitoring Report, Solid Waste Landfill Monitoring Well Locations and Chain of Custody Record.

All parameter values in excess of the N.C. groundwater standard are highlighted in the Groundwater Monitoring Report. Exceedances were observed at various wells for pH, iron, manganese, boron, arsenic, cadmium, selenium, sulfate, nitrate, and total dissolved solids. Iron, manganese, and pH values exceedances can be attributed to Piedmont soil characteristics.

Several of these well locations have a limited number of analytical data for various parameters. Duke Power recognizes the need to collect additional groundwater data.

All other parameters were below the NC groundwater standards. All values reported in the attached report are dependent on the accuracy of the approved analytical methods used to measure parameters.

The next semi-annual sampling of the landfill will occur in April 2006. If you have questions, please call me at (704) 382-4309.

Sincerely,

Allen Stowe

Allen Stowe
Scientist, Environmental Support

Attachments

cc: Mr. Robert Cheek – NC DENR Groundwater Section

DUKE POWER COMPANY
GROUNDWATER MONITORING REPORT

November 21, 2005

Facility: Belews Creek Steam Station Fly-Ash Landfill #85-03
Sample Date: October 10 - 12, 2005 (Field and Geochemistry Data)

Certificate Codes:

Duke Power Lab #248
Duke Power Field #5193
Prism Lab #2402
Test America Lab #387

Parameter	Units	Certificate Code	Monitoring Well Identification							FIELD BLANK	15A NCAC 2L*
			MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	OB-1		
Field pH	Std. Units	5193									**6.5-8.5**
Field Spec. Conductance	umho/cm	5193	19	58	84	118	35	41			
Temperature	C	5193	15	15	14	15	15	15			
Top Casing	msl-feet		853.02	853.39	843.19	768.11	787.17	837.67	888.37		
Depth to Water	feet		30.94	38.97	40.43	14.47	26.16	29.29	47.80		
Water Elevation	msl-feet		822.08	814.42	802.76	753.64	761.01	808.38	840.57		
Well Depth	feet		47.20	50.00	49.50	40.20	60.20	36.84	85.40		
Arsenic	mg/l	248	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020		< 0.0020	**0.050**
Barium	mg/l	248	0.022	0.085	0.10	< 0.0050	0.032	0.042		0.014	**2.0**
BOD	mg/l	2402	< 2.0	< 3.3	< 2.0	< 2.0	< 2.0	< 2.0			
Boron	mg/l	248	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10	**0.315**
Cadmium	mg/l	248	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050		< 0.00050	**0.00175**
Chemical Oxygen Demand	mg/l	2402	< 50	< 50	< 50	< 50	< 50	< 50		< 50	
Chloride	mg/l	248	1.9	4.6	19	1.8	1.8	3.9		< 0.10	**250**
Chromium	mg/l	248	0.0013	0.0037	0.0017	0.012	0.0019	0.0013		< 0.0010	**0.050**
Copper	mg/l	248	< 0.0020	< 0.0020	< 0.0020	< 0.0020	0.076	< 0.0020		< 0.0020	**1.0**
Fluoride	mg/l	248	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10	**2.0**
Iron	mg/l	248	0.22		0.24	0.16				0.013	**0.30**
Lab pH	Std. Units	248	4.3	5.1	5.3	6.0	5.5	5.3			**6.5-8.5**
Lead	mg/l	248	< 0.0020	< 0.0020	< 0.0020	< 0.0020	0.0057	< 0.0020		< 0.0020	**0.015**
Manganese	mg/l	248	0.027	0.019	0.0090	0.027	0.018	0.0070		0.016	**0.050**
Mercury	mg/l	248	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010		< 0.00010	**0.00105**
Nitrate (as Nitrogen)	mg-N/l	248	0.14	0.72	< 0.020	0.51	1.1	< 0.020		< 0.020	**10**
Selenium	mg/l	248	< 0.0020	< 0.0020	< 0.0020	0.0037	< 0.0020	< 0.0020		< 0.0020	**0.050**
Silver	mg/l	248	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050		< 0.00050	**0.0175**
Sulfate	mg/l	248	4.3	0.33	0.30	14	0.17	0.16		< 0.10	**250**
Total Dissolved Solids	mg/l	2402	< 20	38	72	84	42	40			**500**
Total Organic Carbon	mg/l	248	0.21	0.27	0.40	0.18	0.14	0.25		0.16	
Total Organic Halogen	mg/l	387	< 0.010	< 0.010	< 0.010	< 0.010	**	< 0.010		< 0.010	
Zinc	mg/l	248	0.0060	< 0.0050	< 0.0050	< 0.0050	0.043	< 0.0050		< 0.0050	**1.05**

*** 15A NCAC 2L**

**** TOX sample for Location MW-5 was broken during sample transport to vendor lab.**

Authorized Release By Allen Stowe

Date 12-6-2005

DUKE POWER COMPANY
GROUNDWATER MONITORING REPORT

November 21, 2005

Facility: Belews Creek Steam Station Fly-Ash Landfill #85-03, Area 1 Expansion
Sample Date: October 10 - 12, 2005 (Field and Geochemistry Data)

Certificate Codes:

Duke Power Lab #248
Duke Power Field #5193
Prism Lab #2402
Test America Lab #387

Parameter	Units	Certificate Codes	Monitoring Well Identification										FIELD BLANK	15A NCAC 2L*
			MW2-1	MW2-2	MW2-3	MW2-4	MW2-5	MW2-7	MW2-7A	MW2-8	MW2-9	MW2-10		
Field pH	Std. Units	5193	5.4	5.7	5.5	6.1	5.7	5.4	5.6	5.5	6.4	5.5		**6.5-8.5**
Field Spec. Conductance	umho/cm	5193	641	59	854	358	69	1209	1050	51	464	836		
Temperature	C	5193	15	15	14	14	15	16	16	16	19	15		
Top Casing	msl-feet		789.32	787.23	796.69	814.70	849.32	778.79	791.38	821.40	798.04	817.53		
Depth to Water	feet		34.73	31.07	36.91	45.83	35.93	14.25	21.78	10.13	4.39	38.32		
Water Elevation	msl-feet		754.59	756.16	759.78	768.87	813.39	764.54	769.60	811.27	793.65	779.21		
Well Depth	feet		44.11	39.63	61.12	60.22	56.55	30.62	30.06	26.56	14.61	47.94		
Arsenic	mg/l	248	< 0.0020	< 0.0020	< 0.0020	0.0024	< 0.0020	0.0026	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	**0.050**
Barium	mg/l	248	0.0500	0.0600	0.0210	0.0670	0.0240	0.0700	0.1060	0.0240	0.0960	0.0770	< 0.0050	**2**
BOD	mg/l	2402	< 3.3	< 3.3	< 2.0	< 2.0	< 1.4	< 1.9	2.0	< 1.9	< 1.9	< 2.0		
Boron +	mg/l	248	4.4	< 0.10	5.2	1.9	< 0.10	10.0	8.2	< 0.10	0.3	5.2		**0.315**
Cadmium	mg/l	248	0.00073	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.0011	< 0.00050	**0.00175**
Chemical Oxygen Demand	mg/l	2402	< 50	< 50	< 50	< 50	< 50	< 50	51	54	55	< 50	< 50	
Chloride	mg/l	248	3.6	2.4	8.5	4.6	6.5	12	9.6	3.9	7.9	7.8	< 0.10	**250**
Chromium	mg/l	248	0.0025	0.0134	< 0.0010	0.0025	< 0.0010	< 0.0010	0.0013	0.0013	0.0021	0.0023	< 0.0010	**0.05**
Copper	mg/l	248	< 0.0020	0.0035	0.0066	0.0039	< 0.0020	< 0.0020	0.0029	< 0.0020	< 0.0020	< 0.0020	< 0.0020	**1**
Fluoride	mg/l	248	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	**2**
Iron +	mg/l	248	0.66	1.58	0.51	0.90	0.12	0.16	0.03	0.24	9.14	1.29	< 0.010	**0.3**
Lab pH	Std. Units	248	5.6	5.9	5.7	6.3	6.0	5.6	5.7	5.6	6.1	5.6		**6.5-8.5**
Lead	mg/l	248	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	**0.015**
Manganese +	mg/l	248	0.020	0.035	0.198	0.021	< 0.0050	0.210	0.031	0.013	4.36	0.491	< 0.0050	**0.05**
Mercury	mg/l	248	< 0.00010	< 0.00010	0.00017	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	**0.00105**
Nitrate (as Nitrogen) +	mg-N/l	248	3.3	0.0	5.4	2.9	0.6	17.3	16.1	0.2	0.1	7.6	< 0.020	**10**
Selenium +	mg/l	248	0.043	< 0.0020	0.057	0.021	< 0.0020	0.016	0.108	< 0.0020	0.008	0.026	< 0.0020	**0.05**
Silver	mg/l	248	< 0.00050	< 0.00050	< 0.00050	0.001	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	**0.0175**
Sulfate +	mg/l	248	108.1	0.74	301.8	117.6	0.3	536.4	381.6	1.7	93.0	374.4	< 0.10	**250**
Total Dissolved Solids +	mg/l	2402	530.0	50.00	856.0	270.0	42.0	1,000.0	830.0	40.0	220.0	760.0		**500**
Total Organic Carbon	mg/l	248	0.47	0.25	0.83	0.37	0.20	0.78	0.50	0.31	4.1	1.1	0.16	
Total Organic Halogen	mg/l	387	< 0.010	< 0.010	0.012	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.021	< 0.010	**	
Zinc	mg/l	248	0.029	0.0070	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.016	< 0.0050	< 0.0050	0.016	< 0.0050	**1.05**

*** 15A NCAC 2L**

**** TOX sample for Field Blank was broken during sample transport to vendor lab.**

Authorized Release By Allen Stone

Date 12-6-2005

DUKE POWER COMPANY
GROUNDWATER MONITORING REPORT

November 21, 2005

Facility: Belews Creek Steam Station Fly-Ash Landfill #85-03, Area 1 Expansion
Sample Date: October 10 - 12, 2005 (Field and Geochemistry Data)

Certificate Codes:

Duke Power Lab #248
Duke Power Field #5193
Prism Lab #2402
Test America Lab #387

Parameter	Units	Certificate Codes	Monitoring Well Identification									15A NCAC 2L*
			OB-3	OB-4	OB-5	OB-6	OB-7	OB-8	OB-9	SW-1A	SW-2	
Field pH	Std. Units	5193	4.8	7.8	5.7	4.9	5.4	5.4	5.5	**	**	**6.5-8.5**
Field Spec. Conductance	umho/cm	5193	796	2560	43	1500	734	800	2090	**	**	
Temperature	C	5193	15	16	15	16	16	18	15	**	**	
Top Casing	msl-feet		787.47	777.68	781.97	796.57	802.67	811.16	800.16			
Depth to Water	feet		29.30	23.79	27.84	20.43	20.90	9.35	38.09			
Water Elevation	msl-feet		758.17	753.89	754.13	776.14	781.77	801.81	762.07			
Well Depth	feet		42.40	32.68	38.90	31.20	26.41	17.58	48.57			
Arsenic	mg/l	248	< 0.0020	0.063	< 0.0020	0.003	< 0.0020	0.009	0.004	**	**	**0.050**
Barium	mg/l	248	0.059	0.043	0.213	0.041	0.071	0.094	0.022	**	**	**2**
BOD	mg/l	2402	4.1	< 1.9	< 1.9	< 2.0	< 2.0	< 1.9	< 1.4	**	**	
Boron	mg/l	248	3.2	27.6	< 0.10	12.7	5.8	2.7	25.6	**	**	**0.315**
Cadmium	mg/l	248	0.0027	0.0005	< 0.00050	0.0025	< 0.00050	0.0005	0.0046	**	**	**0.00175**
Chemical Oxygen Demand	mg/l	2402	< 50	76	< 50	< 50	< 50	< 50	< 50	**	**	
Chloride	mg/l	248	3.5	3.4	8.0	17.9	7.4	7.1	10.3	**	**	**250**
Chromium	mg/l	248	0.0036	0.0011	0.0033	0.0014	0.0022	0.0062	0.0011	**	**	**0.05**
Copper	mg/l	248	0.0036	< 0.0020	< 0.0020	0.0032	0.0048	0.0034	0.0030	**	**	**1**
Fluoride	mg/l	248	< 0.10	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	**	**	**2**
Iron	mg/l	248	3.8	1.4	4.8	9.7	1.5	2.1	0.3	**	**	**0.3**
Lab pH	Std. Units	248	4.8	7.6	5.8	4.7	5.5	5.5	5.7	**	**	**6.5-8.5**
Lead	mg/l	248	< 0.0020	< 0.0020	0.0034	< 0.0020	< 0.0020	< 0.0020	< 0.0020	**	**	**0.015**
Manganese	mg/l	248	1.2	1.6	0.1	3.1	0.1	0.1	1.3	**	**	**0.05**
Mercury	mg/l	248	0.00081	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	**	**	**0.00105**
Nitrate (as Nitrogen)	mg-N/l	248	< 0.020	< 0.020	< 0.020	7.04	10.5	4.00	1.39	**	**	**10**
Selenium	mg/l	248	0.03	0.05	< 0.0020	0.05	0.04	0.1	0.1	**	**	**0.05**
Silver	mg/l	248	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	**	**	**0.0175**
Sulfate	mg/l	248	448	1530	0	820	214	1.42	1.5	**	**	**250**
Total Dissolved Solids	mg/l	2402	600	2160	34	1600	1000	1	1	**	**	**500**
Total Organic Carbon	mg/l	248	3.4	0.43	0.35	1.8	0.48	0.61	1.2	**	**	
Total Organic Halogen	mg/l	387	0.17	< 0.010	< 0.010	0.048	< 0.010	< 0.010	0.036	**	**	
Zinc	mg/l	248	0.10	< 0.0050	0.02	0.12	0.01	0.01	0.07	**	**	**1.05**

*** 15A NCAC 2L**

**** Not sampled due to heavy rainfall in area.**

Authorized Release By Allen Stirum

Date 12-6-2005

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Duke Energy SM

For Detailed Instructions, see:
http://dewww/essenv/coc/

Duke Power Analytical Laboratory Services
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(704) 875-5245
Fax: (704) 875-5038

Analytical Laboratory Use Only

LIMS # 05-SEP-0612 | Sample Class GWTR | Samples Originating From NC √ SC ___

Logged By VLS | Date & Time 9/29/05 1131

VENDOR | Cooler Temp (C) all 3°

PO # | SAMPLE PROGRAM: Ground Water √ NPDES ___ Drinking Water ___ UST ___ RCRA Waste ___

MR # | [16]Preserv.: 1=HCl, 2=H_2SO_4, 3=HNO_3, 4=Ice, 5=None

[19]Page 1 of 1
DISTRIBUTION
ORIGINAL to LAB, COPY to CLIENT

BCSSLFILLCOCLAB.XLS

Customer must Complete

1)Project Name: BELEWS CRK LANDFILL | 2)Phone No: 875-5257
3)Client: C Campbell / Allen Stowe / T Hunsucker | 4)Fax No:875-5032
5)Business Unit: 20003 | 6)Process: ENVWS | 7)Resp. To: BC00
8)Project ID: | 9)Activity ID: | 10)Mail Code: MGO3A3

Customer to complete all appropriate NON-SHADED areas.

Customer to complete appropriate columns to right

LAB USE ONLY [11]Lab ID	[12]Chem Desktop No.	[13]Sample Description or ID	[14]Collection Information Date	Time	Signature	[17]Comp.	[18]Grab	[16]Analyses Required: NO3, Cl, F, SO4, ALK, LAB pH 4	MET - (As, Ba, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, K, Se, Ag, Na, Zn) 3	Hg 3	TOC 2,4		VENDORED TDS 4	VENDORED BOD 4	VENDORED TOX 2,4	VENDORED COD 2,4				Chlorine (ppm)	[20]Total # of Containers
25033408		MW-1	10/10/05	1500			X	1	1	1	1		1	1	1	1				0.0	8
25033409		MW-2	10/10/05	1345			X	1	1	1	1		1	1	1	1				0.0	8
25033410		MW-3	10/10/05	0900			X	1	1	1	1		1	1	1	1				0.0	8
25033411		MW-4	10/12/05	0930	LD Cull		X	1	1	1	1		1	1	1	1				0.0	8
25033412		MW-5	10/12/05	0930			X	1	1	1	1		1	1	1	1				0.0	8
25033413		MW-6	10/10/05	1050			X	1	1	1	1		1	1	1	1				0.0	8
25033414		FIELD BLANK	10/12/05	1530			X	1	1	1	1				1	1				n/a	6

Customer to sign & date below

21)Relinquished By	Date/Time 10/10/05 1600	Accepted By:	Date/Time
Relinquished By	Date/Time 10/11/05 1550	Accepted By:	Date/Time
Relinquished By LD Cull	Date/Time 10/13/05 0800	Accepted By:	Date/Time 10/13/05 0800
23)Seal/Locked By	Date/Time	Sealed/Lock Opened By	Date/Time

24)Comments

Customer, Important please indicate desired turnaround

[22]Requested Turnaround

14 Days ___√___
*7 Days _____
*48 Hr _____
*Other _____ * Add. Cost Will Apply

BELEWS CREEK STEAM STATION
ASH BASIN
NPDES PERMIT # NC0024406
(APPROXIMATE PONDSTAGE 750.8')

SEDIMENT BASIN

HOLDING POND

EXISTING ASH LANDFILL

EXISTING HAUL ROAD

PINE HALL ROAD (S.R. 1908)

HUDSON LOOP ROAD (S.R. 3699)

PROPERTY BOUNDARY

MW-2
MW-3
MW-4
MW-5
MW2-1
MW2-2
MW2-3
MW2-4
MW2-5
MW2-7
MW2-7A
MW2-8
MW2-9
MW2-10
OB-1
OB-2
OB-3
OB-4
OB-5
OB-6
OB-7
OB-9

100 50 0 100 200 300
SCALE IN FEET

BELEWS CREEK
ASH LANDFILL
GROUNDWATER INVESTIGATION