



526 South Church Street
Charlotte, NC 28202

Mailing Address:
PO Box 1006
Mail Code EC13K
Charlotte, NC 28201-1006

704 382 4761

704 382 6240 fax

June 30, 2014

Ms. Elizabeth Werner
North Carolina Department of Environment and Natural Resources
Division of Waste Management
Solid Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646

Subject: Semi-annual Leachate Sampling Results
Duke Energy Carolinas, LLC
Allen Steam Station
Retired Ash Basin (RAB) Ash Landfill, Phase I, Cells 1 and 2, Permit #36-12

Dear Ms. Werner:

In accordance with the landfill *Operations Plan*, Duke Energy is providing the results of semi-annual leachate sampling for the Allen Retired Ash Basin (RAB) Ash Landfill located in Belmont, North Carolina.

On March 5, 2014, leachate samples were collected from the leachate collection system. The samples were collected by Duke Energy personnel. A summary of sampling results can be found in Table 1. As noted in the table, 15 NCAC 2L .0202 standards are provided for reference only. The parameters tested are not bound by state groundwater or surface water standards. The leachate is conveyed to the station's ash impoundment, which discharges via a NPDES permitted outfall. All laboratory analytical and field results are provided as Attachments 1 and 2, respectively.

Duke Energy personnel sample landfill leachate at Allen Steam Station's RAB Ash Landfill semi-annually during March and September. The next landfill leachate sampling event will occur during September 2014 with documentation to follow.

If you have any questions or concerns, please contact me at 704-382-4761 or at Sean.DeNeale@duke-energy.com

Sincerely,

A handwritten signature in black ink that reads "Sean DeNeale".

Sean DeNeale, Engineer II
Environmental Services

Cc: Mr. Don Scruggs – Allen Steam Station
Mrs. Kim Hutchinson – Duke Energy Corporation

NC DENR
Division of Waste Management - Solid Waste

**Environmental Monitoring
Reporting Form**

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- Prepare one form for each individually monitored unit.
- Please type or print legibly.
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i)).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Duke Energy Corporation

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Sean Deneale Phone: 714-382-4761
E-mail: Sean.Deneale@duke-energy.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Retired Ash Basin (RAB) Ash Landfill Duke Energy Allen Steam Station	253 Plant Allen Road Belmont, NC 28012	36-12	.0500	March 5, 2014

Environmental Status: (Check all that apply)

- Initial/Background Monitoring Detection Monitoring Assessment Monitoring Corrective Action

Type of data submitted: (Check all that apply)

- Groundwater monitoring data from monitoring wells Methane gas monitoring data
 Groundwater monitoring data from private water supply wells Corrective action data (specify) _____
 Leachate monitoring data Other(specify) _____
 Surface water monitoring data

Notification attached?

- No. No groundwater or surface water standards were exceeded.
 Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
 Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

Kimberlee Hutchinson, PE Engineer (980) 373-2779
 Facility Representative Name (Print) Title (Area Code) Telephone Number
Kimberlee W. Hutchinson June 30, 2014 Affix NC Licensed/ Professional Geologist Seal
 Signature Date

Duke Energy Corporation, Mail Code EC13K, P.O. Box 1006 Charlotte NC 28201-1006

Facility Representative Address

#F-0566

NC PE Firm License Number (if applicable effective May 1, 2009)

Revised 6/2009

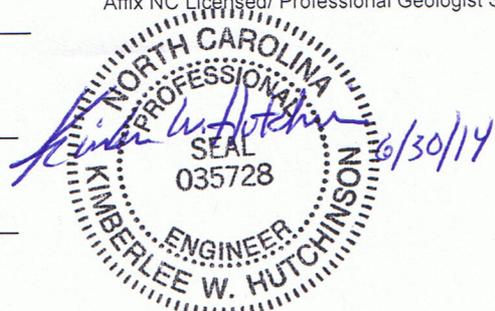


Table 1
Allen Steam Station
Retired Ash Basin (RAB) Ash Landfill (Permit No. 36-12)
Leachate Analytical Data

Constituent	15A NCAC 2L .0202 Standard		Analytical Result			
			March 5, 2014			
			Cell 1		Cell 2	
Arsenic	10	ug/L	410	ug/L	86.2	ug/L
Barium	700	ug/L	57	ug/L	58	ug/L
Boron	700	ug/L	36,000	ug/L	7,330	ug/L
Cadmium	2	ug/L	< 10	ug/L	< 10	ug/L
Chloride	250	mg/L	52	mg/L	14	mg/L
Chromium	10	ug/L	< 5	ug/L	< 5	ug/L
Copper	1	mg/L	0.119	mg/L	0.042	mg/L
Fluoride	2	mg/L	2.6	mg/L	1.2	mg/L
Iron	300	ug/L	224	ug/L	44	ug/L
Lead	15	ug/L	< 10	ug/L	< 10	ug/L
Manganese	50	ug/L	17,000	ug/L	12,300	ug/L
Mercury	1	ug/L	0.12	ug/L	< 0.05	ug/L
Nickel	100	ug/L	663	ug/L	155	ug/L
Nitrate (as N)	10	mg-N/L	14	mg-N/L	16	mg-N/L
pH	6.5-8.5	SU	3.9	SU	3.9	SU
Selenium	20	ug/L	85.1	ug/L	138	ug/L
Silver	20	ug/L	< 5	ug/L	< 5	ug/L
Sulfate	250	mg/L	1,000	mg/L	630	mg/L
Temperature (°C)	n/a	°C	18.52	°C	18.55	°C
TDS	500	mg/L	3,000	mg/L	970	mg/L
Zinc	1	mg/L	0.981	mg/L	0.264	mg/L

NOTE: 15A NCAC 2L .0202 Standards are provided only for reference. Analytical results are for landfill leachate, which is NOT bound by state groundwater or surface water standards. Landfill leachate is conveyed to the station's ash impoundment, which discharges via a NPDES permitted outfall.

Attachment 1

Allen Retired Ash Basin (RAB) Ash Landfill

Semi-Annual Monitoring Event

Leachate Analytical Results

March 5, 2014



Analytical Laboratory

13339 Hagers Ferry Road
Huntersville, NC 28078-7929
McGuire Nuclear Complex - MG03A2
Phone: 980-875-5245 Fax: 980-875-4349

Order Summary Report

Order Number: J14020246

Project Name: ALLEN GROUNDWATER LEACHATE

Customer Name(s): LDC, TSH, D Scruggs, S. DeNeale

Customer Address: 253 Plant Allen Road

Belmont, NC 28012

Lab Contact: Jason C Perkins Phone: 980-875-5348

Report Authorized By:
(Signature)

Jason C Perkins

Date: 3/31/2014

Program Comments:

Please contact the Program Manager (Jason C Perkins) with any questions regarding this report.

Data Flags & Calculations:

Any analytical tests or individual analytes within a test flagged with a Qualifier indicate a deviation from the method quality system or quality control requirement. The qualifier description is found at the end of the Certificate of Analysis (sample results) under the qualifiers heading. All results are reported on a dry weight basis unless otherwise noted. Subcontracted data included on the Duke Certificate of Analysis is to be used as information only. Certified vendor results can be found in the subcontracted lab final report. Duke Energy Analytical Laboratory subcontracts analyses to other vendor laboratories that have been qualified by Duke Energy to perform these analyses except where noted.

Data Package:

This data package includes analytical results that are applicable only to the samples described in this narrative. An estimation of the uncertainty of measurement for the results in the report is available upon request. This report shall not be reproduced, except in full, without the written consent of the Analytical Laboratory. Please contact the Analytical laboratory with any questions. The order of individual sections within this report is as follows:

Job Summary Report, Sample Identification, Technical Validation of Data Package, Analytical Laboratory Certificate of Analysis, Analytical Laboratory QC Reports, Sub-contracted Laboratory Results, Customer Specific Data Sheets, Reports & Documentation, Customer Database Entries, Test Case Narratives, Chain of Custody (COC)

Certification:

The Analytical Laboratory holds the following State Certifications : North Carolina (DENR) Certificate #248, South Carolina (DHEC) Laboratory ID # 99005. Contact the Analytical Laboratory for definitive information about the certification status of specific methods.

Sample ID's & Descriptions:

Sample ID	Plant/Station	Collection Date and Time	Collected By	Sample Description
2014003887	ALLEN	05-Mar-14 8:20 AM	LDC	LEACHATE LCS-CELL 1
2014003888	ALLEN	05-Mar-14 8:35 AM	LDC	LEACHATE LCS-CELL 2
2014003889	ALLEN	05-Mar-14 11:30 AM	LDC	FIELD BLANK
3 Total Samples				

Technical Validation Review

Checklist:

- COC and .pdf report are in agreement with sample totals and analyses (compliance programs and procedures). Yes No
- All Results are less than the laboratory reporting limits. Yes No
- All laboratory QA/QC requirements are acceptable. Yes No

Report Sections Included:

- Job Summary Report
- Sample Identification
- Technical Validation of Data Package
- Analytical Laboratory Certificate of Analysis
- Analytical Laboratory QC Report
- Sub-contracted Laboratory Results
- Customer Specific Data Sheets, Reports, & Documentation
- Customer Database Entries
- Chain of Custody
- Electronic Data Deliverable (EDD) Sent Separatel

Reviewed By: DBA Account

Date: 3/31/2014

Certificate of Laboratory Analysis

This report shall not be reproduced, except in full.

Order # J14020246

Site: LEACHATE LCS-CELL 1
Collection Date: 05-Mar-14 8:20 AM

Sample #: 2014003887
Matrix: GW_WW

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
<u>INORGANIC IONS BY IC</u>								
Chloride	52	mg/L		1	10	EPA 300.0	03/07/2014 04:01	BGN9034
Fluoride	2.6	mg/L		1	10	EPA 300.0	03/07/2014 04:01	BGN9034
Nitrate	61	mg/L		1	10	EPA 300.0	03/07/2014 04:01	BGN9034
Nitrate as N	14	mg-N/L		0.023	1	EPA 300.0	03/07/2014 04:01	BGN9034
Sulfate	1000	mg/L		50	500	EPA 300.0	03/07/2014 04:01	BGN9034
<u>MERCURY (COLD VAPOR) IN WATER</u>								
Mercury (Hg)	0.12	ug/L		0.05	1	EPA 245.1	03/11/2014 11:11	DKJOHN2
<u>TOTAL RECOVERABLE METALS BY ICP</u>								
Barium (Ba)	0.057	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Boron (B)	36.0	mg/L		1	20	EPA 200.7	03/17/2014 13:40	MHH7131
Chromium (Cr)	< 0.005	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Copper (Cu)	0.119	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Iron (Fe)	0.224	mg/L		0.01	1	EPA 200.7	03/17/2014 13:40	MHH7131
Manganese (Mn)	17.0	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Nickel (Ni)	0.663	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Silver (Ag)	< 0.005	mg/L	N1	0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Zinc (Zn)	0.981	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>								
Arsenic (As)	410	ug/L		10	10	EPA 200.8	03/10/2014 16:19	DJSULL1
Cadmium (Cd)	< 10	ug/L		10	10	EPA 200.8	03/10/2014 16:19	DJSULL1
Lead (Pb)	< 10	ug/L		10	10	EPA 200.8	03/10/2014 16:19	DJSULL1
Selenium (Se)	85.1	ug/L		10	10	EPA 200.8	03/10/2014 16:19	DJSULL1
<u>TOTAL DISSOLVED SOLIDS</u>								
TDS	3000	mg/L		25	1	SM2540C	03/11/2014 11:11	DSBAKE1

Site: LEACHATE LCS-CELL 2
Collection Date: 05-Mar-14 8:35 AM

Sample #: 2014003888
Matrix: GW_WW

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
<u>INORGANIC IONS BY IC</u>								
Chloride	14	mg/L		0.2	2	EPA 300.0	03/07/2014 04:19	BGN9034
Fluoride	1.2	mg/L		0.2	2	EPA 300.0	03/07/2014 04:19	BGN9034
Nitrate	70	mg/L		10	100	EPA 300.0	03/07/2014 04:19	BGN9034
Nitrate as N	16	mg-N/L		0.023	1	EPA 300.0	03/07/2014 04:19	BGN9034
Sulfate	630	mg/L		10	100	EPA 300.0	03/07/2014 04:19	BGN9034

Certificate of Laboratory Analysis

This report shall not be reproduced, except in full.

Order # J14020246

Site: LEACHATE LCS-CELL 2
Collection Date: 05-Mar-14 8:35 AM

Sample #: 2014003888
Matrix: GW_WW

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
<u>MERCURY (COLD VAPOR) IN WATER</u>								
Mercury (Hg)	< 0.05	ug/L		0.05	1	EPA 245.1	03/11/2014 11:14	DKJOHN2
<u>TOTAL RECOVERABLE METALS BY ICP</u>								
Barium (Ba)	0.058	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Boron (B)	7.33	mg/L		0.05	1	EPA 200.7	03/17/2014 13:40	MHH7131
Chromium (Cr)	< 0.005	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Copper (Cu)	0.042	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Iron (Fe)	0.044	mg/L		0.01	1	EPA 200.7	03/17/2014 13:40	MHH7131
Manganese (Mn)	12.3	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Nickel (Ni)	0.155	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Silver (Ag)	< 0.005	mg/L	N1	0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Zinc (Zn)	0.264	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>								
Arsenic (As)	86.2	ug/L		10	10	EPA 200.8	03/10/2014 16:09	DJSULL1
Cadmium (Cd)	< 10	ug/L		10	10	EPA 200.8	03/10/2014 16:09	DJSULL1
Lead (Pb)	< 10	ug/L		10	10	EPA 200.8	03/10/2014 16:09	DJSULL1
Selenium (Se)	138	ug/L		10	10	EPA 200.8	03/10/2014 16:09	DJSULL1
<u>TOTAL DISSOLVED SOLIDS</u>								
TDS	970	mg/L		25	1	SM2540C	03/11/2014 11:11	DSBAKE1

Site: FIELD BLANK
Collection Date: 05-Mar-14 11:30 AM

Sample #: 2014003889
Matrix: GW_WW

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
<u>INORGANIC IONS BY IC</u>								
Chloride	< 0.1	mg/L		0.1	1	EPA 300.0	03/07/2014 00:51	BGN9034
Fluoride	< 0.1	mg/L		0.1	1	EPA 300.0	03/07/2014 00:51	BGN9034
Nitrate	< 0.1	mg/L		0.1	1	EPA 300.0	03/07/2014 00:51	BGN9034
Nitrate as N	< 0.023	mg-N/L		0.023	1	EPA 300.0	03/07/2014 00:51	BGN9034
Sulfate	< 0.1	mg/L		0.1	1	EPA 300.0	03/07/2014 00:51	BGN9034
<u>MERCURY (COLD VAPOR) IN WATER</u>								
Mercury (Hg)	< 0.05	ug/L		0.05	1	EPA 245.1	03/11/2014 11:16	DKJOHN2

Certificate of Laboratory Analysis

This report shall not be reproduced, except in full.

Order # J14020246

Site: FIELD BLANK

Collection Date: 05-Mar-14 11:30 AM

Sample #: 2014003889

Matrix: GW_WW

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
TOTAL RECOVERABLE METALS BY ICP								
Barium (Ba)	< 0.005	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Boron (B)	< 0.05	mg/L		0.05	1	EPA 200.7	03/17/2014 13:40	MHH7131
Chromium (Cr)	< 0.005	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Copper (Cu)	< 0.005	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Iron (Fe)	< 0.01	mg/L		0.01	1	EPA 200.7	03/17/2014 13:40	MHH7131
Manganese (Mn)	< 0.005	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Nickel (Ni)	< 0.005	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Silver (Ag)	< 0.005	mg/L	N1	0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
Zinc (Zn)	< 0.005	mg/L		0.005	1	EPA 200.7	03/17/2014 13:40	MHH7131
TOTAL RECOVERABLE METALS BY ICP-MS								
Arsenic (As)	< 1	ug/L		1	1	EPA 200.8	03/10/2014 16:22	DJSULL1
Cadmium (Cd)	< 1	ug/L		1	1	EPA 200.8	03/10/2014 16:22	DJSULL1
Lead (Pb)	< 1	ug/L		1	1	EPA 200.8	03/10/2014 16:22	DJSULL1
Selenium (Se)	< 1	ug/L		1	1	EPA 200.8	03/10/2014 16:22	DJSULL1

Qualifiers:

B1 Target analyte detected in method blank at or above the reporting limit. Target analyte concentration in sample was greater than 10X the concentration of the target analyte detected in the method blank. Analyte concentration in sample is not affected by contamination.

N1 See additional information listed below.

-- Additional Information --

Redigested and tested on 3/19/2014 at 3:41pm.



For Detailed Instructions, see:
<http://dew.com/resenv/food/>

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUIRES FORM

Duke Energy Analytical Lab Services
 Mail Code: MGO3A2 (Building 7406)
 13339 Hagers Ferry Rd
 Huntersville, N. C. 28078
 (800) 875-5245
 Fax: (919) 875-5038

1) Project Name: **PLANT ALLEN - LEACHATE COLLECTION SYSTEM**
 2) Client: **LDC / SH / D. Scruggs / S. DeNeale**
 3) Business Unit: **10035**
 4) Project ID: **6) Process: BENVWS 7) Resp. To: AS00**
 8) Project ID: **9) Activity ID:**
 10) Mail Code: **MGO3A3**

11) LIMS # **J14020246**
 12) Date & Time **3/6/14 7:50**
 13) Matrix: **G1_WW**
 14) Analytical Laboratory Use Only
 15) Samples Originating From: **NC**
 16) SAMPLE PROGRAM: **Ground Water**
 17) NPDES: **Y**
 18) Drinking Water: **Y**
 19) UST: **Y**
 20) RCRA Waste: **Y**

1) Page 1 of 1
 DISTRIBUTION ORIGINAL TO LAB, COPY TO CLIENT

Revised 5/14/13

Customer must Complete

1) Project Name: PLANT ALLEN - LEACHATE COLLECTION SYSTEM

2) Client: LDC / SH / D. Scruggs / S. DeNeale

3) Business Unit: 10035

4) Project ID: 6) Process: BENVWS 7) Resp. To: AS00

8) Project ID: 9) Activity ID:

10) Mail Code: MGO3A3

11) LIMS # J14020246

12) Date & Time 3/6/14 7:50

13) Matrix: G1_WW

14) Analytical Laboratory Use Only

15) Samples Originating From: NC

16) SAMPLE PROGRAM: Ground Water

17) NPDES: Y

18) Drinking Water: Y

19) UST: Y

20) RCRA Waste: Y

13) Sample Description or ID		14) Collection Information		15) Analysis Required		16) Metals Prep - TRM		17) Total # of Containers																
Date	Time	Date	Time	1) HCL	2) H2SO4	3) HNO3	4) None	As	Cd	Cr	Pb	Se	Ag	B	Ca	Co	Cu	Fe	Mn	Ni	Zn			
3/5/14	0820			X																				
3/5/14	0835			X																				
3/5/14	1130			X																				

Customer to Sign & date below

21) Relinquished By: *[Signature]* Date/Time: 03/06/2014

22) Relinquished By: *[Signature]* Date/Time: 3/6/14 7:18

23) Seal/Locked By: _____ Date/Time: _____

24) Comments: _____

Customer, Important please indicate desired turnaround

14 Days: Y

7 Days: _____

48 Hr: _____

*Other: _____ Add: Cost Will Apply

Use indicated or comparable methods / Note: NC SWS EDD format required.

Attachment 2

Allen Retired Ash Basin (RAB) Ash Landfill

Semi-Annual Monitoring Event

Leachate Field Results

March 5, 2014

FIELD SAMPLING CALIBRATION FORM

STUDY: ALLEN STEAM STATION - LEACHATE COLLECTION SYSTEM
DATE (s): March 5, 2014 **SURFACE UNIT READER:** LDC
COLLECTORS: LDC, PSP **SURFACE UNIT SERIAL #:** 3858
ANALYZER MODEL#: MS5 **ANALYZER SERIAL #:** 60901
OTHER EQUIPMENT: TURBIDIMETER NO.2 - 3260.2 **WEATHER CONDITIONS:** Mostly cloudy, 32 to 45 deg F.

PROCEDURE #: HYDROLAB 3210.5 **VALIDATED BY:**

LDC 3/6/14

Calibration Date / Time		DATE:	5-Mar-14	TIME:	530	DATE:		6-Mar-14	TIME:	650
		BP (mmHg)				BP (mmHg)				
Parameter	Calibration Standard	Instrument Value		Standard Value	Calibration Results	Instrument Value		Standard Value	Calibration Results	
SPEC. COND. (uS/cm)	SS	0.0	—/—>	0.0	Instrument Zeroed	0.0	—/—>	0.0	Zero Pass	
	SS	230.0	—>	227	Calibration Accepted	221.5	—/—>	227	Calibration Pass	
	SS	73.0	—/—>	75	Calibration Accepted	73.1	—/—>	75	Calibration Pass	
pH (units)	B (7.00)	6.91	—>	7.02	Calibration Accepted	7.18	—/—>	7.02	Calibration Pass	
	B (4.00)	4.03	—>	4.00	Calibration Accepted	4.12	—/—>	4.00	Calibration Pass	
	B (10.00)	10.17	—/—>	10.06	Calibration Accepted	10.20	—/—>	10.04	Calibration Pass	
		Buffer Temp.		20.32			Buffer Temp.		20.78	
Mid-Day Ck	B (7.00)									
Time:										
<input checked="" type="checkbox"/> ORP (mV)	SS (7.00)	292	—>	294	Calibration Accepted	287	—/—>	293	Calibration Pass	
	SS (4.00)	N/A	—/—>	469		N/A	—/—>	469		
		ORP Temp.		20.34			ORP Temp.		20.79	
<input checked="" type="checkbox"/> DO (mg/L)	W			7.50	Calibration Accepted			7.40	Calibration Pass	
	W			7.50				7.30		
	AW	7.41	—>	7.50		7.42	—/—>	7.35		
<input checked="" type="checkbox"/> TURB (ntu)	SS	51.8	—/—>	52.8	Calibration Accepted	53.3	—/—>	52.8	Calibration Accepted	
Temp Cert Device #										
TEMP (deg C)	NIST	N/A	—/—>	N/A	Adjustment Not Available	N/A	—/—>	N/A	Adjustment Not Available	
AMMONIUM (mg/L)	SS	N/A	—/—>	N/A		N/A	—/—>	N/A		
	SS	N/A	—/—>	N/A		N/A	—/—>	N/A		

INSTRUMENT MAINTENANCE		DATE / TIME	
Conductance Subsystem		pH Subsystem	
<input type="checkbox"/>	Cleaned Electrodes	<input type="checkbox"/>	Cleaned Electrodes
<input type="checkbox"/>	Tested - OK	<input type="checkbox"/>	Replaced ref Electrode KCL
<input type="checkbox"/>	See Notes	<input type="checkbox"/>	Replaced Ref. Electrode Tip
		<input type="checkbox"/>	Tested - OK <input type="checkbox"/> See Notes
Dissolved Oxygen Subsystem		Ammonium Subsystem	
<input type="checkbox"/>	Replaced Teflon Membrane	<input type="checkbox"/>	Cleaned Electrode Tip
<input type="checkbox"/>	Replaced DO electrolyte	<input type="checkbox"/>	Installed New Electrode
<input type="checkbox"/>	Cleaned Electrode	<input type="checkbox"/>	Removed Electrode / Installed Plug
<input type="checkbox"/>	See Notes	<input type="checkbox"/>	Tested - OK <input type="checkbox"/> See Notes
Oxidation Reduction Subsystem		Turbidity Subsystem	
<input type="checkbox"/>	Cleaned Electrode	<input type="checkbox"/>	Cleaned Electrode & Wiper
<input type="checkbox"/>	Tested - OK <input type="checkbox"/> See Notes	<input type="checkbox"/>	Tested - OK <input type="checkbox"/> See Notes
Temperature Subsystem		Depth Subsystem	
<input type="checkbox"/>	Cleaned Electrode	<input type="checkbox"/>	Reset / Calibrated
<input type="checkbox"/>	Tested - OK <input type="checkbox"/> See Notes	<input type="checkbox"/>	Tested - OK <input type="checkbox"/> See Notes

KEY: B = Buffer W = Winkler —> = Adjusted To N/A = Not Applicable
 SS = Standard solution AW = Average Winkler —/—> = Not Adjusted To

NOTES:



DUKE ENERGY

GROUNDWATER MONITORING DATA SHEET FOR NO PURGE SAMPLING

PROCEDURE NO	3175.1
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SITE NAME	ALLEN STEAM STATION	PERMIT #	N/A	SITE ID	N/A
PROJECT NAME	LEACHATE COLLECTION SYSTEM	FIELD CREW	LDC, PSP		
SAMPLING DATE(s)	<input checked="" type="checkbox"/> 5-Mar-2014 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	WELL/LOCATION NAME	LCS - CELL 1		

MONITORING WELL INFORMATION

WELL DIAMETER (in)		TOC ELEV (ft msl)		MIDDLE OF WETTED SCREEN (ft toc)	
WELL DEPTH (ft TOC)		GS ELEV (ft msl)		PUMP INTAKE DEPTH (ft TOC)	
SCREEN LENGTH (ft)		ELEV REF		SCREEN INTERVAL (ft TOC)	0.00 TO 0.00

EQUIPMENT INFORMATION

LEVEL METER SERIAL#	N/A	SAMPLING EQUIPMENT	GRAB	PURGE METHOD
		TUBING DIAMETER (in)		No Purge
PUMP CONTROLLER SETTINGS				
PRESSURE	(psi)	RECHARGE	(sec)	DISCHARGE (sec)

SAMPLING INFORMATION

INITIAL DEPTH TO WATER (ft TOC)	N/A	WATER COLUMN (ft)	N/A	<i>Well Volume = water column X conversion factor</i> <i>(Conversion factor dependent on well diameter and selected well volume units)</i>
WATER ELEVATION (ft msl)	N/A	WELL VOLUME (gal)	N/A	
DETECTED ODOR	None	CONVERSION FACTOR	N/A	
APPEARANCE	Normal			

HYDRASLEEVE LENGTH (inches)	DEPLOYED DEPTH (top) (ft TOC)	DATE DEPLOYED	<input type="checkbox"/>	TEMP (deg C)	<input type="checkbox"/>	SPECIFIC COND. (umho/cm)	<input type="checkbox"/>	pH (SU)	<input type="checkbox"/>	TURBIDITY (NTU)	<input type="checkbox"/>	ORP (mV-NHE)	<input type="checkbox"/>	DISSOLVED OXYGEN (mg/L)	<input type="checkbox"/>
N/A	N/A	N/A		18.52		3694		3.91		5.2		496		4.12	N/A

Deployed Top Weight		Water Column In Screen Above Top Of Hydrasleeve		NO PURGE SAMPLE				CHLORINE (mg/l)
		(ft) = (in)		SAMPLE COLLECTED BY	DATE	TIME		
				LDC	3/5/2014	@ 0820	N/A	

QC By: WJC 3/6/14

WELL CONDITION

PROTECTIVE CASING		
WELL PAD		
WELL CASING		
WELL TAG		

ADDITIONAL WELL CONDITION NOTES

SAMPLING NOTES

Allow system to flush for several minutes prior to sampling - watch for low level alarm during pumping.



DUKE ENERGY

GROUNDWATER MONITORING DATA SHEET FOR NO PURGE SAMPLING

PROCEDURE NO	3175.1
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SITE NAME	ALLEN STEAM STATION	PERMIT #	N/A	SITE ID	N/A
PROJECT NAME	LEACHATE COLLECTION SYSTEM	FIELD CREW	LDC, PSP		
SAMPLING DATE(s)	<input checked="" type="checkbox"/> 5-Mar-2014 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	WELL/LOCATION NAME	LCS - CELL 2		

MONITORING WELL INFORMATION

WELL DIAMETER (in)		TOC ELEV (ft msl)		MIDDLE OF WETTED SCREEN (ft toc)	
WELL DEPTH (ft TOC)		GS ELEV (ft msl)		PUMP INTAKE DEPTH (ft TOC)	
SCREEN LENGTH (ft)		ELEV REF		SCREEN INTERVAL (ft TOC)	0.00 TO 0.00

EQUIPMENT INFORMATION

LEVEL METER SERIAL#	N/A	SAMPLING EQUIPMENT	GRAB	PURGE METHOD
		TUBING DIAMETER (in)		No Purge
PUMP CONTROLLER SETTINGS				
PRESSURE	(psi)	RECHARGE	(sec)	DISCHARGE (sec)

SAMPLING INFORMATION

INITIAL DEPTH TO WATER (ft TOC)	N/A	WATER COLUMN (ft)	N/A	<i>Well Volume = water column X conversion factor</i> <i>(Conversion factor dependent on well diameter and selected well volume units)</i>
WATER ELEVATION (ft msl)	N/A	WELL VOLUME (gal)	N/A	
DETECTED ODOR	None	CONVERSION FACTOR	N/A	
APPEARANCE	Normal			

HYDRASLEEVE LENGTH (inches)	DEPLOYED DEPTH (top) (ft TOC)	DATE DEPLOYED	<input type="checkbox"/> TEMP (deg C)	<input type="checkbox"/> SPECIFIC COND. (umho/cm)	<input type="checkbox"/> pH (SU)	<input type="checkbox"/> TURBIDITY (NTU)	<input type="checkbox"/> ORP (mV-NHE)	<input type="checkbox"/> DISSOLVED OXYGEN (mg/L)	<input type="checkbox"/>
N/A	N/A	N/A	18.55	1168	3.89	1.2	521	3.91	N/A

Deployed Top Weight		Water Column In Screen Above Top Of Hydrasleeve		NO PURGE SAMPLE			CHLORINE (mg/l)
		(ft) = (in)		SAMPLE COLLECTED BY	DATE	TIME	
				LDC	3/5/2014	@ 0835	N/A

QC By: LDC 3/6/14

WELL CONDITION

PROTECTIVE CASING		
WELL PAD		
WELL CASING		
WELL TAG		

ADDITIONAL WELL CONDITION NOTES

SAMPLING NOTES

Allow system to flush for several minutes prior to sampling - watch for low level alarm during pumping.

**ALLEN STEAM STATION
LEACHATE COLLECTION SYSTEM
GROUNDWATER MONITORING FIELD DATA
PERMIT # N/A**

DATE	WELL NO.	WELL DEPTH (feet-toc)	DEPTH TO WATER (feet-toc)	WATER ELEV. (feet)	APPEARANCE	ODOR	Purge Method	AVG * PMP RATE (ml/min)	WELL VOL (gal)	EVAC VOL (gal)	EVAC (yes/no)	TEMP (deg C)	SPECIFIC CONDUCTANCE (umho/cm)	pH (units)	TURBIDITY (NTU)	ORP (mV-NHE)	DO (mg/l)
3/5/2014	LCS - CELL 1	N/A	N/A	N/A	Normal	None	NP	N/A	N/A	N/A	N/A	18.52	3694	3.9	5.2	496	4.12
3/5/2014	LCS - CELL 2	N/A	N/A	N/A	Normal	None	NP	N/A	N/A	N/A	N/A	18.55	1168	3.9	1.2	521	3.91

Purge Methods

LF = Low Flow
 LF(M) = Low Flow (Mod.)
 C = Conventional
 NP = No Purge
 EOP = Equip. Only Purge
 LO = Level Only

* = Applicable to LF & LF(M) Purging Only