DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

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):

Altamont Environmental, Inc. (Consultant)

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

Name: Andrew Moore Phone: (828) 281-3350

E-mail: amoore@altamontenvironmental.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Duke Energy Carolinas, LLC McGuire Nuclear Station Landfill #2 (Synthetically Lined)	13339 Hagers Ferry Road Huntersville, NC 28078	6004	.0500	December 8, 2011

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

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.

Stuart A. Ryman P.G. (828) 281-3350

Facility Representative Name (Print) Title (Area Code) Telephone Number

Signature 2-29-12 Date

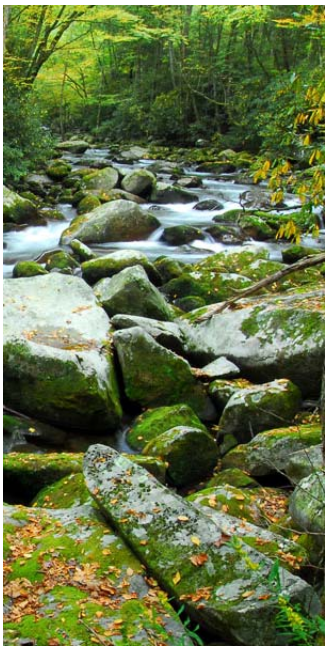
Affix NC Licensed/ Professional Geologist Seal

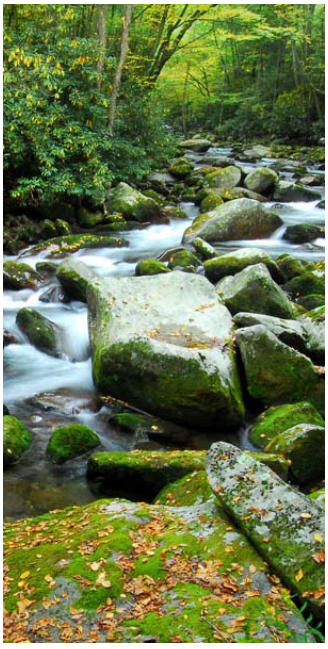
NORTH CAROLINA LICENSED SEAL 1654 GEOLOGIST STUART A. RYMAN

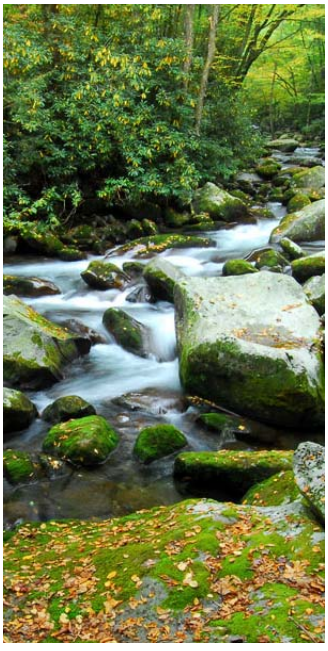
231 Haywood Street Asheville, NC 28801

Facility Representative Address

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







ALTAMONT ENVIRONMENTAL, INC.

ENGINEERING & HYDROGEOLOGY

Semiannual Groundwater Monitoring Report

McGuire Nuclear Station

Landfill #2 (Synthetically Lined) Permit No. 6004

December 2011 Sampling Event

February 29, 2012

Prepared for
Duke Energy Carolinas, LLC
13339 Hagers Ferry Road
Huntersville, NC 28078
Project Number 2369.09

Prepared by
Altamont Environmental, Inc.
231 Haywood Street
Asheville, NC 28801
(828) 281-3350

Professional Certification

On behalf of Altamont Environmental, Inc., a firm licensed to practice both engineering (certification number C-2185) and geology (certification number C-299) in the State of North Carolina, I do hereby certify that the information contained in this report is correct and accurate to the best of my knowledge.

Stuart A. Ryman, P.G.

Table of Contents

1.0 Background

The McGuire Nuclear Station Landfill #2 (Synthetically Lined)[1] is located at the Duke Energy Carolinas, LLC (Duke) McGuire Nuclear Station, in Mecklenburg County, NC. The landfill is permitted to accept waste that is specified by the Permit to Operate. The landfill was constructed with a high-density polyethylene (HDPE) synthetic liner and with a leachate collection and removal system. Leachate and contact stormwater are collected in a lined leachate collection basin and pumped to the McGuire Nuclear Station wastewater treatment system. The landfill is permitted under the North Carolina Department of Environment and Natural Resources (DENR) Solid Waste Permit No. 6004.

The landfill and nearby area are portrayed on Figures 1 and 2. The landfill is located south of North Carolina Highway 73, north of Cashion Road, and to the west of Linderman Road. Cashion Road runs along a surface water divide, with surface flow draining to the northwest and to the southeast. A surface water drainage feature is located to the northeast of the landfill. This feature drains to the northwest, to a perennial, unnamed stream. Surface water sample location SW-1 is located in this unnamed stream, north of the landfill and upstream of surface water sample location SW-2. Surface water sample location SW-2 is located in this unnamed stream, west of the landfill. The unnamed stream drains to the west, to the Catawba River. A second surface water drainage feature is located to the southwest of the landfill, draining to the northwest into the unnamed stream.

As described in the Sampling and Analysis Plan[2] (SAP) the monitoring system at the landfill consists of 11 groundwater monitoring wells and two surface water sample locations as listed below.

Monitoring Wells:	MW-5	MW-5A
	MW-6	MW-6A
	MW-7	MW-7A
	MW-8	MW-8A
	MW-9	MW-9A
	MW-10A	
Surface Water Sample Locations:	SW-1	SW-2

In addition, a water sample is collected from a leachate pipe, which conveys leachate from the landfill to the leachate collection basin. This sample location is referred to as “leachate pond” on the chain-of-custody forms. The locations of the wells, the surface water sample locations, and the leachate collection basin are shown on Figure 2.

With the exception of well MW-10A, the wells are installed as well pairs with one shallow well and one deeper well adjacent to one another. The well with the “A” designation is the deeper well in each well pair. Well pair MW-9 and MW-9A are installed adjacent to and downgradient from the leachate collection basin. The remaining wells are installed adjacent to the landfill.

According to the SAP, monitoring wells MW-5 and MW-5A are the upgradient wells, and are considered the background wells for the site.

[1] In response to the North Carolina Division of Public Health, Radiation Protection Section, November 17, 2006 letter to Duke Energy, LLC, Duke offered to indicate the McGuire Nuclear Station Landfill #2 as “(Synthetically Lined)” in reports.

[2] *McGuire Nuclear Station Landfill #2, Permit Number 60-04 Groundwater Monitoring Program Sampling and Analysis Plan,* February 24, 2009.

2.0 Methods

2.1 Sampling and Analysis Methods

Groundwater sampling, surface water sampling, and documentation of sampling were performed by Duke personnel following the procedures outlined in the SAP. The groundwater and surface water samples were analyzed by Pace Analytical Services, Inc., Charlotte (North Carolina Laboratory Certification #12) and the Duke Energy Analytical Laboratory (North Carolina Laboratory Certification #248).

The groundwater, surface water, and leachate samples were analyzed for the following constituents, in accordance with the SAP:

- Select metals using US Environmental Protection Agency (EPA) Methods 200.7 and 200.8
- Mercury using EPA Method 7470
- Chloride and sulfate using EPA Method 300.0
- Volatile organic compounds (VOCs) using EPA Method 8260
- Total petroleum hydrocarbons (TPH) diesel range organics (DRO) using EPA Method 8015 Modified

The samples were analyzed for the following radiological parameters:

- Gross alpha radioactivity
- Gross beta radioactivity
- Tritium

In addition, the following analysis was performed in accordance with the requirements of the Radioactive Materials License No. 060-0379-7 issued by the North Carolina Division of Radiation Protection:

- Gamma radioactivity for select isotopes

2.2 Statement of Work

Altamont Environmental Inc. (Altamont) completed the following tasks:

- Received field sampling information provided by Duke (performed by Duke personnel) for monitoring wells MW-5, MW-5A, MW-6, MW-6A, MW-7, MW-7A, MW-8, MW-8A, MW-9, MW-9A, and MW-10A. No sample was collected from MW-5 or MW-7 due to insufficient volume. Data were also received for surface water sample locations SW-1 and SW-2, as well as for the leachate pond sample, collected at the outfall of the pipe conveying leachate from the landfill to the leachate collection basin. The samples were collected on December 8, 2011 and Altamont received the data on January 12, 2012.
- Reviewed the laboratory analytical results for samples. The Electronic Data Deliverable (EDD), provided by Duke, was adapted to conform to the format requirements of the DENR EDD template. Altamont added an italicized J data qualifier (*J*) to indicate a detected concentration that is greater than the laboratory's method reporting limit (MRL), but lower than the Solid Waste Section Limit (SWSL). A copy of the original EDD is retained in Altamont's files.
- Developed a groundwater surface contour map using map data and groundwater elevation data supplied by Duke.
- Prepared and submitted this Semiannual Groundwater Monitoring Report to Duke and to DENR.

3.0 Results

3.1 Site Groundwater Flow

Generalized groundwater surface contours for the site are shown on Figure 3. These contours were developed using the groundwater elevations measured in the shallow wells on December 8, 2011.

Cashion Road is located along a surface water divide at elevations ranging from approximately 748 feet to 740 feet. The unnamed stream where surface water sample locations SW-1 and SW-2 are located ranges in elevation from approximately 691 feet near SW-1 to approximately 650 feet near SW-2.

Based on the groundwater elevations measured in the wells on the date of sampling, groundwater flow beneath the landfill is generally from the southeast end of the landfill toward the northwest and the surface water drainage features described above. Groundwater flow on the east side of the landfill is to the northeast, toward wells MW-6, MW-6A, and MW-10A, based on the surface water drainage feature located northeast of the wells.

3.2 Analytical Results

A summary of the field data is presented in Table 1.

The field and analytical results of groundwater sampling are summarized in Table 2. A quality control (QC) sample from MW-5A was analyzed for EPA Method 8260 VOCs. The results are included in Table 2. Results below the heavy black line in Tables 2, 3, and 4 are EPA Method 8260 constituents detected above the method detection limit (MDL) in at least one sampling location. EPA Method 8260 constituents not listed were not detected above the MDL.

The field and analytical results of surface water sampling are summarized in Table 3. Surface water sample locations SW-1 and SW-2 are located on an unnamed stream. The unnamed stream is a tributary of the Catawba River, which is classified by the DENR Division of Water Quality as a Class WS-IV water at the confluence with the unnamed stream. The field and analytical results from these locations are compared to Title 15A, NCAC, Subchapter 2B standards (2B standards) for Class WS-IV water.

The field and analytical results from the leachate sample are summarized in Table 4.

A summary of the analytical results that equal or exceed the Title 15A, North Carolina Administrative Code (NCAC), Subchapter 2L standards (2L standards) is presented in Table 5.

The MDL was greater than the respective 2L standard for the following constituents:

- 1,1,2,2-Tetrachloroethane
- 1,2,3-Trichloropropane
- 1,2-Dibromo-3-chloropropane
- 1,2-Dibromoethane (EDB)
- Hexachloro-1,3-butadiene
- Vinyl chloride

The MDL was greater than the respective 2B standard for the following constituents:

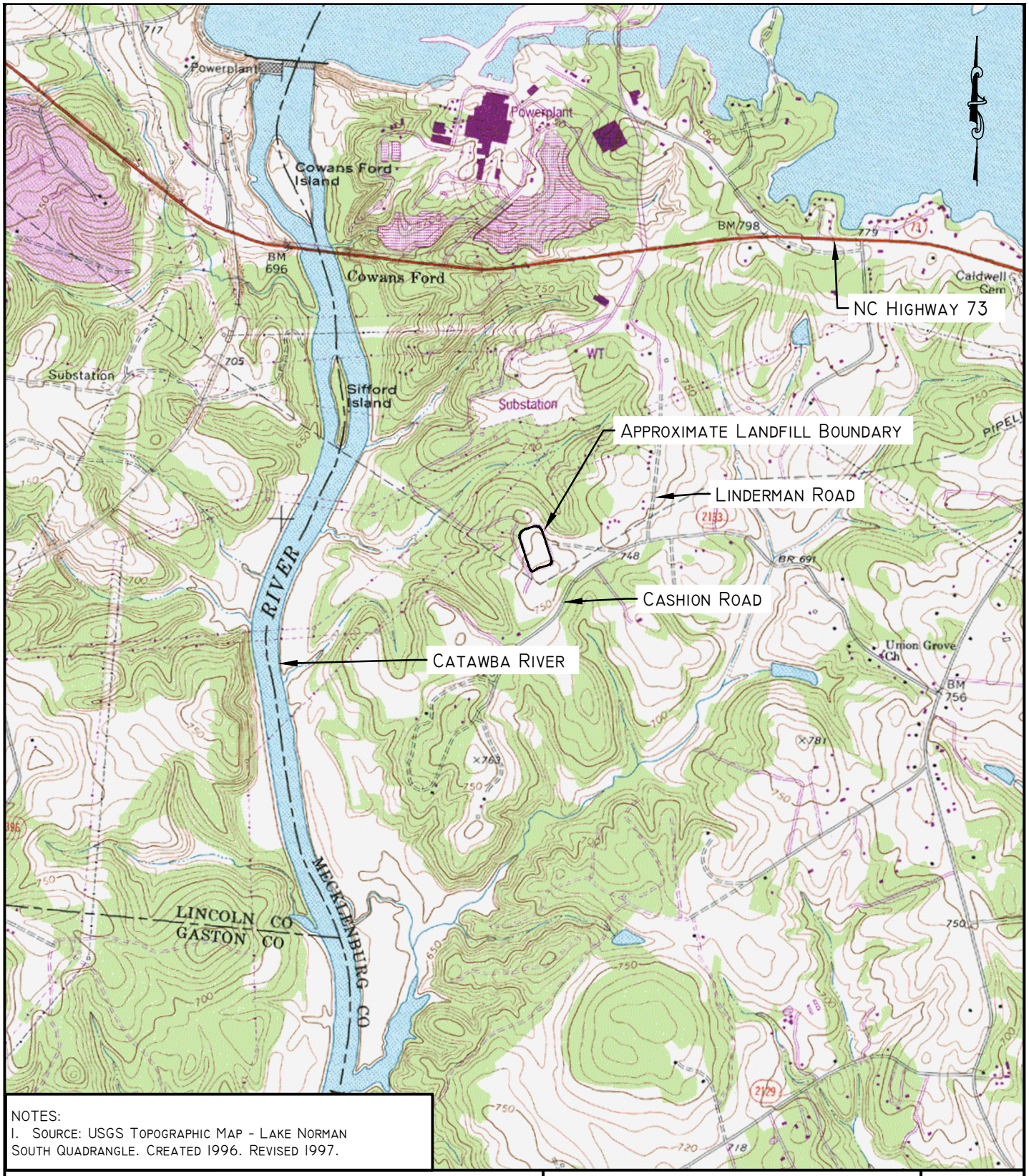
- Mercury
- Silver

The MDLs for the abovementioned constituents were all below their corresponding Solid Waste Section Limits (SWSL) as required by the February 23, 2007 DENR memo. Therefore, in accordance with the February 23, 2007 memo, the results are qualified as estimated. These constituents, for samples that were not detected above the MDL, are not considered 2L or 2B Standards exceedances in Tables 2, 3, and 5.

The results of the radiological analyses are presented in Table 6. A copy of this report is submitted to the DENR Radiation Protection Section for reference.

The chain-of-custody forms can be found in Appendix A.

FIGURES



NOTES:
1. SOURCE: USGS TOPOGRAPHIC MAP - LAKE NORMAN SOUTH QUADRANGLE. CREATED 1996. REVISED 1997.

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SITE LOCATION MAP

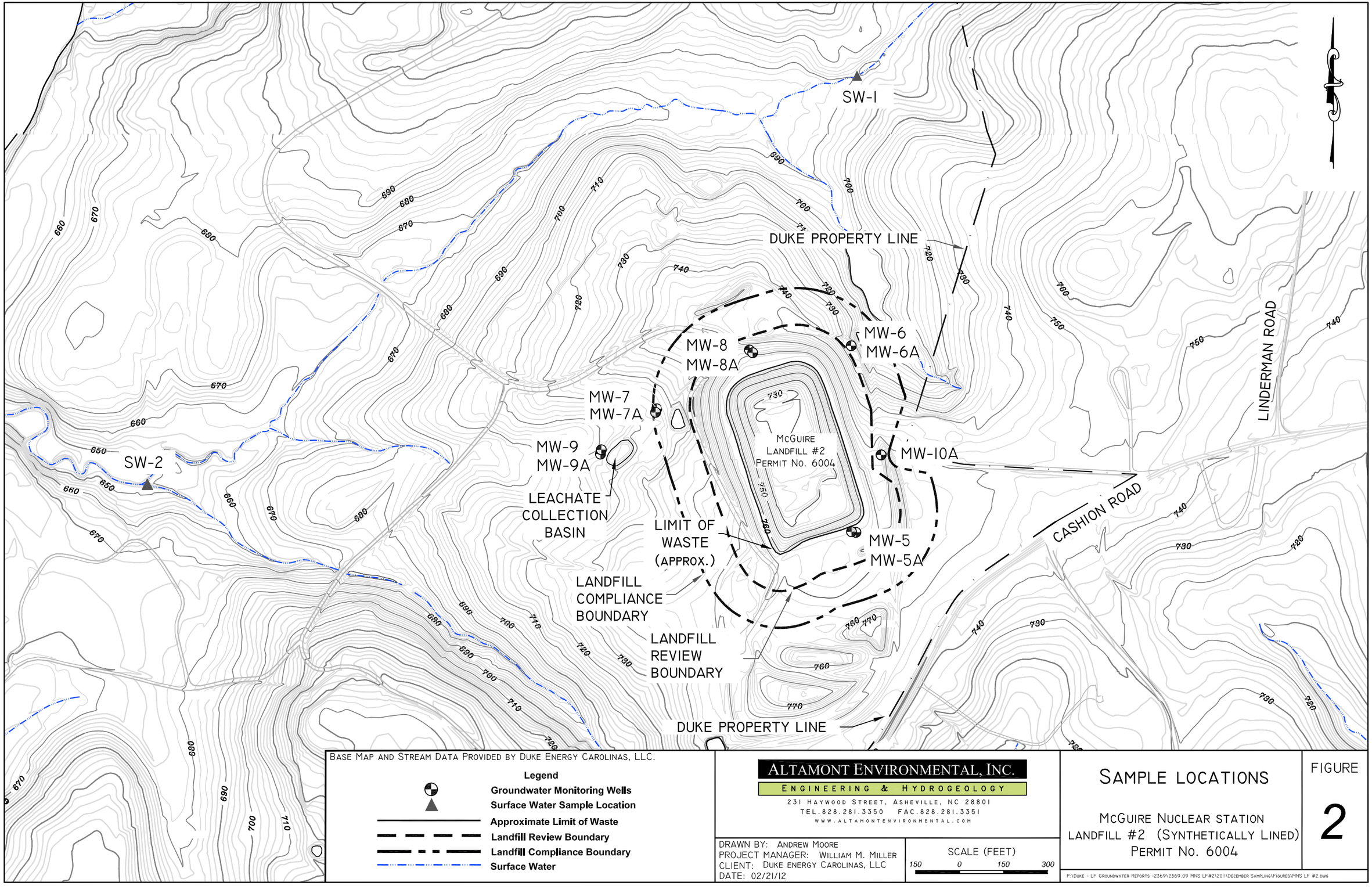
MCGUIRE NUCLEAR STATION
LANDFILL #2 (SYNTHETICALLY LINED)
PERMIT NO. 6004

FIGURE 1

DRAWN BY: ANDREW MOORE
PROJECT MANAGER: WILLIAM M. MILLER
CLIENT: DUKE ENERGY CAROLINAS, LLC
DATE: 02/21/2012

SCALE (FEET)
1,000' 0 1,000' 2,000'

FILE PATH: P:\DUKE - LF GROUNDWATER REPORTS-2369\2369.08 MNS LF#2\2010\FIGURES\SITE LOCATION MAP.DWG



BASE MAP AND STREAM DATA PROVIDED BY DUKE ENERGY CAROLINAS, LLC.

Legend

- Groundwater Monitoring Wells
- Surface Water Sample Location
- Approximate Limit of Waste
- Landfill Review Boundary
- Landfill Compliance Boundary
- Surface Water

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DRAWN BY: ANDREW MOORE
PROJECT MANAGER: WILLIAM M. MILLER
CLIENT: DUKE ENERGY CAROLINAS, LLC
DATE: 02/21/12

SCALE (FEET)
150 0 150 300

SAMPLE LOCATIONS

MCGUIRE NUCLEAR STATION
LANDFILL #2 (SYNTHETICALLY LINED)
PERMIT No. 6004

FIGURE
2

P:\DUKE - LF GROUNDWATER REPORTS -2369\2369.09 MNS LF#2\2011\DECEMBER SAMPLING\FIGURES\MNS LF #2.DWG

DUKE PROPERTY LINE

MW-8 (695.50')
MW-8A (695.56')

MW-6 (696.89')
MW-6A (698.21')

MW-7
MW-7A (690.57')

MW-9 (685.17')
MW-9A (684.96')

MW-10A (702.61')

LEACHATE
COLLECTION
BASIN

LIMIT OF
WASTE
(APPROX.)

MW-5 (705.84')
MW-5A (703.10')

LANDFILL
COMPLIANCE
BOUNDARY

LANDFILL
REVIEW
BOUNDARY

CASHION ROAD

Base Map and Stream Data Provided by Duke Energy Carolinas, LLC.

Legend

- MW-9 (686.70') — Groundwater Monitoring Wells
- Groundwater Elevation (feet)
- Approximate Limit of Waste
- Landfill Review Boundary
- Landfill Compliance Boundary
- Surface Water
- Groundwater Surface Contour

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DRAWN BY: Andrew Moore
PROJECT MANAGER: William M. Miller
CLIENT: Duke Energy Carolinas, LLC
DATE: 02/21/12

SCALE (FEET)
100 0 100 200

Generalized Groundwater Surface Contours
December 8, 2011
McGuire Nuclear Station
Landfill #2 (Synthetically Lined)
Permit No. 6004

FIGURE
3

P:\Duke - LF Groundwater Reports -2369\2369.09 MNS LF#2\2011\December Sampling\Figures\MNS LF #2.dwg

TABLES

Table 1–Field Data Parameters
Duke Energy Carolinas, LLC/McGuire Nuclear Station
Landfill #2 (Synthetically Lined) - Permit No. 6004

DATE	WELL No.	WELL DEPTH (feet)	DEPTH TO WATER (feet)	WATER ELEV. (feet)	DEPTH TO PRODUCT (feet)	ODOR	Purge METHOD	PUMP RATE (mL/min)	WELL VOLUME (gal)	EVAC VOLUME (gal)	EVAC (yes/no)	TEMP (deg C)	SPECIFIC CONDUCTANCE (umho/cm)	pH (SU)	TURBIDITY (NTU)	ORP (mV-NHE)	DO (mg/L)
12/8/2011	MW-5	63.90	62.47	705.84	N/A	N/A	CP	N/A	0.23	0.00	NM*	NM*	NM*	NM*	NM*	NM*	NM*
12/8/2011	MW-5A	96.00	65.32	703.10	N/A	N/A	CP	N/A	5.00	20.00	NO	15.1	58	6.1	1.3	N/A	N/A
12/8/2011	MW-6	37.20	31.56	696.89	N/A	N/A	CP	N/A	0.92	3.00	NO	15.3	132	5.9	1.0	N/A	N/A
12/8/2011	MW-6A	47.90	30.77	698.21	N/A	N/A	CP	N/A	2.79	9.00	NO	14.8	63	5.4	1.6	N/A	N/A
12/8/2011	MW-7	37.30	NM**	NM**	N/A	N/A	CP	N/A	6.08	0.00	NM**	NM**	NM**	NM**	NM**	NM**	NM**
12/8/2011	MW-7A	59.40	34.09	690.57	N/A	N/A	CP	N/A	4.13	13.50	NO	15.1	110	6.5	1.0	N/A	N/A
12/8/2011	MW-8	71.50	64.10	695.50	N/A	N/A	CP	N/A	1.21	1.00	YES	14.6	145	6.1	4.9	N/A	N/A
12/8/2011	MW-8A	84.40	64.12	695.56	N/A	N/A	CP	N/A	3.31	10.50	NO	14.7	99	6.5	0.8	N/A	N/A
12/8/2011	MW-9	30.80	26.70	685.17	N/A	N/A	CP	N/A	0.67	2.25	NO	16.9	90	6.0	0.5	N/A	N/A
12/8/2011	MW-9A	47.80	27.17	684.96	N/A	N/A	CP	N/A	3.36	10.50	NO	17.4	106	6.5	0.5	N/A	N/A
12/8/2011	MW-10A	59.23	53.17	702.61	N/A	N/A	CP	N/A	0.99	1.25	YES	15.7	32	5.7	12.5	N/A	N/A
12/8/2011	SW-1	N/A	N/A	N/A	N/A	N/A	NP	N/A	N/A	N/A	N/A	10.1	74	6.4	53.8	N/A	N/A
12/8/2011	SW-2	N/A	N/A	N/A	N/A	N/A	NP	N/A	N/A	N/A	N/A	10.4	79	7.0	33.7	N/A	N/A
12/8/2011	LEACHATE POND	N/A	N/A	N/A	N/A	N/A	NP	N/A	N/A	N/A	N/A	13.9	792	7.0	2.6	N/A	N/A

Notes:

1. Purge Methods; LF=Low Flow, CP=Conventional Purge (3-5 well volumes), BP=No Purge (HydraSleeve).
2. Field sampling performed by Duke Energy Carolinas, LLC personnel.
3. NM indicates not measured.
4. * There was insufficient volume in MW-5 to obtain a water sample.
5. ** There was insufficient water in MW-7 to obtain a depth reading or water sample.
6. umho/cm indicates micro mhos per centimeter.
7. SU indicates Standard Units.
8. NTU indicates Nephelometric Turbidity Units.
9. mV-NHE indicates millivolts-Normal Hydrogen Electrode.
10. Information provided by Tim Hunsucker of Duke Energy Carolinas, LLC on January 12, 2012.

Table 2–Groundwater Field and Analytical Results
Duke Energy Carolinas, LLC/McGuire Nuclear Station
Landfill #2 (Synthetically Lined) - Permit No. 6004

Sample Date: December 8, 2011

Laboratory Certificate Codes:
Duke Energy Carolinas Field #5193
Duke Energy Analytical Laboratory #248
Pace Analytical Services, Inc. #12

Field Sampling performed by Duke Energy Carolinas, LLC

Parameter	SWS ID	Units	Certificate Code	Monitoring Wells							SWSL	15A NCAC 2L
				6004-MW-5	6004-MW-5A	6004-5A QC	6004-MW-6	6004-MW-6A	6004-MW-7	6004-MW-7A		
Field pH	320	SU	5193	NM	**6.1**		**5.9**	**5.4**	NM	**6.5**	-	6.5-8.5
Specific Conductance	323	umho/cm	5193	NM	58		132	63	NM	110	-	-
Temperature	325	°C	5193	NM	15.1		15.3	14.8	NM	15.1	-	-
Top Casing	328	feet	-	768.31	768.42		728.45	728.98	NM	724.66	-	-
Depth to Water	318	feet	-	62.47	65.32		31.56	30.77	NM	34.09	-	-
Water Elevation	427	feet	-	705.84	703.10		696.89	698.21	NM	690.57	-	-
Well Depth	411	feet	-	63.90	96.00		37.20	47.90	37.30	59.40	-	-
Arsenic	14	µg/L	248	NS	0.667 U	NS	0.667 U	0.667 U	NS	0.667 U	10	10
Barium	15	µg/L	248	NS	24.01 *J*	NS	44.38 *J*	53.42 *J*	NS	4.35 J	100	700
Cadmium	34	µg/L	248	NS	0.667 U	NS	0.667 U	0.667 U	NS	0.667 U	1	2
Chloride	455	µg/L	248	NS	1,138	NS	12,090	6,023	NS	1,098	NE	250,000
Chromium	51	µg/L	248	NS	3.34 U	NS	3.34 U	3.34 U	NS	3.34 U	10	10
Lead	131	µg/L	248	NS	0.667 U	NS	0.667 U	0.667 U	NS	0.667 U	10	15
Mercury	132	µg/L	248	NS	0.033 U	NS	0.033 U	0.033 U	NS	0.033 U	0.2	1
Selenium	183	µg/L	248	NS	0.667 U	NS	0.667 U	0.667 U	NS	0.667 U	10	20
Silver	184	µg/L	248	NS	3.34 U	NS	3.34 U	3.34 U	NS	3.34 U	10	20
Sulfate	315	µg/L	248	NS	2,846 *J*	NS	386 *J*	87.6 J	NS	278 *J*	250,000	250,000
TPH(DRO)	NE	µg/L	12	NS	0.064 U	0.062 U	0.063 U	0.062 U	NS	0.062 U	NE	NE
Gross Alpha	314	pCi/L	248	NS	<-0.51	NS	<-0.50	<-0.52	NS	<-0.63	NE	15
Gross Beta	NE	pCi/L	248	NS	<-0.40	NS	<-0.39	<-0.59	NS	<-0.73	NE	NE
H3GW (Tritium)	NE	pCi/L	248	NS	<97.7	NS	<-44	<29.0	NS	<28.7	NE	NE
Acetone	3	µg/L	12	NS	2.2 U	2.2 U	2.2 U	2.2 U	NS	2.2 U	100	6,000
Chloromethane	137	µg/L	12	NS	0.25 J	0.17 J	0.33 J	0.22 J	NS	0.39 J	1	3
cis-1,2-Dichloroethene	78	µg/L	12	NS	0.19 U	0.19 U	0.19 U	0.19 U	NS	0.19 U	5	70

Notes:

1. Concentrations presented in micrograms per liter (µg/L) or picoCuries per liter (pCi/L).
2. SWS ID is the Solid Waste Section Identification Number.
3. SWSL is the Solid Waste Section Limit. DENR defines the SWSL as the lowest amount of analyte in a sample that can be quantitatively determined with suitable precision and accuracy.
4. 15A NCAC 2L Standard is from "North Carolina Administrative Code, Title 15A: Department of Environment and Natural Resources, Subchapter 2L - Groundwater Classifications and Standards," DENR (last amended on January 1, 2010).
5. Grayed values indicate values that attain or exceed the SWSL standard.
6. Bold values indicate values that attain or exceed the 15A NCAC 2L standard.
7. NE indicates not established. Blank cells indicate that there is no information relevant to the respective row.
8. Qualifiers in non-italicized text are laboratory data qualifiers or "flags". "U" is used for parameters not detected at concentrations above the method detection limit (MDL). "J" is used for parameters detected at estimated concentrations above the MDL but below the laboratory's method reporting limit (MRL). An italicized *J* -flag is a data qualifier, added by Altamont, to indicate a detected concentration that is greater than the laboratory's MRL but less than the SWSL.
9. Data obtained from Electronic Data Deliverable (EDD) and EnRad Laboratory Report provided by Tim Hunsucker of Duke Energy Carolinas on January 12, 2012.
10. According to the Constituent Look-up webpage on the DENR Division of Waste Management webpage, there is no SWSL or 2L standard for choride associated with CAS number 16887-00-6, which is the CAS reported by the laboratory for the analyses completed. Therefore, the SWSL and 2L standard listed are for the chloride with CAS number SW301 as specified on the Constituent Look-up webpage (last updated June 13, 2011).
11. NM indicates not measured.
12. NS indicates no sample was collected.
13. NA indicates not analyzed.

Table 2–Groundwater Field and Analytical Results
Duke EnergyCarolinas, LLC/McGuire Nuclear Station
Landfill #2 (Synthetically Lined) - Permit No. 6004

Sample Date: December 8, 2011

Laboratory Certificate Codes:
Duke Energy Carolinas Field #5193
Duke Energy Analytical Laboratory #248
Pace Analytical Services, Inc. #12

Field Sampling performed by Duke Energy, LLC

Parameter	SWS ID	Units	Certificate Code	Monitoring Wells					Trip Blank	Field Blank	SWSL	15A NCAC 2L
				6004-MW-8	6004-MW-8A	6004-MW-9	6004-MW-9A	6004-MW-10A				
Field pH	320	SU	5193	**6.1**	**6.5**	**6.0**	**6.5**	**5.7**	-	-	-	6.5-8.5
Specific Conductance	323	umho/cm	5193	145	99	90	106	32	-	-	-	-
Temperature	325	°C	5193	14.6	14.7	16.9	17.4	15.7	-	-	-	-
Top Casing	328	feet	-		759.68	711.87	712.13	755.78	-	-	-	-
Depth to Water	318	feet	-	64.10	64.12	26.70	27.17	53.17	-	-	-	-
Water Elevation	427	feet	-	695.50	695.56	685.17	684.96	702.61	-	-	-	-
Well Depth	411	feet	-	71.50	84.40	30.80	47.80	59.23	-	-	-	-
Arsenic	14	µg/L	248	0.667 U	0.667 U	0.667 U	0.667 U	0.667 U	NA	0.667 U	10	10
Barium	15	µg/L	248	18.34 *J*	25.29 *J*	21.37 *J*	9.69 *J*	23.99 *J*	NA	3.34 U	100	700
Cadmium	34	µg/L	248	0.667 U	0.667 U	0.667 U	0.667 U	0.667 U	NA	0.667 U	1	2
Chloride	455	µg/L	248	1,337	1,839	2,208	1,344	1,157	NA	28.4 J	NE	250,000
Chromium	51	µg/L	248	3.34 U	3.34 U	3.34 U	3.34 U	3.34 U	NA	3.34 U	10	10
Lead	131	µg/L	248	0.667 U	0.667 U	0.667 U	0.667 U	0.667 U	NA	0.667 U	10	15
Mercury	132	µg/L	248	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	NA	0.033 U	0.2	1
Selenium	183	µg/L	248	0.667 U	0.667 U	0.667 U	0.667 U	0.667 U	NA	0.667 U	10	20
Silver	184	µg/L	248	3.34 U	3.34 U	3.34 U	3.34 U	3.34 U	NA	3.34 U	10	20
Sulfate	315	µg/L	248	714 *J*	1166 *J*	163 *J*	202 *J*	519 *J*	NA	18 U	250,000	250,000
TPH(DRO)	NE	µg/L	12	0.063 U	0.062 U	0.062 U	0.062 U	0.063 U	NA	0.062 U	NE	NE
Gross Alpha	314	pCi/L	248	<-0.32	<-0.77	<-0.61	<-0.86	<-0.40	NA	NA	NE	15
Gross Beta	NE	pCi/L	248	<-0.47	<0.002	<-1.1	<-1.2	<-0.19	NA	NA	NE	NE
H3GW (Tritium)	NE	pCi/L	248	<-47	<-13	<4.44	<-42	<-33	NA	NA	NE	NE
Acetone	3	µg/L	12	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	NA	100	6,000
Chloromethane	137	µg/L	12	0.11 U	0.11 U	0.11 U	0.11 U	0.2 J	0.26 J	NA	1	3
cis-1,2-Dichloroethene	78	µg/L	12	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	NA	5	70

Notes:

1. Concentrations presented in micrograms per liter (µg/L) or picoCuries per liter (pCi/L).
2. SWS ID is the Solid Waste Section Identification Number.
3. SWSL is the Solid Waste Section Limit. DENR defines the SWSL as the lowest amount of analyte in a sample that can be quantitatively determined with suitable precision and accuracy.
4. 15A NCAC 2L Standard is from "North Carolina Administrative Code, Title 15A: Department of Environment and Natural Resources, Subchapter 2L - Groundwater Classifications and Standards," DENR (last amended on January 1, 2010).
5. Grayed values indicate values that attain or exceed the SWSL standard.
6. Bold values indicate values that attain or exceed the 15A NCAC 2L standard.
7. NE indicates not established. Blank cells indicate that there is no information relevant to the respective row.
8. Qualifiers in non-italicized text are laboratory data qualifiers or "flags". "U" is used for parameters not detected at concentrations above the method detection limit (MDL). "J" is used for parameters detected at estimated concentrations above the MDL but below the laboratory's method reporting limit (MRL). An italicized *J*-flag is a data qualifier, added by Altamont, to indicate a detected concentration that is greater than the laboratory's MRL but less than the SWSL.
9. Data obtained from Electronic Data Deliverable (EDD) and EnRad Laboratory Report provided by Tim Hunsucker of Duke Energy Carolinas on January 12, 2012.
10. According to the Constituent Look-up webpage on the DENR Division of Waste Management webpage, there is no SWSL or 2L standard for choride associated with CAS number 16887-00-6, which is the CAS reported by the laboratory for the analyses completed. Therefore, the SWSL and 2L standard listed are for the chloride with CAS number SW301 as specified on the Constituent Look-up webpage (last updated June 13, 2011).
11. NM indicates not measured.
12. NS indicates no sample was collected.
13. NA indicates not analyzed.

Table 3–Surface Water Field and Analytical Results
Duke Energy Carolinas, LLC/McGuire Nuclear Station
Landfill #2 (Synthetically Lined) - Permit No. 6004

Sample Date: December 8, 2011

Laboratory Certificate Codes:
Duke Energy Carolinas Field #5193
Duke Energy Analytical Laboratory #248
Pace Analytical Services, Inc. #12

Field Sampling performed by Duke Energy Carolinas, LLC

Parameter	SWS ID	Units	Certificate Code	Surface Water Sampling Locations 6004-SW-1		6004-SW-2		SWSL	15A NCAC 2B
Field pH	320	SU	5193	6.4		7.0		-	6.0-9.0
Specific Conductance	323	umho/cm	5193	74		79		-	-
Temperature	325	°C	5193	10.1		10.4		-	-
Arsenic	14	µg/L	248	0.667	U	0.667	U	10	10
Barium	15	µg/L	248	30.33	*J*	24.09	*J*	100	1,000
Cadmium	34	µg/L	248	0.667	U	0.667	U	1	2*
Chloride	455	µg/L	248	2,223		2,299		NE	250,000
Chromium	51	µg/L	248	3.34	U	3.34	U	10	50*
Lead	131	µg/L	248	0.667	U	0.667	U	10	25*
Mercury	132	µg/L	248	0.033	U	0.033	U	0.2	0.012*
Selenium	183	µg/L	248	0.667	U	0.667	U	10	5*
Silver	184	µg/L	248	3.34	U	3.34	U	10	0.06*
Sulfate	315	µg/L	248	3,851	*J*	4,629	*J*	250,000	250,000
TPH(DRO)	NE	µg/L	12	0.064	U	0.064	U	NE	NE
Gross Alpha	314	pCi/L	248	<-0.19		<-0.60		NE	NE
Gross Beta	NE	pCi/L	248	<0.0780		<-0.25		NE	NE
H3GW (Tritium)	NE	pCi/L	248	<-29		<6.63		NE	NE
Acetone	3	µg/L	12	2.2	J	2.2	U	100	2,000
Chloromethane	137	µg/L	12	0.23	J	0.18	J	1	2.6*
cis-1,2-Dichloroethene	78	µg/L	12	0.19	U	0.19	U	5	330*

Notes:

1. Concentrations presented in micrograms per liter (µg/L) or picoCuries per liter (pCi/L).
2. SWS ID is the Solid Waste Section Identification Number.
3. SWSL is the Solid Waste Section Limit. DENR defines the SWSL as the lowest amount of analyte in a sample that can be quantitatively determined with suitable precision and accuracy.
4. 15A NCAC 2B Standard is from "North Carolina Administrative Code, Title 15A: Deparment of Environment and Natural Resources, Subchapter 2B - Surface Water and Wetland Standards," (last amended on May 1, 2007) for Class WS-IV water.
5. * Indicates that no 2B standard exists for Class WS-IV water. Where no 2B standard exists, the NC and EPA Criteria Table for Water Supply water used.
   NC and EPA Criteria Table downloaded from DENR website at http://portal.ncdenr.org/web/wq/ps/csu/swstandards (Downloaded 8/26/2011).
6. Grayed values indicate values that attain or exceed the SWSL standard.
7. Bold values indicate values that attain or exceed the 15A NCAC 2B Standard.
8. NE means not established. Blank cells indicate that there is no information relevant to the respective row.
9. Qualifiers in non-italicized text are laboratory data qualifiers or "flags". "U" is used for parameters not detected at concentrations above the method detection limit (MDL). "J" is used for parameters detected at estimated concentrations above the MDL but below the laboratory's method reporting limit (MRL). An italicized *J* -flag is a data qualifier, added by Altamont, to indicate a detected concentration that is greater than the laboratory's MRL but less than the SWSL.
10. Data obtained from Electronic Data Deliverable (EDD) and EnRad Laboratory Report provided by Tim Hunsucker of Duke Energy Carolinas on January 12, 2012.
11. According to the Constituent Look-up webpage on the DENR Division of Waste Management webpage, there is no SWSL for choride associated with CAS number 16887-00-6, which is the CAS reported by the laboratory for the analyses completed. Therefore, the SWSL listed is for the chloride with CAS number SW301 as specified on the Constituent Look-up webpage (last updated June 13, 2011).

Table 4–Leachate Sample Field and Analytical Results
Duke Energy Carolinas, LLC/McGuire Nuclear Station
Landfill #2 (Synthetically Lined) - Permit No. 6004

Sample Date: December 8, 2011 — Laboratory Certificate Codes:
Duke Energy Carolinas Field #5193
Duke Energy Analytical Laboratory #248
Field Sampling performed by Duke Energy, LLC — Pace Analytical Services, Inc. #12

Parameter	SWS ID	Units	Certificate Code	6004-Leachate Pond		SWSL
Field pH	320	SU	5193	7.0		-
Specific Conductance	323	umho/cm	5193	792		-
Temperature	325	°C	5193	13.9		-
Arsenic	14	µg/L	248	1.045	*J*	10
Barium	15	µg/L	248	75.87	*J*	100
Cadmium	34	µg/L	248	0.667	U	1
Chloride	455	µg/L	248	15,960		NE
Chromium	51	µg/L	248	3.34	U	10
Lead	131	µg/L	248	0.667	U	10
Mercury	132	µg/L	248	0.033	U	0.2
Selenium	183	µg/L	248	1.227	*J*	10
Silver	184	µg/L	248	3.34	U	10
Sulfate	315	µg/L	248	80,390	*J*	250,000
TPH(DRO)	NE	µg/L	12	0.49	J	NE
Gross Alpha	314	pCi/L	248	<0.190		NE
Gross Beta	NE	pCi/L	248	14.7		NE
H3GW (Tritium)	NE	pCi/L	248	203		NE
Acetone	3	µg/L	12	2.2	U	100
Chloromethane	137	µg/L	12	0.13	J	1
cis-1,2-Dichloroethene	78	µg/L	12	1.4	*J*	5

Notes:

1. Concentrations presented in micrograms per liter (µg/L) or picoCuries per liter (pCi/L).
2. SWS ID is the Solid Waste Section Identification Number.
3. SWSL is the Solid Waste Section Limit. DENR defines the SWSL as the lowest amount of analyte in a sample that can be quantitatively determined with suitable precision and accuracy.
4. Grayed values indicate values that attain or exceed the SWSL standard.
5. NE indicates not established. Blank cells indicate that there is no information relevant to the respective row.
6. Qualifiers in non-italicized text are laboratory data qualifiers or "flags". "U" is used for parameters not detected at concentrations above the method detection limit (MDL). "J" is used for parameters detected at estimated concentrations above the MDL but below the laboratory's method reporting limit (MRL). An italicized *J* -flag is a data qualifier, added by Altamont, to indicate a detected concentration that is greater than the laboratory's MRL but less than the SWSL.
7. Data obtained from Electronic Data Deliverable (EDD) and EnRad Laboratory Report provided by Tim Hunsucker of Duke Energy Carolinas on January 12, 2012.
8. According to the Constituent Look-up webpage on the DENR Division of Waste Management webpage, there is no SWSL for choride associated with CAS number 16887-00-6, which is the CAS reported by the laboratory for the analyses completed. Therefore, the SWSL listed is for the chloride with CAS number SW301 as specified on the Constituent Look-up webpage (last updated June 13, 2011).

Table 5–Field and Analytical Results that Equal or Exceed NCAC 2L Groundwater Quality Standards Duke Energy Carolinas, LLC/McGuire Nuclear Station Landfill #2 (Synthetically Lined) - Permit No. 6004

Sample Date: December 8, 2011						
Parameter	**Well ID**	**Result**	**Units**	**15A NCAC 2L Standard**	**Historical Concentrations**	**Cause and Significance**
pH	MW-5A	6.1	SU	6.5 - 8.5	5.0 - 6.8	MW-5A is considered the background well for the site. pH is consistent with historical readings at MW-5A.
	MW-6	5.9			5.6 - 6.3	pH is consistent with historical readings at MW-6.
	MW-6A	5.4			5.1 - 6.0	pH is consistent with historical readings at MW-6A.
	MW-7A	6.5			6.1 - 7.6	pH is consistent with historical readings at MW-7A.
	MW-8	6.1			6.0 - 7.0	pH is consistent with historical readings at MW-8.
	MW-8A	6.5			6.4 - 7.2	pH is consistent with historical readings at MW-8A.
	MW-9	6.0			4.8 - 6.2	pH is consistent with historical readings at MW-9.
	MW-9A	6.5			6.1 - 6.7	pH is consistent with historical readings at MW-9A.
	MW-10A	5.7			4.9 - 6.0	pH is consistent with historical readings at MW-10A.

Notes:

1. 15A NCAC 2L Standard is from "North Carolina Administrative Code, Title 15A: Department of Environment and Natural Resources, Subchapter 2L - Groundwater Classifications and Standards," DENR (last amended on January 1, 2010).
2. Data obtained from Electronic Data Deliverable (EDD) provided by Tim Hunsucker of Duke Energy Carolinas, LLC on January 12, 2012.
3. Historical concentrations based on data in Duke Energy Carolinas, LLC analytical results database.

Table 6–Radiological Analytical Results
Duke Energy Carolinas, LLC/McGuire Nuclear Station
Landfill # 2 (Synthetically Lined) - Permit No. 6004

Sample Date: December 8, 2011

Laboratory Certificate Codes:
Duke Energy Analytical Laboratory #248

Field Sampling Performed by Duke Energy Carolinas, LLC

Parameter	Units	Certificate Code	Monitoring Well Identification											Leachate Pond	Surface Water 1	Surface Water 2
			MW-5	MW-5A	MW-6	MW-6A	MW-7	MW-7A	MW-8	MW-8A	MW-9	MW-9A	MW-10A			
Gross Alpha	pCi/L	248	NS	<-0.51	<-0.50	<-0.52	NS	<-0.63	<-0.32	<-0.77	<-0.61	<-0.86	<-0.40	<0.19	<-0.19	<-0.60
BaLa-140	pCi/L	248	NS	<8.30	<6.55	<4.66	NS	<7.12	<5.05	<5.89	<5.40	<6.44	<4.59	<5.29	<14.4	<6.23
Be-7	pCi/L	248	NS	<46.9	<30.1	<32.8	NS	<39.2	<39.8	<43.9	<28.6	<33.6	<24.0	<32.6	<42.2	<34.9
Gross Beta	pCi/L	248	NS	<-0.40	<-0.39	<-0.59	NS	<-0.73	<-0.47	<0.002	<-1.1	<-1.2	<-0.19	14.7	<0.078	<-0.25
Co-58	pCi/L	248	NS	<7.89	<4.20	<3.26	NS	<4.28	<4.64	<4.76	<3.29	<3.71	<2.83	<3.62	<7.92	<4.42
Co-60	pCi/L	248	NS	<9.41	<6.34	<3.46	NS	<5.99	<6.83	<7.84	<6.03	<5.58	<4.24	<5.95	<6.76	<8.02
Cs-134	pCi/L	248	NS	<6.45	<4.13	<3.33	NS	<4.48	<4.88	<4.23	<3.53	<4.13	<2.60	<3.50	<6.96	<4.69
Cs-137	pCi/L	248	NS	<8.97	<4.90	<4.62	NS	<6.04	<6.03	<5.55	<4.26	<4.59	<3.64	<4.63	<9.08	<5.11
Fe-59	pCi/L	248	NS	<15.8	<6.90	<7.59	NS	<7.66	<9.42	<9.15	<8.08	<7.25	<5.56	<8.03	<14.9	<11.6
H3GW (Tritium)	pCi/L	248	NS	<97.7	<-44	<29.0	NS	<28.7	<-47	<-13	<4.44	<-42	<-33	203	<-29	<6.63
I-131	pCi/L	248	NS	<8.73	<4.33	<5.02	NS	<6.36	<7.11	<6.98	<4.50	<5.79	<3.71	<5.60	<9.43	<7.03
K-40	pCi/L	248	NS	<136	<71.0	115	NS	<112	82.0	219	45.8	122	57.0	107	<127	109
Mn-54	pCi/L	248	NS	<7.70	<3.74	<3.59	NS	<4.12	<3.58	<4.92	<3.52	<4.05	<3.23	<4.38	<8.57	<5.70
Nb-95	pCi/L	248	NS	<8.49	<4.54	<4.82	NS	<5.42	<4.36	<4.44	<3.51	<4.87	<2.86	<4.18	<7.50	<4.83
Zn-65	pCi/L	248	NS	<3.48	<8.43	<7.86	NS	<9.06	<9.12	<8.72	<8.59	<9.44	<7.10	<9.19	<7.10	<8.30
Zr-95	pCi/L	248	NS	<12.4	<5.44	<6.39	NS	<8.57	<8.18	<8.97	<5.76	<7.56	<4.00	<6.80	<6.62	<9.27

Notes:

1. Concentrations presented in picocuries per liter (pCi/L).
2. No sample was collected from MW-5 or MW-7 due to insufficient volume.
3. NS indicates no sample was collected.
4. Data obtained from EnRad Laboratory Report provided by Tim Hunsucker of Duke Energy Carolinas on January 12, 2012.

APPENDICES

APPENDIX A
Chain-of-Custody Forms

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Duke Energy SM

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

Duke Energy Analytical Lab 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 # J11120004 MATRIX: GW-RCRA

Logged By: [illegible] Date & Time: 12-9-11 8:03

Cooler Temp (C): 1.5

Samples Originating From: NC √ SC

SAMPLE PROGRAM: Ground Water √ NPDES Drinking Water UST RCRA Waste

PACE
PO #146146

[19]Page 1 of 2
DISTRIBUTION
ORIGINAL to LAB,
COPY to CLIENT

6/9/2011 rev

Customer must Complete

1)Project Name: MNS LANDFILL 2 Permit # 60-04		2)Phone No: 875-5257
3)Client: C. Campbell / T Hunsucker		4)Fax No:875-4349
5)Business Unit: 20036	6)Process: BLDFLGN	7)Resp. To: MC00
8)Project ID:	9)Activity ID:	10)Mail Code: MGO3A3

PO

MR #

[15]Preserv.: 1=HCL 2=H_2SO_4 3=HNO_3 4=Ice 5=None: 1, 4

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	[16]Analyses Required [17]Comp.	[18]Grab	VOC's (EPA8260) (See Attached List)	ALK (4.5), SO4, Cl (IC) 4	Hg (7470) 3	Metals Prep - 3030C (ICP-EPA-200.7) Ag, Ba, Ca, Cr, K, MG, Na (IMS-EPA-200.8) As, Cd, Pb, Se 3	(8015 / 3520) TPH-DRO 4	Chlorine (ppm)	[20]Total # of Containers
2011025836		TRIP BLANK	12/8/11	0435	VDC		X	3					n/a	3
2011025825		MW-5 — NO SAMPLE —			VDC		X	3	1	1	1	1		7
2011025826		MW-5A	12/8/11	0815	VDC		X	3	1	1	1	1		7
2011025827		MW-6	12/8/11	0900	RWW		X	3	1	1	1	1		7
2011025828		MW-6A	12/8/11	0930	RWW		X	3	1	1	1	1		7
2011025829		MW-7 — NO SAMPLE —			VDC		X	3	1	1	1	1		7
2011025830		MW-7A	12/8/11	0955	VDC		X	3	1	1	1	1		7
2011025831		MW-8	12/8/11	0730	RWW		X	3	1	1	1	1		7
2011025832		MW-8A	12/8/11	0750	RWW		X	3	1	1	1	1		7
2011025833		MW-9	12/8/11	1430	VDC		X	3	1	1	1	1		7
2011025834		MW-9A	12/8/11	~~1230~~ 1415	~~RWW~~ VDC		X	3	1	1	1	1		7
2011025835		MW-10A	12/8/11	1230	RWW by VDC		X	3	1	1	1	1		7

Customer to sign & date below

21)Relinquished By: [illegible]	Date/Time: 12/9/11 0720	Accepted By: [illegible]	Date/Time: 12-9-11 7:30
Relinquished By: [illegible]	Date/Time: 12/9/11 1400	Accepted By: Pace	Date/Time: 1254 1402
Relinquished By	Date/Time	Accepted By:	Date/Time
23)Seal/Locked By	Date/Time	Sealed/Lock Opened By	Date/Time

24)Comments: Regulatory Agency : NCDENR/DWM -SW Section - State EDD Format Required / Permit # 60-04
Use indicated or comparible analytical methods

Customer, important please indicate desired turnaround

[22]Requested Turnaround
14 Days √
*7 Days
*48 Hr
*Other 12/16-11
* Add. Cost Will Apply

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Duke Energy SM

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

Duke Energy Analytical Lab Services
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(704) 87

Analytical Laboratory Use Only

LIMS # J11120004 MATRIX: GW-RCRA

Samples Originating From: NC √ SC ___

Logged By: [illegible] Date & Time: 12-9-11 8:03

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

Cooler Temp (C): 1.5

PO: PACE PO #146146

MR #:

[19]Page 2 of 2

DISTRIBUTION ORIGINAL to LAB, COPY to CLIENT

6/9/2011 rev

Customer must Complete

1)Project Name: MNS LANDFILL 2 Permit # 60-04		2)Phone No: 875-5257
3)Client: C. Campbell / T Hunsucker		4)Fax No:875-4349
5)Business Unit: 20036	6)Process: BLDFLGN	7)Resp. To: MC00
8)Project ID:	9)Activity ID:	10)Mail Code: MGO3A3

Customer to complete all appropriate NON-SHADED areas.

[15]Preserv.: 1=HCl 2=H_2SO_4 3=HNO_3 4=Ice 5=None

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: VOC's (EPA8260) (See Attached List) 1, 4	ALK (4.5), SO4, Cl (IC) 4	Hg (7470) 3	Metals Prep - 3030C (ICP-EPA-200.7) Ag, Ba, Ca, Cr, K, MG, Na (IMS-EPA-200.8) As, Cd, Pb, Se 3	(8015 / 3520) TPH-DRO 4	Chlorine (ppm)	[20]Total # of Containers
2011025837		SW-1	12/8/11	1305	DC		X	3	1	1	1	1	Ø	7
2011025838		SW-2	12/8/11	1230	DC		X	3	1	1	1	1	Ø	7
2011025839		LEACHATE POND	12/8/11	1030	DC		X	3	1	1	1	1	Ø	7
2011025840		QC - (WELL # MW-5A)	12/8/11	0815	DC		X				~~1~~ DC	1	Ø	~~2~~ DC
2011025841		FIELD BLANK	12/8/11	1515	DC		X	3	1	1	1	1	n/a	7

Customer to complete appropriate columns to right

Customer to sign & date below

21)Relinquished By: [illegible]	Date/Time: 12/9/11 0920	Accepted By: [illegible]	Date/Time: 12-9-11 7:30
Relinquished By: [illegible]	Date/Time: 12/9/11 1400	Accepted By: [illegible] per at 12-9-11 1400	Date/Time:
Relinquished By:	Date/Time:	Accepted By:	Date/Time:
23)Seal/Locked By:	Date/Time:	Sealed/Lock Opened By:	Date/Time:

24)Comments: Regulatory Agency : NCDENR/DWM -SW Section - State EDD Format Required / Permit # 60-04
Use indicated or comparible analytical methods

Customer, important please indicate desired turnaround

[22]Requested Turnaround

- 14 Days: √
- *7 Days: ___
- *48 Hr: ___
- *Other: 12-16-11

* Add. Cost Will Apply

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Duke Energy SM

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

Duke Energy Analytical Lab 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

MNS-10-NOV-2011-1 | Sample Class | Samples Originating From: NC √ SC ___

LYNN BURROW | 11/10/2011 11:30 | SAMPLE PROGRAM: Ground Water √, NPDES ___, Drinking Water ___, UST ___, RCRA Waste ___

Vendor | Cooler Temp (C)

PO #

MR #

[19]Page 1 of 2

DISTRIBUTION
ORIGINAL to LAB,
COPY to CLIENT

Customer must Complete

1)Project Name: *MNS LANDFILL 2 Permit # 60-04*		2)Phone No: 875-5257
3)Client: C. Campbell / T Hunsucker		4)Fax No:875-4349
5)Business Unit: 20036	6)Process: BLDFLGN	7)Resp. To: MC00
8)Project ID:	9)Activity ID:	10)Mail Code: MGO3A3

[15]Preserv.: 1=HCL 2=H_2SO_4 3=HNO_3 4=Ice 5=None

[16]Analyses Required

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	Gamma	Gross A & B	Tritium	[20]Total # of Containers
								3		3	5	
224752	←	MW-5 — NO SAMPLE — VOC					X	1		1	1	3 →
224753		MW-5A	12/8/11	0815	VOC		X	1		1	1	3
224754		MW-6	12/8/11	0900	RW		X	1		1	1	3
224755		MW-6A	12/8/11	0930	RW		X	1		1	1	3
224756	←	MW-7 — NO SAMPLE — VOC					X	1		1	1	3 →
224757		MW-7A	12/8/11	0955	VOC		X	1		1	1	3
224758		MW-8	12/8/11	0730	RW		X	1		1	1	3
224759		MW-8A	12/8/11	0750	RW		X	1		1	1	3
224760		MW-9	12/8/11	1430	VOC		X	1		1	1	3
224761		MW-9A	12/8/11	1415	VOC		X	1		1	1	3
224762		MW-10A	12/8/11	1230	RW		X	1		1	1	3

Customer to sign & date below

	Date/Time	Accepted By:	Date/Time
21)Relinquished By: T D Lee	12/8/11 1610	Lynn Burrow	12/8/11 1610
Relinquished By	Date/Time	Accepted By	Date/Time
Relinquished By	Date/Time	Accepted By:	Date/Time
23)Seal/Locked By	Date/Time	Sealed/Lock Opened By	Date/Time

24)Comments: INSUFFICIENT VOL TO SAMPLE MW-5 AND MW-7

DATA REPORTED... [illegible] SIGNATURE 1-9-2012 DATE

Customer, important! please indicate desired turnaround

[22]Requested Turnaround

14 Days √

*7 Days ___

*48 Hr ___

*Other ___

* Add. Cost Will Apply

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Duke Energy

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

Duke Energy Analytical Lab Services

Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(704) 87

Analytical Laboratory Use Only

MNS-10-NOV-2011-1	Sample Class	Samples Originating From: NC √ SC ___
LYNN BURROW	12/5/2011 13:38	SAMPLE PROGRAM: Ground Water √ NPDES ___ Drinking Water ___ UST ___ RCRA Waste ___
Vendor	Cooler Temp (C)	

[19]Page 2 of 2
DISTRIBUTION
ORIGINAL to LAB,
COPY to CLIENT

Customer must Complete

1)Project Name: *MNS LANDFILL 2 Permit # 60-04*		2)Phone No: 875-5257
3)Client: C. Campbell / T Hunsucker		4)Fax No:875-4349
5)Business Unit: 20036	6)Process: BLDFLGN	7)Resp. To: MC00
8)Project ID:	9)Activity ID:	10)Mail Code: MGO3A3

PO #

MR #

[15]Preserv.: 1=HCL 2=H_2SO_4 3=HNO_3 4=Ice 5=None

Customer to complete all appropriate NON-SHADED areas.

LAB USE ONLY [11]Lab ID	[12]Chem Desktop No.	[13]Sample Description or ID	[14]Collection Information Date	Time	Signature	[16]Analyses Required [17]Comp.	[18]Grab	Gamma	Gross A & B	Tritium							[20]Total # of Containers
								3		3	5						
226077		SW-1	12/8/11	1305	VSC		X	1		1	1						3
226078		SW-2	12/8/11	1230	VSC		X	1		1	1						3
226079		LEACHATE POND	12/8/11	1030	VSC		X	1		1	1						3

Customer to complete appropriate columns to right

Customer to sign & date below

21)Relinquished By: [signature]	Date/Time: 12/8/11 1610	Accepted By: [signature]	Date/Time: 12/8/11 1610
Relinquished By	Date/Time	Accepted By:	Date/Time
Relinquished By	Date/Time	Accepted By:	Date/Time
23)Seal/Locked By	Date/Time	Sealed/Lock Opened By	Date/Time

24)Comments

DATA REPORT

Customer, important please indicate desired turnaround

[28]Requested Turnaround
14 Days √
*7 Days ___
*48 Hr ___
*Other ___
* Add. Cost Will Apply

SIGNATURE [signature] DATE 1-9-2012