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):

HDR Engineering, Inc. of the Carolinas (Consultant)

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

Name: William M. Miller Phone: 828-891-6296

E-mail: bill.miller@hdrinc.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 #1 (Unlined)	13339 Hagers Ferry Road Huntersville, NC 28078	6004	.0500	July 16, 2012

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.

William M. Miller	Senior Engineer	(828) 891-6296
Facility Representative Name (Print)	Title	(Area Code) Telephone Number

William M. Miller — October 12, 2012

Signature — Date

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA PROFESSIONAL SEAL 17661 ENGINEER WILLIAM M. MILLER

10/12/12

440 S. Church Street Suite 1000, Charlotte, NC 28202

Facility Representative Address

F-0116

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

SEMIANNUAL GROUNDWATER MONITORING REPORT

MCGUIRE NUCLEAR STATION

LANDFILL #1 (UNLINED) PERMIT NO. 6004

JULY 2012 SAMPLING EVENT

Prepared for:
DUKE ENERGY CAROLINAS, LLC
13339 Hagers Ferry Road
Huntersville, NC 28078

Prepared by:
HDR ENGINEERING, INC. OF THE CAROLINAS
Charlotte, North Carolina

October 12, 2012

REPORT VERIFICATION

PROJECT: **SEMIANNUAL GROUNDWATER MONITORING REPORT**
MCGUIRE NUCLEAR STATION
LANDFILL #1 (UNLINED)
PERMIT NO. 6004

TITLE: **JULY 2012 SAMPLING EVENT**

This document has been reviewed for accuracy and quality commensurate with the intended application.

Prepared by: Abigail Loesch Date: 10/12/2012

Checked by: Justin B Schumacher Date: 10/12/2012

Approved by: William M. Miller Date: October 12, 2012

Project Manager: Ty Ziegler, PE

Professional Engineer Seal:

William M. Miller 10/12/12

HDR Engineering, Inc. of the Carolinas
440 South Church St., Suite 1000
Charlotte, NC 28202
North Carolina Engineering Firm Number F-0116

SEMIANNUAL GROUNDWATER MONITORING REPORT
MCGUIRE NUCLEAR STATION
LANDFILL #1 (UNLINED)
PERMIT NO. 6004

JULY 2012 SAMPLING EVENT

TABLE OF CONTENTS

Section 1
Background

The McGuire Nuclear Station Landfill #1 (Unlined)[1] is located at the Duke Energy Carolinas, LLC (Duke Energy) McGuire Nuclear Station, in Mecklenburg County, NC. The landfill is closed and no longer accepts waste. The landfill and nearby area are portrayed on Figure 1. The approximate limit of waste is shown on Figure 2.

The landfill is located south of NC Highway 73, east of the Catawba River, and to the west of Cashion Road. Cashion Road runs along a topographic divide, with topography sloping away from Cashion Road to the northwest and to the southeast. Surface water to the northwest of Cashion Road drains towards the Catawba River. There are two surface water drainage features adjacent to the landfill. The surface water drainage feature located to the north of the landfill contains an unnamed perennial stream that drains to the northwest, towards another perennial unnamed stream that flows to the Catawba River. The surface water drainage feature located to the south and west of the landfill also drains to an unnamed stream that flows to the Catawba River.

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

Monitoring Wells:	MW-1
	MW-1D
	MW-2A
	MW-2D
	MW-3
	MW-3D
	MW-4
	MW-4D
	MW-11
	MW-11D

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

[2] *McGuire Nuclear Station Landfill #1, Permit Number 60-04, Ground-Water Monitoring Program Sampling and Analysis Plan* (SAP), September 14, 1996, Revised, November 24, 1997, March 9, 2001.

	MW-12
	MW-12D
Surface Water	
Sample Location:	SW-1

The monitoring wells and the surface water sample location are shown on Figure 2. The wells were installed as well pairs with one shallow well and one deeper well adjacent to each other. The well with the "D" designation is the deeper well in each well pair. The shallow wells are screened to intercept the water table. The deep wells are constructed so that the bottom of the screen is located in residual material just above auger refusal. Monitoring wells MW-1 and MW-1D are located upgradient of the landfill.

Section 2
Methods

2.1 Sampling and Analysis Methods

Groundwater sampling, surface water sampling, and documentation of sampling activities were performed by Duke Energy personnel (Duke Energy Carolinas Field Certification #5193) following the procedures outlined in the SAP. The groundwater and surface water samples were analyzed by Duke Energy's Analytical Laboratory (North Carolina Laboratory Certification #248) and Pace Analytical Services, Inc. Huntersville (North Carolina Laboratory Certification #12). Radiological analyses were performed by Duke Energy's EnRad Laboratory.

The groundwater and surface water 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
- Sulfate using EPA Method 300.0
- Volatile organic compounds (VOCs) using EPA Method 8260

The samples were also analyzed for the following radiological parameters:

- Gross alpha radioactivity using EPA Method 900
- Gross beta radioactivity using EPA Method 900
- Tritium using EPA Method 906.0 Modified

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 as listed in Table 5.

2.2 Statement of Work

HDR Engineering, Inc. (HDR) completed the following tasks:

- Received field sampling information provided by Duke Energy (performed by Duke Energy personnel) for monitoring wells MW-1, MW-1D, MW-2A, MW-2D, MW-3, MW-3D, MW-4, MW-4D, MW-11, MW-11D, MW-12, and MW-12D. Data were also received for surface water sample location SW-1. The samples were collected on July 16, 2012 and HDR received the data on August 9, 2012.
- Reviewed the laboratory analytical results for the samples. The Electronic Data Deliverable (EDD), provided by Duke Energy, was adapted to conform to the format requirements of the North Carolina Department of Environment and Natural Resources (NCDENR) EDD template. HDR 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 HDR's files.
- Developed a generalized groundwater surface contour map using map data and groundwater elevation data supplied by Duke Energy.
- Prepared and submitted this Semiannual Groundwater Monitoring Report to Duke Energy and to NCDENR.

Section 3
Results

3.1 Site Groundwater Flow

Groundwater flow at the site is generally from the southeast, near MW-1/MW-1D and Cashion Road, toward the northwest, toward MW-3/MW-3D and MW-4/MW-4D.

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 July 16, 2012.

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. Results below the heavy black line in Tables 2 and 3 are EPA Method 8260 constituents detected above the method detection limit (MDL) in at least one well or surface water 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 location SW-1 is located on an unnamed stream which is a tributary to the Catawba River. The Catawba River is classified by the NCDENR Division of Water Quality as a Class WS-IV water at its confluence with the unnamed stream. The field and analytical results from these locations are compared to Title 15A, North Carolina Administrative Code (NCAC), Subchapter 2B surface water quality standards (2B Standards) for Class WS-IV waters.

A summary of the analytical results that equal or exceed the Title 15A, NCAC, Subchapter 2L groundwater quality standards (2L Standards) is presented in Table 4.

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)
- Vinyl chloride

The MDL was greater than the respective 2B Standard[3] for the following constituents:

- Mercury
- Silver

The MDLs for the abovementioned constituents were all below their corresponding Solid Waste Section Limits (SWSLs). Therefore, in accordance with the NCDENR February 23, 2007 memo, [4] the results are considered to be estimated.

The constituents at the following wells were detected at concentrations in excess of their corresponding SWSLs:

- Barium in MW-1
- Tetrachloroethene in MW-4
- Methylene chloride in MW-4D
- Trichloroethene in MW-4D

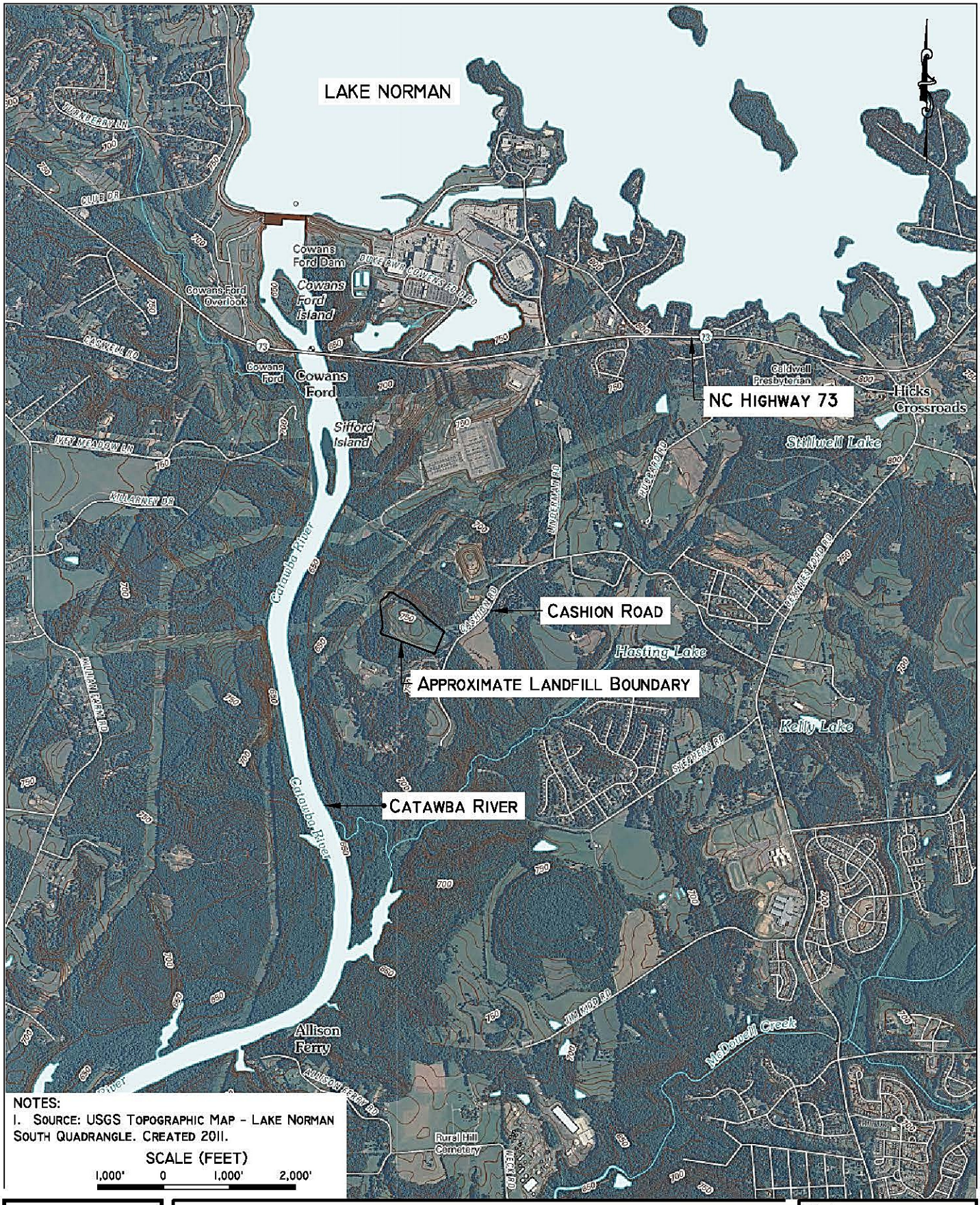
[3] Rule 15A NCAC 02B .0216 FRESH SURFACE WATER QUALITY STANDARDS FOR WS-IV WATERS provides quality standards for selected parameters in 15A NCAC 02B .0216 (3). Class C water quality standards also apply to WS-IV waters as described in Rule .0211 of that section. NCDENR has summarized these standards in a table designated as *NC and EPA Criteria Table*, available on the DENR website: http://portal.ncdenr.org/web/wq/ps/csu.

[4] NCDENR Division of Waste Management memo dated February 23, 2007. Re: Addendum to October 27, 2006, North Carolina Solid Waste Section Memorandum Regarding New Guidelines for Electronic Submittal of Environmental Data.

The analytical results for radiological constituents are summarized in Table 5. These results were provided by Duke Energy. A copy of this report is submitted to the NCDENR Radiation Protection Section for reference. HDR did not evaluate this data.

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

FIGURES



NOTES:
1. SOURCE: USGS TOPOGRAPHIC MAP - LAKE NORMAN SOUTH QUADRANGLE. CREATED 2011.

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

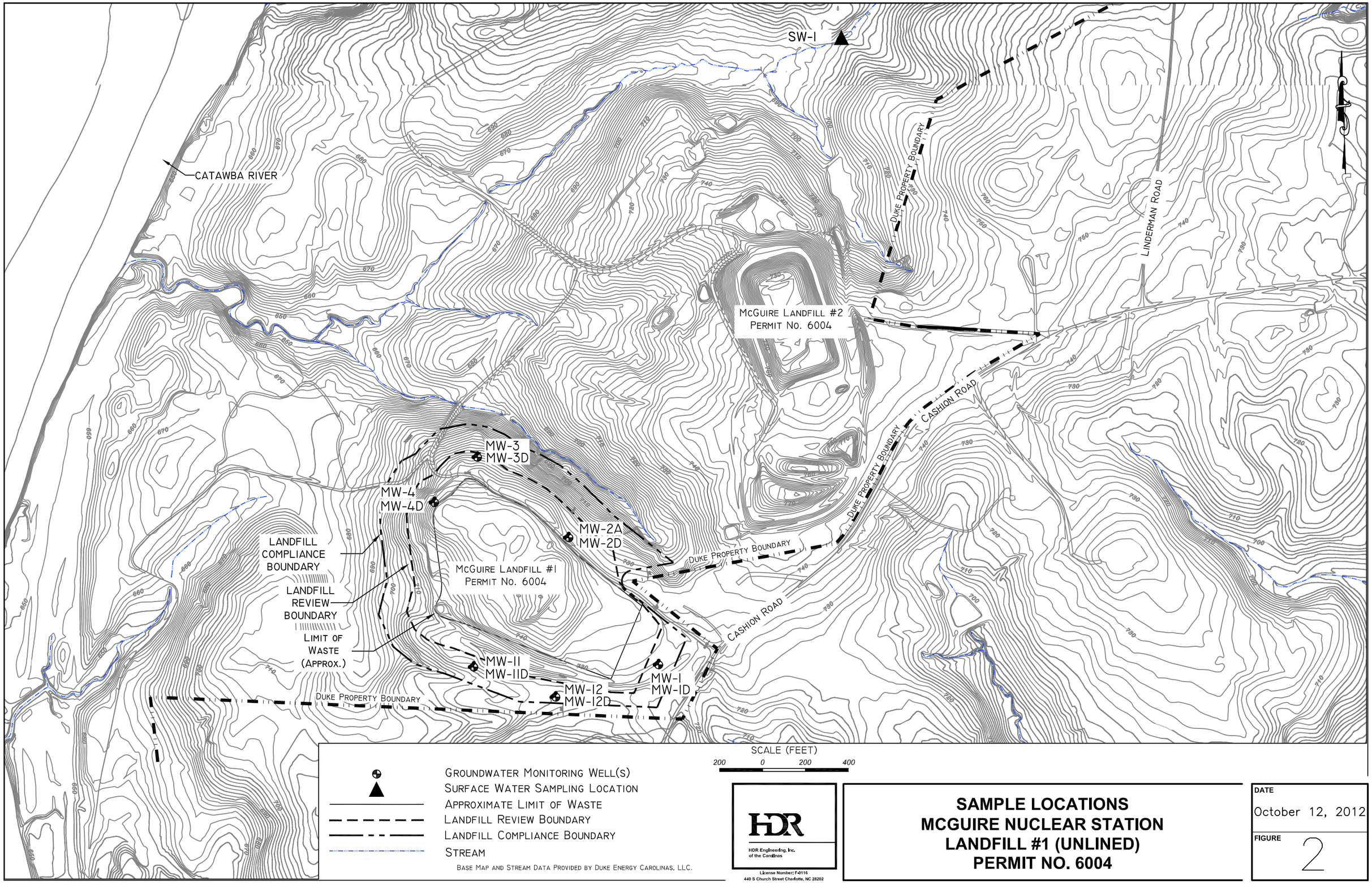
HDR
HDR Engineering, Inc. of the Carolinas
License Number: F-0116
440 South Church Street Charlotte, NC 28202

SITE LOCATION MAP
MCGUIRE NUCLEAR STATION
LANDFILL #1 (UNLINED)
PERMIT NO. 6004

DATE
October 12, 2012

FIGURE
1

C:\pwworking\tpa\d0389114\Site Location Map.dwg, FIGURE 1, 8/30/2012 3:51:57 PM, avoorhee



HDR Engineering, Inc. of the Carolinas
License Number: F-0116
440 S Church Street Charlotte, NC 28202

SAMPLE LOCATIONS
MCGUIRE NUCLEAR STATION
LANDFILL #1 (UNLINED)
PERMIT NO. 6004

DATE
October 12, 2012

FIGURE
2

C:\pwworking\tpad\0389114\MNS LF #1.dwg, Fig. 2, 10/11/2012 10:40:02 AM, avoorhee

MW-3
(670.04')
MW-3D
(670.05')

MW-4
(674.93')
MW-4D
(673.70')

MW-2A
(686.42')
MW-2D
(685.65')

MW-11
(689.44')
MW-11D
(689.65')

MW-12
(697.35')
MW-12D
(696.44')

MW-1
(700.27')
MW-1D
(699.76')

LANDFILL COMPLIANCE BOUNDARY

LANDFILL REVIEW BOUNDARY

LIMIT OF WASTE (APPROX.)

DUKE PROPERTY BOUNDARY

CASHION ROAD

MW-11
(689.44')

GROUNDWATER MONITORING WELL(S)
GROUNDWATER ELEVATION (FEET)
APPROXIMATE LIMIT OF WASTE
LANDFILL REVIEW BOUNDARY
LANDFILL COMPLIANCE BOUNDARY
STREAM
GROUNDWATER SURFACE CONTOUR

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

SCALE (FEET)
100 0 100 200

NOTES:
1. GROUNDWATER SURFACE COUNTOURS DEVELOPED USING WATER ELEVATIONS MEASURED IN SHALLOW WELLS ON JULY 16, 2012.

HDR
HDR Engineering, Inc. of the Carolinas
License Number: F-0116
440 S Church Street Charlotte, NC 28202

GENERALIZED GROUNDWATER SURFACE CONTOURS MCGUIRE NUCLEAR STATION LANDFILL #1 (UNLINED) PERMIT NO. 6004

DATE
October 12, 2012

FIGURE
3

TABLES

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

DATE	WELL No.	WELL DEPTH (feet)	DEPTH TO WATER (feet)	WATER ELEV. (feet)	APPEARANCE	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)
7/16/2012	MW-1	69.00	30.02	700.27	Normal	None	CP	N/A	6.36	19.50	NO	17.80	98	6.1	3.7	N/A	N/A
7/16/2012	MW-1D	88.60	30.91	699.76	Normal	None	CP	N/A	9.41	28.50	NO	17.98	83	6.2	2.6	N/A	N/A
7/16/2012	MW-2A	78.00	53.83	686.42	Normal	None	CP	N/A	3.94	12.00	NO	18.50	62	6.5	2.3	N/A	N/A
7/16/2012	MW-2D	110.10	55.14	685.65	Normal	None	CP	N/A	8.96	27.00	NO	18.43	58	6.9	4.5	N/A	N/A
7/16/2012	MW-3	71.00	59.00	670.04	Normal	None	CP	N/A	1.96	6.00	NO	16.54	73	6.2	3.2	N/A	N/A
7/16/2012	MW-3D	88.88	58.38	670.05	Normal	None	CP	N/A	4.97	15.00	NO	16.88	99	6.5	1.4	N/A	N/A
7/16/2012	MW-4	73.95	66.31	674.93	Normal	None	EOP	N/A	1.25	0.55	N/A	17.61	171	5.4	0.7	N/A	N/A
7/16/2012	MW-4D	101.48	66.99	673.70	Normal	None	CP	N/A	5.63	17.25	NO	16.62	130	6.2	1.2	N/A	N/A
7/16/2012	MW-11	38.54	33.18	689.44	Normal	None	CP	N/A	0.87	2.00	YES	18.11	15	5.1	55.4	N/A	N/A
7/16/2012	MW-11D	101.80	33.51	689.65	Normal	None	CP	N/A	11.14	27.75	NO	16.48	30	5.7	4.5	N/A	N/A
7/16/2012	MW-12	29.59	27.48	697.35	Red/Iron	None	CP	N/A	0.34	1.50	YES	19.41	11	5.3	73.7	N/A	N/A
7/16/2012	MW-12D	68.56	28.36	696.44	Normal	None	CP	N/A	6.56	20.25	NO	15.36	95	6.3	2.1	N/A	N/A
7/16/2012	SW-1	N/A	N/A	N/A	Normal	None	NP	N/A	N/A	N/A	N/A	21.84	74	6.1	68.2	N/A	N/A

Notes:

1. Purge Methods; CP=Conventional Purge (3-5 well volumes), NP=No Purge, EOP=Equipment Only Purge.
2. Field sampling performed by Duke Energy Carolinas, LLC personnel.
3. umho/cm indicates micro mhos per centimeter.
4. SU indicates Standard Units.
5. NTU indicates Nephelometric Turbidity Units.
6. mV-NHE indicates millivolts-Normal Hydrogen Electrode.
7. Information provided by Tim Hunsucker of Duke Energy Carolinas, LLC on August 9, 2012.

Table 2 - Groundwater Field and Analytical Results
Duke Energy Carolinas, LLC/McGuire Nuclear Station
Landfill #1 (Unlined) - Permit No. 6004

Sample Date: July 16, 2012

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-1	6004 MW-1D	6004 MW-2A	6004 MW-2D	6004 MW-3		
Field pH	320	SU	5193	**6.1**	**6.2**	**6.5**	6.9	**6.2**	-	6.5-8.5
Specific Conductance	323	umho/cm	5193	98	83	62	58	73	-	-
Temperature	325	°C	5193	17.80	17.98	18.50	18.43	16.54	-	-
Top of Casing	328	feet	-	730.29	730.67	740.25	740.79	729.04	-	-
Depth to Water	318	feet	-	30.02	30.91	53.83	55.14	59.00	-	-
Water Elevation	427	feet	-	700.27	699.76	686.42	685.65	670.04	-	-
Well Depth	411	feet	-	69.00	88.60	78.00	110.10	71.00	-	-
Arsenic	14	µg/L	248	0.667 U	0.667 U	0.667 U	0.667 U	0.667 U	10	10
Barium	15	µg/L	248	200	78.9 J'	17.3 J'	14.2 J'	37.7 J'	100	700
Cadmium	34	µg/L	248	0.667 U	0.667 U	0.667 U	0.667 U	0.667 U	1	2
Chromium	51	µg/L	248	3.34 U	3.34 U	3.34 U	3.34 U	3.34 U	10	10
Lead	131	µg/L	248	0.667 U	0.667 U	0.667 U	0.667 U	2.07 J'	10	15
Mercury	132	µg/L	248	0.0334 U	0.0334 U	0.0334 U	0.0334 U	0.0334 U	0.2	1
Selenium	183	µg/L	248	0.667 U	0.667 U	0.667 U	0.667 U	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	10	20
Sulfate	315	µg/L	248	308 J'	341 J'	527 J'	349 J'	479 J'	250,000	250,000
Gross Alpha	314	pCi/L	248	<3.50E-01	<-1.6E-01	<-3.0E-01	<-5.0E-02	<-5.4E-02	NE	15
Gross Beta	NE	pCi/L	248	1.43E+00	1.58E+00	1.18E+00	6.74E-01	1.18E+00	NE	NE
H3GW (Tritium)	NE	pCi/L	248	<-2.6E+01	<-5.4E+01	<-3.1E+01	<-8.2E+01	<-5.9E+01	NE	NE
cis-1,2-Dichloroethene	78	µg/L	12	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	5	70
Methylene chloride	140	µg/L	12	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U	1	5
Tetrachloroethene	192	µg/L	12	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	1	0.7
Trichloroethene	201	µg/L	12	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	1	3
o-Xylene	408	µg/L	12	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	NE	500*
Xylene (total)	346	µg/L	12	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	5	500

Notes:

1. Concentrations presented in micrograms per liter (µg/L) or picoCuries per liter (pCi/L) except where noted.
2. SWS ID is the Solid Waste Section Identification Number.
3. SWSL is the Solid Waste Section Limit. NCDENR 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," NCDENR (last amended on January 1, 2010).
5. NE indicates not established. Blank cells indicate that there is no information relevant to the respective row.
6. Grayed values indicate values that attain or exceed the SWSL standard.
7. Bold values indicate values that attain or exceed the 15A NCAC 2L Standard.
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 HDR 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) provided by Tim Hunsucker of Duke Energy Carolinas, LLC on August 9, 2012.
10. NA indicates not analyzed.
11. * The 2L Standard for Xylenes-Total used.

Table 2 - Groundwater Field and Analytical Results
Duke Energy Carolinas, LLC/McGuire Nuclear Station
Landfill #1 (Unlined) - Permit No. 6004

Sample Date: July 16, 2012

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-3D	6004 MW-4	6004 MW-4D	6004 MW-11	6004 MW-11D		
Field pH	320	SU	5193	**6.5**	**5.4**	**6.2**	**5.1**	**5.7**	-	6.5-8.5
Specific Conductance	323	umho/cm	5193	99	171	130	15	30	-	-
Temperature	325	°C	5193	16.88	17.61	16.62	18.11	16.48	-	-
Top of Casing	328	feet	-	728.43	741.24	740.69	722.62	723.16	-	-
Depth to Water	318	feet	-	58.38	66.31	66.99	33.18	33.51	-	-
Water Elevation	427	feet	-	670.05	674.93	673.70	689.44	689.65	-	-
Well Depth	411	feet	-	88.88	73.95	101.48	38.54	101.80	-	-
Arsenic	14	µg/L	248	0.667 U	0.667 U	0.667 U	0.667 U	0.667 U	10	10
Barium	15	µg/L	248	21.3 J'	67.3 J'	23.1 J'	7.21 J'	8.62 J'	100	700
Cadmium	34	µg/L	248	0.667 U	0.667 U	0.667 U	0.667 U	0.667 U	1	2
Chromium	51	µg/L	248	3.34 U	3.34 U	3.34 U	3.34 U	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	10	15
Mercury	132	µg/L	248	0.0334 U	0.0334 U	0.0334 U	0.0334 U	0.0334 U	0.2	1
Selenium	183	µg/L	248	0.667 U	0.667 U	0.667 U	0.667 U	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	10	20
Sulfate	315	µg/L	248	816 J'	1,110 J'	487 J'	362 J'	513 J'	250,000	250,000
Gross Alpha	314	pCi/L	248	<-1.1E-01	<-1.9E-01	<-2.9E-01	<7.97E-02	<3.99E-02	NE	15
Gross Beta	NE	pCi/L	248	1.33E+00	1.76E+00	1.09E+00	<2.43E-01	<4.87E-01	NE	NE
H3GW (Tritium)	NE	pCi/L	248	<-7.3E+01	<1.03E+02	<1.16E+02	<-8.7E+01	<7.07E+00	NE	NE
cis-1,2-Dichloroethene	78	µg/L	12	0.19 U	1.2 J'	4.1 J'	0.19 U	0.19 U	5	70
Methylene chloride	140	µg/L	12	0.97 U	0.97 U	1.4	0.97 U	0.97 U	1	5
Tetrachloroethene	192	µg/L	12	0.46 U	**1.5**	0.46 U	0.46 U	0.46 U	1	0.7
Trichloroethene	201	µg/L	12	0.47 U	0.47 U	2.0	0.47 U	0.47 U	1	3
o-Xylene	408	µg/L	12	0.23 U	0.23 U	1.9	0.23 U	0.23 U	NE	500*
Xylene (total)	346	µg/L	12	0.66 U	0.66 U	2.0 J'	0.66 U	0.66 U	5	500

Notes:

1. Concentrations presented in micrograms per liter (µg/L) or picoCuries per liter (pCi/L) except where noted.
2. SWS ID is the Solid Waste Section Identification Number.
3. SWSL is the Solid Waste Section Limit. NCDENR 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," NCDENR (last amended on January 1, 2010).
5. NE indicates not established. Blank cells indicate that there is no information relevant to the respective row.
6. Grayed values indicate values that attain or exceed the SWSL standard.
7. Bold values indicate values that attain or exceed the 15A NCAC 2L Standard.
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 HDR 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) provided by Tim Hunsucker of Duke Energy Carolinas, LLC on August 9, 2012.
10. NA indicates not analyzed.
11. * The 2L Standard for Xylenes-Total used.

Table 2 - Groundwater Field and Analytical Results
Duke Energy Carolinas, LLC/McGuire Nuclear Station
Landfill #1 (Unlined) - Permit No. 6004

Sample Date: July 16, 2012

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 6004 MW-12	Monitoring Wells 6004 MW-12D	Trip Blank	Field Blank	SWSL	15A NCAC 2L
Field pH	320	SU	5193	**5.3**	**6.3**	-	-	-	6.5-8.5
Specific Conductance	323	umho/cm	5193	11	95	-	-	-	-
Temperature	325	°C	5193	19.41	15.36	-	-	-	-
Top of Casing	328	feet	-	724.83	724.80	-	-	-	-
Depth to Water	318	feet	-	27.48	28.36	-	-	-	-
Water Elevation	427	feet	-	697.35	696.44	-	-	-	-
Well Depth	411	feet	-	29.59	68.56	-	-	-	-
Arsenic	14	µg/L	248	0.667 U	0.667 U	NA	0.667 U	10	10
Barium	15	µg/L	248	17.2 *J'*	10.6 *J'*	NA	3.34 U	100	700
Cadmium	34	µg/L	248	0.667 U	0.667 U	NA	0.667 U	1	2
Chromium	51	µg/L	248	3.34 U	3.34 U	NA	3.34 U	10	10
Lead	131	µg/L	248	0.667 U	4.31 *J'*	NA	0.667 U	10	15
Mercury	132	µg/L	248	0.0334 U	0.0334 U	NA	0.0334 U	0.2	1
Selenium	183	µg/L	248	0.667 U	0.667 U	NA	0.667 U	10	20
Silver	184	µg/L	248	3.34 U	3.34 U	NA	3.34 U	10	20
Sulfate	315	µg/L	248	274 *J'*	161 *J'*	NA	28.4 J	250,000	250,000
Gross Alpha	314	pCi/L	248	5.40E-01	<-1.1E-01	NA	NA	NE	15
Gross Beta	NE	pCi/L	248	1.20E+00	<4.48E-01	NA	NA	NE	NE
H3GW (Tritium)	NE	pCi/L	248	<-2.4E+01	<1.64E+01	NA	NA	NE	NE
cis-1,2-Dichloroethene	78	µg/L	12	0.19 U	0.19 U	0.19 U	0.19 U	5	70
Methylene chloride	140	µg/L	12	0.97 U	0.97 U	0.97 U	0.97 U	1	5
Tetrachloroethene	192	µg/L	12	0.46 U	0.46 U	0.46 U	0.46 U	1	0.7
Trichloroethene	201	µg/L	12	0.47 U	0.47 U	0.47 U	0.47 U	1	3
o-Xylene	408	µg/L	12	0.23 U	0.23 U	0.23 U	0.23 U	NE	500*
Xylene (total)	346	µg/L	12	0.66 U	0.66 U	0.66 U	0.66 U	5	500

Notes:

1. Concentrations presented in micrograms per liter (µg/L) or picoCuries per liter (pCi/L) except where noted.
2. SWS ID is the Solid Waste Section Identification Number.
3. SWSL is the Solid Waste Section Limit. NCDENR 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," NCDENR (last amended on January 1, 2010).
5. NE indicates not established. Blank cells indicate that there is no information relevant to the respective row.
6. Grayed values indicate values that attain or exceed the SWSL standard.
7. Bold values indicate values that attain or exceed the 15A NCAC 2L Standard.
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 HDR 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) provided by Tim Hunsucker of Duke Energy Carolinas, LLC on August 9, 2012.
10. NA indicates not analyzed.
11. * The 2L Standard for Xylenes-Total used.

Table 3 - Surface Water Field and Analytical Results
Duke Energy Carolinas, LLC/McGuire Nuclear Station
Landfill #1 (Unlined) - Permit No. 6004

Sample Date: July 16, 2012

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	SW-1		SWSL	15A NCAC 2B*
Field pH	320	SU	5193	6.1		-	6.0-9.0
Specific Conductance	323	umho/cm	5193	74		-	-
Temperature	325	°C	5193	21.84		-	-
Arsenic	14	µg/L	248	0.667	U	10	10
Barium	15	µg/L	248	29	J'	100	1,000
Cadmium	34	µg/L	248	0.667	U	1	2
Chromium	51	µg/L	248	3.34	U	10	50
Lead	131	µg/L	248	0.667	U	10	25
Mercury	132	µg/L	248	0.0334	U	0.2	0.012
Selenium	183	µg/L	248	0.667	U	10	5
Silver	184	µg/L	248	3.34	U	10	0.06
Sulfate	315	µg/L	248	1,800	J'	250,000	250,000
Gross Alpha	314	pCi/L	248	<-2.5E-01		NE	15
Gross Beta	NE	pCi/L	248	1.96E+00		NE	50
H3GW (Tritium)	NE	pCi/L	248	<1.12E+02		NE	20,000
EPA 8260 VOC's	SEE NOTE 11						

Notes:

1. Concentrations presented in micrograms per liter (µg/L) or picoCuries per liter (pCi/L) except where noted.
2. SWS ID is the Solid Waste Section Identification Number.
3. SWSL is the Solid Waste Section Limit. NCDENR 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. * Rule 15A NCAC 02Bb .0216 FRESH SURFACE WATER QUALITY STANDARDS FOR WS-IV WATERS provides quality standards for selected parameters in 15A NCAC 02B .0216 (3). Class C water quality standards also apply to WS-IV waters as described in Rule .0211 of that section. NCDENR has summarized these standards in a table designated as NC and EPA Criteria Table, available on the DENR website: http://portal.ncdenr.org/web/wq/ps/csu. The NC and EPA Criteria Table, updated August 16, 2012 was used to determine the 2B Standard.
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 indicates 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 italicizedJ' -flag is a data qualifier, added by HDR 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) provided by Tim Hunsucker of Duke Energy Carolinas on August 9, 2012.
11. No EPA Method 8260 VOC's were measured above their MDL.

Table 4 - Field and Analytical Results that Equal or Exceed NCAC 2L Groundwater Quality Standards Duke Energy Carolinas, LLC/McGuire Nuclear Station Landfill #1 (Unlined) - Permit No. 6004

Sample Date: July 16, 2012

Field sampling performed by Duke Energy Carolinas, LLC

Parameter	Well ID	Result	Units	15A NCAC 2L Standard	Historical Concentrations	Cause and Significance
pH	MW-1	6.1	SU	6.5 - 8.5	6.0 - 7.0	pH consistent with historic readings at MW-1.
	MW-1D	6.2			5.9 - 7.0	pH consistent with historic readings at MW1D.
	MW-2A	6.5			5.7 - 7.4	pH consistent with historic readings at MW2A.
	MW-3	6.2			5.7 - 7.5	pH consistent with historic readings at MW-3.
	MW-3D	6.5			6.1 - 7.1	pH consistent with historic readings at MW-3D.
	MW-4	5.4			5.3 - 8.1	pH consistent with historic readings at MW-4.
	MW-4D	6.2			6.1 - 7.1	pH consistent with historic readings at MW-4D.
	MW-11	5.1			4.4 - 5.3	pH consistent with historic readings at MW-11.
	MW-11D	5.7			5.5 - 6.2	pH consistent with historic readings at MW-11D.
	MW-12	5.3			5.0 - 5.6	pH consistent with historic readings at MW-12.
	MW-12D	6.3			6.2 - 7.4	pH consistent with historic readings at MW-12D.
Tetracholorethene	MW-4	1.5	µg/L	0.7	0.88 - 1.80	MW-4 and MW-4D are located approximately 15 feet from waste boundary and approximately 110 feet within the landfill review boundary.

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," NCDENR (last amended on January 1, 2010).
2. Data obtained from Electronic Data Deliverable (EDD) provided by Tim Hunsucker of Duke Energy Carolinas, LLC on August 9, 2012.
3. Historical concentrations based on data in Duke Energy Carolinas, LLC analytical results database.

Table 5 - Radiological Analytical Results
Duke Energy Carolinas, LLC/McGuire Nuclear Station
Landfill # 1 (Unlined) - Permit No. 6004

Sample Date: July 16, 2012

Laboratory Certification Code
Duke Energy Analytical Laboratory #248

Field Sampling Performed by Duke Energy Carolinas, LLC

Parameter	Units	Certificate Code	Monitoring Wells												
			MW-1	MW-1D	MW-2A	MW-2D	MW-3	MW-3D	MW-4	MW-4D	MW-11	MW-11D	MW-12	MW-12D	SW-1
Alpha	pCi/L	248	<.350	<-.16	<-.30	<-.05	<-.054	<-.11	<-.19	<-.29	<.0797	<.0399	0.54	<-.11	<-.25
BaLa-140	pCi/L	248	<4.57	<5.23	<3.96	<4.08	<5.53	<5.11	<6.71	<5.52	NA	<5.25	NA	<5.08	<3.20
Be-7	pCi/L	248	<33.6	<32.9	<32.5	<31.2	<29.4	<36.4	<42.1	<28.7	NA	<33.8	NA	<45.1	<26.0
Beta	pCi/L	248	1.43	1.58	1.18	0.674	1.18	1.33	1.76	1.09	<.243	<.487	1.2	<.448	1.96
Co-58	pCi/L	248	<3.69	<3.71	<3.81	<3.52	<3.49	<3.90	<4.46	<3.72	NA	<4.32	NA	<3.29	<3.70
Co-60	pCi/L	248	<4.73	<4.35	<5.91	<5.24	<6.29	<5.10	<5.55	<6.44	NA	<5.75	NA	<6.44	<6.72
Cs-134	pCi/L	248	<3.69	<3.74	<4.35	<3.57	<3.89	<4.02	<5.11	4.02	NA	<5.26	NA	<4.86	<3.87
Cs-137	pCi/L	248	<3.83	<3.76	<5.28	<4.19	<4.63	<4.12	<6.56	<5.25	NA	<6.23	NA	<7.34	<5.14
Fe-59	pCi/L	248	<7.45	<7.02	<8.02	<6.92	<7.56	<7.62	<10.3	<7.58	NA	<8.47	NA	<8.51	<7.06
H3GW	pCi/L	248	<-26	<-54	<-31	<-72	<-59	<-73	<103	<116	<-87	<7.07	<-24	<16.4	<112
I-131	pCi/L	248	<4.09	<4.07	<4.18	<4.10	<3.77	<4.01	<6.19	<4.70	NA	<5.22	NA	<4.60	<3.84
K-40	pCi/L	248	111	81.5	90.1	<55.2	42.8	124	25	66.5	NA	111	NA	91.1	<65.5
Mn-54	pCi/L	248	<3.92	<3.91	<4.08	<4.05	<3.09	<3.61	<5.13	<4.76	NA	<4.36	NA	<3.97	<4.35
Nb-95	pCi/L	248	<5.09	<5.26	<3.97	<4.40	<4.00	<4.49	<6.30	<4.72	NA	<5.98	NA	<4.12	<3.59
Zn-65	pCi/L	248	<8.19	<8.29	<9.05	<8.05	<9.50	<8.49	<9.14	<9.25	NA	<9.23	NA	<8.12	<9.15
Zr-95	pCi/L	248	<5.86	<5.91	<7.00	<6.59	<6.69	<6.17	<8.56	<7.37	NA	<8.30	NA	<7.82	<6.73

Notes:

1. Concentrations presented in picocuries per liter (pCi/L).
2. Data obtained from EnRad Laboratory Report Job MCGUIRE_7JUNE2012_B provided by Tim Hunsucker of Duke Energy Carolinas on August 9, 2012.
3. NA indicates the sample was not analyzed for the parameter.

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

Page 1 of 1

DISTRIBUTION
ORIGINAL to LAB,
COPY to CLIENT

Rev 6/7/12

Analytical Laboratory Use Only

LIMS # J12070075 | MATRIX GW_RCRA | Samples Originating From | NC √ SC

Logged By | Date & Time 7-17-12 0838 | SAMPLE PROGRAM: Groundwater √, NPDES, Drinking Water, UST, RCRA Waste

VENDOR PACE | <1 Cooler Temp (C)

Customer must Complete

1) Project Name: MNS Landfill 1 # 60-04 | Permit | 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:

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.

[16] Analyses Required

LAB USE ONLY [11] Lab ID	[12] Chem Desktop No.	[13] Sample Description or ID	[14] Collection Information: Date	Time	Signature	[18] TESTS	[18] Grab	ALK (4.5), SO4, Cl (IC) 4	Hg (7470) 3	Metals Prep - 3030C (ICP-EPA-200.7) Ag, Ba, Ca, Cr, K, Mg, Na (7) (IMS-EPA-200.8) As, Cd, Pb, Se (4) 3	VOCs (EPA 8260B) (See Attached List) - PACE 1,4	Chlorene (pm)	[20] Total # of Containers
2012014388		TRIP BLANK	7/16/12	0530	MJR	1	X				3	n/a	3
2012014389		MW-1	7/16/12	1145	RCW	6	X	1	1	1	3		6
2012014390		MW-1D	7/16/12	1200	RCW	6	X	1	1	1	3		6
2012014391		MW-2A	7/16/12	0955	RCW	6	X	1	1	1	3		6
2012014392		MW-2D	7/16/12	1030	RCW	6	X	1	1	1	3		6
2012014393		MW-3	7/16/12	0815	RCW	6	X	1	1	1	3		6
2012014394		MW-3D	7/16/12	0840	RCW	6	X	1	1	1	3		6
2012014395		MW-4	7/16/12	0645	RCW	6	X	1	1	1	3		6
2012014396		MW-4D	7/16/12	0715	RCW	6	X	1	1	1	3		6
2012014397		MW-11	7/16/12	1010	MJR	6	X	1	1	1	3		6
2012014398		MW-11D	7/16/12	1115	MJR	6	X	1	1	1	3		6
2012014399		MW-12	7/16/12	0820	MJR	6	X	1	1	1	3		6
2012014400		MW-12D	7/16/12	0810	MJR	6	X	1	1	1	3		6
2012014401		SW-1	7/16/12	1200	MJR	6	X	1	1	1	3		6
2012014402		FIELD BLANK	7/16/12	1235	MJR	6	X	1	1	1	3	n/a	6

Customer to complete appropriate columns to right

Customer to sign & date below

21) Relinquished By	Date/Time 7-16-12 1350	Accepted By	Date/Time 7/16/12 150
Relinquished By	Date/Time 7/17/12 315	Accepted By	Date/Time 7-17-12 1515
Relinquished By	Date/Time	Accepted By	Date/Time
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 7-24-12

*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) 875-5245
Fax: (704) 875-5038

Analytical Laboratory Use Only

MCGUIRE_7JUN2012_B | Sample Class | Samples Originating From: NC √ SC ___

LYNN ILUZADA | 6/7/2012 14:53 | SAMPLE PROGRAM: Groundwater √ NPDES ___ Drinking Water ___ UST ___ RCRA Waste ___

VENDOR | Cooler Temp (C)

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

MR #

[19]Page 1 of 1

DISTRIBUTION
ORIGINAL to LAB,
COPY to CLIENT

Rev 11/10/11

Customer must Complete

1)Project Name: *MNS LANDFILL 1 # 60-04* — *Permit* — 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.

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	[15]Analyses Required: Gamma		Gross A & B	Tritium							[20]Total # of Containers
		(Rw)	7/6/12	1145	RLW													
237945		MW-1	7/6/12	1145	RLW		X	1		1	1							3
237946		MW-1D	7/6/12	1200	RLW		X	1		1	1							3
237947		MW-2A	7/6/12	0955	RLW		X	1		1	1							3
237948		MW-2D	7/6/12	1030	RLW		X	1		1	1							3
237949		MW-3	7/6/12	0815	RLW		X	1		1	1							3
237950		MW-3D	7/6/12	0840	RLW		X	1		1	1							3
237951		MW-4	7/6/12	0645	RLW		X	1		1	1							3
237952		MW-4D	7/6/12	0715	RLW		X	1		1	1							3
237953		MW-11	7/6/12	1010	MJR		X	~~1~~		1	1						2	~~3~~
237954		MW-11D	7/6/12	1115	MJR		X	1		1	1							3
237955		MW-12	7/6/12	0820	MJR		X	~~1~~		1	1						2	~~3~~
237956		MW-12D	7/6/12	0810	MJR		X	1		1	1							3
237957		SW-1	7/6/12	1200	MJR		X	1		1	1							3

Customer to complete appropriate columns to right

Customer to sign & date below

21)Relinquished By: Michael Raybuck	Date/Time: 7/16/12 1400	Accepted By: Gail Lockridge	Date/Time: 7/16/12 1400
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 REPORTED — SIGNATURE — DATE 7-26-12

Customer, important please indicate desired turnaround

[22]Requested Turnaround

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

McGuire Landfill #1

COMPOUNDS REQUIRED FOR 8260 ANALYSES

COMPOUND	CASS No.
Acetone	67-64-1
Acrylonitrile	107-13-1
Benzene	71-43-2
Bromochloromethane	74-97-5
Bromodichloromethane	75-27-4
Bromoform; Tribromomethane	75-25-2
Carbon disulfide	75-15-0
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
Chloroethane; Ethyl chloride	75-00-3
Chloroform; Trichloromethane	67-66-3
Dibromochloromethane; Chlorodibromomethane	124-48-1
1,2-Dibromo-3-chlorpropane; DBCP	96-12-8
1,2-Dibromoethane; Ethylene dibromide; EDB	106-93-4
o-Dichlorobenzene; 1,2-Dichlorobenzene	95-50-1
p-Dichlorobenzene; 1,4-Dichlorobenzene	106-46-7
trans-1,4-Dichloro-2-butene	110-57-6
1,1-Dichloroethane; Ethylidene chloride	75-34-3
1,2-Dichloroethane; Ethlyene dichloride	107-06-2
1,1-Dichloroethylene; 1-1-Dichloroethene; Vinylidene chloride	75-35-4
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	156-59-2
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	156-60-5
1,2-Dichlorpropane; Propylene dichloride	78-87-5
cis-1,3-Dichlorpropene	10061-01-5
trans-1,3-Dichlorpropene	10061-02-6
Ethylbenzene	100-41-4
2-hexanone; Methyl butyl ketone	591-78-6
Methyl bromide; Bromomethane	74-83-9
Methyl chloride; Chloromethane	74-87-3
Methylene bromide Dibromomethane	74-95-3
Methylene chloride; Dichloromethane	75-09-2
Methyl ethyl ketone; MEK; 2-Butanone	78-93-3
Methyl iodide; Iodomethane	74-88-4
4-Methyl-2-pentanone; Methyl isobutyl isobutyl ketone	108-10-1
Styrene	100-42-5
1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethylene; Tetracholorethene; Perchloroethylene	127-18-4
Toluene	108-88-3
1,1,1-Trochlorethane; Methylchloroform	71-55-6
1,1,2-Trichloroethane	79-00-5
Trichloroethylene; Trichlorethene	79-01-6
Trichlorofluoromethane; CFC-11	75-69-4
1,2,3-Trichloropropane	96-18-4
Vinyl acetate	108-05-4
Vinyl chloride	75-01-4
Xylenes	1330-20-7