



PDF Scanned
PM Copy

526 South Church Street
Mail Code EC13K
Charlotte, NC 28202
o 980 373 2663
c 704 497 3627
f 000 000.0000

April 15, 2019

Mr. Greg Cassidy, Brownfields Project Manager
South Carolina Department of Health and Environmental Control
Division of Site Assessment, Remediation, and Revitalization
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED

APR 16 2019

Subject: Quarterly Progress Report – First Quarter 2019
Former Bramlette Manufactured Gas Plant
400 East Bramlette Road
Greenville, South Carolina
VCC 16-5857-RP

**SITE ASSESSMENT,
REMEDICATION &
REVITALIZATION**

Dear Mr. Cassidy:

This Quarterly Progress Report has been prepared for the referenced site in accordance with the requirements of the Responsible Party Voluntary Cleanup Contract (VCC 16-5857-RP) between Duke Energy Carolinas (Duke Energy) and the South Carolina Department of Health and Environmental Control (SCDHEC), dated July 29, 2016.

The following sections provide a summary of work performed during the reporting period: test and sampling results generated during the reporting period, environmental problems experienced during the reporting period and their resolution, and work to be performed during the next reporting period. Monitoring wells were installed in accordance with SCDHEC Monitoring Well Approval MW-11615, dated July 19, 2018, pursuant to the provisions of South Carolina Well Standards R.61-71. The work was conducted in accordance with the April 13, 2018 Remedial Investigation Work Plan Addendum (RIWP-A) submitted by Duke Energy and approved by the SCDHEC on April 24, 2018.

Work Performed During the Reporting Period

Activities performed during the first quarter (January 1 through March 31, 2019) included the following:

February 15, 2019

- Completed a ground penetrating radar (GPR) and electromagnetic (EM) survey on the north side of East Bramlette Road to identify potential subsurface utilities at the proposed location of monitoring wells MW-29S and MW-29TZ.

February 21 and 22, 2019

- Installed and developed monitoring wells MW-29S and MW-29TZ on the north side of East Bramlette Road at the locations shown on **Figure 1** (Attachment A).

February 21 through 26, 2019

- Installed security gate to control site access.
- Placed crusher run stone on the former MGP site (Parcel 1) to improve access from East Bramlette Road and West Washington Street entrances.
- Placed surge stone at the entrance from East Bramlette Road to the Vaughn Landfill.
- Conducted vegetation clearing to support monitoring well installation and abandonment, non-aqueous phase liquid (NAPL) assessment, and groundwater, surface water, sediment, and sheen sampling on the former MGP site (Parcel 1), north of East Bramlette Road (Parcel 2), and Vaughn Landfill (Parcel 3).

March 1, 2019

- Completed a GPR and EM survey to identify potential subsurface utilities along proposed transects T1 through T15 along the proposed transect locations for the NAPL investigation on the north side of East Bramlette Road (Parcel 2) and Vaughn Landfill (Parcel 3).

March 11 through April 1, 2019

- Completed monitoring well installation and abandonment, NAPL assessment, and groundwater, surface water, and sediment sampling in accordance with RIWP-A. A sample and analysis summary table for all media is provided in **Table 1** (Attachment B).
- A total of 48 soil borings were drilled along transects T1 through T15 and discretionary transect T17 as shown on **Figure 1** (Attachment A) using the rotary sonic method. Three additional discretionary soil borings, RI-SB-1 through RI-SB-3, also were drilled (**Figure 1**, Attachment A) to further characterize the nature and extent of NAPL. During the NAPL assessment, a total of 45 soil samples were collected for analysis of volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method 8260 and semi-volatile organic compounds (SVOCs) by EPA Method 8270. Soil samples also were collected for geotechnical and NAPL characterization and mobility analysis.
- Collected surface water samples SW-01 through SW-06 along the perimeter of the Vaughn Landfill at the locations shown on **Figure 1** (Attachment A) for analysis of VOCs by EPA Method 8260 and SVOCs by EPA Method 8270. Surface Water Sampling Logs are provided in Attachment C.
- During drilling on the former landfill area two samples were collected for chemical analysis by Alpha Analytical (Mansfield, Massachusetts). One sample, consisting of NAPL-impacted sands, was collected from a depth of approximately 11-13 feet below ground surface (bgs) at monitoring well MW-3BR. A second sample was collected of tar-like material (TLM) within the bottom of the monitoring well MW-06A during its abandonment; the depth of tar is estimated at 11.5 to 15 feet bgs. The two samples were shipped to Alpha Analytical for the following laboratory analyses:

- Alkylated polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270D-SIM (modified list)
 - Paraffins, isoparaffins, aromatics, naphthenes and olefins (PIANO) VOCs by EPA Method 8260B/5035 High-Resolution
 - Saturated hydrocarbons by EPA Method 8015D (modified list)
- During abandonment of monitoring well MW-06A, TLM with relatively high viscosity was encountered within the well. This tar was recovered for analysis of several basic physical parameters. This tar was sent to PTS Labs (Houston, Texas) for the following analysis:
 - Density/Gravity by ASTM Method D1481 (determination of the density or relative density of petroleum/hydrocarbons and their derivative products)
 - Viscosity by ASTM Method D445 (Standard Test Method for Kinematic Viscosity; three separate temperatures)
- Collected sediment samples SW-01-SED through SW-06-SED from the locations of surface water samples SW-01 through SW-06 (**Figure 1**, Attachment A) for analysis of VOCs by EPA Method 8260 and SVOCs by EPA Method 8270.
- Measured depth to ground water to the nearest 0.01 foot, and determined presence/absence and thickness of NAPL, in all accessible monitoring wells.
- Collected groundwater samples from all accessible monitoring wells for analysis of VOCs by EPA Method 8260 and SVOCs by EPA Method 8270. Groundwater Sampling Logs are provided in Attachment D.
- Installed staff gages RI-SG-1 through RI-SG-3 within the surface water adjacent to the Vaughn Landfill at the locations shown on **Figure 1** (Attachment A).
- Abandoned monitoring wells MW-3D, MW-06A, and MW-19 (**Figure 1**, Attachment A) in accordance with South Carolina Well Standards R. 61-71.
- Completed a GPR and EM survey to identify potential subsurface utilities along discretionary transect T17 and at the locations of discretionary soil borings RI-SB-1 through RI-SB-3 within and on the perimeter of the Vaughn Landfill (Parcel 3).
- Installed and developed monitoring well MW-03BR in the Vaughn Landfill (Parcel 3) adjacent to monitoring wells MW-03 and MW-20.
- Downloaded water level data from December 21, 2018 through April 1, 2019 from transducers/data loggers in monitoring wells MW-13R (shallow), MW-26 (bedrock), MW-27 (saprolite), MW-31S, and MW-31TZ (**Figure 1**, Attachment A).

- Investigation derived waste (IDW) including drill cuttings, decontamination fluids, development water, and purge water were removed from the site by VLS Recovery Services (VLS) for proper off-site disposal. A summary of IDW pickup details, along with the associated manifests, are provided in Attachment E.

Summary of Test and Sampling Results Generated During Reporting Period

A summary of the test and sampling results for work performed during the first quarter (January 1 through March 31, 2019) is provided below:

- Construction details for monitoring wells MW-29S, MW-29TZ, and MW-03BR are listed in **Table 2** (Attachment B). The well permit, boring logs, and Water Well Records (Form 1903) are provided in Attachment D. Water Well Records (Form 1903) for abandonment of monitoring wells MW-3D, MW-06A, and MW-19 are provided in Attachment F.
- Water Well Records (Form 1903) for the 51 soil borings drilled during the NAPL investigation are provided in Attachment G. Soil boring locations are shown on **Figure 1** (Attachment A) along with the observed occurrence of NAPL and/or tar like material (TLM) in the subsurface.
- Water level data are listed in **Table 3** (Attachment B). Groundwater elevations, contours, and inferred flow direction in the shallow aquifer zone are shown on **Figure 2** (Attachment A).
- Analytical data have been reviewed for quality and completeness and approved for release by Pace Analytical. Full data validation in accordance with Section 6 of the September 2018 Quality Assurance Project Plan (QAPP) will be conducted prior to submittal of the Groundwater Remedial Investigation (RI) Report. Quarter 1 2019 analytical results submitted in this progress report include:
 - VOC and SVOC analyses results for groundwater samples - **Table 4** (Attachment B); analytical laboratory reports for groundwater samples are provided in Attachment H.
 - VOC and SVOC analyses results for surface water samples - **Table 5** (Attachment B); analytical laboratory reports for surface water samples are provided in Attachment I.
 - VOC and SVOC analyses results for sediment samples - **Table 6** (Attachment B); analytical laboratory reports for sediment samples are provided in Attachment J.
 - VOC and SVOC analyses for soil samples - **Table 7** (Attachment B); analytical laboratory reports for soil samples are provided in Attachment K.
- Time series hydrographs from December 21, 2018 through March 31, 2019 for water levels in monitoring wells MW-13R (shallow), MW-26 (bedrock), MW-27 (saprolite), which are located on the former MGP site on Parcel 1 (**Figure 1**, Attachment A), and a USGS stream gaging station located downstream of the site are provided in Attachment

L. Time series hydrographs from December 21, 2018 through March 31, 2019 for the water levels in monitoring wells MW-31S, and MW-31TZ, which are located along the Swamp Rabbit Trail near the east bank of the Reedy River (**Figure 1**, Attachment A), and a USGS stream gaging station located downstream of the site also are provided in Attachment J. The river stage fluctuated approximately 5.3 feet during the period of record. Water levels in the monitoring wells located on the former MGP site fluctuated approximately 2.2 feet during the same time period and appear to respond to fluctuations in river stage within one day(s). Water levels in the monitoring wells located along the Swamp Rabbit Trail near the east bank of the Reedy River fluctuated approximately 5.8 feet during the period of record and appear to respond to fluctuations in river stage in less than one day.

Environmental Problems Identified During Reporting Period and Their Resolution

Environmental conditions encountered during implementation of the NAPL Assessment that resulted in variation from the RIWP-A included:

- Soft ground conditions and wet areas eliminated access to Transect T16 which could not be drilled
- NAPL observed in Monitoring Wells MW-03, MW-03D, and MW-20, therefore groundwater samples were not collected for analysis
- Depth of water blocked access to MW-23 and MW-24. Wells MW-23 and MW-24 will be abandoned during a period of sustained dry weather.
- On March 28, 2019, the beaver dam in Parcel 3 at the property boundary was breached resulting in changing site conditions. Once the surface water adjacent to the Vaughn Landfill has stabilized, sheen inspection and sampling will be conducted.

Work to be Performed During the Next Reporting Period (Second Quarter 2019)

The following activities are scheduled to be conducted in accordance with Section 4 of the RIWP-A during the second quarter (April 1 through June 30, 2019). The proposed schedule is subject to change based on weather conditions, site access, availability of subcontractors, and other unforeseen delays. Field work notifications will be provided in accordance with the VCC and access agreements prior to initiating each phase of the work.

- Collect groundwater samples from monitoring well MW-03BR – April 2019
- Slug testing of newly installed monitoring wells MW-29S, MW-29TZ, and MW-03BR – April 2019
- IDW disposal – Upon completion of sampling and slug testing
- Sheen inspection and sampling in surface water on the perimeter of the Vaughn Landfill (Parcel 3) - April 2019

- Survey location and elevation of monitoring wells, staff gages, and soil borings and establish benchmarks for site-specific measurement of the Reedy River stage– April 2019
- Complete geologist logs for the 51 soil borings drilled during the NAPL investigation for inclusion in the next Quarterly Progress Report (Second Quarter 2019) – April 2019
- Tabulate the remaining laboratory data for samples collected during the first quarter of 2019 (including soil samples for chemical and geotechnical analysis and NAPL characterization and mobility samples) for inclusion in the next Quarterly Progress Report (Second Quarter 2019) – May 2019
- Abandon monitoring wells MW-23 and MW-24 in accordance with South Carolina Well Standards R. 61-71(**Figure 1**, Attachment A) – when weather, ground conditions, and surface water extent in the flood plain permit
- Download and monitor water level transducers/data loggers in monitoring wells and Reedy River stage from a United States Geological Survey (USGS) stream gaging station located downstream of the site – Monthly
- Conduct data validation in accordance with Section 6 of the September 2018 QAPP – June 2019
- Initiate preparation of RI Report or additional RIWP-A, as appropriate, based on data collected during implementation of the April 2018 RIWP-A – June 2019

If you have any questions regarding this submittal, please contact me at 980.373.2663 or by email at Richard.Powell2@duke-energy.com.

Sincerely,

Richard E. Powell

Richard E. Powell, P.G.
Senior Environmental Specialist

cc: Kevin Boland, CSXT
Daniel Schmitt, Esq., CSXT
Ty Houck, Greenville County
Todd Plating, SynTerra

Enclosures:

Attachment A – Figures

- Figure 1 – Site Layout Map
- Figure 2 – Shallow Water Level Map

Attachment B – Tables

- Table 1 – Quarter 1 2019 Sample and Analysis Summary
- Table 2 – Construction Details for Newly Installed Monitoring Wells
- Table 3 – Quarter 1 2019 Water Level Data
- Table 4 – Groundwater Analytical Results Summary
- Table 5 – Surface Water Analytical Results Summary
- Table 6 – Sediment Analytical Results Summary
- Table 7 – Soil Analytical Results Summary

Attachment C – Surface Water Sampling Logs

Attachment D – Groundwater Sampling Logs

Attachment E – IDW Pickup Details and Manifests

Attachment F – Monitoring Well Records

Attachment G – DHEC 1903 Forms for Soil Borings

Attachment H – Groundwater Analytical Laboratory Reports

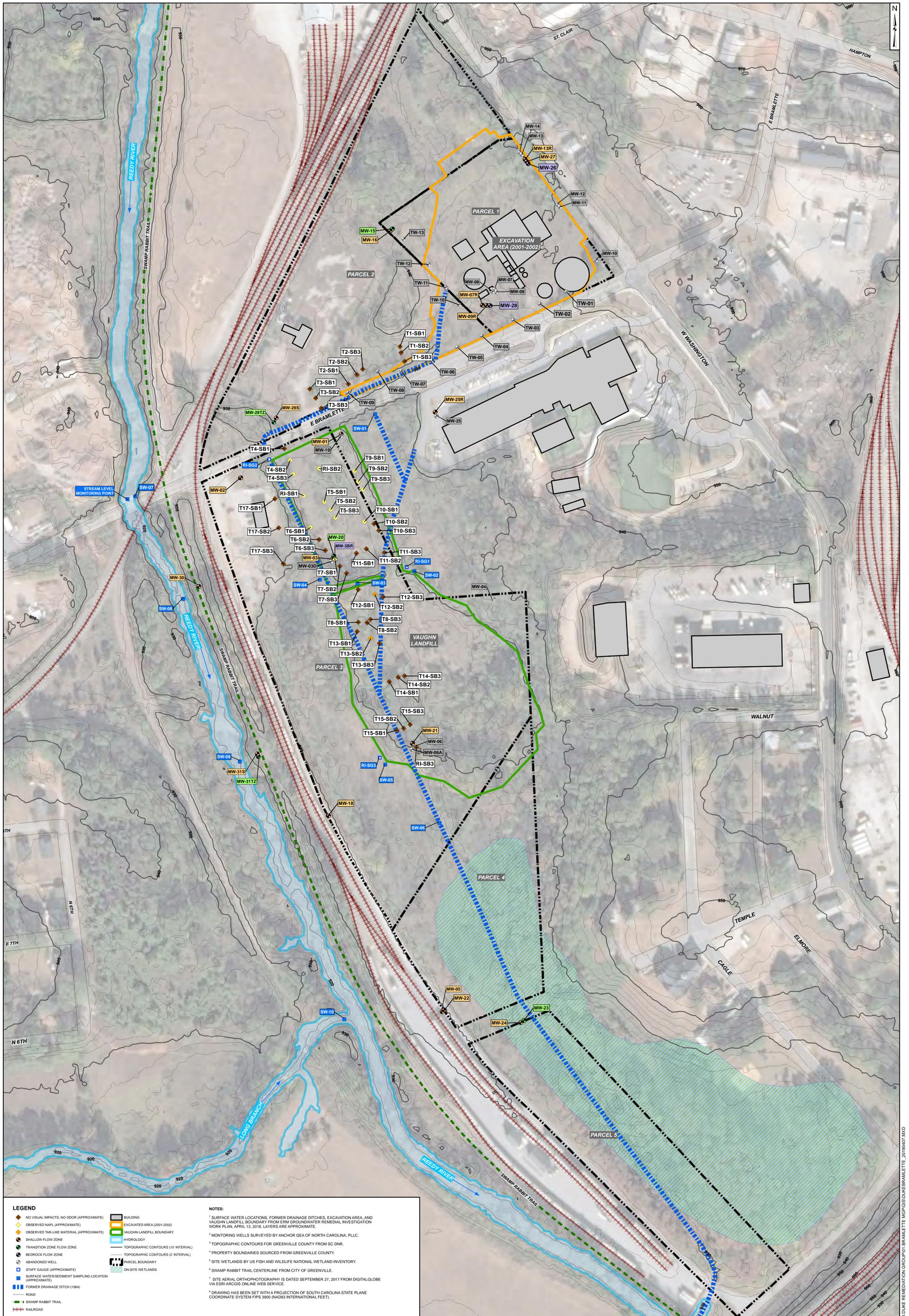
Attachment I – Surface Water Analytical Laboratory Reports

Attachment J – Sediment Analytical Laboratory Reports

Attachment K – Soil Analytical Laboratory Reports

Attachment L – Hydrographs

ATTACHMENT A
FIGURES

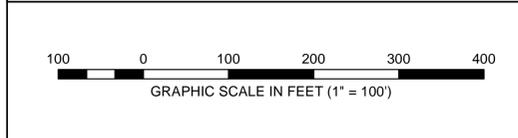


LEGEND

- NO VISUAL IMPACTS; NO COLOR (APPROXIMATE)
- OBSERVED MAPS (APPROXIMATE)
- OBSERVED TAIL-LIKE MATERIAL (APPROXIMATE)
- SHALLOW FLOW ZONE
- TRANSITION ZONE FLOW ZONE
- BEDROCK FLOW ZONE
- ABANDONED WELL
- STAFF GAUGE (APPROXIMATE)
- SURFACE WATER SEDIMENT SAMPLING LOCATION (APPROXIMATE)
- FORMER DRAINAGE DITCH (1964)
- ROAD
- SWAMP RABBIT TRAIL
- RAILROAD
- BUILDING
- EXCAVATED AREA (2001-2002)
- VAUGHN LANDFILL BOUNDARY
- HYDROLOGY
- TOPOGRAPHIC CONTOURS (10' INTERVAL)
- TOPOGRAPHIC CONTOURS (2' INTERVAL)
- PROPERTY BOUNDARIES SOURCED FROM GREENVILLE COUNTY
- PARCEL BOUNDARY
- ON-SITE WETLANDS

NOTES:

- SURFACE WATER LOCATIONS, FORMER DRAINAGE DITCHES, EXCAVATION AREA, AND VAUGHN LANDFILL BOUNDARY FROM ERM GROUNDWATER REMEDIAL INVESTIGATION WORK PLAN, APRIL 13, 2018. LAYERS ARE APPROXIMATE.
- MONITORING WELLS SURVEYED BY ANCHOR QEA OF NORTH CAROLINA, PLLC.
- TOPOGRAPHIC CONTOURS FOR GREENVILLE COUNTY FROM SC DNR.
- PROPERTY BOUNDARIES SOURCED FROM GREENVILLE COUNTY.
- SITE WETLANDS BY US FISH AND WILDLIFE NATIONAL WETLAND INVENTORY.
- SWAMP RABBIT TRAIL CENTERLINE FROM CITY OF GREENVILLE.
- SITE AERIAL ORTHOPHOTOGRAPHY IS DATED SEPTEMBER 27, 2017 FROM DIGITALGLOBE VIA ESRI ARCGIS ONLINE WEB SERVICE.
- DRAWING HAS BEEN SET WITH A PROJECTION OF SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM FIPS 3900 (NAD83 INTERNATIONAL FEET).

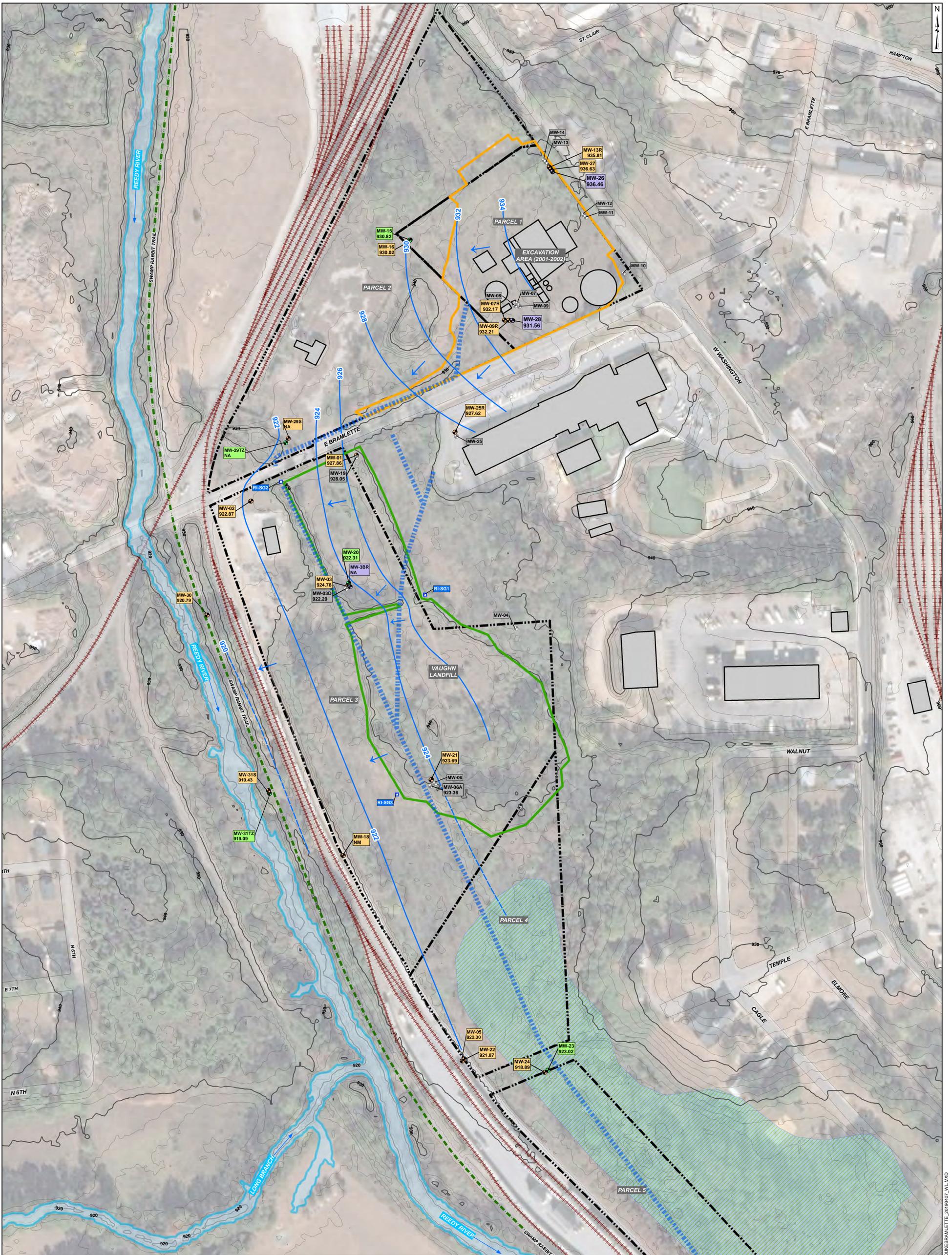


148 RIVER STREET,
SUITE 220
GREENVILLE, SC 29601
864-421-9999
www.synterracorp.com

526 S. CHURCH ST.
CHARLOTTE, NC 28202
www.dukeenergy.com

DRAWN BY: A. FEIGL/T. KING
CHECKED BY: M. MASTBAUM
PROJECT MANAGER: T. PLATING
CREATED DATE: 04/15/2019
REVISED DATE: 04/15/2019

FIGURE 1
SITE LAYOUT MAP
FORMER BRAMLETTE MGP SITE
EAST BRAMLETTE ROAD
GREENVILLE, SOUTH CAROLINA



LEGEND

NOTES:

- SURFACE WATER LOCATIONS, FORMER DRAINAGE DITCHES, EXCAVATION AREA, AND VAUGHN LANDFILL BOUNDARY FROM ERM GROUNDWATER REMEDIAL INVESTIGATION WORK PLAN, APRIL 13, 2018. LAYERS ARE APPROXIMATE.
- MONITORING WELLS SURVEYED BY ANCHOR QEA OF NORTH CAROLINA, PLLC.
- TOPOGRAPHIC CONTOURS FOR GREENVILLE COUNTY FROM SC DNR.
- PROPERTY BOUNDARIES SOURCED FROM GREENVILLE COUNTY.
- SITE WETLANDS BY US FISH AND WILDLIFE NATIONAL WETLAND INVENTORY.
- SWAMP RABBIT TRAIL CENTERLINE FROM CITY OF GREENVILLE.
- SITE AERIAL ORTHOPHOTOGRAPHY IS DATED SEPTEMBER 27, 2017 FROM DIGITALGLOBE VIA ESRI ARCGIS ONLINE WEB SERVICE.
- DRAWING HAS BEEN SET WITH A PROJECTION OF SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM FIPS 3900 (NAD83 INTERNATIONAL FEET).



148 RIVER STREET,
SUITE 220
GREENVILLE, SC 29601
864-421-9999
www.synterracorp.com

526 S. CHURCH ST.
CHARLOTTE, NC 28202
www.dukeenergy.com

DRAWN BY: A. FEIGL/T. KING
CHECKED BY: M. MASTBAUM
PROJECT MANAGER: T. PLATING
CREATED DATE: 04/15/2019
REVISED DATE: 04/15/2019

FIGURE 2
SHALLOW WATER LEVEL MAP
FORMER BRAMLETTE MGP SITE
EAST BRAMLETTE ROAD
GREENVILLE, SOUTH CAROLINA

ATTACHMENT B
TABLES

**TABLE 1
 QUARTER 1 2019 SAMPLE AND ANALYSIS SUMMARY
 FORMER BRAMLETTE MGP SITE
 DUKE ENERGY CAROLINAS, LLC, GREENVILLE, SC**

Sample ID	Sample Media	VOCs (8260)	SVOCs (8270)	Organic Matter (ASTM D2974)	Grain Size, Hydrometer (ASTM D422)	Specific Gravity (ASTM D854)	Moisture Content (ASTM D2216)	NAPL Chemical Properties	NAPL Physical Properties
T1-SB1(16.5)	Soil	X	X						
T1-SB1(17)	Soil	X	X						
T1-SB2(15.5)	Soil	X	X						
T1-SB2(16.5)	Soil	X	X						
T2-SB2(18-19)	Soil			X	X	X	X		
T2-SB3(15)	Soil	X	X						
T4(SB1(15.5)	Soil	X	X						
T4-SB2(18)	Soil	X	X						
T4-SB3(17)	Soil	X	X						
T5-SB2(17)	Soil	X	X						
T5-SB3(18)	Soil	X	X						
T6-SB3(17.5)	Soil	X	X						
T7-SB1(17)	Soil	X	X						
T7-SB1(19)	Soil	X	X						
T7-SB2(15.5)	Soil	X	X						
T7-SB3(16)	Soil	X	X						
T8-SB2(10)	Soil	X	X						
T8-SB2(10-11)	Soil			X	X	X	X		
T8-SB2(14-15)	Soil			X	X	X	X		
T8-SB2(17)	Soil	X	X						
T8-SB2(17-18)	Soil			X	X	X	X		
T8-SB3(17)	Soil	X	X						
T9-SB1(18)	Soil	X	X						
T9-SB2(15-16)	Soil			X	X	X	X		
T9-SB2(19)	Soil	X	X						
T9-SB2(22)	Soil	X	X						
T10-SB2(10-11)	Soil			X	X	X	X		
T10-SB3(14-15)	Soil			X	X	X	X		
T10-SB3(14.5)	Soil	X	X						
T11-SB1(18.5)	Soil	X	X						
T11-SB2(16.5)	Soil	X	X						
T11-SB3(12-13)	Soil			X	X	X	X		
T11-SB3(13.5)	Soil	X	X						
T12-SB1(16.5)	Soil	X	X						
T12-SB3(16)	Soil	X	X						
T13-SB1(13)	Soil	X	X						
T13-SB2(15)	Soil	X	X						
T14-SB2(9-10)	Soil			X	X	X	X		
T14-SB3(11.5-12.5)	Soil			X	X	X	X		
T14-SB3(12.5)	Soil	X	X						
T15-SB1(15.5)	Soil	X	X						
T15-SB2(15-16)	Soil			X	X	X	X		
T15-SB2(17)	Soil	X	X						
T15-SB3(16.5-17.5)	Soil			X	X	X	X		
T17-SB1(15.5)	Soil	X	X						
MW-3BR NAPL	Soil							X	
SW-01	SW	X	X						
SW-02	SW	X	X						
SW-03	SW	X	X						
SW-04	SW	X	X						
SW-05	SW	X	X						
SW-06	SW	X	X						
SW-01-SED	SED	X	X						
SW-02-SED	SED	X	X						
SW-03-SED	SED	X	X						
SW-04-SED	SED	X	X						
SW-05-SED	SED	X	X						
SW-06-SED	SED	X	X						
MW-01	GW	X	X						
MW-02	GW	X	X						
MW-03BR	GW	X	X						
MW-05	GW	X	X						
MW-07R	GW	X	X						
MW-09R	GW	X	X						
MW-13R	GW	X	X						
MW-15	GW	X	X						
MW-16	GW	X	X						
MW-21	GW	X	X						
MW-22	GW	X	X						
MW-27	GW	X	X						
MW-25R	GW	X	X						
MW-26	GW	X	X						
MW-28	GW	X	X						
MW-29S	GW	X	X						
MW-29TZ	GW	X	X						
MW-30S	GW	X	X						
MW-31S	GW	X	X						
MW-31TZ	GW	X	X						
MW-06A	TLM	X	X					X	X

Prepared by: MSM Checked by: TCK

Notes:

- VOCs = Volatile Organic Compounds
- SVOCs = Semivolatile Organic Compounds
- NAPL = Non-Aqueous Phase Liquid
- SW = Surface Water
- SED = Sediment
- GW = Groundwater
- TLM = Tar-Like Material
- NAPL Chemical Properties =
 - Alkylated polycyclic aromatic hydrocarbons (PAHs) - via USEPA 8270D-SIM (modified list)
 - Paraffin, Isoparaffin, Aromatic, Naphthene and Olefin (PIANO) VOCs - USEPA 8260B/5035 High-Resolution
 - Saturated Hydrocarbons - via USEPA 8015D (modified list)
- NAPL Physical Properties =
 - Density/Gravity - via ASTM D1481 (Determination of the density or relative density of petroleum/hydrocarbons and their derivative products)
 - Viscosity - via ASTM D445 (Standard Test Method for Kinematic Viscosity; three separate temperatures)

**TABLE 2
CONSTRUCTION DETAILS FOR NEWLY INSTALLED MONITORING WELLS
FORMER BRAMLETTE MGP SITE
DUKE ENERGY CAROLINAS, LLC, GREENVILLE, SC**

Monitoring Well ID	Owner/Parcel	Monitoring Zone	Date(s) Installed	Material	Diameter (inches)	Surface Casing (Ft-BGS)	Latitude	Longitude	Measuring Point TOC Elevation (Ft- NAVD 88)	Ground Surface Elevation (Ft- NAVD 88)	Total Well Depth (Ft-BGS)	Screened Interval (Ft-BGS)
MW-29S	CSXT/Parcel 2	Shallow - Residuuum	02/22/19	PVC	2	NA	NS	NS	NS	NS	15	5 - 15
MW-29TZ	CSXT/Parcel 2	Transition Zone - Base of Saprolite/PWR	2/21 - 2/22/2019	PVC	2	NA	NS	NS	NS	NS	31	26 - 31
MW-03BR	CSXT/Parcel 3	Bedrock	3/27 - 4/1/2019	PVC	2	54	NS	NS	NS	NS	64.5	59 - 64

Prepared by: MSM

Checked by: IDP

Notes:

BGS - Below ground surface

BTOC - Below Top of casing

Ft - Feet

NA - Not Applicable

NAVD - North American Vertical Datum (1988)

NS - Not Surveyed (Survey scheduled for week of 4/15/2019)

PVC- Polyvinyl chloride

PWR - Partially Weathered Rock

**TABLE 3
WATER LEVEL MEASUREMENT DATA
FORMER BRAMLETTE MGP SITE
DUKE ENERGY CAROLINAS, LLC, GREENVILLE, SC**

Monitoring Well ID	Measuring Point TOC Elevation (ft-NAVD 88)	Ground Surface Elevation (ft-NAVD 88)	Measured Well Depth (ft-BTOC)	Measured Water Level (ft-BTOC)	Free Product Thickness (ft)	Groundwater Elevation (ft-NAVD 88)
MW-01	933.97	931.35	16.90	6.11	NA	927.86
MW-02	933.45	931.87	17.99	10.58	NA	922.87
MW-03	935.23	932.66	16.57	10.45	<0.01	924.78
MW-03D	932.54	935.06	NM	10.25	0.01	922.29
MW-05	930.10	930.25	15.58	7.80	NA	922.30
MW- 06A	931.32	928.02	14.01	7.96	NA	923.36
MW-07R	936.01	932.93	18.69	3.84	NA	932.17
MW-09R	936.47	933.62	29.88	4.26	NA	932.21
MW-13R	940.18	937.64	23.45	4.37	NA	935.81
MW-15	939.07	936.52	57.10	8.25	NA	930.82
MW-16	938.75	936.84	17.87	8.73	NA	930.02
MW-19	934.04	931.37	NM	5.99	<0.01	928.05
MW-20	932.83	935.36	27.98	10.52	<0.01	922.31
MW- 21	934.42	932.14	20.58	10.73	NA	923.69
MW-22	930.08	930.26	35.12	8.21	NA	921.87
MW-23	924.23	922.15	45.33	1.21	NA	923.02
MW-24	921.92	922.08	13.80	3.03	NA	918.89
MW-25R	930.08	930.16	16.38	2.46	NA	927.62
MW-26	940.91	937.90	58.40	4.45	NA	936.46
MW-27	940.93	937.83	38.62	4.30	NA	936.63
MW-28	936.47	933.88	44.57	4.91	NA	931.56
MW-29S	NS	NS	17.79	7.54	NA	NA
MW-29TZ	NS	NS	34.00	7.51	NA	NA
MW-30	932.80	932.6	19.90	12.01	NA	920.79
MW-31S	932.51	932.11	19.75	13.08	NA	919.43
MW-31TZ	932.37	932.07	37.85	13.28	NA	919.09

Prepared by: MSM

Checked by: TCK

Notes:

Water Levels collected between 10am 3/20/2019 -10AM 3/21/2019
 BGS - Below Ground Surface
 BTOC - Below Top of Casing
 ft - feet
 NA - Not Applicable
 NAVD - North American Vertical Datum of 1988.
 NM - Not Measured
 NS - Not Surveyed

**TABLE 4
GROUNDWATER ANALYTICAL RESULTS SUMMARY
FORMER BRAMLETTE MGP SITE
DUKE ENERGY CAROLINAS, LLC, GREENVILLE, SC**

Analytical Parameter	8260B (VOA and MTBE)							8260B (Other VOC)				8270D (PAH)						
	Benzene	Ethylbenzene	Toluene	Xylene			MTBE	2-Butanone (MEK)	2-Hexanone	Acetone	Trichloroethene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	
				m&p-Xylene	o-Xylene	Total Xylene												
Reporting Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
Regulatory Standard	5	700	1,000	NE	NE	10,000	40	NE	NE	NE	NE	25	NE	NE	NE	NE	NE	
Sample ID	Sample Collection Date	Analytical Results							Analytical Results				Analytical Results					
MW-01	03/20/2019	25.8	44.9	11.2	35.4	27.8	63.3	<10	<50	<50	<250	<10	1700 M1	491	479	225	<10	10.5
MW-02	03/20/2019	3.4	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	2.3 j	<10	<10	<10	<10	<10
MW-05	03/21/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<10	<10	<10	<10	<10
MW-07R	03/22/2019	25.5	0.75 j	<1	1.7 j	0.25 j	<1	1.5	<5	<5	<25	<1	33.8	6.5 j	6.3 j	2.3 j	<9.9	<9.9
MW-09R	03/22/2019	<1	<1	<1	<2	<1	<1	2.3	<5	<5	<25	<1	<1	<9.9	<9.9	<9.9	<9.9	<9.9
MW-13R	03/21/2019	<1	<1	<1	<2	<1	<1	1.2	<5	<5	<25	0.72 j	<1	<10	<10	<10	<10	<10
MW-15	03/22/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<9.8	<9.8	<9.8	<9.8	<9.8
MW-16	03/22/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<9.9	<9.9	<9.9	<9.9	<9.9
MW-21	03/20/2019	30.4	4.8	8.9	2.8	7.2	9.9	<1	<5	<5	<25	<1	57.5	21	<9.8	27.8	1.8 j	4.1 j
MW-22	03/21/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	0.65 j	<10	<10	<10	<10	<10
MW-25R	03/21/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	1.5 j	<10	<10	<10	<10	<10
MW-26	03/21/2019	<1	<1	<1	<2	<1	<1	0.48 j	<5	<5	<25	<1	<1	<10	<10	<10	<10	<10
MW-27	03/21/2019	<1	<1	<1	<2	<1	<1	1.8	<5	<5	<25	<1	<1	<10	<10	<10	<10	<10
MW-28	03/22/2019	<1	<1	<1	<2	<1	<1	2	<5	<5	<25	<1	<1	<9.8	<9.8	<9.8	<9.8	<9.8
MW-29S	03/21/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<10	<10	<10	<10	<10
MW-29TZ	03/21/2019	1920	411	66.3	181	109	290	<25	<125	<125	<625	<25	4060	258 E	412 E	109 E	<10	<10
MW-30S	12/12/2018	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<10	<10	<10	<10	<10
MW-30S	03/21/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<10	<10	<10	<10	<10
MW-31S	12/12/2018	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<10	<10	2.8 j	<10	<10
MW-31S	03/21/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<10	<10	3 j	<10	<10
MW-31TZ	12/12/2018	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	0.38 j	<10	<10	<10	<10	<10
MW-31TZ	03/21/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<10	<10	<10	<10	<10
QC SAMPLE RESULTS																		
EQB	12/12/2018	<1	<1	<1	<2	<1	<1	<1	3.7 j	0.58 j	18.6 j	<1	<1	<10	<10	<10	<10	<10
EQB-01	12/19/2018	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<9.9	<9.9	<9.9	<9.9	<9.9
EQB-1	03/20/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
EQB-2	03/21/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
EB-01	03/22/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<10	<10	<10	<10	<10
EQB-3	03/22/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
FB 1	12/12/2018	<1	<1	<1	<2	<1	<1	<1	3.6 j	0.56 j	18.4 j	<1	<1	<10	<10	<10	<10	<10
FB-01	12/19/2018	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<9.4	<9.4	<9.4	<9.4	<9.4
FD-01 (MW-02)	03/20/2019	1.5	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	0.98 j	<10	<10	<10	<10	<10
FD-02 (MW-13R)	03/21/2019	<1	<1	<1	<2	<1	<1	1.1	<5	<5	<25	0.57 j	<1	<10	<10	<10	<10	<10
MW-30S DUP	12/12/2018	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	<10	<10	<10	<10	<10
TRIP BLANK	12/12/2018	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
TRIP BLANK	12/19/2018	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
TRIP BLANK	03/12/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
TRIP BLANK	03/14/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
TRIP BLANK	03/15/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
TRIP BLANK_SED	03/19/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
TRIP BLANK_Soil	03/19/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
TRIP BLANK_SW	03/19/2019	<0.15	<0.26	<0.24	<0.41	<0.22	<0.63	<0.28	<3.3	<0.57	<6.2	<0.22	<0.35	NA	NA	NA	NA	NA
TRIP BLANK	03/21/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
TB_SED	03/22/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
TRIP BLANK	03/22/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA
TRIP BLANK_GW	03/22/2019	<1	<1	<1	<2	<1	<1	<1	<5	<5	<25	<1	<1	NA	NA	NA	NA	NA

Prepared by: MSM Checked by: IDP

Notes:

- Bold type indicates that the compound was detected above the adjusted method detection limit.
- Yellow shading indicates that the compound was detected above a potentially applicable regulatory standard listed in Section 4.8 of the RIWP-A
- < - concentration not detected at or above the adjusted reporting limit.
- E - Analyte concentration exceeded the calibration range. The reported result is estimated.
- j - Estimated concentration above the adjusted method det ug/L - Micrograms per liter
- M1 - Matrix spike recovery was high: the associated Labora umhos/cm - Micro mhos per centimeter
- NA - Not analyzed
- NE = No regulatory standard established at this time. A site-specific target level may be established as part of the risk assessment outlined in Section 5.0 of the RIWP-A.
- µg/L - Micrograms per liter

**TABLE 4
GROUNDWATER ANALYTICAL RESULTS SUMMARY
FORMER BRAMLETTE MGP SITE
DUKE ENERGY CAROLINAS, LLC, GREENVILLE, SC**

Analytical Parameter		8270D (PAH)											8270D (Other SVOC)					
		Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	2,4-Dimethylphenol	2,4-Dinitrotoluene	2-Methylphenol(o-Cresol)	Dibenzofuran	Phenol
Reporting Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Regulatory Standard		10	0.2	10	NE	10	10	10	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Sample ID	Sample Collection Date	Analytical Results											Analytical Results					
MW-01	03/20/2019	<10	<10	<10	<10	<10	<10	<10	3 j	66.1	<10	56.3	4.2 j	<10	<10	<10	22.5	<10
MW-02	03/20/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-05	03/21/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-07R	03/22/2019	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9
MW-09R	03/22/2019	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9
MW-13R	03/21/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-15	03/22/2019	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8
MW-16	03/22/2019	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9
MW-21	03/20/2019	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	3.9 j	12.8	<9.8	2.2 j	2.9 j	<9.8	<9.8	<9.8	11.3	<9.8
MW-22	03/21/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-25R	03/21/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-26	03/21/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-27	03/21/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-28	03/22/2019	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8
MW-29S	03/21/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-29TZ	03/21/2019	<10	<10	<10	<10	<10	<10	<10	<10	19.3	<10	9.5 j	<10	174 E	<10	8.8 j	6.2 j	11.1
MW-30S	12/12/2018	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-30S	03/21/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-31S	12/12/2018	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-31S	03/21/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-31TZ	12/12/2018	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	5.3 j	<10	<10	<10
MW-31TZ	03/21/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
QC SAMPLE RESULTS																		
EQB	12/12/2018	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
EQB-01	12/19/2018	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9	<9.9
EQB-1	03/20/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EQB-2	03/21/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EB-01	03/22/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
EQB-3	03/22/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FB 1	12/12/2018	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
FB-01	12/19/2018	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4
FD-01 (MW-02)	03/20/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
FD-02 (MW-13R)	03/21/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MW-30S DUP	12/12/2018	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TRIP BLANK	12/12/2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TRIP BLANK	12/19/2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TRIP BLANK	03/12/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TRIP BLANK	03/14/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TRIP BLANK	03/15/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TRIP BLANK_SED	03/19/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TRIP BLANK_Soil	03/19/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TRIP BLANK_SW	03/19/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TRIP BLANK	03/21/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TB_SED	03/22/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TRIP BLANK	03/22/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TRIP BLANK_GW	03/22/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Prepared by: MSM Checked by: IDP

Notes:

- Bold type indicates that the compound was detected above the adjusted method detection limit.
- Yellow shading indicates that the compound was detected above a potentially applicable regulatory standard listed in Section 4.8 of the RIWP-A
- < - concentration not detected at or above the adjusted reporting limit.
- E - Analyte concentration exceeded the calibration range. The reported result is estimated.
- j - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
- M1 - Matrix spike recovery was high: the associated Laboratory Control Spike (LCS) was acceptable.
- NA - Not analyzed
- NE = No regulatory standard established at this time. A site-specific target level may be established as part of the risk assessment outlined in Section 5.0 of the RIWP-A.
- µg/L - Micrograms per liter

**TABLE 5
SURFACE WATER ANALYTICAL RESULTS SUMMARY
FORMER BRAMLETTE MGP SITE
DUKE ENERGY CAROLINAS, LLC, GREENVILLE, SC**

Analytical Parameter	8260B (VOA and MTBE)							8260B (Other VOC)	8270D (PAH)						
	Benzene	Ethylbenzene	Toluene	Xylene			MTBE	Chloromethane	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	
				m&p-Xylene	o-Xylene	Total Xylene									
Reporting Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
Regulatory Standard	2.2	530	1,300	NE	NE	NE	NE	NE	NE	NE	NE	670	NE	8,300	
Sample ID	Sample Collection Date	Analytical Results							Analytical Results	Analytical Results					
SW-01	03/19/2019	<1	<1	<1	<2	<1	<1	<1	<1	<1	<10	<10	<10	<10	<10
SW-02	03/19/2019	<1	<1	<1	<2	<1	<1	<1	4.4	<1	<10	<10	<10	<10	<10
SW-03	03/19/2019	<1	<1	<1	<2	<1	<1	<1	<1	<1	<10	<10	<10	<10	<10
SW-04	03/19/2019	2.3	0.5 j	<1	<2	<1	<1	<1	13.2	<10	<10	<10	<10	<10	<10
SW-05	03/19/2019	<1	<1	<1	<2	<1	<1	<1	<1	<1	<10	<10	<10	<10	<10
SW-06	03/19/2019	<1	<1	<1	<2	<1	<1	<1	10.5	<1	<10	<10	<10	<10	<10
SW-07	12/19/2018	<1	<1	<1	<2	<1	<1	<1	<1	<1	<9.6	<9.6	<9.6	<9.6	<9.6
SW-08	12/19/2018	<1	<1	<1	<2	<1	<1	<1	<1	<1	<9.8	<9.8	<9.8	<9.8	<9.8
SW-09	12/19/2018	<1	<1	<1	<2	<1	<1	<1	<1	<1	<9.8	<9.8	<9.8	<9.8	<9.8
SW-10	12/19/2018	<1	<1	<1	<2	<1	<1	<1	<1	<1	<9.8	<9.8	<9.8	<9.8	<9.8
SW-11	12/19/2018	<1	<1	<1	<2	<1	<1	<1	<1	<1	<9.8	<9.8	<9.8	<9.8	<9.8
SW-12	12/19/2018	<1	<1	<1	<2	<1	<1	<1	<1	<1	<10	<10	<10	<10	<10
QC SAMPLE RESULTS															
SW-DUP1 (SW-12)	12/19/2018	<1	<1	<1	<2	<1	<1	<1	<1	<1	<9.6	<9.6	<9.6	<9.6	<9.6

Prepared by: MSM Checked by: TDP

Notes:

Bold type indicates that the compound was detected above the adjusted method detection limit.
Yellow shading indicates that the compound was detected above a potentially applicable regulatory standard listed in Section 4.8 of the RIWP-A
< - concentration not detected at or above the adjusted reporting limit.
j - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
NE = No regulatory standard established at this time. A site-specific target level may be established as part of the risk assessment outlined in Section 5.0 of the RIWP-A.
µg/L - Micrograms per liter

**TABLE 5
SURFACE WATER ANALYTICAL RESULTS SUMMARY
FORMER BRAMLETTE MGP SITE
DUKE ENERGY CAROLINAS, LLC, GREENVILLE, SC**

Analytical Parameter		8270D (PAH)											
		Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene
Reporting Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Regulatory Standard		0.0038	0.0038	0.0038	NE	0.0038	0.0038	0.0038	130	1,100	0.0038	NE	830
Sample ID	Sample Collection Date	Analytical Results											
SW-01	03/19/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
SW-02	03/19/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
SW-03	03/19/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
SW-04	03/19/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
SW-05	03/19/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
SW-06	03/19/2019	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
SW-07	12/19/2018	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6
SW-08	12/19/2018	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8
SW-09	12/19/2018	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8
SW-10	12/19/2018	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8
SW-11	12/19/2018	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8
SW-12	12/19/2018	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
QC SAMPLE RESULTS													
SW-DUP1 (SW-12)	12/19/2018	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6

Prepared by: MSM Checked by: IDP

Notes:
 Bold type indicates that the compound was detected above the adjusted method detection limit.
 Yellow shading indicates that the compound was detected above a potentially applicable regulatory standard listed in Section 4.8 of the RIWP-A
 < - concentration not detected at or above the adjusted reporting limit.
 j - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
 NE = No regulatory standard established at this time. A site-specific target level may be established as part of the risk assessment outlined in Section 5.0 of the RIWP-A.
 ug/L - Micrograms per liter

**TABLE 6
SEDIMENT ANALYTICAL RESULTS SUMMARY
FORMER BRAMLETTE MGP SITE
DUKE ENERGY CAROLINAS, LLC, GREENVILLE, SC**

Analytical Parameter	ASTM D2974-87	8260B (VOA and MTBE)							8260B (Other VOC)					8270D (PAH)			
	Percent Moisture	Benzene	Ethylbenzene	Toluene	Xylene			MTBE	2-Butanone (MEK)	4-Methyl-2-pentanone (MIBK)	Acetone	Chloroform	Methylene chloride	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	
					m&p-Xylene	o-Xylene	Xylene (Total)										
Reporting Units	%	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	
Industrial Screening Level		5,100	25,000	47,000,000	2,400,000	2,800,000	2,500,000	210,000	190,000,000	140,000,000	670,000,000	1,400	1,000,000	17,000	73,000	3,000,000	
Sample ID	Sample Collection Date	Analytical Results	Analytical Results							Analytical Results					Analytical Results		
SW-01-SED	03/19/2019	55.8	<9.6	<9.6	<9.6	<19.3	<9.6	<19.3	<9.6	12.7 j	12 j,B	211	4.3 j	18.2 j	2.7 j	7.5 j,M1	12.3 j,M1
SW-02-SED	03/22/2019	55.4	<12.1	<12.1	<12.1	<24.2	<12.1	<24.2	<12.1	<242	<121	35.8 j	<12.1	<48.5	8 j	4 j	5.9 j
SW-03-SED	03/19/2019	29.2	<7.8	<7.8	<7.8	<15.6	<7.8	<15.6	<7.8	<156	10.5 j,B	251	<7.8	<31.3	2.7 j	57.2	90.5
SW-04-SED	03/19/2019	66.5	<19.8	<19.8	<19.8	<39.6	<19.8	<39.6	<19.8	31.1 j	<198	738	9.1 j	62.3 j	14.4 j	11.3 j	11.5 j
SW-05-SED	03/19/2019	64.7	<13.2	<13.2	<13.2	<26.5	<13.2	<26.5	<13.2	17.1 j	<132	455	5.9 j	14.8 j	14.2 j	8.6 j	9.3 j
SW-06-SED	03/19/2019	55.9	<13	<13	<13	<26	<13	<26	<13	11.5 j	<130	183 j	5.2 j	14.1 j	<13	54.7	83.9
SW-07-SED	12/19/2018	26.9	<7.8	<7.8	<7.8	<15.5	<7.8	<15.5	<7.8	<155	<77.7	<155	<7.8	<31.1	<7.8	<451	<451
SW-08-SED	12/19/2018	21.4	<4.9	<4.9	<4.9	<9.8	<4.9	<9.8	<4.9	<97.6	<48.8	<97.6	<4.9	<19.5	<4.9	<420	<420
SW-09-SED	12/19/2018	20.7	<6.2	<6.2	<6.2	<12.4	<6.2	<12.4	<6.2	<124	<62.1	<124	<6.2	<24.8	<6.2	<423	<423
SW-10-SED	12/19/2018	20.6	<4.4	<4.4	<4.4	<8.9	<4.4	<8.9	<4.4	<88.8	<44.4	<88.8	<4.4	<17.8	<4.4	<420	<420
SW-11-SED	12/19/2018	26.7	<5	<5	<5	<10.1	<5	<10.1	<5	<101	<50.3	<101	<5	<20.1	<5	<449	<449
SW-12-SED	12/19/2018	20.3	<4.4	<4.4	<4.4	<8.8	<4.4	<8.8	<4.4	<88.1	<44.1	<88.1	<4.4	<17.6	<411	<411	<411
QC SAMPLE RESULTS																	
SW-DUP1-SED (SW-12)	12/19/2018	20.1	<4.4	<4.4	<4.4	<8.7	<4.4	<8.7	<4.4	<87.1	<43.5	<87.1	<4.4	<17.4	<4.4	<419	<419

Prepared by: MSM Checked by: TDP

Notes:

Bold type indicates that the compound was detected above the adjusted method detection limit.

Yellow shading indicates that the compound was detected above a potentially applicable screening level listed in Section 4.8 of the RIWP-A

% - Percent

< - concentration not detected at or above the adjusted reporting limit.

B - Target analyte detected in method blank at or above the reporting limit. Target analyte concentration in sample is less than 10X the concentration in the method blank. Analyte concentration in sample could be due to blank contamination.

j - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

M1 - Matrix spike recovery was high: the associated Laboratory Control Spike (LCS) was acceptable.

µg/kg - Micrograms per kilogram

NE = No screening level established at this time. A site-specific risk-based screening level may be established as part of the risk assessment process outlined in Section 5.0 of the RIWP-A.

**TABLE 6
SEDIMENT ANALYTICAL RESULTS SUMMARY
FORMER BRAMLETTE MGP SITE
DUKE ENERGY CAROLINAS, LLC, GREENVILLE, SC**

Analytical Parameter		8270D (PAH)														
		Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene
Reporting Units		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	
Industrial Screening Level		45,000,000	NA	230,000,000	21,000	2,100	21,000	NA	210,000	2,100,000	2,100	30,000,000	30,000,000	21,000	NA	23,000,000
Sample ID	Sample Collection Date	Analytical Results														
SW-01-SED	03/19/2019	10 j,M1	113 M1	60.2 M1	296 M1	295 M1	358 M1	189 M1	155 M1	266 M1	57.1 M1	351 M1	17.2 j,M1	169 M1	91 M1	488 M1
SW-02-SED	03/22/2019	2.5 j	15 j	15.4 j	63.9	61.5	77.7	27.4	31.4	66.5	9.7 j	90.2	3.8 j	26.6	32.9	88.2
SW-03-SED	03/19/2019	218	31.8	459	909	599	1050	334	321	890	132	1910	259	328	1730	1450
SW-04-SED	03/19/2019	28.5 j	140	90.4	432	415	537	210	212	421	65.2	628	35.1	188	195	776
SW-05-SED	03/19/2019	<28.7	139	115	1030	584	813	278	281	1240	110	889	26.7 j	224	850	1980
SW-06-SED	03/19/2019	55.5	418	714	2160	1840	2170	733	715	1910	256	3400	207	772	2020	2990
SW-07-SED	12/19/2018	<451	<451	<451	<451	<451	<451	<451	<451	<451	<451	106 j	<451	<451	<451	90 j
SW-08-SED	12/19/2018	<420	<420	<420	<420	<420	<420	<420	<420	<420	<420	<420	<420	<420	<420	<420
SW-09-SED	12/19/2018	<423	<423	<423	<423	<423	<423	<423	<423	<423	<423	<423	<423	<423	<423	<423
SW-10-SED	12/19/2018	<420	<420	<420	<420	<420	<420	<420	<420	<420	<420	<420	<420	<420	<420	<420
SW-11-SED	12/19/2018	<449	<449	<449	<449	<449	<449	<449	<449	<449	<449	<449	<449	<449	<449	<449
SW-12-SED	12/19/2018	<411	106 j	167 j	503	435	562	183 j	236 j	490	<411	822	<411	186 j	217 j	791
QC SAMPLE REUSLTS																
SW-DUP1-SED (SW-12)	12/19/2018	<419	<419	<419	145 j	162 j	213 j	124 j	92 j	141 j	<419	230 j	<419	104 j	<419	197 j

Prepared by: MSM Checked by: TDP

Notes:

Bold type indicates that the compound was detected above the adjusted method detection limit.

Yellow shading indicates that the compound was detected above a potentially applicable screening level listed in Section 4.8 of the RIWP-A

% - Percent

< - concentration not detected at or above the adjusted reporting limit.

B - Target analyte detected in method blank at or above the reporting limit. Target analyte concentration in sample is less than 10X the concentration in the method blank. Analyte concentration in sample could be due to blank contamination.

j - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

M1 - Matrix spike recovery was high: the associated Laboratory Control Spike (LCS) was acceptable.

µg/kg - Micrograms per kilogram

NE = No screening level established at this time. A site-specific risk-based screening level may be established as part of the risk assessment process outlined in Section 5.0 of the RIWP-A.

**TABLE 7
SOIL ANALYTICAL RESULTS SUMMARY
FORMER BRAMLETTE MGP SITE
DUKE ENERGY CAROLINAS, LLC, GREENVILLE, SC**

Analytical Parameter	ASTM D2974-87	8260B (VOA and MTBE)								8260B (Other VOC)						8270D (PAH)			
	Percent Moisture	Benzene	Ethylbenzene	Toluene	Xylene			MTBE	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Chloroform	Acetone	Chloromethane	Isopropylbenzene (Cumene)	Methylene chloride	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	
					m&p-Xylene	o-Xylene	Xylene (Total)												
Reporting Units	%	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	
Industrial Screening Level		5,100	25,000	47,000,000	2,400,000	2,800,000	2,500,000	210,000	1,800,000	1,500,000	1,400	670,000,000	460,000	9,900,000	1,000,000	17,000	73,000	3,000,000	
Sample ID	Sample Collection Date	Analytical Results	Analytical Results								Analytical Results						Analytical Results		
T10-SB3 (14.5)	03/14/2019	11.4	4.5 j,M1	6.4 j,M1,R1	<7.1	<14.3	<7.1	<14.3	<7.1	<7.1	<7.1	<7.1	14.7 j,L1	<14.3	<7.1	<28.5	241 M1	68.4 M1	118 M1
T11-SB1 (18.5)	03/14/2019	7.2	<5.6	<5.6	<5.6	<11.2	<5.6	<11.2	<5.6	<5.6	<5.6	<5.6	<112	<11.2	<5.6	<22.4	105	27.1	48.5
T11-SB2 (16.5)	03/14/2019	8.7	<8.4	<8.4	<8.4	<16.8	<8.4	<16.8	<8.4	<8.4	<8.4	<8.4	<168	<16.8	<8.4	<33.6	61.2	10.8 j	15.6
T11-SB3 (13.5)	03/14/2019	11.9	<6.6	<6.6	<6.6	<13.1	<6.6	<13.1	<6.6	<6.6	<6.6	<6.6	<131	<13.1	<6.6	<26.3	3.4 j	<11.4	<11.4
T12-SB1 (16.5)	03/20/2019	14.3	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	67.2 j	<10	<5	<19.9	<5	<11.5	<11.5
T12-SB3 (16)	03/20/2019	20.2	<6.2	<6.2	<6.2	<12.4	<6.2	<12.4	<6.2	<6.2	<6.2	<6.2	89.6 j	<12.4	<6.2	<24.7	<6.2	<12.4	<12.4
T13-SB1 (13)	03/20/2019	8.9	<5.6	<5.6	<5.6	<11.1	<5.6	<11.1	<5.6	<5.6	<5.6	<5.6	40.7 j	<11.1	<5.6	<22.3	4.3 j	3.5 j	6.2 j
T13-SB2 (15)	03/20/2019	19	<6.5	<6.5	<6.5	<12.9	<6.5	<12.9	<6.5	<6.5	<6.5	<6.5	67.3 j	<12.9	<6.5	<25.9	1.6 j	3.4 j	4.9 j
T14-SB3 (12.5)	03/19/2019	26.1	<5.6	<5.6	<5.6	<11.2	<5.6	<11.2	<5.6	<5.6	<5.6	2.4 j,B	74.4 j	<11.2	<5.6	<22.3	2.8 j	0.93 j	3 j
T15-SB1 (15.5)	03/19/2019	16.5	<6.8	<6.8	<6.8	<13.5	<6.8	<13.5	<6.8	<6.8	<6.8	2.9 j,B	<135	<13.5	<6.8	<12	<12	<12	<12
T15-SB2 (17)	03/19/2019	9	<3.9	<3.9	<3.9	<7.7	<3.9	<7.7	<3.9	<3.9	<3.9	1.8 j,B	69.7 j	<7.7	<3.9	<15.5	2.5 j,B	<11.1	<11.1
T17-SB1 (15.5)	03/29/2019	16.5	<6.7	<6.7	<6.7	<13.5	<6.7	<13.5	<6.7	<6.7	<6.7	<6.7	33.8 j	<13.5	<6.7	<26.9	<6.7	10.1 j	<12
T17-SB2 (15.5)	03/29/2019	9.4	26	8.4	<5.4	<10.9	<5.4	<10.9	<5.4	<5.4	<5.4	<5.4	33.5 j,M1	<10.9	<5.4	<21.7	90.6	78.7 M1	3.5 j
T1-SB1 (16.5)	03/21/2019	13.7	<5.5	<5.5	<5.5	<11	<5.5	<11	<5.5	<5.5	<5.5	<5.5	<110	<11	<5.5	<21.9	<5.5	<11.6	<11.6
T1-SB1 (17)	03/21/2019	10.5	<4.6	<4.6	<4.6	<9.3	<4.6	<9.3	<4.6	<4.6	<4.6	<4.6	<93	<9.3	<4.6	<18.6	<4.6	<11.2	<11.2
T1-SB2 (15.5)	03/21/2019	4.3	<8.1	<8.1	<8.1	<16.3	<8.1	<16.3	<8.1	<8.1	<8.1	<8.1	<163	<16.3	<8.1	<32.5	<8.1	<10.3	<10.3
T1-SB2 (16.5)	03/21/2019	15.8	<5.3	<5.3	<5.3	<10.7	<5.3	<10.7	<5.3	<5.3	<5.3	<5.3	<107	<10.7	<5.3	<21.3	2.8 j	<12	0.84 j
T2-SB3 (15)	03/21/2019	16.4	<5.4	<5.4	<5.4	<10.9	<5.4	<10.9	<5.4	<5.4	<5.4	<5.4	<109	<10.9	<5.4	<21.8	1.4 j	<12.1	1.9 j
T4-SB1 (15.5)	03/18/2019	15.7	<5.3	<5.3	<5.3	<10.7	<5.3	<10.7	<5.3	<5.3	<5.3	2.4 j,B	61.4 j	<10.7	<5.3	<21.4	1.2 j	<11.8	<11.8
T4-SB2 (18)	03/19/2019	8.9	<5.8	<5.8	<5.8	<11.7	<5.8	<11.7	<5.8	<5.8	<5.8	2.4 j,B	74 j	<11.7	<5.8	<6 j	5.2 j	2.3 j	3.6 j
T4-SB3 (17)	03/18/2019	6.7	<5.5	<5.5	<5.5	<10.9	<5.5	<10.9	<5.5	<5.5	<5.5	<5.5	84.6 j	<10.9	<5.5	<21.8	4.4 j	3.7 j	5.8 j
T5-SB2 (17)	03/18/2019	8.8	<6.6	<6.6	<6.6	<13.2	<6.6	<13.2	<6.6	<6.6	<6.6	2.7 j,B	470	<13.2	<6.6	10.4 j	93.4	476	865
T5-SB3 (18)	03/18/2019	10.7	<6.4	<6.4	<6.4	<12.9	<6.4	<12.9	<6.4	<6.4	<6.4	2.6 j,B	13.8 j	<12.9	<6.4	12.1 j	10100	202	365
T6-SB3 (17.5)	03/18/2019	13.2	79.9 j	110 j	<120	<241	<120	<241	<120	56.2 j	<120	55.3 j,B	1790 j	<241	<120	<482	3820	174	317
T7-SB1 (17)	03/15/2019	23.4	74.5 j	89.5 j	<194	<388	<194	<388	<194	<194	<194	<194	1740 j	124 j,L1	<194	<777	4730 BC	64.7	124
T7-SB1 (19)	03/15/2019	12.6	7.5	8.1	<4.2	4.5 j	2.3 j	<8.4	<4.2	2.4 j	<4.2	<4.2	20.3 j	<8.4	<4.2	<16.8	1710 B,BC	10.4 j	18.7
T7-SB2 (15.5)	03/15/2019	12.2	<4.4	<4.4	<4.4	<8.9	<4.4	<8.9	<4.4	<4.4	<4.4	<4.4	26.2 j	<8.9	<4.4	<17.7	113 BC	43.9	80.5
T7-SB3 (16)	03/15/2019	17.5	9.8	8.5	<5.4	6.9 j	<5.4	<10.9	<5.4	17.8	7	<5.4	49.6 j	<10.9	2.5 j	<21.8	1860 B,BC	54.1	91.8
T8-SB2 (10)	03/12/2019	30.8	<6	<6	<6	5 j	<6	<11.9	<6	<6	<6	<6	26.3 j	<11.9	<6	<23.9	3.3 j	13 j	8 j
T8-SB2 (17)	03/12/2019	23.2	<5.4	<5.4	<5.4	<10.7	<5.4	<10.7	<5.4	<5.4	<5.4	2.1 j,B,M1	<107	<10.7	<5.4	<21.4	<5.4	<13.1	<13.1
T8-SB3 (17)	03/12/2019	9	<5.4	<5.4	<5.4	<10.9	<5.4	<10.9	<5.4	<5.4	<5.4	2.3 j,B	14.2 j	<10.9	<5.4	<21.8	35.3	1.9 j	3.4 j
T9-SB1 (18)	03/13/2019	11.5	3.4 j	<5.9	2.7 j	<11.7	<5.9	<11.7	<5.9	<5.9	<5.9	2.4 j	19.8 j	<11.7	<5.9	<23.4	137	32.4	58.6
T9-SB2 (19)	03/13/2019	8.3	<236	<236	<236	<473	<236	<473	<236	<236	<236	102 j	<4730	<473	<236	<945	5260	25900	39200
T9-SB2 (22)	03/13/2019	3.8	<5.4	<5.4	<5.4	<10.8	<5.4	<10.8	<5.4	<5.4	<5.4	2.3 j	36 j	<10.8	<5.4	<21.7	6.4	10.5	21.6
QC SAMPLE RESULTS																			
BLIND DUPLICATE_T13-SB2 (15)	03/20/2019	13.7	<5.5	<5.5	<5.5	<11	<5.5	<11	<5.5	<5.5	<5.5	<5.5	53.4 j	<11	<5.5	<22	2.5 j	<11.4	0.85 j
BLIND DUPLICATE_T9-SB1 (18)	03/13/2019	11.3	23.7	4.6 j	15.4	<12.8	<6.4	<12.8	<6.4	<6.4	<6.4	3 j	22.6 j	<12.8	<6.4	<25.6	306	71.3	137

Prepared by: MSM Checked by: TDP

Notes:

- Bold type indicates that the compound was detected above the adjusted method detection limit.
- Yellow shading indicates that the compound was detected above a potentially applicable screening level listed in Section 4.8 of the RIWP-A
- % - Percent
- < - concentration not detected at or above the adjusted reporting limit.
- B - Target analyte detected in method blank at or above the reporting limit. Target analyte concentration in sample is less than 10X the concentration in the method blank. Analyte concentration in sample could be due to blank contamination.
- BC - The same analyte was detected in an associated blank at a concentration above 1/2 the reporting limit but below the laboratory reporting limit.
- D6 - The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
- j - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
- L1 - Analyte recovery in the laboratory control sample (LCS) was above quality control (QC) limits. Results may be biased high.
- M1 - Matrix spike recovery was high: the associated Laboratory Control Spike (LCS) was acceptable.
- R1 - Relative Percent Difference (RPD) value was outside control limits.
- µg/kg - Micrograms per kilogram
- NE = No screening level established at this time. A site-specific risk-based screening level may be established as part of the risk assessment process outlined in Section 5.0 of the RIWP-A.

**TABLE 7
SOIL ANALYTICAL RESULTS SUMMARY
FORMER BRAMLETTE MGP SITE
DUKE ENERGY CAROLINAS, LLC, GREENVILLE, SC**

Analytical Parameter	8270D (PAH)															8270D (Other SVOC)	
	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Dibenzofuran	
	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	
Industrial Screening Level	45,000,000	NA	230,000,000	21,000	2,100	21,000	NA	210,000	2,100,000	2,100	30,000,000	30,000,000	21,000	NA	23,000,000	1,000,000	
Sample ID	Sample Collection Date	Analytical Results															Analytical Results
T10-SB3 (14.5)	03/14/2019	57.1 M1	<11.3	6.2 j	<11.3	<11.3	<11.3	<11.3	<11.3	<11.3	<11.3	1.6 j	19.5 M1	<11.3	38.7	2.2 j	<376
T11-SB1 (18.5)	03/14/2019	19.4	3.3 j	3.7 j	<10.9	<10.9	<10.9	<10.9	<10.9	<10.9	<10.9	3 j	9.9 j	<10.9	26.1	4.9 j	<358
T11-SB2 (16.5)	03/14/2019	22	1.4 j	2.8 j	<10.9	<10.9	<10.9	<10.9	<10.9	<10.9	<10.9	<10.9	7 j	<10.9	12	1.5 j	<356
T11-SB3 (13.5)	03/14/2019	7.4 j	1.1 j	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	3.3 j	<11.4	<11.4	<11.4	<376
T12-SB1 (16.5)	03/20/2019	<11.5	<11.5	<11.5	<11.5	<11.5	<11.5	<11.5	<11.5	<11.5	<11.5	<11.5	<11.5	<11.5	<11.5	<11.5	<382
T12-SB3 (16)	03/20/2019	2.4 j	<12.4	<12.4	<12.4	<12.4	<12.4	<12.4	<12.4	<12.4	<12.4	<12.4	1.5 j	<12.4	<12.4	<12.4	<418
T13-SB1 (13)	03/20/2019	3.7 j	4.9 j	5.3 j	10.5 j	9.8 j	10.8 j	3.9 j	4.1 j	9.1 j	1.4 j	18.2	3.7 j	3.9 j	9.9 j	21.3	<366
T13-SB2 (15)	03/20/2019	19	2.7 j	3.3 j	5.2 j	4.5 j	4.6 j	1.8 j	2.4 j	4.5 j	<12.5	10.5 j	4.1 j	1.8 j	10.8 j	8.8 j	<410
T14-SB3 (12.5)	03/19/2019	0.77 j	0.85 j	1.6 j	2.7 j	1.8 j	2.7 j	<13.6	0.84 j	2.3 j	<13.6	6.1 j	1.3 j	<13.6	6.1 j	4.6 j	<442
T15-SB1 (15.5)	03/19/2019	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<397
T15-SB2 (17)	03/19/2019	<11.1	0.57 j	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	<360
T17-SB1 (15.5)	03/29/2019	15.4	<12	0.67 j	<12	<12	<12	<12	<12	<12	<12	<12	3.7 j	<12	3.4 j	<12	<391
T17-SB2 (15.5)	03/29/2019	53.8	1 j	6.7 j	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	19.6	<11.2	42	1.3 j	<367
T1-SB1 (16.5)	03/21/2019	6.4 j	<11.6	<11.6	<11.6	<11.6	<11.6	<11.6	<11.6	<11.6	<11.6	<11.6	1 j	<11.6	<11.6	<11.6	<376
T1-SB1 (17)	03/21/2019	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	<11.2	<369
T1-SB2 (15.5)	03/21/2019	<10.3	<10.3	<10.3	<10.3	<10.3	<10.3	<10.3	<10.3	<10.3	<10.3	<10.3	<10.3	<10.3	<10.3	<10.3	<347
T1-SB2 (16.5)	03/21/2019	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<397
T2-SB3 (15)	03/21/2019	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<395
T4-SB1 (15.5)	03/18/2019	25.8	1.1 j	0.63 j	<11.8	<11.8	<11.8	<11.8	<11.8	<11.8	<11.8	<11.8	0.91 j	<11.8	<11.8	<11.8	<391
T4-SB2 (18)	03/19/2019	2.8 j	0.75 j	0.71 j	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	2.2 j	<11.1	6.6 j	1.6 j	<365
T4-SB3 (17)	03/18/2019	4.8 j	0.87 j	0.53 j	<10.7	<10.7	<10.7	<10.7	<10.7	<10.7	<10.7	<10.7	2.2 j	<10.7	4.5 j	<10.7	<357
T5-SB2 (17)	03/18/2019	506	<10.8	180	76.2	55.7	41.2	14.9	16.4	57.1	4.9 j	195	286	12.6	805	337	<364
T5-SB3 (18)	03/18/2019	122	27.4	42.6	9 j	5.1 j	3.8 j	1.2 j	1.8 j	6.5 j	<11.1	35.5	85.8	1.1 j	203	61.8	<372
T6-SB3 (17.5)	03/18/2019	127	<11.6	13.8	1.2 j	0.79 j	1 j	<11.6	0.52 j	0.82 j	<11.6	6.6 j	42.6	<11.6	73.9	9.7 j	<374
T7-SB1 (17)	03/15/2019	41.7	<13	1.6 j	<13	<13	<13	<13	<13	<13	<13	<13	10.8 j	<13	12.5 j	<13	<425
T7-SB1 (19)	03/15/2019	8 j	0.7 j	0.65 j	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	2.5 j	<11.4	4.3 j	<11.4	<372
T7-SB2 (15.5)	03/15/2019	43.8	7 j	10.7 j	4.9 j	3.7 j	3.9 j	1.5 j	1.6 j	4 j	<11.2	12.2	19.4	1.3 j	48.5	19.7	<370
T7-SB3 (16)	03/15/2019	38.4	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	<12.1	5.1 j	<12.1	2.3 j	<12.1	<393
T8-SB2 (10)	03/12/2019	95.1 D6	205 D6	189 D6	826 D6	727 D6	1050 D6	399 D6	429 D6	799 D6	116 D6	1070 D6	49.7 D6	376 D6	249 D6	1310 D6	<477
T8-SB2 (17)	03/12/2019	<13.1	<13.1	<13.1	<13.1	<13.1	<13.1	<13.1	<13.1	<13.1	<13.1	<13.1	<13.1	<13.1	<13.1	<13.1	<431
T8-SB3 (17)	03/12/2019	1.7 j	<11	<11	1.5 j	1.3 j	1.7 j	<11	<11	<11	<11	2 j	<11	<11	<11	2.3 j	<357
T9-SB1 (18)	03/13/2019	16.9	10 j	1.8 j	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	<11.1	7.6 j	<11.1	10.2 j	2.8 j	<379
T9-SB2 (19)	03/13/2019	4820	19700	10900	4900	3530	2870	1200	1450	3630	383 j	11300	15300	1020	39300	17300	4940
T9-SB2 (22)	03/13/2019	5.4 j	13.2	1.6 j	1.2 j	0.68 j	<10.5	<10.5	<10.5	0.72 j	<10.5	2.8 j	4.1 j	<10.5	6.1 j	6.9 j	<349
QC SAMPLE RESULTS																	
BLIND DUPLICATE_T13-SB2 (15)	03/20/2019	12.8	1.1 j	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<11.4	<384
BLIND DUPLICATE_T9-SB1 (18)	03/13/2019	19.7	37.1	13.6	4.8 j	3.3 j	2.7 j	<11.4	1 j	3.3 j	<11.4	12.8	26.4	<11.4	58.7	21.4	<375

Prepared by: MSM Checked by: TDP

Notes:

- Bold type indicates that the compound was detected above the adjusted method detection limit.
- Yellow shading indicates that the compound was detected above a potentially applicable screening level listed in Section 4.8 of the RIWP-A
- % - Percent
- < - concentration not detected at or above the adjusted reporting limit.
- B - Target analyte detected in method blank at or above the reporting limit. Target analyte concentration in sample is less than 10X the concentration in the method blank. Analyte concentration in sample could be due to blank contamination.
- BC - The same analyte was detected in an associated blank at a concentration above 1/2 the reporting limit but below the laboratory reporting limit.
- D6 - The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
- j - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
- L1 - Analyte recovery in the laboratory control sample (LCS) was above quality control (QC) limits. Results may be biased high.
- M1 - Matrix spike recovery was high: the associated Laboratory Control Spike (LCS) was acceptable.
- R1 - Relative Percent Difference (RPD) value was outside control limits.
- µg/kg - Micrograms per kilogram
- NE = No screening level established at this time. A site-specific risk-based screening level may be established as part of the risk assessment process outlined in Section 5.0 of the RIWP-A.

ATTACHMENT C
SURFACE WATER SAMPLING LOGS

SURFACE WATER SAMPLING LOG



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 fax
www.synTerracorp.com

CLIENT/PROJECT NO. Duke - Bramlette 102ce-800-05
 LOCATION: Greenville SC
 FIELD PERSONNEL: KDF, BJS
 WEATHER: SUNNY OVERCAST RAIN COOL WARM 50
 MULTI METER TYPE/S#: YSI 146101972
 TURBIDITY METER TYPE/S# HACH 125060C017383

~~*Duplicate collected~~ KDF

SAMPLE ID:

SW-01

SAMPLE DATE:

3/19/19

SAMPLE TIME:

1230

READING	TIME	TEMPERATURE	pH	CONDUCTANCE	DO	ORP	TURBIDITY	COLOR
		(Whole # ° Celsius)	(X.XX su)	(Whole # µS/cm)	(X.XX mg/L)	(Whole # mV)	(X.X NTU)	
1	1230	10.2	7.33	331	4.10	71.5	5.01	Clear w/ fines

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS							CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS							
	125 ml POLY	250 mL POLY	500 mL POLY	40 ml VOA	125 ml AMBER	250 ml CLEAR	500 ml CLEAR		1 GAL AMBER	125 ml POLY	250 mL POLY	500 mL POLY	40 ml VOA	125 ml CLEAR	250 ml CLEAR	500 ml CLEAR
2B/2L PARAMETER LIST																
SEE COC																

COMMENTS:

ponded/swamp water near Bramlette Road, organic matter + debris along bottom/ "bank" of swamp. water clear - cloudy w/ fines *no defined channel - swamp

SURFACE WATER SAMPLING LOG

* sediment
 Sample collected
 3/22/19 @ 11:20 AM
 (NO SW readings)

CLIENT/PROJECT NO. Duke - Bramlette 1026. 800. 09
 LOCATION: Greenville, SC
 FIELD PERSONNEL: KAF, BJS
 WEATHER: SUNNY OVERCAST RAIN COOL WARM 45
 MULTI METER TYPE/S#: YSI 146101972
 TURBIDITY METER TYPE/S#: HACH 125050C017383

SAMPLE ID: SW-02
 SAMPLE DATE: 3/19/19
 SAMPLE TIME: 1110

READING	TIME	TEMPERATURE	pH	CONDUCTANCE	DO	ORP	TURBIDITY	COLOR
		(Whole # ° Celsius)	(X.XX su)	(Whole # µS/cm)	(X.XX mg/L)	(Whole # mV)	(X.X NTU)	
1	1110	10.2	7.12	344	7.88	113	73.6	Clear Cloudy, organic matter fines

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS							
	125 ml POLY	250 ml POLY	500 ml POLY	40 ml VOA	125 ml AMBER	250 ml CLEAR	500 ml CLEAR	1 GAL AMBER		125 ml POLY	250 ml POLY	500 ml POLY	40 ml VOA	125 ml CLEAR	250 ml CLEAR	500 ml CLEAR	1 GAL AMBER
2B/2L PARAMETER LIST																	
SEE COC																	

→ Storm water / Swamp.
 COMMENTS: Cloudy, ponded water, minor flow
 through dam (Beaver) ~ 50-70ft from
 SW sample location → no defined
 Channel

SURFACE WATER SAMPLING LOG



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 fax
www.synTerra.com

CLIENT/PROJECT NO. Duke - Bramlette 1026. 800. 05

LOCATION: Greenville, SC

FIELD PERSONNEL: KDF, BJS

WEATHER: SUNNY OVERCAST RAIN COOL WARM 50

MULTI METER TYPE/S#: YSI 146101972

TURBIDITY METER TYPE/S# HACH 125050C017383

SAMPLE ID:

SW-03

SAMPLE DATE:

3/19/19

SAMPLE TIME:

1200

READING	TIME	TEMPERATURE	pH	CONDUCTANCE	DO	ORP	TURBIDITY	COLOR
		(Whole # ° Celsius)	(X.XX su)	(Whole # µS/cm)	(X.XX mg/L)	(Whole # mV)	(X.X NTU)	
1	1200	12.4	7.03	402	6.47	-30.6	4.89	Clear w/ organic fines / floc

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS							CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS							
	125 ml POLY	250 ml POLY	500 ml POLY	40 ml VOA	125 ml AMBER	250 ml CLEAR	500 ml CLEAR		1 GAL AMBER	125 ml POLY	250 ml POLY	500 ml POLY	40 ml VOA	125 ml CLEAR	250 ml CLEAR	500 ml CLEAR
2B/2L PARAMETER LIST																
SEE COC																

COMMENTS: Clear, low flow water along in ditch, flowing from swamp/ponded water, some floc noted along bed/banks. Gravel/stone bed, sandy-muddy banks, defined channel

SURFACE WATER SAMPLING LOG



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 fax
www.synTerraCorp.com

CLIENT/PROJECT NO. Duke - Bramlette 102cc. 800. 85
 LOCATION: Greenville, SC
 FIELD PERSONNEL: KDF, BJS
 WEATHER: SUNNY OVERCAST RAIN COOL WARM 45
 MULTI METER TYPE/S#: YSI 146101972
 TURBIDITY METER TYPE/S# HACH 125050C017383

SAMPLE ID: SW-04 SAMPLE DATE: 3/19/19
 SAMPLE TIME: 1140

READING	TIME	TEMPERATURE	pH	CONDUCTANCE	DO	ORP	TURBIDITY	COLOR
		(Whole # ° Celsius)	(X.XX su)	(Whole # µS/cm)	(X.XX mg/L)	(Whole # mV)	(X.X NTU)	
1	1140	10.6	7.08	445	2.68	-25.4	31.9	Clear-Cloudy, Organic fines

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS							CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS							
	125 ml POLY	250 ml POLY	500 ml POLY	40 ml VOA	125 ml AMBER	250 ml CLEAR	500 ml CLEAR		1 GAL AMBER	125 ml POLY	250 ml POLY	500 ml POLY	40 ml VOA	125 ml CLEAR	250 ml CLEAR	500 ml CLEAR
2B/2L PARAMETER LIST																
SEE COC																

COMMENTS: ponded water at end of flow from SW-03 channel. Clear-Cloudy w/ very muddy bottom. muddy banks w/ organic matter.
*no defined channel @ SW-04 location

SURFACE WATER SAMPLING LOG



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 fax
www.synTerraCorp.com

CLIENT/PROJECT NO. Duke - Bramlette 1026-800-05

LOCATION: Greenville SC

FIELD PERSONNEL: KDF, BJS

WEATHER: SUNNY OVERCAST RAIN COOL WARM 50

MULTI METER TYPE/S#: YSI 146101972

TURBITUDY METER TYPE/S# HACH 1250500017383

SAMPLE ID:

SW-05

SAMPLE DATE:

3/19/19

SAMPLE TIME:

1330

READING	TIME	TEMPERATURE	pH	CONDUCTANCE	DO	ORP	TURBIDITY	COLOR
		(Whole # ° Celsius)	(X.XX su)	(Whole # µS/cm)	(X.XX mg/L)	(Whole # mV)	(X.X NTU)	
1	1330	12.4	7.26	482	4.33	-19	13.7	Clear-cloudy w/ fines/organic

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS							CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS							
	125 ml POLY	250 ml POLY	500 ml POLY	40 ml VOA	125 ml AMBER	250 ml CLEAR	500 ml CLEAR		1 GAL AMBER	125 ml POLY	250 ml POLY	500 ml POLY	40 ml VOA	125 ml CLEAR	250 ml CLEAR	500 ml CLEAR
2B/2L PARAMETER LIST																
SEE COC																

COMMENTS:

Clear-cloudy ponded/swamp water. organic matter along bottom/dank. no defined channel

SURFACE WATER SAMPLING LOG



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 fax
www.synTerraCorp.com

CLIENT/PROJECT NO. Duke - Bramlette 1026.800.088
 LOCATION: Greenville, SC
 FIELD PERSONNEL: KDF, BJS
 WEATHER: SUNNY OVERCAST RAIN COOL WARM 40°
 MULTI METER TYPE/S#: YSI, 146101972
 TURBIDITY METER TYPE/S# 125050C017383, HACH

SAMPLE ID: SW-06 SAMPLE DATE: 3/19/19
 SAMPLE TIME: 1025

READING	TIME	TEMPERATURE	pH	CONDUCTANCE	DO	ORP	TURBIDITY	COLOR
		(Whole # ° Celsius)	(X.XX su)	(Whole # µS/cm)	(X.XX mg/L)	(Whole # mV)	(X.X NTU)	
1	1025	9.4	6.54	428	5.93	-4.9	152	cloudy, organic matter (fines)

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS							CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS							
	125 ml POLY	250 mL POLY	500 mL POLY	40 ml VOA	125 ml AMBER	250 ml CLEAR	500 ml CLEAR		1 GAL AMBER	125 ml POLY	250 mL POLY	500 mL POLY	40 ml VOA	125 ml CLEAR	250 ml CLEAR	500 ml CLEAR
2B/2L PARAMETER LIST																
SEE COC																

COMMENTS: pooled/very low flow swamp water, no defined channel, organic matter + debris along bottom/floating

ATTACHMENT D
GROUNDWATER SAMPLING LOGS

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF, BJS



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 60

MULTI METER TYPE/S#: YSI 17F104348

TUBIDITY METER TYPE/S# HACH 15090C043415

WELL ID: MW-01
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: 16.90 (FT)
DEPTH TO WATER: 6.11 (FT)

PUMP/TUBING INTAKE DEPTH: ~12.5 (FT) START PURGE TIME: 1420
START PURGE DATE: 3/20/19 END PURGE TIME: 1438
END PURGE DATE: 3/20/19 FINAL READING TIME: 1438
TOTAL VOLUME PURGED: 1.0 (X.XX GAL)
SAMPLE DATE: 3/20/19 SAMPLE COLLECTION TIME: 1438

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1426	6.15	200	16	1.45	414	6.36	-17	10.3	Clear w/ white fines	
1429	6.15	200	16	0.82	411	6.40	-33	4.42	↳ strong prod. odor	
432	6.15	200	16	0.53	410	6.42	-38	6.24	"	"
1435	6.15	200	16	0.52	409	6.42	-40	3.75	"	"
1438	6.15	200	16	0.50	407	6.42	-43	5.37	"	"

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION									
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H2SO4	HNO3	HCL	NaOH	Na2SO3	METHANOL	(NH4)2SO4	
METALS																		
SULFIDE																		
ALKALINITY, BICARBONATE, CARBONATE																		
TOTAL ORGANIC CARBON																		
F, CL, SO4																		
TDS																		
TSS																		
CHROMIUM (VI)																		
RADIUM																		

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

ALL SAMPLES ON ICE YES

FIELD VEHICLE ACCESSIBLE YES NO

** Purged for ~6min, no readings - looking for FP.*

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input checked="" type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

↳ Cut *↳ overgrown*

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 60

MULTI METER TYPE/S#: YSI 17F104348

TUBIDITY METER TYPE/S#: HACH 15090C043415



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

**Blind
Dup collected
here*

FD-01
3/20/19
1600
(actual
time: 1523)

WELL ID: MW-02
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: 17.99 (FT)
DEPTH TO WATER: 10.58 (FT)

PUMP/TUBING INTAKE DEPTH: ~10.0 (FT)
START PURGE DATE: 3/20/19
END PURGE DATE: 3/20/19
TOTAL VOLUME PURGED: 1.5 (X.XX GAL)
SAMPLE DATE: 3/20/19

START PURGE TIME: 1508
END PURGE TIME: 1523
FINAL READING TIME: 1523
SAMPLE COLLECTION TIME: 1523

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1511	11.05	300	16	3.52	210	6.15	190	24.9	Cloudy w/ floc	
1514	10.96	175	16	2.41	207	6.14	204	26.5	Clear w/ floc	
1517	10.90	175	16	2.10	205	6.16	209	20.1	"	"
1520	10.90	175	16	2.11	203	6.17	210	18.2	"	"
1523	10.90	175	16	2.11	204	6.17		16.8	"	" → some petro odor

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ SO ₄	METHANOL	(NH ₄) ₂ SO ₄
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE																	
TOTAL ORGANIC CARBON																	
F, CL, SO ₄																	
TDS																	
TSS																	
CHROMIUM (VI)																	
RADIUM																	

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

ALL SAMPLES ON ICE YES

FIELD VEHICLE ACCESSIBLE YES NO

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

↳ overgrown

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDE, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 50



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerra.com

MULTI METER TYPE/S#:

TUBIDITY METER TYPE/S#

WELL ID: MW-03
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: 16.57 (FT)
DEPTH TO WATER: 10.45 (FT)

PUMP/TUBING INTAKE DEPTH: _____ (FT)
START PURGE DATE: 3/20/19
END PURGE DATE: 3/20/19
TOTAL VOLUME PURGED: _____ (X.XX GAL)
SAMPLE DATE: 3/20/19

START PURGE TIME: 12/15
END PURGE TIME: _____
FINAL READING TIME: _____
SAMPLE COLLECTION TIME: _____

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
<u>* NO Readings / sample => NAPL encountered</u>										

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H2SO4	HNO3	HCL	NaOH	Na2SO4	METHANOL	(NH4)2SO4
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE										✓							
TOTAL ORGANIC CARBON											✓						
F, CL, SO4										✓							
TDS										✓							
TSS										✓							
CHROMIUM (VI)																	✓
RADIUM													✓				

COMMENTS: IF TURBIDITY > 10 NTUS, REDEVELOPMENT NEEDED YES NO
 IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
 IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:
 FIELD VEHICLE ACCESSIBLE YES NO
 ALL SAMPLES ON ICE YES

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
 If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
 To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

Site: Bramble Hill

LOW FLOW SAMPLING LOG



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

FIELD PERSONNEL: KDF, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 45

MULTI METER TYPE/S#: YSI 17F104348

TUBIDITY METER TYPE/S# HACH 150900043415

WELL ID: MW-05

PUMP/TUBING INTAKE DEPTH: ~10.0 (FT)

START PURGE TIME: 1005

MEASURING POINT: TOC

START PURGE DATE: 3/21/19

END PURGE TIME: 1018

WELL DIAMETER: 2 (IN)

END PURGE DATE: 3/21/19

FINAL READING TIME: 1018

WELL DEPTH: 15.58 (FT)

TOTAL VOLUME PURGED: 0.75 (X.XX GAL)

DEPTH TO WATER: ~~10.0~~ 7.80 (FT)

SAMPLE DATE: 3/21/19

SAMPLE COLLECTION TIME: 1018

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer
 SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1006	7.88	175	14	1.91	121	6.28	157.5	16.6	clear-cloudy w/ fines	white/grey
1009	7.90	175	14	0.70	219	6.18	106	12.4	"	"
1012	7.92	175	14	0.66	220	6.17	80	9.15	"	"
1015	7.92	175	14	0.60	221	6.17	75	9.85	"	"
1018	7.92	175	14	0.61	224	6.17	70	9.68	"	"

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ SO ₄	METHANOL	(NH ₄) ₂ SO ₄
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE																	
TOTAL ORGANIC CARBON																	
F, CL, SO ₄																	
TDS																	
TSS																	
CHROMIUM (VI)																	
RADIUM																	

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
 IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
 IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:
 FIELD VEHICLE ACCESSIBLE YES NO
 ALL SAMPLES ON ICE YES

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
 If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
 To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input type="checkbox"/> GOOD	<input checked="" type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input checked="" type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

↳ rusted muddy ↳ rusted

↳ muddy

Site: Bramlette

LOW FLOW SAMPLING LOG



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

FIELD PERSONNEL: KNF, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 45°

MULTI METER TYPE/S#: YSI 17F104348

TUBIDITY METER TYPE/S# HACH 15090C043415

WELL ID: MW-07R
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: 18.69 (FT)
DEPTH TO WATER: 3.95 (FT)

PUMP/TUBING INTAKE DEPTH: ~135 (FT) START PURGE TIME: 0942
START PURGE DATE: 3/22/19 END PURGE TIME: 0958
END PURGE DATE: 3/22/19 FINAL READING TIME: 0958
TOTAL VOLUME PURGED: 1.0 (X.XX GAL)
SAMPLE DATE: 3/22/19 SAMPLE COLLECTION TIME: 0958

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
0943	4.14	320	12.2 ^(IP)	2.40	199	6.56	224	208	Cloudy	w/ floc
0946	4.15	200	13	1.09	201	6.48	165	217	"	"
0949	4.15	200	13	0.45	199	6.43	96	191	"	"
0952	4.15	200	13	0.34	199	6.40	71	135	"	"
0955	4.15	200	13	0.30	203	6.40	61	116	"	"
0958	4.15	200	13	0.31	202	6.40	57	157	"	"
								101	@ 1000	

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION									
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ S ₂ O ₅	METHANOL	(NH ₄) ₂ SO ₄	
METALS																		
SULFIDE																		
ALKALINITY, BICARBONATE, CARBONATE																		
TOTAL ORGANIC CARBON																		
F, CL, SO ₄																		
TDS																		
TSS																		
CHROMIUM (VI)																		
RADIUM																		

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:
FIELD VEHICLE ACCESSIBLE YES NO
ALL SAMPLES ON ICE YES

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

Site: Bramlette

LOW FLOW SAMPLING LOG



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

FIELD PERSONNEL: KDF, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 45"

MULTI METER TYPE/S#: YSI 1070 17F104348

TUBIDITY METER TYPE/S#: HACH 15090C043415

WELL ID: MW-09R
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: 29.88 (FT)
DEPTH TO WATER: 4.40 (FT)

PUMP/TUBING INTAKE DEPTH: ~24' ~26' (FT)
START PURGE TIME: 0959
START PURGE DATE: 3/22/19
END PURGE DATE: 3/22/19
TOTAL VOLUME PURGED: 0.50 (X.XX GAL)
SAMPLE DATE: 3/22/19
END PURGE TIME: 1012
FINAL READING TIME: 1012
SAMPLE COLLECTION TIME: 1012

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1000	4.49	175	14	1.80	133	5.82	111	47.4	clear w/fines	
1003	4.51	175	14	1.58	132	5.78	137	27.9	"	"
1006	4.52	175	14	1.33	132	5.78	147	18.2	"	"
1009	4.52	175	14	1.33	130	5.76	160	15.3	"	"
1012	4.52	175	14	1.20	130	5.74	176	9.40	"	"

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ SO ₄	METHANOL	(NH ₄) ₂ SO ₄
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE																	
TOTAL ORGANIC CARBON																	
F, CL, SO ₄																	
TDS																	
TSS																	
CHROMIUM (VI)																	
RADIUM																	

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:
FIELD VEHICLE ACCESSIBLE YES NO
ALL SAMPLES ON ICE YES

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

GROUNDWATER MONITORING

DUKE ENERGY PROGRESS, LLC

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 50

MULTI METER TYPE/S#: YSI 17F104348

TUBITIDY METER TYPE/S#: HACH 15090C043415

148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

WELL ID: MW-13R

PUMP/TUBING INTAKE DEPTH: ~18 (FT)

START PURGE TIME: 1527

MEASURING POINT: TOC

START PURGE DATE: 3/21/19

END PURGE TIME: 1545

WELL DIAMETER: 2 (IN)

END PURGE DATE: 3/21/19

FINAL READING TIME: 1545

WELL DEPTH: 23.45 (FT)

TOTAL VOLUME PURGED: 0.75 (X.XX GAL)

SAMPLE COLLECTION TIME: 1545

DEPTH TO WATER: 4.41 (FT)

SAMPLE DATE: 3/21/19

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer
 SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer

Blind Dup taken:
FD-02
3/21/19
1700
→ actual time: 15



TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1530	4.50	240	16	2.10	124	5.20	232	1.96	Clear	
1533	4.51	240	16	1.26	118	4.99	243	2.16	"	"
1536	4.51	240	16	0.97	117	4.90	250	1.95	"	"
1539	4.51	240	16	0.84	117	4.90	255	2.65	"	"
1542	4.51	240	16	0.80	116	4.93	259	1.78	"	"
1545	4.51	240	16	0.75	116	4.93	263	1.01	"	"

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ SO ₄	METHANOL	(NH ₄) ₂ SO ₄
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE																	
TOTAL ORGANIC CARBON																	
F, CL, SO ₄																	
TDS																	
TSS																	
CHROMIUM (VI)																	
RADIUM																	

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
 IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
 IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

ALL SAMPLES ON ICE YES

FIELD VEHICLE ACCESSIBLE YES NO

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
 If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
 To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 55



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

MULTI METER TYPE/S#: YSI 17F104348

TUBITIDY METER TYPE/S# Hach 15090Co'43415

WELL ID: MW-15
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: 57.10 (FT)
DEPTH TO WATER: 8.20 (FT)

PUMP/TUBING INTAKE DEPTH: ~52.5 (FT)
START PURGE DATE: 3/22/19
END PURGE DATE: 3/22/19
TOTAL VOLUME PURGED: 0.25 (X.XX GAL)
SAMPLE DATE: 3/22/19
START PURGE TIME: 0858
END PURGE TIME: 0915
FINAL READING TIME: 0915
SAMPLE COLLECTION TIME: 0915

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
0900	8.49	350	13	5.01	255	6.58	49	182	Cloudy	fines + floc
0903	8.50	150	13	5.49	171	6.16	125	34.6	clear	w/ fines
0906	8.50	150	14	4.93	133	6.01	169	32.4	"	"
0909	8.50	150	14	4.49	126	5.93	206	21.9	"	"
0912	8.50	150	14	4.52	124	5.91	218	19.1	"	"
0915	8.50	150	14	4.60	123	5.90	221	22.2	"	"

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H2SO4	HNO3	HCL	NaOH	Na2SO4	METHANOL	(NH4)2SO4
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE										✓							
TOTAL ORGANIC CARBON										✓	✓						
F, Cl, SO4										✓							
TDS										✓							
TSS										✓							
CHROMIUM (VI)																	✓
RADIUM													✓				

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

ALL SAMPLES ON ICE YES

FIELD VEHICLE ACCESSIBLE YES NO

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input checked="" type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

cut overgrown

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 55 40'

MULTI METER TYPE/S#: YSI 17F 104348

TUBIDITY METER TYPE/S# HACH 15090 C043415



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

WELL ID: MW-16
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: 17.87 (FT)
DEPTH TO WATER: 8.79 (FT)

PUMP/TUBING INTAKE DEPTH: ~12 (FT)
START PURGE DATE: 3/22/19
END PURGE DATE: 3/22/19
TOTAL VOLUME PURGED: 0.50 (X.XX GAL)
SAMPLE DATE: 3/22/19

START PURGE TIME: 0839
END PURGE TIME: 0856
FINAL READING TIME: 0856
SAMPLE COLLECTION TIME: 0856

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
0841	8.81	200	5.00 10	2.59	1249	6.47	178	70.2	Clear w/ floc	
0844	8.81	200	11	1.41	1243	6.53	119	55.4	"	"
0847	8.81	200	11	0.80	1278	6.55	67	45.1	"	"
0850	8.81	200	12	0.58	1288	6.55	60	44.7	"	"
0853	8.81	200	12	0.51	1290	6.55	57	40.4	"	"
0856	8.81	200	12	0.50	1300	6.55	54	38.7	"	"

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H2SO4	HNO3	HCL	NaOH	Na2SO4	METHANOL	INH+H2SO4
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE										✓							
TOTAL ORGANIC CARBON										✓	✓						
F, CL, SO4										✓							
TDS										✓							
TSS										✓							
CHROMIUM (VI)																	✓
RADIUM												✓					

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO → Metals? ALL SAMPLES ON ICE YES
IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

FIELD VEHICLE ACCESSIBLE YES NO

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input checked="" type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

↳ cut ↳ overgrown

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 47



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerracorp.com

MULTI METER TYPE/S#: _____
TURBIDITY METER TYPE/S# _____

WELL ID: MW-20
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: 27.98 (FT)
DEPTH TO WATER: 10.52 (FT)

PUMP/TUBING INTAKE DEPTH: _____ (FT)
START PURGE DATE: 3/20/19
END PURGE DATE: 3/20/19
TOTAL VOLUME PURGED: _____ (X.XX GAL)
SAMPLE DATE: _____

START PURGE TIME: 1110
END PURGE TIME: _____
FINAL READING TIME: _____
SAMPLE COLLECTION TIME: _____

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
* NO Readings/Sample => NAPL Encountered										

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ S ₂ O ₅	METHANOL	INH ₂ SO ₄
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE										✓							
TOTAL ORGANIC CARBON											✓						
F, CL, SO ₄										✓							
TDS										✓							
TSS										✓							
CHROMIUM (VI)																	✓
RADIUM													✓				

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

ALL SAMPLES ON ICE YES

FIELD VEHICLE ACCESSIBLE YES NO

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input type="checkbox"/> GOOD	<input checked="" type="checkbox"/> BAD	<input checked="" type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

↳ Cut

↳ overgrown

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KNF, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 40

MULTI METER TYPE/S#: YSI 146101972

TUBIDITY METER TYPE/S# Hach 12050C017383



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerracorp.com

WELL ID: MW-21
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: _____ (FT)
DEPTH TO WATER: 10.73 (FT)

PUMP/TUBING INTAKE DEPTH: 12.5 (FT)
START PURGE DATE: 3/20/19
END PURGE DATE: 3/20/19
TOTAL VOLUME PURGED: 1.5 (X.XX GAL)
SAMPLE DATE: 3/20/19

START PURGE TIME: 1003
END PURGE TIME: 1019
FINAL READING TIME: 1019
SAMPLE COLLECTION TIME: 1019

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1004	10.82	200	11.8 ^{RP}	2.10	476	6.83	31.6 ^{RP}	NA	Clear w/	white + black fines
1007	10.82	200	12.	2.19	458	6.83	54.2 ^{RP}	NA	-	"
1010	10.82	200	12	1.10	430	6.86	59.	NA	-	"
1013	10.82	200	12	0.86	426	6.86	60	NA	Clear,	minor/smaller black fines
1016	10.82	200	12	0.80	429	6.86	63.4	NA	-	"
1019	10.82	200	12	0.75	432	6.85	69	NA	-	"
1025								3.11	→ clear,	minor fines

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H2SO4	HNO3	HCL	NaOH	Na2SO4	METHANOL	(NH4)2SO4
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE										✓							
TOTAL ORGANIC CARBON											✓						
F, CL, SO4										✓							
TDS										✓							
TSS										✓							
CHROMIUM (VI)																	✓
RADIUM													✓				

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

FIELD VEHICLE ACCESSIBLE YES NO

*turbidity meter error (NA) → lamp error

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO

If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.
* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input type="checkbox"/> GOOD	<input checked="" type="checkbox"/> BAD	<input checked="" type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

↳ overgrown

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF, BJS



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 49

MULTI METER TYPE/S#: YSI 17F104348

TUBIDITY METER TYPE/S# HACH 15090C043415

WELL ID: MW-22
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: 8.21 (FT)
DEPTH TO WATER: 35.12 (FT)

PUMP/TUBING INTAKE DEPTH: ~30 (FT) START PURGE TIME: 1020
START PURGE DATE: 3/21/19 END PURGE TIME: 1037
END PURGE DATE: 3/21/19 FINAL READING TIME: 1037
TOTAL VOLUME PURGED: 0.75 (X.XX GAL) SAMPLE COLLECTION TIME: 1037
SAMPLE DATE: 3/21/19

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1022	8.52	310	14	3.98	193.4	5.93	74	17.9	Clear w/ gray fines	
1025	8.75	200	16	2.50	196	5.87	114	27.2	Clear w/ fines + floc	
1028	8.75	150	16	2.20	197	5.87	133	35.5	"	"
1031	8.75	150	16	1.96	197	5.86	146	21.6	"	"
1034	8.75	150	16	1.93	197	5.87	150	29.7	"	"
1037	8.75	150	16	1.96	197	5.87	157	21.7	"	"

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION									
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml Plastic	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H2SO4	HNO3	HCL	NaOH	Na2S2O8	METHANOL	(NH4)2SO4	
METALS																		
SULFIDE																		
ALKALINITY, BICARBONATE, CARBONATE																		
TOTAL ORGANIC CARBON																		
F, CL, SO4																		
TDS																		
TSS																		
CHROMIUM (VI)																		
RADIUM																		

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO ³ ALL SAMPLES ON ICE YES
 IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
 IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:
 FIELD VEHICLE ACCESSIBLE YES NO

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
 If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
 To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG	PROTECTIVE CASING	LOCK	CAP	CONCRETE PAD
<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> BAD <input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> BAD <input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> BAD <input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> BAD <input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD <input type="checkbox"/> BAD <input type="checkbox"/> NONE

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 48



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

MULTI METER TYPE/S#: YSI 17F104348
TURBIDITY METER TYPE/S#: HACH 15090C043415

WELL ID: MW-25R PUMP/TUBING INTAKE DEPTH: ~10ft (FT) START PURGE TIME: 0909
MEASURING POINT: TOC START PURGE DATE: 3/21/19 END PURGE TIME: 0922
WELL DIAMETER: 2 (IN) END PURGE DATE: 3/21/19 FINAL READING TIME: 0922
WELL DEPTH: 16.38 (FT) TOTAL VOLUME PURGED: 0.75 (X.XX GAL)
DEPTH TO WATER: 2.46 (FT) SAMPLE DATE: 3/21/19 SAMPLE COLLECTION TIME: 0922

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
0910	2.95	300	14	1.70	191	6.15	146	22.2	Clear w/ Floc	
0913	2.82	200	14	0.80	191	6.13	92	20.2	"	"
0916	2.82	200	15	0.51	190	6.12	86	16.5	"	"
0919	2.82	200	15	0.44	191	6.12	81	18.3	"	"
0922	2.82	200	15	0.46	191	6.12	80	18.9	"	"

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ SO ₄	METHANOL	(NH ₄) ₂ SO ₄
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE																	
TOTAL ORGANIC CARBON																	
F, CL, SO ₄																	
TDS																	
TSS																	
CHROMIUM (VI)																	
RADIUM																	

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO ?
IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

ALL SAMPLES ON ICE YES

FIELD VEHICLE ACCESSIBLE YES NO → school, check in @ front desk

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 55

MULTI METER TYPE/S#: YSI 17F104348

TUBIDITY METER TYPE/S#: HACh 15090C043415



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

WELL ID: MW-26 PUMP/TUBING INTAKE DEPTH: ~55 (FT) START PURGE TIME: 1615
 MEASURING POINT: TOC START PURGE DATE: 3/22/19 END PURGE TIME: 1634
 WELL DIAMETER: 2 (IN) END PURGE DATE: 3/21/19 FINAL READING TIME: 1634
 WELL DEPTH: 58.40 (FT) TOTAL VOLUME PURGED: 0.50 (X.XX GAL)
 DEPTH TO WATER: 4.19 (FT) 4.45 SAMPLE DATE: 3/21/19 SAMPLE COLLECTION TIME: 1634

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor
 SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # ml/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1619	5.40	0.01 320	16	1.92	327	7.26	334	20.3	clear w/ fines	
1622	5.50	175	16	1.55	315	7.43	338	12.9	"	"
1625	5.53	175	16	1.47	316	7.27	338	15.2	"	"
1628	5.54	175	16	1.38	324	7.49	331	13.8	"	"
1631	5.54	175	16	1.44	326	7.48	330	10.1	"	"
1634	5.54	175	16	1.40	325	7.48	328	6.09	"	"

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION									
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ SO ₄	METHANOL	(NH ₄) ₂ SO ₄	
METALS																		
SULFIDE																		
ALKALINITY, BICARBONATE, CARBONATE																		
TOTAL ORGANIC CARBON																		
F, Cl, SO ₄																		
TDS																		
TSS																		
CHROMIUM (VI)																		
RADIUM																		

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
 IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
 IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:
 FIELD VEHICLE ACCESSIBLE YES NO
 ALL SAMPLES ON ICE YES

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
 If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
 To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

GROUNDWATER MONITORING

DUKE ENERGY PROGRESS, LLC

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 55

MULTI METER TYPE/S#: YSI 17F104348

TUBITIDY METER TYPE/S# HACH 15090C043415



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

WELL ID: MW-27
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: 38.62 (FT)
DEPTH TO WATER: 4.19 (FT)

PUMP/TUBING INTAKE DEPTH: 33 (FT) START PURGE TIME: 1547
START PURGE DATE: 3/21/19 END PURGE TIME: 1605
END PURGE DATE: 3/21/19 FINAL READING TIME: 1605
TOTAL VOLUME PURGED: 0.50 (GAL) 0.25
SAMPLE DATE: 3/21/19 SAMPLE COLLECTION TIME: 1605

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1550	4.24	300	15.7	2.92	62	5.44	274	98.3	Cloudy	
1553	4.26	300	16	1.10	61	5.38	274	70.3	Cloudy	
1556	4.26	300	17	0.87	60	5.38	272	46.6	-	"
1559	4.26	300	17	0.68	60	5.35	270	36.2	-	"
1602	4.26	300	17	0.62	59	5.35	268	35.8	-	"
1605	4.26	300	17	0.61	59	5.33	266	26.0	18.9	"
								9.99		

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ SO ₄	METHANOL	(NH ₄) ₂ SO ₄
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE																	
TOTAL ORGANIC CARBON																	
F, CL, SO ₄																	
TDS																	
TSS																	
CHROMIUM (VI)																	
RADIUM																	

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

ALL SAMPLES ON ICE YES

FIELD VEHICLE ACCESSIBLE YES NO

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
If NO, which parameter _____ NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 45

MULTI METER TYPE/S#: YSI 17F104348

TUBIDITY METER TYPE/S#: HACH 15090C0 43415



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

WELL ID: MW-28
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: 44.57 (FT)
DEPTH TO WATER: 4.53 (FT)

PUMP/TUBING INTAKE DEPTH: ~40 (FT)
START PURGE DATE: 3/22/19
END PURGE DATE: 3/22/19
TOTAL VOLUME PURGED: 0.75 (X.XX GAL)
SAMPLE DATE: 3/22/19

START PURGE TIME: 1023
END PURGE TIME: 1042
FINAL READING TIME: 1042
SAMPLE COLLECTION TIME: 1042

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1024	5.50	350	14	3.01	194	6.52	257	60.8	Clear w/ fines	
1027	6.34	220	15	2.55	203	6.44	233	11.4	"	"
1030	6.68	150	15	2.30	205	6.42	229	17.4	" + floc	
1033	6.79	100	15	2.03	205	6.41	225	26.6	"	
1036	6.82	100	15	2.00	205	6.41	222	26.0	"	
1039	6.85	100	15	1.94	205	6.40	220	25.7	"	
1042	6.86	100	15	1.90	206	6.40	219	20.0	"	

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION									
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ SO ₄	METHANOL	(NH ₄) ₂ SO ₄	
METALS												<input checked="" type="checkbox"/>						
SULFIDE															<input checked="" type="checkbox"/>			
ALKALINITY, BICARBONATE, CARBONATE										<input checked="" type="checkbox"/>								
TOTAL ORGANIC CARBON											<input checked="" type="checkbox"/>							
F, Cl, SO ₄										<input checked="" type="checkbox"/>								
TDS										<input checked="" type="checkbox"/>								
TSS										<input checked="" type="checkbox"/>								
CHROMIUM (VI)																		<input checked="" type="checkbox"/>
RADIUM												<input checked="" type="checkbox"/>						

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO 7 metals ALL SAMPLES ON ICE YES
IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

FIELD VEHICLE ACCESSIBLE YES NO

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

Site: Bramble#

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF, BJS



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 55

MULTI METER TYPE/S#: YSI 17F104348
TURBIDITY METER TYPE/S#: HACH 15090C043415

WELL ID: MW-295 PUMP/TUBING INTAKE DEPTH: _____ (FT) START PURGE TIME: 1445
MEASURING POINT: TOC START PURGE DATE: 3/21/19 END PURGE TIME: 1458
WELL DIAMETER: 2 (IN) END PURGE DATE: 3/21/19 FINAL READING TIME: 1458
WELL DEPTH: 17.79 (FT) TOTAL VOLUME PURGED: 0.50 (X.XX GAL)
DEPTH TO WATER: 7.45 (FT) SAMPLE DATE: 3/21/19 SAMPLE COLLECTION TIME: 1458

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1446	7.57	175	15	1.86	383	6.87	129	5.23	Clear	-Some petcoator
1449	7.59	175	14	0.77	721	6.89	77	4.38	"	"
1452	7.59	175	14	0.44	719	6.91	39	4.66	"	" - minor
1455	7.59	175	14	0.40	720	6.91	30	5.10	"	" color
1458	7.59	175	14	0.37	721	6.91	28	9.22	"	"

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION									
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H2SO4	HNO3	HCL	NaOH	Na2S2O8	METHANOL	(NH4)2SO4	
METALS																		
SULFIDE																		
ALKALINITY, BICARBONATE, CARBONATE																		
TOTAL ORGANIC CARBON																		
F, CL, SO4																		
TDS																		
TSS																		
CHROMIUM (VI)																		
RADIUM																		

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
 IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
 IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:
 FIELD VEHICLE ACCESSIBLE YES NO
 ALL SAMPLES ON ICE YES

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
 If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
 To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input checked="" type="checkbox"/> NONE

Site: Bramble

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF, BJS



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 55

MULTI METER TYPE/S#: YSI 17F104348

TURBIDITY METER TYPE/S#: HACH 15090 CO 43415

WELL ID: MW-2972 PUMP/TUBING INTAKE DEPTH: ~ 30 (FT) START PURGE TIME: 1423
 MEASURING POINT: TOC START PURGE DATE: 3/21/19 END PURGE TIME: 1442
 WELL DIAMETER: 2 (IN) END PURGE DATE: 3/21/19 FINAL READING TIME: 1442
 WELL DEPTH: 34.00 (FT) TOTAL VOLUME PURGED: 0.50 (X.XX GAL)
 DEPTH TO WATER: 8.04 (FT) SAMPLE DATE: 3/21/19 SAMPLE COLLECTION TIME: 1442
 PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor
 SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)									
1424	8.21	8.21 @ 300	16.2	2.00	453	6.74	192	241	Cloudy	Strong petro odor
1427	8.70	175	16	1.66	390	6.63	162	119	"	"
1430	8.40	150	17	1.76	372	6.57	154	90.2	"	"
1433	8.60	100	17	1.80	362	6.53	151	34.9	"	"
1436	8.67	100	17	1.72	366	6.53	152	34.2	"	"
1439	8.70	100	17	1.70	368	6.53	151	50.6	"	"
1442	8.72	100	17	1.70	370	6.53	150	56.2	"	"

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ SO ₄	METHANOL	(NH ₄) ₂ SO ₄
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE																	
TOTAL ORGANIC CARBON																	
F, Cl, SO ₄																	
TDS																	
TSS																	
CHROMIUM (VI)																	
RADIUM																	

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
 IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
 IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:
 FIELD VEHICLE ACCESSIBLE YES NO
 ALL SAMPLES ON ICE YES

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
 If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
 To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input checked="" type="checkbox"/> NONE

Site: Bramlette

LOW FLOW SAMPLING LOG



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

FIELD PERSONNEL: KDF, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 50

MULTI METER TYPE/S#: YSI 17F104348

TUBITIDY METER TYPE/S# HACH 15090C043415

WELL ID: MW-30S
MEASURING POINT: TOC
WELL DIAMETER: 2 (IN)
WELL DEPTH: 19.90 (FT)
DEPTH TO WATER: 12.03 (FT)

PUMP/TUBING INTAKE DEPTH: ~18.0 (FT) ^{pull up to}
START PURGE DATE: 3/21/19
END PURGE DATE: 3/21/19
TOTAL VOLUME PURGED: 0.50 GAL ^{0.75}
SAMPLE DATE: 3/21/19
START PURGE TIME: 13.35
END PURGE TIME: 13.52
FINAL READING TIME: 13.52
SAMPLE COLLECTION TIME: 13.52

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor
SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor

1346

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1337	12.09	310	15	8.44	120	6.50	173	71000	Very Cloudy, reddish	
1340	12.09	310	15	2.18	228	6.29	172	101	Cloudy w/fine mud	
1343	12.09	310	15	1.48	237	6.32	148	70.1	"	"
1346	12.09	310	15	1.40	240	6.34	125	40.5	"	"
1349	12.09	310	15	1.38	251	6.34	115	25.6	Clearer, flock	
1352	12.09	310	15	1.20	254	6.34	109	22.3	"	"

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ S ₂ O ₈	METHANOL	(NH ₄) ₂ SO ₄
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE																	
TOTAL ORGANIC CARBON																	
F, CL, SO ₄																	
TDS																	
TSS																	
CHROMIUM (VI)																	
RADIUM																	

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO - ALL SAMPLES ON ICE YES
IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

FIELD VEHICLE ACCESSIBLE YES NO → SWAMP RABBIT → too narrow

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

Site: Bramlette

LOW FLOW SAMPLING LOG

FIELD PERSONNEL: KDF, BJS



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 50

MULTI METER TYPE/S#: YSI 17F104348

TURBIDITY METER TYPE/S#: HACH 15090C043415

WELL ID: MW-315 PUMP/TUBING INTAKE DEPTH: 12.0 (FT) START PURGE TIME: 1222
 MEASURING POINT: TOC START PURGE DATE: 3/21/19 END PURGE TIME: 1245
 WELL DIAMETER: 2 (IN) END PURGE DATE: 3/21/19 FINAL READING TIME: 1245
 WELL DEPTH: 13.10 (FT) TOTAL VOLUME PURGED: 0.5 (X.XX GAL)
 DEPTH TO WATER: 13.10 (FT) SAMPLE DATE: 3/21/19 SAMPLE COLLECTION TIME: 1245

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor
 SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailor Polyethylene Bailor

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1230	13.10	125	16.0	0.87	254	6.17	49.9	17.4	Clear	
1233	13.14	125	16.1	0.56	249	6.17	39.4	9.7	Clear	
1236	13.15	125	16.2	0.41	247	6.17	36	8.8	Clear	
1239	13.16	125	16.2	0.27	245	6.17	37	8.9	Clear	
1242	13.16	125	16.2	0.26	245	6.17	37	9.8	Clear	
1245	13.15	125	16.2	0.24	245	6.17	37	9.2	Clear	

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION								
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ SO ₄	METHANOL	(NH ₄) ₂ SO ₄
METALS																	
SULFIDE																	
ALKALINITY, BICARBONATE, CARBONATE																	
TOTAL ORGANIC CARBON																	
F, CL, SO ₄																	
TDS																	
TSS																	
CHROMIUM (VI)																	
RADIUM																	

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO
 IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
 IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

ALL SAMPLES ON ICE YES

FIELD VEHICLE ACCESSIBLE YES NO - SWAMP RABBIT trail - use caution

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
 If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
 To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

Site: Bramlette

LOW FLOW SAMPLING LOG



148 River Street, Suite 220
Greenville, South Carolina 29601
(864) 421-9999 • (864) 421-9909 Fax
www.synTerraCorp.com

FIELD PERSONNEL: KDF, BJS

WEATHER: SUNNY OVERCAST RAIN TEMPERATURE (APPROX): 50

MULTI METER TYPE/S#: YSI 17F104348

TUBITIDY METER TYPE/S#: HACH 15090C043415

WELL ID: MW-31 T2 PUMP/TUBING INTAKE DEPTH: _____ (FT) START PURGE TIME: 1253
 MEASURING POINT: TOC START PURGE DATE: 3/21/19 END PURGE TIME: 1309
 WELL DIAMETER: 2 (IN) END PURGE DATE: 3/21/19 FINAL READING TIME: 1309
 WELL DEPTH: 37.85 (FT) TOTAL VOLUME PURGED: 0.25 (X.XX GAL)
 DEPTH TO WATER: 13.48 (FT) SAMPLE DATE: 3/21/19 SAMPLE COLLECTION TIME: 1309

PURGE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer
 SAMPLE METHOD: Grundfos Pump 12 Volt Pump Peristaltic Pump Dedicated Pump Teflon Bailer Polyethylene Bailer

TIME	WATER LEVEL	FLOW RATE	TEMPERATURE	DO	CONDUCTANCE	pH	ORP*	TURBIDITY*	OBSERVATION	NOTES
	(X.XX FT)	(Whole # mL/min)	(Whole # ° Celsius)	(X.XX mg/L)	(Whole # µS/cm)	(X.XX su)	(Whole # mV)	(X.X NTU)	Clear, Cloudy, w/Floc, w/Fines	
1254	13.80	220	15.8	8.46	76.4	6.49	25	47.7	Clear w/ some floc	
1257	13.85	150	16	0.166	313	6.40	44	32.2	"	
1300	13.85	150	17	0.38	315	6.38	45	24.3	"	
1303	13.85	150	17	0.39	314	6.38	46	104	"	
1306	13.85	150	17	0.40	314	6.38	46	106	"	Low conductivity, slightly
1309	13.85	150	17	0.39	314	6.38	47	90	"	

CONSTITUENTS SAMPLED	NUMBER OF CONTAINERS								PRESERVATION									
	40 ml VOA	125 ml POLY	250 ml POLY	300 ml POLY	500 ml POLY	500 ml PLASTIC	1000 ml POLY	2000 ml POLY	1 GALLON	NONE	H ₂ SO ₄	HNO ₃	HCL	NaOH	Na ₂ S ₂ O ₈	METHANOL	(NH ₄) ₂ SO ₄	
METALS																		
SULFIDE																		
ALKALINITY, BICARBONATE, CARBONATE																		
TOTAL ORGANIC CARBON																		
F, Cl, SO ₄																		
TDS																		
TSS																		
CHROMIUM (VI)																		
RADIUM																		

COMMENTS: IF TURBIDITY >10 NTUS, REDEVELOPMENT NEEDED YES NO ALL SAMPLES ON ICE YES
 IF YES, OBSERVATIONS FOLLOWING LOWERING OF TUBING OR PUMP IN WELL:
 IF NO, PROVIDE OBSERVATIONS REGARDING NATURAL CONDITIONS:

FIELD VEHICLE ACCESSIBLE YES NO - SWAMP RABBIT trail - use caution

Associated midday/end-of-day DO, conductivity, pH within range? (See calibration sheet for this sample date) YES NO.
 If NO, which parameter _____ . NOTE that reported data should be considered as flagged accordingly.

* SynTerra is not NC-certified for these parameters. Data collected for information purposes only.
 To convert ORP to Eh using YSI Professional Plus Multi-Meter, add 205 mV.

WELL TAG			PROTECTIVE CASING			LOCK			CAP			CONCRETE PAD		
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE	<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> BAD	<input type="checkbox"/> NONE

ATTACHMENT E
IDW PICKUP DETAILS AND MANIFESTS

IDW Pickup Details

Quarterly Progress Report - First Quarter 2019 Former Bramlette Manufactured Gas Plant Greenville, South Carolina VCC 16-5857-RP

Pickup Date	Drums		
	Solids	Liquids	Total
2/27/2019	3	4	7
3/13/2019	1	1	2
3/20/2019	7	6	13
4/5/2019*	14	19	33

Prepared by: MSM

Checked by: TCK

Notes:

Solids = Drill Cuttings

Liquids = Decontamination Fluids, Development Water, and/or Purge Water

* Pickup occurred outside reporting period; however, IDW generated during first quarter of 2019 and included for completeness



NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

2. Page 1 of

3. Emergency Response Phone

4. Waste Tracking Number

VLS378112326

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

Duke Energy Carolinas, LLC
400 East Bramlett Rd
Greenville, SC 29601

620 Systems

Generator's Phone:

6. Transporter 1 Company Name

U.S. EPA ID Number

NuEarth, LLC

SCR000779454

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

U.S. EPA ID Number

VLS Recovery Services, LLC
371 S Main St
Mauldin, SC 29662

SCR000762458

Facility's Phone: 854-952-9953

9. Waste Shipping Name and Description

10. Containers

11. Total Quantity

12. Unit Wt./Vol.

No.

Type

1. Non-Hazardous | Non-Regulated
Profile# 25038 | Soil Cuttings

3

DM

2. Non-Hazardous | Non-Regulated
Profile# 25039 | Ground & Decontamination Water

4

DM

3.

6

4.

13. Special Handling Instructions and Additional Information

Wednesday, 02.27.2019 ***LTL***

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name

Signature

Month Day Year

2 27 19

15. International Shipments

Import to U.S.

Export from U.S.

Port of entry/exit:

Transporter Signature (for exports only):

Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name

Signature

Month Day Year

2 27 19

Transporter 2 Printed/Typed Name

Signature

Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space

Quantity

Type

Residue

Partial Rejection

Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name

Signature

Month Day Year

GENERATOR

TRANSPORTER INT'L

DESIGNATED FACILITY



NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
-------------------------------------	------------------------	--------------	-----------------------------	--------------------------

5. Generator's Name and Mailing Address Duke Energy Carolinas, LLC 400 East Bramlett Rd Greenville, SC 29601	Generator's Site Address (if different than mailing address) c/o Synterra
---	--

6. Transporter 1 Company Name NuEarth, LLC	U.S. EPA ID Number SCR000779454
---	--

7. Transporter 2 Company Name	U.S. EPA ID Number
-------------------------------	--------------------

8. Designated Facility Name and Site Address VLS Recovery Services, LLC 305 S Main St Mauldin, SC 29662	U.S. EPA ID Number SCR000752458
--	--

Facility's Phone: 854-962-9953

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.
	No.	Type		
1. Non-Hazardous Non-Regulated Profile# 25038 Soil Cuttings	1	DM		G
2. Non-Hazardous Non-Regulated Profile# 25039 Ground & Decontamination Water	1	DM		
3.				
4.				

13. Special Handling Instructions and Additional Information
 Wednesday, 03.13.2019 ***LTL***
 Contact: Tom King | 803.429.3668 ***Call 10 minutes prior to arriving***

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offoror's Printed/Typed Name <i>Tom King</i>	Signature <i>[Signature]</i>	Month Day Year <i>3 13 19</i>
---	---------------------------------	--------------------------------------

INT'L

15. International Shipments	<input checked="" type="checkbox"/> Import to U.S.	<input type="checkbox"/> Export from U.S.	Port of entry/exit:
Transporter Signature (for exports only):	Date leaving U.S.:		

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials			
Transporter 1 Printed/Typed Name <i>[Signature]</i>	Signature <i>[Signature]</i>	Month	Day Year
Transporter 2 Printed/Typed Name	Signature	Month	Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space

Quantity Type Residue Partial Rejection Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)	U.S. EPA ID Number
--	--------------------

17c. Signature of Alternate Facility (or Generator)	Month Day Year
---	----------------

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a			
Printed/Typed Name	Signature	Month	Day Year



NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

2. Page 1 of

3. Emergency Response Phone

4. Waste Tracking Number

VLS312N12639

5. Generator's Name and Mailing Address: Duke Energy Carolinas, LLC -
400 East Bramlett Rd
Greenville, SC 29601

Generator's Site Address (if different than mailing address)

c/o Synterra

Generator's Phone:

6. Transporter 1 Company Name: NuEarth, LLC

U.S. EPA ID Number: SC R000779454

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address: VLS Recovery Services, LLC
305 S Main St
Mauldin, SC 29662

U.S. EPA ID Number: SC R000762458

654-962-9953

Facility's Phone:

9. Waste Shipping Name and Description

Non-Hazardous | Non-Regulated

10. Containers

11. Total Quantity

12. Unit Wt./Vol.

No.

Type

1. Profile# 25036 | Soil Cuttings

7

DM

Non-Hazardous | Non-Regulated

2. Profile# 25039 | Ground & Decontamination Water

6

3.

4.

13. Special Handling Instructions and Additional Information

Contact: Tom King | 803.429.3658 ***Call 20 minutes prior to arrivals***

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offoror's Printed/Typed Name

Signature

Month Day Year

Tom King

[Signature]

3 20 19

INT'L

15. International Shipments

Import to U.S.

Export from U.S.

Port of entry/exit:

Date leaving U.S.:

Transporter Signature (for exports only):

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name

Signature

Month Day Year

Lisa Marie Bonner

[Signature]

Transporter 2 Printed/Typed Name

Signature

Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space

Quantity

Type

Residue

Partial Rejection

Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name

Signature

Month Day Year



NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

2. Page 1 of

3. Emergency Response Phone

4. Waste Tracking Number *NC 531212829*

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

*Duke Energy Carolinas, LLC
400 East Bramlett Rd
Greenville, SC 29601*

c/o Synterra

Generator's Phone:

6. Transporter 1 Company Name *BlueEarth, LLC*

U.S. EPA ID Number *SCR000779454*

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

U.S. EPA ID Number *SCR000762468*

*VLS Recovery Services, LLC
305 S Main St
Mauldin, SC 29662*

Facility's Phone: *854-962-9953*

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.
	No.	Type		
1. <i>Non-Hazardous Non-Regulated Profile# 25035 Soil Cuttings</i>	<i>11</i>	<i>DM</i>	<i>820</i>	<i>G</i>
2. <i>Non-Hazardous Non-Regulated Profile# 25039 Ground & Decontamination Water</i>	<i>19</i>	<i>DM</i>	<i>1140</i>	
3.				
4.				

13. Special Handling Instructions and Additional Information

*Wednesday, 04/03/2019 ***LTL****

*Contact: Tom King | 803 429 3553 ***Call 30 minutes prior to airfreight****

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offoror's Printed/Typed Name *Tom King*

Signature *[Signature]*

Month *4* Day *3* Year *19*

15. International Shipments Import to U.S. Export from U.S.

Port of entry/exit: _____ Date leaving U.S.: _____

Transporter Signature (for exports only): _____

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name *Donald W. Bink*

Signature *[Signature]*

Month *4* Day *3* Year *19*

Transporter 2 Printed/Typed Name _____

Signature _____

Month _____ Day _____ Year _____

17. Discrepancy

17a. Discrepancy Indication Space Quantity Type Residue Partial Rejection Full Rejection

Manifest Reference Number: _____

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone: _____

17c. Signature of Alternate Facility (or Generator)

Month _____ Day _____ Year _____

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name _____

Signature _____

Month _____ Day _____ Year _____

ATTACHMENT F
MONITORING WELL RECORDS



July 19, 2018

Richard Powell
Duke Energy Carolinas
526 S Church St
Charlotte NC 28202

RE: CSXT Bramlette Road Site
SCDHEC Monitoring Well Approval MW-11615
Greenville County

Dear Mr. Powell:

The Division of Site Assessment, Remediation and Revitalization has reviewed the request to install up to 8 permanent groundwater monitoring wells at the CSXT Bramlette Road Site as described in the Monitoring Well Application received on July 18, 2018.

Based on this review, approval for installation is granted under R.61-71 of the South Carolina Well Standards and Regulations. Once data is received, a report should be sent to the Department summarizing the recent work. Should you have any questions regarding the above, you may contact me at (803) 898-0910.

Sincerely,

A handwritten signature in black ink, appearing to read "Greg Cassley", is written over the typed name.

Greg Cassley, Project Manager
State Remediation Section
Division of Site Assessment, Remediation and Revitalization
Bureau of Land and Waste Management

cc: Natalie Kirkpatrick, Upstate EA Region
Corey League, PG, ERM NC Inc., 15720 Brixham Hill Ave #120, Charlotte NC 28277
File # 400801

Monitoring Well Approval

Approval is hereby granted to: Richard Powell, Duke Energy Carolinas
Facility: CSXT Bramlette Road Site
Greenville County

This approval is for the installation of up to 8 groundwater monitoring wells. The monitoring wells are to be installed in the areas described by ERM NC Inc. and per the proposed construction details provided in the request. The monitoring wells are to be installed following all of the applicable requirements of R.61-71.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All wells shall be properly developed per R.61-71.H.2.d. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted within 30 days after well completion or abandonment unless the Department has approved another schedule. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
3. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.
4. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
5. All soil borings points that penetrate any confining unit must be grouted in accordance with R. 61-71.
6. If any of the information provided to the Department changes, the Author (Greg Cassidy) shall be notified a minimum of twenty-four hours prior to well construction as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated May 27, 2016.

Date of Issuance: 07/19/2018

Approval #: MW-11615


Greg Cassidy, Project Manager
State Remediation Section

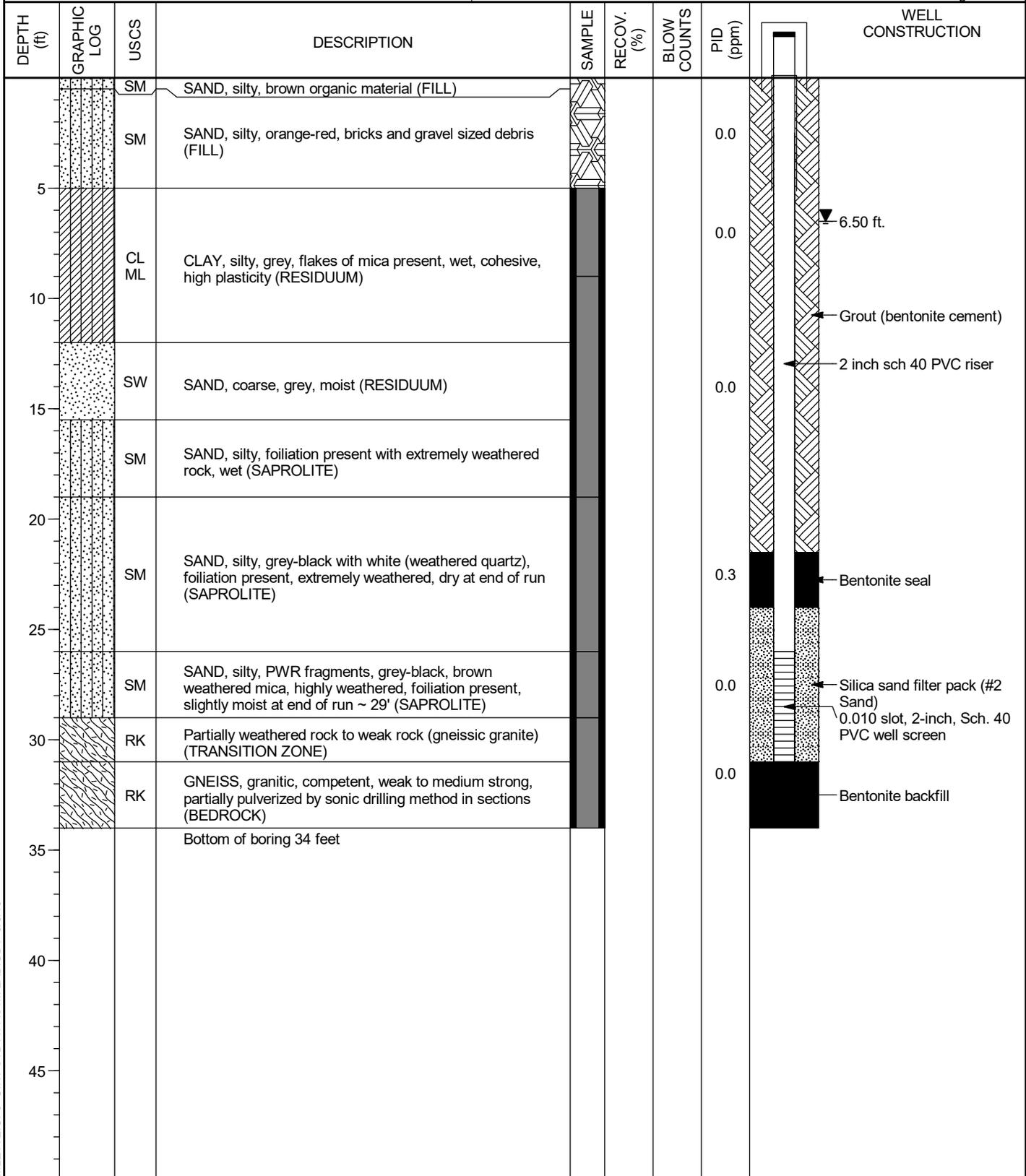
Division of Site Assessment, Remediation and Revitalization
Bureau of Land and Waste Management

PROJECT: Bramlette Road MGP Site	WELL / BORING NO: MW-29S
PROJECT NO: 1026.800	STARTED: 2/22/19 COMPLETED: 2/22/19
DRILLING COMPANY: Cascade Drilling	NORTHING: EASTING:
DRILLING METHOD: Rotary Sonic	G.S. ELEV: TBD ft M.P. ELEV: TBD ft
BOREHOLE DIAMETER: 6 IN	DEPTH TO WATER: 6.51 ft TOC TOTAL DEPTH: 15.0 ft BGS
NOTES: Well Permit #MW-11615	LOGGED BY: T. King CHECKED BY: T. Plating

DEPTH (ft)	GRAPHIC LOG	USCS	DESCRIPTION	SAMPLE	RECOV. (%)	BLOW COUNTS	PID (ppm)	WELL CONSTRUCTION
0 - 1.5	[Dotted pattern]	SM	SAND, silty, brown organic material (FILL)					Grout (cement)
1.5 - 5.0	[Dotted pattern]	SM	SAND, silty, orange-red, bricks and gravel sized debris (FILL)					2 inch sch 40 PVC riser Bentonite seal
5.0 - 11.5	[Diagonal hatching]	CL ML	CLAY, silty, grey, flakes of mica present, wet, cohesive, high plasticity (RESIDUUM)					6.51 ft.
11.5 - 13.5	[Dotted pattern]	SW	SAND, coarse, grey, moist (RESIDUUM)					Silica sand filter pack (#2 Sand) 0.010 Slot, 2-inch, Sch. 40 PVC well screen
13.5 - 15.0			Bottom of boring 15 feet					

LOG.D. DEC BRAMLETTE.GPJ_GINT STD A4 ASTM LAB.GDT 3/8/19

PROJECT: Bramlette Road MGP Site	WELL / BORING NO: MW-29TZ
PROJECT NO: 1026.800	STARTED: 2/21/19 COMPLETED: 2/22/19
DRILLING COMPANY: Cascade Drilling	NORTHING: EASTING:
DRILLING METHOD: Rotary Sonic	G.S. ELEV: TBD ft M.P. ELEV: TBD ft
BOREHOLE DIAMETER: 6 IN	DEPTH TO WATER: 6.50 ft TOC TOTAL DEPTH: 31.0 ft BGS
NOTES: Well Permit #MW-11615	LOGGED BY: T. King CHECKED BY: T. Plating



LOG.D. DEC BRAMLETTE.GPJ GINT STD A4 ASTM LAB.GDT 3/8/19

PROJECT: Bramlette Road MGP Site	WELL / BORING NO: MW-03BR
PROJECT NO: 1026.800	STARTED: 3/27/19 COMPLETED: 4/1/19
DRILLING COMPANY: Cascade Drilling	NORTHING: EASTING:
DRILLING METHOD: Rotary Sonic	G.S. ELEV: TBD ft M.P. ELEV: TBD ft
BOREHOLE DIAMETER: 9.25, 6 IN	DEPTH TO WATER: 10.85 ft TOC TOTAL DEPTH: 64.5 ft BGS
NOTES: Well Permit #MW-11615	LOGGED BY: J. Conzelmann/T. King CHECKED BY: M. Mastbaum

DEPTH (ft)	GRAPHIC LOG	USCS	DESCRIPTION	SAMPLE	RECOV. (%)	BLOW COUNTS	PID (ppm)	WELL CONSTRUCTION
5			FILL; Lean clay with some silt; low plasticity; moist; few fine micaceous coarse sand; trace rootlets, brick, asphalt, and concrete debris; wet above 0.9'. No odor, no visual impacts.		60			
10			FILL; Wood debris; wet; dark gray; trace plastic debris. Light sheen, faint hydrocarbon odor.				3.8	
15			SAND; Gray, micaceous; fine-medium; poorly graded, medium dense; moist; interlayered with stiff lean clay, silt, and well graded coarse sand to gravel. 10.5-11' - trace NAPL coated seams (cm scale), hydrocarbon odors. 12-14.25' - seams of NAPL saturation, strong hydrocarbon odor. 14.25-16.2' - NAPL coated seams, hydrocarbon odor.		80		51.8	
20			SAPROLITE; Sandy; dark purple-gray, light gray banding; cohesive/brittle; micaceous; slightly moist. Faint hydrocarbon odor, no visual impacts.		100		25-35	
25			SAPROLITE; Sandy; dark purple-gray, light gray banding; cohesive/brittle; micaceous; slightly moist. No odors, no visual impacts.		100		41.8	
35			PWR; Dark gray/purple-gray, trace garnet, wet. Fractures observed at 43'. No odor, no visual impacts.		65			
45			GNEISS; Granitic; light gray with some garnet and trace greenish hue; interlayered weak to very strong rock. Fractures observed at 47' (iron oxide staining), 50', 52', 57.5' (green staining, rounded edges on fracture face), 63' (pyrite on fracture face). No odor, no visual impacts.		85			

← Grout (bentonite cement)
 ← 6.25" Sch 40 PVC surface casing
 ← 2 inch sch 40 PVC riser

LOG.D. DEC BRAMLETTE.GPJ_GINT STD A4 ASTM LAB.GDT 4/9/19

PROJECT: Bramlette Road MGP Site	WELL / BORING NO: MW-03BR
PROJECT NO: 1026.800	STARTED: 3/27/19 COMPLETED: 4/1/19
DRILLING COMPANY: Cascade Drilling	NORTHING: EASTING:
DRILLING METHOD: Rotary Sonic	G.S. ELEV: TBD ft M.P. ELEV: TBD ft
BOREHOLE DIAMETER: 9.25, 6 IN	DEPTH TO WATER: 10.85 ft TOC TOTAL DEPTH: 64.5 ft BGS
NOTES: Well Permit #MW-11615	LOGGED BY: J. Conzelmann/T. King CHECKED BY: M. Mastbaum

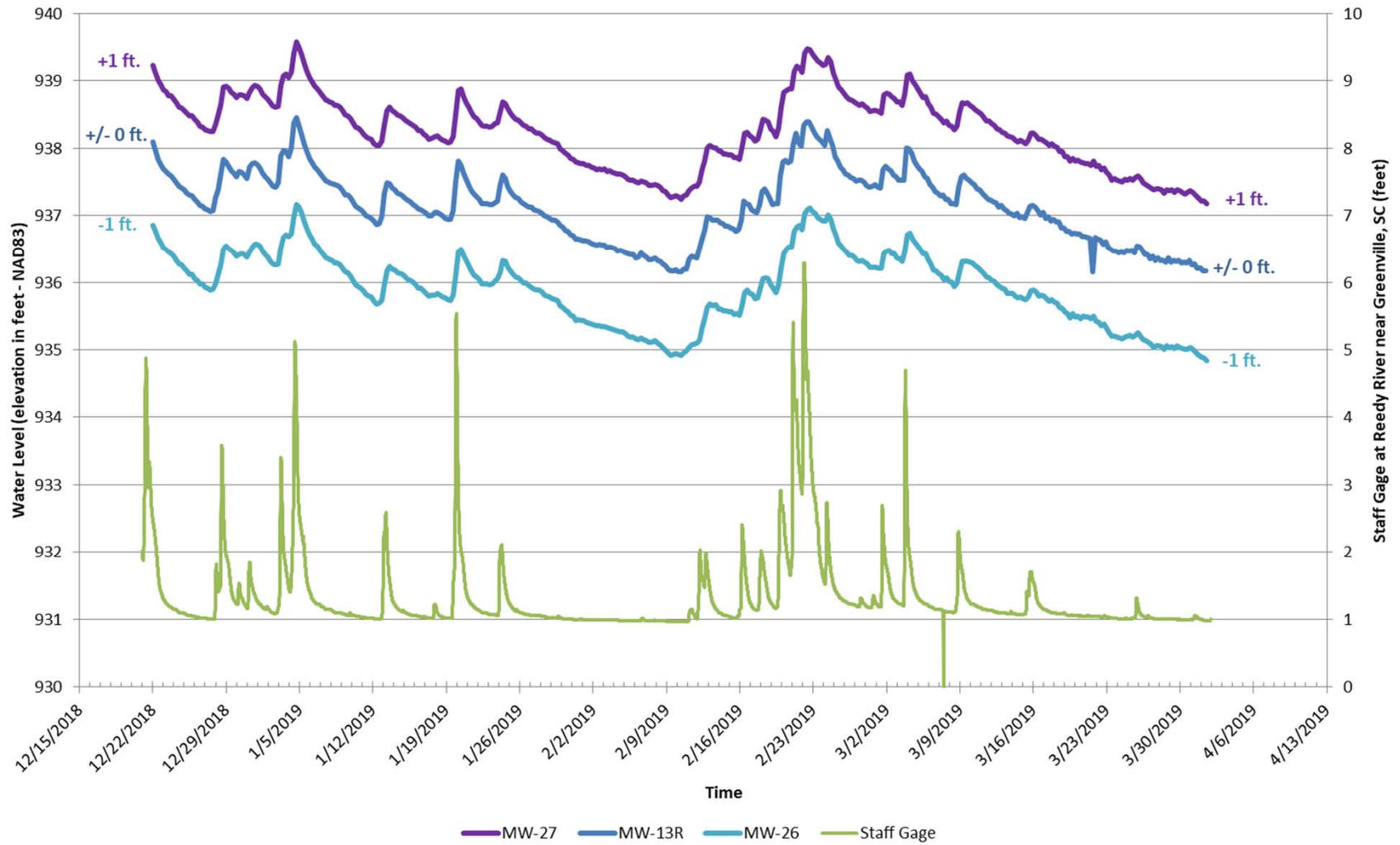
DEPTH (ft)	GRAPHIC LOG	USCS	DESCRIPTION	SAMPLE	RECOV. (%)	BLOW COUNTS	PID (ppm)	WELL CONSTRUCTION
55			GNEISS; Granitic; light gray with some garnet and trace greenish hue; interlayered weak to very strong rock. Fractures observed at 47' (iron oxide staining), 50', 52', 57.5' (green staining, rounded edges on fracture face), 63' (pyrite on fracture face). No odor, no visual impacts. <i>(continued)</i>		80			
60								
65			Bottom of boring 64.5 feet.					
70								
75								
80								
85								
90								
95								

LOG.D. DEC BRAMLETTE.GPJ_GINT STD A4 ASTM LAB.GDT 4/9/19

ATTACHMENT G
DHEC 1903 FORMS FOR SOIL BORINGS

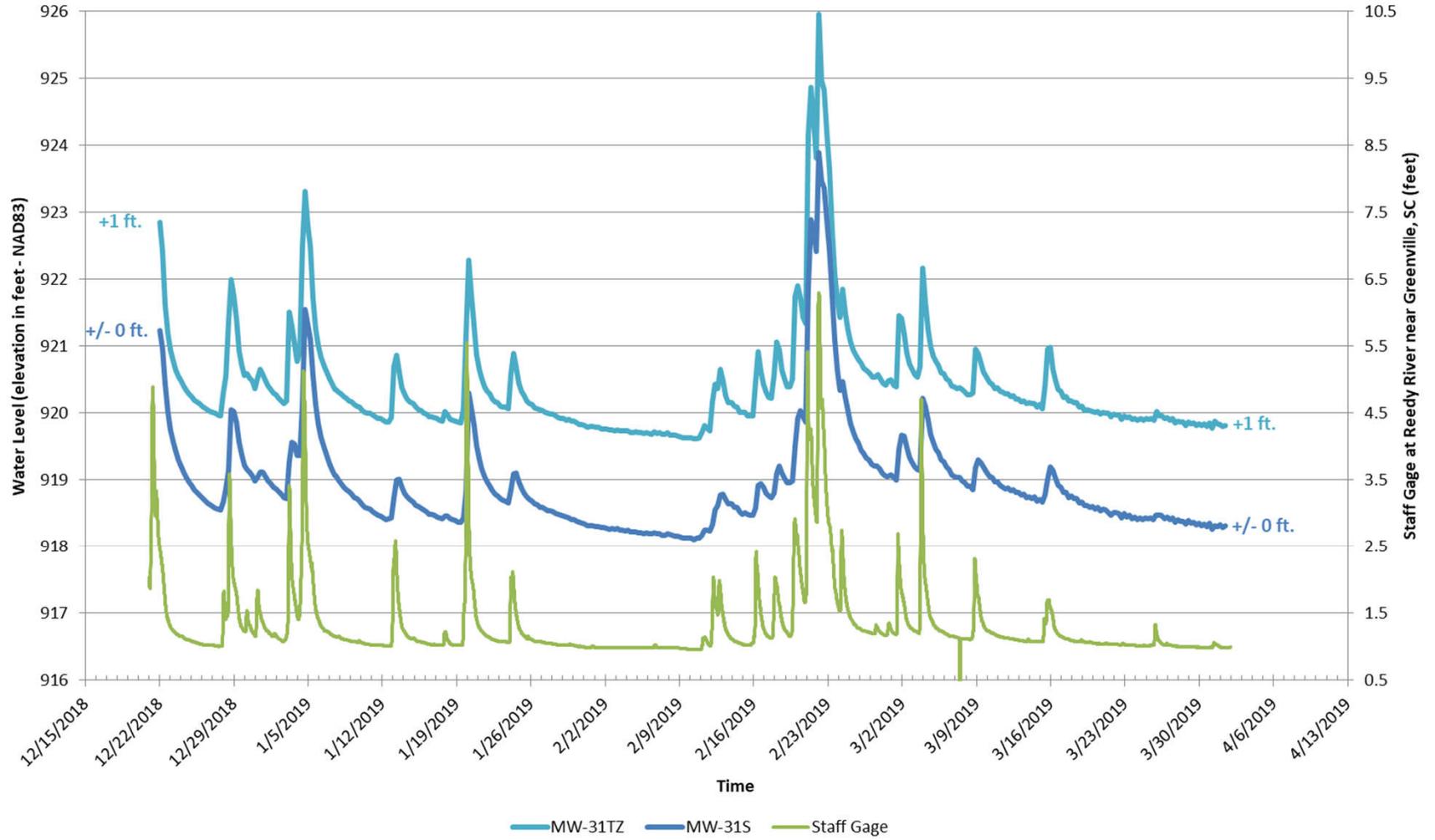
ATTACHMENT L
HYDROGRAPHS

Former MGP Site Cluster



	148 RIVER STREET, SUITE 220 GREENVILLE, SOUTH CAROLINA 29601 PHONE 864-421-9999 www.synterracorp.com	FORMER MGP SITE CLUSTER HYDROGRAPH FORMER BRAMLETTE MANUFACTURED GAS PLANT GREENVILLE, SC
	DRAWN BY: T KING DATE: APRIL 2019 PROJECT MANAGER: T PLATING LAYOUT:	
P:\Duke Energy Progress.1026102_Ashville Ash Basin GW Assessment Plan\50.EHS IAP Monitoring & Reporting\April 2018 Annual Report\Figures		

Reedy River Cluster



	148 RIVER STREET, SUITE 220 GREENVILLE, SOUTH CAROLINA 29601 PHONE 864-421-8999 www.synterracorp.com	REEDY RIVER CLUSTER HYDROGRAPH FORMER BRAMLETTE MANUFACTURED GAS PLANT GREENVILLE, SC
	DRAWN BY: T KING PROJECT MANAGER: T PLATING LAYOUT:	
<small>P:\Duke Energy Progress.1026102_Ashville Ash Basin GW Assessment Plan\50.EHS IAP Monitoring & Reporting\April 2018 Annual Report\Figures</small>		