ADDENDA LOG

Document: Permit Application
Brickhaven No. 2 Mine Tract "A" Structural Fill
Division of Waste Management

Date	No.	Section	Reference	Modification	Action Needed
12/8/2014	1	Facility Plan	§2.1.7, Appendices	updated TCLP references in text; updated appendices	replace page 9, Appendix A, and Appendix B
		Engineering Plan	§7	updated site reference	replace page 5
		Operations Plan	§2.1.2	updated TCLP references in text	replace page 4
		Calculations	B, C	updated references	replace Operational Cover Stability pg 1, Geosynthetic Stresses pg 1
		Related Documents	cover sheet	added TCLP reports	replace cover sheet, insert TCLP reports
		Drawings	01C-03	updated grades	replace 01C-03

Permit No.	Scan Date	DIN
P1286	**12/10/2014**	**22462**

RECEIVED
December 8, 2014
Solid Waste Section
Asheville Regional Office

2.1.7 Procedures for CCP Acceptance

The structural fill will only accept CCPs that it is permitted to receive. The appropriate toxicity characteristic leaching procedure (TCLP) analyses are included in the Related Documents section of this application. The process will be repeated if the source changes. Any load that contains materials or CCPs that the structural fill is not allowed to accept will not be placed in the structural fill.

2.1.8 Equipment Requirements

Equipment requirements may vary in accordance with the method or scope of structural fill operations at any given time. Additional or different types of equipment may be provided as necessary to enhance operational efficiency; however, in order to ensure adequate operation of the proposed facility, arrangements shall be made to ensure that equipment is available for the following activities.

- Excavation of onsite soil
- Preparing the cells for CCP reception
- Spreading and compacting the CCP
- Moisture conditioning the CCP or structural fill
- Excavating and transporting cover soil
- Spreading and compacting cover soil
- Site maintenance, dust control, and clean-up work

The equipment onsite is currently used to manage mining operations. When the proposed structural fill is ready to accept CCPs, the equipment will use the procedures and techniques for spreading, compacting, and covering CCPs outlined in the Operations Plan included in this Permit Application. In the event the amount of CCP placement increases significantly, the need for additional equipment will be evaluated. Additional equipment may be rented to accommodate short term needs or purchased to accommodate increased CCP placement rates.

2.2 Containment and Environmental Control Systems

The base liner and final cap system will be constructed in accordance with NCGS §130A-309.216.

2.2.1 Base Liner System

The purpose of the base liner system is to contain CCPs within the structural fill and prevent groundwater contamination by the CCPs. The base liner area for the structural fill is approximately 145 acres and is shown on Sheet No. 01C-03, Top of Liner. The post-settlement bottom elevation of the base liner system will meet the minimum requirement of four feet above the seasonal high groundwater table. North Carolina law allows two different types of baseliner systems. The following describes the components of the regulatory base liner system options from top down and as shown on the drawings.

2.2.1.1 COMPOSITE BASE LINER SYSTEM OPTION 1

- 60 mil HDPE geosynthetic liner
- 24 inches of compacted soil liner with a permeability of 1×10^{-7} cm/sec

Landowner Statement

In accordance with North Carolina General Statute §130A-309.215 (b) (1) e., I certify that Green Meadows, LLC own(s) the Brickhaven No.2 Mine Tract "A" and I acknowledge and consent to the use of coal combustion products as structural fill on the property. I agree to record the fill in accordance with the requirements of North Carolina General Statute §130A-309.219.

Charles E. Price	Green Meadows, LLC
Printed Name	Company
Charles Price	President / CEO
Signature	Title
11-6-14	
Date	

Coal Combustion Product Generator and Location Information

Coal Combustion Product Generator Information

Company Name: Duke Energy

Company Address: 550 South Tryon Street
Charlotte, NC 28202

Contact Person: TBD

Contact Person Email:

Contact Person Telephone:

Coal Combustion Product Generation Location

Generation Location Address: Duke Energy – Riverbend Steam Station
175 Steam Plant Road
Mt. Holly, NC 28120

Generation Location Coordinates:

Latitude: 35.36022

Longitude: -80.97432

Generation Location Address: Duke Energy – Sutton Plant
801 Sutton Plant Road
Wilmington, NC 28401

Generation Location Coordinates:

Latitude: 34.28324

Longitude: -77.98595

A veneer slope stability analysis was conducted to demonstrate that the proposed final cover design would be capable of maintaining a minimum factor of safety of 1.5. The analysis indicated that the proposed materials for cap construction should be capable of maintaining adequate stability (see the final cover stability analysis in the calculations section of this Permit Application).

The maximum design slope is 4H:1V. The final surface of the structural fill will be graded at a 2% slope and will include a drainage system that minimizes erosion of cover materials, promotes drainage, and prevents ponding of surface water.

7 Slope Stability Analyses

Although the Brickhaven mine site is not a landfill, the seismic requirements have been applied due to the similarities of an encapsulated structural fill. In accordance with the EPA Guidance Document EPA/600/R-95/051 and NCAC .1624(2)(9)(B)(vi), slope stability analyses were conducted for the proposed final grades for the proposed Brickhaven No.2 Mine Structural Fill. The EPA Guidance Document requires minimum factors of safety against slope failures of 1.5 statically and 1.0 dynamically for completed structural fills. NCAC .1622(5) requires structural fills located within seismic impact zones to be designed to resist the maximum horizontal acceleration in lithified earth material at the site. Seismic impact zones are defined as an area with a ten percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g in 250 years. A review of the USGS 2008 National Seismic Hazard Maps, Peak Horizontal Acceleration with 2% Probability of Exceedance in 50 years, which is equivalent to 10% probability of exceedance in 250 years, indicates that the structural fill is located in an area with a maximum horizontal acceleration of 0.09g and is therefore not located within a seismic impact zone. Dynamic slope stability analyses were still performed, however, to verify stability under seismic conditions.

The computer program PCSTABL5M was used to evaluate the slope stability of the structural fill. Two types of analyses were conducted on a cross-section through the structural fill. These included sliding block failures along the bottom liner surface and circular arc failures through the CCP and foundation soils. The cross-section represents a critical location based on maximum fill height and minimum buttressing effect at the base of the structural fill slope.

The cross-section analyzed extends from north to south along the north slope of the structural fill and represents a final CCP fill condition with a maximum elevation of 260 feet at the top of the 4H:1V slope. After this slope break, the top of the structural CCP fill extends at a 2% slope to a maximum elevation of approximately 260 feet at the center of the CCP fill.

The bottom liner design proposed for the structural fill was evaluated to determine the interface that represented the potential sliding surface with the least shear strength. Direct shear test results for materials similar to those that may be used for the structural fill were evaluated to select the critical interface, which was determined to be between the geonet composite and the textured 60-mil HDPE geomembrane. The strength parameters selected for this interface were a peak friction angle (φ) of 26° and cohesion (c) of 0. Peak values were selected since sufficient movement along the interface to mobilize residual strength is not anticipated. A minimum peak

2.1.2 Structural Fill Acceptance Requirements

In accordance with NCGS §130A-309.216 (a) (2) CCPs shall be collected and transported in a manner that will prevent nuisances and hazards to public health and safety. CCPs shall be moisture conditioned, as necessary, and transported in covered trucks to prevent dusting. The Brickhaven structural fill can accept CCPs defined as fly ash, bottom ash, boiler slag, or flue gas desulfurization materials in accordance with NCGS §130A-309.216 (4).

In accordance with NCGS §130A-309.215 (b) (1) d, a Toxicity Characteristic Leaching Procedure (TCLP) analysis has been performed on a representative sample from Duke Energy's Sutton Plant and Riverbend Steam Station CCP sources to be used in the structural fill project. Each was analyzed for, at a minimum, the following constituents: arsenic, barium, cadmium, lead, chromium, mercury, selenium, and silver. The TCLP results are included in the Related Documents section of this application.

Asbestos containing material will not be placed in the structural fill site. In addition, the removal of CCP structural fill material from the site is prohibited without owner approval. Structural fill will be hauled and placed by dedicated and consistent operators.

2.1.3 Fill Sequencing

The Brickhaven structural fill will be developed in sequence from Phase 1 through Phase 3. CCP product will be placed in three to five foot operational lifts, high to low. A conceptual schematic of fill sequencing from high to low is included in the permit drawings; however, actual fill sequencing and lift heights may be modified at the Owner's discretion. More than one cell may be operational at a time. The cells may also be subdivided into subcells.

2.1.4 Fill Placement

Structural fill placed at the site will be transported to the facility via railcar or highway-rated vehicles. Upon reaching the site, off-road equipment may be utilized, within the facility boundary, to transport material to the active working area. After initial placement, additional operational equipment generally consisting of vibratory smooth drum rollers, sheepsfoot compactors, bulldozers, water trucks, spray trailers, track hoes, and service trucks may be utilized in fill placement.

Fill progression will be maintained to provide controlled drainage of contact water to the leachate collection system and stormwater runoff to the stormwater benches and perimeter ditches. No fill shall be placed in standing water.

2.1.5 Compaction Requirements and Testing

After the bottom liner is placed and approved, CCP placement may begin. The initial CCP lift placed should be two to three feet thick to protect the liner system. The initial lift shall be placed in a manner that minimizes development of folds in the geosynthetics. The surface should be lightly compacted to help avoid potential damage to the liner system.

Subsequent lifts of CCP should be placed in 8-inch thick loose lifts and compacted to at least 95 percent of its Standard Proctor (ASTM D698) maximum dry density. It may be necessary to adjust the moisture content of the CCP fill to achieve the specified compaction.

HDR Computation

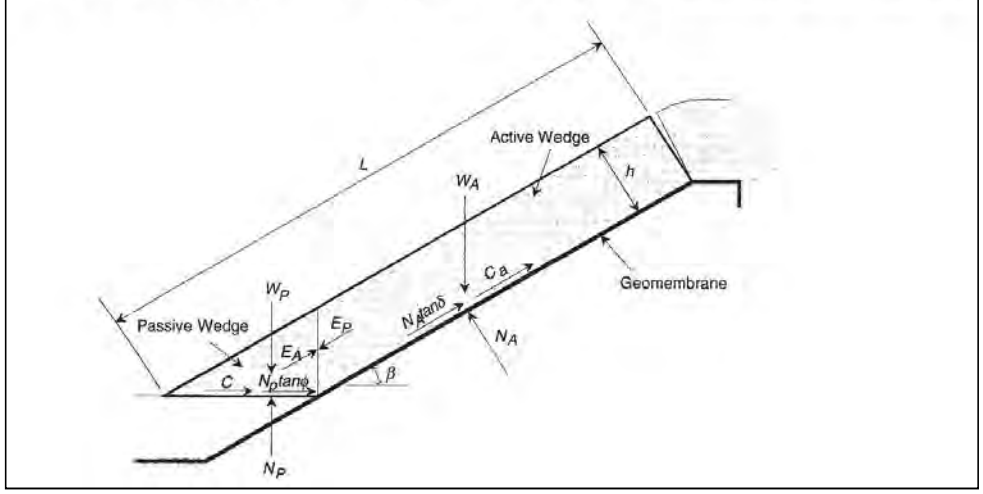
Job Number	453925-237673-018	**No.**	
Project	Charah Moncure Mine Structural Fill	**Computed**	TMY
Date	11/6/2014	**Subject**	Permit Application
Checked	KP	**Date**	11/6/2014
Task	Operational Cover Stability	**Sheet**	1
Of	3		

Objective: Determine the operational cover stability due to sliding for a 3H:1V slope.

References:
1. "Designing with Geosynthetics"; Robert M. Koerner
2. "Cover Soil Slope Stability Involving Geosynthetic Interfaces", GRI Report #18
3. Slope Stability Analyses, Charah Brickhaven No.2 Mine Tract "A" Structural Fill Permit Application, HDR 2014

Calculations: Finite Slope Analysis

Koerner RM. Designing with Geogrids: Veneer Cover Soils Figure 3.23. In: Designing with Geosynthetics. Upper Saddle River, NJ: Prentice Hall; 1998:373.



Active:

$$W_A = \gamma h^2\left(\frac{L}{h} - \frac{1}{\sin\beta} - \frac{\tan\beta}{2}\right)$$

$$N_A = W_A \cos\beta$$

$$C_a = c_a\left(L - \frac{h}{\sin\beta}\right)$$

$$a = (W_A - N_A\cos\beta)\cos\beta$$

$$b = -[(W_A - N_A\cos\beta)\sin\beta\tan\phi + (N_A\tan\delta + C_a)\sin\beta\cos\beta + \sin\beta(C + W_P\tan\phi)]$$

$$c = (N_a\tan\delta + C_a)\sin^2\beta\tan\phi$$

$$FS = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

Passive:

$$W_P = \frac{\gamma h^2}{\sin 2\beta}$$

$$C = \frac{ch}{\sin\beta}$$

HDR Computation

Job Number 453925-237673-018		**No.**	
Project Charah Moncure Mine Structural Fill	**Computed** TMY	**Date**	11/2/2014
Subject Permit Application	**Checked** KP	**Date**	11/6/2014
Task Geosynthetic Stresses	**Sheet**	**Of**	

Objective: Determine the stresses in the geosynthetics of the base liner system.

References:
1. Sharma, H. D., & Lewis, S. P. (1994). *Waste Containment Systems, Waste Stabilization, and Landfills: Design and Evaluation* . New York: John Wiley & Sons, Inc.
2. Koerner, G.R., & Narejo, D. (2005). *Direct Shear Database of Geosynthetic-to-Geosynthetic and Geosynthetic-to-Soil Interfaces,* GRI Report #30.
3. HDR (2014). Slope Stability Analyses, Charah Brickhaven No.2 Mine Tract "A" Structural Fill Permit Application.

Layer	Material	Thickness (in)	Tensile Strength (lbs/in)*	Allowable Stress (psi)	*Assumed* Allowable stress, σ, psi	Interface Friction		Factor of Safety, Due to:			
						Between surfaces (Ref. 2 - see Attachment A)	°	Self Weight	Operational Cover	Waste	Operational Equipment
Geocomposite	GSE PermaNet UL Geocomposite	0.34	100	294	294	Between Nonwoven, needle-punched Geotextile and Textured HDPE	26	No Stress	No Stress	No Stress	No Stress
Geomembrane	GSE HD Textured	0.06	126	2,100	2,100	Between Textured HDPE and Nonwoven, needle-punched Geotextile of the GCL	23	No Stress	No Stress	No Stress	No Stress
GCL	GSE BentoLiner CNSL Data Sheet	0.3	40	133	133	Between Nonwoven Needlepunched Geotextile and Clay Subgrade beneath GCL	29	No Stress	No Stress	No Stress	No Stress

Input Parameters

Sideslopes =	3	H:1V					
Sideslope Angle, β =	18.43	°		Geotextile Thickness, t_{GTEX} =	0.02	in	0.002 ft (assumed)
Max Slope Height, H =	24	ft		Geonet Thickness, t_{GNET} =	0.3	in	0.03 ft
Density of water, ρ_w =	62.4	lbs/ft^3		GCL Thickness, t_{GCL} =	0.3	in	0.03 ft
Geomembrane Thickness, t_{GMB} =	0.06	in	0.005 ft				
Geotextile Mass per Unit Area =	8	oz/yd^2 =	0.06 lb/ft^2		12	in/ft	
					144	oz/yd^2 per lb/ft^2	

* Use yield strength for geomembrane.

Results/Conclusions: The results indicate that for each condition evaluated, there will be no stress developed within the geosynthetics. The frictional resistance between the materials will therefore be sufficient to resist the forces developed during construction and structural fill construction without stressing the components. This is compatible with standard liner system design practices.

Related Documents

Brickhaven No.2 Mine Tract "A" Structural Fill

Charah, Inc.

Moncure, NC

November 2014

NCDENR Permit Mod, October 2014
Riverbend TCLP Report, Sept 2014
Wetlands Determination, August 2014
Threatened/Endangered Study, August 2014
Archeological Study, August 2014
Sutton TCLP Report, June 2012
Brickhaven Mine Drawings, January 2008
NCDENR Permit Mod, October 2007
NCDENR Permit Mod Review, July 2007

Analytical Laboratory

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

Order Summary Report

Order Number: **J14090369**

Project Name:

Customer Name(s): Robert Wylie, Sean DeNeale, Andy Tinsley

Customer Address: 175 Steam Plant Rd
Mail Code: Riverbend Steam Station
Mt Holly, NC 28120

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

Report Authorized By: (Signature) _____ **Date:** 9/30/2014
Jason C Perkins

Program Comments:

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

Data Flags & Calculations:

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

Data Package:

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

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

Certification:

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

Sample ID's & Descriptions:

Sample ID	Plant/Station	Collection Date and Time	Collected By	Sample Description
2014027417	RIVERBEND	05-Aug-14	ILLEGIBLE	B-101 (17-27, 27-37)
2014027418	RIVERBEND	06-Aug-14	ILLEGIBLE	B-101 (43.5, 47-57)
2014027419	RIVERBEND	07-Aug-14	ILLEGIBLE	B-102 (3.5-7)
2014027420	RIVERBEND	07-Aug-14	ILLEGIBLE	B-102 (14-17, 17-27)
2014027421	RIVERBEND	07-Aug-14	ILLEGIBLE	B-102 (39)
2014027422	RIVERBEND	07-Aug-14	ILLEGIBLE	B-116 (3.5-7)
2014027423	RIVERBEND	07-Aug-14	ILLEGIBLE	B-116 (7-17)
2014027424	RIVERBEND	07-Aug-14	ILLEGIBLE	B-117 (6-7, 7-17)
2014027425	RIVERBEND	07-Aug-14	ILLEGIBLE	B-117 (24.6)
2014027426	RIVERBEND	08-Aug-14	ILLEGIBLE	B-119 (7-17)
2014027427	RIVERBEND	08-Aug-14	ILLEGIBLE	B-119 (17-27)

11 Total Samples

Technical Validation Review

Checklist:

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

Report Sections Included:

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

Reviewed By: DBA Account Date: 9/30/2014

Certificate of Laboratory Analysis

This report shall not be reproduced, except in full.

Order # J14090369

Site: B-101 (17-27, 27-37) **Sample #: 2014027417**

Collection Date: 05-Aug-14 Matrix: RCRA

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
Miscellaneous Tests by a Vendor Laboratory - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
METALS ANALYSIS BY VENDOR LAB - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
PCBS - (Analysis Performed by Test America)								
PCB	**Complete**							V_T. America
RCRA TCLP Metals by Vendor - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America

Certificate of Laboratory Analysis

This report shall not be reproduced, except in full.

Order # J14090369

Site: B-101 (43.5, 47-57)
Collection Date: 06-Aug-14

Sample #: **2014027418**
Matrix: RCRA

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
Miscellaneous Tests by a Vendor Laboratory - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
METALS ANALYSIS BY VENDOR LAB - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
PCBS - (Analysis Performed by Test America)								
PCB	**Complete**							V_T. America
RCRA TCLP Metals by Vendor - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America

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Order # J14090369

Site: B-102 (3.5-7)
Collection Date: 07-Aug-14

Sample #: **2014027419**
Matrix: RCRA

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
Miscellaneous Tests by a Vendor Laboratory - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
METALS ANALYSIS BY VENDOR LAB - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
PCBS - (Analysis Performed by Test America)								
PCB	**Complete**							V_T. America
RCRA TCLP Metals by Vendor - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America

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Order # J14090369

Site: B-102 (14-17, 17-27) **Sample #: 2014027420**

Collection Date: 07-Aug-14 Matrix: RCRA

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
Miscellaneous Tests by a Vendor Laboratory - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
METALS ANALYSIS BY VENDOR LAB - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
PCBS - (Analysis Performed by Test America)								
PCB	**Complete**							V_T. America
RCRA TCLP Metals by Vendor - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America

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Order # J14090369

Site: B-102 (39) **Sample #: 2014027421**

Collection Date: 07-Aug-14 Matrix: RCRA

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
Miscellaneous Tests by a Vendor Laboratory - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
METALS ANALYSIS BY VENDOR LAB - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
PCBS - (Analysis Performed by Test America)								
PCB	**Complete**							V_T. America
RCRA TCLP Metals by Vendor - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America

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Order # J14090369

Site: B-116 (3.5-7)
Collection Date: 07-Aug-14

Sample #: **2014027422**
Matrix: RCRA

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
Miscellaneous Tests by a Vendor Laboratory - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
METALS ANALYSIS BY VENDOR LAB - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
PCBS - (Analysis Performed by Test America)								
PCB	**Complete**							V_T. America
RCRA TCLP Metals by Vendor - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America

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Order # J14090369

Site: B-116 (7-17)
Collection Date: 07-Aug-14

Sample #: **2014027423**
Matrix: RCRA

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
Miscellaneous Tests by a Vendor Laboratory - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
METALS ANALYSIS BY VENDOR LAB - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
PCBS - (Analysis Performed by Test America)								
PCB	**Complete**							V_T. America
RCRA TCLP Metals by Vendor - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America

Certificate of Laboratory Analysis

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Order # J14090369

Site: B-117 (6-7, 7-17)
Collection Date: 07-Aug-14

Sample #: **2014027424**
Matrix: RCRA

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
Miscellaneous Tests by a Vendor Laboratory - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
METALS ANALYSIS BY VENDOR LAB - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
PCBS - (Analysis Performed by Test America)								
PCB	**Complete**							V_T. America
RCRA TCLP Metals by Vendor - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America

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Order # J14090369

Site: B-117 (24.6)
Collection Date: 07-Aug-14

Sample #: **2014027425**
Matrix: RCRA

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
Miscellaneous Tests by a Vendor Laboratory - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
METALS ANALYSIS BY VENDOR LAB - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
PCBS - (Analysis Performed by Test America)								
PCB	**Complete**							V_T. America
RCRA TCLP Metals by Vendor - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America

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Order # J14090369

Site: B-119 (7-17)
Collection Date: 08-Aug-14

Sample #: **2014027426**
Matrix: RCRA

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
Miscellaneous Tests by a Vendor Laboratory - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
METALS ANALYSIS BY VENDOR LAB - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
PCBS - (Analysis Performed by Test America)								
PCB	**Complete**							V_T. America
RCRA TCLP Metals by Vendor - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America

Certificate of Laboratory Analysis

This report shall not be reproduced, except in full.

Order # J14090369

Site: B-119 (17-27)
Collection Date: 08-Aug-14

Sample #: **2014027427**
Matrix: RCRA

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
Miscellaneous Tests by a Vendor Laboratory - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
METALS ANALYSIS BY VENDOR LAB - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America
PCBS - (Analysis Performed by Test America)								
PCB	**Complete**							V_T. America
RCRA TCLP Metals by Vendor - (Analysis Performed by Test America)								
Vendor Parameter	**Complete**							V_T. America

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-61841-1
Client Project/Site: Riverbend Dry Stack Ash J14090369

For:
Duke Energy Corporation
13339 Hagers Ferry Road
Huntersville, North Carolina 28078

Attn: Lab Customer

Authorized for release by:
9/30/2014 11:04:23 AM

Shali Brown, Project Manager II
(615)301-5031
shali.brown@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-61841-1	B-101 (17-27, 27-37)	Solid	08/05/14 01:01	09/19/14 08:30
490-61841-2	B-101 (43.5, 47-57)	Solid	08/06/14 01:01	09/19/14 08:30
490-61841-3	B-102 (3.5-7)	Solid	08/07/14 01:01	09/19/14 08:30
490-61841-4	B-102 (14-17, 17-27)	Solid	08/07/14 01:01	09/19/14 08:30
490-61841-5	B-102 (3a)	Solid	08/07/14 01:01	09/19/14 08:30
490-61841-6	B-116 (3.5-7)	Solid	08/07/14 01:01	09/19/14 08:30
490-61841-7	B-116 (7-17)	Solid	08/07/14 01:01	09/19/14 08:30
490-61841-8	B-117 (6-7, 7-17)	Solid	08/07/14 01:01	09/19/14 08:30
490-61841-9	B-117 (24.6)	Solid	08/07/14 01:01	09/19/14 08:30
490-61841-10	B-119 (7-17)	Solid	08/08/14 01:01	09/19/14 08:30
490-61841-11	B-119 (17-27)	Solid	08/08/14 01:01	09/19/14 08:30

Job ID: 490-61841-1

Laboratory: TestAmerica Nashville

Narrative

CASE NARRATIVE

Client: Duke Energy Corporation

Project: Riverbend Dry Stack Ash J14090369

Report Number: 490-61841-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Nashville attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 09/19/2014; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 21.5 C.

Except:

The following sample(s) was received outside of holding time for Mercury: B-101 (17-27, 27-37) (490-61841-1), B-101 (43.5, 47-57) (490-61841-2), B-102 (14-17, 17-27) (490-61841-4), B-102 (3.5-7) (490-61841-3), B-102 (3a) (490-61841-5), B-116 (3.5-7) (490-61841-6), B-116 (7-17) (490-61841-7), B-117 (24.6) (490-61841-9), B-117 (6-7, 7-17) (490-61841-8), B-119 (17-27) (490-61841-11), B-119 (7-17) (490-61841-10).

The following sample(s) was received at the laboratory outside the required temperature criteria for Mercury and Anions: B-101 (17-27, 27-37) (490-61841-1), B-101 (43.5, 47-57) (490-61841-2), B-102 (14-17, 17-27) (490-61841-4), B-102 (3.5-7) (490-61841-3), B-102 (3a) (490-61841-5), B-116 (3.5-7) (490-61841-6), B-116 (7-17) (490-61841-7), B-117 (24.6) (490-61841-9), B-117 (6-7, 7-17) (490-61841-8), B-119 (17-27) (490-61841-11), B-119 (7-17) (490-61841-10). The client was contacted regarding this issue, and the laboratory was instructed to <<CHOOSE ONE>> proceed with/cancel analysis.

POLYCHLORINATED BIPHENYLS (PCBS)

Samples B-101 (17-27, 27-37) (490-61841-1), B-101 (43.5, 47-57) (490-61841-2), B-102 (3.5-7) (490-61841-3), B-102 (14-17, 17-27)

Job ID: 490-61841-1 (Continued)

Laboratory: TestAmerica Nashville (Continued)

(490-61841-4), B-102 (3a) (490-61841-5), B-116 (3.5-7) (490-61841-6), B-116 (7-17) (490-61841-7), B-117 (6-7, 7-17) (490-61841-8), B-117 (24.6) (490-61841-9), B-119 (7-17) (490-61841-10) and B-119 (17-27) (490-61841-11) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA SW-846 Method 8082. The samples were prepared on 09/23/2014 and analyzed on 09/25/2014.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TCLP METALS (ICP)

Samples B-101 (17-27, 27-37) (490-61841-1), B-101 (43.5, 47-57) (490-61841-2), B-102 (3.5-7) (490-61841-3), B-102 (14-17, 17-27) (490-61841-4), B-102 (3a) (490-61841-5), B-116 (3.5-7) (490-61841-6), B-116 (7-17) (490-61841-7), B-117 (6-7, 7-17) (490-61841-8), B-117 (24.6) (490-61841-9), B-119 (7-17) (490-61841-10) and B-119 (17-27) (490-61841-11) were analyzed for TCLP metals (ICP) in accordance with EPA SW-846 Method 1311/6010C. The samples were leached on 09/23/2014 and 09/24/2014, prepared on 09/24/2014 and 09/25/2014 and analyzed on 09/24/2014, 09/25/2014 and 09/26/2014.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TCLP MERCURY

Samples B-101 (17-27, 27-37) (490-61841-1), B-101 (43.5, 47-57) (490-61841-2), B-102 (3.5-7) (490-61841-3), B-102 (14-17, 17-27) (490-61841-4), B-102 (3a) (490-61841-5), B-116 (3.5-7) (490-61841-6), B-116 (7-17) (490-61841-7), B-117 (6-7, 7-17) (490-61841-8), B-117 (24.6) (490-61841-9) and B-119 (7-17) (490-61841-10) were analyzed for TCLP mercury in accordance with EPA SW-846 Methods 1311/7470A. The samples were leached on 09/23/2014, prepared on 09/24/2014 and analyzed on 09/25/2014.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ANIONS

Samples B-101 (17-27, 27-37) (490-61841-1), B-101 (43.5, 47-57) (490-61841-2), B-102 (3.5-7) (490-61841-3), B-102 (14-17, 17-27) (490-61841-4), B-102 (3a) (490-61841-5), B-116 (3.5-7) (490-61841-6), B-116 (7-17) (490-61841-7), B-117 (6-7, 7-17) (490-61841-8), B-117 (24.6) (490-61841-9), B-119 (7-17) (490-61841-10) and B-119 (17-27) (490-61841-11) were analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were leached on 09/23/2014 and analyzed on 09/25/2014 and 09/26/2014.

Sample B-117 (24.6) (490-61841-9)[100X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples B-101 (17-27, 27-37) (490-61841-1), B-101 (43.5, 47-57) (490-61841-2), B-102 (3.5-7) (490-61841-3), B-102 (14-17, 17-27) (490-61841-4), B-102 (3a) (490-61841-5), B-116 (3.5-7) (490-61841-6), B-116 (7-17) (490-61841-7), B-117 (6-7, 7-17) (490-61841-8), B-117 (24.6) (490-61841-9), B-119 (7-17) (490-61841-10) and B-119 (17-27) (490-61841-11) were analyzed for percent solids in accordance with EPA Method 160.3 MOD. The samples were analyzed on 09/22/2014.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ORGANIC PREP

Method(s) 1311: Insufficient sample was provided to perform the leaching procedure with the required 100g for the following sample(s): B-101 (17-27, 27-37) (490-61841-1), B-101 (43.5, 47-57) (490-61841-2), B-102 (14-17, 17-27) (490-61841-4), B-102 (3.5-7) (490-61841-3), B-102 (3a) (490-61841-5), B-116 (3.5-7) (490-61841-6), B-116 (7-17) (490-61841-7), B-117 (24.6) (490-61841-9), B-117 (6-7, 7-17) (490-61841-8), B-119 (7-17) (490-61841-10). The volume of leaching fluid was adjusted proportionally to maintain a 20:1 ratio of leaching fluid to weight of sample. Reporting limits (RLs) are not affected.

Method(s) 1311: Insufficient sample was provided to perform the leaching procedure with the required 100g for the following sample(s): B-119 (17-27) (490-61841-11). The volume of leaching fluid was adjusted proportionally to maintain a 20:1 ratio of leaching fluid to weight of sample. Reporting limits (RLs) are not affected.

Job ID: 490-61841-1 (Continued)

Laboratory: TestAmerica Nashville (Continued)

SUBCONTRACT WORK - ASBESTOS

Method Asbestos: This method was subcontracted to EMLab P&K Fort Lauderdale. The subcontract laboratory certification is different from that of the facility issuing the final report.

Definitions/Glossary

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Qualifiers

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-101 (17-27, 27-37)

Lab Sample ID: 490-61841-1

Date Collected: 08/05/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 78.1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 12:50	1
PCB-1221	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 12:50	1
PCB-1232	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 12:50	1
PCB-1242	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 12:50	1
PCB-1248	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 12:50	1
PCB-1254	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 12:50	1
PCB-1260	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 12:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*		*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*65*		*20 - 150*		*09/23/14 16:56*	*09/25/14 12:50*	*1*
Tetrachloro-m-xylene	*51*		*19 - 147*		*09/23/14 16:56*	*09/25/14 12:50*	*1*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**296**		12.9		mg/Kg	☼		09/25/14 01:11	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:05	1
Barium	ND		10.0		mg/L		09/24/14 09:51	09/24/14 22:05	1
Cadmium	ND		0.100		mg/L		09/24/14 09:51	09/24/14 22:05	1
Chromium	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:05	1
Silver	ND		0.500		mg/L		09/24/14 09:51	09/25/14 13:03	1
Lead	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:05	1
Selenium	ND		0.100		mg/L		09/24/14 09:51	09/25/14 13:03	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00200		mg/L		09/24/14 09:17	09/25/14 10:28	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**22**		0.10		%			09/22/14 18:28	1
Percent Solids	**78**		0.10		%			09/22/14 18:28	1

Client Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-101 (43.5, 47-57)

Lab Sample ID: 490-61841-2

Date Collected: 08/06/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 75.2

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 13:59	1
PCB-1221	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 13:59	1
PCB-1232	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 13:59	1
PCB-1242	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 13:59	1
PCB-1248	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 13:59	1
PCB-1254	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 13:59	1
PCB-1260	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 13:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*		*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*77*		*20 - 150*		*09/23/14 16:56*	*09/25/14 13:59*	*1*
Tetrachloro-m-xylene	*57*		*19 - 147*		*09/23/14 16:56*	*09/25/14 13:59*	*1*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**539**		13.1		mg/Kg	☼		09/25/14 01:31	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:28	1
Barium	ND		10.0		mg/L		09/24/14 09:51	09/24/14 22:28	1
Cadmium	ND		0.100		mg/L		09/24/14 09:51	09/24/14 22:28	1
Chromium	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:28	1
Silver	ND		0.500		mg/L		09/24/14 09:51	09/25/14 13:25	1
Lead	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:28	1
Selenium	ND		0.100		mg/L		09/24/14 09:51	09/25/14 13:25	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00200		mg/L		09/24/14 09:17	09/25/14 10:29	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**25**		0.10		%			09/22/14 18:28	1
Percent Solids	**75**		0.10		%			09/22/14 18:28	1

Client Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-102 (3.5-7)

Date Collected: 08/07/14 01:01
Date Received: 09/19/14 08:30

Lab Sample ID: 490-61841-3

Matrix: Solid
Percent Solids: 78.0

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 14:22	1
PCB-1221	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 14:22	1
PCB-1232	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 14:22	1
PCB-1242	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 14:22	1
PCB-1248	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 14:22	1
PCB-1254	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 14:22	1
PCB-1260	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*70*		*20 - 150*	*09/23/14 16:56*	*09/25/14 14:22*	*1*
Tetrachloro-m-xylene	*62*		*19 - 147*	*09/23/14 16:56*	*09/25/14 14:22*	*1*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**65.7**		12.6		mg/Kg	☼		09/25/14 01:51	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:31	1
Barium	ND		10.0		mg/L		09/24/14 09:51	09/24/14 22:31	1
Cadmium	ND		0.100		mg/L		09/24/14 09:51	09/24/14 22:31	1
Chromium	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:31	1
Silver	ND		0.500		mg/L		09/24/14 09:51	09/25/14 13:28	1
Lead	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:31	1
Selenium	ND		0.100		mg/L		09/24/14 09:51	09/25/14 13:28	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00200		mg/L		09/24/14 09:17	09/25/14 10:34	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**22**		0.10		%			09/22/14 18:28	1
Percent Solids	**78**		0.10		%			09/22/14 18:28	1

Client Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-102 (14-17, 17-27)

Lab Sample ID: 490-61841-4

Date Collected: 08/07/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 76.9

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0326		mg/Kg	☼	09/23/14 16:56	09/25/14 14:45	1
PCB-1221	ND		0.0326		mg/Kg	☼	09/23/14 16:56	09/25/14 14:45	1
PCB-1232	ND		0.0326		mg/Kg	☼	09/23/14 16:56	09/25/14 14:45	1
PCB-1242	ND		0.0326		mg/Kg	☼	09/23/14 16:56	09/25/14 14:45	1
PCB-1248	ND		0.0326		mg/Kg	☼	09/23/14 16:56	09/25/14 14:45	1
PCB-1254	ND		0.0326		mg/Kg	☼	09/23/14 16:56	09/25/14 14:45	1
PCB-1260	ND		0.0326		mg/Kg	☼	09/23/14 16:56	09/25/14 14:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*		*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*78*		*20 - 150*		*09/23/14 16:56*	*09/25/14 14:45*	*1*
Tetrachloro-m-xylene	*60*		*19 - 147*		*09/23/14 16:56*	*09/25/14 14:45*	*1*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**315**		12.9		mg/Kg	☼		09/25/14 02:51	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:35	1
Barium	ND		10.0		mg/L		09/24/14 09:51	09/24/14 22:35	1
Cadmium	ND		0.100		mg/L		09/24/14 09:51	09/24/14 22:35	1
Chromium	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:35	1
Silver	ND		0.500		mg/L		09/24/14 09:51	09/25/14 13:32	1
Lead	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:35	1
Selenium	ND		0.100		mg/L		09/24/14 09:51	09/25/14 13:32	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00200		mg/L		09/24/14 09:17	09/25/14 10:36	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**23**		0.10		%			09/22/14 18:28	1
Percent Solids	**77**		0.10		%			09/22/14 18:28	1

Client Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-102 (3a)

Date Collected: 08/07/14 01:01
Date Received: 09/19/14 08:30

Lab Sample ID: 490-61841-5

Matrix: Solid
Percent Solids: 76.2

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 15:55	1
PCB-1221	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 15:55	1
PCB-1232	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 15:55	1
PCB-1242	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 15:55	1
PCB-1248	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 15:55	1
PCB-1254	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 15:55	1
PCB-1260	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*		*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*84*		*20 - 150*		*09/23/14 16:56*	*09/25/14 15:55*	*1*
Tetrachloro-m-xylene	*64*		*19 - 147*		*09/23/14 16:56*	*09/25/14 15:55*	*1*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**255**		13.1		mg/Kg	☼		09/25/14 03:11	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:38	1
Barium	ND		10.0		mg/L		09/24/14 09:51	09/24/14 22:38	1
Cadmium	ND		0.100		mg/L		09/24/14 09:51	09/24/14 22:38	1
Chromium	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:38	1
Silver	ND		0.500		mg/L		09/24/14 09:51	09/25/14 13:35	1
Lead	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:38	1
Selenium	ND		0.100		mg/L		09/24/14 09:51	09/25/14 13:35	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00200		mg/L		09/24/14 09:17	09/25/14 10:37	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**24**		0.10		%			09/22/14 18:28	1
Percent Solids	**76**		0.10		%			09/22/14 18:28	1

Client Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-116 (3.5-7)

Date Collected: 08/07/14 01:01
Date Received: 09/19/14 08:30

Lab Sample ID: 490-61841-6

Matrix: Solid
Percent Solids: 77.4

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0332		mg/Kg	☼	09/23/14 16:56	09/25/14 16:18	1
PCB-1221	ND		0.0332		mg/Kg	☼	09/23/14 16:56	09/25/14 16:18	1
PCB-1232	ND		0.0332		mg/Kg	☼	09/23/14 16:56	09/25/14 16:18	1
PCB-1242	ND		0.0332		mg/Kg	☼	09/23/14 16:56	09/25/14 16:18	1
PCB-1248	ND		0.0332		mg/Kg	☼	09/23/14 16:56	09/25/14 16:18	1
PCB-1254	ND		0.0332		mg/Kg	☼	09/23/14 16:56	09/25/14 16:18	1
PCB-1260	ND		0.0332		mg/Kg	☼	09/23/14 16:56	09/25/14 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*82*		*20 - 150*	*09/23/14 16:56*	*09/25/14 16:18*	*1*
Tetrachloro-m-xylene	*68*		*19 - 147*	*09/23/14 16:56*	*09/25/14 16:18*	*1*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**105**		13.1		mg/Kg	☼		09/25/14 03:31	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:42	1
Barium	ND		10.0		mg/L		09/24/14 09:51	09/24/14 22:42	1
Cadmium	ND		0.100		mg/L		09/24/14 09:51	09/24/14 22:42	1
Chromium	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:42	1
Silver	ND		0.500		mg/L		09/24/14 09:51	09/25/14 13:39	1
Lead	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:42	1
Selenium	ND		0.100		mg/L		09/24/14 09:51	09/25/14 13:39	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00200		mg/L		09/24/14 09:17	09/25/14 10:38	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**23**		0.10		%			09/22/14 18:28	1
Percent Solids	**77**		0.10		%			09/22/14 18:28	1

Client Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-116 (7-17)

Date Collected: 08/07/14 01:01
Date Received: 09/19/14 08:30

Lab Sample ID: 490-61841-7

Matrix: Solid
Percent Solids: 74.8

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0330		mg/Kg	☼	09/23/14 16:56	09/25/14 16:41	1
PCB-1221	ND		0.0330		mg/Kg	☼	09/23/14 16:56	09/25/14 16:41	1
PCB-1232	ND		0.0330		mg/Kg	☼	09/23/14 16:56	09/25/14 16:41	1
PCB-1242	ND		0.0330		mg/Kg	☼	09/23/14 16:56	09/25/14 16:41	1
PCB-1248	ND		0.0330		mg/Kg	☼	09/23/14 16:56	09/25/14 16:41	1
PCB-1254	ND		0.0330		mg/Kg	☼	09/23/14 16:56	09/25/14 16:41	1
PCB-1260	ND		0.0330		mg/Kg	☼	09/23/14 16:56	09/25/14 16:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*		*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*85*		*20 - 150*		*09/23/14 16:56*	*09/25/14 16:41*	*1*
Tetrachloro-m-xylene	*71*		*19 - 147*		*09/23/14 16:56*	*09/25/14 16:41*	*1*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**198**		13.3		mg/Kg	☼		09/25/14 03:51	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:45	1
Barium	ND		10.0		mg/L		09/24/14 09:51	09/24/14 22:45	1
Cadmium	ND		0.100		mg/L		09/24/14 09:51	09/24/14 22:45	1
Chromium	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:45	1
Silver	ND		0.500		mg/L		09/24/14 09:51	09/25/14 13:42	1
Lead	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:45	1
Selenium	ND		0.100		mg/L		09/24/14 09:51	09/25/14 13:42	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00200		mg/L		09/24/14 09:17	09/25/14 10:40	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**25**		0.10		%			09/22/14 18:28	1
Percent Solids	**75**		0.10		%			09/22/14 18:28	1

Client Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-117 (6-7, 7-17)

Lab Sample ID: 490-61841-8

Date Collected: 08/07/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 74.1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:04	1
PCB-1221	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:04	1
PCB-1232	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:04	1
PCB-1242	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:04	1
PCB-1248	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:04	1
PCB-1254	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:04	1
PCB-1260	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*82*		*20 - 150*	*09/23/14 16:56*	*09/25/14 17:04*	*1*
Tetrachloro-m-xylene	*68*		*19 - 147*	*09/23/14 16:56*	*09/25/14 17:04*	*1*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**89.6**		13.3		mg/Kg	☼		09/25/14 04:11	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:49	1
Barium	ND		10.0		mg/L		09/24/14 09:51	09/24/14 22:49	1
Cadmium	ND		0.100		mg/L		09/24/14 09:51	09/24/14 22:49	1
Chromium	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:49	1
Silver	ND		0.500		mg/L		09/24/14 09:51	09/25/14 13:46	1
Lead	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:49	1
Selenium	ND		0.100		mg/L		09/24/14 09:51	09/25/14 13:46	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00200		mg/L		09/24/14 09:17	09/25/14 10:41	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**26**		0.10		%			09/22/14 18:28	1
Percent Solids	**74**		0.10		%			09/22/14 18:28	1

Client Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-117 (24.6)

Date Collected: 08/07/14 01:01
Date Received: 09/19/14 08:30

Lab Sample ID: 490-61841-9

Matrix: Solid
Percent Solids: 86.2

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 17:27	1
PCB-1221	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 17:27	1
PCB-1232	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 17:27	1
PCB-1242	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 17:27	1
PCB-1248	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 17:27	1
PCB-1254	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 17:27	1
PCB-1260	ND		0.0333		mg/Kg	☼	09/23/14 16:56	09/25/14 17:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*80*		*20 - 150*	*09/23/14 16:56*	*09/25/14 17:27*	*1*
Tetrachloro-m-xylene	*65*		*19 - 147*	*09/23/14 16:56*	*09/25/14 17:27*	*1*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**15700**		1170		mg/Kg	☼		09/26/14 17:29	100

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:52	1
Barium	ND		10.0		mg/L		09/24/14 09:51	09/24/14 22:52	1
Cadmium	ND		0.100		mg/L		09/24/14 09:51	09/24/14 22:52	1
Chromium	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:52	1
Silver	ND		0.500		mg/L		09/24/14 09:51	09/25/14 13:49	1
Lead	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:52	1
Selenium	ND		0.100		mg/L		09/24/14 09:51	09/25/14 13:49	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00200		mg/L		09/24/14 09:17	09/25/14 10:43	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**14**		0.10		%			09/22/14 18:28	1
Percent Solids	**86**		0.10		%			09/22/14 18:28	1

Client Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-119 (7-17)

Date Collected: 08/08/14 01:01
Date Received: 09/19/14 08:30

Lab Sample ID: 490-61841-10

Matrix: Solid
Percent Solids: 75.3

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:50	1
PCB-1221	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:50	1
PCB-1232	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:50	1
PCB-1242	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:50	1
PCB-1248	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:50	1
PCB-1254	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:50	1
PCB-1260	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 17:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*90*		*20 - 150*	*09/23/14 16:56*	*09/25/14 17:50*	*1*
Tetrachloro-m-xylene	*77*		*19 - 147*	*09/23/14 16:56*	*09/25/14 17:50*	*1*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**570**		13.1		mg/Kg	☼		09/25/14 04:51	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:56	1
Barium	ND		10.0		mg/L		09/24/14 09:51	09/24/14 22:56	1
Cadmium	ND		0.100		mg/L		09/24/14 09:51	09/24/14 22:56	1
Chromium	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:56	1
Silver	ND		0.500		mg/L		09/24/14 09:51	09/25/14 14:04	1
Lead	ND		0.500		mg/L		09/24/14 09:51	09/24/14 22:56	1
Selenium	ND		0.100		mg/L		09/24/14 09:51	09/25/14 14:04	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00200		mg/L		09/24/14 09:17	09/25/14 10:44	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**25**		0.10		%			09/22/14 18:28	1
Percent Solids	**75**		0.10		%			09/22/14 18:28	1

Client Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-119 (17-27)

Date Collected: 08/08/14 01:01
Date Received: 09/19/14 08:30

Lab Sample ID: 490-61841-11

Matrix: Solid
Percent Solids: 71.0

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 18:13	1
PCB-1221	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 18:13	1
PCB-1232	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 18:13	1
PCB-1242	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 18:13	1
PCB-1248	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 18:13	1
PCB-1254	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 18:13	1
PCB-1260	ND		0.0331		mg/Kg	☼	09/23/14 16:56	09/25/14 18:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*		*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*95*		*20 - 150*		*09/23/14 16:56*	*09/25/14 18:13*	*1*
Tetrachloro-m-xylene	*78*		*19 - 147*		*09/23/14 16:56*	*09/25/14 18:13*	*1*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**415**		14.1		mg/Kg	☼		09/25/14 05:11	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/25/14 10:31	09/25/14 21:20	1
Barium	ND		10.0		mg/L		09/25/14 10:31	09/25/14 21:20	1
Cadmium	ND		0.100		mg/L		09/25/14 10:31	09/25/14 21:20	1
Chromium	ND		0.500		mg/L		09/25/14 10:31	09/25/14 21:20	1
Silver	ND		0.500		mg/L		09/25/14 10:31	09/25/14 21:20	1
Lead	ND		0.500		mg/L		09/25/14 10:31	09/25/14 21:20	1
Selenium	ND		0.100		mg/L		09/25/14 10:31	09/26/14 13:54	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00200		mg/L		09/25/14 11:11	09/25/14 11:23	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**29**		0.10		%			09/22/14 18:28	1
Percent Solids	**71**		0.10		%			09/22/14 18:28	1

QC Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 490-192666/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193067 — **Prep Batch: 192666**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0333	mg/Kg		09/23/14 16:56	09/25/14 10:54	1
PCB-1221	ND		0.0333	mg/Kg		09/23/14 16:56	09/25/14 10:54	1
PCB-1232	ND		0.0333	mg/Kg		09/23/14 16:56	09/25/14 10:54	1
PCB-1242	ND		0.0333	mg/Kg		09/23/14 16:56	09/25/14 10:54	1
PCB-1248	ND		0.0333	mg/Kg		09/23/14 16:56	09/25/14 10:54	1
PCB-1254	ND		0.0333	mg/Kg		09/23/14 16:56	09/25/14 10:54	1
PCB-1260	ND		0.0333	mg/Kg		09/23/14 16:56	09/25/14 10:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*87*		*20 - 150*	*09/23/14 16:56*	*09/25/14 10:54*	*1*
Tetrachloro-m-xylene	*94*		*19 - 147*	*09/23/14 16:56*	*09/25/14 10:54*	*1*

Lab Sample ID: LCS 490-192666/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193067 — **Prep Batch: 192666**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.167	0.1524		mg/Kg		91	65 - 125
PCB-1260	0.167	0.1535		mg/Kg		92	52 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*86*		*20 - 150*
Tetrachloro-m-xylene	*66*		*19 - 147*

Lab Sample ID: 490-61841-1 MS — **Client Sample ID: B-101 (17-27, 27-37)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193067 — **Prep Batch: 192666**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	ND		0.210	0.1755		mg/Kg	☼	83	42 - 140
PCB-1260	ND		0.210	0.1746		mg/Kg	☼	83	37 - 159

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*73*		*20 - 150*
Tetrachloro-m-xylene	*60*		*19 - 147*

Lab Sample ID: 490-61841-1 MSD — **Client Sample ID: B-101 (17-27, 27-37)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193067 — **Prep Batch: 192666**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND		0.211	0.1784		mg/Kg	☼	84	42 - 140	2	50
PCB-1260	ND		0.211	0.1694		mg/Kg	☼	80	37 - 159	3	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*73*		*20 - 150*
Tetrachloro-m-xylene	*49*		*19 - 147*

QC Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 490-192629/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 192913

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		10.1		mg/Kg			09/24/14 21:10	1

Lab Sample ID: LCS 490-192629/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 192913

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			493	576.1		mg/Kg		117	80 - 120		

Lab Sample ID: LCSD 490-192629/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 192913

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate			499	568.4		mg/Kg		114	80 - 120	1	20

Lab Sample ID: 490-61390-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 192913

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	13.3		624	720.1		mg/Kg	☼	113	80 - 120		

Lab Sample ID: 490-61390-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 192913

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	13.3		606	705.0		mg/Kg	☼	114	80 - 120	2	20

Lab Sample ID: MB 490-192629/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 193424

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		10.1		mg/Kg			09/26/14 16:28	1

Lab Sample ID: LCS 490-192629/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 193424

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			493	536.8		mg/Kg		109	80 - 120		

Lab Sample ID: LCSD 490-192629/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 193424

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate			499	527.2		mg/Kg		106	80 - 120	2	20

QC Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 490-192760/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193047 — **Prep Batch: 192760**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500	mg/L		09/24/14 09:51	09/24/14 21:55	1
Barium	ND		10.0	mg/L		09/24/14 09:51	09/24/14 21:55	1
Cadmium	ND		0.100	mg/L		09/24/14 09:51	09/24/14 21:55	1
Chromium	ND		0.500	mg/L		09/24/14 09:51	09/24/14 21:55	1
Lead	ND		0.500	mg/L		09/24/14 09:51	09/24/14 21:55	1

Lab Sample ID: MB 490-192760/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193262 — **Prep Batch: 192760**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.500	mg/L		09/24/14 09:51	09/25/14 12:53	1
Selenium	ND		0.100	mg/L		09/24/14 09:51	09/25/14 12:53	1

Lab Sample ID: MB 490-192760/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193309 — **Prep Batch: 192760**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.500	mg/L		09/24/14 09:51	09/25/14 16:29	1
Selenium	ND		0.100	mg/L		09/24/14 09:51	09/25/14 16:29	1

Lab Sample ID: LCS 490-192760/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193047 — **Prep Batch: 192760**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.00	2.011		mg/L		101	80 - 120
Barium	20.0	20.11		mg/L		101	80 - 120
Cadmium	2.00	1.969		mg/L		98	80 - 120
Chromium	10.0	9.734		mg/L		97	80 - 120
Lead	10.0	10.66		mg/L		107	80 - 120

Lab Sample ID: LCS 490-192760/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193262 — **Prep Batch: 192760**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	2.00	1.921		mg/L		96	80 - 120
Selenium	2.00	2.049		mg/L		102	80 - 120

Lab Sample ID: LCS 490-192760/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193309 — **Prep Batch: 192760**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	2.00	1.988		mg/L		99	80 - 120
Selenium	2.00	2.239		mg/L		112	80 - 120

QC Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 490-193131/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193350 — **Prep Batch: 193131**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/25/14 10:30	09/25/14 20:16	1
Barium	ND		10.0		mg/L		09/25/14 10:30	09/25/14 20:16	1
Cadmium	ND		0.100		mg/L		09/25/14 10:30	09/25/14 20:16	1
Chromium	ND		0.500		mg/L		09/25/14 10:30	09/25/14 20:16	1
Silver	ND		0.500		mg/L		09/25/14 10:30	09/25/14 20:16	1
Lead	ND		0.500		mg/L		09/25/14 10:30	09/25/14 20:16	1

Lab Sample ID: MB 490-193131/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193538 — **Prep Batch: 193131**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.100		mg/L		09/25/14 10:30	09/26/14 13:00	1

Lab Sample ID: LCS 490-193131/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193350 — **Prep Batch: 193131**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			2.00	2.063		mg/L		103	80 - 120		
Barium			20.0	20.30		mg/L		102	80 - 120		
Cadmium			2.00	2.047		mg/L		102	80 - 120		
Chromium			10.0	10.33		mg/L		103	80 - 120		
Silver			2.00	1.892		mg/L		95	80 - 120		
Lead			10.0	11.02		mg/L		110	80 - 120		

Lab Sample ID: LCS 490-193131/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193538 — **Prep Batch: 193131**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Selenium			2.00	2.058		mg/L		103	80 - 120		

Lab Sample ID: LB 490-192582/1-C — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193047 — **Prep Batch: 192760**

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/24/14 09:51	09/24/14 21:59	1
Barium	ND		10.0		mg/L		09/24/14 09:51	09/24/14 21:59	1
Cadmium	ND		0.100		mg/L		09/24/14 09:51	09/24/14 21:59	1
Chromium	ND		0.500		mg/L		09/24/14 09:51	09/24/14 21:59	1
Lead	ND		0.500		mg/L		09/24/14 09:51	09/24/14 21:59	1

QC Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LB 490-192582/1-C — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193262 — **Prep Batch: 192760**

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.500		mg/L		09/24/14 09:51	09/25/14 12:56	1
Selenium	ND		0.100		mg/L		09/24/14 09:51	09/25/14 12:56	1

Lab Sample ID: 490-61841-1 MS — **Client Sample ID: B-101 (17-27, 27-37)**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193047 — **Prep Batch: 192760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	ND		2.00	2.087		mg/L		99	75 - 125		
Barium	ND		20.0	20.58		mg/L		93	75 - 125		
Cadmium	ND		2.00	1.929		mg/L		96	75 - 125		
Chromium	ND		10.0	9.160		mg/L		92	75 - 125		
Lead	ND		10.0	10.27		mg/L		103	75 - 125		

Lab Sample ID: 490-61841-1 MS — **Client Sample ID: B-101 (17-27, 27-37)**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193262 — **Prep Batch: 192760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Silver	ND		2.00	1.885		mg/L		94	75 - 125		
Selenium	ND		2.00	2.087		mg/L		102	75 - 125		

Lab Sample ID: 490-61841-1 MSD — **Client Sample ID: B-101 (17-27, 27-37)**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193047 — **Prep Batch: 192760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		2.00	2.293		mg/L		110	75 - 125	9	20
Barium	ND		20.0	22.66		mg/L		103	75 - 125	10	20
Cadmium	ND		2.00	2.107		mg/L		105	75 - 125	9	20
Chromium	ND		10.0	10.22		mg/L		102	75 - 125	11	20
Lead	ND		10.0	11.28		mg/L		113	75 - 125	9	20

Lab Sample ID: 490-61841-1 MSD — **Client Sample ID: B-101 (17-27, 27-37)**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193262 — **Prep Batch: 192760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		2.00	2.013		mg/L		101	75 - 125	7	20
Selenium	ND		2.00	2.253		mg/L		110	75 - 125	8	20

Lab Sample ID: LB 490-192854/1-B — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193350 — **Prep Batch: 193131**

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500		mg/L		09/25/14 10:31	09/25/14 20:23	1
Barium	ND		10.0		mg/L		09/25/14 10:31	09/25/14 20:23	1
Cadmium	ND		0.100		mg/L		09/25/14 10:31	09/25/14 20:23	1

QC Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LB 490-192854/1-B — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193350 — **Prep Batch: 193131**

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.500		mg/L		09/25/14 10:31	09/25/14 20:23	1
Silver	ND		0.500		mg/L		09/25/14 10:31	09/25/14 20:23	1
Lead	ND		0.500		mg/L		09/25/14 10:31	09/25/14 20:23	1

Lab Sample ID: LB 490-192854/1-B — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193538 — **Prep Batch: 193131**

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.100		mg/L		09/25/14 10:31	09/26/14 13:07	1

Lab Sample ID: 490-62081-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193350 — **Prep Batch: 193131**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	ND		2.00	2.407		mg/L		120	75 - 125		
Barium	ND		20.0	21.60		mg/L		107	75 - 125		
Cadmium	0.249		2.00	2.564		mg/L		116	75 - 125		
Chromium	ND		10.0	10.79		mg/L		108	75 - 125		
Silver	ND		2.00	2.054		mg/L		103	75 - 125		
Lead	ND		10.0	12.30		mg/L		120	75 - 125		

Lab Sample ID: 490-62081-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193538 — **Prep Batch: 193131**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Selenium	ND		2.00	2.344		mg/L		117	75 - 125		

Lab Sample ID: 490-62081-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193350 — **Prep Batch: 193131**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		2.00	2.260		mg/L		113	75 - 125	6	20
Barium	ND		20.0	20.12		mg/L		99	75 - 125	7	20
Cadmium	0.249		2.00	2.375		mg/L		106	75 - 125	8	20
Chromium	ND		10.0	10.04		mg/L		100	75 - 125	7	20
Silver	ND		2.00	1.919		mg/L		96	75 - 125	7	20
Lead	ND		10.0	11.38		mg/L		111	75 - 125	8	20

Lab Sample ID: 490-62081-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193538 — **Prep Batch: 193131**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	ND		2.00	2.210		mg/L		111	75 - 125	6	20

QC Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 490-192746/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193183 — **Prep Batch: 192746**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00200		mg/L		09/24/14 09:17	09/25/14 09:44	1

Lab Sample ID: LCS 490-192746/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193183 — **Prep Batch: 192746**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.0200	0.02046		mg/L		102	80 - 120		

Lab Sample ID: MB 490-192747/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193183 — **Prep Batch: 192747**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00200		mg/L		09/24/14 09:20	09/25/14 09:31	1

Lab Sample ID: LCS 490-192747/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 193183 — **Prep Batch: 192747**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.0200	0.01971		mg/L		99	80 - 120		

Lab Sample ID: LB 490-192343/1-C — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193183 — **Prep Batch: 192746**

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00200		mg/L		09/24/14 09:17	09/25/14 09:46	1

Lab Sample ID: 490-61889-B-1-H MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193183 — **Prep Batch: 192746**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.0200	0.02073		mg/L		104	75 - 125		

Lab Sample ID: 490-61889-B-1-I MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193183 — **Prep Batch: 192746**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0200	0.01998		mg/L		100	75 - 125	4	20

Lab Sample ID: LB 490-192582/1-B — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193183 — **Prep Batch: 192747**

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00200		mg/L		09/24/14 09:20	09/25/14 09:32	1

QC Sample Results

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Lab Sample ID: 490-62014-B-2-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193183 — **Prep Batch: 192747**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.0200	0.01950		mg/L		98	75 - 125		

Lab Sample ID: 490-62014-B-2-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 193183 — **Prep Batch: 192747**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0200	0.01910		mg/L		95	75 - 125	2	20

Method: Moisture - Percent Moisture

Lab Sample ID: 490-61841-1 DU — **Client Sample ID: B-101 (17-27, 27-37)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 192382

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	22			22		%				0.8	20
Percent Solids	78			78		%				0.2	20

QC Association Summary

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

GC Semi VOA

Prep Batch: 192666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-1	B-101 (17-27, 27-37)	Total/NA	Solid	3550C	
490-61841-1 MS	B-101 (17-27, 27-37)	Total/NA	Solid	3550C	
490-61841-1 MSD	B-101 (17-27, 27-37)	Total/NA	Solid	3550C	
490-61841-2	B-101 (43.5, 47-57)	Total/NA	Solid	3550C	
490-61841-3	B-102 (3.5-7)	Total/NA	Solid	3550C	
490-61841-4	B-102 (14-17, 17-27)	Total/NA	Solid	3550C	
490-61841-5	B-102 (3a)	Total/NA	Solid	3550C	
490-61841-6	B-116 (3.5-7)	Total/NA	Solid	3550C	
490-61841-7	B-116 (7-17)	Total/NA	Solid	3550C	
490-61841-8	B-117 (6-7, 7-17)	Total/NA	Solid	3550C	
490-61841-9	B-117 (24.6)	Total/NA	Solid	3550C	
490-61841-10	B-119 (7-17)	Total/NA	Solid	3550C	
490-61841-11	B-119 (17-27)	Total/NA	Solid	3550C	
LCS 490-192666/2-A	Lab Control Sample	Total/NA	Solid	3550C	
MB 490-192666/1-A	Method Blank	Total/NA	Solid	3550C	

Analysis Batch: 193067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-1	B-101 (17-27, 27-37)	Total/NA	Solid	8082A	192666
490-61841-1 MS	B-101 (17-27, 27-37)	Total/NA	Solid	8082A	192666
490-61841-1 MSD	B-101 (17-27, 27-37)	Total/NA	Solid	8082A	192666
490-61841-2	B-101 (43.5, 47-57)	Total/NA	Solid	8082A	192666
490-61841-3	B-102 (3.5-7)	Total/NA	Solid	8082A	192666
490-61841-4	B-102 (14-17, 17-27)	Total/NA	Solid	8082A	192666
490-61841-5	B-102 (3a)	Total/NA	Solid	8082A	192666
490-61841-6	B-116 (3.5-7)	Total/NA	Solid	8082A	192666
490-61841-7	B-116 (7-17)	Total/NA	Solid	8082A	192666
490-61841-8	B-117 (6-7, 7-17)	Total/NA	Solid	8082A	192666
490-61841-9	B-117 (24.6)	Total/NA	Solid	8082A	192666
490-61841-10	B-119 (7-17)	Total/NA	Solid	8082A	192666
490-61841-11	B-119 (17-27)	Total/NA	Solid	8082A	192666
LCS 490-192666/2-A	Lab Control Sample	Total/NA	Solid	8082A	192666
MB 490-192666/1-A	Method Blank	Total/NA	Solid	8082A	192666

HPLC/IC

Leach Batch: 192629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61390-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
490-61390-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
490-61841-1	B-101 (17-27, 27-37)	Soluble	Solid	DI Leach	
490-61841-2	B-101 (43.5, 47-57)	Soluble	Solid	DI Leach	
490-61841-3	B-102 (3.5-7)	Soluble	Solid	DI Leach	
490-61841-4	B-102 (14-17, 17-27)	Soluble	Solid	DI Leach	
490-61841-5	B-102 (3a)	Soluble	Solid	DI Leach	
490-61841-6	B-116 (3.5-7)	Soluble	Solid	DI Leach	
490-61841-7	B-116 (7-17)	Soluble	Solid	DI Leach	
490-61841-8	B-117 (6-7, 7-17)	Soluble	Solid	DI Leach	
490-61841-9	B-117 (24.6)	Soluble	Solid	DI Leach	
490-61841-10	B-119 (7-17)	Soluble	Solid	DI Leach	

HPLC/IC (Continued)

Leach Batch: 192629 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-11	B-119 (17-27)	Soluble	Solid	DI Leach	
LCS 490-192629/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 490-192629/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
MB 490-192629/1-A	Method Blank	Soluble	Solid	DI Leach	

Analysis Batch: 192913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61390-A-1-B MS	Matrix Spike	Soluble	Solid	9056A	192629
490-61390-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	9056A	192629
490-61841-1	B-101 (17-27, 27-37)	Soluble	Solid	9056A	192629
490-61841-2	B-101 (43.5, 47-57)	Soluble	Solid	9056A	192629
490-61841-3	B-102 (3.5-7)	Soluble	Solid	9056A	192629
490-61841-4	B-102 (14-17, 17-27)	Soluble	Solid	9056A	192629
490-61841-5	B-102 (3a)	Soluble	Solid	9056A	192629
490-61841-6	B-116 (3.5-7)	Soluble	Solid	9056A	192629
490-61841-7	B-116 (7-17)	Soluble	Solid	9056A	192629
490-61841-8	B-117 (6-7, 7-17)	Soluble	Solid	9056A	192629
490-61841-10	B-119 (7-17)	Soluble	Solid	9056A	192629
490-61841-11	B-119 (17-27)	Soluble	Solid	9056A	192629
LCS 490-192629/2-A	Lab Control Sample	Soluble	Solid	9056A	192629
LCSD 490-192629/3-A	Lab Control Sample Dup	Soluble	Solid	9056A	192629
MB 490-192629/1-A	Method Blank	Soluble	Solid	9056A	192629

Analysis Batch: 193424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-9	B-117 (24.6)	Soluble	Solid	9056A	192629
LCS 490-192629/2-A	Lab Control Sample	Soluble	Solid	9056A	192629
LCSD 490-192629/3-A	Lab Control Sample Dup	Soluble	Solid	9056A	192629
MB 490-192629/1-A	Method Blank	Soluble	Solid	9056A	192629

Metals

Leach Batch: 192343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61889-B-1-H MS	Matrix Spike	TCLP	Solid	1311	
490-61889-B-1-I MSD	Matrix Spike Duplicate	TCLP	Solid	1311	
LB 490-192343/1-C	Method Blank	TCLP	Solid	1311	

Leach Batch: 192582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-1	B-101 (17-27, 27-37)	TCLP	Solid	1311	
490-61841-1 MS	B-101 (17-27, 27-37)	TCLP	Solid	1311	
490-61841-1 MSD	B-101 (17-27, 27-37)	TCLP	Solid	1311	
490-61841-2	B-101 (43.5, 47-57)	TCLP	Solid	1311	
490-61841-3	B-102 (3.5-7)	TCLP	Solid	1311	
490-61841-4	B-102 (14-17, 17-27)	TCLP	Solid	1311	
490-61841-5	B-102 (3a)	TCLP	Solid	1311	
490-61841-6	B-116 (3.5-7)	TCLP	Solid	1311	
490-61841-7	B-116 (7-17)	TCLP	Solid	1311	
490-61841-8	B-117 (6-7, 7-17)	TCLP	Solid	1311	

QC Association Summary

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Metals (Continued)

Leach Batch: 192582 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-9	B-117 (24.6)	TCLP	Solid	1311	
490-61841-10	B-119 (7-17)	TCLP	Solid	1311	
490-62014-B-2-E MS	Matrix Spike	TCLP	Solid	1311	
490-62014-B-2-F MSD	Matrix Spike Duplicate	TCLP	Solid	1311	
LB 490-192582/1-B	Method Blank	TCLP	Solid	1311	
LB 490-192582/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 192746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-1	B-101 (17-27, 27-37)	TCLP	Solid	7470A	192582
490-61841-2	B-101 (43.5, 47-57)	TCLP	Solid	7470A	192582
490-61841-3	B-102 (3.5-7)	TCLP	Solid	7470A	192582
490-61841-4	B-102 (14-17, 17-27)	TCLP	Solid	7470A	192582
490-61841-5	B-102 (3a)	TCLP	Solid	7470A	192582
490-61841-6	B-116 (3.5-7)	TCLP	Solid	7470A	192582
490-61841-7	B-116 (7-17)	TCLP	Solid	7470A	192582
490-61841-8	B-117 (6-7, 7-17)	TCLP	Solid	7470A	192582
490-61841-9	B-117 (24.6)	TCLP	Solid	7470A	192582
490-61841-10	B-119 (7-17)	TCLP	Solid	7470A	192582
490-61889-B-1-H MS	Matrix Spike	TCLP	Solid	7470A	192343
490-61889-B-1-I MSD	Matrix Spike Duplicate	TCLP	Solid	7470A	192343
LB 490-192343/1-C	Method Blank	TCLP	Solid	7470A	192343
LCS 490-192746/4-A	Lab Control Sample	Total/NA	Solid	7470A	
MB 490-192746/1-A	Method Blank	Total/NA	Solid	7470A	

Prep Batch: 192747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-11	B-119 (17-27)	TCLP	Solid	7470A	192854
490-62014-B-2-E MS	Matrix Spike	TCLP	Solid	7470A	192582
490-62014-B-2-F MSD	Matrix Spike Duplicate	TCLP	Solid	7470A	192582
LB 490-192582/1-B	Method Blank	TCLP	Solid	7470A	192582
LCS 490-192747/3-A	Lab Control Sample	Total/NA	Solid	7470A	
MB 490-192747/1-A	Method Blank	Total/NA	Solid	7470A	

Prep Batch: 192760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-1	B-101 (17-27, 27-37)	TCLP	Solid	3010A	192582
490-61841-1 MS	B-101 (17-27, 27-37)	TCLP	Solid	3010A	192582
490-61841-1 MSD	B-101 (17-27, 27-37)	TCLP	Solid	3010A	192582
490-61841-2	B-101 (43.5, 47-57)	TCLP	Solid	3010A	192582
490-61841-3	B-102 (3.5-7)	TCLP	Solid	3010A	192582
490-61841-4	B-102 (14-17, 17-27)	TCLP	Solid	3010A	192582
490-61841-5	B-102 (3a)	TCLP	Solid	3010A	192582
490-61841-6	B-116 (3.5-7)	TCLP	Solid	3010A	192582
490-61841-7	B-116 (7-17)	TCLP	Solid	3010A	192582
490-61841-8	B-117 (6-7, 7-17)	TCLP	Solid	3010A	192582
490-61841-9	B-117 (24.6)	TCLP	Solid	3010A	192582
490-61841-10	B-119 (7-17)	TCLP	Solid	3010A	192582
LB 490-192582/1-C	Method Blank	TCLP	Solid	3010A	192582
LCS 490-192760/3-A	Lab Control Sample	Total/NA	Solid	3010A	
MB 490-192760/1-A	Method Blank	Total/NA	Solid	3010A	

QC Association Summary

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Metals (Continued)

Leach Batch: 192854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-11	B-119 (17-27)	TCLP	Solid	1311	
490-62081-A-1-C MS	Matrix Spike	TCLP	Solid	1311	
490-62081-A-1-D MSD	Matrix Spike Duplicate	TCLP	Solid	1311	
LB 490-192854/1-B	Method Blank	TCLP	Solid	1311	

Analysis Batch: 193047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-1	B-101 (17-27, 27-37)	TCLP	Solid	6010C	192760
490-61841-1 MS	B-101 (17-27, 27-37)	TCLP	Solid	6010C	192760
490-61841-1 MSD	B-101 (17-27, 27-37)	TCLP	Solid	6010C	192760
490-61841-2	B-101 (43.5, 47-57)	TCLP	Solid	6010C	192760
490-61841-3	B-102 (3.5-7)	TCLP	Solid	6010C	192760
490-61841-4	B-102 (14-17, 17-27)	TCLP	Solid	6010C	192760
490-61841-5	B-102 (3a)	TCLP	Solid	6010C	192760
490-61841-6	B-116 (3.5-7)	TCLP	Solid	6010C	192760
490-61841-7	B-116 (7-17)	TCLP	Solid	6010C	192760
490-61841-8	B-117 (6-7, 7-17)	TCLP	Solid	6010C	192760
490-61841-9	B-117 (24.6)	TCLP	Solid	6010C	192760
490-61841-10	B-119 (7-17)	TCLP	Solid	6010C	192760
LB 490-192582/1-C	Method Blank	TCLP	Solid	6010C	192760
LCS 490-192760/3-A	Lab Control Sample	Total/NA	Solid	6010C	192760
MB 490-192760/1-A	Method Blank	Total/NA	Solid	6010C	192760

Prep Batch: 193131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-11	B-119 (17-27)	TCLP	Solid	3010A	192854
490-62081-A-1-C MS	Matrix Spike	TCLP	Solid	3010A	192854
490-62081-A-1-D MSD	Matrix Spike Duplicate	TCLP	Solid	3010A	192854
LB 490-192854/1-B	Method Blank	TCLP	Solid	3010A	192854
LCS 490-193131/4-A	Lab Control Sample	Total/NA	Solid	3010A	
MB 490-193131/1-A	Method Blank	Total/NA	Solid	3010A	

Analysis Batch: 193183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-1	B-101 (17-27, 27-37)	TCLP	Solid	7470A	192746
490-61841-2	B-101 (43.5, 47-57)	TCLP	Solid	7470A	192746
490-61841-3	B-102 (3.5-7)	TCLP	Solid	7470A	192746
490-61841-4	B-102 (14-17, 17-27)	TCLP	Solid	7470A	192746
490-61841-5	B-102 (3a)	TCLP	Solid	7470A	192746
490-61841-6	B-116 (3.5-7)	TCLP	Solid	7470A	192746
490-61841-7	B-116 (7-17)	TCLP	Solid	7470A	192746
490-61841-8	B-117 (6-7, 7-17)	TCLP	Solid	7470A	192746
490-61841-9	B-117 (24.6)	TCLP	Solid	7470A	192746
490-61841-10	B-119 (7-17)	TCLP	Solid	7470A	192746
490-61841-11	B-119 (17-27)	TCLP	Solid	7470A	192747
490-61889-B-1-H MS	Matrix Spike	TCLP	Solid	7470A	192746
490-61889-B-1-I MSD	Matrix Spike Duplicate	TCLP	Solid	7470A	192746
490-62014-B-2-E MS	Matrix Spike	TCLP	Solid	7470A	192747
490-62014-B-2-F MSD	Matrix Spike Duplicate	TCLP	Solid	7470A	192747
LB 490-192343/1-C	Method Blank	TCLP	Solid	7470A	192746
LB 490-192582/1-B	Method Blank	TCLP	Solid	7470A	192747

Metals (Continued)

Analysis Batch: 193183 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 490-192746/4-A	Lab Control Sample	Total/NA	Solid	7470A	192746
LCS 490-192747/3-A	Lab Control Sample	Total/NA	Solid	7470A	192747
MB 490-192746/1-A	Method Blank	Total/NA	Solid	7470A	192746
MB 490-192747/1-A	Method Blank	Total/NA	Solid	7470A	192747

Analysis Batch: 193262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-1	B-101 (17-27, 27-37)	TCLP	Solid	6010C	192760
490-61841-1 MS	B-101 (17-27, 27-37)	TCLP	Solid	6010C	192760
490-61841-1 MSD	B-101 (17-27, 27-37)	TCLP	Solid	6010C	192760
490-61841-2	B-101 (43.5, 47-57)	TCLP	Solid	6010C	192760
490-61841-3	B-102 (3.5-7)	TCLP	Solid	6010C	192760
490-61841-4	B-102 (14-17, 17-27)	TCLP	Solid	6010C	192760
490-61841-5	B-102 (3a)	TCLP	Solid	6010C	192760
490-61841-6	B-116 (3.5-7)	TCLP	Solid	6010C	192760
490-61841-7	B-116 (7-17)	TCLP	Solid	6010C	192760
490-61841-8	B-117 (6-7, 7-17)	TCLP	Solid	6010C	192760
490-61841-9	B-117 (24.6)	TCLP	Solid	6010C	192760
490-61841-10	B-119 (7-17)	TCLP	Solid	6010C	192760
LB 490-192582/1-C	Method Blank	TCLP	Solid	6010C	192760
LCS 490-192760/3-A	Lab Control Sample	Total/NA	Solid	6010C	192760
MB 490-192760/1-A	Method Blank	Total/NA	Solid	6010C	192760

Analysis Batch: 193309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 490-192760/3-A	Lab Control Sample	Total/NA	Solid	6010C	192760
MB 490-192760/1-A	Method Blank	Total/NA	Solid	6010C	192760

Analysis Batch: 193350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-11	B-119 (17-27)	TCLP	Solid	6010C	193131
490-62081-A-1-C MS	Matrix Spike	TCLP	Solid	6010C	193131
490-62081-A-1-D MSD	Matrix Spike Duplicate	TCLP	Solid	6010C	193131
LB 490-192854/1-B	Method Blank	TCLP	Solid	6010C	193131
LCS 490-193131/4-A	Lab Control Sample	Total/NA	Solid	6010C	193131
MB 490-193131/1-A	Method Blank	Total/NA	Solid	6010C	193131

Analysis Batch: 193538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-11	B-119 (17-27)	TCLP	Solid	6010C	193131
490-62081-A-1-C MS	Matrix Spike	TCLP	Solid	6010C	193131
490-62081-A-1-D MSD	Matrix Spike Duplicate	TCLP	Solid	6010C	193131
LB 490-192854/1-B	Method Blank	TCLP	Solid	6010C	193131
LCS 490-193131/4-A	Lab Control Sample	Total/NA	Solid	6010C	193131
MB 490-193131/1-A	Method Blank	Total/NA	Solid	6010C	193131

QC Association Summary

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

General Chemistry

Analysis Batch: 192382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-61841-1	B-101 (17-27, 27-37)	Total/NA	Solid	Moisture	
490-61841-1 DU	B-101 (17-27, 27-37)	Total/NA	Solid	Moisture	
490-61841-2	B-101 (43.5, 47-57)	Total/NA	Solid	Moisture	
490-61841-3	B-102 (3.5-7)	Total/NA	Solid	Moisture	
490-61841-4	B-102 (14-17, 17-27)	Total/NA	Solid	Moisture	
490-61841-5	B-102 (3a)	Total/NA	Solid	Moisture	
490-61841-6	B-116 (3.5-7)	Total/NA	Solid	Moisture	
490-61841-7	B-116 (7-17)	Total/NA	Solid	Moisture	
490-61841-8	B-117 (6-7, 7-17)	Total/NA	Solid	Moisture	
490-61841-9	B-117 (24.6)	Total/NA	Solid	Moisture	
490-61841-10	B-119 (7-17)	Total/NA	Solid	Moisture	
490-61841-11	B-119 (17-27)	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-101 (17-27, 27-37)

Lab Sample ID: 490-61841-1
Date Collected: 08/05/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 78.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			192666	09/23/14 16:56	LDC	TAL NSH
Total/NA	Analysis	8082A		1	193067	09/25/14 12:50	HMT	TAL NSH
Soluble	Leach	DI Leach			192629	09/23/14 15:43	CLN	TAL NSH
Soluble	Analysis	9056A		1	192913	09/25/14 01:11	CLN	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193047	09/24/14 22:05	LTB	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193262	09/25/14 13:03	NLI	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	7470A			192746	09/24/14 09:17	AAS	TAL NSH
TCLP	Analysis	7470A		1	193183	09/25/14 10:28	AAS	TAL NSH
Total/NA	Analysis	Moisture		1	192382	09/22/14 18:28	AJK	TAL NSH

Client Sample ID: B-101 (43.5, 47-57)

Lab Sample ID: 490-61841-2
Date Collected: 08/06/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 75.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			192666	09/23/14 16:56	LDC	TAL NSH
Total/NA	Analysis	8082A		1	193067	09/25/14 13:59	HMT	TAL NSH
Soluble	Leach	DI Leach			192629	09/23/14 15:43	CLN	TAL NSH
Soluble	Analysis	9056A		1	192913	09/25/14 01:31	CLN	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193047	09/24/14 22:28	LTB	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193262	09/25/14 13:25	NLI	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	7470A			192746	09/24/14 09:17	AAS	TAL NSH
TCLP	Analysis	7470A		1	193183	09/25/14 10:29	AAS	TAL NSH
Total/NA	Analysis	Moisture		1	192382	09/22/14 18:28	AJK	TAL NSH

Client Sample ID: B-102 (3.5-7)

Lab Sample ID: 490-61841-3
Date Collected: 08/07/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 78.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			192666	09/23/14 16:56	LDC	TAL NSH
Total/NA	Analysis	8082A		1	193067	09/25/14 14:22	HMT	TAL NSH
Soluble	Leach	DI Leach			192629	09/23/14 15:43	CLN	TAL NSH
Soluble	Analysis	9056A		1	192913	09/25/14 01:51	CLN	TAL NSH

Lab Chronicle

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-102 (3.5-7)

Lab Sample ID: 490-61841-3
Date Collected: 08/07/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193047	09/24/14 22:31	LTB	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193262	09/25/14 13:28	NLI	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	7470A			192746	09/24/14 09:17	AAS	TAL NSH
TCLP	Analysis	7470A		1	193183	09/25/14 10:34	AAS	TAL NSH
Total/NA	Analysis	Moisture		1	192382	09/22/14 18:28	AJK	TAL NSH

Client Sample ID: B-102 (14-17, 17-27)

Lab Sample ID: 490-61841-4
Date Collected: 08/07/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 76.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			192666	09/23/14 16:56	LDC	TAL NSH
Total/NA	Analysis	8082A		1	193067	09/25/14 14:45	HMT	TAL NSH
Soluble	Leach	DI Leach			192629	09/23/14 15:43	CLN	TAL NSH
Soluble	Analysis	9056A		1	192913	09/25/14 02:51	CLN	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193047	09/24/14 22:35	LTB	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193262	09/25/14 13:32	NLI	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	7470A			192746	09/24/14 09:17	AAS	TAL NSH
TCLP	Analysis	7470A		1	193183	09/25/14 10:36	AAS	TAL NSH
Total/NA	Analysis	Moisture		1	192382	09/22/14 18:28	AJK	TAL NSH

Client Sample ID: B-102 (3a)

Lab Sample ID: 490-61841-5
Date Collected: 08/07/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 76.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			192666	09/23/14 16:56	LDC	TAL NSH
Total/NA	Analysis	8082A		1	193067	09/25/14 15:55	HMT	TAL NSH
Soluble	Leach	DI Leach			192629	09/23/14 15:43	CLN	TAL NSH
Soluble	Analysis	9056A		1	192913	09/25/14 03:11	CLN	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193047	09/24/14 22:38	LTB	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH

Lab Chronicle

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-102 (3a)

Lab Sample ID: 490-61841-5

Date Collected: 08/07/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193262	09/25/14 13:35	NLI	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	7470A			192746	09/24/14 09:17	AAS	TAL NSH
TCLP	Analysis	7470A		1	193183	09/25/14 10:37	AAS	TAL NSH
Total/NA	Analysis	Moisture		1	192382	09/22/14 18:28	AJK	TAL NSH

Client Sample ID: B-116 (3.5-7)

Lab Sample ID: 490-61841-6

Date Collected: 08/07/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 77.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			192666	09/23/14 16:56	LDC	TAL NSH
Total/NA	Analysis	8082A		1	193067	09/25/14 16:18	HMT	TAL NSH
Soluble	Leach	DI Leach			192629	09/23/14 15:43	CLN	TAL NSH
Soluble	Analysis	9056A		1	192913	09/25/14 03:31	CLN	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193047	09/24/14 22:42	LTB	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193262	09/25/14 13:39	NLI	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	7470A			192746	09/24/14 09:17	AAS	TAL NSH
TCLP	Analysis	7470A		1	193183	09/25/14 10:38	AAS	TAL NSH
Total/NA	Analysis	Moisture		1	192382	09/22/14 18:28	AJK	TAL NSH

Client Sample ID: B-116 (7-17)

Lab Sample ID: 490-61841-7

Date Collected: 08/07/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 74.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			192666	09/23/14 16:56	LDC	TAL NSH
Total/NA	Analysis	8082A		1	193067	09/25/14 16:41	HMT	TAL NSH
Soluble	Leach	DI Leach			192629	09/23/14 15:43	CLN	TAL NSH
Soluble	Analysis	9056A		1	192913	09/25/14 03:51	CLN	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193047	09/24/14 22:45	LTB	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193262	09/25/14 13:42	NLI	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	7470A			192746	09/24/14 09:17	AAS	TAL NSH

Lab Chronicle

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-116 (7-17)

Lab Sample ID: 490-61841-7
Date Collected: 08/07/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Analysis	7470A		1	193183	09/25/14 10:40	AAS	TAL NSH
Total/NA	Analysis	Moisture		1	192382	09/22/14 18:28	AJK	TAL NSH

Client Sample ID: B-117 (6-7, 7-17)

Lab Sample ID: 490-61841-8
Date Collected: 08/07/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 74.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			192666	09/23/14 16:56	LDC	TAL NSH
Total/NA	Analysis	8082A		1	193067	09/25/14 17:04	HMT	TAL NSH
Soluble	Leach	DI Leach			192629	09/23/14 15:43	CLN	TAL NSH
Soluble	Analysis	9056A		1	192913	09/25/14 04:11	CLN	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193047	09/24/14 22:49	LTB	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193262	09/25/14 13:46	NLI	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	7470A			192746	09/24/14 09:17	AAS	TAL NSH
TCLP	Analysis	7470A		1	193183	09/25/14 10:41	AAS	TAL NSH
Total/NA	Analysis	Moisture		1	192382	09/22/14 18:28	AJK	TAL NSH

Client Sample ID: B-117 (24.6)

Lab Sample ID: 490-61841-9
Date Collected: 08/07/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 86.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			192666	09/23/14 16:56	LDC	TAL NSH
Total/NA	Analysis	8082A		1	193067	09/25/14 17:27	HMT	TAL NSH
Soluble	Leach	DI Leach			192629	09/23/14 15:43	CLN	TAL NSH
Soluble	Analysis	9056A		100	193424	09/26/14 17:29	CLN	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193047	09/24/14 22:52	LTB	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193262	09/25/14 13:49	NLI	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	7470A			192746	09/24/14 09:17	AAS	TAL NSH
TCLP	Analysis	7470A		1	193183	09/25/14 10:43	AAS	TAL NSH
Total/NA	Analysis	Moisture		1	192382	09/22/14 18:28	AJK	TAL NSH

Lab Chronicle

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Client Sample ID: B-119 (7-17)

Lab Sample ID: 490-61841-10

Date Collected: 08/08/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 75.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			192666	09/23/14 16:56	LDC	TAL NSH
Total/NA	Analysis	8082A		1	193067	09/25/14 17:50	HMT	TAL NSH
Soluble	Leach	DI Leach			192629	09/23/14 15:43	CLN	TAL NSH
Soluble	Analysis	9056A		1	192913	09/25/14 04:51	CLN	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193047	09/24/14 22:56	LTB	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	3010A			192760	09/24/14 09:51	TDP	TAL NSH
TCLP	Analysis	6010C		1	193262	09/25/14 14:04	NLI	TAL NSH
TCLP	Leach	1311			192582	09/23/14 13:08	SJM	TAL NSH
TCLP	Prep	7470A			192746	09/24/14 09:17	AAS	TAL NSH
TCLP	Analysis	7470A		1	193183	09/25/14 10:44	AAS	TAL NSH
Total/NA	Analysis	Moisture		1	192382	09/22/14 18:28	AJK	TAL NSH

Client Sample ID: B-119 (17-27)

Lab Sample ID: 490-61841-11

Date Collected: 08/08/14 01:01
Matrix: Solid
Date Received: 09/19/14 08:30
Percent Solids: 71.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			192666	09/23/14 16:56	LDC	TAL NSH
Total/NA	Analysis	8082A		1	193067	09/25/14 18:13	HMT	TAL NSH
Soluble	Leach	DI Leach			192629	09/23/14 15:43	CLN	TAL NSH
Soluble	Analysis	9056A		1	192913	09/25/14 05:11	CLN	TAL NSH
TCLP	Leach	1311			192854	09/24/14 12:55	SJM	TAL NSH
TCLP	Prep	3010A			193131	09/25/14 10:31	ADN	TAL NSH
TCLP	Analysis	6010C		1	193350	09/25/14 21:20	LTB	TAL NSH
TCLP	Leach	1311			192854	09/24/14 12:55	SJM	TAL NSH
TCLP	Prep	3010A			193131	09/25/14 10:31	ADN	TAL NSH
TCLP	Analysis	6010C		1	193538	09/26/14 13:54	LTB	TAL NSH
TCLP	Leach	1311			192854	09/24/14 12:55	SJM	TAL NSH
TCLP	Prep	7470A			192747	09/25/14 11:11	AAS	TAL NSH
TCLP	Analysis	7470A		1	193183	09/25/14 11:23	AAS	TAL NSH
Total/NA	Analysis	Moisture		1	192382	09/22/14 18:28	AJK	TAL NSH

Laboratory References:

EMLab Fort = EMLab P&K Fort Lauderdale, 6301 NW 5th Way, Suite 2850, Fort Lauderdale, FL 33309, TEL (954)776-8400

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL NSH
9056A	Anions, Ion Chromatography	SW846	TAL NSH
6010C	Metals (ICP)	SW846	TAL NSH
7470A	Mercury (CVAA)	SW846	TAL NSH
Moisture	Percent Moisture	EPA	TAL NSH
Asbestos	Asbestos in Soils	NONE	EMLab Fort

Protocol References:

EPA = US Environmental Protection Agency

NONE = NONE

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EMLab Fort = EMLab P&K Fort Lauderdale, 6301 NW 5th Way, Suite 2850, Fort Lauderdale, FL 33309, TEL (954)776-8400

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Certification Summary

Client: Duke Energy Corporation
Project/Site: Riverbend Dry Stack Ash J14090369

TestAmerica Job ID: 490-61841-1

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-15
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	10-31-14
Arizona	State Program	9	AZ0473	05-05-15
Arkansas DEQ	State Program	6	88-0737	04-25-15
California	NELAP	9	1168CA	10-31-14 *
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-15
Illinois	NELAP	5	200010	12-09-14
Iowa	State Program	7	131	04-01-16
Kansas	NELAP	7	E-10229	10-31-14 *
Kentucky (UST)	State Program	4	19	06-30-15
Louisiana	NELAP	6	30613	06-30-15
Maryland	State Program	3	316	03-31-15
Massachusetts	State Program	1	M-TN032	06-30-15
Minnesota	NELAP	5	047-999-345	12-31-14
Mississippi	State Program	4	N/A	06-30-15
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-15
New Hampshire	NELAP	1	2963	10-09-14 *
New Jersey	NELAP	2	TN965	06-30-15
New York	NELAP	2	11342	03-31-15
North Carolina (WW/SW)	State Program	4	387	12-31-14
North Dakota	State Program	8	R-146	06-30-14 *
Ohio VAP	State Program	5	CL0033	10-16-15
Oklahoma	State Program	6	9412	08-31-15
Oregon	NELAP	10	TN200001	04-29-15
Pennsylvania	NELAP	3	68-00585	06-30-15
Rhode Island	State Program	1	LAO00268	12-30-14
South Carolina	State Program	4	84009 (001)	02-28-15
South Carolina (DW)	State Program	4	84009 (002)	02-23-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-15
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-15
Virginia	NELAP	3	460152	06-14-15
Washington	State Program	10	C789	07-19-15
West Virginia DEP	State Program	3	219	02-28-15
Wisconsin	State Program	5	998020430	08-31-15
Wyoming (UST)	A2LA	8	453.07	12-31-15

* Certification renewal pending - certification considered valid.

EMLab P&K
A TestAmerica Company

Report for:

Ms. Shali Brown
TestAmerica-Nashville, TN
2960 Foster Creighton Drive
Nashville, TN 37204

Regarding: Project: 49002157; Riverbend Dry Stack Ash J14090369
EML ID: 1265721

Approved by:

Approved Signatory
Baluswamy Krishnan

Dates of Analysis:
Asbestos PLM: 09-26-2014

Service SOPs: Asbestos PLM (EPA Methods 600/R-93/116 & 600/M4-82-020, SOP EM-AS-S-1267)

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the items tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

EMLab P&K
6301 NW 5th Way, Suite 2850, Ft. Lauderdale, FL 33309
(877) 711-8400 Fax (954) 776-8485 www.emlab.com

Client: TestAmerica-Nashville, TN
C/O: Ms. Shali Brown
Re: 49002157; Riverbend Dry Stack Ash J14090369

Date of Sampling: 08-05-2014
Date of Receipt: 09-23-2014
Date of Report: 09-26-2014

ASBESTOS PLM REPORT: EPA-600/M4-82-020 & EPA METHOD 600/R-93-116

Total Samples Submitted:	11
Total Samples Analysed:	11
Total Samples with Layer Asbestos Content > 1%:	0

Location: B-101 (17-27, 27-37)

Lab ID-Version‡: 5760539-1

Sample Layers	Asbestos Content
Dark Gray Non-Fibrous Material	ND
Sample Composite Homogeneity:	Moderate

Location: B-101 (43.5, 47-57)

Lab ID-Version‡: 5760540-1

Sample Layers	Asbestos Content
Dark Gray Non-Fibrous Material	ND
Sample Composite Homogeneity:	Good

Location: B-102 (3.5-7)

Lab ID-Version‡: 5760541-1

Sample Layers	Asbestos Content
Dark Gray Non-Fibrous Material	ND
Sample Composite Homogeneity:	Good

Location: B-102 (14-17, 17-27)

Lab ID-Version‡: 5760542-1

Sample Layers	Asbestos Content
Dark Gray Non-Fibrous Material	ND
Sample Composite Homogeneity:	Good

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. EMLab P&K reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

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Client: TestAmerica-Nashville, TN
C/O: Ms. Shali Brown
Re: 49002157; Riverbend Dry Stack Ash J14090369

Date of Sampling: 08-05-2014
Date of Receipt: 09-23-2014
Date of Report: 09-26-2014

ASBESTOS PLM REPORT: EPA-600/M4-82-020 & EPA METHOD 600/R-93-116

Location: B-102 (3a) Lab ID-Version‡: 5760543-1

Sample Layers	Asbestos Content
Dark Gray Non-Fibrous Material	ND
Sample Composite Homogeneity:	Moderate

Location: B-116 (3.5-7) Lab ID-Version‡: 5760544-1

Sample Layers	Asbestos Content
Dark Gray Non-Fibrous Material	ND
Sample Composite Homogeneity:	Good

Location: B-116 (7-17) Lab ID-Version‡: 5760545-1

Sample Layers	Asbestos Content
Dark Gray Non-Fibrous Material	ND
Sample Composite Homogeneity:	Good

Location: B-117 (6-7, 7-17) Lab ID-Version‡: 5760546-1

Sample Layers	Asbestos Content
Dark Gray Non-Fibrous Material	ND
Sample Composite Homogeneity:	Good

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

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6301 NW 5th Way, Suite 2850, Ft. Lauderdale, FL 33309
(877) 711-8400 Fax (954) 776-8485 www.emlab.com

Client: TestAmerica-Nashville, TN
C/O: Ms. Shali Brown
Re: 49002157; Riverbend Dry Stack Ash J14090369

Date of Sampling: 08-05-2014
Date of Receipt: 09-23-2014
Date of Report: 09-26-2014

ASBESTOS PLM REPORT: EPA-600/M4-82-020 & EPA METHOD 600/R-93-116

Location: B-117 (24.6) Lab ID-Version‡: 5760547-1

Sample Layers	Asbestos Content
Dark Gray Non-Fibrous Material	ND
Sample Composite Homogeneity:	Good

Location: B-119 (7-17) Lab ID-Version‡: 5760548-1

Sample Layers	Asbestos Content
Dark Gray Non-Fibrous Material	ND
Sample Composite Homogeneity:	Good

Location: B-119 (17-27) Lab ID-Version‡: 5760549-1

Sample Layers	Asbestos Content
Dark Gray Non-Fibrous Material	ND
Sample Composite Homogeneity:	Good

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-61841 Chain of Custody

6008
2806

Cooler Received/Opened On 9/19/2014 @ 0830

1. Tracking # 8887 (last 4 digits, FedEx)

Courier: Fed Ex IR Gun ID 17960358

2. Temperature of rep. sample or temp blank when opened: 21.5 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) EJA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (intial) D

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) D

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) M

I certify that I attached a label with the unique LIMS number to each container (intial) M

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# 140553 140554

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 11/28/12

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

DUKE ENERGY®

Analytical Laboratory Services
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(980) 875-5245
Fax: (980) 875-4349

Analytical Laboratory Use Only

Work Order: J14090369
Matrix:
Samples Originating From: NC___ SC___ OH___
Logged by: DM
Date & Time: 9/18/14 1145
Ven: Test America
PO: PO #658489
HDD
SAMPLE PROGRAM: Ground Water ___ NPDES ___ Other ___ Plant ___ RCRA Waste ___

Page 1 of 1
DISTRIBUTION
ORIGINAL to LAB, COPY to CLIENT

Customer must Complete

1)Project Name: Riverbend Dry Stack Ash		2)Phone No:
3)Client: Robert Wylie, Sean DeNeale, Andy Tinsley		4)Fax No:
5)Business Unit:	6)Project ID:	7)Mail Code:
8) Operating Unit:	9)Activity ID:	10)Process ID

Important: When specific accounting has been established enter that accounitng above. If specific accounting has not established we can work with just the Operating Unit and Process ID. THANKS!

LOOK... Customer to complete all appropriate areas.

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

Loc: 490
61841

Methods used must be SCDHEC certified

LAB USE ONLY 11Lab ID	12Chem Desktop No.	13Sample Description or ID	14Collection Information Date	Time	Signature	17Comp.	18Grab	16Analyses Required: 8 RCRA Metals TCLP (5)	PCB (5)	Sulfate, Total (5)	Asbestos (5)	20Total # of Containers
2414027 417		B-101 (17-27, 27-37)	8/5/14	NA				X	X	X	X	
418		B-101 (43.5, 47-57)	8/6/14					X	X	X	X	
419		B-102 (3.5-7)	8/7/14					X	X	X	X	
420		B-102 (14-17, 17-27)	8/7/14					X	X	X	X	
421		B-102 (39)	8/7/14					X	X	X	X	
422		B-116 (3.5-7)	8/7/14					X	X	X	X	
423		B-116 (7-17)	8/7/14					X	X	X	X	
424		B-117 (6-7, 7-17)	8/7/14					X	X	X	X	
425		B-117 (24.6)	8/7/14					X	X	X	X	
426		B-119 (7-17)	8/8/14					X	X	X	X	
427		B-119 (17-27)	8/8/14					X	X	X	X	

Customer to complete appropriate columns to right

21)Relinquished By: [signature]	Date/Time: 9/18/14 /1030	Accepted By: [signature]	Date/Time: 3/15 10:30 am 9/18/14
Relinquished By: [signature]	Date/Time:	Accepted By: [signature]	Date/Time: 9/18/14 1125
Relinquished By: [signature]	Date/Time: 9/18/14	Accepted By: FED EX	Date/Time:
Sealed/Locked By:	Date/Time:	Sealed/Lock Opened By: [signature]	Date/Time: 9/18/14 1140

24)Comments: Samples collected in soil Jars/bags & transfered to Lab bottles on 9/18/14

[signature] TRAN 9/19/14 0830 21.5

22Requested Turnaround
14 Days 9/29/14
48 Hr ___
Other ___ 24 Hr ___
Add. Cost Will Apply

TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brown, Shall	Carrier Tracking No(s):	COC No: 490-23647.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: shall.brown@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc				Job #: 490-61841-1
Address: 6301 NW 5th Way, Suite 2850,	Due Date Requested: 9/24/2014			
City: Fort Lauderdale	TAT Requested (days):			
State, Zip: FL, 33309				
Phone: 954-776-8400(Tel) 954-xxx-xxxx(Fax)	PO #:			
Email:	WO #:			
Project Name: Riverbend Dry Stack Ash J14090369	Project #: 49002157			
Site:	SSOW#:			

Analysis Requested

001265721

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (w=water, s=solid, o=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	SUB (Asbestos)/ Asbestos	Total # of containers	Special Instructions/Note:
			Preservation Code:					
B-101 (17-27, 27-37)	8/5/14	01:01 Eastern		Solid		X		Asbestos; due 9/26
B-101 (43.5, 47-57)	8/6/14	01:01 Eastern		Solid		X		Asbestos; due 9/26
B-102 (3.5-7)	8/7/14	01:01 Eastern		Solid		X		Asbestos; due 9/26
B-102 (14-17, 17-27)	8/7/14	01:01 Eastern		Solid		X		Asbestos; due 9/26
B-102 (9a)	8/7/14	01:01 Eastern		Solid		X		Asbestos; due 9/26
B-116 (3.5-7)	8/7/14	01:01 Eastern		Solid		X		Asbestos; due 9/26
B-116 (7-17)	8/7/14	01:01 Eastern		Solid		X		Asbestos; due 9/26
B-117 (6-7, 7-17)	8/7/14	01:01 Eastern		Solid		X		Asbestos; due 9/26
B-117 (24.6)	8/7/14	01:01 Eastern		Solid		X		Asbestos; due 9/26
B-119 (7-17)	8/8/14	01:01 Eastern		Solid		X		Asbestos; due 9/26
B-119 (17-27)	8/8/14	01:01 Eastern		Solid		X		Asbestos; due 9/26

Possible Hazard Identification
Foreign Soil

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 9/22/14 16:03	Company: NASHVILLE	Received by:	Date/Time: 9/23/14 9:55a	Company: Eurofins PM
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Login Sample Receipt Checklist

Client: Duke Energy Corporation

Job Number: 490-61841-1

Login Number: 61841

List Source: TestAmerica Nashville

List Number: 1

Creator: Buckingham, Paul

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	False	
Residual Chlorine Checked.	N/A	

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

DUKE ENERGY®

Analytical Laboratory Services
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(980) 875-5245
Fax: (980) 875-4349

Analytical Laboratory Use Only

Work Order: J14090369
Matrix:
Samples Originating From: NC___ SC___ OH___
Logged by: DM
Date & Time: 9/18/14 1145
Ven: Test America
PO: PO #658489
SAMPLE PROGRAM: Ground Water ___ NPDES ___ Other ___ Plant ___ RCRA Waste ___

Page 1 of 1
DISTRIBUTION
ORIGINAL to LAB, COPY to CLIENT

Customer must Complete

1)Project Name: Riverbend Dry Stack Ash		2)Phone No:
3)Client: Robert Wylie, Sean DeNeale, Andy Tinsley		4)Fax No:
5)Business Unit:	6)Project ID:	7)Mail Code:
8) Operating Unit:	9)Activity ID:	10)Process ID

Important: When specific accounting has been established enter that accounitng above. If specific accounting has not established we can work with just the Operating Unit and Process ID. THANKS!

LOOK... Customer to complete all appropriate areas.

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

Customer to complete appropriate columns to right

LAB USE ONLY 11 Lab ID	12 Chem Desktop No.	13 Sample Description or ID	14 Collection Information: Date	Time	Signature	16 Analyses Required: 17 Comp.	18 Grab	8 RCRA Metals TCLP (5)	PCB (5)	Sulfate, Total (5)	Asbestos (5)	Methods used must be SCDHEC certified	20 Total # of Containers
2414027 417		B-101 (17-27, 27-37)	8/5/14	NA				X	X	X	X		
418		B-101 (43.5, 47-57)	8/6/14					X	X	X	X		
419		B-102 (3.5-7)	8/7/14					X	X	X	X		
420		B-102 (14-17, 17-27)	8/7/14					X	X	X	X		
421		B-102 (39)	8/7/14					X	X	X	X		
422		B-116 (3.5-7)	8/7/14					X	X	X	X		
423		B-116 (7-17)	8/7/14					X	X	X	X		
424		B-117 (6-7, 7-17)	8/7/14					X	X	X	X		
425		B-117 (24.6)	8/7/14					X	X	X	X		
426		B-119 (7-17)	8/8/14					X	X	X	X		
427		B-119 (17-27)	8/8/14					X	X	X	X		

21)Relinquished By: [signature]	Date/Time: 9/18/14 /1030	Accepted By: [signature]	Date/Time: 3/15 10:30 am 9/18/14
Relinquished By: [signature]	Date/Time:	Accepted By: [signature]	Date/Time: 9/18/14 1125
Relinquished By: [signature]	Date/Time: 9/18/14	Accepted By: [signature]	Date/Time:
Sealed/Locked By:	Date/Time:	Sealed/Lock Opened By: [signature]	Date/Time: 9/18/14 1140

24)Comments: Samples collected in soil Jars/bags & transfered to Lab bottles on 9/18/14

22 Requested Turnaround
14 Days 9/29/14
48 Hr ___
*Other ___ 24 Hr ___
* Add. Cost Will Apply

envirochem

ANALYTICAL & CONSULTING CHEMISTS

Environmental Chemists, Inc.

6602 Windmill Way • Wilmington, NC 28405
(910) 392-0223 (Lab) • (910) 392-4424 (Fax)

710 Bowsertown Road • Manteo, NC 27954
(252) 473-5702

NCDENR: DWQ CERTIFICATE #94. DLS CERTIFICATE #37729

Progress Energy - L.V. Sutton Plant
801 Sutton Plant Road
Wilmington NC 28401
Attention: R. Kent Tyndall

Date of Report: Jun 28, 2012
Customer PO #:
Report #: 2012-06128
Report to: R. Kent Tyndall
Project ID:

Lab ID	Sample ID:	Collect Date/Time	Matrix	Sampled by
12-14940	**Site:** Ash Sample	6/8/2012 2:00 PM	Solid/Sludge	Greg Brown

Test	Method	Results	Date Analyzed
Total Solids (%)	SM 2540 B	61.2 %	06/12/2012
Chlordane	SW 846 Method 8081B/3510	<0.0005 mg/L	06/21/2012
Endrin	SW 846 Method 8081B/3510	<0.00015 mg/L	06/21/2012
Heptachlor	SW 846 Method 8081B/3510	<0.00015 mg/L	06/21/2012
Heptachlor epoxide	SW 846 Method 8081B/3510	<0.00015 mg/L	06/21/2012
Lindane	SW 846 Method 8081B/3510	<0.00015 mg/L	06/21/2012
Methoxychlor	SW 846 Method 8081B/3510	<0.00015 mg/L	06/21/2012
Toxaphene	SW 846 Method 8081B/3510	<0.0005 mg/L	06/21/2012
1,4-Dichlorobenzene (TCLP)	SW 846 method 8270/3510	<0.005 mg/L	06/11/2012
2,4,5-Trichlorophenol (TCLP)	SW 846 method 8270/3510	<0.005 mg/L	06/11/2012
2,4,6-Trichlorophenol (TCLP)	SW 846 method 8270/3510	<0.005 mg/L	06/11/2012
2,4-Dinitrotoluene (TCLP)	SW 846 method 8270/3510	<0.005 mg/L	06/11/2012
Cresol (TCLP)	SW 846 method 8270/3510	<0.005 mg/L	06/11/2012
Hexachloro-1,3-butadiene (TCLP)	SW 846 method 8270/3510	<0.005 mg/L	06/11/2012
Hexachlorobenzene (TCLP)	SW 846 method 8270/3510	<0.005 mg/L	06/11/2012
Hexachloroethane (TCLP)	SW 846 method 8270/3510	<0.005 mg/L	06/11/2012
m + p-Cresol (TCLP)	SW 846 method 8270/3510	<0.005 mg/L	06/11/2012
Nitrobenzene (TCLP)	SW 846 method 8270/3510	<0.005 mg/L	06/11/2012
o-Cresol (TCLP)	SW 846 method 8270/3510	<0.005 mg/L	06/11/2012
Pentachlorophenol (TCLP)	SW 846 method 8270/3510	<0.025 mg/L	06/11/2012
Pyridine (TCLP)	SW 846 method 8270/3510	<0.005 mg/L	06/11/2012
2,4,5-TP	SW846 Method 8151A	<0.00333 mg/L	06/25/2012
2,4-D	SW846 Method 8151A	<0.0133 mg/L	06/25/2012
1,1-Dichloroethylene	SW846 Method 8260/5030	< 0.01 mg/L	6/19/2012
1,2-Dichloroethane	SW846 Method 8260/5030	< 0.01 mg/L	6/19/2012
Benzene	SW846 Method 8260/5030	< 0.01 mg/L	6/19/2012
Carbon Tetrachloride	SW846 Method 8260/5030	< 0.01 mg/L	6/19/2012

envirochem (SM)

ANALYTICAL & CONSULTING CHEMISTS

Environmental Chemists, Inc.

6602 Windmill Way • Wilmington, NC 28405
(910) 392-0223 (Lab) • (910) 392-4424 (Fax)

710 Bowsertown Road • Manteo, NC 27954
(252) 473-5702

NCDENR: DWQ CERTIFICATE #94. DLS CERTIFICATE #37729

Progress Energy - L.V. Sutton Plant
801 Sutton Plant Road
Wilmington NC 28401
Attention: R. Kent Tyndall

Date of Report: Jun 28, 2012
Customer PO #:
Report #: 2012-06128
Report to: R. Kent Tyndall
Project ID:

Chlorobenzene	SW846 Method 8260/5030	< 0.01 mg/L	6/19/2012
Chloroform	SW846 Method 8260/5030	< 0.01 mg/L	6/19/2012
Methyl ethyl ketone	SW846 Method 8260/5030	< 0.05 mg/L	6/19/2012
Tetrachloroethylene	SW846 Method 8260/5030	< 0.01 mg/L	6/19/2012
Trichloroethylene	SW846 Method 8260/5030	< 0.01 mg/L	6/19/2012
Vinyl Chloride	SW846 Method 8260/5030	< 0.01 mg/L	6/19/2012
TCLP Metals			
Arsenic	EPA 200.7	<0.100 mg/L	06/14/2012
Barium	EPA 200.7	3.00 mg/L	06/14/2012
Cadmium	EPA 200.7	<0.100 mg/L	06/14/2012
Chromium	EPA 200.7	<0.100 mg/L	06/14/2012
Lead	EPA 200.7	<0.100 mg/L	06/14/2012
Selenium	EPA 200.7	<0.100 mg/L	06/14/2012
Silver	EPA 200.7	<0.100 mg/L	06/14/2012
Mercury	EPA 245.1	<0.002 mg/L	06/28/2012

Comment:

Reviewed by: Jim Price / Amy [illegible]

ATTACH PGN
USINESS
ARD
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ENVIRONMENTAL CHEMISTS, INC

Sample Collection and Chain of Custody

NCDENR: DWQ Certificate #94, DLS Certificate #37729

Analytical & Consulting Chemists

6602 Windmill Way
Wilmington, NC 28405
Phone: (910) 392-0223
Fax: (910) 392-4424
Email: EchemW@aol.com

Report No: 12-6128

Client: Progress Energy-Sutton Plant, 801 Sutton Steam Plant Rd, Wilmington, NC 28401

Collected By: Greg Brown

Sample Type: I = Influent, E = Effluent, W = Well, ST = Stream, SO = Soil, SL = Sludge Other:

Sample Identification	Collection DATE	TIME	TEMP	Sample Type	Composite or Grab	Container (P or G)	Chlorine mg/L	LAB ID NUMBER	PRESERVATION NONE	HCL	H_2SO_4	HNO_3	NaOH	THIO	OTHER	ANALYSIS REQUESTED
ash sample	6/8/12	2pm	—		C	P		14940	X							See attached email for analysis requested
					G	G										
					C	P										
					G	G										
					C	P										
					G	G										
					C	P										
					G	G										8 RCRA Metal TCLP
					C	P										
					G	G										
					C	P										
					G	G										8 RCRA Metal TCLP (** RUSH **)
					C	P										
					G	G										8 RCRA Metal TCLP (** RUSH **)
					C	P										
					G	G										8 RCRA Metal TCLP (** RUSH **)
					C	P										
					G	G										8 RCRA Metal TCLP (** RUSH **)
					C	P										
					G	G										

(Invoice this test separately from all others)

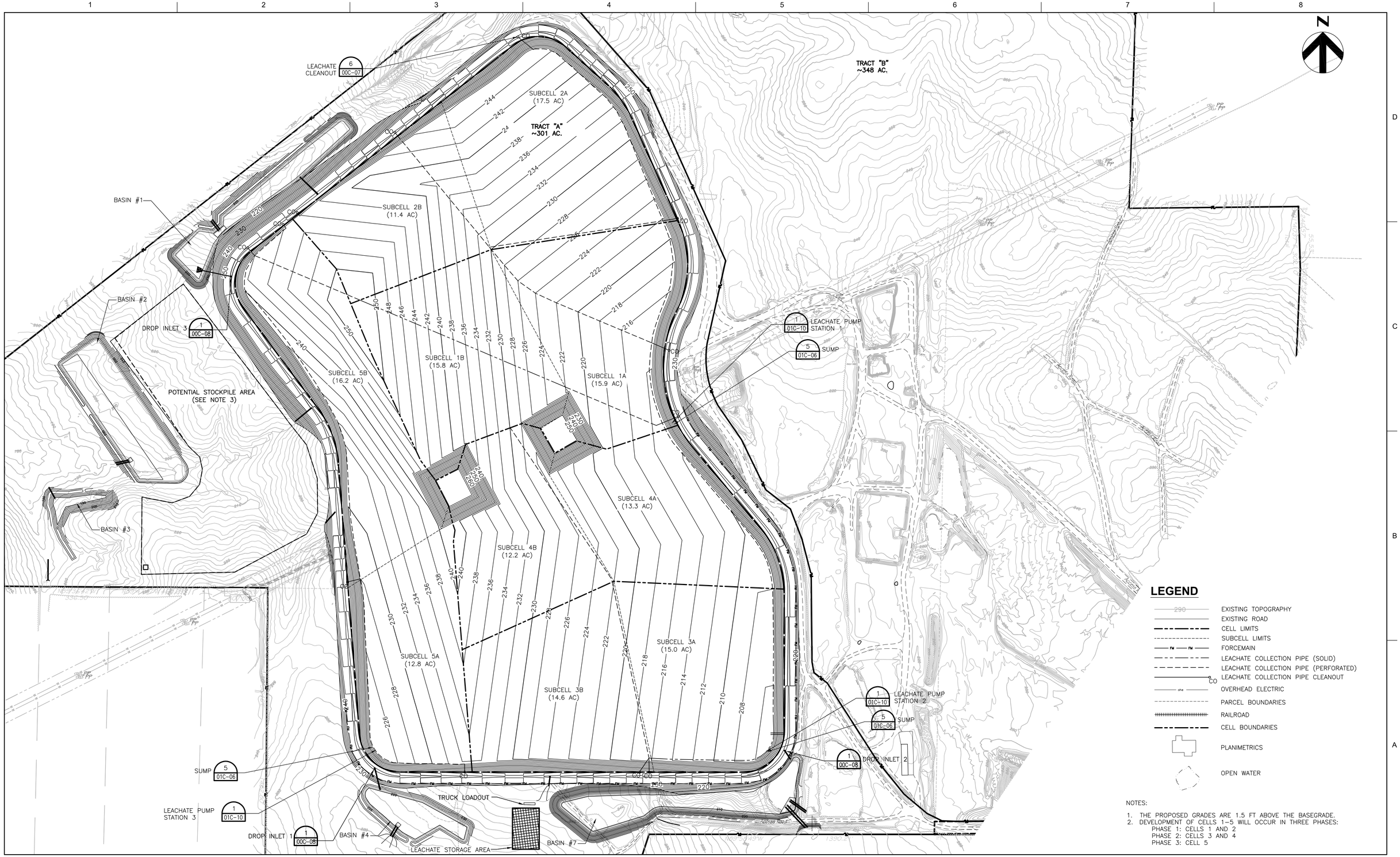
NOTICE – DECHLORINATION : Samples for Ammonia, TKN, Cyanide, Phenol, and Bacteria must be dechlorinated (0.2 ppm or less) in the field at the time of collection. See reverse side for instructions.

Transfer	Relinquished By:	Date/Time	Received By:	Date/Time
1.	Kent Tyndall	6/8/12 2:30 pm		
2.				

Temperature when Received: _____ Accepted: ✓ Rejected: _____ Resample Requested: _____

Delivered By: Kent Tyndall Received By: [signature] Date: 6/8/12 Time: 1555

Comments: full TCLP analysis by SW-846 1311, 8260, 8270, 8081, 8151, and RCRA 8 metals



NOTES:

1. THE PROPOSED GRADES ARE 1.5 FT ABOVE THE BASEGRADE.
2. DEVELOPMENT OF CELLS 1–5 WILL OCCUR IN THREE PHASES:
   PHASE 1: CELLS 1 AND 2
   PHASE 2: CELLS 3 AND 4
   PHASE 3: CELL 5

HDR

HDR Engineering Inc.
of the Carolinas

440 S. Church St. Suite 1000
Charlotte, NC 28202-2075
704.338.6700
N.C.B.E.L.S. License Number F-0116

ISSUE	DATE	DESCRIPTION
B	12/2014	REPLACED TOP OF ASH WITH TOP OF LINER GRADES
A	11/2014	ISSUED FOR APPROVAL

PROJECT MANAGER	M.D. PLUMMER, P.E.
DESIGNED BY	P. WESTMORELAND, P.E.
DRAWN BY	J. GAUL
CHECKED BY	J. READLING, P.E.
PROJECT NUMBER	453925-237673-018

NORTH CAROLINA PROFESSIONAL SEAL 025495 ENGINEER MICHAEL D. PLUMMER 11/7/14

Charah®

BRICKHAVEN No. 2 MINE TRACT "A" MINE
STRUCTURAL FILL
MONCURE, NC

TOP OF LINER

0 1" 2"

FILENAME 01C-03.dwg
SCALE 1"=200'

SHEET 01C-03

C:\pwworking\tpa\d0565688\01C-03.dwg, Plot, 12/4/2014 8:49:24 AM, jgaul