

NRG Energy
Dickerson Generating Station
21200 Martinsburg Road
Dickerson, Maryland 20842

Certified Mail/Return Receipt Requested
7011 3500 0003 6606 4402

Ms. Martha Hynson
Maryland Department of the Environment
Land Management Administration
1800 Washington Boulevard, Suite 605
Baltimore MD 21230-1719

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FEB 24 2017

LAND MANAGEMENT ADMIN
SOLID WASTE PROGRAM

February 21, 2017

Re: 2016 CCB Tonnage Report for GenOn Mid-Atlantic, LLC's Dickerson Generating Station.

Dear Ms. Hynson,

Per the CCB reporting requirements, please find enclosed the 2016 CCB Tonnage Report for GenOn Mid-Atlantic, LLC's Dickerson Generating Station.

If you have any questions regarding this report, please contact me at 301-601-6515, or at Peter.Heimlicher@nrg.com.

Regards,

A handwritten signature in dark ink, appearing to read "Peter Heimlicher". The signature is written in a cursive, flowing style.

Peter Heimlicher
Environmental Specialist

MARYLAND DEPARTMENT OF THE ENVIRONMENT

Land Management Administration • Solid Waste Program
1800 Washington Boulevard • Suite 605 • Baltimore Maryland 21230-1719
410-537-3315 • 800-633-6101 x3315 • www.mde.maryland.gov

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LAND MANAGEMENT ADMIN.
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Coal Combustion Byproducts (CCBs) Annual Generator Tonnage Report Instructions for Calendar Year 2016

The following is general information relating to the requirement for reporting quantities of coal combustion byproducts (CCBs) that were managed in the State of Maryland during calendar year 2016. Please answer the questions on the form provided, attaching additional information and any requested supplemental information to the back of the form. *Note that the form for this year requires both volume and weight of the CCBs produced. If you know one of these parameters but not the others, for example, you have the tonnage produced but not the volume, you may calculate the other parameter; however, please provide the calculations and assumptions that you used in your estimate.* Questions can be directed to the Solid Waste Program at (410) 537-3315 or via email at ed.dexter@maryland.gov.

I. Background. This requirement that generators of CCBs submit an annual report was instituted in the Code of Maryland Regulations COMAR 26.04.10.08, that was promulgated effective December 1, 2008. The regulation requires that any non-residential generator of CCBs submit a report to the Department by March 1 of each year describing the manner in which CCBs generated within the State were managed during the preceding calendar year. Additional information and specific instructions follow. For more detailed information, please refer to COMAR 26.04.10.08.

II. General Information and Applicability.

A. Definitions. CCBs are defined in COMAR 26.04.10.02B as:

*“(3) Coal Combustion Byproducts. (a) "Coal combustion byproducts" means the residue generated by or resulting from the burning of coal.
(b) "Coal combustion byproducts" includes fly ash, bottom ash, boiler slag, pozzolan, and other solid residuals removed by air pollution control devices from the flue gas and combustion chambers of coal burning furnaces and boilers, including flue gas desulfurization sludge and other solid residuals recovered from flue gas by wet or dry methods.”*

A generator of CCBs is defined in COMAR 26.04.10.02B as:

*“(9) Generator.
(a) "Generator" means a person whose operations, activities, processes, or actions create coal combustion byproducts.
(b) "Generator" does not include a person who only generates coal combustion byproducts by burning coal at a private residence.”*

B. A description of the process that generates the CCBs, including the type of coal or other raw material that generates the CCBs. If the space provided is insufficient, please attach additional pages:

See Attachment A.

C. The volume and weight of CCBs generated during calendar year 2016, including an identification of the different types of CCBs generated and the volume of each type generated. If the space provided is insufficient, please attach additional pages in a similar format. If converting from volume to weight or weight to volume, please provide your calculations and assumptions.

Table I: Volume and Weight of CCBs Generated for Calendar Year 2016: Please note the change to this table from previous years, to include both the volume and weight of the types of CCBs your facility produces.

Volume and Weight of CCBs Generated for Calendar Year 2016			
Fly Ash Type of CCB	Bottom Ash Type of CCB	On Spec Gypsum Type of CCB	WWTP Type of CCB
16122	2678	13985	151
Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards
16122	2678	27319	295
Weight of CCB, in Tons	Weight of CCB, in Tons	Weight of CCB, in Tons	Weight of CCB, in Tons

Additional notes:

CCB Tonnages are reported in dry short tons. CCB volumes are reported in dry Cubic Yards.

WWTP Tons represent fines from the Flue Gas Desulfurization's Waste Water Treatment

Volumes of Flyash in Dry Cubic Yards are calculated from dry short tons using a density of 1.0 Tons/Dry CY.

Volumes of Bottom Ash in Dry Cubic Yards are calculated from dry short tons using a density of 1.0 Tons/Dry CY.

Volumes of On-Spec Gypsum, Off-Spec Gypsum and WWTP Fines are calculated from dry short tons using a density of 1.95 Tons/Dry CY.

D. Descriptions of any modeling or risk assessments, or both, conducted relating to the CCBs or their use that were performed by you or your company during the reporting year. Please attach this information to the report.

E. Copies of all laboratory reports of all chemical characterizations of the CCBs. Please attach this information to the report.

F. A description of how you disposed of or used your CCBs in calendar year 2016, identifying:

(a) The types and volume of CCBs disposed of or used (if different than described in Paragraph C above) including any CCBs stored during the previous calendar year, the location of disposal, mine reclamation and use sites, and the type and volume of CCBs disposed of or used at each site:

All of the 16,122 tons of **flyash** generated at Dickerson in 2016 were disposed of at the Westland Ash Site, located in Montgomery Co., Md.

All of the 2,678 tons of **bottom ash** generated in 2016 were sent to the Westland Ash Site, located in Montgomery Co., Md for disposal.

On-Spec Gypsum generated at Dickerson in 2016 was 27,319 tons. 390 tons were stored on-site at the end of 2015, and 351 tons were stored on-site at the end of 2016. Of this total, 27,358 tons were transported by barge to Continental , located in Buchanan, NY.

WWTP Fines produced in 2016 was 295 tons, all of which was disposed of at Waste Management's Amelia Landfill, located in Jetersville, Va.

and (b) The different uses by type and volume of CCBs:

On-Spec Gypsum: _____

Volume: 27,358 tons sold _____

Use: Wallboard _____

If the space provided is insufficient, please attach additional pages in a similar format.

G. A description of how you intend to dispose of or use CCBs in the next 5 years, identifying:

(a) The types and volume of CCBs intended to be disposed of or used, the location of intended disposal, mine reclamation and use sites, and the type and volume of CCBs intended to be disposed of or used at each site:

FlyAsh: Approximately 16,000 tons/year to be generated and sent for disposal at the Westland Ash Site, located in Montgomery Co., Md. _____

Bottom Ash: Anticipate 2,700 tons/year to be generated and sent to the Westland Ash Site, located in Montgomery Co., Md, for disposal. _____

On-Spec Gypsum: Anticipate 27,300 tons/year to be generated, with approximately 390 tons stored on site at the Dickerson Generating Station and approximately 27,358 tons/year being transported by barge to Continental, located in Buchanan, NY. _____

WWTP Fines: Approximately 295 tons/year to be generated and disposed of at Waste Management's Amelia Landfill located in Jetersville, Va. _____

and (b) The different intended uses by type and volume of CCBs.

Volume: 27,000 tons/year to be sold. _____

Use: Wallboard _____

If the space provided is insufficient, please attach additional pages in a similar format.

IV. Signature and Certification. An authorized official of the generator must sign the annual report, and certify as to the accuracy and completeness of the information contained in the annual report:

This is to certify that, to the best of my knowledge, the information contained in this report and any attached documents are true, accurate, and complete.

 Signature	<p><u>Mike Bennett, Plant Manager, Dickerson</u> <u>Generating Station</u> 301-601-6522</p> <hr/> Name, Title, & Telephone No. (Print or Type)	<p><u>2/21/2017</u> Date</p>
	<p><u>David.m.bennett@nrg.com</u> Your Email Address</p>	

V: Attachments (please list):

A) Dickerson Generating Station Process Description

B) Microbac Report # 15F1443:Analyses for Dickerson Ash, Gypsum and WWTP Fines

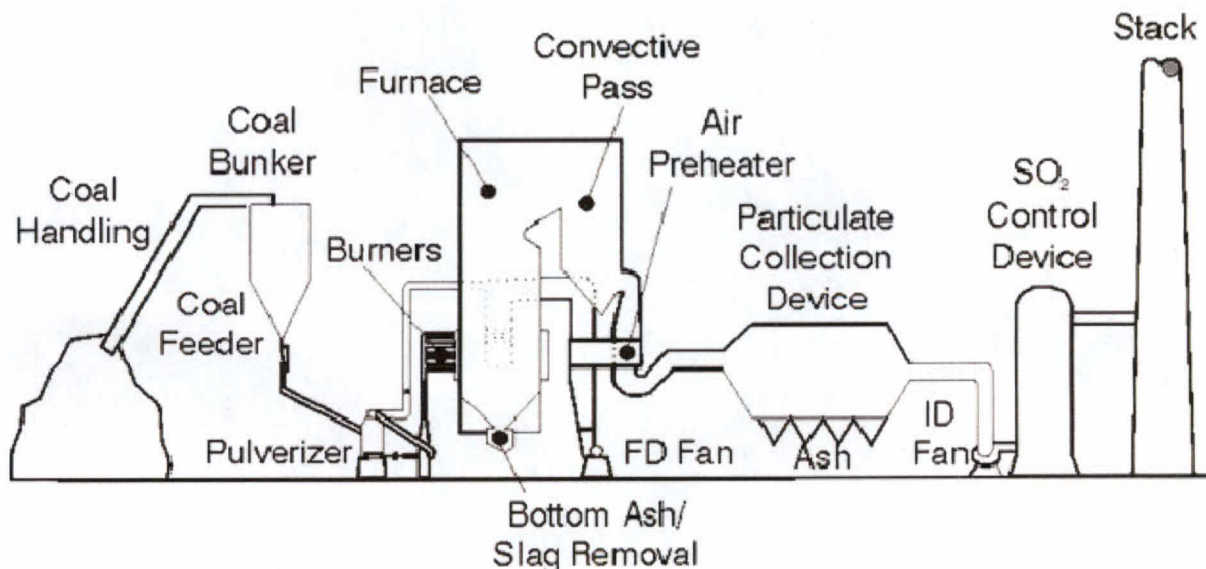
Attachment A

Dickerson Generating Station
21200 Martinsburg Road,
Dickerson, Montgomery County, MD. 20842
301-601-6500

The Dickerson Generating Station is located on the Potomac River, south of the Monocacy River in upper Montgomery County, near Dickerson, MD. The facility is engaged in the generation of electric energy for sale. The primary SIC code for this facility is 4911. The facility consists of three steam units, each rated at 173 MWs (base loaded), firing bituminous coal. Each unit is tangentially fired, with a superheater, reheat and economizer. Electrostatic precipitators (ESPs) and a baghouse are installed for particulate control. Low NO_x burners, Separated Over-Fired Air (SOFA), Selective Non Catalytic Reduction (SNCR) along with an advanced combustion control system are installed on each unit to reduce and control emissions of oxides of nitrogen (NO_x). A Wet Scrubber (FGD) was installed and went in service on the three units in late 2009. The units exhaust through the scrubber stack or, when the FGD is not in service, through a common 700 ft. stack.

Coal is delivered to the Dickerson facility by rail. The rail cars are emptied using a rotary dumper, then transferred by conveyor to either a storage pile or fed directly to a unit's bunker.

The illustration below shows a simple schematic diagram for a typical pulverized coal combustion system. The coal is prepared by grinding to a very fine consistency for combustion.



Attachment A

The CCBs currently produced and used are a result of the combustion of pulverized coal.

Ash is formed in the boiler while coal combusts. In general, pulverized coal combustion results in approximately 10 % ash, of which 65%–85% is fly ash, and the remainder is coarser bottom ash. Bottom ash is a coarse material and falls to the bottom of the boiler. Fly ash is finer than bottom ash and is carried along the combustion process with flue gas. Particulate collection devices remove fly ash from the flue gas and the collected ash is transferred to two ash silos. Fly ash that is not marketed is sent to the Westland Ash Site, whose property is separated from the Dickerson facility by a public road, and is also located in Montgomery County. The bottom ash is conveyed out of the bottom of the boiler via a wet sluice system to hydrobins, where the water is then decanted and the bottom ash sent to the Westland Ash Site, where it is often used in the construction of flyash disposal cells.

Gypsum is a byproduct of SO₂ removal by the Flue Gas Desulfurization (FGD) system, commonly known as a scrubber. Dickerson uses wet scrubbers for SO₂ removal. Wet scrubbing utilizes a chemical reaction with limestone alkaline sorbent to remove SO₂ from the air stream. The byproduct - gypsum - is sent by rail to the Morgantown Generating Station where it is then conveyed to a barge and transported to Continental located in Buchanan, New York where it is made into wallboard. Gypsum that doesn't meet the specifications for wallboard production is transported for disposal to Waste Management's Amelia Landfill in Virginia. Waste Water Treatment Plant Fines (WWTP Fines) are removed from the Scrubber's WWTP as needed and transported to Waste Management's Amelia Landfill in Virginia for disposal.



Microbac Laboratories, Inc.

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COVER LETTER

Andrew McCulloch
NRG Energy - Dickerson
21200 Martinsburg Rd.
Dickerson, MD 20842
RE: Coal Combustion By Products

February 16, 2016
Report No.: 16A1139
RECEIVED
FEB 24 2017
LAND MANAGEMENT ADMIN.
SOLID WASTE PROGRAM

The report of analyses contains test results for samples received at Microbac Laboratories, Inc., Baltimore Division on 01/21/2016 13:40.

The enclosed results were obtained from and applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report has been reviewed and meet the applicable project and certification specific requirements, unless otherwise noted.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories, Inc.

We appreciate the opportunity to service your analytical needs. If you have any questions, please feel free to contact us.

This Data Package contains the following:

- This Cover Page
- Sample Summary
- Test Results
- Certifications/Notes and Definitions
- Cooler Receipt Log
- Chain of Custody

2/16/2016

Final report reviewed by:

Kimberley M. Mack/Project Manager

Report issue date

All samples received in proper condition and results conform to ISO 17025 and TNI NELAC standards unless otherwise noted.

If we have not met or exceeded your expectations, please contact Kimberley M. Mack/Project Manager at 410-633-1800. You may also contact Trevor Boyce, President at trevor.boyce@microbac.com



Microbac Laboratories, Inc.
Baltimore Division

2101 Van Deman Street • Baltimore, MD 21224

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Fax: 410-633-6553
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CERTIFICATE OF ANALYSIS

NRG Energy - Dickerson 21200 Martinsburg Rd. Dickerson, MD 20842	Project: Coal Combustion By Products Project Number: Coal Combustion By Products Project Manager: Andrew McCulloch	Report: 16A1139 Reported: 02/16/2016 11:07
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SAMPLE SUMMARY

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
Fly Ash	16A1139-01	Solid	Grab	01/20/2016 12:30	01/21/2016 13:40
Bottom Ash	16A1139-02	Solid	Grab	01/20/2016 12:30	01/21/2016 13:40
Gypsum	16A1139-03	Solid	Grab	01/20/2016 12:30	01/21/2016 13:40
FGT WT Fines	16A1139-04	Solid	Grab	01/20/2016 12:30	01/21/2016 13:40

Microbac Laboratories, Inc. - Baltimore

Kimberley M. Mack, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Original Report



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Baltimore Division

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CERTIFICATE OF ANALYSIS

NRG Energy - Dickerson
21200 Martinsburg Rd.
Dickerson, MD 20842

Project: Coal Combustion By Products
Project Number: Coal Combustion By Products
Project Manager: Andrew McCulloch

Report: 16A1139
Reported: 02/16/2016 11:07

Fly Ash

16A1139-01 (Solid) Sampled: 01/20/2016 12:30; Type: Grab

Analyte	Result	Reporting		Limits	Prepared	Analyzed	Analyst	Method	Notes
		Limit	Units						

Microbac Laboratories, Inc. - Baltimore

Wet Chemistry

% Solids	100.0	0.05	% by Weight	020316 1430	020416 0900	LCR	SM 2540 G-11
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Mercury, Total by EPA 7000 Series Methods

Mercury	1.7	0.12	mg/kg dry	012716 1302	012716 1911	FAK	EPA 7471A
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Metals, Total by EPA 6000/7000 Series Methods

Aluminum	19000	86.8	mg/kg dry	020316 1833	020516 1755	APS	EPA 6020	
Antimony	ND	4.34	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	
Arsenic	123	4.34	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	
Barium	141	8.68	mg/kg dry	020316 1833	020516 1755	APS	EPA 6020	
Beryllium	3.95	0.868	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	
Cadmium	ND	0.868	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	
Calcium	8000	21	mg/kg dry	020216 1823	020416 1403	APS	EPA 6010B	
Chromium	55.9	4.34	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	
Cobalt	16.0	0.868	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	
Copper	47.2	4.34	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	
Iron	120000	82	mg/kg dry	020216 1823	020416 1508	APS	EPA 6010B	
Lead	21.0	0.868	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	
Lithium	35	4.1	mg/kg dry	020216 1823	020416 1403	APS	EPA 6010B	
Magnesium	910	21	mg/kg dry	020216 1823	020416 1403	APS	EPA 6010B	
Molybdenum	12.7	4.34	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	B17
Nickel	48.6	0.868	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	
Potassium	2200	21	mg/kg dry	020216 1823	020416 1403	APS	EPA 6010B	
Selenium	25.3	4.34	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	
Silver	ND	0.868	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	
Sodium	580	410	mg/kg dry	020216 1823	020416 1403	APS	EPA 6010B	
Thallium	5.52	0.868	mg/kg dry	020316 1833	020516 1707	APS	EPA 6020	

Microbac Laboratories, Inc. - Baltimore

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Kimberley M. Mack, Project Manager

Original Report



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Baltimore Division

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CERTIFICATE OF ANALYSIS

NRG Energy - Dickerson
21200 Martinsburg Rd.
Dickerson, MD 20842

Project: Coal Combustion By Products
Project Number: Coal Combustion By Products
Project Manager: Andrew McCulloch

Report: 16A1139
Reported: 02/16/2016 11:07

Fly Ash

16A1139-01 (Solid) Sampled: 01/20/2016 12:30; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
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Microbac Laboratories, Inc. - Baltimore

Metals, Total by EPA 6000/7000 Series Methods

Vanadium	88.1	17.4	mg/kg dry		020316 1833	020516 1707	APS	EPA 6020	
Zinc	37.4	8.68	mg/kg dry		020316 1833	020516 1707	APS	EPA 6020	

TCLP Extraction by EPA 1311

TCLP Extraction	COMPLETED		N/A		012816 1833	012916 1458	TRB	EPA 1311	
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TCLP Metals by 6000/7000 Series Methods

Arsenic	ND	0.20	mg/L	5.0	020116 1741	020216 1840	APS	EPA 6010B	
Barium	ND	0.50	mg/L	100	020116 1741	020216 1840	APS	EPA 6010B	
Cadmium	ND	0.20	mg/L	1.0	020116 1741	020216 1840	APS	EPA 6010B	
Chromium	0.43	0.20	mg/L	5.0	020116 1741	020216 1840	APS	EPA 6010B	
Lead	ND	0.20	mg/L	5.0	020116 1741	020216 1840	APS	EPA 6010B	
Mercury	ND	0.0020	mg/L	0.20	020316 1230	020316 1628	FAK	EPA 7470A	
Selenium	ND	0.20	mg/L	1.0	020116 1741	020216 1840	APS	EPA 6010B	
Silver	ND	0.20	mg/L	5.0	020116 1741	020216 1840	APS	EPA 6010B	

Microbac Laboratories, Inc. - Chicagoland

Wet Chemistry

Sulfur (from SO4)	5700	330	mg/Kg		020116 0735	020216 0943	BRENA	ASTM D129 MOD	
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Microbac Laboratories, Inc. - Baltimore

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Kimberley M. Mack, Project Manager

Original Report

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CERTIFICATE OF ANALYSIS

NRG Energy - Dickerson 21200 Martinsburg Rd. Dickerson, MD 20842	Project: Coal Combustion By Products Project Number: Coal Combustion By Products Project Manager: Andrew McCulloch	Report: 16A1139 Reported: 02/16/2016 11:07
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Bottom Ash

16A1139-02 (Solid) Sampled: 01/20/2016 12:30; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
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Microbac Laboratories, Inc. - Baltimore

Wet Chemistry

% Solids	67.40	0.05	% by Weight		020316 1430	020416 0900	LCR	SM 2540 G-11	
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Mercury, Total by EPA 7000 Series Methods

Mercury	ND	0.036	mg/kg dry		012716 1302	012716 1855	FAK	EPA 7471A	
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Metals, Total by EPA 6000/7000 Series Methods

Aluminum	6790	114	mg/kg dry		020316 1833	020516 1759	APS	EPA 6020	
Antimony	ND	5.70	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
Arsenic	63.7	5.70	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
Barium	74.3	11.4	mg/kg dry		020316 1833	020516 1759	APS	EPA 6020	
Beryllium	1.69	1.14	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
Cadmium	ND	1.14	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
Calcium	3000	30	mg/kg dry		020216 1823	020416 1407	APS	EPA 6010B	
Chromium	49.7	5.70	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
Cobalt	10.4	1.14	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
Copper	80.6	5.70	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
Iron	76000	120	mg/kg dry		020216 1823	020416 1512	APS	EPA 6010B	
Lead	42.2	1.14	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
Lithium	13	6.1	mg/kg dry		020216 1823	020416 1407	APS	EPA 6010B	
Magnesium	460	30	mg/kg dry		020216 1823	020416 1407	APS	EPA 6010B	
Molybdenum	9.43	5.70	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	B17
Nickel	54.8	1.14	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
Potassium	630	30	mg/kg dry		020216 1823	020416 1407	APS	EPA 6010B	
Selenium	ND	5.70	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
Silver	ND	1.14	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
Sodium	ND	610	mg/kg dry		020216 1823	020416 1407	APS	EPA 6010B	
Thallium	ND	1.14	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
Vanadium	37.2	22.8	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	

Microbac Laboratories, Inc. - Baltimore

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Kimberley M. Mack, Project Manager

Original Report



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Baltimore Division

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CERTIFICATE OF ANALYSIS

NRG Energy - Dickerson
21200 Martinsburg Rd.
Dickerson, MD 20842

Project: Coal Combustion By Products
Project Number: Coal Combustion By Products
Project Manager: Andrew McCulloch

Report: 16A1139
Reported: 02/16/2016 11:07

Bottom Ash

16A1139-02 (Solid) Sampled: 01/20/2016 12:30; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
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Microbac Laboratories, Inc. - Baltimore

Metals, Total by EPA 6000/7000 Series Methods

Zinc	112	11.4	mg/kg dry		020316 1833	020516 1711	APS	EPA 6020	
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TCLP Extraction by EPA 1311

TCLP Extraction	COMPLETED		N/A		012816 1833	012916 1458	TRB	EPA 1311	
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TCLP Metals by 6000/7000 Series Methods

Arsenic	ND	0.20	mg/L	5.0	020116 1741	020216 1844	APS	EPA 6010B	
Barium	ND	0.50	mg/L	100	020116 1741	020216 1844	APS	EPA 6010B	
Cadmium	ND	0.20	mg/L	1.0	020116 1741	020216 1844	APS	EPA 6010B	
Chromium	ND	0.20	mg/L	5.0	020116 1741	020216 1844	APS	EPA 6010B	
Lead	ND	0.20	mg/L	5.0	020116 1741	020216 1844	APS	EPA 6010B	
Mercury	ND	0.0020	mg/L	0.20	020316 1230	020316 1629	FAK	EPA 7470A	
Selenium	ND	0.20	mg/L	1.0	020116 1741	020216 1844	APS	EPA 6010B	
Silver	ND	0.20	mg/L	5.0	020116 1741	020216 1844	APS	EPA 6010B	

Microbac Laboratories, Inc. - Chicagoland

Wet Chemistry

Sulfur (from SO4)	830	320	mg/Kg		020116 0735	020216 0945	BRENA	ASTM D129 MOD	
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Microbac Laboratories, Inc. - Baltimore

Kimberley M. Mack, Project Manager

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Original Report



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Baltimore Division

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Fax: 410-633-6553
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CERTIFICATE OF ANALYSIS

NRG Energy - Dickerson 21200 Martinsburg Rd. Dickerson, MD 20842	Project: Coal Combustion By Products Project Number: Coal Combustion By Products Project Manager: Andrew McCulloch	Report: 16A1139 Reported: 02/16/2016 11:07
--	--	---

Gypsum

16A1139-03 (Solid) Sampled: 01/20/2016 12:30; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
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Microbac Laboratories, Inc. - Baltimore

Wet Chemistry

% Solids	77.62	0.05	% by Weight		020316 1430	020416 0900	LCR	SM 2540 G-11	
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Mercury, Total by EPA 7000 Series Methods

Mercury	0.38	0.031	mg/kg dry		012716 1302	012716 1856	FAK	EPA 7471A	
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Metals, Total by EPA 6000/7000 Series Methods

Aluminum	179	11.4	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Antimony	ND	5.72	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Arsenic	ND	5.72	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Barium	29.7	1.14	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Beryllium	ND	1.14	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Cadmium	ND	1.14	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Calcium	180000	300	mg/kg dry		020216 1823	020416 1516	APS	EPA 6010B	
Chromium	ND	5.72	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Cobalt	ND	1.14	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Copper	ND	5.72	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Iron	490	12	mg/kg dry		020216 1823	020416 1412	APS	EPA 6010B	
Lead	ND	1.14	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Lithium	ND	6.0	mg/kg dry		020216 1823	020416 1412	APS	EPA 6010B	
Magnesium	ND	300	mg/kg dry		020216 1823	020416 1516	APS	EPA 6010B	
Molybdenum	ND	5.72	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Nickel	9.04	1.14	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Potassium	80	30	mg/kg dry		020216 1823	020416 1412	APS	EPA 6010B	
Selenium	ND	5.72	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Silver	ND	1.14	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Sodium	ND	600	mg/kg dry		020216 1823	020416 1412	APS	EPA 6010B	
Thallium	ND	1.14	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
Vanadium	ND	22.9	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	

Microbac Laboratories, Inc. - Baltimore

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Kimberley M. Mack, Project Manager

Original Report



Microbac Laboratories, Inc.
Baltimore Division

2101 Van Deman Street • Baltimore, MD 21224

Phone: 410-633-1800
Fax: 410-633-6553
www.microbac.com

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Gypsum

16A1139-03 (Solid) Sampled: 01/20/2016 12:30; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
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Microbac Laboratories, Inc. - Baltimore

Metals, Total by EPA 6000/7000 Series Methods

Zinc	ND	11.4	mg/kg dry		020316 1833	020516 1716	APS	EPA 6020	
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TCLP Extraction by EPA 1311

TCLP Extraction	COMPLETED		N/A		012816 1833	012916 1458	TRB	EPA 1311	
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TCLP Metals by 6000/7000 Series Methods

Arsenic	ND	0.20	mg/L	5.0	020116 1741	020216 1848	APS	EPA 6010B	
Barium	ND	0.50	mg/L	100	020116 1741	020216 1848	APS	EPA 6010B	
Cadmium	ND	0.20	mg/L	1.0	020116 1741	020216 1848	APS	EPA 6010B	
Chromium	ND	0.20	mg/L	5.0	020116 1741	020216 1848	APS	EPA 6010B	
Lead	ND	0.20	mg/L	5.0	020116 1741	020216 1848	APS	EPA 6010B	
Mercury	ND	0.0020	mg/L	0.20	020316 1230	020316 1634	FAK	EPA 7470A	
Selenium	ND	0.20	mg/L	1.0	020116 1741	020216 1848	APS	EPA 6010B	
Silver	ND	0.20	mg/L	5.0	020116 1741	020216 1848	APS	EPA 6010B	

Microbac Laboratories, Inc. - Chicagoland

Wet Chemistry

Sulfur (from SO4)	38000	6600	mg/Kg		020116 0735	020216 1058	BRENA	ASTM D129 MOD	
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Microbac Laboratories, Inc. - Baltimore

Kimberley M. Mack, Project Manager

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CERTIFICATE OF ANALYSIS

NRG Energy - Dickerson
21200 Martinsburg Rd.
Dickerson, MD 20842

Project: Coal Combustion By Products
Project Number: Coal Combustion By Products
Project Manager: Andrew McCulloch

Report: 16A1139
Reported: 02/16/2016 11:07

FGT WT Fines

16A1139-04 (Solid) Sampled: 01/20/2016 12:30; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
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Microbac Laboratories, Inc. - Baltimore

Wet Chemistry

% Solids	37.64	0.05	% by Weight	020316 1430	020416 0900	LCR	SM 2540 G-11
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Mercury, Total by EPA 7000 Series Methods

Mercury	14	1.2	mg/kg dry	012716 1302	012716 1915	FAK	EPA 7471A
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Metals, Total by EPA 6000/7000 Series Methods

Aluminum	6550	26.4	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Antimony	ND	13.2	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Arsenic	34.0	13.2	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Barium	638	2.64	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Beryllium	ND	2.64	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Cadmium	ND	2.64	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Calcium	280000	530	mg/kg dry	020216 1823	020416 1520	APS	EPA 6010B
Chromium	32.2	13.2	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Cobalt	8.34	2.64	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Copper	47.5	13.2	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Iron	17000	21	mg/kg dry	020216 1823	020416 1416	APS	EPA 6010B
Lead	13.6	2.64	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Lithium	ND	11	mg/kg dry	020216 1823	020416 1416	APS	EPA 6010B
Magnesium	6600	530	mg/kg dry	020216 1823	020416 1520	APS	EPA 6010B
Molybdenum	ND	13.2	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Nickel	56.8	2.64	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Potassium	2100	53	mg/kg dry	020216 1823	020416 1416	APS	EPA 6010B
Selenium	116	13.2	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Silver	ND	2.64	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Sodium	ND	1100	mg/kg dry	020216 1823	020416 1416	APS	EPA 6010B
Thallium	ND	2.64	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020
Vanadium	ND	52.9	mg/kg dry	020316 1833	020516 1733	APS	EPA 6020

Microbac Laboratories, Inc. - Baltimore

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Kimberley M. Mack, Project Manager

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FGT WT Fines

16A1139-04 (Solid) Sampled: 01/20/2016 12:30; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
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Microbac Laboratories, Inc. - Baltimore

Metals, Total by EPA 6000/7000 Series Methods

Zinc	106	26.4	mg/kg dry		020316 1833	020516 1733	APS	EPA 6020	
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TCLP Extraction by EPA 1311

TCLP Extraction	COMPLETED		N/A		012816 1833	012916 1458	TRB	EPA 1311	
-----------------	-----------	--	-----	--	-------------	-------------	-----	----------	--

TCLP Metals by 6000/7000 Series Methods

Arsenic	ND	0.20	mg/L	5.0	020116 1741	020216 1900	APS	EPA 6010B	
Barium	ND	0.50	mg/L	100	020116 1741	020216 1900	APS	EPA 6010B	
Cadmium	ND	0.20	mg/L	1.0	020116 1741	020216 1900	APS	EPA 6010B	
Chromium	ND	0.20	mg/L	5.0	020116 1741	020216 1900	APS	EPA 6010B	
Lead	ND	0.20	mg/L	5.0	020116 1741	020216 1900	APS	EPA 6010B	
Mercury	ND	0.0020	mg/L	0.20	020316 1230	020316 1638	FAK	EPA 7470A	
Selenium	ND	0.20	mg/L	1.0	020116 1741	020216 1900	APS	EPA 6010B	
Silver	ND	0.20	mg/L	5.0	020116 1741	020216 1900	APS	EPA 6010B	

Microbac Laboratories, Inc. - Chicagoland

Wet Chemistry

Sulfur (from SO4)	2900	330	mg/Kg		020116 0735	020216 0949	BRENA	ASTM D129 MOD	
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Microbac Laboratories, Inc. - Baltimore

Kimberley M. Mack, Project Manager

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Project Requested Certification(s):

A2LA (Environmental)

Analyte Certification Exception Summary

No certification exceptions

All analysis performed were analyzed under the required certification unless otherwise noted in the above summary.

Microbac Laboratories, Inc. - Baltimore

Kimberley M. Mack, Project Manager

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Certification List

Below is a list of certifications maintained by Microbac Laboratories, Inc. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. A complete list of individual analytes pursuant to each certification below is available upon request.

Code	Description	Certification Number	Expires
Microbac Laboratories, Inc. - Baltimore			
A2LA1	A2LA (Biology)	410.02	04/30/2017
A2LA2	A2LA (Environmental)	410.01	04/30/2017
CPSC	CPSC Testing of Childrens Products and Jewelry	1115	04/30/2017
Pb	Environmental Lead (ELLAP)	410.01	04/30/2017
MD	State of Maryland (Drinking Water)	109	06/30/2016
WV	West Virginia	054	09/30/2016
Microbac Laboratories, Inc. - Chicagoland			
A2LA_	A2LA ISO/IEC 17025 Biological Testing	3045.01	09/30/2016
A2LA	A2LA ISO/IEC 17025 Env. DoD Testing	3045.02	09/30/2016
CDC-ELITE	Center of Disease Control Legionella ELITE Membership		04/21/2016
ILDPH	Illinois DOPH Micro analysis of drinking water	1755266	12/31/2016
ILEPA	Illinois EPA wastewater and solid waste analysis	200064	04/01/2016
INDEM	Indiana DEM support lab wastewater and solid waste	A305-9-292	12/31/2013
INSDH	Indiana SDH chemical analysis of drinking water	C-45-03	08/14/2016
INDH	Indiana SDH Micro analysis of drinking water	M-45-8	12/31/2016
ISBOAH	Indiana State Board of Animal Health for microbiological anal	18137	03/01/2016
KSDOH	Kansas Dept Health & Env. NELAP	E-10397	05/31/2016
KYEP	Kentucky EPPC analysis Underground Storage Tanks	75	04/01/2016
KYDEP	Kentucky Wastwater Laboratory Certification Program	90147	12/31/2016
NYDOH	New York State Department of Health Wadsworth	52733	04/01/2016
NCDEN	North Carolina DENR NPDES effluent, surface water	597	12/31/2016
PEDEP	Pennsylvania DEP Registration for Air analysis	68-04863	
PADEP	Pennsylvania Department of Environmental Protect	68-04863	07/31/2016
USDAS	USDA Permit To Receive Soil	P330-12-00174	09/18/2016
VELAP	Virginia Department of General Services Division of Consolid	7990	06/14/2016
WADOE	Washington State Department of Ecology	C992	10/23/2016
Microbac Laboratories, Inc. - Richmond			
VA-R	Commonwealth of Virginia (NELAC) - Richmond	460022	06/14/2016

Microbac Laboratories, Inc. - Baltimore

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Kimberley M. Mack, Project Manager

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Baltimore Division

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CERTIFICATE OF ANALYSIS

NRG Energy - Dickerson
21200 Martinsburg Rd.
Dickerson, MD 20842

Project: Coal Combustion By Products
Project Number: Coal Combustion By Products
Project Manager: Andrew McCulloch

Report: 16A1139
Reported: 02/16/2016 11:07

Qualifiers/Notes and Definitions

General Definitions:

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Analysis Qualifiers/Notes:

Microbac Laboratories, Inc. - Baltimore

B17 Target analyte detected in continuing calibration blank >2.2 times the MDL but less than the reporting limit.



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Baltimore Division
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Cooler Receipt Log

Cooler ID: Default Cooler	Cooler Temp: 3.20°C	Work Order: 16A1139
Custody Seals Intact: Yes	COC/Containers Agree: Yes	
Containers Intact: Yes	Correct Preservation: Yes	
Received On Ice: Yes	Correct Number of Containers Received: Yes	
Radiation Scan Acceptable: Yes	Sufficient Sample Volume for Testing: Yes	
COC Present: Yes	Samples Received in Proper Condition: Yes	

Comments:

Microbac

Microbac Laboratories Inc., Baltimore Division

2101 Van Deman St, Baltimore, MD 21224

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Work Order Number:

Chain of Custody Record

Page 1 of 1

Instructions for completing the Chain of Custody Record on back.

Client Name NKS ENERGY Project CCS TESTING Turnaround Time _____ QC and EDD Type (Required) _____
 Address 2100 MARINERS BURG @ Location DICKINSON CAN. STA. Standard (7 Business Days) Level I (NAC) EDD
 City, State, Zip DICKINSON, MD 20842 PO # _____ RUSH* Needed By: _____ Format: _____
 Contact A. McClellan Compliance Monitoring? Yes No * Please notify lab prior to drop off. Comments: _____
 Telephone # 301-601-6520 (1) Agency/Program _____
 Sampled by (PRINT) Robert Caradesi Sampler Signature [Signature] Sampler Phone # _____ Sampler (DW) Cert# _____
 Send Report via e-mail (address) _____ Mail Telephone Fax (fax #) _____

*** Matrix Types: Air(A), Childrens Product(CP), Food(F), Paint(P), Soil/Solid (S), Oil(O), Wipe(W), Drinking Water (DW), Groundwater (SW), Surface Water (SW), Waste Water (WW), Other (O) ***

Client Sample ID	Matrix**	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	Requested Analysis	Comments
<u>Fly Ash</u>	<u>S</u>	<input checked="" type="checkbox"/>			<u>1/20/15</u>	<u>1230</u>	<u>1</u>	<u>SEE ANALYST</u>	
<u>Bottom Ash</u>	<u>S</u>	<input checked="" type="checkbox"/>			<u>1/21/15</u>	<u>1230</u>	<u>1</u>		
<u>Capsum</u>	<u>S</u>	<input checked="" type="checkbox"/>			<u>1/21/15</u>	<u>1230</u>	<u>1</u>		
<u>FGD WT FINES</u>	<u>S</u>	<input checked="" type="checkbox"/>			<u>1/21/15</u>	<u>1230</u>	<u>1</u>		



16A1139

Possible Hazard Identification Hazardous Non-Hazardous Radioactive Sample Disposition Dispose as appropriate Return Archive

Number of Containers: _____ Relinquished By (signature) _____ Received By (signature) _____
 Cooler Number: 4006 Temp upon receipt (°C): 23.2 Sample Received on Ice or Refrigerated from Client: Yes No Radiation Scan Acceptable: Yes No

Printed Name/Affiliation: Chris Lynn Date/Time: 1/21/16 0005 Received for Lab/By (signature): [Signature] Printed Name/Affiliation: Bon Sabetta
 Printed Name/Affiliation: Bon Sabetta Date/Time: 1/21/16 1340 Received for Lab/By (signature): [Signature] Printed Name/Affiliation: AW Dillinger
 Printed Name/Affiliation: _____ Date/Time: _____ Received for Lab/By (signature): _____ Printed Name/Affiliation: _____

Copy for ORIGINAL
COC

NRG ENERGY

Dickerson Generating Station

Annual CCB Analysis List

(CCB - Fly Ash, Bottom Ash, FGD WWTP Fines & Synthetic Gypsum)

NOTE
ATTACH TO
ORIGINAL
COC

Analysis	Test Method	
Chloride	USCG 1-1197-85	Geochemical Testing @ 844-443-1671 Elwood L. Kennell (Woodry) ekennell@geo-ces.com
Sulfate as SO4	ASTM D546-98 (M)	Geochemical Testing 2605 North Center Avenue Somerset, PA 15501
pH (as received)	EPA 9045	Geochemical Testing
Point Filter Test	EPA 9000	Geochemical Testing
Sulfate / Sulfur	ASTM D 2902	Geochemical Testing
TCLP Metals	EPA 6010B	Microbac
Silver	EPA 6010B	Microbac
Arsenic	EPA 6010B	Microbac
Barium	EPA 6010B	Microbac
Cadmium	EPA 6010B	Microbac
Chromium	EPA 6010B	Microbac
Mercury	SW846 7471A	Microbac
Lead	EPA 6010B	Microbac
Selenium	EPA 6010B	Microbac
		Microbac
Total Metals		Microbac
Silver	EPA 6010B	Microbac
Aluminum	EPA 6010B	Microbac
Arsenic	EPA 6010B	Microbac
Antimony	EPA 6010B	Microbac
Barium	EPA 6010B	Microbac
Beryllium	EPA 6010B	Microbac
Calcium	EPA 6010B	Microbac
Cadmium	EPA 6010B	Microbac
Cobalt	EPA 6010B	Microbac
Copper	EPA 6010B	Microbac
Chromium	EPA 6010B	Microbac
Iron	EPA 6010B	Microbac
Lead	EPA 6010B	Microbac
Lithium	EPA 6010B	Microbac
Potassium	EPA 6010B	Microbac
Magnesium	EPA 6010B	Microbac
Mercury	SW846 7471A	Microbac
Molybdenum	EPA 6010B	Microbac
Nickel	EPA 6010B	Microbac
Selenium	EPA 6010B	Microbac
Sodium	EPA 6010B	Microbac
Sulfur	EPA 6010B	Microbac
Thallium	EPA 6010B	Microbac
Vanadium	EPA 6010B	Microbac
Zinc	EPA 6010B	Microbac

Cooler Receipt Form / Sample Acceptance & Noncompliance Form

Microbac Laboratories, Inc., Baltimore Division
Control # 606-01
Effective Date: 01/23/15
Page 1 of 1

Number of Coolers Received: 1
Client: NRG Dickerson
Form Completed By: HW Willinger
Shipper: HW Willinger
Custody Tape Intact: _____
Containers Intact: _____
Sample Received on Ice or refrigerated: _____

Receipt Date / Time: 01/21/16 1340
Work Order # 16A1125 / 16A1139

Microbac Client UPS FedEx

YES / NO / NA

YES / NO

YES / NO

Infrared (IR) Temperature: 3.2 °C

Negative or _____ mR/hr

YES / NO

YES / NO

YES / NO / (Not Checked)

YES / NO (If No, contact client immediately)

YES / NO / NA

Water Soil Wipes Oil Filter (Solid)

Sludge Food Swab Other

Radiation Scan: _____
Chain of Custody Present with shipment: _____
Sample Bottle IDs agree with COC: _____
Preservation requirements met: _____
Correct Number of Containers / Sample Volume: _____
Headspace in container: _____
Type of Sample: _____

Container Type / Quantity:

A - <u>4</u>	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10
B - <u>4</u>	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10
C -	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10
D -	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10
E -	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10
H - <u>1</u>	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10
K -	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10
L -	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10
M - <u>7</u>	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10
W -	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10
V -	Unpreserved	HCl	HCl / Ascorbic Acid	HCl / NaTHIO	(Checked at time of Analysis)		
F -	Unpreserved	NaTHIO	(Checked at time of Analysis)				
S -	Unpreserved	NaTHIO	(Checked at time of Analysis)				
SN -	Unpreserved	NaTHIO	NaTHIO/EDTA	(Checked at time of Analysis)			
	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10
	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10
	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2, pH >10

Describe preservation requirements not met:

All Acid preserved <2 pH NaOH preserved >12 pH All others >2 and <10 (usually 4-8)

Sample ID: _____ H2SO4 HNO3 NaOH _____ mls added
Sample ID: _____ H2SO4 HNO3 NaOH _____ mls added
Sample ID: _____ H2SO4 HNO3 NaOH _____ mls added
Sample ID: _____ H2SO4 HNO3 NaOH _____ mls added

H2SO4 - Sulfuric Acid, HNO3 - Nitric Acid, NaOH - Sodium Hydroxide, ASC - Ascorbic Acid, NaTHIO - Sodium Thiosulfate

Describe Anomalies:

Revised sample 01/21/16 @ 1340
TS/TSS sample received w/ entry form + PHW 01/21/16
USSYhan 24 hrs left in hold time
HW
01/21/16

Contact information / Summary of Actions:

Date / Time: _____ Contact: _____ Contact By: _____
Comments: _____



SUBCONTRACT ORDER



Microbac Laboratories, Inc. - Baltimore

16A1139

SENDING LABORATORY:

Microbac Laboratories, Inc. - Baltimore
2101 Van Deman Street
Baltimore, MD 21224
Phone: 410.633.1800
Project Manager: Kimberley M. Mack

RECEIVING LABORATORY:

Microbac - CGL
250 West 84th Drive
Merrillville, IN 46410
Phone: (219) 769-8378

Project Info:

Client Name: NRG Energy - Dickerson
Project Name: Coal Combustion By Produ Project Type: Solid Waste Report TAT: 10
Project No: Coal Combustion By Produ Project Location: Maryland (West) Due: 02/04/2016 17:00

Sample ID: 16A1139-01 Matrix: Solid Sampled: 01/20/2016 12:30

Table with 4 columns: Analysis, Method, Analysis Due, Expires. Row 1: SUB_Sulfur, ASTM D129-91, 02/04/2016 15:00, 02/17/2016 12:30

Sample ID: 16A1139-02 Matrix: Solid Sampled: 01/20/2016 12:30

Table with 4 columns: Analysis, Method, Analysis Due, Expires. Row 1: SUB_Sulfur, ASTM D129-91, 02/04/2016 15:00, 02/17/2016 12:30

Sample ID: 16A1139-03 Matrix: Solid Sampled: 01/20/2016 12:30

Table with 4 columns: Analysis, Method, Analysis Due, Expires. Row 1: SUB_Sulfur, ASTM D129-91, 02/04/2016 15:00, 02/17/2016 12:30

Sample ID: 16A1139-04 Matrix: Solid Sampled: 01/20/2016 12:30

Table with 4 columns: Analysis, Method, Analysis Due, Expires. Row 1: SUB_Sulfur, ASTM D129-91, 02/04/2016 15:00, 02/17/2016 12:30

(4) K gms neat / reported 01/25/16 @ 1204

Released By [Signature] Date [Signature] Received By [Signature] Date

Released By Date Received By Date