



Morgantown Generating Station
12620 Crain Hwy.
Newburg, Maryland 20620
O) 301-843-4670 F) 301-843-4552

Certified Mail/Return Receipt Requested
7013 2630 0000 0547 0022

Maryland Department of the Environment
Solid Waste Program,
1800 Washington Blvd.
Suite 605
Baltimore, MD. 21230
Attn: Mr. Edward M. Dexter

SOLID WASTE

FEB 27 2014

PROGRAM

February 25, 2013

Re: 2013 CCB Tonnage Report for GenOn Mid-Atlantic, LLC's Morgantown
Generating Station.

Dear Mr. Dexter,

Pursuant to COMAR 26.04.10.08, enclosed please find the 2013 CCB Tonnage
Report for GenOn Mid-Atlantic, LLC's Morgantown Generating Station.

If you have any questions regarding this report, please contact Debra Knight at
301-843-4670, or at debra.knight@nrgenergy.com.

NRG Energy, Inc. (NRG) and GenOn Energy, Inc. (GenOn) merged on December
14, 2012 and retained the name NRG Energy, Inc. As a result, all GenOn entities
are wholly owned subsidiaries of NRG. Although the parent corporations, NRG and
GenOn, have merged, the entities have not merged or changed names.

Regards,

A handwritten signature in blue ink, appearing to read "T. Turk", with a long horizontal flourish extending to the right.

Thomas G. Turk
General Manager

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Suite 605 • Baltimore, Maryland 21230-1719

410-537-3315 • 800-633-6101 x3315 • www.mde.maryland.gov

Land Management Administration • Solid Waste Program

Coal Combustion Byproducts (CCBs) Annual Generator Tonnage Report Instructions for Calendar Year 2013

SOLID WASTE
FEB 27 2014
PROGRAM

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 2013. 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 edexter@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. Applicability. ~~If you or your company meets the definition of a generator of CCBs as defined above, you must provide the information as required below.~~ For the purposes of this report, “you” shall hereinafter refer to the generator defined above. Please note that COMAR 26.04.10.08 requires generators of CCBs to submit an annual report to the Department concerning the disposition of the CCBs that they generated the previous year. **THIS INCLUDES CCBS THAT WERE NOT SEPARATELY COLLECTED BUT WERE PRODUCED BY THE BURNING OF COAL AND WERE DIRECTLY CONTRIBUTED TO A PRODUCT, such as cement.** Where the amount cannot be directly measured, estimates based on the amount of coal burned can be used. The method of determining the volume of CCBs produced must be described.

III. Required Information. The following information must be provided to the Department by March 1, 2014:

A. Contact information:

Facility Name: Morgantown Generating Station

Name of Permit Holder: GenOn Mid-Atlantic, LLC

Facility Address: 12620 Crain Highway
Street

Facility Address: Newburg Maryland 20664
City State Zip

County: Charles

Contact Information (Person filing report or Environmental Manager)

Facility Telephone No.: 301-843-4600 Facility Fax No.: 301-843-4552

Contact Name: Debra Knight

Contact Title: Senior Environmental Specialist

Contact Address: 12620 Crain Highway
Street

Contact Address: Newburg Maryland 20664
City State Zip

Contact Email: debra.knight@nrgenergy.com

Contact Telephone No.: 301-843-4670 Contact Fax No.: 301-843-4552

For questions on how to complete this form, please contact the Solid Waste Program at 410-537-3315

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 2013, 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 2013: 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 2013				
Flyash Type of CCB	Bottom Ash Type of CCB	On-Spec Gypsum Type of CCB	Off Spec Gypsum Type of CCB	WWTP Fines Type of CCB
141,322	22,126	70,028	1,685	875
Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards
141,322	22,126	136,795	3,292	1,710
Weight of CCB, in Tons	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 2013, 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:

FLYASH: A total of 141,322 tons of flyash were generated at Morgantown in 2013, and 24,043 tons were stored on site at the end of 2012. Of this ash, 153,521 tons were sold to SEFA, headquartered in Columbia, SC, 5,417 tons were disposed of at the Brandywine Ash Site, located in Brandywine, Md, and 6,427 tons were stored on-site at the STAR Facility ash storage dome for future sale at the end of 2013.

BOTTOM ASH: Of the 22,126 tons of bottom ash generated in 2013, 7,034 tons were sold to SEFA, headquartered in Columbia, SC, and 15,092 tons were disposed of at the Brandywine Ash Site, located in Brandywine, Md.

On-Spec Gypsum: 136,795 tons of On-Spec Gypsum were generated at Morgantown in 2013, and 18,878 tons were stored on-site at the end of 2012. Of this total, 148,358 tons were transported by barge to LaFarge, located in Buchanan, NY for use in the manufacture of wallboard, and a total of 7,315 tons were stored on site at the end of 2013.

Off-Spec Gypsum: generated in 2013 was 3,292 tons, all of which was disposed of at Waste Management's Amelia Landfill located in Jetersville, Va.

WWTP Fines produced in 2013 was 1,710 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.

FlyAsh:

Volume: 153,521 tons sold

Uses:

1) 149,723 tons used as a Supplementary cementitious material for concrete and concrete products, 20,917 tons of which were used in Md.

2) 3,798 tons used in grout applications, 1,146 tons of which were used in Md.

Bottom Ash:

Volume: 7,034 tons sold,

Uses: 7,034 tons used as aggregate for block and concrete products, 6,817 of which was applied to a beneficial use in Md.

On-Spec Gypsum:

Volume: 148,358 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 142,000 tons to be generated, with about 130,600 tons to be sold to SEFA, headquartered in Columbia, SC, and 5,400 tons to be sent for disposal at the Brandywine Ash Site, located in Brandywine, Md., and 6,000 tons accumulating On-Site.

Bottom Ash: Anticipate 22,000 tons to be generated, of which 7,000 will be sold to SEFA, located in Columbia, SC, and 15,000 tons will be disposed of at the Brandywine ash site in Prince George's County, Md. .

On-Spec Gypsum: Anticipate 137,000 tons to be generated of which 130,000 tons to be transported by barge to LaFarge, located in Buchanan, NY, and 7,000 tons to be stored on site at the Morgantown station.

Off-Spec Gypsum: Approximate 3,300 tons to be generated and disposed of at Waste Management's Amelia Landfill located in Jetersville, Va.

WWTP Fines: Approximately 1,710 tons 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.

FlyAsh:

Volume:130,600 tons sold

Uses: 1) 127,400 tons used as a Supplementary cementitious material for concrete and concrete products.

2) 3,200 tons used as grout

Bottom Ash:

Volume:7,000 tons sold

Uses: 7,000 tons used as aggregate for block and concrete products

On-Spec Gypsum:

Volume:130,000 tons sold

Use: Wallboard

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

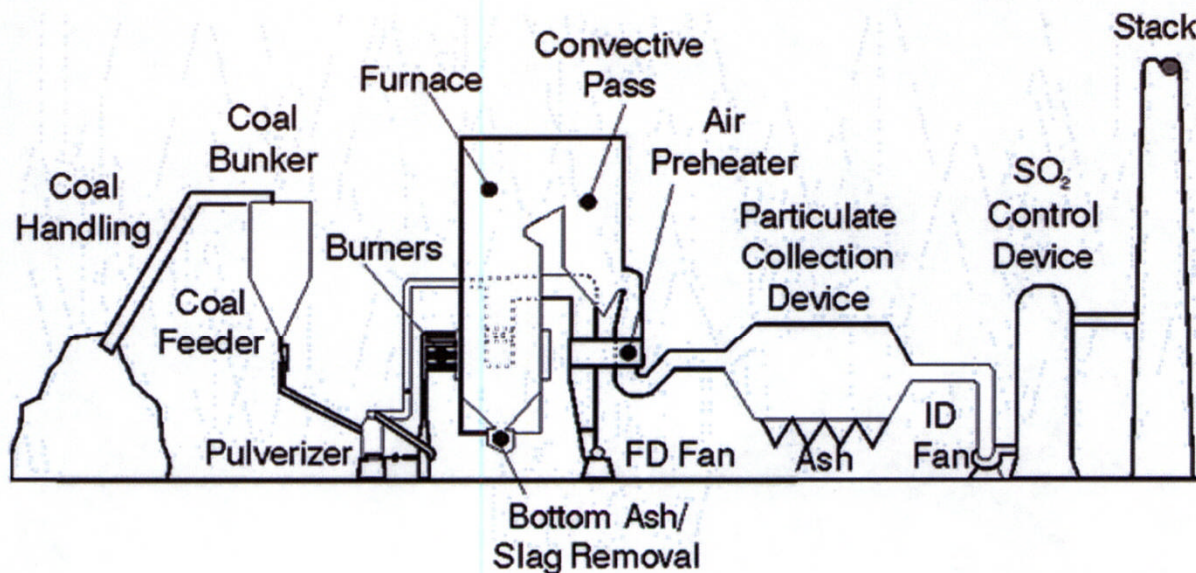
Attachment A

Morgantown Generating Station
12620 Crain Highway
Newburg, Charles County, MD. 20664
301-843-4600

The Morgantown Generating Station is located on the Potomac River, just south of Rt. 301 at the Harry W. Nice Bridge near the town of Newburg in Charles County, MD. The facility is engaged in the generation of electrical energy for sale. The primary SIC code is 4911. There are two tangentially fired supercritical steam units each firing bituminous coal. Each unit is rated at 640 MWs (base loaded) and each is equipped with a superheater, single reheat, and economizer. Pollution control devices on both units include low NO_x burners with Separated Over-Fired Air (SOFA) and Selective Catalytic Reduction (SCR) for control of oxides of nitrogen (NO_x); and electrostatic precipitators (ESP) for the control of particulate matter. A Wet Scrubber (FGD) was installed and went in service on both units in late 2009. Units 1 & 2 exhausts through the scrubber stack or, when the FGD is not in service, through separate 700 ft. stacks.

Coal is currently delivered by both rail and by barge. The rail cars are emptied using a rotary dumper, then transferred by conveyor and dravo to either a storage pile or fed directly to the units' bunker. The barge unloading facility consists of a dock, an unloader, a transfer system, and a rail loading system and a rail loading facility. The barge unloading transfer and distribution system is integrated into Morgantown's existing coal handling system.

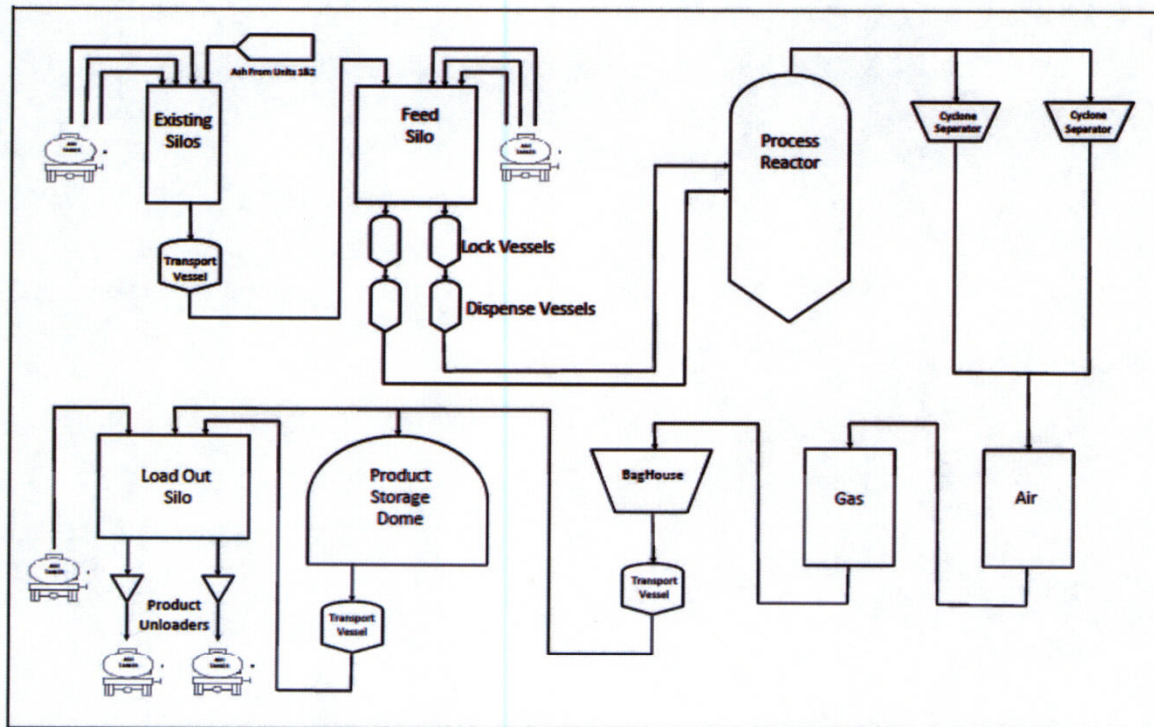
The illustration below shows a simple schematic diagram for a typical pulverized coal combustion system. The coal is prepared by grinding to a very fine consistency for combustion.



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%–90% 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 one of two ash silos. Silo fly ash is normally sent to the Staged Turbulent Air Reactor (STAR) facility (which is located on-site) where volatiles are burned off from the ash to make it more marketable or if STAR is offline, off-loaded for disposal at the Brandywine Ash Site located 29 miles north in Prince Georges County. Ash from the STAR facility is stored in on-site storage silos until it can be sold. A diagram of the STAR process is shown below.



The bottom ash is conveyed out of the bottom of the boiler via a drag chain conveyor. The bottom ash is then either prepared for sale, or sent to the Brandywine Ash Site.

Gypsum is a byproduct of SO₂ removal by the Flue Gas Desulfurization (FGD) system, commonly known as a scrubber. Morgantown uses wet scrubbers for SO₂ removal. Wet scrubbing uses a slurry of limestone alkaline sorbent to remove SO₂, - as well as some mercury contaminants - from the air stream. The byproduct - gypsum - is conveyed to a storage dome

temporarily and then sent via barge to Buchannan, New York to be 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.

Baltimore Division
2101 Van Deman Street • Baltimore, MD 21224

Phone: 410-633-1800

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COVER LETTER

John Williams
NRG Energy - Morgantown
Morgantown Generating Station, 12620 Crain Hwy
Newburg, MD 20664
RE: Morgantown-Fly Ash

October 28, 2013
Report No.: 13J0685

The report of analyses contains test results for samples received at Microbac Laboratories, Inc., Baltimore Division on 10/08/2013 14:05.

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

10/28/2013

Final report reviewed by:

Mark B. Horan/Laboratory Director

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 Mark Horan, Managing Director, at 410-633-1800 You may also contact Sean Hyde, Chief Operating Officer at sean.hyde@microbac.com or James Nokes, President james.nokes@microbac.com



Microbac Laboratories, Inc.

Baltimore Division

2101 Van Deman Street • Baltimore, MD 21224

Phone: 410-633-1800

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CERTIFICATE OF ANALYSIS

NRG Energy - Morgantown

Morgantown Generating Station, 12620 Crain Hwy

Newburg, MD 20664

Project: Morgantown-Fly Ash

Project Number: Morgantown-Fly Ash

Project Manager: John Williams

Report: 13J0685

Reported: 10/28/2013 08:59

SAMPLE SUMMARY

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
Unit F1 Fly Ash Sample	13J0685-01	Solid	Grab	10/07/2013 10:30	10/08/2013 14:05
Unit F2 Fly Ash Sample	13J0685-02	Solid	Grab	10/07/2013 10:40	10/08/2013 14:05
Bottom Ash	13J0685-03	Solid	Grab	10/07/2013 13:00	10/08/2013 14:05
Gypsum	13J0685-04	Solid	Grab	10/07/2013 13:10	10/08/2013 14:05
WWTP Filter Cake	13J0685-05	Solid	Grab	10/07/2013 13:15	10/08/2013 14:05

Microbac Laboratories, Inc., Baltimore Division

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.

Mark B. Horan, Laboratory Director

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Page 2 of 17



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Baltimore Division

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CERTIFICATE OF ANALYSIS

NRG Energy - Morgantown

Morgantown Generating Station, 12620 Crain Hwy

Newburg, MD 20664

Project: Morgantown-Fly Ash

Project Number: Morgantown-Fly Ash

Project Manager: John Williams

Report: 13J0685

Reported: 10/28/2013 08:59

Unit F1 Fly Ash Sample

13J0685-01 (Solid) Sampled: 10/07/2013 10:30; Type: Grab

Analyte	Result	Reporting		Units	Prepared	Analyzed	Analyst	Method	Notes
		Limit							

Microbac Laboratories, Inc., Baltimore Division

Metals, Total by EPA 6000/7000 Series Methods

Silver	ND	2.5	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Aluminum	25000	12	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Arsenic	58	5.0	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Boron	190	25	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Barium	420	2.5	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Beryllium	4.9	1.0	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Calcium	10000	25	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Cadmium	1.9	0.50	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Cobalt	7.3	2.5	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Chromium	50	2.5	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Copper	57	2.5	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Iron	34000	10	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Potassium	3500	25	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Lithium	42	5.0	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Magnesium	1700	25	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Manganese	77	2.5	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Molybdenum	8.7	5.0	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Sodium	1500	250	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Nickel	21	5.0	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Lead	28	5.0	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Antimony	ND	10	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Thallium	ND	10	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Vanadium	130	2.5	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B
Zinc	61	2.5	mg/kg dry	101113 0950	101213 1704	APS	EPA 6010B

B7

Microbac Laboratories, Inc., Baltimore Division

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Mark B. Horan, Laboratory Director

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Page 3 of 17



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CERTIFICATE OF ANALYSIS

NRG Energy - Morgantown
Morgantown Generating Station, 12620 Crain Hwy
Newburg, MD 20664

Project: Morgantown-Fly Ash
Project Number: Morgantown-Fly Ash
Project Manager: John Williams

Report: 13J0685
Reported: 10/28/2013 08:59

Unit F1 Fly Ash Sample

13J0685-01 (Solid) Sampled: 10/07/2013 10:30; Type: Grab

Analyte	Result	Reporting		Units	Prepared	Analyzed	Analyst	Method	Notes
		Limit							

Microbac Laboratories, Inc., Baltimore Division

Wet Chemistry

% Solids	100.0	0.05	% by Weight	101013 1044	101113 1115	EWM	SM (20) 2540G	
Chloride	23	23	mg/kg dry	101913 1333	102513 1332	BLL	SM(20)4500Cl-C(M)	D
pH	3.94	0.100	pH Units	101413 1000	101413 1300	LCR	EPA 9045D	Z10a
Sulfate as SO ₄	12000	1200	mg/kg dry	102113 0635	102113 1215	LCR	ASTM D516-02(M)	D

Microbac Laboratories, Inc. - Chicagoland

Metals

Mercury	ND	0.0010	mg/L	101513 1034	101513 1358	SA	1311/7470A
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TCLP Metals

Arsenic	0.0788	0.0100	mg/L	101513 1001	101613 1116	SA	1311/6010B
Barium	ND	0.500	mg/L	101513 1001	101613 1116	SA	1311/6010B
Cadmium	0.0118	0.00200	mg/L	101513 1001	101613 1116	SA	1311/6010B
Chromium	0.160	0.00300	mg/L	101513 1001	101713 1040	SA	1311/6010B
Lead	0.0326	0.00750	mg/L	101513 1001	101613 1116	SA	1311/6010B
Selenium	ND	0.0300	mg/L	101513 1001	101613 1116	SA	1311/6010B
Silver	ND	0.0100	mg/L	101513 1001	101613 1116	SA	1311/6010B

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Mark B. Horan, Laboratory Director

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Page 4 of 17



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Morgantown Generating Station, 12620 Crain Hwy
Newburg, MD 20664

Project: Morgantown-Fly Ash
Project Number: Morgantown-Fly Ash
Project Manager: John Williams

Report: 13J0685
Reported: 10/28/2013 08:59

Unit F2 Fly Ash Sample

13J0685-02 (Solid) Sampled: 10/07/2013 10:40; Type: Grab

Analyte	Result	Reporting		Units	Prepared	Analyzed	Analyst	Method	Notes
		Limit							

Microbac Laboratories, Inc., Baltimore Division

Metals, Total by EPA 6000/7000 Series Methods

Silver	ND	2.4	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Aluminum	29000	12	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Arsenic	75	4.9	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Boron	250	24	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Barium	400	2.4	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Beryllium	5.6	0.98	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Calcium	12000	24	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Cadmium	2.3	0.49	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Cobalt	7.4	2.4	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Chromium	56	2.4	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Copper	56	2.4	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Iron	39000	9.8	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Potassium	3900	24	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Lithium	45	4.9	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Magnesium	1900	24	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Manganese	81	2.4	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Molybdenum	9.2	4.9	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	B7
Sodium	1700	240	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Nickel	20	4.9	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Lead	33	4.9	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Antimony	ND	9.8	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Thallium	ND	9.8	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Vanadium	150	2.4	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	
Zinc	77	2.4	mg/kg dry	101113 0950	101213 1708	APS	EPA 6010B	

6

Microbac Laboratories, Inc., Baltimore Division

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Mark B. Horan, Laboratory Director

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Page 5 of 17



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Newburg, MD 20664

Project: Morgantown-Fly Ash
Project Number: Morgantown-Fly Ash
Project Manager: John Williams

Report: 13J0685
Reported: 10/28/2013 08:59

Unit F2 Fly Ash Sample

13J0685-02 (Solid) Sampled: 10/07/2013 10:40; Type: Grab

Analyte	Result	Reporting		Units	Prepared	Analyzed	Analyst	Method	Notes
		Limit							

Microbac Laboratories, Inc., Baltimore Division

Wet Chemistry

% Solids	100.0	0.05	% by Weight	101013 1044	101113 1115	EWM	SM (20) 2540G	
Chloride	ND	20	mg/kg dry	101913 1333	102513 1332	BLL	SM(20)4500Cl-C(M)	D
pH	3.92	0.100	pH Units	101413 1000	101413 1300	LCR	EPA 9045D	Z10
Sulfate as SO4	14000	490	mg/kg dry	102113 0635	102113 1215	LCR	ASTM D516-02(M)	D

Microbac Laboratories, Inc. - Chicagoland

Metals

Mercury	ND	0.0010	mg/L	101513 1034	101513 1400	SA	1311/7470A
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TCLP Metals

Arsenic	0.355	0.0100	mg/L	101513 1001	101613 1120	SA	1311/6010B
Barium	ND	0.500	mg/L	101513 1001	101613 1120	SA	1311/6010B
Cadmium	0.0160	0.00200	mg/L	101513 1001	101613 1120	SA	1311/6010B
Chromium	0.261	0.00300	mg/L	101513 1001	101713 1045	SA	1311/6010B
Lead	0.0522	0.00750	mg/L	101513 1001	101613 1120	SA	1311/6010B
Selenium	ND	0.0300	mg/L	101513 1001	101613 1120	SA	1311/6010B
Silver	ND	0.0100	mg/L	101513 1001	101613 1120	SA	1311/6010B

Microbac Laboratories, Inc., Baltimore Division

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Page 6 of 17



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Baltimore Division

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CERTIFICATE OF ANALYSIS

NRG Energy - Morgantown
Morgantown Generating Station, 12620 Crain Hwy
Newburg, MD 20664

Project: Morgantown-Fly Ash
Project Number: Morgantown-Fly Ash
Project Manager: John Williams

Report: 13J0685
Reported: 10/28/2013 08:59

Bottom Ash

13J0685-03 (Solid) Sampled: 10/07/2013 13:00; Type: Grab

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

Metals, Total by EPA 6000/7000 Series Methods

Silver	ND	3.6	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Aluminum	3900	18	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Arsenic	ND	7.2	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Boron	ND	36	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Barium	47	3.6	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Beryllium	ND	1.4	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Calcium	2600	36	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Cadmium	ND	0.72	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Cobalt	ND	3.6	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Chromium	6.8	3.6	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Copper	5.2	3.6	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Iron	14000	14	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Potassium	430	36	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Lithium	ND	7.2	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Magnesium	280	36	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Manganese	29	3.6	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Molybdenum	ND	7.2	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Sodium	680	360	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Nickel	ND	7.2	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Lead	ND	7.2	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Antimony	ND	14	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Thallium	ND	14	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Vanadium	12	3.6	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B
Zinc	20	3.6	mg/kg dry	101113 0950	101213 1712	APS	EPA 6010B

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Original Lab Report

Page 7 of 17



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CERTIFICATE OF ANALYSIS

NRG Energy - Morgantown

Morgantown Generating Station, 12620 Crain Hwy

Newburg, MD 20664

Project: Morgantown-Fly Ash

Project Number: Morgantown-Fly Ash

Project Manager: John Williams

Report: 13J0685

Reported: 10/28/2013 08:59

Bottom Ash

13J0685-03 (Solid) Sampled: 10/07/2013 13:00; Type: Grab

Analyte	Result	Reporting		Units	Prepared	Analyzed	Analyst	Method	Notes
		Limit							

Microbac Laboratories, Inc., Baltimore Division

Wet Chemistry

% Solids	63.54	0.05	% by Weight	101013 1044	101113 1115	EWM	SM (20) 2540G	
Chloride	ND	37	mg/kg dry	101913 1333	102513 1332	BLL	SM(20)4500Cl-C(M)	D
pH	9.11	0.100	pH Units	101413 1000	101413 1300	LCR	EPA 9045D	Z10c
Sulfate as SO ₄	450	75	mg/kg dry	102113 0635	102113 1215	LCR	ASTM D516-02(M)	D

Microbac Laboratories, Inc. - Chicagoland

Metals

Mercury	ND	0.0010	mg/L	101513 1034	101513 1401	SA	1311/7470A
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TCLP Metals

Arsenic	0.0140	0.0100	mg/L	101513 1001	101613 1125	SA	1311/6010B
Barium	ND	0.500	mg/L	101513 1001	101613 1125	SA	1311/6010B
Cadmium	ND	0.00200	mg/L	101513 1001	101613 1125	SA	1311/6010B
Chromium	ND	0.00300	mg/L	101513 1001	101713 1049	SA	1311/6010B
Lead	ND	0.00750	mg/L	101513 1001	101613 1125	SA	1311/6010B
Selenium	ND	0.0300	mg/L	101513 1001	101613 1125	SA	1311/6010B
Silver	ND	0.0100	mg/L	101513 1001	101613 1125	SA	1311/6010B

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CERTIFICATE OF ANALYSIS

NRG Energy - Morgantown

Morgantown Generating Station, 12620 Crain Hwy

Newburg, MD 20664

Project: Morgantown-Fly Ash

Project Number: Morgantown-Fly Ash

Project Manager: John Williams

Report: 13J0685

Reported: 10/28/2013 08:59

Gypsum

13J0685-04 (Solid) Sampled: 10/07/2013 13:10; Type: Grab

Analyte	Result	Reporting		Units	Prepared	Analyzed	Analyst	Method	Notes
		Limit							

Microbac Laboratories, Inc., Baltimore Division

Metals, Total by EPA 6000/7000 Series Methods

Silver	ND	3.2	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Aluminum	770	16	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Arsenic	ND	6.4	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Boron	ND	32	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Barium	27	3.2	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Beryllium	ND	1.3	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Calcium	250000	160	mg/kg dry	101113 0950	101413 1645	APS	EPA 6010B
Cadmium	ND	0.64	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Cobalt	ND	3.2	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Chromium	ND	3.2	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Copper	ND	3.2	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Iron	2100	13	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Potassium	180	32	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Lithium	ND	6.4	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Magnesium	ND	32	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Manganese	ND	3.2	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Molybdenum	ND	6.4	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Sodium	980	320	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Nickel	6.5	6.4	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Lead	ND	6.4	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Antimony	ND	13	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Thallium	ND	13	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Vanadium	ND	3.2	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B
Zinc	6.8	3.2	mg/kg dry	101113 0950	101213 1716	APS	EPA 6010B

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Page 9 of 17



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CERTIFICATE OF ANALYSIS

NRG Energy - Morgantown
Morgantown Generating Station, 12620 Crain Hwy
Newburg, MD 20664

Project: Morgantown-Fly Ash
Project Number: Morgantown-Fly Ash
Project Manager: John Williams

Report: 13J0685
Reported: 10/28/2013 08:59

Gypsum

13J0685-04 (Solid) Sampled: 10/07/2013 13:10; Type: Grab

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

Wet Chemistry

% Solids	76.03	0.05	% by Weight	101013 1044	101113 1115	EWM	SM (20) 2540G	
Chloride	50	25	mg/kg dry	101913 1333	102513 1332	BLL	SM(20)4500CL-C(M)	D
pH	6.88	0.100	pH Units	101413 1000	101413 1300	LCR	EPA 9045D	Z10b
Sulfate as SO4	95000	3300	mg/kg dry	102113 0635	102113 1215	LCR	ASTM D516-02(M)	D

Microbac Laboratories, Inc. - Chicagoland

Metals

Mercury	ND	0.0010	mg/L	101513 1034	101513 1404	SA	1311/7470A
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TCLP Metals

Arsenic	0.0180	0.0100	mg/L	101513 1001	101613 1130	SA	1311/6010B
Barium	ND	0.500	mg/L	101513 1001	101613 1130	SA	1311/6010B
Cadmium	ND	0.00200	mg/L	101513 1001	101613 1130	SA	1311/6010B
Chromium	ND	0.00300	mg/L	101513 1001	101713 1054	SA	1311/6010B
Lead	ND	0.00750	mg/L	101513 1001	101613 1130	SA	1311/6010B
Selenium	0.0416	0.0300	mg/L	101513 1001	101613 1130	SA	1311/6010B
Silver	ND	0.0100	mg/L	101513 1001	101613 1130	SA	1311/6010B

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Page 10 of 17



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CERTIFICATE OF ANALYSIS

NRG Energy - Morgantown

Morgantown Generating Station, 12620 Crain Hwy

Newburg, MD 20664

Project: Morgantown-Fly Ash

Project Number: Morgantown-Fly Ash

Project Manager: John Williams

Report: 13J0685

Reported: 10/28/2013 08:59

WWTP Filter Cake

13J0685-05 (Solid) Sampled: 10/07/2013 13:15; Type: Grab

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

Metals, Total by EPA 6000/7000 Series Methods

Silver	ND	4.0	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Aluminum	16000	20	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Arsenic	43	8.1	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Boron	930	200	mg/kg dry	101113 0950	101413 1649	APS	EPA 6010B
Barium	380	4.0	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Beryllium	2.4	1.6	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Calcium	170000	200	mg/kg dry	101113 0950	101413 1649	APS	EPA 6010B
Cadmium	1.8	0.81	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Cobalt	10	4.0	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Chromium	55	4.0	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Copper	35	4.0	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Iron	16000	16	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Potassium	3700	40	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Lithium	16	8.1	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Magnesium	12000	40	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Manganese	770	4.0	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Molybdenum	12	8.1	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Sodium	1300	400	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Nickel	73	8.1	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Lead	19	8.1	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Antimony	ND	81	mg/kg dry	101113 0950	101413 1649	APS	EPA 6010B
Thallium	ND	16	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Vanadium	66	4.0	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B
Zinc	83	4.0	mg/kg dry	101113 0950	101213 1728	APS	EPA 6010B

B7

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Page 11 of 17



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CERTIFICATE OF ANALYSIS

NRG Energy - Morgantown
Morgantown Generating Station, 12620 Crain Hwy
Newburg, MD 20664

Project: Morgantown-Fly Ash
Project Number: Morgantown-Fly Ash
Project Manager: John Williams

Report: 13J0685
Reported: 10/28/2013 08:59

WWTP Filter Cake

13J0685-05 (Solid) Sampled: 10/07/2013 13:15; Type: Grab

Analyte	Result	Reporting		Units	Prepared	Analyzed	Analyst	Method	Notes
		Limit							

Microbac Laboratories, Inc., Baltimore Division

Wet Chemistry

% Solids	57.39	0.05	% by Weight	101013 1044	101113 1115	EWM	SM (20) 2540G	
Chloride	2200	36	mg/kg dry	101913 1333	102513 1332	BLL	SM(20)4500Cl-C(M)	D
pH	9.12	0.100	pH Units	101413 1000	101413 1300	LCR	EPA 9045D	Z10
Sulfate as SO4	81000	2200	mg/kg dry	102113 0635	102113 1215	LCR	ASTM D516-02(M)	D

Microbac Laboratories, Inc. - Chicagoland

Metals

Mercury	ND	0.0010	mg/L	101513 1034	101513 1343	SA	1311/7470A
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TCLP Metals

Arsenic	ND	0.0200	mg/L	101513 1001	101613 1216	SA	1311/6010B
Barium	ND	0.500	mg/L	101513 1001	101613 1216	SA	1311/6010B
Cadmium	0.0193	0.00200	mg/L	101513 1001	101613 1216	SA	1311/6010B
Chromium	0.0320	0.00300	mg/L	101513 1001	101713 1131	SA	1311/6010B
Lead	0.151	0.00750	mg/L	101513 1001	101613 1216	SA	1311/6010B
Selenium	0.131	0.0300	mg/L	101513 1001	101613 1216	SA	1311/6010B
Silver	ND	0.0100	mg/L	101513 1001	101613 1216	SA	1311/6010B

Microbac Laboratories, Inc., Baltimore Division

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CERTIFICATE OF ANALYSIS

NRG Energy - Morgantown
Morgantown Generating Station, 12620 Crain Hwy
Newburg, MD 20664

Project: Morgantown-Fly Ash
Project Number: Morgantown-Fly Ash
Project Manager: John Williams

Report: 13J0685
Reported: 10/28/2013 08:59

Project Requested Certification(s):

A2LA (Environmental)

Analyte Certification Exception Summary

Microbac Laboratories, Inc., Baltimore Division

Matrix: Solid

ASTM D516-02(M)

Sulfate as SO₄: No Certification

SM (20) 2540G

% Solids: No Certification

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

Microbac Laboratories, Inc., Baltimore Division

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Page 13 of 17

CERTIFICATE OF ANALYSIS

NRG Energy - Morgantown

Morgantown Generating Station, 12620 Crain Hwy

Newburg, MD 20664

Project: Morgantown-Fly Ash

Project Number: Morgantown-Fly Ash

Project Manager: John Williams

Report: 13J0685

Reported: 10/28/2013 08:59

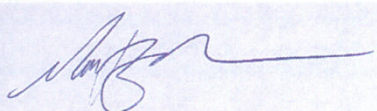
Certification List

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. - Chicagoland			
A2LA_	A2LA ISO/IEC 17025 Biological Testing	3045.01	09/30/2014
A2LA	A2LA ISO/IEC 17025 Env. DoD Testing	3045.02	09/30/2014
ILDPH	Illinois DOPH Micro analysis of drinking water	1755266	12/14/2013
ILEPA	Illinois EPA wastewater and solid waste analysis	200064	01/30/2014
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	12/31/2013
KSDOH	Kansas Dept Health & Env. NELAP	E-10397	01/31/2014
KYEPP	Kentucky EPPC analysis Underground Storage Tanks	75	01/23/2014
NYDOH-1	New York State Department of Health Wadsworth	49386	04/01/2014
NYDOH	New York State Department of Health Wadsworth	49179	04/01/2014
NCDEN	North Carolina DENR NPDES effluent, surface water	597	12/31/2013
PEDEP	Pennsylvania DEP Registration for Air analysis	68-04863	
PADEP	Pennsylvania Department of Environmental Protect	68-04863	07/31/2014
USDAS	USDA Permit To Receive Soil	P330-12-00174	06/20/2015
WADOE	Washington State Department of Ecology	C992	10/22/2013
WSDNR	Wisconsin DRN chemical analysis wastewater, solids	998036710	08/31/2014
Microbac Laboratories, Inc., Baltimore Division			
A2LA1	A2LA (Biology)	410.02	04/30/2015
A2LA2	A2LA (Environmental)	410.01	04/30/2015
CPSC	CPSC Testing of Childrens Products and Jewelry	1115	04/30/2015
Pb	Environmental Lead (ELLAP)	410.01	04/30/2015
MD	State of Maryland (Drinking Water)	109	06/30/2014
Microbac Laboratories, Inc., Richmond Division			
VA-R	Commonwealth of Virginia (NELAC) - Richmond	460022-2348	06/14/2014

Microbac Laboratories, Inc., Baltimore Division

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Page 14 of 17



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CERTIFICATE OF ANALYSIS

NRG Energy - Morgantown

Morgantown Generating Station, 12620 Crain Hwy

Newburg, MD 20664

Project: Morgantown-Fly Ash

Project Number: Morgantown-Fly Ash

Project Manager: John Williams

Report: 13J0685

Reported: 10/28/2013 08:59

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 Division

Z10c	pH@22.9°C
Z10b	pH@21.5°C
Z10a	pH@21.3°C
Z10	pH@21.0°C
D	Sample Diluted
B7	Target analyte detected in continuing calibration blank at or above reporting limit.

Sample/Sample Receipt Qualifiers and Notes:

Microbac Laboratories, Inc., Baltimore Division

13J0685-05	Sample received above recommended temperature.
13J0685-04	Sample received with improper preservation.
13J0685-03	Sample received above recommended temperature.
13J0685-02	Sample received above recommended temperature.
13J0685-01	Sample received above recommended temperature.



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Cooler Receipt Log

Cooler ID: Default Cooler

Cooler Temp: 20.60 °C

Work Order: 13J0685

Custody Seals Intact: Yes
Containers Intact: Yes
Received On Ice: No
Radiation Scan Acceptable: Yes
COC Present: Yes

COC/Containers Agree: Yes
Correct Preservation: Yes
Correct Number of Containers Received: Yes
Sufficient Sample Volume for Testing: Yes
Samples Received in Proper Condition: No

Comments:

