GenOn Mid-Atlantic, LLC
Morgantown Generating Station
12620 Crain Hwy.
Newburg, Maryland 20620

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LAND MANAGEMENT ADMIN.
SOLID WASTE PROGRAM

7017 1450 0000 3681 5798
Certified Mail/Return Receipt Requested

Mr. Ed Dexter
Maryland Department of the Environment
Land Management Administration
1800 Washington Boulevard, Suite 605
Baltimore MD 21230-1719

February 26, 2017

Re: 2017 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 2017 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@genon.com.

Regards,

Thomas G. Turk
General Manager

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

Coal Combustion Byproducts (CCBs)
Annual Generator Tonnage Report
Instructions for Calendar Year 2017

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 2017. 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 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."*

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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, 2018:

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.: 301-843-4670 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@genon.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 2017, 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 2017: Please note that this table includes both the volume and weight of the types of CCBs your facility produces.

Volume and Weight of CCBs Generated for Calendar Year 2017			
FlyAsh	BottomAsh	On-Spec Gypsum	WWTP Fines
Type of CCB	Type of CCB	Type of CCB	Type of CCB
72261	8474	50882	773
Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards
72261	8474	99395	1510
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 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 2017, 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 72,261 tons of flyash were generated at Morgantown in 2017, and 13,564 tons were imported from the Chalk Point Generating Station for processing at the STAR facility. Ash processed at the STAR facility is reduced in weight thru combustion and the remaining product is sent to temporary storage before being sold. 16,079 tons of dry Morgantown flyash were stored on site at the end of 2016 and 0 tons of dry Morgantown flyash were stored on site at the end of 2017. Of this ash 94,725 tons (82,581 tons which were generated at Morgantown) were sold to SEFA (headquartered in Columbia, SC) for beneficial use as cementitious material for concrete and concrete products in Maryland (6,306 tons total, of which 5,498 tons were generated at Morgantown) and in seven other states (88,419 total tons for the other 7 states combined, of which 77,083 were generated at Morgantown). The Chalk Point tonnages of the sold flyash are addressed in the Chalk Point CCB Report.
Bottom Ash: 8,474 tons of dry bottom ash was generated in 2017 and disposed of at the Brandywine Ash Site, located in Brandywine Md.
On-Spec Gypsum: 99,395 tons of On-Spec Gypsum were generated at Morgantown in 2017, and 8,723 tons were stored on-site at the end of 2016. Of this total, 104,218 tons were transported by barge to Continental, located in Buchanan, NY for use in the manufacture of wallboard, and a total of 3,900 tons were stored on site at the end of 2017.
WWTP Fines produced in 2017 was 1,510 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:

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

FlyAsh:
Volume: 82,581 tons of Morgantown generated flyash sold,
Uses:
1) 82,581 tons beneficially used as a Supplementary cementitious material for concrete and concrete products, 5,498 tons of which were used in Md., and 77,083 tons beneficially used in seven other states.

On-Spec Gypsum:
Volume: 104,218 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 72,000 dry tons to be generated at Morgantown and 13,500 dry tons to be imported from Chalk Point Generating Station, all to be sold to SEFA, headquartered in Columbia, SC.
Bottom Ash: Anticipate 8,500 tons to be generated and disposed of at the Brandywine ash site in Prince George's County, Md. .
On-Spec Gypsum: Anticipate approximately 100,000 dry tons to be generated and transported by barge to Continental, located in Buchanan, NY.
WWTP Fines: Approximately 1,500 dry 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: Approximately 95,500 dry tons to be sold
Uses: 1) All used as a Supplementary cementitious material for concrete and concrete products.

On-Spec Gypsum:
Volume: Approximately 105,000 tons 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	Thomas G. Turk, General Manager, Morgantown Generating Station 301-843-4521 Name, Title, & Telephone No. (Print or Type) Thomas.Turk@genon.com Your Email Address	2-26-18 Date

V: Attachments (please list):

A)Morgantown Generating Station Process Description
B)Microbac Report #17A0959: Analyses of Fly Ash, Bottom Ash, Gypsum, and WWTP Fines

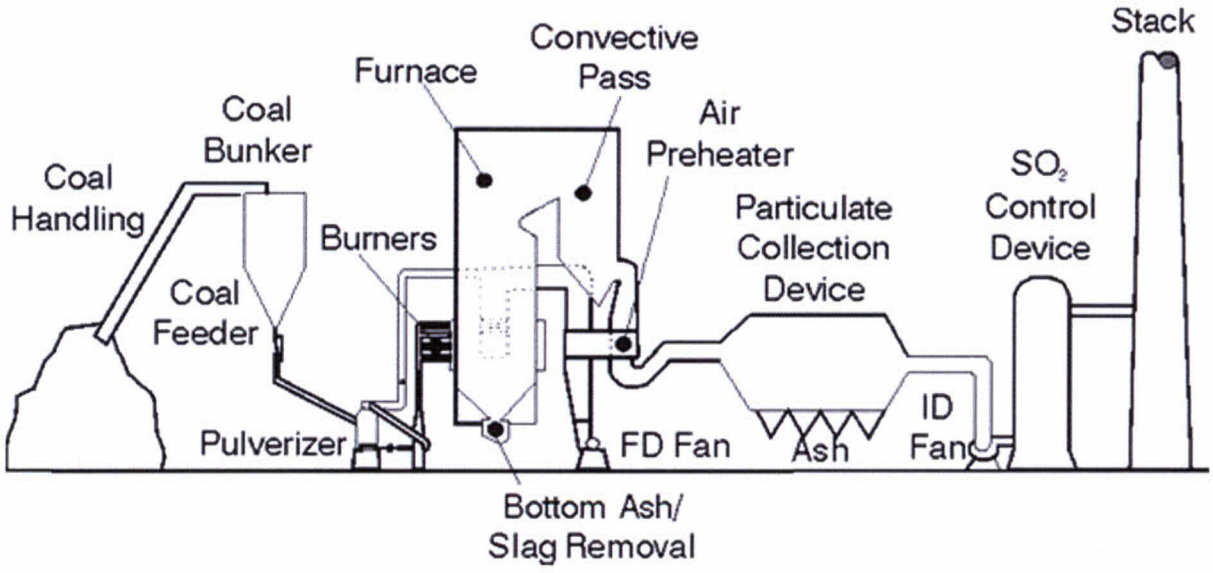
Attachment A

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 NOx burners with Separated Over-Fired Air (SOFA) and Selective Catalytic Reduction (SCR) for control of oxides of nitrogen (NOx); 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.

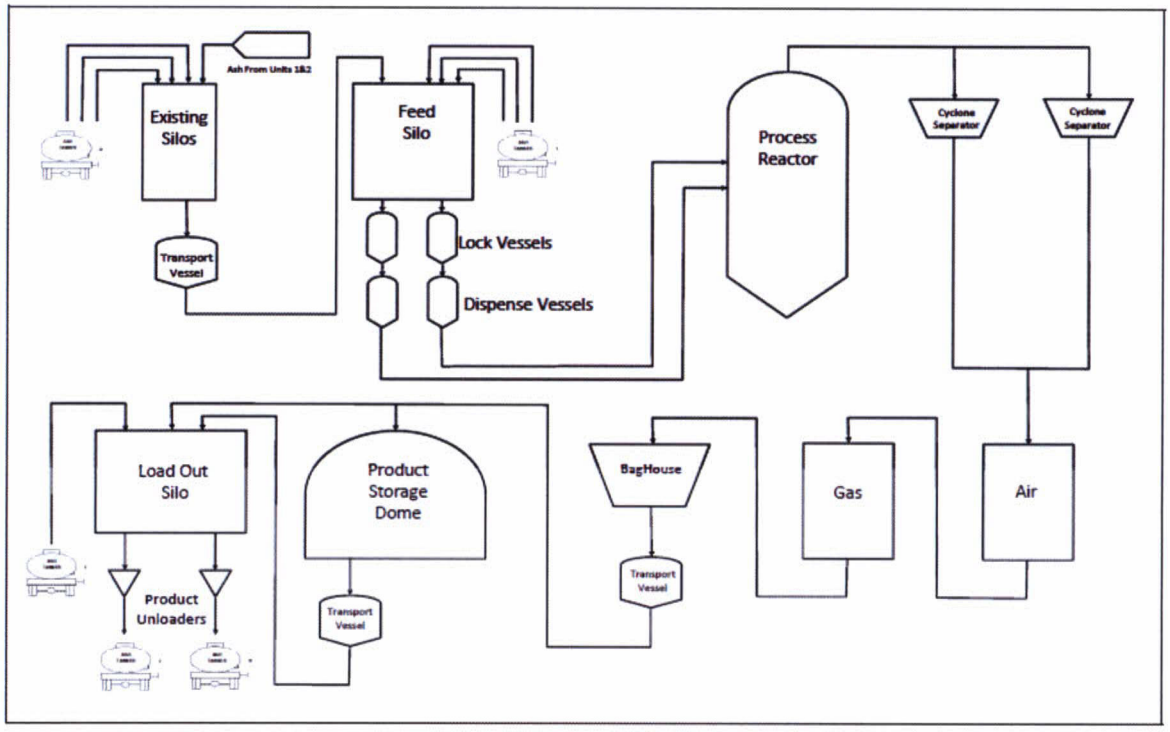
The illustration below shows a simple schematic diagram for a typical pulverized coal combustion system. The coal is prepared by grinding to a very fine consistency for combustion.



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 either 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 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, disposed of out of state, or sent to the Brandywine Ash Site, where it can be 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. 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 Continental, located in 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.

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Baltimore Division

2101 Van Deman Street • Baltimore, MD 21224

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COVER LETTER

February 13, 2017
Report No.: 17A0959

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

RE: Morgantown-Fly Ash

The report of analyses contains test results for samples received at Microbac Laboratories, Inc., Baltimore Division on 01/17/2017 15:40.

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

Melanie C Duszynski

Final report reviewed by: Melanie C. Duszynski/Project Manager

2/13/2017
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 Melanie C. Duszynski/Project Manager at 410-633-1800. You may also contact Trevor Boyce, President at trevor.boyce@microbac.com

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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: 17A0959 Reported: 02/13/2017 12:30

SAMPLE SUMMARY

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
Flyash	17A0959-01	Solid	Composite	01/13/2017 09:00	01/17/2017 15:40
Bottom Ash	17A0959-02	Solid	Grab	01/12/2017 11:00	01/17/2017 15:40
Gypsum	17A0959-03	Solid	Grab	01/11/2017 10:00	01/17/2017 15:40
WWTP Filter Cake	17A0959-04	Solid	Grab	01/11/2017 13:00	01/17/2017 15:40

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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: 17A0959 Reported: 02/13/2017 12:30

Flyash

17A0959-01 (Solid) Sampled: 01/13/2017 09:00; Type: Composite

Microbac Laboratories, Inc. - Baltimore

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
Wet Chemistry									
% Solids	99.96	0.05	% by Weight		011917 1515	012317 0950	RLD	SM 2540 G-11	
Chloride	ND	9.7	mg/kg dry		011817 1154	011817 2200	PBK	SW-846 9056A	
pH	5.00	0.100	pH Units		012617 1238	012617 1238	RDM	SW-846 9045D	
Sulfate as SO4	14000	480	mg/kg dry		011817 1154	011917 0828	PBK	SW-846 9056A	
Temperature	18.0	0.1	°C		012617 1238	012617 1238	PBK	SM 2550 B-00	
Mercury, Total by EPA 7000 Series Methods									
Mercury	0.20	0.024	mg/kg dry		012717 1055	012717 1620	APS	EPA 7471A	
Metals, Total by EPA 6000/7000 Series Methods									
Aluminum	26000	49	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Antimony	ND	20	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Arsenic	110	9.8	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Barium	230	2.5	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Beryllium	6.3	2.5	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Boron	330	2.5	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Cadmium	2.9	1.2	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Calcium	12000	98	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Chromium	65	2.5	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Cobalt	16	2.5	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Copper	ND	2.5	mg/kg dry		012417 1108	012517 1408	APS	EPA 6010B	
Iron	78000	25	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Lead	27	20	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Lithium	33	4.9	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Magnesium	1700	25	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Manganese	ND	2.5	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Molybdenum	ND	4.9	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	

Microbac Laboratories, Inc. - Baltimore

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.

Melanie C. Duszynski, Project Manager

Original Report

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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: 17A0959 Reported: 02/13/2017 12:30

Flyash

17A0959-01 (Solid) Sampled: 01/13/2017 09:00; Type: Composite

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
Microbac Laboratories, Inc. - Baltimore									
Metals, Total by EPA 6000/7000 Series Methods									
Nickel	**23**	4.9	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Potassium	**3000**	25	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Silver	ND	2.0	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Sodium	**1600**	98	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Thallium	ND	9.8	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Vanadium	**150**	2.5	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
Zinc	**75**	2.5	mg/kg dry		012417 1108	012517 1312	APS	EPA 6010B	
TCLP Extraction by EPA 1311									
TCLP Extraction	**COMPLETED**		N/A		011917 1931	012017 1521	TRB	EPA 1311	
TCLP Metals by 6000/7000 Series Methods									
Arsenic	**0.48**	0.20	mg/L	5.0	012017 1756	012317 1349	APS	EPA 6010B	
Barium	**0.24**	0.050	mg/L	100	012017 1756	012317 1349	APS	EPA 6010B	
Cadmium	**0.030**	0.025	mg/L	1.0	012017 1756	012317 1349	APS	EPA 6010B	
Chromium	**0.22**	0.050	mg/L	5.0	012017 1756	012317 1349	APS	EPA 6010B	
Lead	ND	0.40	mg/L	5.0	012017 1756	012317 1349	APS	EPA 6010B	
Mercury	ND	0.0020	mg/L	0.20	012417 1138	012417 1652	APS	EPA 7470A	
Selenium	ND	0.40	mg/L	1.0	012017 1756	012317 1349	APS	EPA 6010B	
Silver	ND	0.040	mg/L	5.0	012017 1756	012317 1349	APS	EPA 6010B	
Microbac Laboratories, Inc. - Chicagoland									
Wet Chemistry									
Sulfur (from SO4)	**3400**	320	mg/Kg		012417 1225	012517 1330	AGRIE	ASTM D129 MOD	

Microbac Laboratories, Inc. - Baltimore

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.

Melanie C. Duszynski, Project Manager

Original Report

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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: 17A0959 Reported: 02/13/2017 12:30

Bottom Ash

17A0959-02 (Solid) Sampled: 01/12/2017 11:00; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
Microbac Laboratories, Inc. - Baltimore									
Wet Chemistry									
% Solids	**85.95**	0.05	% by Weight		011917 1515	012317 0950	RLD	SM 2540 G-11	
Chloride	**18**	11	mg/kg dry		011817 1154	011817 2250	PBK	SW-846 9056A	
pH	**8.10**	0.100	pH Units		012617 1238	012617 1238	RDM	SW-846 9045D	
Sulfate as SO4	**190**	11	mg/kg dry		011817 1154	011817 2250	PBK	SW-846 9056A	
Temperature	**18.0**	0.1	°C		012617 1238	012617 1238	PBK	SM 2550 B-00	
Mercury, Total by EPA 7000 Series Methods									
Mercury	ND	0.027	mg/kg dry		012717 1055	012717 1621	APS	EPA 7471A	
Metals, Total by EPA 6000/7000 Series Methods									
Aluminum	**13000**	53	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Antimony	ND	21	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Arsenic	ND	11	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Barium	**67**	2.7	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Beryllium	ND	2.7	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Boron	**31**	2.7	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Cadmium	ND	1.3	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Calcium	**3800**	110	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Chromium	**14**	2.7	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Cobalt	**4.7**	2.7	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Copper	ND	2.7	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Iron	**42000**	21	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Lead	ND	5.3	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Lithium	**11**	27	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Magnesium	**620**	2.7	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Manganese	ND	5.3	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Molybdenum	ND	5.3	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Nickel	ND								

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Melanie C. Duszynski

Melanie C. Duszynski, Project Manager

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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: 17A0959 Reported: 02/13/2017 12:30

Bottom Ash

17A0959-02 (Solid) Sampled: 01/12/2017 11:00; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
Microbac Laboratories, Inc. - Baltimore									
Metals, Total by EPA 6000/7000 Series Methods									
Potassium	1300	27	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Silver	ND	2.1	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Sodium	470	110	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Thallium	ND	11	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Vanadium	29	2.7	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
Zinc	4.2	2.7	mg/kg dry		012417 1108	012517 1315	APS	EPA 6010B	
TCLP Extraction by EPA 1311									
TCLP Extraction	COMPLETED		N/A		011917 1931	012017 1521	TRB	EPA 1311	
TCLP Metals by 6000/7000 Series Methods									
Arsenic	ND	0.20	mg/L	5.0	012017 1756	012317 1352	APS	EPA 6010B	
Barium	0.11	0.050	mg/L	100	012017 1756	012317 1352	APS	EPA 6010B	B16
Cadmium	ND	0.025	mg/L	1.0	012017 1756	012317 1352	APS	EPA 6010B	
Chromium	ND	0.050	mg/L	5.0	012017 1756	012317 1352	APS	EPA 6010B	
Lead	ND	0.40	mg/L	5.0	012017 1756	012317 1352	APS	EPA 6010B	
Mercury	ND	0.0020	mg/L	0.20	012417 1138	012417 1653	APS	EPA 7470A	
Selenium	ND	0.40	mg/L	1.0	012017 1756	012317 1352	APS	EPA 6010B	
Silver	ND	0.040	mg/L	5.0	012017 1756	012317 1352	APS	EPA 6010B	
Microbac Laboratories, Inc. - Chicagoland									
Wet Chemistry									
Sulfur (from SO4)	ND	330	mg/Kg		012417 1225	012517 1332	AGRIE	ASTM D129 MOD	

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Melanie C. Duszynski, Project Manager

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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: 17A0959 Reported: 02/13/2017 12:30

Gypsum

17A0959-03 (Solid) Sampled: 01/11/2017 10:00; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
Microbac Laboratories, Inc. - Baltimore									
Wet Chemistry									
% Solids	74.85	0.05	% by Weight		011917 1515	012317 0950	RLD	SM 2540 G-11	
Chloride	180	12	mg/kg dry		011817 1154	011817 2302	PBK	SW-846 9056A	
pH	7.63	0.100	pH Units		012617 1238	012617 1238	RDM	SW-846 9045D	
Sulfate as SO4	25000	610	mg/kg dry		011817 1154	011917 0905	PBK	SW-846 9056A	
Temperature	18.0	0.1	°C		012617 1238	012617 1238	PBK	SM 2550 B-00	
Mercury, Total by EPA 7000 Series Methods									
Mercury	0.66	0.033	mg/kg dry		012717 1055	012717 1622	APS	EPA 7471A	
Metals, Total by EPA 6000/7000 Series Methods									
Aluminum	650	52	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Antimony	ND	21	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Arsenic	ND	10	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Barium	58	2.6	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Beryllium	ND	2.6	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Boron	11	2.6	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Cadmium	ND	1.3	mg/kg dry		012417 1108	012517 1411	APS	EPA 6010B	
Calcium	220000	1000	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Chromium	3.0	2.6	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Cobalt	ND	2.6	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Copper	5.8	2.6	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Iron	1400	2.6	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Lead	ND	21	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Lithium	ND	5.2	mg/kg dry		012417 1108	012517 1411	APS	EPA 6010B	
Magnesium	ND	260	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Manganese	ND	2.6	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Molybdenum	ND	5.2	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Nickel	ND	5.2	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	

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Gypsum

17A0959-03 (Solid) Sampled: 01/11/2017 10:00; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
Microbac Laboratories, Inc. - Baltimore									
Metals, Total by EPA 6000/7000 Series Methods									
Potassium	**310**	26	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Silver	ND	2.1	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Sodium	ND	100	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Thallium	ND	10	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Vanadium	**3.8**	2.6	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
Zinc	**3.3**	2.6	mg/kg dry		012417 1108	012517 1326	APS	EPA 6010B	
TCLP Extraction by EPA 1311									
TCLP Extraction	**COMPLETED**		N/A		011917 1931	012017 1521	TRB	EPA 1311	
TCLP Metals by 6000/7000 Series Methods									
Arsenic	ND	0.20	mg/L	5.0	012017 1756	012317 1413	APS	EPA 6010B	
Barium	**0.063**	0.050	mg/L	100	012017 1756	012317 1413	APS	EPA 6010B	B16
Cadmium	ND	0.025	mg/L	1.0	012017 1756	012317 1413	APS	EPA 6010B	
Chromium	ND	0.050	mg/L	5.0	012017 1756	012317 1413	APS	EPA 6010B	
Lead	ND	0.40	mg/L	5.0	012017 1756	012317 1413	APS	EPA 6010B	
Mercury	ND	0.0020	mg/L	0.20	012417 1138	012417 1657	APS	EPA 7470A	
Selenium	ND	0.40	mg/L	1.0	012017 1756	012317 1413	APS	EPA 6010B	
Silver	ND	0.040	mg/L	5.0	012017 1756	012317 1413	APS	EPA 6010B	
Microbac Laboratories, Inc. - Chicagoland									
Wet Chemistry									
Sulfur (from SO4)	**31000**	6600	mg/Kg		012417 1225	012517 1353	AGRIE	ASTM D129 MOD	

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Melanie C. Duszynski, Project Manager

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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: 17A0959 Reported: 02/13/2017 12:30

WWTP Filter Cake

17A0959-04 (Solid) Sampled: 01/11/2017 13:00; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
Microbac Laboratories, Inc. - Baltimore									
Wet Chemistry									
% Solids	**51.04**	0.05	% by Weight		011917 1515	012317 0950	RLD	SM 2540 G-11	
Chloride	**9500**	760	mg/kg dry		011817 1154	011917 0918	PBK	SW-846 9056A	
pH	**8.96**	0.100	pH Units		012617 1238	012617 1238	RDM	SW-846 9045D	
Sulfate as SO4	**33000**	760	mg/kg dry		011817 1154	011917 0918	PBK	SW-846 9056A	
Temperature	**21.0**	0.1	°C		012617 1238	012617 1238	PBK	SM 2550 B-00	
Mercury, Total by EPA 7000 Series Methods									
Mercury	**20**	2.2	mg/kg dry		012717 1055	012717 1708	APS	EPA 7471A	
Metals, Total by EPA 6000/7000 Series Methods									
Aluminum	**13000**	76	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Antimony	ND	30	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Arsenic	**59**	15	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Barium	**390**	3.8	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Beryllium	ND	3.8	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Boron	**1400**	3.8	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Cadmium	**2.5**	1.9	mg/kg dry		012417 1108	012517 1422	APS	EPA 6010B	
Calcium	**190000**	1500	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Chromium	**58**	3.8	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Cobalt	**10**	3.8	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Copper	**25**	3.8	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Iron	**15000**	3.8	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Lead	ND	30	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Lithium	**11**	7.6	mg/kg dry		012417 1108	012517 1422	APS	EPA 6010B	
Magnesium	**14000**	380	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Manganese	**400**	3.8	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Molybdenum	ND	7.6	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Nickel	**73**	7.6	mg/kg dry		012417 1108	012517 1347	APS	EPA 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: 17A0959 Reported: 02/13/2017 12:30

WWTP Filter Cake

17A0959-04 (Solid) Sampled: 01/11/2017 13:00; Type: Grab

Analyte	Result	Reporting Limit	Units	Limits	Prepared	Analyzed	Analyst	Method	Notes
Microbac Laboratories, Inc. - Baltimore									
Metals, Total by EPA 6000/7000 Series Methods									
Potassium	**4000**	38	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Silver	ND	3.0	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Sodium	**1100**	150	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Thallium	ND	15	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Vanadium	**57**	3.8	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
Zinc	**89**	3.8	mg/kg dry		012417 1108	012517 1347	APS	EPA 6010B	
TCLP Extraction by EPA 1311									
TCLP Extraction	**COMPLETED**		N/A		011917 1931	012017 1521	TRB	EPA 1311	
TCLP Metals by 6000/7000 Series Methods									
Arsenic	ND	0.20	mg/L	5.0	012017 1756	012317 1417	APS	EPA 6010B	
Barium	**0.22**	0.050	mg/L	100	012017 1756	012317 1417	APS	EPA 6010B	B16
Cadmium	ND	0.025	mg/L	1.0	012017 1756	012317 1417	APS	EPA 6010B	
Chromium	**0.10**	0.050	mg/L	5.0	012017 1756	012317 1417	APS	EPA 6010B	
Lead	ND	0.40	mg/L	5.0	012017 1756	012317 1417	APS	EPA 6010B	
Mercury	ND	0.0020	mg/L	0.20	012417 1138	012417 1702	APS	EPA 7470A	
Selenium	**0.87**	0.40	mg/L	1.0	012017 1756	012317 1417	APS	EPA 6010B	
Silver	ND	0.040	mg/L	5.0	012017 1756	012317 1417	APS	EPA 6010B	
Microbac Laboratories, Inc. - Chicagoland									
Wet Chemistry									
Sulfur (from SO4)	**18000**	3200	mg/Kg		012417 1225	012517 1354	AGRIE	ASTM D129 MOD	

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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: 17A0959 Reported: 02/13/2017 12:30

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.

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NRG Energy - Morgantown	Project: Morgantown-Fly Ash	Report: 17A0959
Morgantown Generating Station, 12620 Crain Hwy	Project Number: Morgantown-Fly Ash	Reported: 02/13/2017 12:30
Newburg, MD 20664	Project Manager: John Williams	

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
VA-B	Commonwealth of Virginia (NELAC) - Baltimore	460285	03/14/2017
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	06/30/2017
WV	West Virginia	054	08/31/2017
Microbac Laboratories, Inc. - Chicagoland			
A2LA-B	A2LA (Biology)	3045.01	09/30/2018
A2LA-C	A2LA (Chemistry)	3045.02	09/30/2018
A2LA_	A2LA ISO/IEC 17025 Biological Testing (a)	3045.01	09/30/2018
A2LA	A2LA ISO/IEC 17025 Env. DoD Testing (b)	3045.02	09/30/2018
CDC-ELITE	Center of Disease Control Legionella ELITE Membership (c)		09/16/2017
ILDPH	Illinois DOPH Micro analysis of drinking water (e)	1755266	12/31/2017
ILEPA	Illinois EPA drinking water, wastewater and solid waste analy	200064	05/31/2017
INDEM	Indiana DEM support lab wastewater and solid waste (-)	A305-9-292	12/31/2013
INSDH	Indiana SDH chemical analysis of drinking water (g)	C-45-03	12/31/2019
INDH	Indiana SDH Micro analysis of drinking water (f)	M-45-8	12/31/2019
ISBOAH	Indiana State Board of Animal Health for microbiological anal	18137	03/01/2017
KSDOH	Kansas Dept Health & Env. NELAP (i)	E-10397	01/31/2017
KYEPP	Kentucky EPPC analysis Underground Storage Tanks (k)	75	01/31/2017
KYDEP	Kentucky Wastewater Laboratory Certification Program (j)	90147	12/31/2017
NYDOH	New York State Department of Health Wadsworth (m)	12006	04/01/2017
NCDEN	North Carolina DENR NPDES effluent, surface water (l)	597	12/31/2017
PADEP	Pennsylvania Department of Environmental Protect (n)	68-04863	07/31/2017
USDAS	USDA Permit To Receive Soil (-)	P330-13-00270	10/17/2019
CGL-VA	VA NELAP	460280	06/14/2017
VELAP	Virginia Department of General Services Division of Consolid	7990	06/14/2017

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Microbac Laboratories, Inc. - Richmond			
VA-R	Commonwealth of Virginia (NELAC) - Richmond	460022	06/14/2017

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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

B16 Target analyte detected in method blank >2.2 times the MDL but less than the reporting limit.

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Cooler Receipt Log

Cooler ID: Default Cooler **Cooler Temp:** 1.20°C **Work Order:** 17A0959

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:

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Chain of Custody Record

Work Order Number:

Page 1 of 1

Instructions for completing the Chain of Custody Record on back.

Client Name: NRG Morgantown	Project	Turnaround Time	QC and EDD Type (Required)
Address: 12620 Crain Highway	Location	[ ] Standard (7 Business Days)	[ ] Level I (NAC) [ ] EDD
City, State, Zip: Newburg, MD 20664	PO #	[ ] RUSH* Needed By: _____	[ ] Level II** Format: _____
Contact: John Williams	Compliance Monitoring? [ ] Yes [ ] No	* Please notify lab prior to drop off.	[ ] Level III** Comments:
Telephone #: 301-843-4560	(1)Agency/Program		[ ] Level IV**

Sampled by (PRINT): EHLIM Sampler Signature: [signature] Sampler Phone #: same 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(WI), Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Client Sample ID	Matrix***	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	Requested Analysis: Chloride	Sulfate	pH (as received)	TCLP metals	Total metals	Barium	Lithium	Sulfur	Comments
Flyash			X		1-13-17	0900	1	X	X	X	X	X	X	X	X	
Bottom Ash		X			1-12-17	1100	1	X	X	X	X	X	X	X	X	
Gypsum		X			1-11-17	1000	1	X	X	X	X	X	X	X	X	
WWTP Filter cake		X			1-11-17	1300	1	X	X	X	X	X	X	X	X	

17A0959

Possible Hazard Identification [ ] Hazardous [ ] Non-Hazardous [ ] Radioactive

Sample Disposition [ ] Dispose as appropriate [ ] Return [ ] Archive

Number of Containers:

Cooler Number:

Temp upon receipt(°C): 1.2

Sample Received on Ice or Refrigerated from Client: (Yes) No

	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
1	EHLIM [signature]	EHLIM/HRG	1-17-17 11:00	[signature]	[signature]
2	[signature]	[signature]	1/17/17 1514	[signature]	[signature]
3	[signature]	[signature]	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

Page 16 of 18

01 12.11 ** Surcharge May Apply to add'l QC Packages** WHITE - ORIGINAL LAB YELLOW - RECEIPT

Page 1 of 2

Cooler Receipt Form / Sample Acceptance & Noncompliance Form

Microbac Laboratories, Inc., Baltimore Division
Control # 606-03
Effective Date: 11/30/2016
Page 1 of 1

Number of Coolers Received: 1
Client: NRG Morgantown
Form Completed By: Anthony Smith

Receipt Date / Time: 01/17/17 15:40
Work Order # 17A0959

Shipper: ☑ Microbac ☐ Client ☐ UPS ☐ FedEx
Custody Tape Intact: YES / NO / NA
Containers Intact: YES / NO
Sample Received on Ice or refrigerated: YES / NO / NA
Infrared (IR) Temperature: 4.2 °C

Chain of Custody Present with shipment: YES / NO
Sample Bottle IDs agree with COC: YES / NO
Preservation requirements met: YES / NO / Not Checked
Correct Number of Containers / Sample Volume: YES / NO (If No, contact client immediately)
Headspace in container: YES / NO / NA
Type of Sample: Water Soil Wipes Oil Filter Solid Sludge Food Swab Other

Container Type / Quantity:

A - ___	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid:	If preserved pH <2___, pH >10___
B - ___	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 - 4	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 - ___	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- ___	Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH/Ascorbic Acid	If preserved pH <2___, pH >10___
P - ___	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:_____ H_2SO_4 HNO_3 NaOH _____ mls added
Sample ID:_____ H_2SO_4 HNO_3 NaOH _____ mls added
Sample ID:_____ H_2SO_4 HNO_3 NaOH _____ mls added
Sample ID:_____ H_2SO_4 HNO_3 NaOH _____ mls added

H_2SO_4 – Sulfuric Acid, HNO_3 – Nitric Acid, NaOH – Sodium Hydroxide, ASC – Ascorbic Acid, NaTHIO – Sodium Thiosulfate

Describe Anomalies:_____

Contact information / Summary of Actions:
Date / Time:_____ Contact:_____ Contact By:_____
Comments:_____

Microbac Laboratories, Inc. - Baltimore

MICROBAC®

SUBCONTRACT ORDER

17A0959

17A0951 Dave Bryant
Microbac - BLT
17A0959
01/19/2017

SENDING LABORATORY:

Microbac Laboratories, Inc. - Baltimore
2101 Van Deman Street
Baltimore, MD 21224
Phone: 410.633.1800
Project Manager: Melanie C. Duszynski

RECEIVING LABORATORY:

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

17A0951

Project Info:

Project Name: Morgantown-Fly Ash
Project No: Morgantown-Fly Ash

Client: NRG Energy - Morgantown
Project Type: Wastewater
Project Location: Maryland (South)

Report TAT: 7
Due: 01/27/2017 17:00

Sample ID: 17A0959-01 -01 **Matrix: Solid** **Sampled: 01/13/2017 09:00**

Analysis	Method	Analysis Due	Expires
SUB_Sulfur Sulfur	ASTM D129-91 0.05 % by We	01/27/2017 16:00	02/10/2017 09:00

Sample ID: 17A0959-02 -02 **Matrix: Solid** **Sampled: 01/12/2017 11:00**

Analysis	Method	Analysis Due	Expires
SUB_Sulfur Sulfur	ASTM D129-91 0.05 % by We	01/27/2017 16:00	02/09/2017 11:00

Sample ID: 17A0959-03 -03 **Matrix: Solid** **Sampled: 01/11/2017 10:00**

Analysis	Method	Analysis Due	Expires
SUB_Sulfur Sulfur	ASTM D129-91 0.05 % by We	01/27/2017 16:00	02/08/2017 10:00

Sample ID: 17A0959-04 -04 **Matrix: Solid** **Sampled: 01/11/2017 13:00**

Analysis	Method	Analysis Due	Expires
SUB_Sulfur Sulfur	ASTM D129-91 0.05 % by We	01/27/2017 16:00	02/08/2017 13:00

1.8 - 0.8 = 1.0°C OT

Released By /NWDillinger Date 01/18/17 Received By Fed Ex Date

Released By Date Received By Ashlie N. Carter 1-19-17 @ 9:25 am Date