



February 26, 2021

Re: CCB Report

Mr. Edward Dexter, Administrator
Solid Waste Program
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230-1719

Mr. Dexter,

Please find the enclosed CCB report for AES Warrior Run, LLC. We have completed the report as required and included applicable attachments. A hardcopy of this report will be sent when the COVID-19 pandemic is resolved.

If there are any questions about this report, please do not hesitate to contact us.

Regards,

A handwritten signature in black ink that reads "Kara Hawkins".

Kara Hawkins
Environmental Specialist
AES Warrior Run

**Coal Combustion Byproducts (CCBs)
Annual Generator Tonnage Report
Instructions for Calendar Year 2020**

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 2020. 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 MDE 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.”*

Facility Name: _____

CCB Tonnage Report – 2020

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 MDE by March 1, 2021:

A. Contact information:

Facility Name: _____

Name of Permit Holder: _____

Facility Address: _____
Street

Facility Address: _____
City State Zip

County: _____

Contact Information (Person filing report or Environmental Manager)

Facility Telephone No.: _____ Facility Fax No.: _____

Contact Name: _____

Contact Title: _____

Contact Address: _____
Street

Contact Address: _____
City State Zip

Contact Email: _____

Contact Telephone No.: _____ Contact Fax No.: _____

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

Facility Name: _____

CCB Tonnage Report – 2020

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:

C. The volume and weight of CCBs generated during calendar year 2020, 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 2020: Please note that this table includes both the volume and weight of the types of CCBs your facility produces.

<u>Volume and Weight of CCBs Generated for Calendar Year 2020</u>			
Type of CCB	Type of CCB	Type of CCB	Type of CCB
Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards
Weight of CCB, in Tons	Weight of CCB, in Tons	Weight of CCB, in Tons	Weight of CCB, in Tons

Facility Name: _____

CCB Tonnage Report – 2020

Additional notes:

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 2020, 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:

2020	Fly Ash Tons	Fly Ash CuYds	Bed Ash Tons	Bed Ash CuYds	Slag Ash Tons	Slag Ash CuYds	Use
Cabin Run Mine	108,248.13	191,530.76	47,920.66	73,997.70	2,343.99	3,913.92	Mine Reclamation
Carlos Coal Mine	13,023.06	23,042.58	5,717.82	8,829.29	-	-	Mine Reclamation
Hampshire Hill Coal Mine	14,316.98	25,332.00	7,109.59	10,978.42	-	-	Mine Reclamation
419 Coal Mine	37,816.24	66,910.84	12,900.76	19,920.98	294.73	492.13	Mine Reclamation
FSU-Environmental Restoration	23.86	36.84	-	-	-	-	Under Building Stabilization
Total	173,428.27	306,853.03	73,648.83	113,726.39	2,638.72	4,406.05	

Facility Name: _____

CCB Tonnage Report – 2020

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

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:

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

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



GEOCHEMICAL TESTING

Environmental and Energy Analysis

2005 N. Canton Ave
Somerset, PA 15501

814/445-1671
814/445-6666
FAX 814/445-6729

Friday, February 7, 2020

Michelle Stahlman
AES - WARRIOR RUN INC
11600 MEXICO FARMS SE
CUMBERLAND, MD 21502

RE: TCLP Ash Analysis

Order No.: G2002070

Dear Michelle Stahlman:

Geochemical Testing received 3 sample(s) on 1/31/2020 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Timothy W. Bergstresser
Director of Technical Services



Geochemical Testing

Date: 07-Feb-20

CLIENT: AES - WARRIOR RUN INC
Project: TCLP Ash Analysis
Lab Order: G2002070

CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

Legend:

H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.

U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.

B - Analyte detected in the associated Method Blank

Q1 - See case narrative ND - Not Detected

MCL - Contaminant Limit J - Indicates an estimated value.

Q - Qualifier QL - Quantitation Limit DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits

T - Sample received above required temperature and is not compliant with 40CFR136 Table II.

T1 - Sample received above required temperature

MDA - Minimum Detectable Activity.

** - Value exceeds Action Limit

TICs - Tentatively Identified Compounds.

E - Value above quantitation range



Laboratory Results

Geochemical Testing

Date: 07-Feb-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash North
Lab Order:	G2002070		1-28-20-1
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2002070-001	Collection Date:	1/31/2020 8:00:00 AM
Matrix:	ASH	Received Date:	1/31/2020 1:47:00 PM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TOTAL METALS		Analyst: MEG			EPA 3050		EPA 6010
Aluminum	28400	20.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/05/20 6:52 PM
Antimony	< 10	10		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Arsenic	47.3	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Barium	258	1.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Beryllium	2.51	0.10		mg/Kg-dry	1	02/04/20 10:30 AM	02/05/20 6:52 PM
Boron	40.5	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/06/20 10:42 AM
Cadmium	< 5.0	5.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/05/20 6:52 PM
Chromium	37.8	5.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Cobalt	10.9	0.5		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Copper	23.9	10		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Lead	4.3	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Lithium	40.4	1.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/05/20 6:52 PM
Manganese	126	1.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Molybdenum	5.7	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Nickel	22.4	1.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Selenium	< 2.0	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Silver	< 0.5	0.5		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Vanadium	79.0	0.5		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
Zinc	33.6	10		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:10 PM
MERCURY		Analyst: RLL					ASTM D 6722
Mercury	< 0.010	0.010		mg/Kg-dry	1		02/05/20 9:00 AM
CARBONATE RESULTS		Analyst: MEG					Calculated
Calcium Carbonate	56.4			%	1		02/04/20 12:00 AM
Calcium Carbonate Equivalent	63.4			%	1		02/04/20 12:00 AM
Magnesium Carbonate	5.9			%	1		02/04/20 12:00 AM
MAJOR / MINOR ELEMENTS IN ASH		Analyst: MEG			ASTM D 6349		EPA 6010
Calcium Oxide	31.58	0.01		% Dry	1	02/04/20 4:35 AM	02/04/20 2:04 PM
Magnesium Oxide	2.81	0.01		% Dry	1	02/04/20 4:35 AM	02/04/20 2:04 PM
TCLP EXTRACTION		Analyst: MAG					EPA 1311
Extraction Fluid Used	1.0				1		02/04/20 12:35 PM
Final pH	12.5	1.0			1		02/04/20 12:35 PM
Initial pH	12.0	1.0			1		02/04/20 12:35 PM
pH with HCl	2.0	1.0			1		02/04/20 12:35 PM



Laboratory Results

Geochemical Testing

Date: 07-Feb-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash North
Lab Order:	G2002070		1-28-20-1
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2002070-001	Collection Date:	1/31/2020 8:00:00 AM
Matrix:	ASH	Received Date:	1/31/2020 1:47:00 PM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TCLP, non-volatile	NA				1		02/04/20 12:35 PM
TCLP METALS		Analyst: RLR				EPA 7470	EPA 7470
Mercury	< 0.0020	0.0020		mg/L	1	02/05/20 2:05 PM	02/06/20 11:33 AM
TCLP METALS		Analyst: MEG				EPA 3010 A	EPA 6010
Aluminum	0.1	0.1		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Antimony	< 0.10	0.10		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Arsenic	< 0.02	0.02		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Barium	0.8	0.3		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Beryllium	< 0.001	0.001		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Boron	0.33	0.05		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Cadmium	< 0.002	0.002		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Chromium	< 0.01	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Cobalt	< 0.005	0.005		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Copper	< 0.01	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Lead	< 0.02	0.02		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Lithium	0.20	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Manganese	< 0.01	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Molybdenum	0.10	0.02		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Nickel	< 0.01	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Selenium	< 0.02	0.02		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Silver	< 0.005	0.005		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Vanadium	0.014	0.005		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM
Zinc	0.03	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 10:52 AM



Laboratory Results

Geochemical Testing

Date: 07-Feb-20

CLIENT: AES - WARRIOR RUN INC
Lab Order: G2002070
Project: TCLP Ash Analysis
Lab ID: G2002070-002
Matrix: ASH

Client Sample ID: Bed Ash South
 1-28-20-2
Sampled By: AES Warrior Run
Collection Date: 1/31/2020 8:00:00 AM
Received Date: 1/31/2020 1:47:00 PM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TOTAL METALS		Analyst: MEG			EPA 3050		EPA 6010
Aluminum	27700	20.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/05/20 6:57 PM
Antimony	< 10	10		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Arsenic	42.3	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Barium	247	1.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Beryllium	2.46	0.10		mg/Kg-dry	1	02/04/20 10:30 AM	02/05/20 6:57 PM
Boron	38.7	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/06/20 10:44 AM
Cadmium	< 5.0	5.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/05/20 6:57 PM
Chromium	36.6	5.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Cobalt	10.9	0.5		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Copper	20.6	10		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Lead	3.6	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Lithium	38.1	1.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/05/20 6:57 PM
Manganese	115	1.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Molybdenum	5.2	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Nickel	24.2	1.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Selenium	< 2.0	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Silver	< 0.5	0.5		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Vanadium	77.0	0.5		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
Zinc	28.6	10		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:12 PM
MERCURY		Analyst: RLL					ASTM D 6722
Mercury	< 0.010	0.010		mg/Kg-dry	1		02/05/20 9:00 AM
CARBONATE RESULTS		Analyst: MEG					Calculated
Calcium Carbonate	55.6			%	1		02/04/20 12:00 AM
Calcium Carbonate Equivalent	62.6			%	1		02/04/20 12:00 AM
Magnesium Carbonate	5.9			%	1		02/04/20 12:00 AM
MAJOR / MINOR ELEMENTS IN ASH		Analyst: MEG			ASTM D 6349		EPA 6010
Calcium Oxide	31.16	0.01		% Dry	1	02/04/20 4:35 AM	02/04/20 2:09 PM
Magnesium Oxide	2.79	0.01		% Dry	1	02/04/20 4:35 AM	02/04/20 2:09 PM
TCLP EXTRACTION		Analyst: MAG					EPA 1311
Extraction Fluid Used	1.0				1		02/04/20 12:35 PM
Final pH	12.5	1.0			1		02/04/20 12:35 PM
Initial pH	12.0	1.0			1		02/04/20 12:35 PM
pH with HCl	2.1	1.0			1		02/04/20 12:35 PM



Laboratory Results

Geochemical Testing

Date: 07-Feb-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash South
Lab Order:	G2002070		1-28-20-2
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2002070-002	Collection Date:	1/31/2020 8:00:00 AM
Matrix:	ASH	Received Date:	1/31/2020 1:47:00 PM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TCLP, non-volatile	NA				1		02/04/20 12:35 PM
TCLP METALS		Analyst: RLR				EPA 7470	EPA 7470
Mercury	< 0.0020	0.0020		mg/L	1	02/05/20 2:05 PM	02/06/20 11:35 AM
TCLP METALS		Analyst: MEG				EPA 3010 A	EPA 6010
Aluminum	0.2	0.1		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Antimony	< 0.10	0.10		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Arsenic	< 0.02	0.02		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Barium	0.8	0.3		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Beryllium	< 0.001	0.001		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Boron	0.45	0.05		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Cadmium	< 0.002	0.002		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Chromium	< 0.01	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Cobalt	< 0.005	0.005		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Copper	< 0.01	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Lead	< 0.02	0.02		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Lithium	0.16	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Manganese	< 0.01	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Molybdenum	0.12	0.02		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Nickel	< 0.01	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Selenium	< 0.02	0.02		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Silver	< 0.005	0.005		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Vanadium	0.014	0.005		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM
Zinc	0.04	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 11:00 AM



I.D. 56-00306 PA DEP

Laboratory Results

Geochemical Testing

Date: 07-Feb-20

CLIENT: AES - WARRIOR RUN INC
Lab Order: G2002070
Project: TCLP Ash Analysis
Lab ID: G2002070-003
Matrix: ASH

Client Sample ID: Fly Ash
 1-28-20-3
Sampled By: AES Warrior Run
Collection Date: 1/31/2020 8:00:00 AM
Received Date: 1/31/2020 1:47:00 PM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TOTAL METALS		Analyst: MEG				EPA 3050	EPA 6010
Aluminum	40100	20.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/05/20 7:01 PM
Antimony	< 10	10		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Arsenic	32.9	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Barium	497	1.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Beryllium	3.32	0.10		mg/Kg-dry	1	02/04/20 10:30 AM	02/05/20 7:01 PM
Boron	36.8	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/06/20 10:45 AM
Cadmium	< 5.0	5.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/05/20 7:01 PM
Chromium	35.3	5.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Cobalt	12.8	0.5		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Copper	35.6	10		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Lead	19.0	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Lithium	80.2	1.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/05/20 7:01 PM
Manganese	99.5	1.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Molybdenum	6.5	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Nickel	28.3	1.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Selenium	4.3	2.0		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Silver	< 0.5	0.5		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Vanadium	78.3	0.5		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
Zinc	48.2	10		mg/Kg-dry	1	02/04/20 10:30 AM	02/04/20 2:14 PM
MERCURY		Analyst: RLL					ASTM D 6722
Mercury	0.869	0.010		mg/Kg-dry	1		02/05/20 9:00 AM
CARBONATE RESULTS		Analyst: MEG					Calculated
Calcium Carbonate	32.6			%	1		02/04/20 12:00 AM
Calcium Carbonate Equivalent	37.3			%	1		02/04/20 12:00 AM
Magnesium Carbonate	3.9			%	1		02/04/20 12:00 AM
MAJOR / MINOR ELEMENTS IN ASH		Analyst: MEG				ASTM D 6349	EPA 6010
Calcium Oxide	18.29	0.01		% Dry	1	02/04/20 4:35 AM	02/04/20 2:13 PM
Magnesium Oxide	1.87	0.01		% Dry	1	02/04/20 4:35 AM	02/04/20 2:13 PM
TCLP EXTRACTION		Analyst: MAG					EPA 1311
Extraction Fluid Used	2.0				1		02/04/20 12:35 PM
Final pH	12.0	1.0			1		02/04/20 12:35 PM
Initial pH	12.6	1.0			1		02/04/20 12:35 PM
pH with HCl	12.2	1.0			1		02/04/20 12:35 PM



Laboratory Results

Geochemical Testing

Date: 07-Feb-20

CLIENT: AES - WARRIOR RUN INC
Lab Order: G2002070
Project: TCLP Ash Analysis
Lab ID: G2002070-003
Matrix: ASH

Client Sample ID: Fly Ash
 1-28-20-3
Sampled By: AES Warrior Run
Collection Date: 1/31/2020 8:00:00 AM
Received Date: 1/31/2020 1:47:00 PM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TCLP, non-volatile	NA				1		02/04/20 12:35 PM
TCLP METALS		Analyst: RLR				EPA 7470	EPA 7470
Mercury	< 0.0020	0.0020		mg/L	1	02/05/20 2:05 PM	02/06/20 11:37 AM
TCLP METALS		Analyst: MEG				EPA 3010 A	EPA 6010
Aluminum	0.2	0.1		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Antimony	< 0.10	0.10		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Arsenic	< 0.02	0.02		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Barium	1.9	0.3		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Beryllium	< 0.001	0.001		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Boron	0.39	0.05		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Cadmium	< 0.002	0.002		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Chromium	0.13	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Cobalt	< 0.005	0.005		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Copper	< 0.01	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Lead	< 0.02	0.02		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Lithium	0.22	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Manganese	< 0.01	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Molybdenum	0.17	0.02		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Nickel	< 0.01	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Selenium	0.03	0.02		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Silver	< 0.005	0.005		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Vanadium	0.014	0.005		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM
Zinc	0.03	0.01		mg/L	1	02/05/20 9:45 AM	02/06/20 11:02 AM





GEOCHEMICAL TESTING

Environmental and Energy Analysis

2005 N. Center Ave.
Somerset, PA 15501

814/443-1671
814/445-6666
FAX: 814/445-6729

Wednesday, June 24, 2020

Michelle Stahlman
AES - WARRIOR RUN INC
11600 MEXICO FARMS SE
CUMBERLAND, MD 21502

RE: TCLP Ash Analysis

Order No.: G2006910

Dear Michelle Stahlman:

Geochemical Testing received 3 sample(s) on 6/12/2020 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Timothy W. Bergstresser
Director of Technical Services

Geochemical Testing

Date: 24-Jun-20

CLIENT: AES - WARRIOR RUN INC
Project: TCLP Ash Analysis
Lab Order: G2006910

CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

Results are reported on a dry and on a non-ashed basis.

Legend:
H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.
U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.
B - Analyte detected in the associated Method Blank
QI - See case narrative ND - Not Detected
MCL - Contaminant Limit J - Indicates an estimated value.
Q - Qualifier QL - Quantitation Limit DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits
T - Sample received above required temperature and is not compliant with 40CFR136 Table II.
T1 - Sample received above required temperature
MDA - Minimum Detectable Activity.
** - Value exceeds Action Limit
TICs - Tentatively Identified Compounds.
E - Value above quantitation range



Laboratory Results

Geochemical Testing

Date: 24-Jun-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash North
Lab Order:	G2006910		C96110 / O46526
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2006910-001	Collection Date:	6/8/2020 12:01:00 AM
Matrix:	ASH	Received Date:	6/12/2020 10:50:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TOTAL METALS		Analyst: MEG				EPA 3050	EPA 6010 D
Aluminum	23200	20.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM
Antimony	< 10	10	M2	mg/Kg-dry	1	06/22/20 6:15 AM	06/23/20 6:27 AM
Arsenic	43.1	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 5:51 AM
Barium	240	1.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM
Beryllium	2.25	0.10		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM
Boron	34.4	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 5:51 AM
Cadmium	< 5.0	5.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM
Chromium	39.3	5.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM
Cobalt	8.8	0.5		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM
Copper	18.6	10		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 5:51 AM
Lead	4.8	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM
Lithium	38.8	1.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM
Manganese	120	1.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM
Molybdenum	4.0	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM
Nickel	24.2	1.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM
Selenium	< 2.0	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 5:51 AM
Silver	< 0.5	0.5		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 5:51 AM
Vanadium	75.6	0.5		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM
Zinc	30.8	10		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:36 AM

NOTES:

M2 - MS recovery below the acceptance limits.

MERCURY		Analyst: MJK				ASTM D 6722
Mercury	< 0.010	0.010		mg/Kg-dry	1	06/12/20 9:00 PM

CARBONATE RESULTS		Analyst: MEG				ASTM D 6349	Calculated
Calcium Carbonate	49.4			%	1	06/13/20 5:25 AM	06/15/20 12:00 AM
Calcium Carbonate Equivalent	55.2			%	1	06/13/20 5:25 AM	06/15/20 12:00 AM
Magnesium Carbonate	4.8			%	1	06/13/20 5:25 AM	06/15/20 12:00 AM

MAJOR / MINOR ELEMENTS IN ASH		Analyst: MEG				ASTM D 6349	EPA 6010 D
Calcium Oxide	27.68	0.01		% Dry	1	06/13/20 5:25 AM	06/15/20 2:54 PM
Magnesium Oxide	2.31	0.01		% Dry	1	06/13/20 5:25 AM	06/15/20 2:54 PM

TCLP EXTRACTION		Analyst: DMM					EPA 1311
Extraction Fluid Used	1.0				1		06/14/20 12:36 PM
Final pH	12.4	1.0		S.U.	1		06/14/20 12:36 PM
Initial pH	11.9	1.0		S.U.	1		06/14/20 12:36 PM



Laboratory Results

Geochemical Testing

Date: 24-Jun-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash North
Lab Order:	G2006910		C96110 / O46526
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2006910-001	Collection Date:	6/8/2020 12:01:00 AM
Matrix:	ASH	Received Date:	6/12/2020 10:50:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
pH with HCl	2.2	1.0		S.U.	1		06/14/20 12:36 PM
TCLP, non-volatile	NA				1		06/14/20 12:36 PM

TCLP METALS	Analyst: LXM	EPA 7470	EPA 7470
Mercury	< 0.0020	0.0020	mg/L

TCLP METALS	Analyst: MEG	EPA 3010 A	EPA 6010 D
Aluminum	0.3	0.1	mg/L
Antimony	< 0.10	0.10	mg/L
Arsenic	< 0.02	0.02	mg/L
Barium	0.7	0.3	mg/L
Beryllium	< 0.001	0.001	mg/L
Boron	0.57	0.05	mg/L
Cadmium	< 0.002	0.002	mg/L
Chromium	0.01	0.01	mg/L
Cobalt	< 0.005	0.005	mg/L
Copper	< 0.01	0.01	mg/L
Lead	< 0.02	0.02	mg/L
Lithium	0.32	0.01	mg/L
Manganese	< 0.01	0.01	mg/L
Molybdenum	0.08	0.02	mg/L
Nickel	< 0.01	0.01	mg/L
Selenium	< 0.02	0.02	mg/L
Silver	< 0.005	0.005	mg/L
Vanadium	0.014	0.005	mg/L
Zinc	0.05	0.01	mg/L



Laboratory Results

Geochemical Testing

Date: 24-Jun-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash South
Lab Order:	G2006910		C96111 / O46527
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2006910-002	Collection Date:	6/8/2020 12:01:00 AM
Matrix:	ASH	Received Date:	6/12/2020 10:50:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TOTAL METALS		Analyst: MEG				EPA 3050	EPA 6010 D
Aluminum	25900	20.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Antimony	< 10	10		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 6:09 AM
Arsenic	36.1	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 6:09 AM
Barium	226	1.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Beryllium	2.00	0.10		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Boron	28.6	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 6:09 AM
Cadmium	< 5.0	5.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Chromium	36.2	5.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Cobalt	8.0	0.5		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Copper	20.0	10		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 6:09 AM
Lead	9.8	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Lithium	65.9	1.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Manganese	115	1.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Molybdenum	3.3	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Nickel	22.6	1.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Selenium	< 2.0	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 6:09 AM
Silver	< 0.5	0.5		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Vanadium	59.6	0.5		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
Zinc	34.6	10		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 11:58 AM
MERCURY		Analyst: MJK					ASTM D 6722
Mercury	< 0.010	0.010		mg/Kg-dry	1		06/12/20 9:00 PM
CARBONATE RESULTS		Analyst: MEG				ASTM D 6349	Calculated
Calcium Carbonate	49.4			%	1	06/13/20 5:25 AM	06/15/20 12:00 AM
Calcium Carbonate Equivalent	55.2			%	1	06/13/20 5:25 AM	06/15/20 12:00 AM
Magnesium Carbonate	4.8			%	1	06/13/20 5:25 AM	06/15/20 12:00 AM
MAJOR / MINOR ELEMENTS IN ASH		Analyst: MEG				ASTM D 6349	EPA 6010 D
Calcium Oxide	20.89	0.01		% Dry	1	06/13/20 5:25 AM	06/15/20 2:58 PM
Magnesium Oxide	1.83	0.01		% Dry	1	06/13/20 5:25 AM	06/15/20 2:58 PM
TCLP EXTRACTION		Analyst: DMM					EPA 1311
Extraction Fluid Used	1.0				1		06/14/20 12:36 PM
Final pH	12.4	1.0		S.U.	1		06/14/20 12:36 PM
Initial pH	11.9	1.0		S.U.	1		06/14/20 12:36 PM
pH with HCl	2.1	1.0		S.U.	1		06/14/20 12:36 PM



Laboratory Results

Geochemical Testing

Date: 24-Jun-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash South
Lab Order:	G2006910		C96111 / O46527
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2006910-002	Collection Date:	6/8/2020 12:01:00 AM
Matrix:	ASH	Received Date:	6/12/2020 10:50:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TCLP, non-volatile	NA				1		06/14/20 12:36 PM
TCLP METALS		Analyst: LXM				EPA 7470	EPA 7470
Mercury	< 0.0020	0.0020		mg/L	1	06/16/20 10:50 AM	06/16/20 1:50 PM
TCLP METALS		Analyst: MEG				EPA 3010 A	EPA 6010 D
Aluminum	0.4	0.1		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Antimony	< 0.10	0.10		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Arsenic	< 0.02	0.02		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Barium	0.6	0.3		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Beryllium	< 0.001	0.001		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Boron	0.56	0.05		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Cadmium	< 0.002	0.002		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Chromium	0.02	0.01		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Cobalt	< 0.005	0.005		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Copper	< 0.01	0.01		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Lead	< 0.02	0.02		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Lithium	0.35	0.01		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Manganese	< 0.01	0.01		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Molybdenum	0.06	0.02		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Nickel	< 0.01	0.01		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Selenium	< 0.02	0.02		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Silver	< 0.005	0.005		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Vanadium	0.012	0.005		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM
Zinc	0.05	0.01		mg/L	1	06/15/20 10:05 AM	06/16/20 7:33 AM



Laboratory Results

Geochemical Testing

Date: 24-Jun-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Fly Ash
Lab Order:	G2006910		C96112 / O46528
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2006910-003	Collection Date:	6/8/2020 12:01:00 AM
Matrix:	ASH	Received Date:	6/12/2020 10:50:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TOTAL METALS		Analyst: MEG			EPA 3050		EPA 6010 D
Aluminum	38000	20.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Antimony	< 10	10		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 6:12 AM
Arsenic	36.3	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 6:12 AM
Barium	478	1.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Beryllium	3.23	0.10		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Boron	29.4	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 6:12 AM
Cadmium	< 5.0	5.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Chromium	47.5	5.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Cobalt	14.5	0.5		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Copper	34.2	10		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 6:12 AM
Lead	27.2	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Lithium	77.6	1.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Manganese	113	1.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Molybdenum	5.7	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Nickel	37.5	1.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Selenium	4.3	2.0		mg/Kg-dry	1	06/17/20 6:00 AM	06/18/20 6:12 AM
Silver	< 0.5	0.5		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Vanadium	82.3	0.5		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
Zinc	61.7	10		mg/Kg-dry	1	06/17/20 6:00 AM	06/17/20 12:07 PM
MERCURY		Analyst: MJK					ASTM D 6722
Mercury	0.883	0.010		mg/Kg-dry	1		06/12/20 9:00 PM
CARBONATE RESULTS		Analyst: MEG			ASTM D 6349		Calculated
Calcium Carbonate	28.0			%	1	06/13/20 5:25 AM	06/15/20 12:00 AM
Calcium Carbonate Equivalent	31.6			%	1	06/13/20 5:25 AM	06/15/20 12:00 AM
Magnesium Carbonate	3.1			%	1	06/13/20 5:25 AM	06/15/20 12:00 AM
MAJOR / MINOR ELEMENTS IN ASH		Analyst: MEG			ASTM D 6349		EPA 6010 D
Calcium Oxide	15.67	0.01		% Dry	1	06/13/20 5:25 AM	06/15/20 3:02 PM
Magnesium Oxide	1.45	0.01		% Dry	1	06/13/20 5:25 AM	06/15/20 3:02 PM
TCLP EXTRACTION		Analyst: DMM					EPA 1311
Extraction Fluid Used	2.0				1		06/14/20 12:36 PM
Final pH	11.1	1.0		S.U.	1		06/14/20 12:36 PM
Initial pH	12.7	1.0		S.U.	1		06/14/20 12:36 PM
pH with HCl	12.2	1.0		S.U.	1		06/14/20 12:36 PM



Laboratory Results

Geochemical Testing

Date: 24-Jun-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Fly Ash
Lab Order:	G2006910		C96112 / O46528
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2006910-003	Collection Date:	6/8/2020 12:01:00 AM
Matrix:	ASH	Received Date:	6/12/2020 10:50:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TCLP, non-volatile	NA				1		06/14/20 12:36 PM
TCLP METALS		Analyst: LXM				EPA 7470	EPA 7470
Mercury	< 0.0020	0.0020		mg/L	1	06/16/20 10:50 AM	06/16/20 1:52 PM
TCLP METALS		Analyst: MEG				EPA 3010 A	EPA 6010 D
Aluminum	0.7	0.1		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Antimony	< 0.10	0.10		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Arsenic	< 0.02	0.02		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Barium	1.0	0.3		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Beryllium	< 0.001	0.001		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Boron	1.1	0.05		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Cadmium	< 0.002	0.002		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Chromium	0.13	0.01		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Cobalt	< 0.005	0.005		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Copper	< 0.01	0.01		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Lead	< 0.02	0.02		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Lithium	0.32	0.01		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Manganese	< 0.01	0.01		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Molybdenum	0.18	0.02		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Nickel	< 0.01	0.01		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Selenium	0.04	0.02		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Silver	< 0.005	0.005		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Vanadium	0.13	0.005		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM
Zinc	0.09	0.01		mg/L	1	06/15/20 10:05 AM	06/16/20 7:34 AM





GEOCHEMICAL TESTING

Environmental and Energy Analysis

2005 N. Center Ave.
Somerset, PA 15501

814/443-1671
814/445-6666
FAX: 814/445-6729

Thursday, October 8, 2020

Michelle Stahlman
AES - WARRIOR RUN INC
11600 MEXICO FARMS SE
CUMBERLAND, MD 21502

RE: TCLP Ash Analysis

Order No.: G2010038

Dear Michelle Stahlman:

Geochemical Testing received 3 sample(s) on 10/1/2020 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Timothy W. Bergstresser
Director of Technical Services



Geochemical Testing

Date: 08-Oct-20

CLIENT: AES - WARRIOR RUN INC
Project: TCLP Ash Analysis
Lab Order: G2010038

CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

Results are reported on a dry and on a non-ashed basis.

Legend:

H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.

U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.

B - Analyte detected in the associated Method Blank

Q1 - See case narrative ND - Not Detected

MCL - Contaminant Limit J - Indicates an estimated value.

Q - Qualifier QL -Quantitation Limit DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits

T - Sample received above required temperature and is not compliant with 40CFR136 Table II.

T1 - Sample received above required temperature

MDA - Minimum Detectable Activity.

** - Value exceeds Action Limit

TICs - Tentatively Identified Compounds.

E - Value above quantitation range



I.D. 56-00306 PA DEP

Laboratory Results

Geochemical Testing

Date: 08-Oct-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash North
Lab Order:	G2010038		C96771 / O46566
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2010038-001	Collection Date:	9/29/2020 12:01:00 AM
Matrix:	ASH	Received Date:	10/1/2020 10:00:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TOTAL METALS		Analyst: ABN			EPA 3050		EPA 6010 D
Aluminum	21800	20.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Antimony	< 10	10		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Arsenic	45.8	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Barium	237	1.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Beryllium	1.93	0.10		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Boron	31.2	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Cadmium	< 5.0	5.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Chromium	33.1	5.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Cobalt	8.1	0.5		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Copper	18.5	10		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Lead	6.3	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Lithium	39.2	1.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Manganese	95.8	1.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Molybdenum	4.1	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Nickel	19.6	1.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Selenium	< 2.0	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Silver	< 0.5	0.5		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Vanadium	74.2	0.5		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
Zinc	35.8	10		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:55 AM
MERCURY		Analyst: RLL			ASTM D 6722		
Mercury	< 0.010	0.010		mg/Kg-dry	1	10/02/20 12:04 PM	
CARBONATE RESULTS		Analyst: ABN			Calculated		
Calcium Carbonate	51.2			%	1	10/02/20 1:04 PM	
Calcium Carbonate Equivalent	56.7			%	1	10/02/20 1:04 PM	
Magnesium Carbonate	4.6			%	1	10/02/20 1:04 PM	
MAJOR / MINOR ELEMENTS IN ASH		Analyst: ABN			ASTM D 6349		EPA 6010 D
Calcium Oxide	28.69	0.01		% Dry	1	10/02/20 5:30 AM	10/02/20 1:04 PM
Magnesium Oxide	2.18	0.01		% Dry	1	10/02/20 5:30 AM	10/02/20 1:04 PM
TCLP EXTRACTION		Analyst: DMM			EPA 1311		
Extraction Fluid Used	1.0				1	10/01/20 4:10 PM	
Final pH	12.4	1.0		S.U.	1	10/01/20 4:10 PM	
Initial pH	11.9	1.0		S.U.	1	10/01/20 4:10 PM	
pH with HCl	2.8	1.0		S.U.	1	10/01/20 4:10 PM	



Laboratory Results

Geochemical Testing

Date: 08-Oct-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash North
Lab Order:	G2010038		C96771 / O46566
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2010038-001	Collection Date:	9/29/2020 12:01:00 AM
Matrix:	ASH	Received Date:	10/1/2020 10:00:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TCLP, non-volatile	NA				1		10/01/20 4:10 PM

TCLP METALS		Analyst: LXM		EPA 7470	EPA 7470
Mercury	< 0.0020	0.0020	mg/L	1	10/05/20 6:45 AM 10/06/20 7:59 AM

TCLP METALS		Analyst: ABN		EPA 3010 A	EPA 6010 D
Aluminum	1.1	0.1	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Antimony	< 0.10	0.10	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Arsenic	< 0.02	0.02	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Barium	0.4	0.3	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Beryllium	< 0.001	0.001	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Boron	0.80	0.05	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Cadmium	< 0.002	0.002	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Chromium	< 0.01	0.01	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Cobalt	< 0.005	0.005	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Copper	< 0.01	0.01	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Lead	< 0.02	0.02	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Lithium	0.17	0.01	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Manganese	< 0.01	0.01	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Molybdenum	0.07	0.02	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Nickel	< 0.01	0.01	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Selenium	< 0.02	0.02	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Silver	< 0.005	0.005	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Vanadium	0.012	0.005	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM
Zinc	0.08	0.01	mg/L	1	10/06/20 8:10 AM 10/07/20 7:19 AM



Laboratory Results

Geochemical Testing

Date: 08-Oct-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash South
Lab Order:	G2010038		C96772 / O46567
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2010038-002	Collection Date:	9/29/2020 12:01:00 AM
Matrix:	ASH	Received Date:	10/1/2020 10:00:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TOTAL METALS		Analyst: ABN				EPA 3050	EPA 6010 D
Aluminum	22300	20.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Antimony	< 10	10		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Arsenic	46.5	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Barium	245	1.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Beryllium	2.03	0.10		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Boron	29.9	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Cadmium	< 5.0	5.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Chromium	33.1	5.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Cobalt	8.2	0.5		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Copper	19.6	10		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Lead	6.5	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Lithium	42.1	1.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Manganese	100	1.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Molybdenum	4.2	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Nickel	19.7	1.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Selenium	< 2.0	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Silver	< 0.5	0.5		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Vanadium	75.3	0.5		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
Zinc	33.8	10		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:56 AM
MERCURY		Analyst: RLL					ASTM D 6722
Mercury	< 0.010	0.010		mg/Kg-dry	1		10/02/20 12:04 PM
CARBONATE RESULTS		Analyst: ABN					Calculated
Calcium Carbonate	51.6			%	1		10/02/20 1:09 PM
Calcium Carbonate Equivalent	57.0			%	1		10/02/20 1:09 PM
Magnesium Carbonate	4.5			%	1		10/02/20 1:09 PM
MAJOR / MINOR ELEMENTS IN ASH		Analyst: ABN				ASTM D 6349	EPA 6010 D
Calcium Oxide	28.90	0.01		% Dry	1	10/02/20 5:30 AM	10/02/20 1:09 PM
Magnesium Oxide	2.15	0.01		% Dry	1	10/02/20 5:30 AM	10/02/20 1:09 PM
TCLP EXTRACTION		Analyst: DMM					EPA 1311
Extraction Fluid Used	2.0				1		10/01/20 4:10 PM
Final pH	12.4	1.0		S.U.	1		10/01/20 4:10 PM
Initial pH	12.1	1.0		S.U.	1		10/01/20 4:10 PM
pH with HCl	11.0	1.0		S.U.	1		10/01/20 4:10 PM



Laboratory Results

Geochemical Testing

Date: 08-Oct-20

CLIENT: AES - WARRIOR RUN INC
Lab Order: G2010038
Project: TCLP Ash Analysis
Lab ID: G2010038-002
Matrix: ASH

Client Sample ID: Bed Ash South
 C96772 / O46567
Sampled By: AES Warrior Run
Collection Date: 9/29/2020 12:01:00 AM
Received Date: 10/1/2020 10:00:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TCLP, non-volatile	NA				1		10/01/20 4:10 PM

TCLP METALS

Analyst: LXM

EPA 7470

EPA 7470

Mercury	< 0.0020	0.0020		mg/L	1	10/05/20 6:45 AM	10/06/20 8:45 AM
---------	----------	--------	--	------	---	------------------	------------------

TCLP METALS

Analyst: ABN

EPA 3010 A

EPA 6010 D

Aluminum	0.6	0.1		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Antimony	< 0.10	0.10		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Arsenic	< 0.02	0.02		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Barium	0.6	0.3		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Beryllium	< 0.001	0.001		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Boron	0.72	0.05		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Cadmium	< 0.002	0.002		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Chromium	< 0.01	0.01		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Cobalt	< 0.005	0.005		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Copper	< 0.01	0.01		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Lead	< 0.02	0.02		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Lithium	0.16	0.01		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Manganese	< 0.01	0.01		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Molybdenum	0.08	0.02		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Nickel	< 0.01	0.01		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Selenium	< 0.02	0.02		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Silver	< 0.005	0.005		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Vanadium	0.014	0.005		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM
Zinc	0.07	0.01		mg/L	1	10/06/20 8:10 AM	10/07/20 7:21 AM



Laboratory Results

Geochemical Testing

Date: 08-Oct-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Fly Ash
Lab Order:	G2010038		C96773 / O46568
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2010038-003	Collection Date:	9/29/2020 12:01:00 AM
Matrix:	ASH	Received Date:	10/1/2020 10:00:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TOTAL METALS		Analyst: ABN				EPA 3050	EPA 6010 D
Aluminum	28000	20.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Antimony	< 10	10		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Arsenic	37.7	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Barium	412	1.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Beryllium	2.18	0.10		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Boron	23.9	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Cadmium	< 5.0	5.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Chromium	32.3	5.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Cobalt	9.0	0.5		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Copper	33.1	10		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Lead	21.9	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Lithium	74.2	1.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Manganese	82.0	1.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Molybdenum	5.6	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Nickel	23.1	1.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Selenium	4.7	2.0		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Silver	< 0.5	0.5		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Vanadium	65.6	0.5		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
Zinc	56.9	10		mg/Kg-dry	1	10/06/20 6:30 AM	10/07/20 6:58 AM
MERCURY		Analyst: RLL					ASTM D 6722
Mercury	0.796	0.010		mg/Kg-dry	1		10/02/20 12:04 PM
CARBONATE RESULTS		Analyst: ABN					Calculated
Calcium Carbonate	33.5			%	1		10/02/20 1:13 PM
Calcium Carbonate Equivalent	37.4			%	1		10/02/20 1:13 PM
Magnesium Carbonate	3.3			%	1		10/02/20 1:13 PM
MAJOR / MINOR ELEMENTS IN ASH		Analyst: ABN				ASTM D 6349	EPA 6010 D
Calcium Oxide	18.80	0.01		% Dry	1	10/02/20 5:30 AM	10/02/20 1:13 PM
Magnesium Oxide	1.55	0.01		% Dry	1	10/02/20 5:30 AM	10/02/20 1:13 PM
TCLP EXTRACTION		Analyst: DMM					EPA 1311
Extraction Fluid Used	2.0				1		10/01/20 4:10 PM
Final pH	11.8	1.0		S.U.	1		10/01/20 4:10 PM
Initial pH	12.6	1.0		S.U.	1		10/01/20 4:10 PM
pH with HCl	12.2	1.0		S.U.	1		10/01/20 4:10 PM



Laboratory Results

Geochemical Testing

Date: 08-Oct-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Fly Ash
Lab Order:	G2010038		C96773 / O46568
Project:	TCLP Ash Analysis	Sampled By:	AES Warrior Run
Lab ID:	G2010038-003	Collection Date:	9/29/2020 12:01:00 AM
Matrix:	ASH	Received Date:	10/1/2020 10:00:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TCLP, non-volatile	NA				1		10/01/20 4:10 PM

TCLP METALS		Analyst: LXM		EPA 7470	EPA 7470
Mercury	< 0.0020	0.0020	mg/L	1	10/05/20 6:45 AM 10/06/20 8:47 AM

TCLP METALS		Analyst: ABN		EPA 3010 A	EPA 6010 D
Aluminum	0.6	0.1	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Antimony	< 0.10	0.10	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Arsenic	< 0.02	0.02	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Barium	0.6	0.3	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Beryllium	< 0.001	0.001	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Boron	0.75	0.05	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Cadmium	< 0.002	0.002	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Chromium	0.13	0.01	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Cobalt	< 0.005	0.005	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Copper	< 0.01	0.01	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Lead	< 0.02	0.02	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Lithium	0.29	0.01	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Manganese	< 0.01	0.01	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Molybdenum	0.15	0.02	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Nickel	< 0.01	0.01	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Selenium	0.03	0.02	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Silver	< 0.005	0.005	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Vanadium	0.020	0.005	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM
Zinc	0.07	0.01	mg/L	1	10/06/20 8:10 AM 10/07/20 7:29 AM





GEOCHEMICAL TESTING

Environmental and Energy Analysis

2005 N. Center Ave.
Somerset, PA 15501

814/443-1671
814/445-6666
FAX: 814/445-6729

Wednesday, December 30, 2020

Michelle Stahlman
AES - WARRIOR RUN INC
11600 MEXICO FARMS SE
CUMBERLAND, MD 21502

RE: AES Warrior Ash Samples

Order No.: G2012B13

Dear Michelle Stahlman:

Geochemical Testing received 3 sample(s) on 12/21/2020 for the analyses presented in the following report.

There were no problems with sample receipt protocols and analyses met the TNI/NELAC, EPA, and laboratory specifications except where noted in the Case Narrative or Laboratory Results.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Timothy W. Bergstresser
Director of Technical Services

Geochemical Testing

Date: 30-Dec-20

CLIENT: AES - WARRIOR RUN INC
Project: AES Warrior Ash Samples
Lab Order: G2012B13

CASE NARRATIVE

No problems were encountered during analysis of this workorder, except if noted in this report.

Results are reported on a dry and on a non-ashed basis.

Legend: H - Method Hold Time exceeded and is not compliant with 40CFR136 Table II.
U - The analyte was not detected at or above the listed concentration, which is below the laboratory quantitation limit.
B - Analyte detected in the associated Method Blank
Q1 - See case narrative ND - Not Detected
MCL - Contaminant Limit J - Indicates an estimated value.
Q - Qualifier QL - Quantitation Limit DF - Dilution Factor

S - Surrogate Recovery outside accepted recovery limits
T - Sample received above required temperature and is not compliant with 40CFR136 Table II.
T1 - Sample received above required temperature
MDA - Minimum Detectable Activity.
** - Value exceeds Action Limit
TICs - Tentatively Identified Compounds.
E - Value above quantitation range



Laboratory Results

Geochemical Testing

Date: 30-Dec-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash North
Lab Order:	G2012B13		C97456
Project:	AES Warrior Ash Samples	Sampled By:	AES Warrior Run
Lab ID:	G2012B13-001	Collection Date:	12/14/2020 12:01:00 A
Matrix:	ASH	Received Date:	12/21/2020 7:50:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TOTAL METALS		Analyst: TMY				EPA 3050	EPA 6010 D
Aluminum	26500	20.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/23/20 2:37 PM
Antimony	< 10	10		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM
Arsenic	49.0	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM
Barium	246	1.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/23/20 2:37 PM
Beryllium	1.44	0.10		mg/Kg-dry	1	12/22/20 1:00 PM	12/23/20 2:37 PM
Boron	42.4	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/29/20 8:59 AM
Cadmium	< 5.0	5.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM
Chromium	39.0	5.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM
Cobalt	9.5	0.5		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM
Copper	29.3	10		mg/Kg-dry	1	12/22/20 1:00 PM	12/29/20 8:59 AM
Lead	7.5	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM
Lithium	42.4	1.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM
Manganese	91.0	1.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM
Molybdenum	4.8	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM
Nickel	22.4	1.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM
Selenium	< 2.0	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM
Silver	< 0.5	0.5		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM
Vanadium	63.3	0.5		mg/Kg-dry	1	12/22/20 1:00 PM	12/23/20 2:37 PM
Zinc	34.8	10		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:39 PM

ACID BASE ACCOUNTING		Analyst: BAB				DEP OB Man p67
Total Sulfur	6.01	0.01		%	1	12/22/20 11:00 AM
Max Potential Acidity	188	0.30		see note	1	12/22/20 11:00 AM
Fizz Rating	2				1	12/22/20 11:00 AM
Deficiency or Excess	86.0			see note	1	12/22/20 11:00 AM
Neutralization Potential (CaCO3 Tons)	274			see note	1	12/22/20 11:00 AM

NOTES:
units are: Tons CaCO3 / 1000 tons dry

MERCURY		Analyst: RLL				ASTM D 6722
Mercury	< 0.010	0.010		mg/Kg-dry	1	12/22/20 11:05 AM

CARBONATE RESULTS		Analyst: GMG				Calculated
Calcium Carbonate	36.3			%	1	12/22/20 12:00 AM
Calcium Carbonate Equivalent	41.4			%	1	12/22/20 12:00 AM
Magnesium Carbonate	4.3			%	1	12/22/20 12:00 AM

MAJOR / MINOR ELEMENTS IN ASH		Analyst: GMG				ASTM D 6349	EPA 6010 D
--------------------------------------	--	--------------	--	--	--	-------------	------------



Laboratory Results

Geochemical Testing

Date: 30-Dec-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash North
Lab Order:	G2012B13		C97456
Project:	AES Warrior Ash Samples	Sampled By:	AES Warrior Run
Lab ID:	G2012B13-001	Collection Date:	12/14/2020 12:01:00 A
Matrix:	ASH	Received Date:	12/21/2020 7:50:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
Calcium Oxide	20.34	0.01		% Dry	1	12/22/20 5:20 AM	12/22/20 1:35 PM
Magnesium Oxide	2.04	0.01		% Dry	1	12/22/20 5:20 AM	12/22/20 1:35 PM

TCLP EXTRACTION

Analyst: MAG

EPA 1311

Extraction Fluid Used	1.0				1		12/21/20 1:30 PM
Final pH	12.5	1.0		S.U.	1		12/21/20 1:30 PM
Initial pH	12.0	1.0		S.U.	1		12/21/20 1:30 PM
pH with HCl	2.1	1.0		S.U.	1		12/21/20 1:30 PM
TCLP, non-volatile	NA				1		12/21/20 1:30 PM

TCLP METALS

Analyst: LXM

EPA 7470

EPA 7470

Mercury	< 0.0020	0.0020		mg/L	1	12/22/20 10:35 AM	12/22/20 3:00 PM
---------	----------	--------	--	------	---	-------------------	------------------

TCLP METALS

Analyst: MEG

EPA 3010 A

EPA 6010 D

Aluminum	0.6	0.1		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Antimony	< 0.10	0.10		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Arsenic	< 0.02	0.02		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Barium	0.9	0.3		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Beryllium	< 0.001	0.001		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Boron	0.95	0.05		mg/L	1	12/22/20 9:15 AM	12/29/20 8:44 AM
Cadmium	< 0.002	0.002		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Chromium	0.01	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Cobalt	< 0.005	0.005		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Copper	< 0.01	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Lead	< 0.02	0.02		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Lithium	0.13	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Manganese	< 0.01	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Molybdenum	0.12	0.02		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Nickel	< 0.01	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Selenium	< 0.02	0.02		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Silver	< 0.005	0.005		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Vanadium	0.008	0.005		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM
Zinc	0.13	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 3:56 PM



Laboratory Results

Geochemical Testing

Date: 30-Dec-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash South
Lab Order:	G2012B13		C97457
Project:	AES Warrior Ash Samples	Sampled By:	AES Warrior Run
Lab ID:	G2012B13-002	Collection Date:	12/14/2020 12:01:00 A
Matrix:	ASH	Received Date:	12/21/2020 7:50:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TOTAL METALS		Analyst: TMY		EPA 3050		EPA 6010 D	
Aluminum	26400	20.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/23/20 2:56 PM
Antimony	< 10	10		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM
Arsenic	53.0	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM
Barium	269	1.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/23/20 2:56 PM
Beryllium	1.57	0.10		mg/Kg-dry	1	12/22/20 1:00 PM	12/23/20 2:56 PM
Boron	44.0	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/29/20 9:36 AM
Cadmium	< 5.0	5.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM
Chromium	40.9	5.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM
Cobalt	9.5	0.5		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM
Copper	25.3	10		mg/Kg-dry	1	12/22/20 1:00 PM	12/29/20 9:36 AM
Lead	6.9	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM
Lithium	39.4	1.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM
Manganese	96.2	1.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM
Molybdenum	5.1	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM
Nickel	22.7	1.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM
Selenium	< 2.0	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM
Silver	< 0.5	0.5		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM
Vanadium	70.1	0.5		mg/Kg-dry	1	12/22/20 1:00 PM	12/23/20 2:56 PM
Zinc	32.7	10		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 4:57 PM

ACID BASE ACCOUNTING		Analyst: BAB		DEP OB Man p67	
Total Sulfur	7.08	0.01	%	1	12/22/20 11:00 AM
Max Potential Acidity	221	0.30	see note	1	12/22/20 11:00 AM
Fizz Rating	2			1	12/22/20 11:00 AM
Deficiency or Excess	64.1		see note	1	12/22/20 11:00 AM
Neutralization Potential (CaCO3 Tons)	285		see note	1	12/22/20 11:00 AM

NOTES:
units are: Tons CaCO3 / 1000 tons dry

MERCURY		Analyst: RLL		ASTM D 6722	
Mercury	< 0.010	0.010	mg/Kg-dry	1	12/22/20 11:05 AM

CARBONATE RESULTS		Analyst: GMG		Calculated	
Calcium Carbonate	39.8		%	1	12/22/20 12:00 AM
Calcium Carbonate Equivalent	45.4		%	1	12/22/20 12:00 AM
Magnesium Carbonate	4.7		%	1	12/22/20 12:00 AM

MAJOR / MINOR ELEMENTS IN ASH		Analyst: GMG		ASTM D 6349		EPA 6010 D	
--------------------------------------	--	--------------	--	-------------	--	------------	--



Laboratory Results

Geochemical Testing

Date: 30-Dec-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Bed Ash South
Lab Order:	G2012B13		C97457
Project:	AES Warrior Ash Samples	Sampled By:	AES Warrior Run
Lab ID:	G2012B13-002	Collection Date:	12/14/2020 12:01:00 A
Matrix:	ASH	Received Date:	12/21/2020 7:50:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
Calcium Oxide	22.29	0.01		% Dry	1	12/22/20 5:20 AM	12/22/20 1:39 PM
Magnesium Oxide	2.23	0.01		% Dry	1	12/22/20 5:20 AM	12/22/20 1:39 PM

TCLP EXTRACTION

Analyst: MAG

EPA 1311

Extraction Fluid Used	1.0				1		12/21/20 1:30 PM
Final pH	12.5	1.0		S.U.	1		12/21/20 1:30 PM
Initial pH	12.1	1.0		S.U.	1		12/21/20 1:30 PM
pH with HCl	2.4	1.0		S.U.	1		12/21/20 1:30 PM
TCLP, non-volatile	NA				1		12/21/20 1:30 PM

TCLP METALS

Analyst: LXM

EPA 7470

EPA 7470

Mercury	< 0.0020	0.0020		mg/L	1	12/22/20 10:35 AM	12/22/20 3:02 PM
---------	----------	--------	--	------	---	-------------------	------------------

TCLP METALS

Analyst: MEG

EPA 3010 A

EPA 6010 D

Aluminum	0.7	0.1		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Antimony	< 0.10	0.10		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Arsenic	< 0.02	0.02		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Barium	1.0	0.3		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Beryllium	< 0.001	0.001		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Boron	1.2	0.05		mg/L	1	12/22/20 9:15 AM	12/29/20 8:49 AM
Cadmium	< 0.002	0.002		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Chromium	0.02	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Cobalt	< 0.005	0.005		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Copper	< 0.01	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Lead	< 0.02	0.02		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Lithium	0.15	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Manganese	< 0.01	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Molybdenum	0.11	0.02		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Nickel	< 0.01	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Selenium	< 0.02	0.02		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Silver	< 0.005	0.005		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Vanadium	0.007	0.005		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM
Zinc	0.15	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 4:01 PM



Laboratory Results

Geochemical Testing

Date: 30-Dec-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Fly Ash
Lab Order:	G2012B13		C97458
Project:	AES Warrior Ash Samples	Sampled By:	AES Warrior Run
Lab ID:	G2012B13-003	Collection Date:	12/14/2020 12:01:00 A
Matrix:	ASH	Received Date:	12/21/2020 7:50:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
TOTAL METALS		Analyst: TMY			EPA 3050		EPA 6010 D
Aluminum	44300	20.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/23/20 3:01 PM
Antimony	< 10	10		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
Arsenic	47.5	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
Barium	564	1.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/23/20 3:01 PM
Beryllium	2.96	0.10		mg/Kg-dry	1	12/22/20 1:00 PM	12/23/20 3:01 PM
Boron	42.4	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/29/20 9:41 AM
Cadmium	< 5.0	5.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
Chromium	50.1	5.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
Cobalt	15.3	0.5		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
Copper	46.1	10		mg/Kg-dry	1	12/22/20 1:00 PM	12/29/20 9:41 AM
Lead	27.2	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
Lithium	78.3	1.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
Manganese	77.9	1.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
Molybdenum	6.9	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
Nickel	38.6	1.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
Selenium	9.9	2.0		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
Silver	< 0.5	0.5		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
Vanadium	88.3	0.5		mg/Kg-dry	1	12/22/20 1:00 PM	12/23/20 3:01 PM
Zinc	65.4	10		mg/Kg-dry	1	12/22/20 1:00 PM	12/22/20 5:02 PM
ACID BASE ACCOUNTING		Analyst: BAB					DEP OB Man p67
Total Sulfur	3.33	0.01		%	1		12/22/20 11:00 AM
Max Potential Acidity	104	0.30		see note	1		12/22/20 11:00 AM
Fizz Rating	2				1		12/22/20 11:00 AM
Deficiency or Excess	75.4			see note	1		12/22/20 11:00 AM
Neutralization Potential (CaCO3 Tons)	180			see note	1		12/22/20 11:00 AM
NOTES:		units are: Tons CaCO3 / 1000 tons dry					
MERCURY		Analyst: RLL					ASTM D 6722
Mercury	1.02	0.010		mg/Kg-dry	1		12/22/20 11:05 AM
CARBONATE RESULTS		Analyst: GMG					Calculated
Calcium Carbonate	27.9			%	1		12/22/20 12:00 AM
Calcium Carbonate Equivalent	31.8			%	1		12/22/20 12:00 AM
Magnesium Carbonate	3.2			%	1		12/22/20 12:00 AM
MAJOR / MINOR ELEMENTS IN ASH		Analyst: GMG			ASTM D 6349		EPA 6010 D



Laboratory Results

Geochemical Testing

Date: 30-Dec-20

CLIENT:	AES - WARRIOR RUN INC	Client Sample ID:	Fly Ash
Lab Order:	G2012B13		C97458
Project:	AES Warrior Ash Samples	Sampled By:	AES Warrior Run
Lab ID:	G2012B13-003	Collection Date:	12/14/2020 12:01:00 A
Matrix:	ASH	Received Date:	12/21/2020 7:50:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
Calcium Oxide	15.64	0.01		% Dry	1	12/22/20 5:20 AM	12/22/20 1:43 PM
Magnesium Oxide	1.54	0.01		% Dry	1	12/22/20 5:20 AM	12/22/20 1:43 PM

TCLP EXTRACTION

Analyst: **MAG**

EPA 1311

Extraction Fluid Used	2.0				1		12/21/20 1:30 PM
Final pH	11.5	1.0		S.U.	1		12/21/20 1:30 PM
Initial pH	12.6	1.0		S.U.	1		12/21/20 1:30 PM
pH with HCl	12.0	1.0		S.U.	1		12/21/20 1:30 PM
TCLP, non-volatile	NA				1		12/21/20 1:30 PM

TCLP METALS

Analyst: **LXM**

EPA 7470

EPA 7470

Mercury	< 0.0020	0.0020		mg/L	1	12/22/20 10:35 AM	12/22/20 3:03 PM
---------	----------	--------	--	------	---	-------------------	------------------

TCLP METALS

Analyst: **MEG**

EPA 3010 A

EPA 6010 D

Aluminum	0.7	0.1		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Antimony	< 0.10	0.10		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Arsenic	< 0.02	0.02		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Barium	1.1	0.3		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Beryllium	< 0.001	0.001		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Boron	1.1	0.05		mg/L	1	12/22/20 9:15 AM	12/29/20 8:54 AM
Cadmium	< 0.002	0.002		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Chromium	0.11	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Cobalt	< 0.005	0.005		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Copper	< 0.01	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Lead	< 0.02	0.02		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Lithium	0.24	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Manganese	< 0.01	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Molybdenum	0.19	0.02		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Nickel	< 0.01	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Selenium	0.02	0.02		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Silver	< 0.005	0.005		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Vanadium	0.049	0.005		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM
Zinc	0.13	0.01		mg/L	1	12/22/20 9:15 AM	12/22/20 4:06 PM