



1350 Waconia Avenue SW
Cedar Rapids, IA 52404

319-398-0600

ELECTRONIC SUBMITTAL

April 9, 2024

Mr. William Robinson
Lee Crawford Quarry Co
5707 F Avenue NW
Cedar Rapids, IA 52404
wkrobinson52@aol.com

Mr. Chad Stobbe
Iowa Department of Natural Resources
502 East 9th Street
Des Moines, IA 50319
chad.stobbe@dnr.iowa.gov

**RE: RESPONSE TO REQUEST TO RESUME DEPOSITION OF WEST FLY ASH AT LEE
CRAWFORD QUARRY, DNR ID #57-BUD-23-97**

Dear Mr. Robinson & Mr. Stobbe:

Archer Daniels Midland Company (ADM) is responding to your March 5, 2024 request for additional information to resume West Fly Ash shipments to Lee Crawford Quarry under the above-referenced Beneficial Use Determination. As requested, attached is the log of West Fly Ash SPLP Barium results since March 2023. In addition, the basis of ADM's proposal to resume West Fly Ash shipments relating to an operating condition of a minimum 60-day average MMBTU concentration of 9,000 BTU/lb is explained below.

Historically, Cedar Rapids CoGen has combusted a blend of subbituminous (western low sulfur) and bituminous (eastern high sulfur) coal. Subbituminous coal has less BTUs per pound than bituminous coal. It combusts and breaks down in a boiler into finer and lighter particles that produce more fly ash and less bed ash. In addition, combusting only subbituminous coal appears to change the boiler's combustion profile. This was evident in the first half of 2023 when the boilers experienced uneven temperature gradients and an inability to hold bed material in their combustors. During Boiler MACT testing the week of May 23, 2023, a subbituminous-bituminous (subbi-bi) coal blend was combusted. It was observed that the boilers held their fluidized bed levels longer, the boiler temperature profiles returned to their historical normal state, and SPLP Barium testing results were less than detection levels.



1350 Waconia Avenue SW
Cedar Rapids, IA 52404

319-398-0600

In the months of July and August 2023, West Fly Ash exceeded SPLP Barium limits when the boilers were combusting only subbituminous coal. A subbi-bi coal blend was combusted again for Boiler MACT testing on September 6, 2023. Subsequently, SPLP Barium testing results were less than allowable levels. This result has continued to today as CoGen has been combusting a subbi-bi coal blend. There appears to be a correlation between combusting only subbituminous coal and high SPLP Barium levels in West Fly Ash. Combusting a subbi-bi coal blend corresponds to compliant levels for SPLP Barium.

The BTU/lb parameter can be used as an indicator showing the blend of subbituminous and bituminous coal sources, given that a subbituminous coal blend combusted at CoGen varies between 8,500-8,700 BTU/lb, and a bituminous coal blend runs between 10,600-11,000 BTU/lb. As proposed in the correspondence dated March 5, 2024, ADM would only ship West Fly Ash to Lee Crawford Quarry when combusting a fuel blend that has a minimum 60-day average MMBTU concentration of 9,000 BTU/lb. This proposed limit is supported in the attached figures of BTU/lb for 2022, 2023, and to March 2024. The instances of high SPLP Barium correspond to times when the 60-day average MMBTU concentration was below 9,000 BTU/lb.

In an effort to further address any concerns, ADM would be willing to utilize the following process:

1. When the minimum 60-day average MMBTU concentration is equal to or above 9,100 BTU/lb and SPLP Barium testing of West Fly Ash is compliant, ADM may ship West Fly Ash to Lee Crawford Quarry.
2. When the minimum 60-day average MMBTU concentration is below 9,100 BTU/lb, weekly SPLP Barium testing of West Fly Ash will be conducted until the value rises above 9,100 BTU/lb.
3. When the minimum 60-day average MMBTU concentration is below 9,050 BTU/lb, ADM will temporarily discontinue shipments of West Fly Ash to Lee Crawford Quarry.

If there are additional questions or comments, please feel free to contact Ms. Chung, at (319) 398-0632 or via e-mail at angeline.chung@adm.com. Thank you for your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brian Mullins", with a stylized flourish extending to the right.

Brian Mullins
Plant Manager

Enclosure

ADM CEDAR RAPIDS WEST FLY ASH DATA		
SAMPLE DATE	SPLP RESULTS (mg/L)	COMMENTS
3/6/2023	27	
4/4/2023	20	
4/24/2023	19	
5/10/2023	< 2	
5/22/2023	< 2	5/23-25/2023: Boiler MACT Testing
6/12/2023	< 2	Weekly testing initiated
6/19/2023	< 2	
6/22/2023	<0.50	
6/26/2023	< 2	
7/3/2023	27	
7/10/2023	55	
7/17/2023	26	
7/24/2023	<0.50	EFA Mix-up = 21 mg/L
7/31/2023	23	
8/7/2023	20	
8/14/2023	23	
8/21/2023	24	
8/28/2023	26	
9/5/2023	12	9/6/2023: Boiler MACT Testing
9/11/2023	< 2	
9/18/2023	< 2	
9/25/2023	0.84	
9/26/2023	<0.50	
10/2/2023	<0.50	
10/10/2023	<0.50	
10/16/2023	<0.50	
10/23/2023	<0.50	
10/30/2023	< 2	
11/6/2023	<0.50	
11/13/2023	<0.50	
11/20/2023	<0.50	
11/27/2023	<0.50	
12/4/2023	<0.50	
12/5/2023	<0.50	
12/11/2023	<0.50	
12/18/2023	<0.50	
12/26/2023	<0.50	
1/2/2024	<0.50	
1/8/2024	<0.50	
1/16/2024	<0.50	
1/24/2024	<0.50	
1/30/2024	<0.50	
2/4/2024	<0.50	
2/12/2024	<0.50	
2/19/2024	<0.50	
2/27/2024	<0.50	
3/6/2024	<0.50	
3/11/2024	<0.50	
3/18/2024	<0.50	
3/25/2024	<0.50	

Figure 1: Jan 2022-March 2023 Coal BTU/lb to Boiler

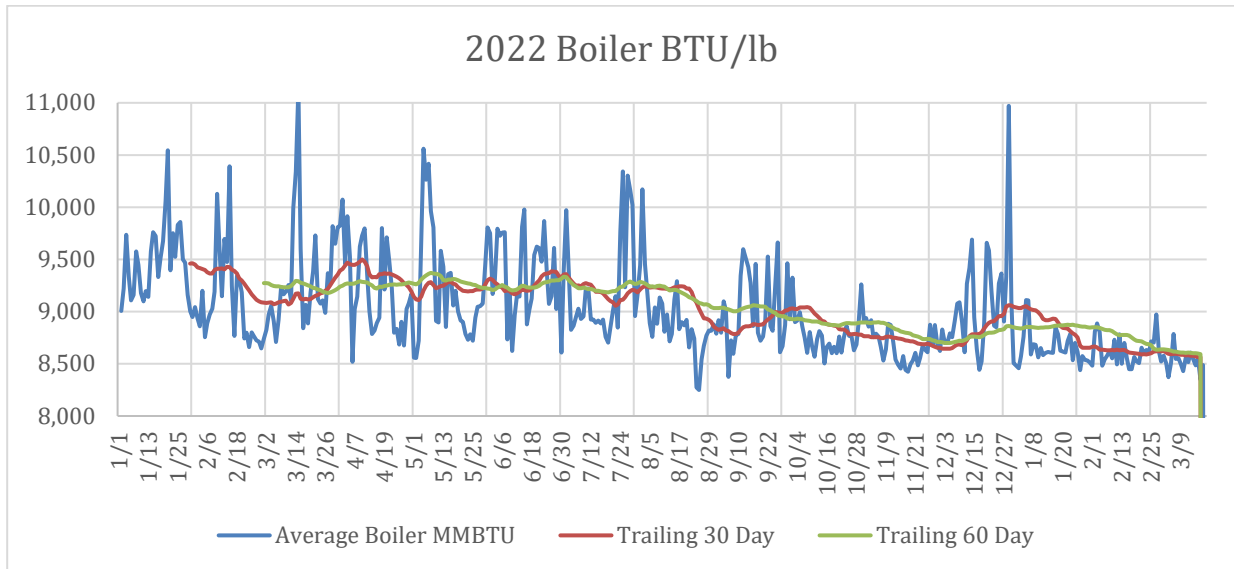


Figure 2: Jan 2023-March 2024 Coal BTU/lb to Boiler

