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February 2, 2018

VIA EDGAR

Mr. Rufus Decker
Accounting Branch Chief
Office of Beverages, Apparel & Mining
Division of Corporation Finance
Securities and Exchange Commission
100 F Street, N.E.
Washington, DC 20549

**Re: Arch Coal, Inc.
Form 10-K for the Year Ended December 31, 2016
Filed February 24, 2017
Form 8-K Filed October 31, 2017
Response dated December 21, 2017
File No. 1-13105**

Dear Mr. Decker:

On behalf of our client Arch Coal, Inc. (the "Company"), we are submitting this letter in response to the comments of the staff (the "Staff") of the Division of Corporation Finance of the Securities and Exchange Commission concerning the Annual Report on Form 10-K and Current Report on Form 8-K referenced above as set forth in the letter dated January 5, 2018. For your convenience, we have set forth the Staff's original comments immediately preceding our responses. Previously, the Company received comments from the Staff by letter dated December 11, 2017, and the Company responded by letter dated December 21, 2017.

Form 10-K for the Year Ended December 31, 2016

Item 1. Business

Our Mining Operations, page 14

- 1. We note your response to comment 1. Please tell us if any of the materials disclosed in your unassigned reserve table on page 45 are uneconomical to mine based on current market conditions and, if so, explain the basis for designating these materials as reserves.**

Response:

The Company acknowledges the Staff's comment. The supplemental information requested is being provided to the Staff engineer under separate cover, on a confidential, supplemental basis pursuant to Rule 12b-4 under the Securities Exchange Act of 1934, as amended. In accordance with Rule 12b-4, the Company requests that such material be returned promptly following completion of the Staff's review.

The Company is also requesting confidential treatment of such material, in accordance with the Freedom of Information Act (5 U.S.C. § 552) and the Commission's Rule 83 (17 C.F.R. 200.83).

Form 8-K Filed October 31, 2017

Item 2.02 Results of Operations and Financial Condition

Company Outlook, page 6

- 2. We note your response to comment 3 and proposed disclosures. Please revise your disclosures to also provide reconciling information that is available without an unreasonable effort. Furthermore, identify in your disclosures the specific information that is unavailable without unreasonable effort and disclose its probable significance. Refer to Item 10(e)(1)(i)(B) of Regulation S-K and Section II.B.2 of SEC Release No. 33-8176.**

Response:

The Company will provide disclosure similar to the below in future filings:

The Company is unable to present a quantitative reconciliation of its forward-looking non-GAAP Segment cash cost per ton sold financial measures to the most directly comparable GAAP measures without unreasonable efforts due to the inherent difficulty in forecasting and quantifying with reasonable accuracy significant items required for the reconciliation. The most directly comparable GAAP measure, GAAP Cost of sales, is not accessible without unreasonable efforts on a forward-looking basis. The reconciling items for this non-GAAP measure are transportation costs, which are a component of GAAP revenues and cost of sales; the impact of hedging activity related to commodity purchases that do not receive hedge accounting; and idle and administrative costs that are not included in a reportable segment. Management is unable to predict without unreasonable efforts transportation costs due to uncertainty as to the end market and FOB point for uncommitted sales volumes and the final shipping point for export shipments. Management is unable to predict without unreasonable efforts the impact of hedging activity related to commodity purchases that do not receive hedge accounting due to fluctuations in commodity prices, which are difficult to forecast due to their inherent volatility. These amounts have historically and may continue to vary significantly from quarter to quarter and material changes to these items could have a significant effect on our future GAAP results. Idle and administrative costs that are not included in a reportable segment are expected to be between \$15 million and \$20 million in 2018.

* * * * *

We appreciate the Staff's time and attention to this matter. If you have any questions or comments or require further information, please do not hesitate to telephone the undersigned at (212) 906-1761.

Sincerely,

/s/ Keith L. Halverstam

Keith L. Halverstam
of LATHAM & WATKINS LLP

cc: John Coleman
Linda Cvrkel
John T. Drexler, Arch Coal, Inc.