



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

March 22, 2013

Via E-Mail

John W. Eaves
Chief Executive Officer
Arch Coal, Inc.
One CityPlace Drive, Ste. 300
St. Louis, MO 63141

**Re: Arch Coal, Inc.
Form 10-K for Fiscal Year Ended December 31, 2012
Filed March 1, 2013
File No. 001-13105**

Dear Mr. Eaves:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

10-K for Fiscal Year Ended December 31, 2012
Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 58
Results of Operations, page 59

1. When you list multiple factors that contributed to a material change in a financial statement line item between periods, please quantify, where possible, the extent to which each factor contributed to the overall change in that line item. For example, your cost of sales increased in 2012 from 2011 primarily from the impact of the acquisition of the ICG operations and an increase in transportation costs as a result of the increase in export shipments. These factors were partially offset by the impact of lower thermal coal demand in all operating segments which resulted in your decision to close or idle mining operations and curtail production. Please quantify the impact of each factor and provide us with draft disclosures to be included in future filings.

Critical Accounting Policies, page 74

Goodwill, page 75

2. We note that you recorded \$480 million of goodwill with the acquisition of International Coal Group, Inc. (ICG) in June 2011. Please explain the methodology used to determine the amount of goodwill you assigned to the various reporting units. Please tell us the reporting units you have identified and your consideration of the factors in ASC 350-20-35-33 in determining these reporting units.
3. We note you fully impaired certain reporting units in your Appalachia segment acquired with your purchase of ICG. However, you continue to attribute \$265 million of goodwill to two other reporting units in this segment which are in the development stage. Please tell us the methods and key assumptions you used, specifically metallurgical coal pricing and how these assumptions were determined for these reporting units. In addition, expand your disclosures in future filings to discuss the methods and key assumptions and the degree of uncertainty associated with these key assumptions.

Financial Statements and Supplementary Data, page F-1

Consolidated Statements of Operations, page F-5

4. We note that your cost of sales excludes depreciation and depletion. In future filings, please clarify by changing the description of the line item per the guidance in SAB Topic 11.B.

Notes to Consolidated Financial Statements, page F-10

Note 23. Commitments and Contingencies, page F-45

5. We note your disclosure that you are a party to numerous claims and lawsuits with respect to various matters and the company provides for costs related to contingencies when a loss is probable and the amount is reasonably determinable. In future filings, please add disclosure on how you account for contingencies if there is a reasonable possibility that a loss has been incurred. See ASC 450-20-50-3.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

John W. Eaves
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In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

You may contact Blaise Rhodes at (202) 551-3774 or Nasreen Mohammed, Assistant Chief Accountant, at (202) 551-3773 if you have questions regarding comments on the financial statements and related matters.

Sincerely,

/s/Tia L. Jenkins

Tia L. Jenkins
Senior Assistant Chief Accountant
Office of Beverages, Apparel, and
Mining