



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549-4628

June 7, 2010

Via U.S. Mail

Mr. John T. Drexler
Senior Vice President and Chief Financial Officer
Arch Coal, Inc.
One CityPlace Drive, Suite 300
St. Louis, Missouri 63141

**Re: Arch Coal, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2009
Filed March 1, 2010
Definitive Proxy Statement on Schedule 14A
Filed March 22, 2010
File Number 1-13105**

Dear Mr. Drexler:

We have reviewed your response and have the following comments. Please provide a written response to our comments. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Engineering Comments

Definitive Proxy Statement on Schedule 14A filed March 22, 2010

Elements of Our Compensation Program, page 33

1. We note your response to comment 5. Please indicate if any of the operations under your control have been temporally idled, closed, or shutdown during your 2009 fiscal year as a result of an accident or safety concern.

Closing Comments

Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our

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review. Please understand that we may have additional comments after reviewing your responses to our comments.

You may contact Craig Arakawa at (202) 551-3650 or Brad Skinner, Senior Assistant Chief Accountant, at (202) 551-3489 if you have questions regarding comments on the financial statements and related matters. You may contact John Coleman, Mining Engineer, at (202) 551-3610 with questions about engineering comments. Please contact Tracey L. McNeil at (202) 551-3392, or in her absence, Timothy Levenberg, Special Counsel, at (202) 551-3707 or me at (202) 551-3740 with any other questions.

Sincerely,

H. Roger Schwall
Assistant Director

