



DIVISION OF
CORPORATION FINANCE
MAIL STOP 7010

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-7010

May 3, 2007

By Facsimile and U.S. Mail

Mr. Gregory H. Boyce
Chief Executive Officer
Peabody Energy Corporation
701 Market Street
St. Louis, Missouri 63101

**Re: Peabody Energy Corporation
Form 10-K for the Fiscal Year Ended December 31, 2006
Filed February 28, 2007
File No. 001-16463**

Dear Mr. Boyce:

We have reviewed your Form 10-K for the fiscal year ended December 31, 2006 and have the following comments. We have limited our review of your filing to those issues we have addressed in our 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.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K For the Year Ended December 31, 2006

Item 1. Business, page 2

Coalbed Methane and Oil and Gas Properties, page 17

1. We note that you operated 62 coalbed methane and conventional gas and oil wells with net production of approximately 1.7 million cubic feet per day. Please tell us your accounting policy for your oil and gas activities and provide all applicable disclosures required by SFAS 69 if these activities are material to your financial statements.
2. We note your disclosure that beginning on January 1, 2008, new minimum funding standards will be required by the Pension Protection Act of 2006. Please tell us and disclose the funding requirements of this Act and indicate your current funded status as well as your intended timeframe to comply with such requirements.

Note 1 Summary of Significant Accounting Policies, page F-6

Inventory, page F-8

3. We note your disclosure that advance stripping costs include those costs necessary to remove overburden above an unmined coal seam as part of the mining process. Please clarify if such activities occur in the pre-production or post-production phase of the mine.
4. Please tell us and disclose how you define a mine.
5. Please tell us and disclose your accounting policy for stripping costs when multiple pits exist within a mining complex that share common infrastructure and processing equipment and a common ore body. Specifically, address your accounting for stripping costs associated with the initial overburden removal of newly created pits that are within close proximity to producing pits.

Property, Plant, Equipment and Mine Development, page F-9

6. We note your disclosure that “coal reserves” are depleted using the units-of-production method over all estimated proven and probable reserve tons assigned to the mine. Please clarify which costs are being amortized that are associated with your coal reserves. In addition, please modify your disclosure to state if true, that the estimated proven and probable reserves used in your depletion calculations exclude non-recoverable reserves and anticipated processing losses.

7. Please expand your disclosure to address how you account for exploration costs. Specifically address your accounting for costs that are exploratory in nature, associated with existing mines or development stage projects.
8. Please tell us the amount of exploration costs incurred for mine projects that are in either the development or production stage.

Note 4 Business Combinations, page F-16

9. We note that you completed the preliminary purchase accounting allocations related to your acquisition of Excel Coal Limited and assigned \$241 million to goodwill. Please tell us and disclose the extent to which you considered value beyond proven and probable reserves in completing your purchase price allocations. In addition, please tell us and disclose how you allocated goodwill to your reporting units and indicate whether you consider an individual operating mine to constitute a reporting unit.

Engineering Comments

Properties, page 41

Coal Reserves, page 41

10. On page 43 you indicate that you periodically engage independent mining and geological consultants to review estimates of your coal reserves, and that the most recent review was completed in January 2007. You also disclose that the work included a review of your internal estimation procedures, select verification of reserve estimate accuracy, and confirmed your latest disclosed estimate of proven and probable reserves. Please forward a copy of this coal reserve review to our engineer for his review. It would be helpful if you placed the information on a CD-ROM with an Adobe PDF format, and provided the name and phone number of a technical person our engineer may call, if he has technical questions about your reserves. In the event you desire return of the supplemental material, please make a written request with the letter of transmittal; it would be helpful to include a pre-addressed shipping label and envelop to facilitate its return. You may refer to Rule 418(b) of Regulation C for further guidance.

Closing Comments

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

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 all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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.

In connection with responding to our comments, please provide, in writing, a 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact John Cannarella at (202) 551-3337 or Kevin Stertzel at (202) 551-3723 if you have questions regarding comments on the financial statements and related matters. You may contact Roger Baer, Mining Engineer, at (202) 551-3705 with

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questions about engineering comments. Please contact me at (202) 551-3683 with any other questions.

Sincerely,

Jill Davis
Branch Chief