



DIVISION OF  
CORPORATION FINANCE

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

August 2, 2011

Via E-mail

Domenic J. Dell'Osso, Jr.  
Chief Financial Officer  
Chesapeake Energy Corporation  
6100 North Western Avenue  
Oklahoma City, Oklahoma 73118

**Re: Chesapeake Energy Corporation  
Form 10-K for Fiscal Year Ended December 31, 2010  
Filed March 1, 2011  
File No. 1-13726**

Dear Mr. Dell'Osso:

We have reviewed your filings 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 filings, 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 filings and the information you provide in response to these comments, we may have additional comments.

Form 10-K for Fiscal Year Ended December 31, 2010

Business, page 1

1. We note your disclosure in your Form 10-K at page 1 that you “were one of the first companies to recognize the potential of horizontal drilling in unconventional natural gas reservoirs,” and at page 4 that in “2011 and 2012, [you]...intend to make significant investments in building [your] capability to hydraulically fracture [your] wells.” We also note your disclosure in your Form 10-K at page 28 that “[h]ydraulic fracturing is used in

completing greater than 90% of all natural gas and oil wells drilled today in the United States.” Please tell us, with a view toward disclosure:

- the location(s) of your hydraulic fracturing activities;
  - the amount of your acreage subject to hydraulic fracturing;
  - the percentage of your reserves subject to hydraulic fracturing; and
  - the anticipated costs and funding associated with hydraulic fracturing activities (including the investments you intend to make in 2011 and 2012).
2. In regard to your hydraulic fracturing operations, we note your disclosure at page 16 that “[your] well construction practices include installation of multiple layers of protective steel casing surrounded by cement that are specifically designed and installed to protect freshwater aquifers by preventing the migration of fracturing fluids into aquifers.” Please tell us more about what steps you have taken to minimize any potential environmental impact. For example, and without limitation, please explain if you:
- have steps in place to ensure that your drilling, casing and cementing adhere to known best practices;
  - monitor the rate and pressure of the fracturing treatment in real time for any abrupt change in rate or pressure;
  - evaluate the environmental impact of additives to the hydraulic fracturing fluid; and
  - minimize the use of water and/or dispose of it in a way that minimizes the impact to nearby surface water.
3. Please also expand on your disclosure, currently in your Definitive Proxy Statement on Schedule 14A at page 13, regarding your participation in a “national, publicly accessible, web-based registry to report the additives used in the hydraulic fracturing process.” For example, and without limitation, please identify the registry and any effects your participation has had on your operations.
4. Please tell us which chemicals are being injected in connection with your hydraulic fracturing operations. In addition, please tell us how many gallons of water on average are used for a well completion or stimulation or workover of an existing well, as applicable.

5. We note your disclosure at page 2 that you “have entered into five significant industry participation agreements.” Please revise your disclosure to describe whether these agreements or any other similar agreements contain indemnification provisions and, if so, please describe such provisions. In addition, please provide the basis for not filing these agreements, any similar agreements or form of agreement.

#### Engineering Comments

##### Business, page 1

##### Natural Gas and Oil Reserves, page 10

6. We note your statement, “As of December 31, 2010, there were no PUDs that had remained undeveloped for five years or more.” Separately, you state that you plan to expend, in the next three years, about one-half of your \$10.7 billion estimated future development costs. Please tell us if you have proved undeveloped reserves scheduled for development five years beyond initial booking. If so, please explain to us the circumstances surrounding the delay(s).
7. You state, “Our annual net decline rate on producing properties is projected to be 30% from 2011 to 2012, 19% from 2012 to 2013, 14% from 2013 to 2014, 12% from 2014 to 2015 and 10% from 2015 to 2016.” With reasonable detail, please explain to us the terminal net decline rates employed in the proved reserve estimates for your three largest shale plays, the technical support for them (including analogy fields) and the effect of increasing/decreasing the decline rates by 25%.

##### Risk Factors, page 23

##### Hydraulic Fracturing, page 28

8. With reasonable detail, please explain to us the circumstances that caused the April, 2011 fracture fluid spill in Bradford County, Pennsylvania. Address the measures you have taken to prevent such future occurrences.

##### Management’s Discussion and Analysis of Financial Condition and Results of Operations, page 34

##### Results of Operations, page 49

9. We note the significant difference between the 2010 average benchmark of \$4.38/MCFG and Barnett Shale production, \$2.13/MCFG. Please explain this difference to us.

Exhibit 99.1

10. Item 1202(a)(8)(v) of Regulation S-K requires “A discussion of primary economic assumptions” to be included in the third party report. Please furnish a third party report that discusses the considerations of and sources for the estimated future capital costs used.

Exhibit 99.2

11. Please furnish a third party report that discloses the adjusted (after differentials) average prices used to estimate proved reserves.

Exhibit 99.3

12. Please furnish a third party report that satisfies Item 1202(a)(8) of Regulation S-K:
- (i) The purpose for which the report was prepared and for whom it was prepared;
  - (v) A discussion of primary economic assumptions [including the adjusted (after differentials) average prices used to estimate proved reserves];
  - (x) The signature of the third party.

Closing 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 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.

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.

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Chesapeake Energy Corporation  
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You may contact Ronald Winfrey at (202) 551-3704 if you have questions regarding the engineering comments. Please contact Sirimal R. Mukerjee at (202) 551-3340 or Alexandra M. Ledbetter at (202) 551-3317 with any other questions.

Sincerely,

/s/ A.N. Parker *for*

H. Roger Schwall  
Assistant Director