



DIVISION OF  
CORPORATION FINANCE

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

February 16, 2011

Via U.S. Mail and Facsimile

Daniel Churay, President and CEO  
Rex Energy Corporation  
476 Rolling Ridge Drive, Suite 300  
State College, PA 16801  
Facsimile: (814) 278-7286

**Re: Rex Energy Corporation  
Annual Report on Form 10-K for Fiscal Year Ended December 31, 2009  
Filed March 3, 2010  
File No. 001-33610**

Dear Mr. Churay:

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.

Annual Report on Form 10-K for Fiscal Year Ended December 31, 2009

Engineering Comments

Risk Factors, page 18

1. We have read reports of wells not being able to produce from the Marcellus Shale because of the high yields of ethane which has no market in the northeast, especially Pennsylvania. However, we see no such mention of this in your document. If this is an issue on your properties, please disclose it in future documents.

Proved Reserves, page 35

2. It is not clear to us how you can book 57 BCFe of proved undeveloped reserves (PUDs), after only developing 1.1 BCFe of PUDs and only spending \$5.8 million to do so in 2009 and reasonably think you will be able to develop the necessary reserves within five years. Please tell us:
  - how many PUD reserves you developed in 2010;
  - the approximate number of PUD reserves you added in 2010;
  - the amount of capital you spent developing the PUDs in 2010;
  - as of December 31, 2011 how many of your current PUD reserves will have been booked 5 years or more if they are not developed by that time.

Acreage and Productive Wells Summary, page 38

3. In this table you indicate you have an interest in 452 gross gas wells and 1,418 gross oil wells. Please reconcile these numbers with the statement you made in the Business section where you stated at December 31, 2009 you operated 2,134 wells.

Oil and Natural Gas Reserve Quantities (Unaudited), page 111

4. Please replace the current definition of proved reserves here and elsewhere in the document in future filings with the new definition of proved reserves as found under definitions of Regulation S-X Rule 410.
5. We note that in 2010 you approximately doubled your oil reserves and increased your gas reserves by approximately a third through revisions. Although you previously mentioned increased prices as a reason for the increases it was not made clear that it was this great of an impact. You also had large increase in natural gas reserves in 2010 from extension and discoveries and large increases and decreases in previous years. Please revise future filings to comply with ASC Topic 932 paragraph 50-5 pertaining to the disclosure of changes in the net quantities of an entity's proved reserves of oil and gas during the year with appropriate explanation of significant changes as the rule requires.

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.

Daniel Churay  
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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 James Murphy, Petroleum Engineer, at (202) 551-3703 with questions about engineering comments. Please contact Caroline Kim at (202) 551-3878 or, in her absence, the undersigned at (202) 551-3745 with any other questions.

Sincerely,

H. Roger Schwall  
Assistant Director

CC: Charles L. Strauss  
Fulbright & Jaworski LLP  
Fax: (713) 651-5246