



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 4628

September 25, 2015

Via E-mail

Andrew J. Cozby
Chief Financial Officer
Memorial Resource Development Corp.
500 Dallas Street, Suite 1800
Houston, Texas 77002

**Re: Memorial Resource Development Corp.
Form 10-K for Fiscal Year Ended December 31, 2014
Filed March 18, 2015
File No. 1-36490**

Dear Mr. Cozby:

We have limited our review of your filing to the financial statements and related disclosures 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 these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments.

Form 10-K for Fiscal Year Ended December 31, 2014

Business, page 4

Proved Undeveloped Reserves, page 14

1. In the fiscal years ended December 31, 2014 and 2013, we note that you developed approximately 9.5% and 2.8% of your proved undeveloped reserves ("PUDs"), respectively. Please tell us what percentage of the PUDs recorded as of December 31, 2014 have been drilled from January 1, 2015 through the date of your response. Also, tell us how much capital you have expended and the amount you expect to spend over the remainder of the fiscal year ended 2015 compared to the total amount budgeted to develop PUDs for the entire fiscal year. To the extent you expect to spend less than budgeted at the beginning of 2015, explain to us in sufficient detail whether you expect

development of your PUDs to occur within the five-year timeframe required by Rule 4-10(a)(31) of Regulation S-X.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 56

Outlook, page 58

2. You state that the continuation of low prices for oil or natural gas could materially and adversely affect the quantities of oil and natural gas reserves that you can economically produce. Per Section III.B.3 of SEC Release No. 33-8350, quantitative disclosure of the reasonably likely effects of material trends and uncertainties should be provided, and may be required, if reasonably available. Please revise to provide more extensive disclosure regarding the current pricing environment, including quantification of the impact of current commodity prices on your estimated reserve volumes based on potential scenarios deemed reasonably likely to occur. Refer to Item 303(a) of Regulation S-K.

Exhibit 99.1

3. We note the reserve report includes information relating to probable and possible reserves that is not disclosed in your Form 10-K. We believe the information in the reserve report should correlate with the disclosure in your filing. Therefore, please either obtain and file a revised reserve report which does not include the information relating to probable and possible reserves, or revise your Form 10-K to disclose this information in a manner that is consistent with the guidance in Item 1202(a)(2) of Regulation S-K.

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.

Andrew J. Cozby
Memorial Resource Development Corp.
September 25, 2015
Page 3

You may contact Wei Lu, Staff Accountant, at (202) 551-3725 or Jennifer O'Brien, Staff Accountant, at (202) 551-3721 if you have questions regarding comments on the financial statements and related matters. Please contact me at (202) 551-3311 with any other questions.

Sincerely,

/s/ Ethan Horowitz

Ethan Horowitz
Branch Chief
Office of Natural Resources