



DIVISION OF
CORPORATION FINANCE

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

March 5, 2014

Via E-mail

Mr. Kyle N. Roane
Vice President, General Counsel and Corporate Secretary
Memorial Resource Development Corp.
1301 McKinney Street, Suite 2100
Houston, Texas 77010

**Re: Memorial Resource Development Corp.
Draft Registration Statement on Form S-1
Submitted February 6, 2014
CIK No. 0001599222**

Dear Mr. Roane:

We have reviewed your draft registration statement 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 by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Draft Registration Statement on Form S-1

General

1. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications. Similarly, please supplementally provide us with any research reports about you that are published or distributed in reliance upon Section 2(a)(3) of the Securities Act of 1933 added by Section 105(a) of the Jumpstart Our Business Startups Act by any broker or dealer that is participating or will participate in your offering.

2. Prior to the effectiveness of your registration statement, please be sure that we receive a copy of the letter, or a call, from FINRA, stating that FINRA has finished its review and has no additional comments with respect to the proposed underwriting arrangements.
3. A reading of your Cover Page and "Underwriting" section suggests that is a primary offering by the company only. However, the section "Principal and Selling Stockholders" suggests that there is a resale component to this offering. Please advise or revise to address this discrepancy.

Summary, page 1

4. Please provide us with the petroleum engineering reports that were used as the basis for the December 31, 2013 proved reserves disclosed in your Exhibit 99.1 and Exhibit 99.2. You may furnish these materials on digital media such as flash drive or compact disk.

The report should include:

- a) One-line recaps in spread sheet format for each property sorted by field within each proved reserve category including the dates of first booking and estimated first production for your proved undeveloped properties;
- b) Total company summary income forecast schedules for each proved reserve category with proved developed segregated into producing and non-producing properties;
- c) Individual income forecasts for all the wells/locations in the proved developed and proved undeveloped categories;
- d) Engineering exhibits (e.g. maps, rate/time plots, volumetric calculations, analogy well performance) for each of the three largest wells/locations in the proved developed and proved undeveloped categories (6 entities in all) as well as the AFE/capital cost inventory for each of the three PUD properties. Please ensure that the decline parameters, EURs and cumulative production figures are presented on the rate/time plots. Include maps which present clearly the distance the three PUD properties are from productive, analogous wells;
- e) Producing rate vs. time extrapolations for the 21 horizontal Terryville wells presented on page four. As above, please ensure the decline parameters, EURs and cumulative production figures are presented.

If you would like to have these supplemental materials returned to you, please comply with the provisions of Rule 418(b) of Regulation C, which provides for the return supplemental information as long as certain express conditions are met.

If you wish to request confidential treatment of those materials while they are in our possession, please follow the procedures set forth in Rule 83 of the Freedom of Information Act.

Please direct these engineering items to:

U.S. Securities and Exchange Commission
100 F Street NE
Washington, DC 20549-4628
Attn: Ronald M. Winfrey

Overview, page 1

5. Define the acronym “CAGR” as used in the table on page 2.

Cotton Valley—Terryville Complex Horizontal Redevelopment, page 3

6. We note your presentation on page 4 of performance parameters for the 21 horizontal Terryville wells with EUR and cumulative production in equivalent MMCFE units. Please expand the table here and on page 6 (for each of the three Lower Cotton Valley Zones) to present also the average EUR and cumulative production in appropriate units of “wet” natural gas and of condensate. This comment applies to pages 92 and 94 as well.

Our Structure and Restructuring Transactions, page 11

7. Please add a chart that diagrams your ownership structure prior to the restructuring transactions. Also revise your charts to include the following:
- Abbreviated names of each entity referenced throughout your filing;
 - Beneficial ownership by your executive officers and directors; and
 - Footnote or cross reference identifying the Funds.
8. Expand the table on page 13 to indicate the beneficial owner(s) – e.g. having voting or investment power - of “The Funds”

Summary Historical Consolidated and Combined Pro Forma Financial Data, page 16

9. Please revise your presentation so that the chronological ordering of your financial statements and other financial data presented in tabular form throughout the filing is consistent. Refer to Staff Accounting Bulletin Topic 11:E.

Risk Factors, page 22

Risks Relating to this Offering and Our Common Stock, page 39

NGP controls more than a majority of our common stock, and its interests may conflict with those of our other stockholders, page 40

10. Under a separate subcaption, please present the risks regarding conflicts of interest due your directors’ affiliation with Natural Gas Partners.

Use of Proceeds, page 49

11. Provide footnotes to the table directing investors to more discussion of the “cash consideration to certain former management members of WildHorse Resources” and “repayment of outstanding borrowings under WildHorse Resources’ credit agreements.”

Management’s Discussion and Analysis of Financial Condition and Results of Operations, page 57

Liquidity and Capital Resources, page 70

12. We note your reference at page 38 to legal and contractual restrictions in your existing and future debt agreements that may limit your ability to access cash. Please provide more detail regarding such legal and contractual restrictions.

Business, page 89

Undeveloped Acreage Expirations, page 106

13. We note your presentation of acreage expiry. Please expand this to disclose material PUD reserves, if any, that are attributed to acreage expiring before the PUD spud date. Expand the disclosure under the risk factor entitled “Our acreage must be drilled before lease expiration...” as well.

Marketing and Major Customers, page 110

14. We note you state that you normally sell production to a relatively small number of customers. Please indicate any customers that accounted for more than 10% of your total revenue.

Management, page 121

Board Composition, page 122

Corporate Governance Guidelines, page 124

15. Please expand your disclosures to describe the NASDAQ corporate governance rules that your board intends to adopt.

Compensation Discussion and Analysis, page 125

16. Please indicate whether any of your named executive officers has entered into employment agreements. We note that your exhibit index does not indicate any to be filed as exhibits.

Principal and Selling Stockholders, page 131

17. For MRD LLC, please identify the natural person or persons who exercise sole and/or shared voting or dispositive powers over the securities offered for resale by that shareholder. See Compliance and Disclosure Interpretations: Regulation S-K, Question 140.02 at <http://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm>.

Underwriting, page 149

18. We note your statement that your officers and directors, MRD LLC, and certain former management members of WildHorse Resources are subject to lock-up provisions. Please also file all such lock-up agreements as exhibits.

Memorial Resource Development LLC (Predecessor) Interim Financial Statements

Unaudited Condensed Consolidated and Combined Balance Sheets, page F-23

19. We note from the disclosure on page F-18 that pro forma adjustment (f) is made to reflect a cash distribution from MRD LLC of \$50 million to the Funds on November 4, 2013. Please tell us whether this distribution payable is reflected in the unaudited historical balance sheet of the predecessor as of September 30, 2013 or otherwise advise. In addition, please tell us whether the pro forma earnings per share information will give effect to the number of shares whose proceeds would be necessary to pay this distribution or otherwise advise. Refer to SAB Topic 1B3.
20. We also note from the disclosure on page F-19 that pro forma adjustment (p) includes adjustment to pay cash consideration to former managers of WildHorse Resources. Please tell us whether this represents a distribution payable or otherwise advise. Refer to SAB Topic 1B3.
21. Please revise your equity section to report the Noncontrolling interest separately from the Members' equity and Previous owners. Refer to FASB ASC 810-10-45-16. This comment also applies to the audited balance sheet located on page F-63.

Unaudited Condensed Statements of Consolidated and Combined Operations, page F-24

22. We note your presentation of previous owners in the condensed consolidated and combined financial statements as of September 30, 2013. Please provide supplemental earnings per share disclosure to reflect what earnings per share would have been if it had been restated to include all the earnings of the entities under common control for all periods presented. This comment also applies to the predecessor financial statements for the years ended December 31, 2012 and 2011.

Memorial Resource Development LLC (Predecessor) Annual Financial Statements

Notes to Condensed Consolidated and Combined Financial Statements

Note 1. Background, Organization and Basis of Presentation, page F-67

23. Please reconcile the predecessor financial statements included in the filing with i) your proposal for what to include in the registration statement in pre-filing correspondence dated August 6, 2013 and ii) the corresponding response letter dated August 13, 2013 with a different conclusion as to the entities that should comprise the financial statements of the predecessor.

Note 17. Supplemental Oil and Gas Information (Unaudited), page F-108

Standardized Measure of Discounted Future Net Cash Flows from Proved Reserves, page F-109

24. Please expand your disclosure within footnote (1) on page F-111 to disclose the amount of future income tax expense that would have been included for the periods presented if you were not a tax exempt entity. You should provide such disclosure as you will no longer be a tax exempt entity upon the completion of your offering. You should also refer to this disclosure regarding the impact of future income taxes when discussing your standardized measure in any other places in your document, including where comparing differences between the standardized measure and PV-10.

Oil and Natural Gas Reserves, F-109

25. We note your statement, "NSAI was engaged to prepare or audit portions of our was engaged to prepare portions of our reserves estimates comprising approximately 74% of our recast estimated proved reserves (by volume) at December 31, 2012." This conflicts with the statement in Exhibits 99.1 and 99.2 that your third party engineers estimated all of the reserves attributable to you. Please amend your document(s) to reconcile the statements here and elsewhere as appropriate.

Closing Comments

If you intend to respond to these comments with an amended draft registration statement, please submit it and any associated correspondence in accordance with the guidance we provide in the Division's October 11, 2012 announcement on the SEC website at <http://www.sec.gov/divisions/corpfin/cfannouncements/drsfilingprocedures101512.htm>.

Mr. Kyle Roane
Memorial Resource Development Corp.
March 5, 2014
Page 7

Please keep in mind that we may publicly post filing review correspondence in accordance with our December 1, 2011 policy (<http://www.sec.gov/divisions/corpfin/cfannouncements/edgarcorrespondence.htm>). If you intend to use Rule 83 (17 CFR 200.83) to request confidential treatment of information in the correspondence you submit on EDGAR, please properly mark that information in each of your confidential submissions to us so we do not repeat or refer to that information in our comment letters to you.

You may contact Svitlana Sweat, Staff Accountant, at (202) 551-3326 or Jennifer O'Brien, Staff Accountant, at (202) 551-3721 if you have questions regarding comments on the financial statements and related matters. You may contact Ronald Winfrey, Petroleum Engineer, at (202) 551-3704 with questions about engineering comments. Please contact Caroline Kim, Attorney-Advisor, at (202) 551-3878 or, in her absence, the undersigned at (202) 551-3740 with any other questions.

Sincerely,

/s/H. Roger Schwall

H. Roger Schwall
Assistant Director

cc: John Goodgame
Akin Gump Strauss Hauer & Feld LLP