



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 4628

January 12, 2017

Steven Gray
Chief Executive Officer
RSP Permian, Inc.
3141 Hood Street, Suite 500
Dallas, TX 75219

**Re: RSP Permian, Inc.
Preliminary Proxy filed on Schedule 14A
Filed December 19, 2016
Form 8-K
Filed on October 13, 2016
File No. 1-36264**

Dear Mr. Gray:

We have limited our review of these filings to those issues we have addressed in our 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 and any amendment you may file in response to these comments, we may have additional comments.

Preliminary Proxy on Schedule 14A, filed December 19, 2016

General

1. We note that you are seeking shareholder approval for the stock issuance of 16,019,638 shares of your common stock to Silver Hill Energy Partners II, LLC (the "SHEP II Seller") for the acquisition of Silver Hill E&P II, LLC ("SHEP II"). Notwithstanding the potential for only the cash consideration to be provided, we further note that, if approved, you will issue such shares to the SHEP II Seller. As your shareholders are not separately provided an opportunity to vote on the transaction, the information related to the parties and the transaction required by Item 14 of Schedule 14A appears material to shareholders. Pursuant to Note A of Schedule 14A, please revise your preliminary proxy statement to provide all of the information required by Item 14 of Schedule 14A. We

have included specific comments below to aid you in your revised disclosures. Alternatively, tell us in your response letter why you believe that you are not required to provide this information.

Questions and Answers about the Special Meeting, page 1

2. Explain why the issuance of shares in the Silver Hill Energy Partners, LLC (“SHEP I”) transaction did not also require shareholder approval.
3. Address the reasons for entering into the SHEP I and II transactions.

Risk Factors, page 8

4. Please tell us what consideration you gave to including a risk factor regarding the absence of a fairness opinion or other objective report regarding the fairness of the proposed transaction to your shareholders.

Information about the parties, page 12

5. Address and describe any preexisting affiliation between RSP and any Silver Hill entities. See Item 1005(b) of Regulation M-A and Item 14(b)(7) of Schedule 14A.
6. Please include the information about the acquired company required pursuant to Item 14(c)(2) of Schedule 14A and Part C, Item 17 of Form S-4. For guidance, see Third Supplement, Division of Corporation Finance: Manual of Publicly Available Telephone Interpretations (July 2001), Part H, Question 3, available on the Commission’s website at <https://www.sec.gov/interps/telephone/phonesupplement3.htm>.

Recommendation of the RSP Board, page 14

7. At the end of the first paragraph you cross-reference “The Transaction—Reasons for Engaging in the Transaction; Recommendation of the RSP Board.” However, we are unable to locate such a section.

The Transaction, page 18

8. Please revise your disclosure to include background information concerning your reasons for this acquisition and the benefit that you expect your shareholders to receive.
9. Please disclose how you determined the amount of consideration to be paid in connection with this acquisition, discussing the negotiations that occurred between you and the SHEP II Seller.

Unaudited Pro Forma Combined Financial Statements, page 29

10. We note that the pro forma combined financial statements give effect to the acquisitions of SHEP I and SHEP II in addition to other material transactions, such as the Equity Offering and additional borrowings under your credit facility. Generally, pro forma adjustments should be presented gross on the face of the pro forma financial statements. Please revise your presentation to provide each adjustment on a gross basis with references to notes that clearly explain all assumptions involved as required by Regulation S-X, Rule 11-02(b)(6). The notes should provide sufficient detail to identify the nature and components of each adjustment. Please revise your presentation of pro forma financial statements and notes accordingly.

Notes to Unaudited Pro Forma Financial Statements, page 32

11. Expand your disclosure to provide a footnote discussing the basis of presentation which briefly sets forth a description of the nature, terms and accounting treatment of the acquisitions of SHEP I and SHEP II on a separate basis.
12. We note you expect to obtain approximately \$450 million of borrowings to fund the SHEP acquisitions. Expand your disclosure to provide sufficient detail of the terms of the expected financing arrangements.

Note 1. Pro Forma Adjustments, page 33

13. Expand your disclosure in pro forma adjustment (a) to quantify each adjustment amount related to the Equity Offering, additional borrowings and related proceeds. Your disclosure should provide sufficient detail to clearly explain each component.
14. Disclosure in pro forma adjustment (b) indicates that you estimated the purchase price for the acquisitions of SHEP I and SHEP II to be \$ 2.5 billion. Expand your disclosure to include a schedule that shows how the total purchase price consideration of each acquisition was calculated on a separate basis. The calculation of purchase price consideration should separately identify the amount of cash and common stock to be issued for each acquisition on a separate basis. Disclose the trading price and date used to calculate the value of RSP Permian common stock to be issued, which should be based on a recent trading date.
15. In connection with above comment, expand your disclosure to include separate preliminary purchase price allocations of each acquisition. Your revised disclosure should address the basis of the fair value of the assets acquired and liabilities assumed. Additionally, disclose that the purchase price allocations have not been finalized and explain why.

16. Expand your disclosure in pro forma adjustment (b) to describe the nature and identify the amounts of the net assets retained by the shareholders of Silver Hill. Such disclosure may be more clearly presented in tabular format.
17. Tell us why you believe pro forma adjustment (c) related to historical depreciation, depletion, and amortization of SHEP I and SHEP II for the step up of oil and natural gas properties to estimated fair value should be made in pro forma balance sheet. Refer to Regulation S-X, Rule 11-02(b)(6) for further guidance.
18. Expand your disclosure under pro forma adjustment (d) to explain how the amounts of interest expense for the year ended December 31, 2015, and the nine months ended September 30, 2016, were determined. In your revised disclosure, please state whether the 5.25% estimated interest rate is a current interest rate or an interest rate for which you have a commitment to calculate this pro forma adjustment. In your response, tell us why you believe the use of a 5.25% interest rate is reasonable.
19. Tell us why you have recorded a pro forma adjustment related to interest expense to cash and cash equivalents on the balance sheet. Refer to the guidance of Regulation S-X, Rule 11-02(b)(6).
20. Instruction 7 to Regulation S-X, Rule 11-02(b) states tax effects of pro forma adjustments should be calculated using the statutory rate for the income statement periods presented. Revise your pro forma adjustment amounts in note (e), or tell us why you believe the effective tax rate of 35.5% should be used instead of the statutory rate.

Note 2. Pro Forma Supplemental Oil and Natural Gas Reserve Information, page 34

21. Please revise your disclosure to provide narrative explanation of any significant changes in reserve quantities (e.g. revisions of previous estimates and extensions, discoveries and other additions) and significant changes in the standardized measure of discounted future net cash flows. Refer to FASB ASC 932-235-50-5 and 932-235-50-36.

Form 8-K, filed October 13, 2016

Exhibits 99.9 and Exhibit 99.10

22. We note the June 30, 2016 SHEP I and SHEP II third party reserve reports are presented in your October 13, 2016 Form 8-K in Exhibit 99.9 and 99.10. It appears per-well overhead expenses are excluded from the operated properties' projected production costs. As we previously stated in comment six of our letter of December 5, 2016, we hold this practice to be non-compliant with FASB ASC Paragraph 932-235-50-26. Please explain to us the basis for your practice. Address the impact of overhead expense inclusion on these proved reserves.

Steven Gray
RSP Permian, Inc.
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Closing Comments

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

For questions regarding comments on engineering matters, you may contact Ronald Winfrey, Petroleum Engineer, at 202-551-3699. You may contact Wei Lu at 202-551-3725 or Shannon Buskirk at 202-551-3717 if you have questions regarding comments on the financial statements and related matters. Please contact Jason Langford at 202-551-3193 or me at 202-551-3745 with any other questions.

Sincerely,

/s/ Loan Lauren P. Nguyen for

H. Roger Schwall
Assistant Director
Office of Natural Resources