



DIVISION OF
CORPORATION FINANCE

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

January 6, 2014

Via E-mail

Scott McNeill
Chief Financial Officer
RSP Permian, Inc.
3141 Hood Street, Suite 701
Dallas, Texas 75219

**Re: RSP Permian, Inc.
Amendment No. 2 to Registration Statement on Form S-1
Filed January 2, 2014
Supplemental Correspondence dated January 6, 2014
File No. 333-192268**

Dear Mr. McNeill:

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 by amending your registration statement and providing the requested information. 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 registration statement and the information you provide in response to these comments, we may have additional comments.

Supplemental Correspondence dated January 6, 2014

Capitalization, page 56

1. We note the pro forma as adjusted total stockholders' equity was revised on page F-5 to \$1,041,581. Please revise the disclosure here and each instance where it appears in the filing for consistency.

Notes to Unaudited Pro Forma Combined Financial Statements, page F-8

Note 2 – Pro Forma Adjustments (Continued), page F-10

2. We note your response to comment 9 in our letter dated January 3, 2014. Please tell us how you considered the disclosure guidance per SAB Topic 1B3 with regard to the payment of cash consideration to RSP Permian Holdco, LLC and Rising Star Energy Development Co., LLC.

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 Act of 1933 and all applicable Securities 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.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Scott McNeill
RSP Permian, Inc.
January 6, 2014
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You may contact Jennifer O'Brien, Staff Accountant, at (202) 551-3721 or Ethan Horowitz, Accounting Branch Chief, at (202) 551-3311 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-Adviser, at (202) 551-3878 or Laura Nicholson, Attorney-Adviser, at (202) 551-3584 with any other questions.

Sincerely,

/s/H. Roger Schwall

H. Roger Schwall
Assistant Director

cc: Douglas E. McWilliams
Vinson & Elkins LLP