



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 4628

April 12, 2016

Scott W. Smith
Chief Executive Officer
Vanguard Natural Resources, LLC
5847 San Felipe, Suite 3000
Houston, Texas 77057

**Re: Vanguard Natural Resources, LLC
Amendment No. 1 to Registration Statement on Form S-3
Filed March 24, 2016
File No. 333-210329
Post-Effective Amendment No. 3 to Form S-3
Filed March 24, 2016
File No. 333-207357
Form 10-K for Fiscal Year Ended December 31, 2015
Filed March 8, 2016
File No. 1-33756**

Dear Mr. Smith:

We have limited our review of your registration statement and post-effective amendment 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 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.

General

1. Please note that the staff's comments with regard to your Form 10-K for the fiscal year ended December 31, 2015 will need to be resolved before we will be in a position to declare your registration statement or post-effective amendment effective.

Amendment No. 1 to Registration Statement on Form S-3

Prospectus Cover Page

2. In reviewing the Fifth Amended and Restated Limited Liability Company Agreement, it appears the titles of the preferred units you are registering are 7.875% Series A Cumulative Redeemable Perpetual Preferred Units, 7.625% Series B Cumulative Redeemable Perpetual Preferred Units, and 7.75% Series C Cumulative Redeemable Perpetual Preferred Units. Please revise your Calculation of Registration Fee table and prospectus cover page to include the full titles of the preferred units or advise. Refer to Item 501(b)(2) of Regulation S-K.

Form 10-K for Fiscal Year Ended December 31, 2015

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.

Business, page 1

Oil, Natural Gas and NGLs Data, page 9

Proved Undeveloped Reserves, page 12

3. We note that your projected conversion ratio for the year ending December 31, 2015 was approximately 16%, but that you actually drilled 12% of your PUDs during the year. Please tell us whether any PUDs scheduled for 2015 were rescheduled or removed due to revisions in the timing of your drilling development plan.
4. We note that approximately 34.5 Bcfe of PUDs acquired during 2015 were drilled during the year ended December 31, 2015. Please tell us how your plans to drill recently acquired PUDs will affect your development schedule for other PUDs. Your response should also explain how the deferral of these PUDs is expected to impact your ability to drill them within five years of the date of initial booking. Refer to Rule 4-10(a)(31)(ii) of Regulation S-X.
5. Please provide us with additional detail explaining the increase to your PUDs due to revisions of previous volume estimates during the fiscal year ended December 31, 2015.
6. You state that you expect to spend approximately 68% of your planned five year future development costs within the next three years. Please tell us about your plans to finance the development of your PUDs during this time considering the expected reduction in your borrowing base and your stated intention to use available liquidity to pay down debt under your credit facility. Refer to Rule 4-10(a)(26) of Regulation S-X.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 65

Recent Developments and Outlook, page 65

7. You state that total proved reserves as of December 31, 2015 would increase if assumed prices were based on the 5-year New York Mercantile Exchange (NYMEX) forward strip price at February 29, 2016. Please provide us with a narrative explaining the impact of using these NYMEX forward strip prices on the quantities of reported proved reserves as of December 31, 2015 and tell us what assumptions were used for prices beyond the year 2020. With your response, tell us if these prices were input in your cash flow analysis as individual monthly or average annual figures and provide us with a table summarizing the prices by product (i.e., oil, natural gas, and NGLs) over the life of the proved reserves.

Results of Operations, page 68

8. You disclose average realized prices, including hedging for the fiscal year ended December 31, 2015 of \$3.13 per Mcf for gas, \$56.89 per Bbl for oil, and \$13.68 per Bbl for NGLs. Disclosure in your December 31, 2014 Form 10-K regarding 2015 indicates that 82% of anticipated gas production was hedged at \$4.32 per MMBtu, 77% of anticipated oil production was hedged at \$76.12 per Bbl, and 9% of anticipated NGL production was hedged at \$46.34 per Bbl. Please provide us with a reconciliation of the material differences between realized prices including the effect of your hedging program and the information provided in the prior year reflecting your expectations for 2015. With your response, include the calculations underlying the summary disclosure on page 92 of your Form 10-K regarding your hedging program for 2016.

Notes to Consolidated Financial Statements

Supplemental Oil and Natural Gas Information, page 134

9. Please tell us why development costs used to calculate the standardized measure of discounted future net cash flows on page 137 of your filing decreased by approximately 21% while your reported quantities of proved undeveloped reserves decreased by approximately 3% from the prior year. Your response should include a comparison of future development costs used in your calculation of the standardized measure of discounted future net cash flows to recent unit development cost actually incurred.
10. The report from your independent petroleum engineering firm includes a statement that abandonment costs were not included in the preparation of their report. Tell us whether abandonment costs are included in your calculation of the standardized measure of discounted future cash flows.

11. We note that your disclosure of the principal sources of change in your standardized measure of discounted future net cash flows includes a material adjustment for “change in production rates, timing and other.” Provide us with a description of the nature of this adjustment and tell us how you considered providing explanatory disclosure. Refer to FASB ASC 932-235-50-35 and 932-235-50-36.

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, before we can declare the amended registration statement effective, the company should provide us with a letter, 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 W. Smith
Vanguard Natural Resources, LLC
April 12, 2016
Page 5

You may contact Sandra Eisen, Staff Accountant, at (202) 551-3864 or Ethan Horowitz, Accounting Branch Chief, at (202) 551-3311 if you have questions regarding comments on the financial statements and related matters. Please contact Lisa Krestynick, Staff Attorney, at (202) 551-3056 or me at (202) 551-3745 with any other questions.

Sincerely,

/s/H. Roger Schwall

H. Roger Schwall
Assistant Director
Office of Natural Resources

cc: Douglas V. Getten
Paul Hastings LLP