



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

DIVISION OF
CORPORATION FINANCE

September 12, 2013

Via Email

Mr. Michael A. Gerlich
Chief Financial Officer
Gastar Exploration Ltd.
Gastar Exploration USA, Inc.
1331 Lamar Street, Suite 650
Houston, Texas 77010

**Re: Gastar Exploration Ltd.
Form 10-K for Fiscal Year Ended December 31, 2012
Filed March 11, 2013
Form 8-K filed March 11, 2013
File No. 001-32714**

**Gastar Exploration USA, Inc.
Form 10-K for Fiscal Year Ended December 31, 2012
Filed March 11, 2013
Form 8-K filed March 11, 2013
File No. 001-35211**

Dear Mr. Gerlich:

We have reviewed your filing 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 within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. 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 filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K for Fiscal Year Ended December 31, 2012

Properties, page 35

Undeveloped Acreage Expirations, page 37

1. The disclosure on page 38 indicates that a significant percentage of the Company's net undeveloped acreage will expire over the period from 2013 through 2016. Please tell us the extent to which you have assigned proved undeveloped reserves as of December 31, 2012 to any locations which are currently scheduled to be drilled after lease expiration.

Proved Undeveloped Reserves ("PUDs"), page 41

2. Please revise your disclosure to present the dollar amounts of the capital expenditures made during 2012 to convert proved undeveloped reserves to proved developed reserves. Refer to Item 1203(c) of Regulation S-K.

Item 9A – Controls and Procedures, page 59

3. We note that you file separate consolidated financial statements for Gastar Exploration Ltd. and Gastar Exploration USA, Inc. in a combined Form 10-K. It appears that separate reports on disclosure controls and procedures and internal control over financial reporting should be provided for each entity. Please revise or advise.

Notes to Consolidated Financial Statements

Note 2 – Summary of Significant Accounting Policies

Derivative Instruments and Hedging Activity, page F-14

4. We note that you have elected not to designate derivative contracts as cash flow hedges. The disclosure in your filing states that any changes in the fair values of derivative contracts for future production are recognized as unrealized hedge gains / losses while realized gains / losses related to contract settlements are recognized in natural gas, condensate, oil and NGLs revenues. Please tell us how your realized and unrealized gains / losses are calculated in a manner that is consistent with FASB ASC 815-10-35-2 (i.e., reflect only the periodic change in value recognized under GAAP).

Note 19 – Supplemental Oil and Gas Disclosures, page F-41

Costs Incurred in Oil and Gas Property Acquisition, Exploration and Development Activities, page F-42

5. Please revise to provide disclosure consistent with the categories of costs described by FASB ASC 932-235-50-18 (i.e., acquisition costs, exploration costs, and development costs). Also, refer to FASB ASC 932-235-55-4.

Net Proved and Proved Developed Reserve Summary, page F-43

6. Please revise to provide additional detail explaining significant changes identified in your proved reserves during the periods presented. For example, describe the causal factors underlying the changes due to extensions and discoveries. Refer to FASB ASC 932-235-50-5.

Standardized Measure of Discounted Future Net Cash Flows Relating to Proved Oil and Gas Reserves, page F-44

7. We note that you have disclosed certain pricing assumptions used to calculate the standardized measure of discounted future cash flows. However, it does not appear that the information presented here is consistent with the pricing assumptions disclosed in the reports issued by the third party petroleum engineers. Please tell us how you considered the guidance per FASB ASC 932-235-50-31a which states that future cash inflows should be calculated based on prices used in estimating proved oil and gas reserves.

Certifications

8. It appears that the certifications pursuant to Sections 302 and 906 of the Sarbanes-Oxley Act of 2002 for Gastar Exploration USA, Inc. are signed by the President and the Treasurer of that entity. Please tell us why these certifications are not signed by the certifying individuals in their capacity as principal executive officer and principal financial officer.

Exhibit 99.1

9. The reserve report discloses information relating to probable reserves as of December 31, 2012 not included in the filing on Form 10-K. Please obtain and file a revised reserves report excluding the disclosure of reserves information not also included in the filing on Form 10-K. Alternatively, amend the filing on Form 10-K to include information relating to probable reserves.

Michael A. Gerlich
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Form 8-K filed March 11, 2013

Non-GAAP Financial Information and Reconciliation

Reconciliation of Net Income (Loss) to Net Income (Loss) Excluding Special Items, page 12

10. We note Net Income (Loss) Excluding Special Items, a non-GAAP measure, includes an adjustment for unrealized hedge gains / losses. Please tell us why this non-GAAP measure excludes the unrealized gain / loss, but includes the realized gain / loss on these hedges. If it is your intent for these non-GAAP measures to reflect the cash flows associated with derivatives settled during the period, please revise your reconciliation to include two separate line items: one for the total gain / loss recognized and another for the net cash received / paid for the derivatives which were settled during the period.

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.

You may contact Wei, Lu, Staff Accountant, at (202) 551-3725 or me at (202) 551-3311 if you have questions regarding comments on the financial statements and related matters or John Hodgkin, Petroleum Engineer, at (202) 551-3699 if you have questions regarding the engineering comments.

Sincerely,

/s/ Ethan Horowitz

Ethan Horowitz
Branch Chief