



DIVISION OF
CORPORATION FINANCE
MAIL STOP 4628

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-4628

July 30, 2009

Mr. Michael A. Gerlich
Vice President and Chief Financial Officer
Gastar Exploration Ltd.
1331 Lamar Street, Suite 1080
Houston, TX 77010

**Re: Gastar Exploration Ltd.
Form 10-K for the Fiscal Year Ended December 31, 2008
Filed March 16, 2009
Form 10-Q for the Fiscal Quarter Ended March 31, 2009
Filed May 11, 2009
File No. 1-32714**

Dear Mr. Gerlich:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the Fiscal Year Ended December 31, 2008

Cover Page

1. Please indicate on the cover page that the Part III information is incorporated by reference from your definitive proxy statement.

Markets and Customers, page 5

2. We note your disclosure in this section regarding your sales to ETC and Enserco. We also note your disclosure at page 26 in the risk factor captioned “There are a limited number of natural gas purchasers” and at page 48 in the second paragraph under the caption “Commitments.” Pursuant to Item 601(b)(10) of Regulation S-K, file as exhibits the material agreements with those purchasers, or explain why you do not believe that you are required to do so. We may have additional comments.

Legal proceedings, page 33

3. Ensure that your references to the Notes are accurate. In this section, for example, you cite Note 15 rather than Note 16, and in the parallel disclosure in your most recent Form 10-Q, you cite Note 12 rather than Note 13.

Controls and Procedures, page 51

4. We note your statement that “because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our Company have been detected.” Please revise to state clearly, if true, that your principal executive officer and principal financial officer concluded that your disclosure controls and procedures are effective at that reasonable assurance level. In the alternative, remove the reference to the level of assurance of your disclosure controls and procedures. Please refer to Section II.F.4 of Management’s Reports on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, SEC Release No. 33-8238, available on our website at <http://www.sec.gov/rules/final/33-8238.htm>.

Management’s Report on Internal Control over Financial Reporting, page 51

5. Please assure that in this section you refer to internal control over financial reporting rather than to disclosure controls and procedures. In this regard, we note your statement that “we evaluated the effectiveness of the design and operation of our disclosure controls and procedures as of December 31, 2008 based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).”

Definitive Proxy Statement on Schedule 14A filed April 30, 2009

6. Please confirm in writing that you will comply with the following comments in all future filings. Provide us also with an example of the disclosure you intend to use in each case. After our review of your responses, we may raise additional comments.

Members of the Board of Directors, page 6

7. Provide all the disclosure regarding each director and nominee that Item 401 of Regulation S-K requires.

Annual Cash Incentive Awards, page 16

8. Briefly disclose why Messrs. Porter and Gerlich received their 2008 bonus in restricted common shares rather than cash.

Financial Statements

Consolidated Statements of Operations, page F-4

9. Please present "Gain on sale of assets" as an operating activity in future filings. Refer to the guidance at SFAS 144, paragraph 45.

Note 4 – Property, Plant and Equipment, page F-15

10. With regard to the costs of unproved properties not being amortized, tell us and disclose the current status of the significant properties involved, including the anticipated timing of the inclusion of the costs in the amortization computation. See Rule 4-10(c)(7)(ii) of Regulation S-X.

Note 22 – Supplemental Oil and Gas Disclosures, page F-52

Standardized Measure of Discounted Future Net Cash Flows..., page F-56

11. We note that your calculations of the standardized measure do not include deductions for future income tax expenses. Explain to us your basis for this calculation. As part of your response, explain how your calculation complies with the requirements of SFAS 69, par. 30(c). In this regard, note that future income tax expenses are computed by applying the appropriate year-end statutory tax rates, with consideration of future tax rates already legislated, to the future pretax net cash flows relating to the enterprise's proved oil and gas reserves, less

the tax basis of the properties involved. The future income tax expenses shall give effect to tax deductions and tax credits and allowances relating to the enterprise's proved oil and gas reserves.

12. Your disclosure on page F-9 indicates that you calculate the quarterly ceiling test by adjusting estimated future net revenues for the related income tax effects. Please clarify how your calculation of the income tax effect complies with Rule 4-10(c)(4)(i) of Regulation S-X and SAB Topic 12.D.1. As part of your response, please provide your calculation of the cost ceiling for the US and Australia cost centers as of December 31, 2008 to demonstrate how you are calculating the effect of income taxes.

Form 10-Q for the Quarterly Period Ended March 31, 2009

Condensed Consolidated Statement of Cash Flows, page 3

13. We note that you recorded a \$2.5 million non-cash charge for the 'monetization of derivative contracts'. Please clarify how you monetized your derivative contracts and how your accounting complied with SFAS 133.

Engineering Comments

Form 10-K for the Year Ended December 31, 2008

Risk Factors, page 16

The CBM which we produce in the Powder River Basin may be drained by offsetting production wells, page 25

14. Please tell us if there have been a material amount of offsetting wells drilled adjacent to your undeveloped CBM acreage in the Powder River Basin. If so, tell us if you have made any adjustments to your proved undeveloped reserves based on the estimated drainage. If you have not made any adjustments, please tell us the reasons for not doing so and if your estimate for proved undeveloped reserves is in agreement with the estimated recoveries of those wells offsetting your acreage.

Net Proved and Proved Developed Reserve Summary, page F-54

15. We note your explanations of significant changes to your reserves due to revisions; however, we also note that the largest changes to reserves in each year are from extensions and discoveries. Please expand your disclosure to include

explanations for reserve changes for all significant changes. Please see paragraph 11 of SFAS 69.

Closing Comments

As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

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 all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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 connection with responding to our comments, please provide, in writing, a 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Sandy Eisen at (202) 551-3864 or Chris White, Branch Chief, at (202) 551-3461 if you have questions regarding comments on the financial statements and related matters. You may contact James Murphy, Petroleum Engineer, at (202) 551-7303 with questions about engineering comments. Please contact Sean Donahue at (202) 551-3579, Tim Levenberg at (202) 551-3707, or me at (202) 551-3745 with any other questions.

Mr. Michael A. Gerlich
Gastar Exploration Ltd.
July 30, 2009
Page 6

Sincerely,

H. Roger Schwall
Assistant Director