



DIVISION OF
CORPORATION FINANCE
MAIL STOP 7010

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-7010

March 17, 2006

via U.S. mail

Mr. Ben Brigham
President and Chief Executive Officer
Brigham Exploration Company
6300 Bridge Point Parkway
Building Two, Suite 500
Austin, Texas 78730

**Re: Brigham Exploration Company
Registration Statement on Form S-1
Filed February 15, 2006
File No. 333-131881**

Dear Mr. Brigham:

We have limited our review of your filing to those issues we have addressed in our comments. Where indicated, we think you should revise your documents 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 supplemental 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 filings. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Where You Can Find More Information, page 1

1. We note the filing of the Form 10-K for the fiscal year ended December 31, 2005. Please revise to specifically incorporate this filing under this section. For guidance, please refer to the 1997 CF Manual of Publicly Available Telephone Interpretations, H. 69.

Selling Stockholders, page 21

2. We note the offering of securities by the company and selling stockholders listed in the registration statement. Please provide clear disclosure regarding how the sales will be allocated between the direct public offering and the resales. Disclose the extent to which investors will know whether they are purchasing from and therefore generating proceeds to the company or whether they are purchasing from selling shareholders. Advise us of whether consideration was given to including separate base prospectuses relating to the primary and secondary offering in the registration statement in order to facilitate an investor's understanding of either the primary or secondary offering at the time of a subsequent takedown.
3. Please disclose how the selling stockholders acquired the securities being offered by this registration statement. We believe a description of the transaction in which the selling stockholders acquired their shares is information that should be disclosed pursuant to Item 507 of Regulation S-K.
4. Please identify in the selling stockholder table the natural persons who exercise voting and/or investment power over each of the entities listed. Refer to Interpretation 4S of the Regulation S-K portion of the March 1999 supplement to the 1997 CF Manual of Publicly Available Telephone Interpretations.
5. Please disclose if any of the selling stockholders is a registered broker-dealer or affiliate of a registered broker-dealer. If you determine that a selling stockholder is a registered broker-dealer, please revise your disclosure to indicate that such selling stockholder is an underwriter, unless such selling stockholder received its securities as compensation for investment banking services. If the selling stockholder is an affiliate of a registered broker-dealer, please disclose, if true, that such selling stockholder acquired its shares in the ordinary course of business and at the time of the acquisition did not have any arrangements or understandings with any person to distribute the securities. If not, you must indicate that such selling stockholder is an underwriter.

Closing Comments

As appropriate, please amend the above filing in response to these comments. You may wish to provide us with a marked copy 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.

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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 Act of 1933 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.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, 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.

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 connection with our review of your filing or in response to our comments on your filing.

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. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

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Please contact Mellissa Campbell Duru at (202) 551-3757 or me at (202) 551-3685 with any questions. Direct all correspondence to the following ZIP code: 20549-7010.

Sincerely,

Tangela Richter
Branch Chief

cc: via facsimile
Carrie Potts, Esq.
Thompson & Knight L.L.P.
(512) 482-5055