



DIVISION OF
CORPORATION FINANCE

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

March 2, 2012

Via E-mail

Thomas Mitchell
Chief Financial Officer
Midstates Petroleum Company, Inc.
4400 Post Oak Parkway, Suite 1900
Houston, Texas 77027

**Re: Midstates Petroleum Company, Inc.
Amendment No. 5 to Registration Statement on Form S-1
Filed February 29, 2012
File No. 333-177966**

Dear Mr. Mitchell:

We have reviewed your amendment, and we 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.

Amendment No. 5 to Registration Statement on Form S-1

Management's Discussion and Analysis of Financial Condition and Results of Operations,
page 47

Critical Accounting Policies and Estimates, page 61

1. It does not appear that you have identified the estimates made to determine share-based compensation expense as a critical accounting policy. Please provide us with an analysis of any material variances between the estimated grant date fair values you used in recording expense related to your share-based compensation arrangements during 2011, as reflected on pages F-20 and F-21, and your IPO mid-point price of \$17.00. Also, please provide the following disclosure as part of your critical accounting policies:

- A description of the methods and assumptions used in estimating the fair value of the underlying stock and the instruments granted;
- A table disclosing the number of instruments granted, exercise price, fair value of the underlying stock, and fair value of the instruments granted for the twelve-month period preceding your most recent balance sheet date;
- Narrative disclosures that describe the factors contributing to significant changes in the fair values of the underlying stock during the period referred to in the bullet point above. In addition to describing the factors, these disclosures should relate those factors to changes in assumptions, as applicable;
- The disclosures outlined in the first two bullet points above should also include an updated analysis after the most recent period for which financial statements are presented to reflect significant grants and changes in fair value occurring prior to your initial public offering or an estimated offering price that differs significantly from the most recent fair value determined by management.

Closing 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 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.

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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.

You may contact Jennifer O'Brien, Staff Accountant, at (202) 551-3721 or Ethan Horowitz, Branch Chief, at (202) 551-3311 if you have questions regarding comments on the financial statements and related matters. Please contact Caroline Kim, Staff Attorney, at (202) 551-3878, or in her absence, Norman von Holtendorff, Staff Attorney, at (202) 551-3237 with any other questions.

Sincerely,

/s/ A.N. Parker *for*

H. Roger Schwall
Assistant Director

cc: Via E-mail
Matthew R. Pacey
Vinson & Elkins L.L.P.