



DIVISION OF  
CORPORATION FINANCE

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

April 28, 2009

Steven D. Foster  
Chief Financial Officer  
Parallel Petroleum Corporation  
1004 Big Spring Road  
Midland, Texas 79701

**Re: Parallel Petroleum Corporation  
Form 10-K for the Fiscal Year Ended December 31, 2008  
Filed February 23, 2009  
Response Letter filed April 13, 2009  
File No. 000-13305**

Dear Mr. Foster:

We have reviewed your filing and have the following comments. Please provide a written response to our comments. 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.

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

Business, page 1

About Our Business and Strategy, page 5

1. We have reviewed your response to prior comment four of our letter dated March 31, 2009, including your proposed disclosure about reserve replacement measures. As the reasons you are adding production to the net increase in reserves are not intuitive, please disclose what the measures of replacement and replacement percentage represent, in addition to explaining how these measures are calculated.

For example, it appears that you use the term replacement to encompass all changes that increase reserves, net of changes other than production which decrease reserves; and the

term replacement percentage to compare this net change to the decrease associated with production. We understand that your replacement measure is calculated by first subtracting production during the year from the reserve estimate at the beginning of the year, and then by measuring the extent to which your reserve estimate at the end of the year either exceeds or falls short of this result. We understand that your replacement percentage is calculated by dividing the measure of replacement by the annual production.

Please expand your disclosure to provide comparable explanation and also to indicate the extent to which factors other than extensions and discoveries contribute materially to your replacement percentages.

2. We have reviewed your response to prior comment six of our letter dated March 31, 2009, including your yearly reserve replacement ratios for 2006 through 2008. We also note your disclosure on page 5 of your Form 10-K regarding the replacement of 337% of your production from 2001 to 2008. Expand your disclosure to indicate your yearly reserve replacement ratios for 2001 through 2008.

### Financial Statements

#### Supplemental Oil and Natural Gas Reserve Data, page F-45

3. We have reviewed your response to prior comment eight from our letter dated March 31, 2009. Please tell us the status of the waterflood that you had projected in 2008 to produce 283 BOEs and its current production rate. If it is not producing, tell us the reasons there has been no production and the estimated time it will begin producing.

### Closing Comments

Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments.

You may contact Jenifer Gallagher at (202) 551-3706, or Karl Hiller, Branch Chief, at (202) 551-3686 if you have questions regarding comments on the financial statements and

Steven D. Foster  
Parallel Petroleum Corporation  
April 28, 2009  
Page 3

related matters. You may contact James Murphy at (202) 551-3703 with questions about engineering comments. Please contact Tracey L. McNeil at (202) 551-3392 or me at (202) 551-3740 with any other questions.

Sincerely,

H. Roger Schwall  
Assistant Director