



DIVISION OF
CORPORATION FINANCE
MAIL STOP 4628

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

January 7, 2010

Ms. Karen L. Gallagher
Chief Financial Officer
Syntroleum Corporation
5416 S. Yale Suite 400
Tulsa, Oklahoma 74135

Re: Syntroleum Corporation
Form 10-K for Fiscal Year Ended December 31, 2008
Filed March 2, 2009
Form 10-Q for Fiscal Quarter Ended September 30, 2009
Filed October 30, 2009
Definitive Proxy Statement on Schedule 14A
Filed April 13, 2009
File No. 000-21911
Response Letter Submitted October 21, 2009

Dear Ms. Gallagher:

We have reviewed your filings and response letter 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 Fiscal Year Ended December 31, 2008

General

1. Please correct the date on your earlier response letter to October 21, 2009, the date that you submitted it on EDGAR, and resubmit it on EDGAR.

Financial Statements

Note 8 – Stockholders' Equity, page F-14

2. We note your response to prior comment 4, indicating that you recorded \$8.6 million in debt issuance cost for the warrants issued to Tyson Foods, Inc. because it was providing the letter of credit for both its share and your share of the Gulf Opportunity Zone Bonds issued by your Dynamic Fuels joint venture. We have consulted with our Division's Office of Chief Accountant and believe that the value of the warrants would be more appropriately reported as an additional cost of the investment in Dynamic Fuels, incurred on its behalf, with amortization of the difference between your investment and equity in the investee combined with your portion of the equity in the earnings or loss of the investee.

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 cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

You may contact Lily Dang at (202) 551-3867 or Karl Hiller, Branch Chief, at (202) 551-3686 if you have questions regarding comments on the financial statements and related matters. Please contact me at (202) 551-3740 with any other questions.

Sincerely,

H. Roger Schwall
Assistant Director