



DIVISION OF
CORPORATION FINANCE
MAIL STOP 7010

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

August 29, 2008

Edward E. Cohen, Chief Executive Officer
Atlas Energy Resources, LLC
Westpointe Corporate Center One
1550 Coraopolis Heights Road
Moon Township, PA 15108

**Re: Atlas Energy Resources, LLC
Form 10-K for Fiscal Year Ended December 31, 2007
Filed March 6, 2008
Form 10-Q for Fiscal Quarter Ended March 31, 2008
Filed May 5, 2008
Response Letter Dated June 24, 2008
File No. 001-33193**

Dear Mr. Cohen:

We have reviewed your filings and response letter and have the following engineering 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 Fiscal Year Ended December 31, 2007

Business, page 4

General, page 4

1. In comment 1d) of our May 30, 2008 letter, we asked that you “Illustrate the basis for your incorporation of an estimated terminal decline rate ‘less than 5%’ per disclosure on page 21.” We could find no terminal decline rate values or well production histories that support such values in the materials you furnished in response. Please direct us to those items that support your statement if we have overlooked them. Otherwise, furnish to us technical support for the terminal decline rates – including that for the Antrim shale properties discussed in the next comment - used in your proved reserve estimates.

2. In your response 1e), you stated “The technique employed by the Registrant was decline curve analysis using historical gas sales volumes net of CO₂ thus accounting for depletion of CO₂ content.” We could detect no obvious decline trend in the production history extrapolations you furnished to us for your three largest Antrim shale proved developed properties. Please explain with illustrations the methodology used to determine your disclosed proved reserves for these properties. Address whether the same techniques were used in other similar Antrim shale properties.

Properties, page 33

Natural Gas and Oil Reserves, page 34

3. In our prior comment 5, we asked for separate disclosure of various operating and asset parameters for the Michigan and Appalachia regions. We believe such disclosure would be material to an understanding of differences in operating conditions between the two areas. Please revise your disclosure to present your proved reserves, associated cash flows, productive wells, historical gas and oil production, average historical gas and oil sales prices and average historical production costs for each of these areas.

Average Sales Price per MCF, page 35

4. We note that DTE Energy Company disclosed (2006 Form 10-K, page 16) “long term fixed price obligations” for its natural gas production at prices well below current values. Please tell us the extent to which you assumed those obligations in connection with your acquisition of DTE Gas & Oil Company on June 29, 2007. If so, tell us where you have disclosed the effects of these obligations; and indicate the extent to which these have been factored into your estimates of reserves and the standardized measure of discounted future net cash flows relating to proved oil and gas reserve quantities, following the guidance in Rule 4-10(a)(2) of Regulation S-X and paragraph 30(a) of SFAS 69.

Supplemental Oil and Gas Information (Unaudited), page 96

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Oil and Gas Reserve Information, page 98

5. In our prior comment 13, we asked for an explanation of significant line item changes to your proved reserves as required by SFAS 69, paragraph 11. Please revise your proved reserve disclosures to explain these significant changes, e.g. “Extensions, discoveries and other additions 126,613,549 MCF” for year end 2007 natural gas reserves.

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 Ronald Winfrey, Petroleum Engineer, at (202) 551-3704 with questions about engineering comments. Please contact Laura Nicholson at (202) 551-3584 or, in her absence, Timothy Levenberg, Special Counsel, at (202) 551-3707 with any other questions.

Sincerely,

H. Roger Schwall
Assistant Director