



DIVISION OF  
CORPORATION FINANCE  
MAIL STOP 7010

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

September 25, 2007

Mr. Ken L. Kenworthy, Sr.  
Chief Financial Officer  
9400 North Broadway, Suite 600  
Oklahoma City, OK 73114

**Re: GMX Resources, Inc.**  
**Form 10-K for the Fiscal Year Ended December 31, 2006**  
**Filed March 15, 2007**  
**Response Letter Dated August 13, 2007**  
**File No. 0-32325**

Dear Mr. Kenworthy:

We have reviewed your filing and have the following comments. We have limited our review of your filing to those issues we have addressed in our 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, 2006

Engineering Comments

1. We have reviewed your response to our prior comment two of our letter dated July 10, 2007, regarding the Cotton Valley reserves. Please provide graphs similar to those provided in your prior response, but only for Cotton Valley wells in which you have an ownership interest; include those GMX Cotton Valley wells that have not produced any liquids, as well as those GMX Cotton Valley wells that have produced liquids.
2. We have reviewed your response to prior comment three, concerning the difference between the Cotton Valley PDP and PUD reserves. As there does not appear to be a significant amount of proved behind-pipe reserves attributed to the

Cotton Valley reservoir in your reserve report, and the wells that you cite are horizontal wells, explain how your assumptions are consistent with these observations. Also, as a reserve report is not a field study or basin study, please provide the same graph as shown in Figure 5 but only for Cotton Valley wells in which you have an ownership interest. Include those GMX Cotton Valley wells that have not produced any liquids as well as those GMX Cotton Valley wells that have produced liquids. Also provide production graphs of all GMX Cotton Valley wells that have actually exhibited the 3.5% terminal decline rate that you apparently utilize for all wells. Tell us how many GMX Cotton Valley wells exhibit a terminal decline rate greater than 3.5%.

3. We have reviewed your response to prior comment four, including your explanation of support for reserves associated with your Cadenhead 6H and 9H wells. We generally find that reserves are appropriately classified as proved developed reserves, using the definition in Rule 4-10(a)(3) of Regulation S-X, after the majority of development costs have been spent. If a well has been drilled but there are material amounts of development costs remaining, such as for large fracture treatments, compression or other reasons, reserves that are dependent on such future development should be classified no higher than proved undeveloped. To the extent a material portion of the Cadenhead reserves are dependent on additional development work and that work is a material portion of the total, please revise your document to include those reserves as proved undeveloped. If you believe the reserves are appropriately characterized as developed, describe further the nature of activity yet to be completed, in relation to the whole, and submit a schedule showing total estimated development costs for these wells, development costs incurred as of period-end, and development costs not yet incurred.
4. We have reviewed your response to prior comment six, pertaining to your undeveloped Cotton Valley reserves. We note that in the list of 147 GMX Cotton Valley proved undeveloped wells provided in Appendix B, 54 are on leases where there are no other producing wells to which you have attributed proved reserves. We also note that another 43 of the wells in Appendix B are on leases where you estimate the currently producing wells to have an average ultimate recovery of less than 750 MMCF per well; and that only 19 of the wells in Appendix B are on leases where you estimate the currently producing wells to have an average ultimate recovery of greater than 1,200 MMCF per well. Therefore, please provide additional support showing why you believe the 54 wells, having no apparent direct offsetting wells, meet the SEC definition of proved reserves, and explain why it is reasonably certain these, and the other 74 wells, will produce an estimated ultimate recovery of 1,250 MMCF of reserves per well.

Mr. Ken L. Kenworthy, Sr.  
GMX Resources, Inc.  
September 25, 2007  
Page 3

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 Tracie Towner at (202) 551-3744, or Don Delaney, at (202) 551-3863, if you have questions regarding the financial statements and related matters. You may contact Jim Murphy, Petroleum Engineer, at (202) 551-3703 with questions regarding engineering comments. Please contact me at (202) 551-3686 with any other questions.

Sincerely,

Karl Hiller  
Branch Chief