

Mail Stop 6010

May 25, 2006

Joseph Cummins, DVM, PhD  
Chairman of the Board, President and Chief Executive Officer  
Amarillo Biosciences, Inc.  
4134 Business Park Drive  
Amarillo, Texas 79109

**Re: Amarillo Biosciences, Inc.  
Preliminary Proxy Statement on Schedule 14A filed April 25, 2006,  
revised May 19, 2006  
File No. 333-04413**

Dear Mr. Reithinger:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your documents in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

#### General

1. We note your response that you have resubmitted under file no. 0-20792. However, this preliminary proxy statement and your periodic reports still appear under a file number used for registrations statements filed under the Securities Act of 1933 or for company's that are only reporting under Section 15(d) of the Securities Exchange Act of 1934. Please re-file these documents using your correct file number.
2. We note your response to our prior comment 6. Please also revise your notice to reflect proposal 3, adjournment for the purpose of soliciting additional votes.

Audit, Nominating and Compensation Committees, pages 5-6

3. We note your response to our prior comment 15 and reissue that comment in part. Item 306(b) of Regulation S-B requires that the name of each member of the audit committee “appear below the disclosure required by this Item.” Please revise your disclosure so that the name of each audit committee member appears below the audit committee report. Please also provide the disclosure required by Item 7(d)(3)(ii) and (iii) of Schedule 14A with respect to the audit committee charter.

Certain Transactions, page 7

4. We note your response to our prior comment 17 and reissue that comment. Your reference to the Form 10-KSB and financial statement footnotes is not sufficient. You must provide complete disclosure in the proxy statement of your agreements with HBL pursuant to Item 404 of Regulation S-B. Please revise this section accordingly.

Stockholder Proposals, page 8

5. We note your response to our prior comment 19. Please note that the January 25, 2007 date assumes your final proxy statement will be available by May 25, 2006. Please revise to update this date to reflect the final date of this proxy statement.
6. We note your response to our prior comment 20 and reissue that comment. There are two types of stockholder proposals, those submitted pursuant to Rule 14a-8 and those submitted outside the processes of Rule 14a-8. This comment applies to proposals submitted outside the processes of Rule 14a-8. Please revise your disclosure to discuss the procedures for proposals submitted outside the processes of Rule 14a-8 and to clarify the deadline for proposals submitted outside the processes of Rule 14a-8. See Rule 14a-5(e)(2).

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As appropriate, please revise your proxy statement in response to these comments. You may wish to provide us with marked copies of the revised document to expedite our review. Please furnish a response letter that keys your responses to our comments. Detailed cover letters greatly facilitate our review. Please file your cover letter on EDGAR under the form type label CORRESP. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

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Please contact Sonia Barros at (202) 551-3655 or Suzanne Hayes at (202) 551-3675 with any questions.

Sincerely,

Jeffrey Riedler  
Assistant Director

cc: Ed Morris, Esq.  
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