

Mail Stop 6010

June 2, 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 26, 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 that you have re-filed under 1933 Act file no. 333-04413. Please re-file this preliminary proxy statement and your periodic reports using the correct 1934 Act file number 0-20791.
2. We note your response to our prior comment 2. Please revise your notice so that it contains the same 3 proposals present in your proxy statement. It appears that proposals 2 and 4 on your notice are the same.

Certain Transactions, page 9

3. We note your response to our prior comment 4 and reissue that comment in part. Please revise your disclosure regarding the Joint Development and Manufacturing / Supply Agreement dated March 13, 1992 to briefly describe the current status of the agreement and to disclose the amounts of any transactions under the agreement during the past two years or a statement that no amounts were paid.

Stockholder Proposals, page 11

4. We note your response to our prior comment 5 and reissue that comment. 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.

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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.

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.
Sanders Baker P.C.
Suite 700
One Maxor Plaza
Amarillo, TX 79101