

Mail Stop 6010

June 2, 2008

Joseph M. Cummins
President, Chief Executive Officer and Chairman
Amarillo Biosciences, Inc.
4134 Business Park Drive
Amarillo, Texas 79110-4225

**Re: Amarillo Biosciences, Inc.
Amendment No. 1 to
Registration Statement on Form S-1
Filed May 21, 2008
File No. 333-150421**

Dear Mr. Cummins:

We have limited our review of your filing to those issues we have addressed in our comments. Where indicated, we think you should revise your document 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.

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 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 are registering an aggregate of 8,724,198 shares relating to your 2008 private placement. Given the size of the transaction relative to the number of shares outstanding held by non-affiliates, we view the transaction to be a primary offering that can only proceed on an at-the-market basis under Rule 415(a)(4) if the company is eligible to conduct a primary offering on Form S-3. Since you are not eligible to conduct a primary offering on Form S-3, the transaction cannot proceed on an at-the-market basis under Rule 415. Please reduce the size of the offering or withdraw the registration statement.

Joseph M. Cummins
Amarillo Biosciences, Inc.
June 2, 2008
Page 2

2. We note your response to our prior comment 2. We also note that Commonwealth Associates, LP is a broker-dealer and that the option for the 1,000,000 shares was issued to Commonwealth Associates on the date it signed a one-year consulting agreement with you, and that you issued the securities as an alternative means to pay a monthly fee. Please revise your filing to identify Commonwealth Associates, LP as an underwriter.

Prospectus Summary, page 1

About this Offering, page 1

3. On page 2, you disclose that the 8,084,198 shares that you are registering represent 32.99% of the public float. The new table on page 14 provides that there were 24,003,157 shares outstanding held by non-affiliates or selling shareholders as of January 8, 2008. Based on that number of shares outstanding, it appears that the 8,084,198 shares represent 33.68% of the public float. Supplementally, please explain this apparent discrepancy.

* * *

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment 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 response to our comments.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

Joseph M. Cummins
Amarillo Biosciences, Inc.
June 2, 2008
Page 3

Please contact Sebastian Gomez Abero at (202) 551-3578, Michael Reedich, Special Counsel, at (202) 551-3612 or me at (202) 551-3715 with any questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: Darrin Ocasio, Esq.
David B. Manno, Esq.
Sichenzia Ross Friedman Ference LLP
61 Broadway, 32nd Floor
New York, New York 10006