



April 20, 2007

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VIA EMAIL AND OVERNIGHT COURIER

Mr. Jeffrey Riedler  
Division of Corporation Finance  
U.S. Securities and Exchange Commission  
450 Fifth Street, N.W.  
Washington, D.C. 20549-0405

**Re: Chembio Diagnostics, Inc.**  
**Post Effective Amendment No. 2 to Form SB-2 Registration Statement**  
**Filed April 3, 2007**  
**File Number 333-125942**

Dear Mr. Riedler:

On behalf of Chembio Diagnostics, Inc. (the "Company"), this letter provides the Company's response to the Staff's comments in its letter dated April 16, 2007 concerning the Company's Post-Effective Amendment No. 2 to its Registration Statement on Form SB-2 (the "Post-Effective Amendment") filed with the Commission on April 3, 2007 with information provided to us by the Company. The responses below are numbered to correspond with the comments in the Staff's letter. All information in these responses was provided to us by the Company.

1. *The fee table in this post effective amendment indicates that you are registering 8,158,530 shares of common stock for resale. However, the cover page of the prospectus indicates that the selling shareholders are offering 18,610,710 shares of common stock for resale. We note that the fee table in the original Form SB-2 registration statement also indicated that you were registering 8,158,530 shares of common stock for resale, but the cover page of the prospectus on the Form SB-2 indicates that the selling shareholders offered 48,624,834 shares of common stock. Please tell us how the selling shareholders can sell more shares than you registered for resale. Please tell us the reason for the discrepancy and make the appropriate revisions to the document. We may have additional comments after reviewing your response.*

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**Response to Comment 1:**

Between November 2004 and June 2005, the Company registered the resale of 49,133,094 shares of common stock by selling security holders. On June 7, 2004, the Company first filed a registration statement registering the resale of 21,534,808 shares of common stock (Commission File No. 333-116219) (the “June 2004 Registration Statement”). Subsequently, on March 28, 2005, the Company first filed a registration statement registering the resale of 40,466,304 shares of common stock (Commission File 333-123600) (the “March Registration Statement”). Pursuant to Rule 429 promulgated under the Securities Act of 1933, as amended (“Rule 429”), the March Registration Statement was a joint prospectus that updated and replaced the June 2004 Registration Statement, such that the March Registration Statement only registered the resale of 19,439,756 “new” shares. Finally, on June 17, 2005, the Company first filed a registration statement registering the resale of 48,624,834 shares of common stock (Commission File No. 333-125942) (the “June 2005 Registration Statement”). Similar to the March Registration Statement, the June 2005 Registration Statement was a joint prospectus under Rule 429 which updated and replaced the March Registration Statement and the June 2004 Registration Statement. Accordingly, while the June 2005 Registration Statement registered the resale of 48,624,834 shares of common stock, only 8,158,530 “new” shares were registered for resale, such that the fee table in the June 2005 Registration Statement only referred to the resale of these 8,158,530 “new” shares. We have added an explanatory note to the Post-Effective Amendment to indicate that pursuant to Rule 429, the prospectus included in the Post-Effective Amendment is a joint prospectus that updates and replaces the June 2004 Registration Statement, the March Registration Statement and the June 2005 Registration Statement.

Because the Post-Effective Amendment amends the June 2005 Registration Statement, the Post-Effective Amendment includes the fee table from the June 2005 Registration Statement, indicating that the Company is registering the resale of 8,158,530 shares of common stock. To distinguish the 8,158,530 shares registered in the June 2005 Registration Statement from the 18,610,710 shares to be registered in the Post-Effective Amendment, we have added a footnote to the fee table indicating that the shares identified “To Be Registered” only refer to the “new” shares which were registered in the June 2005 Registration Statement.

The 18,610,710 shares of common stock to be registered for resale in the Post-Effective Amendment consist of (i) 9,670,316 shares of our common stock which stockholders own or may acquire upon the exercise of warrants and options to purchase shares of our common stock which were initially registered in the June 2004 Registration Statement; and (ii) 8,940,394 shares of our common stock which stockholders own or may acquire upon the exercise of warrants and options to purchase shares of our common stock which were initially registered in the March Registration Statement.

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2. *Please confirm to us that all of the shares included in this post effective amendment to the registration statement were included in the original registration statement declared effective on June 28, 2005.*

**Response to Comment 2:**

**All of the 18,610,710 shares of stock included in the Post-Effective Amendment were included in the original registration statement declared effective on June 28, 2005.**

If you have any further questions, do not hesitate to contact me (303-894-6378), James Muchmore (303-894-6154) or Rich Larkin at (631-924-1135).

Very truly yours,

PATTON BOGGS LLP

By: /s/ Alan L. Talesnick

Alan L. Talesnick

cc: Chembio Diagnostics, Inc.  
c/o Rich Larkin, Chief Executive Officer