



DIVISION OF
CORPORATION FINANCE

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

September 5, 2012

Via E-Mail

Steven W. Peterson
Chief Financial Officer
Mesa Laboratories, Inc.
12100 West Sixth Avenue
Lakewood, Colorado 80228

Re: Mesa Laboratories, Inc.
Form 10-K for the year ended March 31, 2012
Filed June 29, 2012
Form 10-Q for the quarter ended June 30, 2012
Filed August 10, 2012
File No. 000-11740

Dear Mr. Peterson:

We have reviewed your letter dated August 22, 2012 and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-Q for the quarter ended June 30, 2012

Item 4. Controls and Procedures, page 16

1. We noted your disclosure that:

Our management evaluated, with the participation of our Chief Executive Officer and Chief Financial Officer, the effectiveness of our *internal control over financial reporting* as of June 30, 2012. Based on that evaluation, our management concluded that our *internal control over financial reporting* was effective at June 30, 2012.

Steven W. Peterson
Mesa Laboratories, Inc.
September 5, 2012
Page 2

It does not appear as though management provided a conclusion regarding the effectiveness of your disclosure controls and procedures. Please amend your filing to provide a conclusion regarding the effectiveness of your disclosure controls and procedures. Refer to Item 307 of Regulation S-K.

You may contact Eric Atallah, Staff Accountant at (202) 551-3663 or Jay Webb, Reviewing Accountant at (202) 551-3603 if you have questions regarding comments on the financial statements and related matters. Please call me at (202) 551-3643 with any other questions.

Sincerely,

/s/ Jay Webb "for"

Kevin L. Vaughn
Accounting Branch Chief