



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

Mail Stop 3030

February 25, 2010

VIA U.S. MAIL and FACSIMILE

Mr. 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 fiscal year ended March 31, 2009
Filed June 29, 2009
File No. 000-11740**

Dear Mr. Peterson:

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 information so we may better understand your disclosure. After reviewing this information, we may 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.

Form 10-K for the Fiscal Year End March 31, 2009

Marketing and Distribution, page 5

1. We note that you state that “[d]uring the fiscal year ended March 31, 2009, one customer represented approximately 14% of the Company’s revenues and approximately 12% of the Company’s accounts receivable balance.” Please tell us where you have identified this customer and why you have not filed the contract with this customer as an exhibit. Please see Item 601(b)(10)(ii)(B) of Regulation S-K.

Notes to Financial Statements, page 28

Note 10 Segment Data, page 39

2. We note from your disclosure that you aggregate your segments as one reportable segment based on the similar characteristics of their operations. However, based on your disclosures on page 2 through 7 and page 15, we see that you have multiple product lines that appear to have dissimilar production processes and types of customers. Based on the aforementioned, it is not clear how you met the aggregation criteria as outlined in FASB ASC 280-10-50-11. In this regard, please provide us with each of your operating segments and the information supporting your conclusion that each of your operating segments should be included in one reportable segment based on the aggregation criteria in FASB ASC 280-10-50-11.
3. Additionally, please provide us with and revise your future filings to include the disclosures outlined in FASB ASC 280-10-50-40.

Form 10-Q for the Quarter Ended June 30, 2009

Exhibit 31

4. We note that your annual report contains management’s internal control report as required by Item 308T of Regulation S-K. As such, your certifications should include the introductory language in paragraph 4 of the certification that refers to the certifying officers' responsibility for establishing and maintaining internal control over financial reporting for the company as well as the language of paragraph 4(b) of Item 601(b) (31) of Regulation S-K. Please amend this Form

10-Q, as well as your Forms 10-Q for the fiscal quarters ended September 30, 2009 and December 31, 2009, to include corrected certifications that are currently signed and dated and include the required language. You may provide abbreviated amendments that consist of a cover page, explanatory note, signature page, and paragraphs 1, 2, 4, and 5 of the certification.

5. To this regard, we note that the identification of the certifying individual at the beginning of the certification required by Exchange Act Rule 13a-14(a) also includes the title of the certifying individual and the certification replaces the term "report" with "quarterly report." In future filings the identification of the certifying individual at the beginning of the certification should be revised so as not to include the individual's title and the certification should be revised to not replace the term "report." Refer to Item 601(b)(31) of Regulation S-K.

Form 10-Q for the Quarter Ended December 31, 2009

Financial Statements

Note B. Acquisition of Product Line, page 9

6. We note from your disclosure on page 9 that you acquired instruments you describe as being the original high-performance cap testing product, such as the "Torqo I along with the newer Torqo II and the innovative Smart Bottle." In this regard, please tell us the acquisition-date fair value and the estimated useful life assigned to each instrument (e.g. the Torqo I, Torqo II, and Smart Bottle). Also, please break out each intangible asset in the "Intangibles and Goodwill" category of \$2,378,000 by type, and provide us with the estimated useful life assigned to each type of intangible asset and your rationale for assigning such an estimated useful life. Additionally, please provide us with the amount of goodwill assigned to this business acquisition and a qualitative description of the factors that make up the goodwill recognized. Finally, please provide us with your significant test calculations as prescribed by Rule 8-04 of Regulation S-X.

As appropriate, please amend your documents and respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter with your response that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please submit your cover letter on EDGAR. Please understand that we may have additional comments after reviewing your responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under

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the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filings;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

Please contact Dennis Hult at (202) 551-3618 or me at (202) 551-3212 if you have any questions regarding comments on the financial statements. Please contact Allicia Lam at (202) 551-3316 or Jay Mumford at (202) 551-3637 if you have questions on any other comments.

Sincerely,

Jeffrey Jaramillo
Accounting Branch Chief