



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3030

September 23, 2009

VIA U.S. MAIL AND FAX 512-219-6325

Harriss T. Currie
Chief Financial Officer
Luminex Corporation
12212 Technology Blvd.
Austin, Texas 78727

**Re: Luminex Corporation
Form 10-K for the year ended December 31, 2008
Filed February 26, 2009
File No. 000-30109**

Dear Mr. Currie:

We have reviewed your filings and have the following 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. 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 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 ended December 31, 2008

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 33

Critical Accounting Policies, page 35

Purchase Price Allocation, Intangibles and Goodwill, page 36

1. Regarding your impairment analysis of goodwill, and in the interest of providing readers with a better insight into management's judgments into accounting for goodwill, please consider disclosing the following in future filings:
 - We see you indicate fair value estimates of your reporting units are primarily determined using discounted cash flows and market comparisons. In addition to disclosing each of the valuation methodologies used to value goodwill, please include sufficient information to enable a reader to understand how each of the methods used differ, the assumed benefits of a valuation prepared under each method, and why management selected these methods as being the most meaningful for the company in preparing the goodwill impairment analyses.
 - A qualitative and quantitative description of the material assumptions used and a sensitivity analysis of those assumptions based upon reasonably likely changes.
 - If applicable, how the assumptions and methodologies used for valuing goodwill in the current year have changed since the prior year highlighting the impact of any changes.
2. In a related matter, we see you disclosed herein that "Statement of Financial Accounting Statements (SFAS) No. 142...requires that goodwill ...be assessed for impairment at a reporting unit level...As of December 31, 2008, [you] have \$39.6 million of goodwill, which has been allocated to *the assay segment* which includes LMD. [You] have performed your annual test of goodwill, and have determined there has been no impairment of goodwill as of December 31, 2008". Considering you experienced losses in the assay segment during fiscal 2008 and 2007(based on disclosures on pages 42 and 80), please tell us and expand your disclosures in future filings to indicate how you determined that there was no impairment of goodwill in 2008 and 2007. In your disclosure, consider including the valuation methodologies and significant assumptions you employed in reaching your conclusions. Please also provide us with your proposed disclosures.

Financial Statements and Supplementary Data, page 50

Consolidated Statements of Operations, page 54

3. We note in 2007 you presented approximately \$11.5 million of settlement of litigation and \$2.3 million of gain on settlement of liability as non-operating income herein. We also note from your Form 10-Q for quarter ended June 30, 2009 that you presented approximately \$4.4 million of settlement of litigation as a non-operating expense. Please explain to us why you believe these are properly classified in non-operating income/loss. Provide references to the authoritative accounting literature that you considered when determining how to present these items in your statement of operations. Consider the need to present these items as operating income/loss in future filings.

Note 1 – Description of Business and Summary of Significant Accounting Policies, page 57

Cash and Cash Equivalents, page 57

4. Considering the significance of your cash and cash equivalents compared to your total assets, in future filings please revise your accounting policy note to indicate, if true, that your investments (classified as cash equivalents) are highly liquid. Refer to FASB ASC 305-10-20 (paragraph 8 of SFAS 95).

Inventories, page 58

5. In future filings please revise your accounting policy for inventories to also disclose the method(s) of determining the cost of your inventory. Refer to Rule 5-02 (6)(b) of Regulation S-X.

Note 17 – Segment and Geographic Information, page 79

6. We noted that your business is currently organized into two reportable segments: the technology segment and the assay segment. We also noted that you did not include certain fiscal 2006 disclosures for those segments in this note or in your Management's Discussion and Analysis. In future filings please revise this note to include all applicable segment disclosures for each period for which an income statement is presented as required by FASB ASC 280-10-50-20 (paragraph 25 of SFAS 131).

Signatures, page S-1

7. In your future filings, please add the second paragraph found in the "Signatures" section of Form 10-K after the registrant signature block.

Harriss T. Currie
Luminex Corporation
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As appropriate, please amend your filing 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 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 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 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 filing;
- 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.

You may contact Andri Boerman at (202) 551-3645 or me at (202) 551-3603 if you have questions regarding comments on the financial statements and related matters. Please contact Ruairi Regan at (202) 551-3269 or Tim Buchmiller at (202) 551-3635 if you have questions on other comments.

Sincerely,

Jay Webb
Accounting Reviewer