



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3030

November 20, 2009

Via U S Mail and FAX [(631) 421-5821]

Andrew Makrides
President, Chairman of the Board
Bovie Medical Corporation
734 Walt Whitman Road
Melville, New York 11747

**Re: Bovie Medical Corporation
Amendment No. 2 to Form 10-K for the fiscal year ended December 31, 2008
Filed on November 9, 2009
File No. 1-31885**

Dear Mr. Makrides:

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. 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.

Mr. Andrew Makrides
Bovie Medical Corporation
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Amendment No. 2 to Form 10-K for the fiscal year ended December 31, 2008

Item 15. Exhibits

1. Please tell us when you intend to respond to our comments issued on your confidential treatment application.

Form 10-Q for the quarter ended September 30, 2009

Statements of Cash Flows, page 6

2. We see that in the column for the nine months ended September 30, 2008 you have presented information for the six months ended June 30, 2008. In an amendment, please present the comparable period of 2008.

Salaries, page 19

3. In future filings, please expand the disclosure to include all of the material increases and offsetting factors that explain the variances in your expenses. For example, from the first six bullets on page 20 relating to the salary expenses for the quarterly period ended September 30, 2009 you have only accounted for \$7,000 of the \$32,000 increase in salaries. Similarly, for the nine months ended September 30, 2009, you disclose that your salary expenses increased by a total of \$51,000, but the disclosed increases and offsetting factors only explain \$12,000 of the total variance for that period.

Selling, General & Administrative Expenses, page 20

4. In future filings, please expand the disclosure to include all of the material increases and offsetting factors that explain the variances in your expenses. For example, from the bullet points on page 20 relating to your SG&A expenses for the quarterly period ended September 30, 2009 you have only accounted for \$191,000 of the \$251,000 increase in those expenses. In addition, please disclose why expenses increased or decreased. For example, we note the disclosure of decreased expenses in the last three bullets on page 20; however, you did not disclose the reasons why these expenses decreased.

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Item 6. Exhibits

5. Please tell us where you filed as exhibits your October 2009 employment agreements mentioned on page 14.

As appropriate, please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a response letter 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 responses to our comments.

You may contact Jeanne Bennett at (202) 551-3606, or me at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Thomas Jones at (202) 551-3602 or Timothy Buchmiller, Senior Attorney at (202) 551-3635 with any other questions.

Sincerely,

Brian Cascio
Accounting Branch Chief