

Mail Stop 6010

August 6, 2007

James A. Wylie, Jr., Chief Executive Officer  
Diomed Holdings, Inc.  
1 Dundee Park  
Andover, Massachusetts 01810

Via U S Mail and FAX [(978) 475-8488 ]

**Re: Diomed Holdings, Inc.  
Form 10-KSB for the fiscal year ended December 31, 2006  
Form 10-QSB for the fiscal quarter ended March 31, 2007  
File No. 1-31250**

Dear Mr. Wylie:

We have reviewed your filings and have the following comments. We have limited our review to only your financial statements and related disclosures, and do not intend to expand our review to other portions of your documents. Where indicated, we think you should revise your documents in response to these comments in all future filings with the Commission. 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.

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Form 10-KSB for the fiscal year ended December 31, 2006

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 42

Revenue, page 43

1. We see the decrease in laser sales in 2006. In future filings please also describe reasons for changes in revenues from laser sales.

Financial Statements

Report of Independent Registered Public Accounting Firm, page F-1

2. We see the report does not present the city and state where signed, as required by Rule 2-02 of Regulation S-X. In future filings please assure that city and state are presented.

Note 2, Summary of Significant Accounting Policies, page F-9

3. In future filings please add an accounting policy disclosure for the investment in Luminetx. Specifically address how you assess the investment for impairment.

Note 6, Debt, page F-18

4. In future filings please disclose the effective rate of interest on the convertible debt.
5. You disclose that you valued warrants granted in connection with debt using the Black-Scholes method. In future filings please also disclose the underlying assumptions applied when you describe financial instruments valued using Black-Scholes or other modeling techniques.

Note 11, Commitments and Contingencies, page F-24

VNUS Technologies Litigation, page F-26

6. Please tell us how your disclosure considers the guidance from paragraphs 9 and 10 to SFAS 5. Expand future disclosures as necessary.

Note 15, Private Placement Equity Financing Completed September 29, 2006, page F-34

7. Please further explain to us how you considered paragraph 8 to D-98 in concluding that your preferred shares are appropriately classified as permanent equity. That is, explain to us why you believe the redemption events are within Diomed's control.
8. Please tell us how you evaluated the features of the convertible preferred stock in assessing whether the conversion feature should be bifurcated and accounted for separately as a derivative. As necessary to support your conclusion, please explain how you considered the requirements of SFAS 133 and EITF 00-19.

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 the requested information. Confirm that you will comply with these comments in all future filings with the Commission. Detailed response letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments and the requested information.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing reviewed by the staff 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 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 Jeanne Bennett at (202) 551-3606, or me at (202) 551-3605, if you have questions regarding our comments. In our absence you may contact Brian R. Cascio, Accounting Branch Chief, at (202) 551-3676

Sincerely,

Gary R. Todd  
Reviewing Accountant