



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 6010

September 24, 2007

VIA U.S. MAIL AND FACSIMILE ((510) 505-2101)

Ms. Debra A. Young
Vice President and Chief Financial Officer
Vermillion, Inc.
6611 Dumbarton Circle
Fremont, California 94555

Re: Vermillion, Inc.
Form 10-K for the fiscal year ended December 31, 2006
Filed April 2, 2007
File No. 000-31617

Dear Ms. Young:

We have reviewed your filing 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. In our comments, we ask you to provide us with information so we may better understand your disclosure. Please be as detailed as necessary in your explanation. 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 filings. 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 Ended December 31, 2006

Consolidated Financial Statements, page 42

Note 6. Gain on Sale of Instrument Business, page 57

1. We note that you completed the sale of your protein research tools and collaborative services business to Bio-Rad Laboratories, Inc. on November 13, 2006. Please tell us about your consideration of paragraphs 41- 42 of SFAS 144. Please be sufficiently detailed in your response.

Note 11. Long-term Debt and Capital Leases, page 62

2. We note that you issued 7.0% convertible senior notes due 2011 on November 15, 2006. Please tell us about your assessment of the embedded features within the convertible debt under SFAS 133. Please be sufficiently detailed in your response.

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 letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. 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 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.

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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 me at (202) 551-3604 or Brian Cascio, Branch Chief, at (202) 551-3676, if you have any questions regarding comments on the financial statements and related matters. You may also contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671 with any other questions.

Sincerely,

Kate Tillan
Assistant Chief Accountant