

Via Facsimile and U.S. Mail
Mail Stop 6010

October 17, 2006

Mr. Edward T. Shonsey
Chief Executive Officer
Diversa Corporation
4955 Directors Place
San Diego, CA 92121

Re: Form 10-K for Fiscal Year Ended December 31, 2005
Filed March 16, 2006
File No. 0-29173

Dear Mr. Shonsey:

We have reviewed your August 24, 2006 response to our August 10, 2006 letter and have the following comments. In our comments, we ask you to provide us with information so we may better understand your disclosure.

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 year ended December 31, 2005

Management's Discussion and Analysis

Results of Operations

Research and Development, page 42

1. Refer to your response to our comment 1. In addition to the status (i.e. Phase I, Phase II, etc.) of each of your major research and development projects, please provide, in disclosure type format, disclosure about why you are unable to estimate the nature, time or costs of the efforts necessary to complete each of your major projects including the risks and uncertainties involved with developing and commercializing your products.
2. Refer to your response to our comment 2. You state that you will expand your disclosure to include more detail regarding researchers' time by project for your late-stage products. Please provide us your proposed disclosure in disclosure-type format. In addition, in that proposed disclosure, define late-stage products and

provide a reconciliation to research and development expense shown in your financial statements.

Note 1. Organization and Summary of Significant Accounting Policies
Revenue Recognition
Collaborative Revenue, page 62

3. Refer to your response to our comment 4. Please provide us your proposed disclosure deleting reference to the percentage of completion method.
4. Refer to your response to comment 5. Please provide us your proposed disclosure in disclosure-type format regarding your revenue recognition for milestones.

Segment Reporting, page 65

5. Refer to your response to our comment 6. Please tell us what consideration has been given to provide paragraph 37 of FAS 131 disclosures related to the three areas of focus: Alternative fuels, Specialty industrial processes, and Health and Nutrition.

Note 6. Commitments and Contingencies
Litigation, page 78

6. Refer to your response to our comment 7. It appears that additional disclosure is required regarding the settlement amount and the reasons for not accruing the settlement amount in accordance with FAS 5. Please revise your discussion in disclosure-type format.

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Please provide us the information requested within 10 business days of the date of this letter or tell us when you will provide a response prior to the expiration of the 10-day period. Please furnish a letter with your response that keys your response to our comment. Detailed letters greatly facilitate our review. You should furnish the letter to us via EDGAR under the form type label CORRESP. Please understand that we may have additional comments after reviewing your response to our comment.

You may contact Sasha Parikh, Staff Accountant, at (202) 551-3627 or Mary Mast, Review Accountant, at (202) 551-3613 if you have questions regarding the comments. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief Accountant