

Mail Stop 6010

February 15, 2007

By U.S. Mail and Facsimile to (760) 438-1184

Ms. Donna G. Lee
Chief Financial Officer
Xenonics Holdings, Inc.
2236 Rutherford Road, Suite 123
Carlsbad, CA 92008-7297

**RE: Xenonics Holdings, Inc.
Form 10-KSB for the year ended September 30, 2006
File No. 1-32469**

Dear Ms. Lee:

We have reviewed your letter dated February 6, 2007 and have the following comments. Where indicated, we think you should revise your future 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. 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.

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Form 10-KSB for the year ended September 30, 2006

Item 6. Management's Discussion and Analysis or Plan of Operation, page 13

Results of Operations, page 15

Other Income / Expense, page 17

1. Please refer to prior comment 1. Your response does not appear to fully address our prior comment. With reference to the authoritative accounting literature on which you relied, please tell us why you concluded it was appropriate to recognize this gain in the statement of operations. Tell us how you accounted for the original issuance of shares in December 1998 and any other events that occurred between December 1998 and the return of the shares in fiscal 2005. Finally, discuss why you believe it is appropriate to record the gain in fiscal 2005 based on the closing price of your stock on that date. Refer to ARB 43, Chapter 1B and APB Opinion 6.

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 cover 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 Eric Atallah, Staff Accountant at (202) 551-3663 or me at (202) 551-3643 regarding comments on the financial statements and related matters. In this regard, do not hesitate to contact, Martin James, Senior Assistant Chief Accountant at (202) 551-3671 with any other questions.

Sincerely,

Kevin L. Vaughn
Branch Chief