

Mail Stop 6010

January 23, 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 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 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.

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. We see that you recognized a \$306,000 litigation gain in fiscal 2005 that resulted from the return of your common stock. Please tell us the terms and conditions of the original stock grant and the nature of your dispute. Additionally, tell us how the gain was calculated and why you concluded it was appropriate to recognize this amount in income.

Item 8A. Controls and Procedures, page 26

2. We note your statement that "... any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives..." Please revise future filings to state clearly, if true, that your disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives and that your principal executive officer and principal financial officer concluded that your disclosure controls and procedures are effective at that reasonable assurance level. In the alternative, please remove the reference to the level of assurance of your disclosure controls and procedures. Please refer to Section II.F.4 of Management's Reports on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, SEC Release No. 33-8238.
3. Further to the above, we note that "[your] Chief Executive Officer and Chief Financial Officer concluded that [your] disclosure controls and procedures are effective to ensure the information required to be disclosed in [your] annual reports filed or submitted under the Exchange Act is timely recorded, processed and reported within the time periods specified in the Securities and Exchange Commission rules and forms." Please revise future filings to clarify, if true, that your officers concluded that your disclosure controls and procedures are also effective to ensure that information required to be disclosed in the reports that you file or submit under the Exchange Act is accumulated and communicated to your management, including your chief executive officer and chief financial officer, to allow timely decisions regarding required disclosure. See Exchange Act Rule 13a-15(e).

Exhibits 31.1 and 31.2

4. We note that the certifications of your Chief Executive Officer and Chief Financial Officer are not in the exact form set out in Item 601(b)(31) of Regulation S-B. Please note the wording of the required certifications may not be changed in any respect, except for the modifications temporarily permitted to be made to the fourth paragraph of the certification required to be filed as Exhibit 31 pursuant to Part III.E of Release No. 8238. Please revise your certifications in future filings to conform to address the following:

- In future filings, the identification of the certifying individual at the beginning of the certification should be revised so as not to include the individual's title.
- We note that in the second paragraph of the certification you refer to your "annual report," rather than your "report." In future filings please remove references to the specific report in this paragraph and refer only to the "report."
- Throughout the certifications, you refer to the "issuer" and the "registrant." In future filings, please revise to refer to the "small business issuer."
- We note that in paragraph 4(c) you have deleted the language "(the small business issuer's fourth fiscal quarter in the case on an annual report)." Please revise your certifications in future filings, including your Form 10-KSB's, to retain this language.

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.

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 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:

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- 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 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