



DIVISION OF  
CORPORATION FINANCE

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

Mail Stop 6010

March 3, 2008

VIA U.S. MAIL AND FAX (281) 879-3626

R. Brian Hanson  
Chief Financial Officer  
ION Geophysical Corporation  
2105 City West Blvd, Suite 400  
Houston, Texas 77042

**Re: ION Geophysical Corporation**  
**Form 10-K for the year ended December 31, 2007**  
**Filed February 27, 2008**  
**File No. 001-12691**

Dear Mr. Hanson:

We have reviewed your filing and have the following comment. We have limited our review of your filing to those issues we have addressed in our comments. Where indicated, we think you should revise your document in response to this comment. 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 comment 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-K for the fiscal year ended December 31, 2007

Exhibit 31

1. We note that your Chief Financial Officer's certification required by Exchange Act Rule 13a-14(a) is missing. Please file an amendment to the Form 10-K that includes the entire periodic report and the required certifications.

As appropriate, please amend your filing and respond to this comment within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comment and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comment.

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 and 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.

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 filings;
- 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.

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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 Andri Boerman, Staff Accountant, at (202) 551-3645, or me at (202) 551-3604 if you have questions regarding these comments. In this regard, do not hesitate to contact Angela Crane, Branch Chief, at (202) 551-3554.

Sincerely,

Kaitlin Tillan  
Assistant Chief Accountant