



DIVISION OF  
CORPORATION FINANCE

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

October 25, 2012

Via E-mail

Mr. David L. Roland  
Senior Vice President, General Counsel and Corporate Secretary  
Ion Geophysical Corporation  
2105 CityWest Blvd, Suite 400  
Houston, Texas 77042

**Re: Ion Geophysical Corporation**  
**Form 10-K for the Fiscal Year ended December 31, 2011**  
**Filed February 24, 2012**  
**File No. 1-12691**

Dear Mr. Roland:

We have completed our review of your filing. We remind you that our comments or changes to disclosure in response to our comments do not foreclose the Commission from taking any action with respect to the company or 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. 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 the information the Securities Exchange Act of 1934 and all applicable rules require.

Sincerely,

/s/ Karl Hiller

Karl Hiller  
Branch Chief