



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

DIVISION OF  
CORPORATION FINANCE

July 14, 2010

Via U.S. Mail and Facsimile

R. Brian Hanson  
Executive Vice President and Chief Financial Officer  
ION Geophysical Corporation  
2105 CityWest Blvd., Suite 400  
Houston, TX 77042-2839

**Re: ION Geophysical Corporation**  
**Form 10-K/A for Fiscal Year Ended December 31, 2009**  
**Filed July 9, 2010**  
**File No. 001-12691**

Dear Mr. Hanson:

We have completed our review of your Form 10-K and related filings and have no further comments at this time.

Sincerely,

H. Roger Schwall  
Assistant Director

cc: Marc H. Folladori, Esq.  
Mayer Brown LLP  
Facsimile No. (713) 238-4696