



DIVISION OF  
CORPORATION FINANCE

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

December 9, 2010

Via Facsimile and U.S. Mail

Robert A. Cascella  
Director, President and Chief Executive Officer  
Hologic, Inc.  
35 Crosby Drive  
Bedford, MA 01730

**Re: Hologic, Inc.  
Definitive Proxy Statement on Schedule 14A  
Filed January 19, 2010  
File No. 000-18281**

Dear Mr. Cascella:

We have limited our review of your filing to the issue we have addressed in our comment.

1. In an October 4, 2010 article, The Boston Globe reported that you disclosed incorrect executive compensation amounts in your recent proxy statement. We have reviewed the compensation amounts you reported in your proxy statement, and it appears that the amounts are incorrect.

Please contact us no later than 10 days from the date of this letter to tell us what actions you plan to take to correct your executive compensation disclosure or, if you do not plan to correct it, your reasons for reaching your conclusion that it is not appropriate to do so.

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 Exchange Act rules require. 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 responding to our comment, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;

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- 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.

You may contact Aslynn Hogue at (202) 551-3841 or me at (202) 551-3617 with any questions.

Sincerely,

Russell Mancuso  
Branch Chief