



DIVISION OF
CORPORATION FINANCE

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

December 22, 2010

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

Re: Hologic, Inc.
Definitive Proxy Statement on Schedule 14A
Filed January 19, 2010
Letter Dated December 20, 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.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

1. Please tell us whether you intend to report accurately in a future filing all amounts that you previously disclosed inaccurately.
2. Please tell us when you believe you last disclosed an accurate Summary Compensation Table. Also tell us how you will ensure that inaccuracies do not recur; include in your response any changes you intend to make in the process of preparing your Summary Compensation Table.

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.

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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;
- 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

CC (by facsimile): Glenn P. Muir, Chief Financial Officer