



DIVISION OF  
CORPORATION FINANCE

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549-0303

Mail Stop 3628

March 24, 2009

**Via U.S. Mail**

Glenn P. Muir  
Executive Vice President, Finance  
and Administration  
Hologic, Inc.  
35 Crosby Drive  
Bedford, MA 01730

**Re: Hologic, Inc.  
Schedule TO-I  
Filed March 9, 2009  
File No. 5-41074**

Dear Mr. Muir:

We have limited our review of the filing to those issues we have addressed in our comments. Where indicated, we think you should revise the document in response to these comments. 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.

The purpose of our review process is to assist you in the compliance with the applicable disclosure requirements and to enhance the overall disclosure in the filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

**Schedule TO-I**

**Item 4. Terms of the Transaction**

1. Item 4 of Schedule TO and Item 1004(a)(2) of Regulation M-A require that you describe all material terms of the offer, including the type and amount of consideration to be given to holders. Because the metrics to be used to determine the value of the compensation to

be received have yet to be determined, it is unclear how your offer complies with Item 1004(a)(2) of Regulation M-A. Please advise or substantially expand your disclosure to explain how investors will determine the value they will receive as a result of the offer. Consider providing a table setting forth the number of new options to be received as consideration based upon a reasonable range of the company's stock prices.

Exhibit (a)(1)(A): Offer to Exchange  
General

2. We note you are offering to exchange eligible options for new options using an option pricing model which will be based upon the closing price of your common stock as quoted on NASDAQ on the date the new options are granted, as well as "other valuation assumptions." You disclose on page 2 that you expect the new grant date will be the same day the exchange offer expires. Therefore, option holders will only know the purchase price of the new options with the closing price of a share of company common stock as reported on NASDAQ on the expiration date. Please explain with a view for disclosure what you mean by "other valuation assumptions." Please also advise us as to why you believe that the formula pricing mechanism is consistent with the requirements of Rules 13e-4(d)(1), 13e-4(f)(1)(ii) and 14e-1(b). In this regard, please note that in instances where we have granted no-action relief at least two trading days remain in the offer after an averaging period. See TXU Corporation (Sept. 13, 2004) and Lazard (Aug. 11, 1995).

Q: How do I tender my eligible options for exchange, page 6

3. We note your disclosure in the sixth full paragraph on page 6 reserving the right to reject any and all tenders of eligible options where you determine it would be unlawful to accept. We also note similar disclosure you provide in the first full paragraph on page 24 under the heading "Miscellaneous." Please note that the all-holders provision in Exchange Act Rule 13e-4(f)(8) applies equally to U.S. holders as well as non-U.S. holders. Refer to the interpretive guidance in section II.G.1. of SEC Release 33-8957. Please advise us as to how the company is complying with the all-holders provision in Rule 13e-4(f)(8), or revise the disclosure here consistent with that rule.

Withdrawal Rights, page 14

4. Please revise this section to disclose the withdrawal rights provided in Rule 13e-4(f)(2)(ii).

Information Concerning Us; Financial Information, page 19

5. The summarized financial information presented in accordance with Item 1010(c) of Regulation M-A is required for all of the periods specified in Item 1010(a). It does not appear you have presented all of the information required by Item 1-02(bb)(1) of Regulation S-X for all of the applicable periods. Please revise your disclosure accordingly. For additional guidance, please review interpretation I.H.7 in the July 2001 Interim Supplement to the Manual of Publicly Available Telephone Interpretations available on our website, [www.sec.gov](http://www.sec.gov).

\* \* \*

As appropriate, please amend your filing in response to these comments. Please electronically submit a cover letter with your amendment that keys your responses to our comments. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings reviewed by the staff to be certain that they have provided all material information to investors. 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 (and all additional filing persons) acknowledging that:

- the company (or filing person) 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 filings; and
- the company (or filing person) 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.

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 filings or in response to our comments on your filings.

Glenn P. Muir  
Hologic, Inc.  
March 24, 2009  
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Please direct any questions to me at (202) 551-3621 or, in my absence, to Nicholas Panos, Senior Special Counsel, at (202) 551-3266. You may also contact me via facsimile at (202) 772-9203. Please send all correspondence to us at the following ZIP code: 20549-3628.

Sincerely,

Song Brandon  
Special Counsel  
Office of Mergers & Acquisitions

Via Facsimile (617-856-8201)

cc: Philip J. Flink, Esq.  
Edwin C. Pease, Esq.  
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