

August 31, 2007

Mail Stop 6010

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

**Re: Hologic, Inc.
Amendment No. 1 to Registration Statement on Form S-4
Filed August 20, 2007
File No. 333-144238**

Dear Mr. Muir:

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

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your 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.

Accounting Treatment, page 105

1. We refer to our prior comment 3. We noted from your response that the Board will be comprised of 6 members from Hologic and 5 members from Cytyc. However, we also noted that the Chairman of the Board will be the current President and CEO of Cytyc. Please tell us how you considered that the Chairman will be from Cytyc in your conclusion to points c and d that these criterion indicate Hologic is the accounting acquirer.

Unaudited Pro Forma Condensed Combined Financial Information, page 175

Notes to Unaudited Pro Forma Condensed Combined Financial Statements, page 181

Note 1. Basis of Presentation, page 181

2. We note that you reflect Cytyc's results of operations for the three months ended December 31, 2006 in the pro forma statements of operations for both the fiscal year ended December 31, 2006 and the nine months ended June 30, 2007. Please provide quantitative and narrative disclosures about the gross profit, operating expenses and operating income for the period included twice. We refer you to Article 11-02(c)(3) of Regulation S-X.

Note 2. Purchase Price, page 182

3. Please revise to exclude the Cytyc outstanding debt assumed from your calculation of the purchase price, or tell us how this presentation is consistent with paragraphs 20 - 34 and 37(g) of SFAS 141.

Hologic, Inc. Unaudited Pro Forma Condensed Consolidated Statements of Operations, page 188

4. Please disclose the periods represented by the columns for R2 and Suros.
5. Please revise so that the row for revenue adds across. It appears that adjustment I is not included in the pro forma combined amount and that adjustment D was subtracted and not added. Please note that if you add adjustment D, please tell us and disclose why you added the amount given the description of the adjustment as an elimination entry on page 189.

Cytyc Corporation Unaudited Pro Forma Condensed Consolidated Statements of Operations, pages 190 and 191

6. Please disclose the periods represented by the columns for Adeza and Adiana.

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As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover

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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 filing to be certain that the filing includes all information required under the Securities Act of 1933 and that they have provided all information investors require for an informed investment decision. 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 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 connection with our review of your filing or in response to our comments on your filing.

We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact at Julie Sherman at (202) 551-3640 or Kaitlin Tillan, Assistant Chief Accountant, at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Geoffrey Kruczek at (202) 551-3641 with any other questions.

Sincerely,

Peggy Fisher
Assistant Director

cc (via fax): Philip J. Flink, Esq.
Samuel P. Williams, Esq.
Nina Andersson, Esq.

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