



DIVISION OF  
CORPORATION FINANCE

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

June 19, 2013

Via E-mail

Harry F. Hixson, Jr., Ph.D.  
Chief Executive Officer  
Sequenom, Inc.  
3595 John Hopkins Court  
San Diego, California 92121

**Re: Sequenom, Inc.**  
**Form 10-K for the fiscal year ended December 31, 2012**  
**Filed April 2, 2013**  
**File No. 000-29101**

Dear Dr. Hixson:

We have completed our review of your filing. We remind you that our comments or changes to disclosure in response to our comments do not foreclose the Commission from taking any action with respect to the company or 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. 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 rules require.

Sincerely,

/s/ Tim Buchmiller for

Amanda Ravitz  
Assistant Director

cc (via e-mail): William Bowen, Esq.