



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

DIVISION OF  
CORPORATION FINANCE

September 26, 2013

Via E-mail

Mr. John P. Jordan  
Chief Financial Officer  
Zygo Corporation  
Laurel Brook Road  
Middlefield, Connecticut 06455-1291

**Re: Zygo Corporation  
Form 10-K for the Fiscal Year Ended June 30, 2013  
September 13, 2013  
File No.: 000-12944**

Dear Mr. Jordan:

We have reviewed your filing and have the following comment. In our comment, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comment applies to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to this comment, we may have additional comments.

Form 10-K for the Fiscal Year Ended June 30, 2013

Item 9A. Controls and Procedures, page 35

1. We note from disclosures in the "Report of Management on Zygo Corporation's Internal Control Over Financial Reporting" section at page 36 that management's assessments were based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework. Please confirm you applied the 1992 Framework and not the Updated Framework for your assessment. Revise future filings to disclose whether management applied the 1992 Framework or the Updated Framework for its Internal Control Over Financial Reporting assessment.

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

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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 comments, 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 Tara Harkins, Staff Accountant, at (202) 551-3639 or Jay Webb, Reviewing Accountant, at (202) 551-3603 if you have questions regarding these comments. In this regard, do not hesitate to contact me at (202) 551-3643.

Sincerely,

/s/ Jay Webb "for"

Kevin L. Vaughn  
Accounting Branch Chief