



DIVISION OF
CORPORATION FINANCE

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

December 21, 2011

Via E-mail

Mr. David D. Glass
Executive Vice President and Chief Financial Officer
Veeco Instruments Inc.
Terminal Drive
Plainview, New York 11803

**Re: Veeco Instruments Inc.
Form 10-K for the Fiscal Year Ended December 31, 2010
Filed February 24, 2011
Form 10-Q for the Fiscal Quarter Ended September 30, 2011
Filed October 31, 2011
File No. 0-16244**

Dear Mr. Glass:

We have reviewed your filings and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. In some of our comments, 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 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, please tell us why in your response.

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

Form 10-K for the Fiscal Year Ended December 31, 2010

Consolidated Statements of Operations, page F-6

1. Please tell us how you have considered the guidance in FASB ASC 740-20 in determining your intra-period allocation of income tax expense between continuing operations and discontinued operations for fiscal year 2010. In this regard, please also provide us with similar information regarding the intra-period allocation of income tax expense in the third quarter of 2011.

Note 4. Fair Value Measurements, page F-22

2. We note that you have classified “FDIC insured corporate bonds” as Level 1 in the fair value hierarchy. Please tell us more about these fair value measurements, including a description of the specific information you obtain in order to determine the fair value of these assets.

Note 11. Foreign Operations, Geographic Area, and Product Segment Information, page F-45

3. We note your disclosure here of long-lived assets by geographic location which appears to include goodwill and intangible assets. Referring to the guidance in FASB ASC 280-10-55-23, please revise future filings to provide the required information relating to only tangible long-lived assets.

Form 10-Q for the Quarter Ended September 30, 2011

Condensed Consolidated Balance Sheet, page 6

4. We note that you have combined the major captions of stockholders equity into one line item in the condensed balance sheet. In light of the significance of your equity accounts and considering changes occurring during the period as a result of your significant treasury stock purchases, please explain to us why you believe this presentation is appropriate based on the guidance in Rule 10-01(a) of Regulation S-X. Alternatively, revise future interim period filings to provide more detailed information regarding your stockholders’ equity, including an analysis of major changes occurring from the latest audited balance sheet date to the interim period balance sheet date.

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.

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.

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You may contact Gary Newberry at (202) 551-3761 or me at (202) 551-3643 if you have questions regarding comments on the financial statements and related matters. In this regard, do not hesitate to contact Martin James, Senior Assistant Chief Accountant at (202) 551-3671.

Sincerely,

/s/ Kevin L. Vaughn

Kevin L. Vaughn
Accounting Branch Chief