



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-3030

September 29, 2010

Mark H. Burroughs
Chief Financial Officer
Osteotech, Inc.
51 James Way
Eatontown, NJ 07724

Re: Osteotech, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2009
Filed March 8, 2010
Amendment no. 1 to Form 10-K filed April 30, 2010
File No. 00-34612

Dear Mr. Burroughs:

We have reviewed your filing and have the following comments. 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 amending your filing, 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 or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Fiscal Year Ended December 31, 2009

Consolidated Financial Statements, page F-1

Note 2. Summary of Significant Accounting Policies, page F-7

Nonmonetary Transactions, page F-11

1. We note the disclosure that you completed a nonmonetary transaction whereby you will receive tissue over a three-year period beginning in the third quarter of 2010 and that you recorded \$2.7 million in revenue from this transaction. It is not clear from your current disclosure why it was appropriate to recognize revenue during the 2009 fiscal year for this transaction. Please describe to us in greater detail the terms of the tissue supply agreement that you believe allowed you to recognize revenue during 2009 and discuss the guidance in U.S. GAAP that supports your conclusion.

Form 10-K for the Fiscal Year Ended December 31, 2009, amended April 30, 2010

Item 1. Executive Compensation, page 4

2. We note that you have not included any disclosure in response to Item 402(s) of Regulation S-K. Please advise us of the basis for your conclusion that disclosure is not necessary and describe the process you undertook to reach that conclusion.

Compensation Policies, page 5

3. We note your statement that the compensation committee's goal is to set total compensation for each of your named executive officers at a median level or higher of the peer group companies and that the compensation committee utilizes its discretion in the evaluation of overall compensation for the executive officers. Please tell us, with a view towards disclosure, whether the compensation committee targeted any aspect of compensation to a certain percentile of your peer companies. If so, please tell us how each element of compensation you provided to the named executive officers relates to the data you have analyzed from the peer companies and include an analysis of where actual payments under each element of compensation actually fell within the targeted range. Additionally, if any of your named executive officers were compensated at levels that were materially different from the targeted levels of compensation, please also provide us your discussion and analysis as to why.

Base Salary, page 6

4. We note from your discussion that the salaries paid to your named executive officers were determined using your “salary administration practices.” Please provide us, with a view towards disclosure, a discussion of these practices and how these practices were used to determine each named executive officer’s base salary. Include in your response a description of how base salary was structured and implemented to reflect each named executive officer’s “individual performance,” including a discussion of the elements of individual performance that were taken into account.

Management Performance Bonus Plan, page 6

5. Please tell us, with a view towards disclosure, why you have not disclosed the specific targets to be achieved in order for your named executive officers to earn their respective annual cash incentive payments under the Management Performance Bonus Plan. To the extent you believe that disclosure of such information, on a historical basis, would result in competitive harm such that the information could be excluded under Instruction 4 to Item 402(b) of Regulation S-K, please provide us with a detailed explanation supporting your conclusion.

Stock-Based Incentive Programs, page 8

6. Please tell us, with a view towards disclosure, why you have not disclosed the specific EPS targets to be achieved in order for the restricted stock units to vest. Please see Item 402(e)(1)(iii) of Regulation S-K.

Item 15. Exhibits and Financial Statement Schedules, page 24

7. We note that you have not filed Section 302 certifications with this amendment to your Form 10-K, even though the certifications are required to be filed with every amendment to a periodic report. Please amend your filing to provide the required certifications.

Definitive Proxy Statement on Schedule 14A filed on August 3, 2010

8. We note your statement on page 12 of your definitive proxy statement that the nominating committee may evaluate candidates based upon diversity. Please tell us, with a view towards disclosure, how your diversity policy is implemented and how the committee assesses the effectiveness of the policy.

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.

You may contact Kevin Kuhar, Staff Accountant, at (202) 551-3662 or Jay Webb, Accounting Reviewer, at (202) 3603 if you have questions regarding comments on the financial statements and related matters. Please contact Allicia Lamm at (202) 551-3316 or Jay Mumford at (202) 551-3637 if you have questions on other comments. In this regard, do not hesitate to contact me at (202) 551-3212 with any questions.

Sincerely,

Jeff Jaramillo
Accounting Branch Chief