



DIVISION OF
CORPORATION FINANCE

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

July 9, 2010

David R. Koos
Chief Executive Officer
Bio-Matrix Scientific Group, Inc.
8885 Rehco Road
San Diego, CA 92121

Re: Bio-Matrix Scientific Group, Inc.
Form 10-K for Fiscal Year Ended September 30, 2009
Filed January 14, 2010
Form 10-Q for Fiscal Quarter Ended March 31, 2010
Filed May 6, 2010
File No. 0-32201

Dear Mr. Koos:

We have reviewed your filings 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 filings, 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 filings and the information you provide in response to these comments, we may have additional comments.

Form 10-K for Fiscal Year Ended September 30, 2009

Report of Independent Registered Public Accounting Firm, page 16

1. Please tell us why your independent accountant did not provide a report that includes the representations and opinion required by paragraphs (b) and (c) of Rule 2-02 of Regulation S-X with respect to the consolidated statements of operations and cash flows for the period from inception to the most recent balance sheet date. If your independent accountant is unable to provide a report for the period from inception to the most recent balance sheet date, please label the columns from inception to the most recent balance sheet date in the consolidated statements of operations and cash flows as "unaudited."

2. We note the “except for” language in the second paragraph regarding compliance with the standards of the Public Company Accounting Oversight Board. PCAOB Rule 3100 requires registered firms to comply with all PCAOB auditing and related practice standards. As such, please provide a report that complies with PCAOB Standard No. 1.

Item 9A. Controls and Procedures, page 33

3. Please provide management’s annual report on internal control over financial reporting as required by Item 308T(a) of Regulation S-K. In addition, please tell us how management is able to conclude that disclosure controls and procedures as of the end of the fiscal year are effective when you did not provide management’s annual report on internal control over financial reporting. Otherwise, please revise your disclosure regarding the effectiveness of disclosure controls and procedures as of the end of the year covered by the report. Further, please note the definition of disclosure and procedures in Rule 13a-15(e) of the Exchange Act Rules. If you include a definition of disclosure controls and procedures in the conclusion of your principal executive officer and principal financial officer regarding the effectiveness of your disclosure controls and procedures please include the entire definition, or simply disclose whether or not your disclosure controls and procedures are effective. Please refer to Items 307 and 308T of Regulation S-K.
4. Please revise to clearly disclose any change in internal control over financial reporting that occurred during the last fiscal quarter that has materially affected, or is reasonably likely to materially affect, your internal control over financial reporting. If there were no changes in internal control over financial reporting that occurred during the last fiscal quarter that have materially affected, or is reasonably likely to materially affect, your internal control over financial reporting please disclose that fact. Refer to paragraph (b) of Item 308T of Regulation S-K.

Signatures, page 43

5. Please refer to the signature section of Form 10-K and note that there are two signature sections. Please provide the signature of persons signing the report on your behalf and indicate each capacity in which such persons sign the report. In this regard, please refer to general instruction D(2)(a) of Form 10-K which states that the report must be signed by the registrant, and on behalf of the registrant by its principal executive officer, principal financial officer, principal accounting officer, and by at least the majority of the board of directors or persons performing similar functions. In addition, please note the requirements of general instruction D(2)(b) of Form 10-K.

Exhibits

6. Please file or incorporate by reference all exhibits required by Item 601 of Regulation S-K.

7. We note that all reports you file pursuant to Section 13(a) or 15(d) of the Exchange Act are incorporated by reference in your Registration Statement on Form S-8 filed June 5, 2007. As such, please file the written consent of your independent accountant required by Item 601(b)(23) of Regulation S-K or tell us why the written consent of your independent accountant is not required.

Exhibits 31.1 and 31.2

8. Please revise the certifications to conform exactly to the certifications in Item 601(b)(31)(i) of Regulation S-K. Specifically, the certifications should refer to the registrant rather than the small business issuer throughout.

Form 10-Q for Fiscal Quarter Ended March 31, 2010

Exhibits 31.1 and 31.2

9. Please revise the certifications to conform exactly to the certifications in Item 601(b)(31)(i) of Regulation S-K. Specifically, please revise paragraphs 4 and 5 and eliminate reference to the title of the certifying officer in the introductory paragraph. In addition, please confirm to us that inclusion of the title of the certifying officer in the introductory paragraph of the certifications filed as exhibits to Form 10-Q for the quarter ended December 31, 2009 was not intended to limit the capacity in which such individuals provided the certifications.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings to be certain that the filings include 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 filings;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filings; 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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Bio-Matrix Scientific Group, Inc.
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You may contact Yolanda Guobadia at (202) 551-3562 if you have questions regarding comments on the financial statements and related matters. Please contact me at (202) 551-3344 with any other questions.

Sincerely,

William H. Thompson
Accounting Branch Chief