



DIVISION OF
CORPORATION FINANCE

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

September 10, 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 June 30, 2010
Filed July 27, 2010
File No. 0-32201

Dear Mr. Koos:

We issued comments to you on the above captioned filings on August 9, 2010. As of the date of this letter, these comments remain outstanding and unresolved. We expect you to contact us by June 24, 2010 to provide a substantive response to these comments or to advise us why you are unable to respond and when you will be able to do so.

If you do not respond to the outstanding comments or contact us by June 24, 2010, we will, consistent with our obligations under the federal securities laws, decide how we will seek to resolve material outstanding comments and complete our review of your filings and your disclosure. Among other things, we may decide to release publicly, through the agency's EDGAR system, all correspondence, including this letter, relating to the review of your filing, consistent with the staff's decision to release publicly comment letters and response letters relating to disclosure filings it has reviewed. You can find more information about the staff's decision to release filing correspondence at <http://www.sec.gov/news/press/2004-89.htm> and <http://www.sec.gov/news/press/2005-72.htm>.

Please contact Yolanda Guobadia at 202-551-3562 if you have any questions.

Sincerely,

William H. Thompson
Accounting Branch Chief