

Mail Stop 3561

January 12, 2007

Dr. Edwin C. Quattlebaum, CEO
MetaMorphix, Inc.
8000 Virginia Manor Road Suite 140
Beltsville, Maryland 20705

**Re: MetaMorphix, Inc.
Amendment No. 2 to Registration Statement on
Form 10-SB
Filed December 15, 2006
File No. 000-51294**

Dear Mr. Quattlebaum:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

General

1. Please update the following sections: "Security Ownership of Certain Beneficial Owners and Management," "Directors and Executive Officers, Promoters and Control Persons," "Executive Compensation," "Description of Securities," and "Market Price of and Dividends on the Registrant's Common Equity and Other Shareholder Matters."

Item 1. Description of Business, page 2

General

2. We note that you have various licensing agreements. Please add disclosure that provides the range of fees to be paid by the company pursuant to these agreements.

Overview, page 2

3. We note your response to prior comment three from our letter dated November 13, 2006. In the revised disclosure on page 2, we note your statement that the contracts contain "standard fee-per-test terms." Please explain these standard terms in more detail.

Animal Genomics, page 4

4. On page 6 we note discussion of a license agreement with Genetic Technologies Limited (GTG). Please tell us the date of the license agreement. If the license agreement is material and occurred during the periods presented in the financial statements, please revise the footnotes to the financial statements to disclose all significant terms and conditions of the agreement including, but not limited to, amounts due to GTG and the duration of the agreement.

Celera Acquisition, page 9

5. On page 10 you state you were \$2,544,980 past due in your payments to Celera. However, in the risk factors on pages 21 and 22 you state you are \$2,038,800 past due in your payments to Celera. Please reconcile these amounts and revise the document as needed.

Periodic Reports

6. Revise the periodic reports to conform to the requested changes to the Form 10-SB as applicable.

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As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested supplemental information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

Edwin C. Quattlebaum
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Page 3

You may contact Babette Cooper at (202) 551-3396 or Terence O'Brien at (202) 551-3355 if you have questions regarding comments on the financial statements and related matters. Please contact Thomas Kluck at (202) 551-3233 with any other questions.

Sincerely,

John Reynolds
Assistant Director

cc: Thomas Prescott Russo
Fax (301) 617-9075