



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3030

June 4, 2009

Via U.S. Mail and Facsimile to (425) 402-1433

Michael Rice
Chief Executive Officer
BioLife Solutions, Inc.
3303 Monte Villa Parkway, Suite 310
Bothell, WA 98021

Re: BioLife Solutions, Inc.
Form 10-K for the Fiscal-Year ended December 31, 2008
Filed March 31, 2009
Form 10-Q for the Fiscal-Quarter ended March 31, 2009
File No. 000-18170

Dear Mr. Rice:

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. Where indicated, we think you should revise your documents 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 information so we may better understand your disclosure. After reviewing this information, we may 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 any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the Fiscal Year ended December 31, 2008

Item 9A. Controls and Procedures, page 20

1. Your disclosure on page 20 referring to the lack of a testing phase of the operating effectiveness of your internal controls as well as the discussions indicating that the company will be able to provide a full and complete evaluation of the effectiveness of its internal control over financial reporting in its Form 10-K filing for the year ending December 31, 2009, appear to indicate that your management did not complete its assessment of internal control over financial reporting as of December 31, 2008. If your management has not yet completed its assessment, we ask that you complete your evaluation and amend your filing within 30 calendar days to provide the required management's report on internal control over financial reporting.

In completing your evaluation, you may find the following documents helpful:

- the Commission's release *Amendments to Rules Regarding Management's Report on Internal Control Over Financial Reporting* (Securities Act Release 8809/Financial Reporting Release 76). You can find this release at:
<http://www.sec.gov/rules/final/2007/33-8809.pdf>;
- the Commission's release *Commission Guidance Regarding Management's Report on Internal Control Over Financial Reporting Under Section 13(a) or 15(d) of the Securities Exchange Act of 1934* (Securities Act Release 8010/Financial Reporting Release 77). You can find this release at:
<http://sec.gov/rules/interp/2007/33-8810.pdf>; and
- the "Sarbanes-Oxley Section 404 – A Guide for Small Business" brochure at:
(<http://www.sec.gov/info/smallbus/404guide.shtml>).

In addition, please evaluate whether management's failure to perform or complete its report on internal control over financial reporting impacts its conclusions regarding the effectiveness of your disclosure controls and procedures as of the end of the fiscal year covered by the report and, as appropriate, revise your conclusion of the effectiveness of disclosure controls and procedures at December 31, 2008. In particular, please consider the definition of disclosure controls and procedures provided in Rule 13a-15(e), which indicates that effective controls and procedures would ensure that information required to be disclosed by the issuer is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms. In addition, as discussed in Compliance and Disclosure Interpretation 115.02, which you can find at <http://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm>, failure to file management's report on Internal Control over Financial Reporting rendered your annual report materially deficient and also rendered the company not timely or current in its Exchange Act Reporting.

2. Further, please note that under Item 308T(a)(3), you must disclose any material weakness in your internal control over financial reporting. As such, management must complete its assessment of internal control over financial reporting as of December 31, 2008 in order to be able to identify and disclose those material weaknesses.
3. Please amend the filing to include the statement required by paragraph (a)(4) of Item 308T regarding the attestation report of the registered public accounting firm.

Financial Statements, page F-1

Note 1. Organization and Significant Accounting Policies, page F-7

4. In future filings please include any disclosure required by paragraph 40(c) of SFAS 128 related to securities that could potentially dilute basic EPS in the future that were not included in the computation of diluted EPS because to do so would have been antidilutive for the periods presented.

Note 2. Financial Condition, page F-10

5. In future filings please clarify your disclosure to refer to substantial doubt about the company's ability to continue as a going concern.

Note 6. Shareholders' Equity, page F-13

6. We note that you have warrants outstanding. Please tell us and in future filings please disclose your accounting policy for the acquisition of goods or services other than employee services in share-based payment transactions and include any disclosures required by paragraph 65 of SFAS 123R. Refer to EITF 96-18.
7. In future filings please disclose how you determined your volatility and risk free rate consistent with paragraph A240(e)(2) of SFAS 123R.

Note 9. Concentration of Risk, page F-17

8. In future filings please disclose the total amount of revenues from each external customer whose revenues represent 10 percent or more of your revenues consistent with paragraph 39 of SFAS 131.

Exhibit 31

9. We note that you filed your Principal Executive Officer and Principal Financial Officer certifications under Item 601(b)(31) of Regulation S-K. Please revise these certifications to include the introductory language of paragraph 4 and the language of paragraph 4(b) of

Item 601(b)(31) of Regulation S-K. This comment also applies to your Form 10-Q for the fiscal quarter ended March 31, 2009. Accordingly, please file amendments to both the Form 10-K and Form 10-Q.

10. We note that that you replaced the word “registrant” with “small business issuer” in paragraphs 3, 4(a), 4(c), 4(d), 5, 5(a) and 5(b) of the certifications. We also note that you added the word ‘I’ at the end of paragraph 4. When you amend your filing, please also revise the certifications to present them in the exact form as set forth in Item 601(b)(31) of Regulation S-K. Further, please ensure that all certifications, including the Section 906 certification furnished in accordance with Item 601(b)(32) of Regulation S-K, refer to the proper report type (i.e., Form 10-K) and period.

Form 10-Q for the Fiscal Quarter ended March 31, 2009

Item 4T. Controls and Procedures, page 11

11. We note your disclosure that your Chief Executive/Chief Financial Officer believes that your controls and procedures are effective “to ensure that it is able to collect, process and disclose the information required to be disclosed in the reports that are filed with the SEC within the required time periods.” The language that is currently included after the word effective in your disclosure appears to be superfluous, since the meaning of disclosure controls and procedures is established by Rule 13a-15(e) of the Exchange Act. Please remove the language in your future filings, including any amendments, or revise the disclosure in those filings so that the language that appears after the word effective is substantially similar in all material respects to the language that appears in the entire two-sentence definition of “disclosure controls and procedures” set forth in Rule 13a-15(e).

Exhibit 32

12. We note that your Section 906 certification furnished in accordance with Item 601(b)(32) of Regulation S-K improperly refers to the period ended September 30, 2008. Please file an amendment to your Form 10-Q that includes the entire filing together with a Section 906 certification that refers to the proper March 31, 2009 period.

As appropriate, please amend your filings 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 amendments to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments.

Michael Rice
BioLife Solutions, Inc.
June 4, 2009
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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 all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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 connection with responding to our comments, please provide, in writing, a 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Kevin Kuhar, Staff Accountant, at (202) 551-3662 or me at (202) 551-3604 if you have questions regarding these 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,

Kate Tillan
Assistant Chief Accountant