

February 10, 2015

VIA EDGAR

Ms. Tia L. Jenkins
Senior Assistant Chief Accountant
Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549

Re: **Enzo Biochem, Inc.**
Form 10-K for Fiscal Year Ended July 31, 2014
Filed October 9, 2014
File No. 001-00974

Dear Ms. Jenkins:

On behalf of Enzo Biochem, Inc. (the "Company"), set forth below are the Company's responses to the letter dated January 30, 2015 (the "Comment Letter"), containing the comments of the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") to the Company's annual report on Form 10-K for the fiscal year ended July 31, 2014 (the "2014 Form 10-K").

For ease of review, the Staff's numbered comments from the Comment Letter are restated below in bold type followed by the Company's responses thereto. Capitalized terms used in this letter but not defined herein have the meanings ascribed to such terms in the 2014 Form 10-K.

Form 10-K for Fiscal Year Ended July 31, 2014

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 41

Liquidity and Capital Resources, page 47

1. **We note you received a waiver from the Lender for non-compliance with a financial covenant and the lender modified various financial covenants relating to fiscal 2014. We further note your disclosure on page F-22 that states the Credit Agreement requires maximum levels of cash usage and minimum levels of liquidity, as defined, and provides for increased liquidity levels if operating results are not achieved. It appears to us that your Credit Agreement is a material agreement, that the covenants are material terms of the Credit Agreement and that information about the covenants would be material to an investor's understanding of the Company's financial condition and liquidity. Please describe to us the nature of the waiver received from the Lender to cure non-compliance with the financial covenant. In addition, please provide us with draft disclosure of the following information to be included in future filings:**
 - **The material terms of the debt covenants, including quantification of the amount or limit required for compliance with any financial covenants as compared to your actual results.**
 - **The likelihood of failing a financial covenant or obtaining a waiver in the future.**
 - **The actual or reasonably likely effects of compliance or non-compliance with the covenants on the Company's financial condition and liquidity.**

Response: The nature of the waiver received from the Lender to cure non-compliance was the Lender's agreement to waive existing defaults with respect to (a) the Company's failure to meet the Cash Burn (usage) test (as defined in the Credit Agreement and below) for the month ended July 31, 2013 and (b) the Company's failure to deliver to the Lender by September 30, 2013 a landlord waiver for a rental property, which was required to be delivered pursuant to the terms of the Credit Agreement.

Draft disclosure of the above requested information for the Credit Agreement which will be included in future Form 10-K filing for the fiscal year ending July 31, 2015, is expected to read as follows:

The Credit Agreement includes customary affirmative and negative covenants and events of default. The terms of the debt covenants include:

The minimum balance the Company must borrow at any time is \$2.0 million. At July 31, 2015, the loan balance was approximately \$x.x million.

The Company must maintain a Minimum Liquidity, as defined in the Credit Agreement, of not less than \$3.0 million. At July 31, 2015, the Company's Minimum Liquidity was \$x.x million.

The quarterly Cash Burn, as defined in the Credit Agreement, must be greater than zero. During the three months ended July 31, 2015, the Cash Burn was positive in the amount of \$x.x million.

Based on its current level of Minimum Liquidity and Cash Burn, the Company believes it would be in compliance with the financial covenants in future periods; however there are no assurances of such compliance. Based on our ability to comply with financial covenants in the past, our ability to obtain covenant waivers previously, and our expected future performance, we believe we would be able to cure a non-compliance event and obtain a Lender waiver. The Company currently believes that the Lender would be willing to negotiate and provide waivers to the Company in the event of non-compliance with covenants, although there can be no assurances. In addition, the Company believes the effects of non-compliance with the covenants would not have a material effect on our financial condition and liquidity due to cash provided by operating cash flows and funds available under the Company's Controlled Equity Offering program.

2. **Please confirm to us that in future filings you will include a discussion of your liquidity and capital resources for the three-year period covered by the financial statements. We note you have included your analysis for the year ended July 31, 2014 compared to July 31, 2013. However, you have not included your analysis for the year ended July 31, 2013 compared to July 31, 2012.**

Response: The Company acknowledges the Staff's comment and confirms that in future filings, the Company will include a discussion of its liquidity and capital resources for the three-year period covered by the financial statements.

Critical Accounting Policies, page 49
Accounts Receivable and Allowance for Doubtful Accounts, page 51

3. **We note the reduction in your allowance for doubtful accounts as a percentage of total accounts receivable from July 31, 2013 (18.1%) to July 31, 2014 (14.7%). Please describe to us the factor(s) that resulted in the reduction (e.g. changes in the category of outstanding receivables, the composition of the aging or the Company's accounting policy or methodology with respect to the allowance from the prior period). Also confirm to us that you will clearly describe any significant factor(s) that influenced management's judgment with respect to the estimate of allowance for doubtful accounts in future filings.**

Response: The allowance for doubtful accounts includes the balances, after receipt of the approved settlements from third party payers, for the insufficient diagnosis information received from the ordering physician which results in denials of payment, and the uncollectible portion of receivables from self-payers, including deductibles and copayments, which are subject to credit risk and patients' ability to pay. The allowance for doubtful accounts is primarily related to our estimate of the uncollectible portion of accounts receivables in the Clinical Labs segment from self-payers (i.e. the uninsured). As disclosed in the "Critical Accounting Policies" section on page 50, our patient self-pay revenues for the year ended July 31, 2014 were \$11.2 million or 19% of the Clinical Lab's segment's total, versus \$12.2 million or 22% for the year ended July 31, 2013. As we reported on page 51, our allowance for doubtful accounts was \$2.1 million and \$2.7 million as of July 31, 2014 and 2013, respectively. The factors we considered in our estimate of the allowance included the Clinical Lab segment's aged gross receivables for self-pay patients outstanding 60 days or less, which were 75% of that segment's total as of July 31, 2014 versus 69% as of July 31, 2013, (as disclosed on page 53), indicating improvement in the quality and aging of our receivables due to better collection procedures, less bad debt and lower account write-offs.

The Company confirms that it will clearly describe any significant factors that influenced management's judgment with respect to the estimate of allowance for doubtful accounts in future filings.

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In responding to the Staff's comments, the Company acknowledges that: (i) the Company is responsible for the adequacy and accuracy of the disclosure in its filing; (ii) Staff comments or changes to disclosure in response to comments do not foreclose the Commission from taking any action with respect to the filing; and (iii) the Company may not assert Staff comments in a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Should you have any questions or comments concerning the foregoing, please do not hesitate to contact the undersigned at (212) 583-0100 or the Company's counsel, Robert H. Cohen of McDermott Will & Emery LLP, at (212) 547-5885.

Very truly yours,

/s/ Barry W. Weiner
Barry W. Weiner
President, Chief Financial Officer and
Principal Accounting Officer

cc: Dr. Elazar Rabbani, Chief Executive Officer
Enzo Biochem, Inc.
Robert H. Cohen, Esq.
McDermott Will & Emery LLP