

Mail Stop 4561

January 26, 2007

John D. Yingling  
Vice President and Chief Financial Officer  
Tripos, Inc.  
1699 S. Hanley Rd  
St. Louis, MO 63144

**Re: Tripos, Inc.  
Form 10-K for the fiscal year ended December 31, 2005  
Form 10-Q for the quarterly period ended September 30, 2006  
File No. 000-23666**

Dear Mr. Yingling:

We have reviewed your response letter dated December 22, 2006 and the above referenced filings and have the following additional 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 comments are 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 any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-Q for the Quarterly Period Ended September 30, 2006

Notes to Unaudited Consolidated Financial Statements

(9) Goodwill and Intangible Assets, page 17

1. We note your response to prior comment 4 with respect to your impairment analysis of the goodwill allocated to your Discovery Research segment. Please further clarify why the completion of the Pfizer contract and the loss of the related cash flows did not impact the carrying value of your goodwill recorded at

December 31, 2005. That is, clarify why the loss of this significant cash flow source did not impact your estimates of future cash flows; we refer you to paragraph 24 of SFAS 141. Further, clarify how the fair value of your Discovery Research segment as calculated in your limited impairment review performed in the third quarter of fiscal year 2006 was representative of the amount that this segment could be bought or sold in a current transaction between willing parties; we refer you to paragraph 23 of SFAS 141. In this respect, it appears you were in negotiations to sell this segment for an amount less than the carrying value at or near quarter-end. In addition, clarify how you considered the \$5.5 million of operating losses incurred by this segment for the nine-months ended September 30, 2006 when concluding that the discounted cash flows supported the carrying value of your goodwill.

(14) Segments, page 21

2. We note your response to prior comment number 5 with respect to your impairment analysis of your Discovery Research segment's long-lived assets. Please further clarify why you continued to solely utilize a discounted cash flow model assuming continued operations to evaluate your long-lived assets. Tell us why you did not consider the amounts being offered for the assets of this segment when calculating the fair value of such assets, even if the negotiations were not consummated. In this respect, it would appear the initial amounts that were offered for the assets of this segment were less than carrying value if the transactions result in a \$3.6 million loss. In addition, clarify why the values determined by your discounted cash flow model resulted in a significantly different value than the amount a third party was willing to pay for such assets.

Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please submit all correspondence and supplemental materials on EDGAR as required by Rule 101 of Regulation S-T. You may wish to provide us with marked copies of any amendment to expedite our review. Please furnish a cover letter with any 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 any amendment and your responses to our comments.

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You may contact Jason Niethamer at 202-551-3855, Chris White at 202-551-3461 or me at 202-551-3730 if you have questions regarding the above comments.

Sincerely,

Stephen Krikorian  
Accounting Branch Chief