

Mail Stop 4720

August 26, 2009

Christopher Anzalone  
Chief Executive Officer  
Arrowhead Research Corporation  
201 South Lake Avenue, Suite 703  
Pasadena, CA 91101

**Re: Arrowhead Research Corporation  
Schedule 14A  
Filed August 18, 2009  
File No. 000-21898**

Dear Mr. Anzalone:

We have limited our review of your filing to those issues we have addressed in our 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 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.

1. In your disclosure concerning Proposal Two, please include a discussion about the total number of authorized shares that will be available as a result of the combined effect of the Proposal One, to effect a reverse stock split, and Proposal Two, to increase the number of authorized shares.
2. We note that in your disclosure concerning Proposal Two you state that, "The Company has no current plans for the issuance of any new shares that would be authorized by this proposal." However, this appears to contradict your plans to issue newly authorized shares as a result of the reverse stock split in Proposal One and to issue options pursuant to Proposal Three. Please revise to reconcile this discrepancy. In addition, your discussion of plans to issue shares that have been newly authorized should also encompass authorized shares that will become available for issuance as a result of the anticipated reverse stock split.

3. In your disclosure concerning Proposal Three, please discuss the exercise price of the options surrendered in contrast to the current market price of the common stock, and discuss how this impacts the value of the options surrendered relative to the options granted.
4. In your disclosure concerning Proposal Three, please provide a discussion of the conflicts of interest that may exist because officers and directors who are in a position to influence the Company's actions will be recipients of many of the new option awards.

\* \* \*

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 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.

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.

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Please contact Mike Rosenthal at (202) 551-3674 with any questions.

Sincerely,

Jeffrey Riedler  
Assistant Director

cc: Ryan Murr  
Rachael Simonoff Wexler  
Goodwin Procter LLP  
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