



DIVISION OF
CORPORATION FINANCE

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

June 4, 2014

Via E-mail

Terrence W. Norchi
President and Chief Executive Officer
Arch Therapeutics Inc.
20 William St., Suite 270
Wellesley, MA 02481

**Re: Arch Therapeutics Inc.
Amendment No. 1 to Registration Statement on Form S-1
Filed May 5, 2014
File No. 333-194745**

Dear Mr. Norchi:

We have reviewed your registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

General

1. We note your response to comment 2 in our letter dated April 18, 2014. It continues to appear that the subject transaction is appropriately characterized as a primary offering, for reasons including the limited number of shareholders who are registering large numbers of shares relative to the number of shares owned by non-affiliates. Because you are not eligible to conduct a primary offering on Form S-3, you are not eligible to conduct a primary at-the-market offering under Rule 415(a)(4). Please revise to the terms of your offering to provide that all offers and sales by selling stockholders will be made at the disclosed fixed price for the duration of the offering and to identify the selling shareholders as underwriters. Alternatively, substantially reduce the size of the offering, in particular the number of shares being offered by Cranshire Capital Master Fund, Ltd., Anson Investments Master Fund, Ltd., Capital Ventures International and Hen Hong Ltd.

2. We note your response to comment 9 in our letter dated April 18, 2014. In an appropriate place in your prospectus please provide the information you provided in your response.

Summary, page 3

3. Please revise your disclosure to highlight the fact that your current stockholders will experience dilution upon the exercise of the warrants issued in connection with the Private Placement Financing and provide some indication of the magnitude of such dilution. In addition, please revise the heading of the risk factor “If we issue additional shares in the future, our existing shareholders will be diluted” to clarify that this includes shares to be issued upon exercise of the warrants issued in connection with the Private Placement Financing.

The Offering, page 8

4. You revised your disclosure to indicate that the selling securityholders are offering 45,600,000 shares of common stock, but it appears that they are offering 60,648,000 shares. Please advise or revise.

Selling Securityholders, page 26

5. Various footnotes to the table indicate that the table does not reflect specific amounts of shares issuable to the selling securityholders that would cause such holders to have holdings above the 4.9% cap contained in the warrant agreements. Please revise such language to clarify that this is this case for information in the table other than in the second column.

Selling Securityholders, page 26

6. We note your response to comment 17 in our letter dated April 18, 2014. Please disclose the relationship between Mr. Dhillon and Dr. Dhillon, as it appears to be a “material relationship” between a selling securityholder and an affiliate of the company. Refer to Item 507 of Regulation S-K.

Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters, page 70

7. We note your response to comment 25 in our letter dated April 18, 2014. Please revise footnote 4 or the introductory language to this table to clarify that the table is presented taking into account the 4.9% ownership cap to which Cranshire Capital Master Fund, Ltd. and Equitec Specialists, LLC are subject. In addition, according to the Selling Securityholders table, it appears that each of Anson Investments Master Fund, Ltd., Capital Ventures International and Heng Hong Ltd. beneficially owns at least 5% of the outstanding stock of the company; please revise this table accordingly or tell us why such disclosure is not required.

Consolidated Financial Statements, page F-1

Consolidated Statements of Changes in Stockholders' Equity (Deficit), page F-5

8. We note that the total proceeds received from the issuance of common stock and warrants on July 3 and August 30 excludes the par value of the common shares issued. Please revise or advise.
9. We reviewed your response to comment 30 in our letter dated April 18, 2014 and the revisions to your disclosure. Please tell us who held the 26,330,000 shares in Almah that were cancelled after the 11 to 1 stock split and provide us a summary of who owned the 41,500,000 shares outstanding immediately before the Merger.
10. We reviewed your response to comment 31 in our letter dated April 18, 2014 and the revisions to your disclosure. Please tell us whether the number of shares of common stock issued to Dr. Norchi and Dr. Dhillon in exchange for their ABS shares is included in the number of shares outstanding as of September 30, 2012. If not, please tell us why. In addition, it appears that the shareholders of Almah retained 41,500,000 shares in the combined entity and that the shareholders and convertible note holders of ABS received 14,645,237 shares in exchange for their ABS shares and convertible debt. As such, it appears that the shareholders of Almah as group retained a controlling interest in the combined entity. Please tell us how you determined that ABS was the accounting acquirer. Refer to ASC 805-10-25-4 and ASC 805-10-55-11 through ASC 805-10-55-15 for guidance.

Consolidated Statements of Cash Flows, page F-6

11. Please show us how to reconcile the change in accrued interest payable for fiscal 2013 to the non-cash and cash interest transactions presented in the statement. In doing so, please tell us (i) the nature of the non-cash interest expense on convertible notes payable and related party note payable and (ii) the amount of accrued interest included in the exchange of convertible notes and related accrued interest for common stock presented in supplemental disclosure of cash flow information and non-cash financing activities.

Exhibit 5.1

12. We note the revisions to your opinion in response to comment 34 in our letter dated April 18, 2014, however it is unclear to which shares the defined term "Warrant Shares" refers. Please revise.

Terrence W. Norchi
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Please contact Tony Watson, Staff Accountant, at (202) 551-3318 or William Thompson, Accounting Branch Chief, at (202) 551-3344 if you have any questions regarding comments on the financial statements and related matters. Please contact Scott Anderegg, Attorney Adviser, at (202) 551-3342, or Lilyanna Peyser, Special Counsel, at (202) 551-3222 with any other questions.

Sincerely,

/s/ Lilyanna L. Peyser for

Mara Ransom
Assistant Director