



DIVISION OF  
CORPORATION FINANCE

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

October 15, 2010

Dr. Lawrence Helson  
Chief Executive Officer and Chief Financial Officer  
SignPath Pharma Inc.  
1375 California Road  
Quakertown, PA 18951

**Re: SignPath Pharma Inc.  
Form 10-Q for the Quarter Ended June 30, 2010  
Filed August 23, 2010  
File No. 333-158474**

Dear Dr. Helson:

We have limited our review of your filing to the issues we have addressed in our comments. In our comments, we ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. Where the comment requests you to revise disclosure, the information you provide should show us what the revised disclosure will look like and identify the annual or quarterly filing, as applicable, in which you intend to first include it. If you do not believe a comment applies to your facts and circumstances, please tell us why in your response. Please furnish us a letter on EDGAR under the form type label CORRESP that keys your response to our comment.

After reviewing the information you provide in response to these comments, we may have additional comments and/or request that you amend your filing.

Note 9 – Restatement of Financial Statements, page 12

1. While the restatements described here for the quarterly periods ended March 31, 2009, June 30, 2009, September 30, 2009, and March 31, 2010 and the annual period ended December 31, 2009 appear material, you have not amended any Forms 10-Q or 10-K relating to these periods. Please tell us why you do not believe these Forms need to be amended or when you plan to amend them.
2. Please provide a description of the terms that triggered preferred stock and warrants to be classified as liabilities. For example, if exercise price reset feature triggered this accounting, describe how the exercise price will be adjusted and the inputs considered in the adjustment.

Item 4T. Controls and Procedures

Evaluation of disclosure Controls and Procedures, page 42

3. Please revise your discussion to describe the weaknesses that resulted in the accounting errors. Furthermore, disclose the steps you have taken to remediate this weakness, if any.

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 the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. 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 responding to our comment, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filings;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filings; 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.

Please contact Kei Nakada, Staff Accountant, at (202) 551-3659 or Gus Rodriguez, Accounting Branch Chief, at (202) 551-3752 if you have questions regarding the comments. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg  
Senior Assistant Chief Accountant