



DIVISION OF
CORPORATION FINANCE

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

December 29, 2010

William A. Carter, M.D.
Chief Executive Officer
Hemispherx Biopharma, Inc.
1617 JFK Boulevard
Philadelphia, PA 19103

**Re: Hemispherx Biopharma, Inc.
Form 10-K for the year ended December 31, 2009
Form 10-K/A for the year ended December 31, 2009
File No. 1-13441**

Dear Mr. Carter:

We have reviewed your December 23, 2010 response to our December 3, 2010 letter and have the following comments.

Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide this information. Please furnish us a letter on EDGAR under the form type label CORRESP that keys your response to our comments.

After reviewing the information provided, we may raise additional comments.

Appendix A to your December 23, 2010 response

Critical Accounting Policies

1. We note you identify warrant liability as a critical policy in your proposed revised disclosure to be included in an amendment to your December 31, 2010 Form 10-K. The intent of identifying critical policies is to identify those that require material assumptions and estimates which if different assumptions and estimates were made would materially affect the financial statements. Please revise your proposed disclosure to explain how this policy requires significant estimates and quantify the effect on the financial statements of changes in estimates in each year presented and the reasons for those changes. Please also disclose why you selected the volatility measure that you selected. If the volatility assumption is based on an average method, please disclose why you chose not to rely exclusively on your historical volatility. Please also disclose the peer group of companies used to determine the average volatility assumption, the weight given to companies in the peer group in computing the average volatility assumption and whether the companies in the peer group of companies are similar to you in terms of size, product and market capitalization.

(17) Fair Value

2. Please revise your disclosure regarding the warrant liability classified as level 3 to include a description of the inputs and valuation technique(s) used to measure fair value and a discussion of changes in valuation techniques and related inputs, if any, during the period as well as a reconciliation of the beginning and ending balances, separately presenting changes during the period. Refer to ASC 820-10-50.
3. Please provide us supplementally with the inputs used in the Black Scholes model at each valuation date (March 2010, June 2009/2010, September 2009/2010), to determine the fair value of the warrant liability, similar to that provided for the period ended December 31, 2009. In your response, explain why any assumptions remained consistent from those used at December 31, 2009 (i.e. volatility), if true, and the accounting literature that supports your accounting treatment.

You may contact Sasha Parikh, Staff Accountant, at (202) 551-3627 or Gus Rodriguez, Accounting Branch Chief, at (202) 551-3752 if you have questions regarding the processing of your response as well as any questions regarding the comment. In this regard, do not hesitate to contact me at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief Accountant