



DIVISION OF
CORPORATION FINANCE

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

November 26, 2013

Via E-mail

Scott Burrell
Chief Financial Officer
CombiMatrix Corporation
310 Goddard, Suite 150
Irvine, CA 92618

**Re: CombiMatrix Corporation
Amendment No. 2 to Registration Statement on Form S-1
Filed November 21, 2013
File No. 333-191211**

Dear Mr. Burrell:

We have limited our review of your registration statement to those issues we have addressed in our 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. Where 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.

Prospectus Cover Page

1. Please disclose the number of shares underlying each warrant being offered. Also please revise the heading you chose to include under your logo to indicate the number of warrants being offered.

The Offering, page 5

2. Footnote 2 suggests that the number of underlying common shares is assumed; however, your prospectus cover apparently discloses the actual number of underlying shares. Because the number of shares of common stock into which the series D preferred stock is convertible and the number of shares of common stock underlying each warrant must be disclosed, please remove any implication that such disclosure is merely an assumption.

Over-Allotment Option, page 26

3. We note your disclosure that the underwriter may purchase up to 1,500 additional shares of Series D preferred stock “and/or” additional warrants to cover over-allotments. Please:
- tell us the authority on which you rely to offer to the underwriter an over-allotment option to purchase securities other than the units that the underwriter is offering to the public.
 - tell us the authority on why you rely to determine the size of the over-allotment option, given your disclosure on the prospectus cover that you may sell 1,500 units and warrants to purchase 617,284 in the over-allotment option.
 - clarify how the underwriter will determine whether to purchase the series D preferred stock or the warrants.
 - disclose how you will determine the price for each security included in the over-allotment option.
 - clarify, if true, that all investors who purchase securities from the underwriter in this offering will receive a unit that includes a share of series D preferred stock and a warrant, and that no purchaser will receive (1) a warrant without the accompanying share of series D preferred stock or (2) a share of series D preferred stock with the accompanying warrant.
 - ensure that your disclosure in the section captioned “Stabilization, Short Positions and Penalty Bids” is consistent with your response to this comment. In this regard, we note your disclosure on your prospectus cover page that neither the Series D preferred stock nor the warrants will be listed.

Determination of Offering Price, page 26

4. Please provide more specific information regarding how you will determine the conversion price of the series D preferred stock and the exercise price of the warrants. For example, we note your reference to 110% of the market price on page 24. Is that the percentage that you will use to determine the exercise price of the warrants based on the market price of your common stock on the date that you sign the underwriting agreement? We also note that on page 6 you assume that the conversion price is based on the closing price of your common stock. Do you intend to determine the conversion price based on the market price of your common stock on the date that you sign the underwriting agreement? If not, please tell us why you believe your disclosure represents a *bona fide* estimate of the prices.

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 Act of 1933 and all applicable Securities 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.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Please contact Brian Soares at (202) 551-3580 or me at (202) 551-3617 with any questions.

Sincerely,

/s/ Russell Mancuso

Russell Mancuso
Branch Chief

cc (via e-mail): Parker A. Schweich, Esq.
Dorsey & Whitney LLP