

April 19, 2013

Via EDGAR and Overnight Delivery

Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549-3720

Attention: Amanda Ravitz
Tim Buchmiller
Brian Soares

Re: **Pacific Biosciences of California, Inc.**
Registration Statement on Form S-3
Filed March 19, 2013
File No. 333-187363

Ladies and Gentlemen:

On behalf of Pacific Biosciences of California, Inc. (the “**Company**”), we submit this letter in response to comments from the staff (the “**Staff**”) of the Securities and Exchange Commission (the “**Commission**”) received by letter dated April 5, 2013, relating to the Company’s Registration Statement on Form S-3 (File No. 333-187363) filed with the Commission on March 19, 2013 (the “**Registration Statement**”).

On behalf of the Company, we are concurrently filing via EDGAR Amendment No. 1 to the Registration Statement (“**Amendment No. 1**”), and for the convenience of the Staff, we are providing to the Staff by overnight delivery copies of this letter and Amendment No. 1 (including a version marked against the Registration Statement filed on March 19, 2013), in care of Mr. Soares.

In this letter, we have recited the comments from the Staff in italicized, bold type and have followed each comment with the Company’s response. Except as otherwise specifically indicated, page references herein correspond to the page of Amendment No. 1, as applicable.

General

- 1. We note that your Form 10-K incorporates by reference certain sections from your definitive proxy statement. We also note that you have not filed your definitive proxy statement at this time. Please note that the registration statement may not be declared effective until you file the*

definitive proxy statement or an amended Form 10-K which includes all items required by Form 10-K.

The Company acknowledges the Staff's comment and supplementally advises the Staff that it filed its definitive proxy statement on April 16, 2013.

Prospectus Summary, page 1

2. *Please balance your summary by indicating your history of net losses and your accumulated deficit.*

The Company acknowledges the Staff's comment and has revised the disclosure on page 1 to indicate the Company's history of net losses and accumulated deficit.

* * * *

The Company acknowledges 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 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 direct your questions or comments regarding the Company's responses or Amendment No. 1 to me at (650) 849-3240 or to Donna Petkanics at (650) 320-4606. Thank you for your assistance.

Sincerely,

WILSON SONSINI GOODRICH & ROSATI
Professional Corporation

/s/ Andrew Hoffman

Andrew Hoffman, Esq.

Enclosures

cc (w/encl.): Michael Hunkapiller
Susan K. Barnes
Brian B. Dow
Pacific Biosciences of California, Inc.