

SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C.20549

Schedule 13G

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO RULES 13d-1 (b), (c) AND (d)  
AND AMENDMENTS THERETO FILED PURSUANT TO 13d-2 (b)

(Amendment No. \_\_\_\_\_)\*

Pacific Biosciences of California, Inc.  
(Name of Issuer)

Common Stock  
(Title of Class of Securities)

69404D108  
(CUSIP Number)

December 31, 2010  
(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)  
 Rule 13d-1(c)  
 Rule 13d-1(d)

\*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

(Continued on following pages)

Page 1 of 15 Pages  
Exhibit Index Contained on Page 14

1	NAME OF REPORTING PERSONS MDV VII, L.P. ("MDV VII")	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 4,113,179 shares, except that Seventh MDV Partners, L.L.C. ("Seventh MDV"), the general partner of MDV VII, may be deemed to have sole power to vote these shares, and William W. Ericson ("Ericson"), Nancy J. Schoendorf ("Schoendorf") and Jonathan D. Feiber ("Feiber"), members of Seventh MDV, may be deemed to have shared power to vote these shares.
	6	SHARED VOTING POWER See response to row 5.
	7	SOLE DISPOSITIVE POWER 4,113,179 shares, except that Seventh MDV, the general partner of MDV VII, may be deemed to have sole power to dispose of these shares, and Ericson, Schoendorf and Feiber, members of Seventh MDV, may be deemed to have shared power to dispose of these shares.
	8	SHARED DISPOSITIVE POWER See response to row 7.
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	4,113,179
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES	<input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9	7.8%
12	TYPE OF REPORTING PERSON	PN

1	NAME OF REPORTING PERSONS MDV VII Leaders' Fund, L.P. ("MDV VII LF")	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 345,722 shares, except that Seventh MDV, the general partner of MDV VII LF, may be deemed to have sole power to vote these shares, and Ericson, Schoendorf and Feiber, members of Seventh MDV, may be deemed to have shared power to vote these shares.
	6	SHARED VOTING POWER See response to row 5.
	7	SOLE DISPOSITIVE POWER 345,722 shares, except that Seventh MDV, the general partner of MDV VII LF, may be deemed to have sole power to dispose of these shares, and Ericson, Schoendorf and Feiber, members of Seventh MDV, may be deemed to have shared power to dispose of these shares.
	8	SHARED DISPOSITIVE POWER See response to row 7.
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	345,722
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES	<input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9	0.7%
12	TYPE OF REPORTING PERSON	PN

1	NAME OF REPORTING PERSONS MDV ENF VII (A), L.P. ("MDV ENF A")	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 91,731 shares, except that Seventh MDV, the general partner of MDV ENF A, may be deemed to have sole power to vote these shares, and Ericson, Schoendorf and Feiber, members of Seventh MDV, may be deemed to have shared power to vote these shares.
	6	SHARED VOTING POWER See response to row 5.
	7	SOLE DISPOSITIVE POWER 91,731 shares, except that Seventh MDV, the general partner of MDV ENF A, may be deemed to have sole power to dispose of these shares, and Ericson, Schoendorf and Feiber, members of Seventh MDV, may be deemed to have shared power to dispose of these shares.
	8	SHARED DISPOSITIVE POWER See response to row 7.
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	91,731
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES	<input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9	0.2%
12	TYPE OF REPORTING PERSON	PN

1	NAME OF REPORTING PERSONS MDV ENF VII (B), L.P. ("MDV ENF B")	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 47,765 shares, except that Seventh MDV, the general partner of MDV ENF B, may be deemed to have sole power to vote these shares, and Ericson, Schoendorf and Feiber, members of Seventh MDV, may be deemed to have shared power to vote these shares.
	6	SHARED VOTING POWER See response to row 5.
	7	SOLE DISPOSITIVE POWER 47,765 shares, except that Seventh MDV, the general partner of MDV ENF B, may be deemed to have sole power to dispose of these shares, and Ericson, Schoendorf and Feiber, members of Seventh MDV, may be deemed to have shared power to dispose of these shares.
	8	SHARED DISPOSITIVE POWER See response to row 7.
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	47,765
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES	<input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9	0.1%
12	TYPE OF REPORTING PERSON	PN

1	NAME OF REPORTING PERSONS Seventh MDV Partners, L.L.C.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 4,598,397 shares, of which 4,113,179 are directly owned by MDV VII, 345,722 are directly owned by MDV VII LF, 91,731 are directly owned by MDV ENF A and 47,765 are directly owned by MDV ENF B. Seventh MDV, the general partner of MDV VII, MDV VII LF, MDV ENF A and MDV ENF B, may be deemed to have sole power to vote these shares, and Ericson, Schoendorf and Feiber, members of Seventh MDV, may be deemed to have shared power to vote these shares.
	6	SHARED VOTING POWER See response to row 5.
	7	SOLE DISPOSITIVE POWER 4,598,397 shares, of which 4,113,179 are directly owned by MDV VII, 345,722 are directly owned by MDV VII LF, 91,731 are directly owned by MDV ENF A and 47,765 are directly owned by MDV ENF B. Seventh MDV, the general partner of MDV VII, MDV VII LF, MDV ENF A and MDV ENF B, may be deemed to have sole power to dispose of these shares, and Ericson, Schoendorf and Feiber, members of Seventh MDV, may be deemed to have shared power to dispose of these shares.
	8	SHARED DISPOSITIVE POWER See response to row 7.
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	4,598,397
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions)	<input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)	8.7%
12	TYPE OF REPORTING PERSON (See Instructions)	OO

1	NAME OF REPORTING PERSONS William W. Ericson	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION U.S. Citizen	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0shares.
	6	SHARED VOTING POWER 4,598,397 shares, of which 4,113,179 are directly owned by MDV VII, 345,722 are directly owned by MDV VII LF, 91,731 are directly owned by MDV ENF A and 47,765 are directly owned by MDV ENF B. Seventh MDV is the general partner of MDV VII, MDV VII LF, MDV ENF A and MDV ENF B, may be deemed to have sole power to vote these shares, and Feiber and Schoendorf, members of Seventh MDV, may be deemed to have shared power to vote these shares.
	7	SOLE DISPOSITIVE POWER 0 shares.
	8	SHARED DISPOSITIVE POWER 4,598,397 shares, of which 4,113,179 are directly owned by MDV VII, 345,722 are directly owned by MDV VII LF, 91,731 are directly owned by MDV ENF A and 47,765 are directly owned by MDV ENF B, and Feiber and Schoendorf, members of Seventh MDV, may be deemed to have shared power to dispose of these shares.
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	4,598,397
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES	<input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9	8.7%
12	TYPE OF REPORTING PERSON	IN

1	NAME OF REPORTING PERSONS Nancy J. Schoendorf	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION U.S. Citizen	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0 shares.
	6	SHARED VOTING POWER 4,598,397 shares, of which 4,113,179 are directly owned by MDV VII, 345,722 are directly owned by MDV VII LF, 91,731 are directly owned by MDV ENF A and 47,765 are directly owned by MDV ENF B. Seventh MDV is the general partner of MDV VII, MDV VII LF, MDV ENF A and MDV ENF B, may be deemed to have sole power to vote these shares, and Ericson and Feiber, members of Seventh MDV, may be deemed to have shared power to vote these shares.
	7	SOLE DISPOSITIVE POWER 0 shares.
	8	SHARED DISPOSITIVE POWER 4,598,397 shares, of which 4,113,179 are directly owned by MDV VII, 345,722 are directly owned by MDV VII LF, 91,731 are directly owned by MDV ENF A and 47,765 are directly owned by MDV ENF B. Seventh MDV is the general partner of MDV VII, MDV VII LF, MDV ENF A and MDV ENF B, and Ericson and Feiber, members of Seventh MDV, may be deemed to have shared power to dispose of these shares.
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	4,598,397
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES	<input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9	8.7%
12	TYPE OF REPORTING PERSON	IN

1	NAME OF REPORTING PERSONS Jonathan D. Feiber	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION U.S. Citizen	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0 shares.
	6	SHARED VOTING POWER 4,598,397 shares, of which 4,113,179 are directly owned by MDV VII, 345,722 are directly owned by MDV VII LF, 91,731 are directly owned by MDV ENF A and 47,765 are directly owned by MDV ENF B. Seventh MDV is the general partner of MDV VII, MDV VII LF, MDV ENF A and MDV ENF B, and Ericson and Schoendorf, members of Seventh MDV, may be deemed to have shared power to vote these shares.
	7	SOLE DISPOSITIVE POWER 0 shares.
	8	SHARED DISPOSITIVE POWER 4,598,397 shares, of which 4,113,179 are directly owned by MDV VII, 345,722 are directly owned by MDV VII LF, 91,731 are directly owned by MDV ENF A and 47,765 are directly owned by MDV ENF B. Seventh MDV is the general partner of MDV VII, MDV VII LF, MDV ENF A and MDV ENF B, and Ericson and Schoendorf, members of Seventh MDV, may be deemed to have shared power to dispose of these shares.
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	4,598,397
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES	<input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9	8.7%
12	TYPE OF REPORTING PERSON	IN

ITEM 1(A). NAME OF ISSUER

Pacific Biosciences of California, Inc.

ITEM 1(B). ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES

1380 Willow Road  
Menlo Park, CA94025

ITEM 2(A). NAME OF PERSONS FILING

This Statement is filed by MDV VII, L.P., a Delaware limited partnership ("MDV VII"), MDV VII Leaders' Fund, L.P., a Delaware limited partnership ("MDV VII LF"), MDV ENF VII (A), L.P., a Delaware limited partnership ("MDV ENF A"), MDV ENF VII (B), L.P., a Delaware limited partnership ("MDV ENF B"), Seventh MDV Partners, L.L.C., a Delaware limited liability company ("Seventh MDV"), William W. Ericson ("Ericson"), Nancy J. Schoendorf ("Schoendorf") and Jonathan D. Feiber ("Feiber"). The foregoing entities and individuals are collectively referred to as the "Reporting Persons."

Seventh MDV, the general partner of MDV VII, MDV VII LF, MDV ENF A and MDV ENF B, may be deemed to have sole power to vote and sole power to dispose of shares of the issuer directly owned by MDV VII, MDV VII LF, MDV ENF A and MDV ENF B. Ericson, Schoendorf and Feiber are members of Seventh MDV and may be deemed to have shared power to vote and shared power to dispose of shares of the issuer directly owned by MDV VII, MDV VII LF, MDV ENF A and MDV ENF B.

ITEM 2(B). ADDRESS OF PRINCIPAL OFFICE

The address for each of the Reporting Persons is:

Mohr, Davidow Ventures  
3000 Sand Hill Road, Building 3, Suite 290  
Menlo Park, California 94025

ITEM 2(C). CITIZENSHIP

MDV VII, MDV VII LF, MDV ENF A and MDV ENF B are Delaware limited partnerships. Seventh MDV is a Delaware limited liability company. Ericson, Schoendorf and Feiber are United States citizens.

ITEM 2(D) AND (E). TITLE OF CLASS OF SECURITIES AND CUSIP NUMBER

Common Stock, \$0.001 par value  
CUSIP # 69404D108

ITEM 3. Not Applicable.

ITEM 4. OWNERSHIP

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

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- (a) Amount beneficially owned:  
See Row 9 of cover page for each Reporting Person.
- (b) Percent of Class:  
See Row 11 of cover page for each Reporting Person.
- (c) Number of shares as to which such person has:
- (i) Sole power to vote or to direct the vote:  
See Row 5 of cover page for each Reporting Person.
  - (ii) Shared power to vote or to direct the vote:  
See Row 6 of cover page for each Reporting Person.
  - (iii) Sole power to dispose or to direct the disposition of:  
See Row 7 of cover page for each Reporting Person.
  - (iv) Shared power to dispose or to direct the disposition of:  
See Row 8 of cover page for each Reporting Person.

ITEM 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS

Not applicable.

ITEM 6. OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER PERSON

Under certain circumstances set forth in the limited partnership agreements of MDV VII, MDV VII LF, MDV ENF A and MDV ENF B, and the limited liability company agreement of Seventh MDV, the general and limited partners or members, as the case may be, of each of such entities may be deemed to have the right to receive dividends from, or the proceeds from, the sale of shares of the issuer owned by each such entity of which they are a partner or member, as the case may be.

ITEM 7. IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH ACQUIRED THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY

Not applicable.

ITEM 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP.

Not applicable.

ITEM 9. NOTICE OF DISSOLUTION OF GROUP

Not applicable.

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ITEM 10. CERTIFICATIONS

Not applicable.

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SIGNATURES

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Date: March 29, 2011

MDV VII, L.P.

By Seventh MDV Partners, L.L.C.  
Its General Partner

/s/ Jonathan D. Feiber

Jonathan D. Feiber, Managing Member

MDV VII Leaders' Fund, L.P.

By Seventh MDV Partners, L.L.C.  
Its General Partner

/s/ Jonathan D. Feiber

Jonathan D. Feiber, Managing Member

MDV ENF VII (A), L.P.

By Seventh MDV Partners, L.L.C.  
Its General Partner

/s/ Jonathan D. Feiber

Jonathan D. Feiber, Managing Member

MDV ENF VII (B), L.P.

By Seventh MDV Partners, L.L.C.  
Its General Partner

/s/ Jonathan D. Feiber

Jonathan D. Feiber, Managing Member

Seventh MDV Partners, L.L.C.

/s/ Jonathan D. Feiber

Jonathan D. Feiber, Managing Member

Nancy J. Schoendorf

/s/ Nancy J. Schoendorf

Jonathan D. Feiber

/s/ Jonathan D. Feiber

William W. Ericson

/s/ William W. Ericson

The original statement shall be signed by each person on whose behalf the statement is filed or his authorized representative. If the statement is signed on behalf of a person by his authorized representative other than an executive officer or general partner of the filing person, evidence of the representative's authority to sign on behalf of such person shall be filed with the statement, provided, however, that a power of attorney for this purpose which is already on file with the Commission may be incorporated by reference. The name and any title of each person who signs the statement shall be typed or printed beneath his signature.

*NOTE:* Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See §240.13d-7 for other parties for whom copies are to be sent.

**Attention: Intentional misstatements or omissions of fact constitute Federal criminal violations (See 18 U.S.C. 1001)**

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EXHIBIT INDEX

Exhibit	Found on Sequentially Numbered Page
Exhibit A: Agreement of Joint Filing	15

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EXHIBIT AAgreement of Joint Filing

The undersigned hereby agree that a single Schedule 13G (or any amendment thereto) relating to the Common Stock of Pacific Biosciences of California, Inc. shall be filed on behalf of each of the undersigned and that this Agreement shall be filed as an exhibit to such Schedule 13G.

Date: March 29, 2011

MDV VII, L.P.

By Seventh MDV Partners, L.L.C.  
Its General Partner

/s/ Jonathan D. Feiber

Jonathan D. Feiber, Managing Member

MDV VII Leaders' Fund, L.P.

By Seventh MDV Partners, L.L.C.  
Its General Partner

/s/ Jonathan D. Feiber

Jonathan D. Feiber, Managing Member

MDV ENF VII (A), L.P.

By Seventh MDV Partners, L.L.C.  
Its General Partner

/s/ Jonathan D. Feiber

Jonathan D. Feiber, Managing Member

MDV ENF VII (B), L.P.

By Seventh MDV Partners, L.L.C.  
Its General Partner

/s/ Jonathan D. Feiber

Jonathan D. Feiber, Managing Member

Seventh MDV Partners, L.L.C.

/s/ Jonathan D. Feiber

Jonathan D. Feiber, Managing Member

Nancy J. Schoendorf

/s/ Nancy J. Schoendorf

Jonathan D. Feiber

/s/ Jonathan D. Feiber

William W. Ericson

/s/ William W. Ericson