UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported) April 9, 2013

FLUIDIGM CORPORATION

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation) 001-34180 (Commission File Number) 77-0513190 (IRS Employer Identification No.)

7000 Shoreline Court, Suite 100 South San Francisco, California 94080 (Address of principal executive offices, including zip code)

(650) 266-6000 (Registrant's telephone number, including area code)

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

□ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 1.01 Entry into a Material Definitive Agreement

On April 9, 2013, Fluidigm Corporation (the "Company") and ARE-SAN FRANCISCO NO. 17, LLC entered into an amendment (the "Amendment") to the lease agreement dated as of September 14, 2010, as amended (the "Lease"), relating to the lease of office and laboratory space at the Company's headquarters located at 7000 Shoreline Court, South San Francisco, California. The Amendment provides for:

- an expansion of the premises covered under the Lease by approximately 19,000 square feet of office and laboratory space, which is currently being subleased by the Company from a third party through March 31, 2014, effective upon the termination of the sublease but no later than April 1, 2014 (the "Additional Space");
- an extension of the term of the Lease by five years to April 30, 2020, subject to the Company's right to renew the Lease for an additional five years at the then-prevailing market rent;
- payment by the Company of monthly base rent for the Additional Space of \$1.70 per rentable square foot prior to April 1, 2014, if applicable; and \$2.90 per rentable square foot per month from April 1, 2014 through April 30, 2015, with no base rent obligation for the first three months of the period (the monthly base rent for the current space was not modified by the Amendment during the above-referenced periods);
- payment by the Company of monthly base rent for the entire space covered by the Lease of \$2.60 per rentable square foot per month from May 1, 2015 through April 30, 2016, increased by 1.3% annually thereafter;
- payment by the Company of certain operating expenses during the term of the Lease; and
- an allowance of approximately \$726,000 for tenant improvements by the Company, which, to the extent not used by March 31, 2015, will be used to offset base rent obligations; and an additional allowance of approximately \$484,000 for tenant improvements by the Company, which, if used, will be repaid by the Company in equal monthly payments with interest at a rate of 9% per annum over the remaining term of the Lease.

The foregoing summary of the Amendment does not purport to be complete and is qualified in its entirety by reference to the Amendment, which will be filed as an exhibit to the Company's Quarterly Report on Form 10-Q for the quarter ending June 30, 2013.

- 1 -

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

FLUIDIGM CORPORATION

By: /s/ Vikram Jog

Vikram Jog Chief Financial Officer

- 2 -

Date: April 15, 2013