

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-3
REGISTRATION STATEMENT
Under
The Securities Act of 1933

FLUIDIGM CORPORATION
 (Exact name of Registrant as specified in its charter)

Delaware
 (State or other jurisdiction of
 incorporation or organization)

77-0513190
 (I.R.S. Employer
 Identification Number)

7000 Shoreline Court, Suite 100
 South San Francisco, CA 94080
 (650) 266-6000

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

Gajus V. Worthington
 President and Chief Executive Officer
 7000 Shoreline Court, Suite 100
 South San Francisco, CA 94080
 (650) 266-6000

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Robert F. Kornegay
 Wilson Sonsini Goodrich & Rosati
 Professional Corporation
 650 Page Mill Road
 Palo Alto, CA 94304
 (650) 493-9300

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, checking the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer
 Non-accelerated filer (Do not check if a smaller reporting company) Small reporting company

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered (1)(2)	Proposed Maximum Offering Price Per Unit	Proposed Maximum Aggregate Offering Price (1)	Amount of Registration Fee
Common Stock par value \$0.001 per share	—	—	—	—
Preferred Stock par value \$0.001 per share	—	—	—	—
Debt Securities	—	—	—	—
Warrants	—	—	—	—
Units (3)	—	—	—	—
Total	\$350,000,000	—(4)	\$350,000,000(5)	\$45,080(6)

- An indeterminate amount or number of the securities of each identified class described in this registration statement is being registered as may from time to time be issued at indeterminate prices in U.S. Dollars. Subject to Rule 462(b) under the Securities Act of 1933, as amended, or the Securities Act, in no event will the aggregate maximum offering price of all securities sold by the registrant pursuant to this registration statement exceed \$350,000,000 or the equivalent thereof in one or more foreign currencies, foreign currency units or composite currencies.
- Pursuant to Rule 416 under the Securities Act, this registration statement shall also cover any additional shares of the registrant's securities that become issuable by reason of any stock splits, stock dividends or similar transactions.
- Securities registered hereunder may be sold separately, or as units with other securities registered hereby.
- Fluidigm Corporation will determine the proposed maximum aggregate offering price per unit when it issues the above listed securities.
- The proposed maximum aggregate offering price has been estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act.
- Fluidigm Corporation previously paid \$13,204.22 in connection with the registration statement on Form S-3 (333-180550) originally filed on May 7, 2012, of which \$6,330.51 was not used and will be applied to the amount listed above. Accordingly, a filing fee of \$38,749.49 is currently due in connection with the filing of this Registration Statement.

PROSPECTUS



\$350,000,000

We may offer, from time to time,

- common stock
- preferred stock
- warrants
- debt securities

All of the securities listed above may be sold separately or as units with other securities.

This prospectus may not be used to sell securities unless accompanied by a prospectus supplement, which will describe the method and the terms of the offering. We will provide you with the specific amount, price and terms of the applicable offered securities in one or more supplements to this prospectus. You should read this prospectus and any supplement carefully before you purchase any of our securities.

Our common stock is listed on the NASDAQ Global Select Market under the symbol "FLDM." On January 28, 2014, the last reported sale price on the NASDAQ Global Select Market was \$40.98 per share. There is currently no market for the other securities we may offer.

Investing in our securities involves risks. Please carefully read the information under the headings "[Risk Factors](#)" beginning on page 3 of this prospectus and "Item 1A—Risk Factors" of our most recent report on Form 10-K or 10-Q which is incorporated by reference in this prospectus before you invest in our securities.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

These securities may be offered and sold to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis. If underwriters, dealers or agents are used to sell the securities, we will name them and describe their compensation in a prospectus supplement.

The date of this prospectus is January 29, 2014.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, using a “shelf” registration process. Under this shelf process, we may, from time to time, offer or sell any combination of the securities described in this prospectus in one or more offerings up to a total aggregate amount of \$350,000,000.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add to, update or change information contained in this prospectus and, accordingly, to the extent inconsistent, information in this prospectus is superseded by the information in the prospectus supplement.

The prospectus supplement to be attached to the front of this prospectus may describe, as applicable: the terms of the securities offered; the initial price to the public; the price paid for the securities; net proceeds; and the other specific terms related to the offering of the securities.

You should only rely on the information contained or incorporated by reference in this prospectus and any prospectus supplement or issuer free writing prospectus relating to a particular offering. We have not authorized any other person to provide you with different information. You should read this entire prospectus and any prospectus supplement and any related issuer free writing prospectus, as well as the documents incorporated by reference into this prospectus or any prospectus supplement, before making an investment decision. We do not imply or represent by delivering this prospectus that Fluidigm Corporation, or its business, is unchanged after the date on the front of this prospectus or that the information in this prospectus is correct as any time after such date.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus or incorporated herein by reference. This summary is not complete and does not contain all of the information that you should consider before deciding to invest in our securities. We urge you to read this entire prospectus and the information incorporated by reference herein carefully, including the "Risk Factors" section. In this prospectus, unless the context indicates otherwise, the terms "company," "Fluidigm," "we," "us," and "our" refer to Fluidigm Corporation and its subsidiaries.

Fluidigm Corporation

Overview

We develop, manufacture, and market microfluidic systems to leading academic institutions, clinical laboratories, and pharmaceutical, biotechnology, and agricultural biotechnology, or Ag-Bio, companies in growth markets, such as single-cell genomics, applied genotyping, and sample preparation for targeted resequencing. Our proprietary microfluidic systems consist of instruments and consumables, including integrated fluidic circuits, or IFCs, assays, and reagents. We actively market four microfluidic systems, including 18 different commercial IFCs for nucleic acid analysis, and three families of assay chemistries. Our systems are designed to significantly simplify experimental workflow, increase throughput, and reduce costs, while providing excellent data quality. In addition, our proprietary technology enables genetic analysis that in many instances was previously impractical. As of December 31, 2013, we had sold approximately 920 systems to customers in over 30 countries worldwide.

Corporate Information

We were incorporated in California in May 1999 as Mycometrix Corporation, changed our name to Fluidigm Corporation in April 2001 and reincorporated in Delaware in July 2007. Our principal executive offices are located at 7000 Shoreline Court, Suite 100, South San Francisco, California 94080. Our telephone number is (650) 266-6000. We maintain an Internet website at www.fluidigm.com. We have not incorporated the information on our website by reference into this prospectus, and you should not consider it to be a part of this prospectus.

The Securities We May Offer

We may offer or sell up to \$350,000,000 of common stock, preferred stock, debt securities and warrants in one or more offerings and in any combination either individually or as units comprised of one or more of the other securities. Each time we offer securities with this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and terms of the securities being offered.

We may sell the securities to or through underwriters, dealers or agents or directly to purchasers or as otherwise set forth below under "Plan of Distribution." We, as well as any agents acting on our or their behalf, reserve the sole right to accept and to reject in whole or in part any proposed purchase of securities. Each prospectus supplement will set forth the names of any underwriters, dealers, agents or other entities involved in the sale of securities described in that prospectus supplement and any applicable fee, commission or discount arrangements with them.

Common Stock

We may offer shares of our common stock, par value \$0.001 per share, either alone or underlying other registered securities convertible into our common stock. Holders of our common stock are entitled to receive

dividends declared by our board of directors out of funds legally available for the payment of dividends, subject to rights, if any, of preferred stockholders. Currently, we do not pay a dividend. Each holder of common stock is entitled to one vote per share. The holders of common stock have no preemptive rights.

Preferred Stock

We may issue preferred stock in one or more series. Our board of directors or a committee designated by the board will determine the dividend, voting and conversion rights and other provisions at the time of sale. Each series of preferred stock will be more fully described in the particular prospectus supplement that will accompany this prospectus, including redemption provisions, rights in the event of liquidation, dissolution or the winding up of Fluidigm Corporation, voting rights and rights to convert into common stock.

Warrants

We may issue warrants for the purchase of common stock, preferred stock or debt securities. We may issue warrants independently or together with other securities.

Debt Securities

We may offer secured or unsecured obligations in the form of one or more series of senior or subordinated debt. The senior debt securities and the subordinated debt securities are together referred to in this prospectus as the “debt securities.” The senior debt securities will have the same rank as all of our other unsubordinated debt. The subordinated debt securities generally will be entitled to payment only after payment of our senior debt. Senior debt generally includes all debt for money borrowed by us, except debt that is stated in the instrument governing the terms of that debt to be not senior to, or to have the same rank in right of payment as, or to be expressly junior to, the subordinated debt securities. We may issue debt securities that are convertible into shares of our common stock.

The senior and subordinated debt securities will be issued pursuant to an indenture between us and a trustee. The indenture has been filed as an exhibit to the registration statement of which this prospectus forms a part. We encourage you to read the indenture before investing in our debt securities. Instructions on how you can get copies of these documents are provided under the heading “Where You Can Find More Information.”

RISK FACTORS

An investment in our securities involves a high degree of risk. The prospectus supplement applicable to each offering of our securities will contain a discussion of the risks applicable to an investment in our securities. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading “Risk Factors” in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under “Item 1A—Risk Factors,” in our Quarterly Report on Form 10-Q for the nine months ended September 30, 2013, all of which are incorporated herein by reference, and may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations.

FORWARD-LOOKING STATEMENTS

This prospectus includes and incorporates by reference forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or Exchange Act, that are based on our management’s beliefs and assumptions and on information currently available to our management. Forward-looking statements include information concerning our possible or assumed future cash flow, revenue, sources of revenue and results of operations, operating and other expenses, unit sales, business strategies, financing plans, expansion of our business, competitive position, industry environment, potential growth opportunities, and the effects of competition. Forward-looking statements include statements that are not historical facts and can be identified by terms such as “anticipates,” “believes,” “could,” “seeks,” “estimates,” “expects,” “intends,” “may,” “plans,” “potential,” “predicts,” “projects,” “should,” “will,” “would” or similar expressions and the negatives of those terms. Although we believe that we have a reasonable basis for each forward-looking statement contained and incorporated by reference included in this prospectus, we caution you that these statements are based on our projections of the future that are subject to known and unknown risks and uncertainties and other factors that may cause our actual results, level of activity, performance or achievements expressed or implied by these forward-looking statements, to differ. The sections in this prospectus entitled “Risk Factors,” and in “Item 1A—Risk Factors” of our most recent report on Form 10-K or Form 10-Q which is incorporated by reference in this prospectus as well as other disclosures included in this prospectus or the supplement hereto, discuss some of the factors that could contribute to these differences.

Other unknown or unpredictable factors also could harm our results. Consequently, actual results or developments anticipated by us may not be realized or, even if substantially realized, may not have the expected consequences to, or effects on, us. Given these uncertainties, prospective investors are cautioned not to place undue reliance on such forward-looking statements. Except as required by law, we undertake no obligation to update or revise publicly any of the forward-looking statements after the date of this prospectus.

This prospectus and the documents incorporated by reference in this prospectus contain market data that we obtained from industry sources. These sources do not guarantee the accuracy or completeness of the information. Although we believe that the industry sources are reliable, we have not independently verified the information. The market data include projections that are based on a number of other projections. While we believe these assumptions to be reasonable and sound as of the date of this prospectus, actual results may differ from the projections.

RATIO OF EARNINGS TO COMBINED FIXED CHARGES AND PREFERENCE DIVIDENDS

The following table sets forth our consolidated ratio of earnings to combined fixed charges and preference dividends for the periods indicated.

	Fiscal Year Ended					Nine Months
	December 27, 2008	December 31, 2009	December 31, 2010	December 31, 2011	December 31, 2012	Ended September 30, 2013
Ratio of Earnings to Combined Fixed Charges and Preference Dividends (1)	—	—	—	—	—	—

(1) The ratio of earnings to combined fixed charges and preference dividends represents the number of times that fixed charges and preference dividends are covered by earnings. Earnings consist of income or loss from continuing operations before income taxes and fixed charges, excluding preference dividends. Fixed charges consist of interest expensed and capitalized under capital leases, estimated interest expense within rental expense, and preference dividends. We recognized a deemed dividend to preferred stockholders of \$9.9 million in 2011, which was the only year such a dividend was incurred. In the fiscal years ended December 27, 2008, and December 31, 2009, 2010, 2011 and 2012 and the nine months ended September 20, 2013, earnings were insufficient to cover fixed charges by \$29.6 million, \$19.2 million, \$16.8 million, \$22.3 million, \$18.9 million and \$11.8 million, respectively.

As of the date of this prospectus, we have no shares of preferred stock outstanding, and consequently, our ratio of earnings to combined fixed charges and preferred share dividends and ratio of earnings to fixed charges would be identical.

USE OF PROCEEDS

Unless we state otherwise in the applicable prospectus supplement, we expect to use the net proceeds that we will receive from the sale of the securities for working capital and other general corporate purposes and we may also use a portion of our net proceeds to acquire and invest in complementary products, technologies or businesses. Pending these uses, we may invest our net proceeds from this offering primarily in investment-grade, interest-bearing instruments.

The specific allocations of the proceeds we receive from the sale of our securities will be described in the applicable prospectus supplement.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We recognized a deemed dividend to preferred stockholders of \$9.9 million in 2011, which was the only year such a dividend was incurred. We currently intend to retain all future earnings for the operation and expansion of our business and, therefore, we do not anticipate declaring or paying cash dividends in the foreseeable future. The payment of dividends will be at the discretion of our board of directors and will depend on our results of operations, capital requirements, financial condition, prospects, contractual arrangements, any limitations on payment of dividends present in our current and future debt agreements, and other factors that our board of directors may deem relevant.

PLAN OF DISTRIBUTION

We may sell our securities from time to time in one or more transactions. We may sell our securities to or through agents, underwriters, dealers, remarketing firms, or other third parties or directly to one or more purchasers or through a combination of any of these methods. We may issue common stock as a dividend or distribution. In some cases, we or dealers acting with us or on behalf of us may also purchase our securities and reoffer them to the public. We may also offer and sell, or agree to deliver, our securities pursuant to, or in connection with, any option agreement or other contractual arrangement.

Agents whom we designate may solicit offers to purchase our securities.

- We will name any agent involved in offering or selling our securities, and disclose any commissions that we will pay to the agent, in the applicable prospectus supplement.
- Unless we indicate otherwise in the applicable prospectus supplement, agents will act on a best efforts basis for the period of their appointment.
- Agents may be deemed to be underwriters under the Securities Act, of any of our securities that they offer or sell.

We may use an underwriter or underwriters in the offer or sale of our securities.

- If we use an underwriter or underwriters, we will execute an underwriting agreement with the underwriter or underwriters at the time that we reach an agreement for the sale of our securities.
- We will include the names of the specific managing underwriter or underwriters, as well as the names of any other underwriters, and the terms of the transactions, including the compensation the underwriters and dealers will receive, in the applicable prospectus supplement.
- The underwriters will use the applicable prospectus supplement, together with this prospectus, to sell our securities.

We may use a dealer to sell our securities.

- If we use a dealer, we will sell our securities to the dealer, as principal.
- The dealer will then sell our securities to the public at varying prices that the dealer will determine at the time it sells our securities.
- We will include the name of the dealer and the terms of the transactions with the dealer in the applicable prospectus supplement.

We may solicit directly offers to purchase our securities, and we may directly sell our securities to institutional or other investors. We will describe the terms of direct sales in the applicable prospectus supplement.

We may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) of the Securities Act.

We may indemnify agents, underwriters and dealers against certain liabilities, including liabilities under the Securities Act. Agents, underwriters and dealers, or their affiliates, may be customers of, engage in transactions with or perform services for us or our respective affiliates, in the ordinary course of business.

We may authorize agents and underwriters to solicit offers by certain institutions to purchase our securities at the public offering price under delayed delivery contracts.

- If we use delayed delivery contracts, we will disclose that we are using them in the prospectus supplement and will tell you when we will demand payment and when delivery of our securities will be made under the delayed delivery contracts.

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- These delayed delivery contracts will be subject only to the conditions that we describe in the prospectus supplement.
- We will describe in the applicable prospectus supplement the commission that underwriters and agents soliciting purchases of our securities under delayed delivery contracts will be entitled to receive.

Unless otherwise specified in connection with a particular underwritten offering of our securities, the underwriters will not be obligated to purchase offered securities unless specified conditions are satisfied, and if the underwriters do purchase any offered securities, they will purchase all offered securities.

In connection with underwritten offerings of the offered securities and in accordance with applicable law and industry practice, the underwriters in certain circumstances are permitted to engage in certain transactions that stabilize the price of our securities. Such transactions consist of bids or purchases for the purpose of pegging, fixing or maintaining the price of our securities. If the underwriters create a short position in our securities in connection with the offering (*i.e.*, if they sell more securities than are set forth on the cover page of the applicable prospectus supplement), the underwriters may reduce that short position by purchasing our securities in the open market or as otherwise provided in the applicable prospectus supplement. The underwriters also may impose a penalty bid, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if the securities sold by them are repurchased in connection with stabilization transactions. In general, purchases of a security for the purpose of stabilization or to reduce a short position could cause the price of the security to be higher than it might be in the absence of such purchases. The imposition of a penalty bid might also have an effect on the price of our securities to the extent that it were to discourage resales of our securities. The underwriters are not required to engage in these activities and may end any of these activities at any time.

We may effect sales of securities in connection with forward sale, option, or other types of agreements with third parties. Any distribution of securities pursuant to any forward sale agreement may be effected from time to time in one or more transactions that may take place through a stock exchange, including block trades or ordinary broker's transactions, or through broker-dealers acting either as principal or agent, or through privately-negotiated transactions, or through an underwritten public offering, or through a combination of any such methods of sale, at market prices prevailing at the time of sale, at prices relating to such prevailing market prices or at negotiated or fixed prices.

The specific terms of the lock-up provisions, if any, in respect of any given offering will be described in the applicable prospectus supplement.

LEGAL MATTERS

Certain legal matters will be passed upon for us by Wilson Sonsini Goodrich & Rosati, Professional Corporation, Palo Alto, California. Additional legal matters may be passed on for us, or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements and schedule included in our Annual Report on Form 10-K for the year ended December 31, 2012, and the effectiveness of our internal control over financial reporting as of December 31, 2012, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements (and schedule) are incorporated by reference in reliance on Ernst & Young LLP's reports, given on their authority as experts in accounting and auditing.

The consolidated financial statements of DVS Sciences, Inc. as of December 31, 2012 and 2011 and for the years then ended incorporated by reference in this Prospectus have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and other reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. You may also read and copy any document we file at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including any amendments to those reports, and other information that we file with or furnish to the SEC pursuant to Section 13(a) or 15(d) of the Exchange Act can also be accessed free of charge by linking directly from our website at <http://www.fluidigm.com> under the "About—Investors—SEC Filings" caption. These filings will be available as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Information contained on our website is not part of this prospectus.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose important information to you by referring you to another document that we have filed separately with the SEC. You should read the information incorporated by reference because it is an important part of this prospectus. We incorporate by reference the following information or documents that we have filed with the SEC (excluding those portions of any Form 8-K that are not deemed “filed” pursuant to the General Instructions of Form 8-K):

- our Annual Report on Form 10-K for the year ended December 31, 2012 filed with the SEC on March 12, 2013 (including the portions of our proxy statement for our 2013 annual meeting of stockholders incorporated by reference therein);
- our Quarterly Reports on Form 10-Q for the three months ended March 31, 2013 filed with the SEC on May 9, 2013, for the six months ended June 30, 2013 filed with the SEC on August 7, 2013 and for the nine months ended September 30, 2013 filed with the SEC on November 7, 2013;
- our Current Reports on Form 8-K filed with the SEC on January 14, January 28, April 15, June 11, October 17, 2013 and January 29, 2014; and
- the description of our common stock set forth under the caption “Description of Capital Stock” in the prospectus that constitutes part of our Registration Statement on Form S-1 (File No. 333-170965), initially filed with the SEC on December 3, 2010, including any amendments or reports filed for the purpose of updating this description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents. In accordance with Rule 402 of Regulation S-T, the XBRL related information in Exhibit 101 to our Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q will not be deemed to be incorporated by reference into any registration statement or other document filed under the Securities Act, except as will be expressly set forth by specific reference in such filing.

Any statement contained in any document incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any prospectus supplement modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We will provide without charge to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request, a copy of any or all documents that are incorporated by reference into this prospectus, but not delivered with the prospectus, other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the documents that this prospectus incorporates. You should direct written requests to: Fluidigm Corporation, 7000 Shoreline Court, Suite 100, South San Francisco, CA 94080, Attn: Investor Relations, or you may call us at (650) 266-6000.

PART II**INFORMATION NOT REQUIRED IN PROSPECTUS****Item 14. Other Expenses of Issuance and Distribution**

The following table sets forth the various costs and expenses (other than the underwriting discounts and commissions) payable by the registrant in connection with a distribution of securities registered hereby. All amounts are estimates except the SEC registration fee.

	<u>Amount to be Paid</u>
SEC registration fee	\$ 45,080
FINRA filing fee	53,000
Printing costs	50,000
Legal fees and expenses	710,000
Accounting fees and expenses	625,000
Transfer agent's and trustee's fees and expenses	35,000
Miscellaneous	50,000
Total	<u>\$1,568,080</u>

Item 15. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law, or DGCL, authorizes a corporation's board of directors to grant, and authorizes a court to award, indemnity to officers, directors and other corporate agents.

As permitted by Section 102(b)(7) of the DGCL, the registrant's certificate of incorporation includes provisions that eliminate the personal liability of its directors and officers for monetary damages for breach of their fiduciary duty as directors and officers.

In addition, as permitted by Section 145 of the DGCL, the bylaws of the registrant provide that:

- The registrant shall indemnify its directors and officers for serving the registrant in those capacities or for serving other business enterprises as a director, officer, employee or agent at the registrant's request, to the fullest extent permitted by the DGCL. The DGCL provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful.
- The registrant may, in its discretion, indemnify employees and agents in those circumstances where indemnification is not prohibited by the DGCL or other law.
- The registrant is required to advance expenses, as incurred, to its directors and officers in connection with defending a proceeding, except that such director or officer shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification under the registrant's bylaws or the DGCL.
- The registrant will not be obligated pursuant to the bylaws to indemnify a person with respect to proceedings initiated by that person against the registrant or its directors, officers, employees, agents or other indemnities, except with respect to proceedings authorized by the registrant's board of directors prior to their initiation, or brought to enforce a right to indemnifications as otherwise required by applicable law.
- The rights conferred in the bylaws are not exclusive, and the registrant is authorized to enter into indemnification agreements with its directors, officers, employees and agents and to obtain insurance to indemnify such persons.

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- The registrant may not retroactively amend the bylaw provisions to reduce its indemnification obligations to directors, officers, employees and agents.

The registrant's policy is to enter into separate indemnification agreements with each of its directors and officers that provide the maximum indemnity allowed to directors and executive officers by Section 145 of the DGCL and also provides for certain additional procedural protections. The registrant also maintains directors and officers insurance to insure such persons against certain liabilities.

These indemnification provisions and the indemnification agreements entered into between the registrant and its officers and directors may be sufficiently broad to permit indemnification of the registrant's officers and directors for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

Item 16. Exhibits

- (a) *Exhibits.* The following exhibits are filed herewith or incorporated herein by reference:

<u>Exhibit No.</u>	<u>Exhibit Description</u>	<u>Incorporated by Reference</u>				<u>Filed Herewith</u>
		<u>Form</u>	<u>File No.</u>	<u>Exhibit No.</u>	<u>Filing Date</u>	
1.1	Form of Underwriting Agreement*					
4.1	Form of Indenture					X
4.2	Form of Debt Security (included in Exhibit 4.1)					X
4.3	Form of Certificate of Designation*					
4.4	Form of Preferred Stock Certificate*					
4.5	Form of Warrant Agreement*					
4.6	Form of Warrant/Subscription Agreement*					
4.7	Eighth Amended and Restated Certificate of Incorporation of Fluidigm Corporation filed on February 15, 2011.	10-K		3.1	3/28/11	
4.8	Amended and Restated Bylaws of Fluidigm Corporation effective as of February 9, 2011.	10-K		3.2	3/28/11	
4.9	Specimen Common Stock Certificate of Fluidigm Corporation.	S-1/A		4.1	2/7/11	
5.1	Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation					X
12.1	Computation of ratio of earnings to combined Fixed Charges and Preference Dividends					X
23.1	Consent of Ernst & Young LLP, independent registered public accounting firm					X
23.2	Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in Exhibit 5.1)					X
23.3	Consent of BDO USA, LLP, independent registered public accounting firm					X
24.1	Power of Attorney (incorporated by reference to the signature page of this registration statement)					X
25.1	Form T-1 Statement of Eligibility of Trustee for Senior Indenture under the Trust Indenture Act of 1939					X

* To be filed by amendment or as an exhibit to a report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended and incorporated herein by reference.

Item 17. Undertakings

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933, as amended (the "Securities Act");

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i)(A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement

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relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; or

(ii) Each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(6) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) That, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(h) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the indemnification provisions described herein, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

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(i)(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the South San Francisco, State of California, on January 29, 2014.

FLUIDIGM CORPORATION

By: /s/ Gajus V. Worthington
Gajus V. Worthington
President and Chief Executive Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Gajus V. Worthington and Vikram Jog and each of them, his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including pre and post-effective amendments) to this registration statement and any additional registration statement pursuant to Rule 462(b) under the Securities Act of 1933, and to file the same with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that each of said attorneys-in-fact and agents or their substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Gajus V. Worthington</u> Gajus V. Worthington	President, Chief Executive Officer and Director (Principal Executive Officer)	January 29, 2014
<u>/s/ Vikram Jog</u> Vikram Jog	Chief Financial Officer (Principal Accounting and Financial Officer)	January 29, 2014
<u>/s/ Gerhard F. Burbach</u> Gerhard F. Burbach	Director	January 29, 2014
<u>/s/ Samuel D. Colella</u> Samuel D. Colella	Director	January 29, 2014
<u>/s/ Evan Jones</u> Evan Jones	Director	January 29, 2014
<u>/s/ Patrick S. Jones</u> Patrick S. Jones	Director	January 29, 2014
<u>/s/ John A. Young</u> John A. Young	Director	January 29, 2014

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Exhibit Description</u>	<u>Incorporated by Reference</u>			<u>Filed Herewith</u>
		<u>Form</u>	<u>File No.</u>	<u>Exhibit No.</u>	
1.1	Form of Underwriting Agreement*				
4.1	Form of Indenture				X
4.2	Form of Debt Security (included in Exhibit 4.1)				X
4.3	Form of Certificate of Designation*				
4.4	Form of Preferred Stock Certificate*				
4.5	Form of Warrant Agreement*				
4.6	Form of Warrant/Subscription Agreement*				
4.7	Eighth Amended and Restated Certificate of Incorporation of Fluidigm Corporation filed on February 15, 2011.	10-K		3.1	3/28/11
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4.9	Specimen Common Stock Certificate of Fluidigm Corporation.	S-1/A		4.1	2/7/11
5.1	Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation				X
12.1	Computation of ratio of earnings to combined fixed charges and preference dividends				X
23.1	Consent of Ernst & Young LLP, independent registered public accounting firm				X
23.2	Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in Exhibit 5.1)				X
23.3	Consent of BDO USA, LLP, independent registered public accounting firm				X
24.1	Power of Attorney (incorporated by reference to the signature page of this registration statement)				X
25.1	Form T-1 Statement of Eligibility of Trustee for Senior Indenture under the Trust Indenture Act of 1939				X

* To be filed by amendment or as an exhibit to a report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended and incorporated herein by reference.

Indenture

FLUIDIGM CORPORATION, as

ISSUER

and

U.S. BANK NATIONAL ASSOCIATION, as

INDENTURE TRUSTEE

INDENTURE

Dated as of January [•], 2014

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FLUIDIGM CORPORATION
Reconciliation and tie between Trust Indenture Act of 1939 and
Indenture, dated as of .

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(a)(2)		7.10
(a)(3)	NOT APPLICABLE	
(a)(4)	NOT APPLICABLE	
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(b)(1)		7.06
(b)(2)		7.06
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Section 314 (a)	4.02, 10.05	
(b)	NOT APPLICABLE	
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(b)		2.05
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Indenture dated as of [•] between Fluidigm Corporation, a Delaware corporation (“*Company*”), and U.S. Bank National Association, as trustee (“*Trustee*”).

Each party agrees as follows for the benefit of the other party and for the equal and ratable benefit of the Holders of the Securities issued under this Indenture.

ARTICLE I DEFINITIONS AND INCORPORATION BY REFERENCE

Section 1.01 Definitions.

“*Additional Amounts*” means any additional amounts which are required hereby or by any Security, under circumstances specified herein or therein, to be paid by the Company in respect of certain taxes imposed on Holders specified herein or therein and which are owing to such Holders, as calculated by the Company.

“*Affiliate*” of any specified person means any other person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified person. For the purposes of this definition, “control” (including, with correlative meanings, the terms “controlled by” and “under common control with”), as used with respect to any person, shall mean the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of such person, whether through the ownership of voting securities or by agreement or otherwise.

“*Agent*” means any Registrar or Paying Agent.

“*Applicable Procedures*” means, with respect to any transfer or transaction involving a Global Security or beneficial interest therein, the rules and procedures of DTC or any successor Depositary, in each case to the extent applicable to such transaction and as in effect from time to time.

“*Board of Directors*” means the Board of Directors of the Company or any duly authorized committee thereof.

“*Board Resolution*” means a copy of a resolution certified by the Secretary or an Assistant Secretary of the Company to have been adopted by the Board of Directors or pursuant to authorization by the Board of Directors and to be in full force and effect on the date of the certificate and delivered to the Trustee.

“*Business Day*” means any day other than a Saturday, Sunday or other day on which banking institutions are authorized or required by law, regulation or executive order to close or be closed in the State of New York.

“*Capital Interests*” means any and all shares, interests, participations, rights or other equivalents (however designated) of capital stock, including, without limitation, with respect to partnerships, partnership interests (whether general or limited) and any other interest or participation that confers on a person the right to receive a share of the profits and losses of, or distributions of assets of, such partnership.

“*Company*” means the party named as such above until a successor replaces it and thereafter means the successor.

“*Company Order*” means a written order signed in the name of the Company by two Officers, one of whom must be the Company’s principal executive officer, principal financial officer or principal accounting officer.

“*Company Request*” means a written request signed in the name of the Company by its Chief Executive Officer, Chief Financial Officer or a Vice President, and by its Treasurer, an Assistant Treasurer, its Secretary or an Assistant Secretary, and delivered to the Trustee.

“*Corporate Trust Office*” means the address of the Trustee specified in Section 10.02, or such other address as to which the Trustee may give notice to the Holders and the Company.

“*Default*” means any event which is, or after notice or passage of time or both would be, an Event of Default.

“*Depository*” means, with respect to the Securities of any Series issuable or issued in whole or part in the form of one or more Global Securities, the person designated as Depository for such Series by the Company, which Depository shall be a clearing agency registered under the Exchange Act; and if at any time there is more than one such person, “*Depository*” as used with respect to the Securities of any Series shall mean the Depository with respect to the Securities of such Series.

“*Discount Security*” means any Security that provides for an amount less than the stated principal amount thereof to be due and payable upon declaration of acceleration of the maturity thereof pursuant to Section 6.02.

“*Dollars*” and “*\$*” means the currency of The United States of America.

“*DTC*” means the Depository Trust Company, a New York corporation.

“*Exchange Act*” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“*Foreign Currency*” means any currency or currency unit issued by a government other than the government of The United States of America.

“*Foreign Government Obligations*” means, with respect to Securities of any Series that are denominated in a Foreign Currency, (i) direct obligations of the government that issued or caused to be issued such currency for the payment of which obligations its full faith and credit is pledged or (ii) obligations of a person controlled or supervised by or acting as an agency or instrumentality of such government the timely payment of which is unconditionally guaranteed as a full faith and credit obligation by such government, which, in either case under clauses (i) or (ii), are not callable or redeemable at the option of the issuer thereof.

“*GAAP*” means generally accepted accounting principles set forth in the opinions and pronouncements of the Accounting Principles Board of the American Standards Board or in such other statements by such other entity as have been approved by a significant segment of the accounting profession.

“*Global Security*” or “*Global Securities*” means a Security or Securities, as the case may be, in the form established pursuant to Section 2.02 evidencing all or part of a Series of Securities, issued to the Depository for such Series or its nominee, and registered in the name of such Depository or nominee.

“*Holder*” means a person in whose name a Security is registered.

“*Indenture*” means this Indenture as amended or supplemented from time to time and shall include the form and terms of particular Series of Securities established as contemplated hereunder.

“*interest*” with respect to any Discount Security which by its terms bears interest only after Maturity means interest payable after Maturity.

“*Maturity*,” when used with respect to any Security or installment of principal thereof, means the date on which the principal of such Security or such installment of principal becomes due and payable as therein or herein provided, whether at the Stated Maturity or by declaration of acceleration, call for redemption or otherwise.

“*Officer*” means the Chief Executive Officer, Chief Financial Officer, any Vice-President, the Treasurer, the Secretary, any Assistant Treasurer or any Assistant Secretary of the Company.

“*Officers’ Certificate*” means a certificate signed by two Officers, one of whom must be the Company’s principal executive officer, principal financial officer or principal accounting officer.

“*Opinion of Counsel*” means a written opinion of legal counsel who is reasonably acceptable to the Trustee. The counsel may be an employee of or counsel to the Company.

“*person*” means any individual, corporation, partnership, joint venture, association, limited liability company, joint-stock company, trust, unincorporated organization or government or any agency or political subdivision thereof.

“*principal*” of a Security means the principal of the Security plus, when appropriate, the premium, if any, on, and any Additional Amounts in respect of, the Security.

“*Responsible Officer*” means any officer of the Trustee in its Corporate Trust Office with direct responsibility for the administration of this Indenture and also means, with respect to a particular corporate trust matter, any other officer to whom any corporate trust matter is referred because of his or her knowledge of and familiarity with a particular subject.

“*SEC*” means the Securities and Exchange Commission.

“*Securities*” means the debentures, notes or other debt instruments of the Company of any Series authenticated and delivered under this Indenture.

“*Series*” or “*Series of Securities*” means each series of debentures, notes or other debt instruments of the Company created pursuant to Sections 2.01 and 2.02 hereof.

“*Stated Maturity*” means when used with respect to any Security or any installment of principal thereof or interest thereon, the date specified in such Security as the fixed date on which the principal of such Security or such installment of principal or interest is due and payable.

“*Subsidiary*” means, with respect to any person, any corporation, association or other business entity of which more than 50% of the total voting power of shares of Capital Interests entitled (without regard to the occurrence of any contingency) to vote in the election of directors, managers or trustees thereof or, in the case of a partnership, more than 50% of the partners’ Capital Interests (considering all partners’ Capital Interests as a single class), is at the time owned or controlled, directly or indirectly, by such person or one or more of the other Subsidiaries of such person or combination thereof.

“*TIA*” means the Trust Indenture Act of 1939 (15 U.S. Code Sections 77aaa-77bbbb) as in effect on the date of this Indenture and the rules and regulations promulgated thereunder; provided, however, that in the event the Trust Indenture Act of 1939 is amended after such date, “*TIA*” means, to the extent required by any such amendment, the Trust Indenture Act as so amended.

“*Trustee*” means the person named as the “Trustee” in the first paragraph of this instrument until a successor Trustee shall have become such pursuant to the applicable provisions of this Indenture, and thereafter “Trustee” shall mean each person who is then a Trustee hereunder, and if at any time there is more than one such person, “Trustee” as used with respect to the Securities of any Series shall mean the Trustee with respect to Securities of that Series.

“*U.S. Government Obligations*” means securities which are (i) direct obligations of The United States of America for the payment of which its full faith and credit is pledged or (ii) obligations of a person controlled or supervised by and acting as an agency or instrumentality of The United States of America the payment of which is unconditionally guaranteed as a full faith and credit obligation by The United States of America, and which are not callable or redeemable at the option of the issuer thereof, and shall also include a depository receipt issued by a bank or trust company as custodian with respect to any such U.S. Government Obligation or a specific payment of interest on or principal of any such U.S. Government Obligation held by such custodian for the account of the holder of a depository receipt, provided that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the holder of such depository receipt from any amount received by the custodian in respect of the U.S. Government Obligation evidenced by such depository receipt.

Section 1.02 Other Definitions.

<u>TERM</u>	<u>DEFINED IN SECTION</u>
<i>Bankruptcy Law</i>	6.01
<i>Custodian</i>	6.01
<i>Event of Default</i>	6.01
<i>Legal Holiday</i>	10.07
<i>mandatory sinking fund payment</i>	11.01
<i>Market Exchange Rate</i>	10.15
<i>optional sinking fund payment</i>	11.01
<i>Paying Agent</i>	2.04
<i>Registrar</i>	2.04
<i>Successor Person</i>	5.01

Section 1.03 Incorporation by Reference of Trust Indenture Act.

Whenever this Indenture refers to a provision of the TIA, the provision is incorporated by reference in and made a part of this Indenture. The following TIA terms used in this Indenture have the following meanings:

“*Commission*” means the SEC.

“*indenture securities*” means the Securities.

“*indenture security holder*” means a Holder.

“*indenture to be qualified*” means this Indenture.

“*indenture trustee*” or “*institutional trustee*” means the Trustee.

“*obligor*” on the indenture securities means the Company and any successor obligor upon the Securities.

All other terms used in this Indenture that are defined by the TIA, defined by TIA reference to another statute or defined by SEC rule under the TIA and not otherwise defined herein are used herein as so defined.

Section 1.04 Rules of Construction.

Unless the context otherwise requires:

- (a) a term has the meaning assigned to it;
- (b) an accounting term not otherwise defined has the meaning assigned to it in accordance with generally accepted accounting principles;
- (c) references to “generally accepted accounting principles” and “GAAP” shall mean generally accepted accounting principles in effect as of the time when and for the period as to which such accounting principles are to be applied;
- (d) “or” is not exclusive;
- (e) words in the singular include the plural, and in the plural include the singular; and
- (f) provisions apply to successive events and transactions.

**ARTICLE II
THE SECURITIES**

Section 2.01 Issuable in Series. The aggregate principal amount of Securities that may be authenticated and delivered under this Indenture is unlimited. The Securities may be issued in one or more Series. All Securities of a Series shall be identical except as may be set forth or determined in the manner provided in a Board Resolution, supplemental indenture or Officers’ Certificate detailing the adoption of the terms thereof pursuant to authority granted under a Board Resolution. In the case of Securities of a Series to be issued from time to time, the Board Resolution, Officers’ Certificate or supplemental indenture detailing the adoption of the terms thereof pursuant to authority granted under a Board Resolution may provide for the method by which specified terms (such as interest rate, maturity date, record date or date from which interest shall accrue) are to be determined. Securities may differ between Series in respect of any matters, provided that all Series of Securities shall be equally and ratably entitled to the benefits of the Indenture.

Section 2.02 Establishment of Terms of Series of Securities. At or prior to the issuance of any Securities within a Series, the following shall be established (as to the Series generally, in the case of Subsection 2.02(a) and either as to such Securities within the Series or as to the Series generally in the case of Subsections 2.02(b) through 2.02(s)) by or pursuant to a Board Resolution, and set forth or determined in the manner provided in a Board Resolution, supplemental indenture or an Officers’ Certificate:

- (a) the form and title of the Series (which shall distinguish the Securities of that particular Series from the Securities of any other Series);
- (b) the price or prices (expressed as a percentage of the principal amount thereof) at which the Securities of the Series will be issued;

(c) any limit upon the aggregate principal amount of the Securities of the Series which may be authenticated and delivered under this Indenture (except for Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Securities of the Series pursuant to Sections 2.07, 2.08, 2.11, 3.06 or 9.06);

(d) the date or dates on which the principal of the Securities of the Series is payable;

(e) the rate or rates (which may be fixed or variable) per annum or, if applicable, the method used to determine such rate or rates (including, but not limited to, any commodity, commodity index, stock exchange index or financial index) at which the Securities of the Series shall bear interest, if any, the date or dates from which such interest, if any, shall accrue, the date or dates on which such interest, if any, shall commence and be payable and any regular record date for the interest payable on any interest payment date;

(f) the place or places where the principal of and interest, if any, on the Securities of the Series shall be payable, where the Securities of such Series may be surrendered for registration of transfer or exchange and where notices and demands to or upon the Company in respect of the Securities of such Series and this Indenture may be served, and the method of such payment, if by wire transfer, mail or other means;

(g) if applicable, the period or periods within which, the price or prices at which and the terms and conditions upon which the Securities of the Series may be redeemed, in whole or in part, at the option of the Company;

(h) the obligation, if any, of the Company to redeem or purchase the Securities of the Series pursuant to any sinking fund or analogous provisions or at the option of a Holder thereof and the period or periods within which, the price or prices at which and the terms and conditions upon which Securities of the Series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;

(i) the dates, if any, on which and the price or prices at which the Securities of the Series will be repurchased by the Company at the option of the Holders thereof and other detailed terms and provisions of such repurchase obligations;

(j) if other than denominations of \$1,000 and any integral multiple thereof, the denominations in which the Securities of the Series shall be issuable;

(k) if other than the principal amount thereof, the portion of the principal amount of the Securities of the Series that shall be payable upon declaration of acceleration of the maturity thereof pursuant to Section 6.02;

(l) the currency of denomination of the Securities of the Series, which may be Dollars or any Foreign Currency, and the agency or organization, if any, responsible for overseeing such composite currency;

(m) the provisions, if any, relating to any security provided for the Securities of the Series;

(n) any addition to or change in the Events of Default which applies to any Securities of the Series and any change in the right of the Trustee or the requisite Holders of such Securities to declare the principal amount thereof due and payable pursuant to Section 6.02;

(o) any addition to or change in the covenants set forth in Articles IV or V which applies to Securities of the Series;

(p) the provisions, if any, relating to conversion of any Securities of such Series, including, if applicable, the securities into which the Securities are convertible, the conversion price, the conversion period, provisions as to whether conversion will be mandatory, at the option of the Holders or at the option of the Company, the events requiring an adjustment of the conversion price and provisions affecting conversion if such Series of Securities are redeemed;

(q) whether the Securities of such Series will be senior debt securities or subordinated debt securities and, if applicable, a description of the subordination terms thereof;

(r) any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents with respect to Securities of such Series if other than those appointed herein; and

(s) any other terms of the Securities of the Series (which may modify or delete any provision of this Indenture insofar as it applies to such Series).

All Securities of any one Series need not be issued at the same time and may be issued from time to time, consistent with the terms of this Indenture, if so provided by or pursuant to the Board Resolution, supplemental indenture hereto or Officers' Certificate referred to above, and, unless otherwise provided in such Board Resolution, a Series may be reopened, without the consent of the Holders, for increases in the aggregate principal amount of such Series and issuances of additional Securities of such Series.

Section 2.03 Execution and Authentication. At least one Officer shall sign the Securities for the Company by manual or facsimile signature. If an Officer whose signature is on a Security no longer holds that office at the time the Security is authenticated, the Security shall nevertheless be valid. A Security shall not be valid until authenticated by the manual signature of the Trustee or an authenticating agent. The signature shall be conclusive evidence that the Security has been authenticated under this Indenture. The Trustee shall at any time, and from time to time, authenticate Securities for original issue in the principal amount provided in the Board Resolution, supplemental indenture hereto or Officers' Certificate, upon receipt by the Trustee of a Company Order. Such Company Order may authorize authentication and delivery pursuant to electronic instructions in PDF from the Company or its duly authorized agent or agents. Each Security shall be dated the date of its authentication unless otherwise provided by a Board Resolution, a supplemental indenture hereto or an Officers' Certificate. The aggregate principal amount of Securities of any

Series outstanding at any time may not exceed any limit upon the maximum principal amount for such Series set forth in the Board Resolution, supplemental indenture hereto or Officers' Certificate delivered pursuant to Section 2.02, except as provided in Section 2.02 or 2.08. Prior to the issuance of Securities of any Series, the Trustee shall have received and (subject to Section 7.02) shall be fully protected in relying on: (a) the Board Resolution, supplemental indenture hereto or Officers' Certificate establishing the form of the Securities of that Series or of Securities within that Series and the terms of the Securities of that Series or of Securities within that Series, (b) an Officers' Certificate complying with Section 10.04 and (c)(1) an Opinion of Counsel complying with Section 10.04 or (2) an Opinion of Counsel (or reliance letter with respect to an Opinion of Counsel) that the Securities have been duly authorized, executed and delivered by the Company and such Securities will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with its terms. The Trustee may appoint an authenticating agent acceptable to the Company to authenticate Securities. An authenticating agent may authenticate Securities whenever the Trustee may do so. Each reference in this Indenture to authentication by the Trustee includes authentication by such agent. An authenticating agent has the same rights as an Agent to deal with the Company or an Affiliate of the Company.

Section 2.04 Registrar and Paying Agent. The Company shall maintain, with respect to each Series of Securities, at the place or places specified with respect to such Series pursuant to Section 2.02, an office or agency where Securities of such Series may be presented or surrendered for payment ("*Paying Agent*"), and where Securities of such Series may be surrendered for registration of transfer or exchange ("*Registrar*"). The Registrar shall keep a register with respect to each Series of Securities and of their transfer and exchange. The Company hereby appoints the Trustee as Paying Agent and Registrar. The Company will give prompt written notice to the Trustee of the name and address, and any change in the name or address, of each Registrar or Paying Agent. The Company may also from time to time designate one or more co-registrars or additional paying agents and may from time to time rescind such designations; provided, however, that no such designation or rescission shall in any manner relieve the Company of its obligations to maintain a Registrar and a Paying Agent in each place so specified pursuant to Section 2.02 for Securities of any Series for such purposes. The Company will give prompt written notice to the Trustee of any such designation or rescission and of any change in the name or address of any such co-registrar or additional paying agent. The term "Registrar" includes any co-registrar; and the term "Paying Agent" includes any additional paying agent. The Company hereby appoints the Trustee as the initial Registrar and Paying Agent for each Series unless another Registrar or Paying Agent, as the case may be, is appointed prior to the time Securities of that Series are first issued.

Section 2.05 Paying Agent to Hold Money in Trust. The Company shall require each Paying Agent other than the Trustee to agree in writing that the Paying Agent will hold in trust, for the benefit of Holders of any Series of Securities, or the Trustee, all money held by the Paying Agent for the payment of principal of or interest on the Series of Securities, and will notify the Trustee of any default by the Company in making any such payment. While any such default continues, the Trustee may require a Paying Agent to pay all money held by it to the Trustee. The Company at any time may require a Paying Agent to pay all money held by it to the Trustee. Upon payment over to the Trustee, the Paying Agent (if other than the Company or a Subsidiary of the Company) shall

have no further liability for the money. If the Company or a Subsidiary of the Company acts as Paying Agent, it shall segregate and hold in a separate trust fund for the benefit of Holders of any Series of Securities all money held by it as Paying Agent. Upon an Event of Default under Section 6.01(d) or (e), the Trustee shall be the Paying Agent.

Section 2.06 Holder Lists. The Trustee shall preserve in as current a form as is reasonably practicable the most recent list available to it of the names and addresses of Holders of each Series of Securities and shall otherwise comply with TIA Section 312(a). If the Trustee is not the Registrar, the Company shall furnish to the Trustee at least ten (10) days before each interest payment date and at such other times as the Trustee may request in writing a list, in such form and as of such date as the Trustee may reasonably require, of the names and addresses of Holders of each Series of Securities.

Section 2.07 Transfer and Exchange. Where Securities of a Series are presented to the Registrar or a co-registrar with a request to register a transfer or to exchange them for an equal principal amount of Securities of the same Series, the Registrar shall register the transfer or make the exchange if its requirements for such transactions are met. To permit registrations of transfers and exchanges, the Trustee shall authenticate Securities at the Registrar's request. No service charge shall be made for any registration of transfer or exchange (except as otherwise expressly permitted herein), but the Company may require payment of a sum sufficient to cover any transfer tax or similar governmental charge payable in connection therewith (other than any such transfer tax or similar governmental charge payable upon exchanges pursuant to Sections 2.11, 3.06 or 9.06). Neither the Company nor the Registrar shall be required (a) to issue, register the transfer of, or exchange Securities of any Series for the period beginning at the opening of business fifteen days immediately preceding the delivery of a notice of redemption of Securities of that Series selected for redemption and ending at the close of business on the day of such delivery, or (b) to register the transfer of or exchange Securities of any Series selected, called or being called for redemption as a whole or the portion being redeemed of any such Securities selected, called or being called for redemption in part.

Section 2.08 Mutilated, Destroyed, Lost and Stolen Securities.

(a) If any mutilated Security is surrendered to the Trustee, the Company shall execute and the Trustee shall authenticate and make available for delivery in exchange therefor a new Security of the same Series and of like tenor and principal amount and bearing a number not contemporaneously outstanding. If there shall be delivered to the Company and the Trustee (i) evidence to their satisfaction of the destruction, loss or theft of any Security and (ii) such security or indemnity as may be required by them to save each of them and any agent of either of them harmless, then, in the absence of notice to the Company or the Trustee that such Security has been acquired by a protected purchaser, the Company shall execute and upon its request the Trustee shall authenticate and make available for delivery, in lieu of any such destroyed, lost or stolen Security, a new Security of the same Series and of like tenor and principal amount and bearing a number not contemporaneously outstanding. In case any such mutilated, destroyed, lost or stolen Security has become due and payable, the Company in its discretion may, instead of issuing a new Security, pay such Security.

(b) Upon the issuance of any new Security under this Section, the Company may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Trustee) connected therewith. Every new Security of any Series issued pursuant to this Section in lieu of any destroyed, lost or stolen Security shall constitute an original additional contractual obligation of the Company, whether or not the destroyed, lost or stolen Security shall be at any time enforceable by anyone, and shall be entitled to all the benefits of this Indenture equally and proportionately with any and all other Securities of that Series duly issued hereunder. The provisions of this Section are exclusive and shall preclude (to the extent lawful) all other rights and remedies with respect to the replacement or payment of mutilated, destroyed, lost or stolen Securities.

Section 2.09 Outstanding Securities. The Securities outstanding at any time are all the Securities authenticated by the Trustee except for those canceled by it, those delivered to it for cancellation, those reductions in the interest on a Global Security effected by the Trustee in accordance with the provisions hereof and those described in this Section as not outstanding. If a Security is replaced pursuant to Section 2.08, it ceases to be outstanding until the Trustee receives proof satisfactory to it that the replaced Security is held by a protected purchaser. If the Paying Agent (other than the Company, a Subsidiary of the Company or an Affiliate of the Company) holds on the Maturity of Securities of a Series money sufficient to pay such Securities payable on that date, then on and after that date such Securities of the Series cease to be outstanding and interest on them ceases to accrue. A Security does not cease to be outstanding because the Company or an Affiliate of the Company holds the Security. In determining whether the Holders of the requisite principal amount of outstanding Securities have given any request, demand, authorization, direction, notice, consent or waiver hereunder, the principal amount of a Discount Security that shall be deemed to be outstanding for such purposes shall be the amount of the principal thereof that would be due and payable as of the date of such determination upon a declaration of acceleration of the Maturity thereof pursuant to Section 6.02.

Section 2.10 Treasury Securities. In determining whether the Holders of the required principal amount of Securities of a Series have concurred in any request, demand, authorization, direction, notice, consent or waiver, Securities of a Series owned by the Company shall be disregarded, except that for the purposes of determining whether the Trustee shall be protected in relying on any such request, demand, authorization, direction, notice, consent or waiver, only Securities of a Series that a Responsible Officer of the Trustee knows are so owned shall be so disregarded.

Section 2.11 Temporary Securities. Until definitive Securities are ready for delivery, the Company may prepare and the Trustee shall authenticate temporary Securities upon a Company Order. Temporary Securities shall be substantially in the form of definitive Securities but may have variations that the Company considers appropriate for temporary Securities. Without unreasonable delay, the Company shall prepare and the Trustee upon request shall authenticate definitive Securities of the same Series and date of maturity in exchange for temporary Securities. Until so exchanged, temporary securities shall have the same rights under this Indenture as the definitive Securities.

Section 2.12 Cancellation. The Company at any time may deliver Securities to the Trustee for cancellation. The Registrar and the Paying Agent shall forward to the Trustee any Securities surrendered to them for registration of transfer, exchange or payment. The Trustee shall cancel all Securities surrendered for registration of transfer, exchange, payment, replacement or cancellation in accordance with its customary procedures. The Company may not issue new Securities to replace Securities that it has paid or delivered to the Trustee for cancellation.

Section 2.13 Defaulted Interest. If the Company defaults in a payment of interest on a Series of Securities, it shall pay the defaulted interest at the rate established for the particular Series, if any, plus, to the extent permitted by law, any interest payable on the defaulted interest, to the persons who are Holders of the Series on a subsequent special record date. The Company shall fix the special record date and payment date; provided that if no rate for defaulted interest is specified for any Series of Securities, then the defaulted interest rate shall be the interest rate specified for such Series of Securities. At least ten (10) days before the special record date, the Company shall deliver to the Trustee and to each Holder of the Series a notice that states the record date, the related payment date and the amount of interest to be paid. The Company may also pay defaulted interest in any other lawful manner.

Section 2.14 Global Securities

(a) **Terms of Securities.** A Board Resolution, a supplemental indenture hereto or an Officers' Certificate shall establish whether the Securities of a Series shall be issued in whole or in part in the form of one or more Global Securities and the Depositary for such Global Security or Securities.

(b) **Transfer and Exchange.** Notwithstanding any provisions to the contrary contained in Section 2.07 of the Indenture and in addition thereto, any Global Security shall be exchangeable pursuant to Section 2.07 of the Indenture for Securities registered in the names of Holders other than the Depositary for such Security or its nominee only if (i) such Depositary notifies the Company that it is unwilling or unable to continue as Depositary for such Global Security or if at any time such Depositary ceases to be a clearing agency registered under the Exchange Act, and, in either case, the Company fails to appoint a successor Depositary registered as a clearing agency under the Exchange Act within 90 days of such event, (ii) the Company executes and delivers to the Trustee an Officers' Certificate to the effect that such Global Security shall be so exchangeable or (iii) an Event of Default with respect to the Securities represented by such Global Security shall have happened and be continuing. Any Global Security that is exchangeable pursuant to the preceding sentence shall be exchangeable for Securities registered in such names as the Depositary shall direct in writing in an aggregate principal amount equal to the principal amount of the Global Security with like tenor and terms.

(c) Except as provided in this Section 2.14(c), a Global Security may not be transferred except as a whole by the Depositary with respect to such Global Security to a nominee of such Depositary, by a nominee of such Depositary to such Depositary or another nominee of such Depositary or by the Depositary or any such nominee to a successor Depositary or a nominee of such a successor Depositary.

(d) Legend. Any Global Security issued hereunder shall bear a legend in substantially the following form:

“This Security is a Global Security within the meaning of the Indenture hereinafter referred to and is registered in the name of the Depositary or a nominee of the Depositary. This Security is exchangeable for Securities registered in the name of a person other than the Depositary or its nominee only in the limited circumstances described in the Indenture, and may not be transferred except as a whole by the Depositary to a nominee of the Depositary, by a nominee of the Depositary to the Depositary or another nominee of the Depositary or by the Depositary or any such nominee to a successor Depositary or a nominee of such a successor Depositary.”

(e) Acts of Holders. The Depositary, as a Holder, may appoint agents and otherwise authorize participants to give or take any request, demand, authorization, direction, notice, consent, waiver or other action which a Holder is entitled to give or take under the Indenture.

(f) Payments. Notwithstanding the other provisions of this Indenture, unless otherwise specified as contemplated by Section 2.02, payment of the principal of and interest, if any, on any Global Security shall be made to the Holder thereof.

(g) Consents, Declaration and Directions. Except as provided in Section 2.14(g), the Company, the Trustee and any Agent shall treat a person as the Holder of such principal amount of outstanding Securities of such Series represented by a Global Security as shall be specified in a written statement of the Depositary with respect to such Global Security, for purposes of obtaining any consents, declarations, waivers or directions required to be given by the Holders pursuant to this Indenture.

(h) The Depositary or its nominee, as registered owner of a Global Security, shall be the Holder of such Global Security for all purposes under the Indenture and the Securities, and owners of beneficial interests in a Global Security shall hold such interests pursuant to the Applicable Procedures. Accordingly, any such owner's beneficial interest in a Global Security will be shown only on, and the transfer of such interest shall be effected only through, records maintained by the Depositary or its nominee and such owners of beneficial interests in a Global Security will not be considered the owners or holders thereof. Notwithstanding any other provision of this Indenture or any Security, where this Indenture or any Global Security provides for notice of any event (including any notice of redemption or repurchase) to a Holder of a Global Security (whether by mail or otherwise), such notice shall be sufficiently given if given to the Depositary (or its designee) pursuant to the standing instructions from the Depositary or its designee, including by electronic mail in accordance with applicable Depositary procedures.

Section 2.15 CUSIP Numbers. The Company in issuing the Securities may use “CUSIP” numbers (if then generally in use), and, if so, the Trustee shall use “CUSIP” numbers in notices of redemption as a convenience to Holders; provided that any such notice may state that no representation is made as to the correctness of such numbers either as printed on the Securities or as contained in any notice of a redemption and that reliance may be placed only on the other elements of identification printed on the Securities, and any such redemption shall not be affected by any defect in or omission of such numbers. The Company shall promptly notify the Trustee of any change in “CUSIP” numbers of which the Company becomes aware.

ARTICLE III REDEMPTION

Section 3.01 Notice to Trustee. The Company may, with respect to any Series of Securities, reserve the right to redeem and pay the Series of Securities or may covenant to redeem and pay the Series of Securities or any part thereof prior to the Stated Maturity thereof at such time and on such terms as provided for in such Securities. If a Series of Securities is redeemable and the Company wants or is obligated to redeem prior to the Stated Maturity thereof all or part of the Series of Securities pursuant to the terms of such Securities, it shall notify the Trustee of the redemption date and the principal amount of the Series of Securities to be redeemed.

Section 3.02 Selection of Securities to be Redeemed. Unless otherwise indicated for a particular Series by a Board Resolution, a supplemental indenture or an Officers’ Certificate, if less than all the Securities of a Series are to be redeemed, the Trustee shall select the Securities of the Series to be redeemed in any manner that the Trustee deems fair and appropriate. The Trustee shall make the selection from Securities of the Series outstanding not previously called for redemption. Securities of a Series and portions selected for redemption shall be in amounts of \$1,000 or whole multiples of \$1,000 or, with respect to Securities of any Series issuable in other denominations pursuant to Section 2.02(j), the minimum principal denomination for each Series and integral multiples thereof. Provisions of this Indenture that apply to Securities of a Series called for redemption also apply to portions of Securities of that Series called for redemption. The Trustee shall not be liable for the selection made in accordance with this Section 3.02.

Section 3.03 Notice of Redemption.

(a) Unless otherwise specified for a particular Series by a Board Resolution, a supplemental indenture or an Officers’ Certificate, at least 30 days but not more than 60 days before a redemption date, the Company shall deliver notice of redemption to each Holder whose Securities are to be redeemed. The notice shall identify the Securities of the Series to be redeemed and shall state:

- (i) the redemption date;
- (ii) the redemption price or the manner of the calculation of the redemption price;

- (iii) the name and address of the Paying Agent;
- (iv) that Securities of the Series called for redemption must be surrendered to the Paying Agent to collect the redemption price;
- (v) that interest on Securities of the Series called for redemption ceases to accrue on and after the redemption date;
- (vi) the CUSIP number, if any; and
- (vii) any other information as may be required by the terms of the particular Series or the Securities of a Series being redeemed.

At the Company's request, the Trustee shall give the notice of redemption in the Company's name and at its expense; provided that the Company shall have delivered to the Trustee, at least five Business Days (or such shorter period as the Trustee may consent to in writing) before notice of redemption is required to be delivered or caused to be delivered to Holders pursuant to this Section 3.03, an Officers' Certificate of the Company requesting that the Trustee give such notice and setting forth the information to be stated in such notice as provided in the preceding paragraph.

Section 3.04 Effect of Notice of Redemption. Once notice of redemption is delivered as provided in Section 3.03, Securities of a Series called for redemption become due and payable on the redemption date and at the redemption price. A notice of redemption may not be conditional. Upon surrender to the Paying Agent, such Securities shall be paid at the redemption price plus accrued interest to the redemption date; provided that installments of interest whose Stated Maturity is on or prior to the redemption date shall be payable to the Holders of such Securities (or one or more predecessor Securities) registered at the close of business on the relevant record date therefor according to their terms and the terms of this Indenture.

Section 3.05 Deposit of Redemption Price. Unless otherwise indicated for a particular Series by a Board Resolution, a supplemental indenture or an Officers' Certificate, on or before 11:00 a.m., New York City time, on the redemption date, the Company shall deposit with the Paying Agent money sufficient to pay the redemption price of and accrued interest, if any, on all Securities to be redeemed on that date.

Section 3.06 Securities Redeemed in Part. Upon surrender of a Security that is redeemed in part, the Company shall issue and the Trustee shall authenticate for the Holder a new Security of the same Series and the same maturity equal in principal amount to the unredeemed portion of the Security surrendered.

**ARTICLE IV
COVENANTS**

Section 4.01 Payment of Principal and Interest. The Company covenants and agrees for the benefit of the Holders of each Series of Securities that it will duly and punctually pay the principal of and interest, if any, on the Securities of that Series in accordance with the terms of such Securities and this Indenture.

Section 4.02 SEC Reports. Any information, documents or other reports that the Company shall file with the Commission pursuant to Section 13 or 15(d) of the Exchange Act shall be filed with the Trustee within 15 days after the same is filed with the Commission; provided that any such information, documents or reports filed or furnished with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval (or EDGAR) system shall be deemed filed with the Trustee as of the time such information, documents or reports are filed or furnished via EDGAR.

Section 4.03 Compliance Certificate. The Company shall, so long as any of the Securities are outstanding, deliver to the Trustee, within 120 days after the end of each fiscal year of the Company, an Officers' Certificate stating whether or not to the knowledge of the signers thereof the Company is in default in the performance and observance of any of the terms, provisions and conditions hereof (without regard to any period of grace or requirement of notice provided hereunder), and if a Default or Event of Default shall have occurred, specifying all such Defaults or Events of Default and the nature and status thereof of which they may have knowledge.

Section 4.04 Stay, Extension and Usury Laws. The Company covenants (to the extent that it may lawfully do so) that it will not at any time insist upon, plead or in any manner whatsoever claim or take the benefit or advantage of, any stay, extension or usury law wherever enacted, now or at any time hereafter in force, which may affect the covenants or the performance of this Indenture or the Securities or any other law that would prohibit or forgive the Company from paying all or any portion of the principal of, or interest on, the Securities as contemplated in the Indenture, any indenture supplemental thereto relating to the Securities or the Securities and the Company (to the extent it may lawfully do so) hereby expressly waives all benefit or advantage of any such law and covenants that it will not, by resort to any such law, hinder, delay or impede the execution of any power herein granted to the Trustee, but will suffer and permit the execution of every such power as though no such law has been enacted.

**ARTICLE V
SUCCESSORS**

Section 5.01 When Company May Merge, Etc. The Company shall not consolidate with or merge with or into, or convey, transfer or lease all or substantially all of its properties and assets to, another person (a "Successor Person") unless:

- (a) the Company is the surviving corporation or the Successor Person (if other than the Company) is organized and validly existing under the laws of any U.S. domestic jurisdiction and expressly assumes the Company's obligations on the Securities and under this Indenture; and
- (b) immediately after giving effect to the transaction, no Default or Event of Default shall have occurred and be continuing.

The Company shall deliver to the Trustee prior to the consummation of the proposed transaction an Officers' Certificate to the foregoing effect and an Opinion of Counsel stating that the proposed transaction and any supplemental indenture comply with this Indenture.

Section 5.02 Successor Corporation Substituted. Upon any consolidation or merger, or any sale, lease, conveyance or other disposition of all or substantially all of the assets of the Company in accordance with Section 5.01, the successor corporation formed by such consolidation or into or with which the Company is merged or to which such sale, lease, conveyance or other disposition is made shall succeed to, and be substituted for, and may exercise every right and power of, the Company under this Indenture with the same effect as if such Successor Person has been named as the Company herein; provided, however, that the predecessor Company in the case of a sale, conveyance or other disposition (other than a lease) shall be released from all obligations and covenants under this Indenture and the Securities.

ARTICLE VI DEFAULTS AND REMEDIES

Section 6.01 Events of Default.

"*Event of Default*," wherever used herein with respect to Securities of any Series, means any one of the following events, unless in the establishing Board Resolution, supplemental indenture or Officers' Certificate, it is provided that such Series shall not have the benefit of said Event of Default or the terms of such Event of Default have been modified or superceded as set forth in the Board Resolution, supplemental indenture or Officers' Certificate for such Securities of any Series:

(a) default in the payment of any interest on any Security of that Series when it becomes due and payable, and continuance of such default for a period of 30 days (unless the entire amount of such payment is deposited by the Company with the Trustee or with a Paying Agent prior to the expiration of such period of 30 days); or

(b) default in the payment of principal of any Security of that Series at its Maturity; or

(c) default in the performance or breach of any covenant or warranty of the Company in this Indenture (other than a covenant or warranty for which the consequences of nonperformance or breach are addressed elsewhere in this Section 6.01 and other than a covenant or warranty that has been included in this Indenture solely for the benefit of a Series of Securities other than that Series), which default continues uncured for a period of 60 days after there has been given, by registered or certified mail, to the Company by the Trustee or to the Company and the Trustee by the Holders of not less than a majority in principal amount of the outstanding Securities of that Series a written notice specifying such default or breach and requiring it to be remedied and stating that such notice is a "Notice of Default" hereunder; or

(d) the Company pursuant to or within the meaning of any Bankruptcy Law:

- (i) commences a voluntary case or proceeding;
- (ii) consents to the entry of an order for relief against it in an involuntary case,
- (iii) consents to the appointment of a Custodian of it or for all or substantially all of its property,
- (iv) makes a general assignment for the benefit of its creditors, or
- (v) makes an admission in writing that it is generally unable to pay its debts as the same become due; or

(e) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that:

- (i) is for relief against the Company in an involuntary case,
- (ii) appoints a Custodian of the Company or for all or substantially all of its property, or
- (iii) orders the liquidation of the Company, and the order or decree remains unstayed and in effect for 90 days; or

(f) any other Event of Default provided with respect to Securities of that Series, which is specified in a Board Resolution, a supplemental indenture hereto or an Officers' Certificate, in accordance with Section 2.02(n).

The term "*Bankruptcy Law*" means Title 11 of the U.S. Code or any similar federal or state law for the relief of debtors. The term "*Custodian*" means any receiver, trustee, assignee, liquidator or similar official under any Bankruptcy Law.

Section 6.02 Acceleration of Maturity; Rescission and Annulment. If an Event of Default with respect to Securities of any Series at the time outstanding occurs and is continuing (other than an Event of Default referred to in Section 6.01(d) or (e)), then in every such case the Trustee or the Holders of not less than a majority in principal amount of the outstanding Securities of that Series may declare the principal amount (or, if any Securities of that Series are Discount Securities, such portion of the principal amount as may be specified in the terms of such Securities) of and accrued and unpaid interest, if any, on all of the Securities of that Series to be due and payable immediately, by a notice in writing to the Company (and to the Trustee if given by Holders), and upon any such declaration such principal amount (or specified amount) and accrued and unpaid interest, if any, shall become immediately due and payable. If an Event of Default specified in Section 6.01(d) or (e) shall occur, the principal amount (or specified amount) of and accrued and unpaid interest, if any, on all outstanding Securities shall be immediately due and payable without any declaration or other act on the part of the Trustee or any Holder. At any time after such a

declaration of acceleration with respect to any Series has been made and before a judgment or decree for payment of the money due has been obtained by the Trustee as hereinafter in this Article; provided that the Holders of a majority in principal amount of the outstanding Securities of that Series, by written notice to the Company and the Trustee, may rescind and annul such declaration and its consequences if all Events of Default with respect to Securities of that Series, other than the non-payment of the principal and interest, if any, of Securities of that Series which have become due solely by such declaration of acceleration, have been cured or waived as provided in Section 6.13. No such rescission shall affect any subsequent Default or impair any right consequent thereon.

Section 6.03 Collection of Indebtedness and Suits for Enforcement by Trustee.

The Company covenants that if:

(a) default is made in the payment of any interest on any Security when such interest becomes due and payable and such default continues for a period of 30 days, or

(b) default is made in the payment of principal of any Security at the Maturity thereof,

then the Company will, upon demand of the Trustee, pay to it, for the benefit of the Holders of such Securities, the whole amount then due and payable on such Securities for principal and interest and, to the extent that payment of such interest shall be legally enforceable, interest on any overdue principal and any overdue interest at the rate or rates prescribed therefor in such Securities and, in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, including the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel.

If the Company fails to pay such amounts forthwith upon such demand, the Trustee, in its own name and as trustee of an express trust, may institute a judicial proceeding for the collection of the sums so due and unpaid, may prosecute such proceeding to judgment or final decree and may enforce the same against the Company or any other obligor upon such Securities and collect the moneys adjudged or deemed to be payable in the manner provided by law out of the property of the Company or any other obligor upon such Securities, wherever situated.

If an Event of Default with respect to any Securities of any Series occurs and is continuing, the Trustee may in its discretion proceed to protect and enforce its rights and the rights of the Holders of Securities of such Series by such appropriate judicial proceedings as the Trustee shall deem most effectual to protect and enforce any such rights, whether for the specific enforcement of any covenant or agreement in this Indenture or in aid of the exercise of any power granted herein, or to enforce any other proper remedy.

Section 6.04 Trustee May File Proofs of Claim. In case of the pendency of any receivership, insolvency, liquidation, bankruptcy, reorganization, arrangement, adjustment, composition or other judicial proceeding relative to the Company or any other obligor upon the Securities or the property of the Company or of such other obligor or their creditors, the Trustee

(irrespective of whether the principal of the Securities shall then be due and payable as therein expressed or by declaration or otherwise and irrespective of whether the Trustee shall have made any demand on the Company for the payment of overdue principal or interest) shall be entitled and empowered, by intervention in such proceeding or otherwise, (a) to file and prove a claim for the whole amount of principal and interest owing and unpaid in respect of the Securities and to file such other papers or documents as may be necessary or advisable in order to have the claims of the Trustee (including any claim for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel) and of the Holders allowed in such judicial proceeding, and (b) to collect and receive any moneys or other property payable or deliverable on any such claims and to distribute the same, and any custodian, receiver, assignee, trustee, liquidator, sequestrator or other similar official in any such judicial proceeding is hereby authorized by each Holder to make such payments to the Trustee and, in the event that the Trustee shall consent to the making of such payments directly to the Holders, to pay to the Trustee any amount due it for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, and any other amounts due the Trustee under Section 7.07. Nothing herein contained shall be deemed to authorize the Trustee to authorize or consent to or accept or adopt on behalf of any Holder any plan of reorganization, arrangement, adjustment or composition affecting the Securities or the rights of any Holder thereof or to authorize the Trustee to vote in respect of the claim of any Holder in any such proceeding.

Section 6.05 Trustee May Enforce Claims Without Possession of Securities. All rights of action and claims under this Indenture or the Securities may be prosecuted and enforced by the Trustee without the possession of any of the Securities or the production thereof in any proceeding relating thereto, and any such proceeding instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment shall, after provision for the payment of the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, be for the ratable benefit of the Holders of the Securities in respect of which such judgment has been recovered.

Section 6.06 Application of Money Collected.

Any money collected by the Trustee pursuant to this Article shall be applied in the following order, at the date or dates fixed by the Trustee and, in case of the distribution of such money on account of principal or interest, upon presentation of the Securities and the notation thereon of the payment if only partially paid and upon surrender thereof if fully paid:

First: To the payment of all amounts due the Trustee under Section 7.07; and

Second: To the payment of the amounts then due and unpaid for principal of and interest on the Securities in respect of which or for the benefit of which such money has been collected, ratably, without preference or priority of any kind, according to the amounts due and payable on such Securities for principal and interest, respectively; and

Third: To the Company.

Section 6.07 Limitation on Suits. No Holder of any Security of any Series shall have any right to institute any proceeding, judicial or otherwise, with respect to this Indenture, or for the appointment of a receiver or trustee, or for any other remedy hereunder, unless:

(a) such Holder has previously given written notice to the Trustee of a continuing Event of Default with respect to the Securities of that Series;

(b) the Holders of at least a majority in principal amount of the outstanding Securities of that Series shall have made written request to the Trustee to institute proceedings in respect of such Event of Default in its own name as Trustee hereunder;

(c) such Holder or Holders shall have offered to the Trustee security or indemnity satisfactory to it against the costs, expenses and liabilities to be incurred in compliance with such request;

(d) the Trustee for 60 days after its receipt of such notice, request and offer of indemnity has failed to institute any such proceeding; and

(e) no direction inconsistent with such written request has been given to the Trustee during such 60-day period by the Holders of a majority in principal amount of the outstanding Securities of that Series;

it being understood and intended that no one or more of such Holders shall have any right in any manner whatever by virtue of, or by availing of, any provision of this Indenture to affect, disturb or prejudice the rights of any other of such Holders, or to obtain or to seek to obtain priority or preference over any other of such Holders or to enforce any right under this Indenture, except in the manner herein provided and for the equal and ratable benefit of all such Holders.

Section 6.08 Unconditional Right of Holders to Receive Principal and Interest. Notwithstanding any other provision in this Indenture, the Holder of any Security shall have the right, which is absolute and unconditional, to receive payment of the principal of and interest, if any, on such Security on the Stated Maturity or Stated Maturities expressed in such Security (or, in the case of redemption, on the redemption date) and to institute suit for the enforcement of any such payment, and such rights shall not be impaired without the consent of such Holder.

Section 6.09 Restoration of Rights and Remedies. If the Trustee or any Holder has instituted any proceeding to enforce any right or remedy under this Indenture and such proceeding has been discontinued or abandoned for any reason, or has been determined adversely to the Trustee or to such Holder, then and in every such case, subject to any determination in such proceeding, the Company, the Trustee and the Holders shall be restored severally and respectively to their former positions hereunder and thereafter all rights and remedies of the Trustee and the Holders shall continue as though no such proceeding had been instituted.

Section 6.10 Rights and Remedies Cumulative. Except as otherwise provided with respect to the replacement or payment of mutilated, destroyed, lost or stolen Securities in Section 2.08, no right or remedy herein conferred upon or reserved to the Trustee or to the Holders is intended to be exclusive of any other right or remedy, and every right and remedy shall, to the extent permitted by law, be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not, to the extent permitted by law, prevent the concurrent assertion or employment of any other appropriate right or remedy.

Section 6.11 Delay or Omission Not Waiver. No delay or omission of the Trustee or of any Holder of any Securities to exercise any right or remedy accruing upon any Event of Default shall impair any such right or remedy or constitute a waiver of any such Event of Default or an acquiescence therein. Every right and remedy given by this Article or by law to the Trustee or to the Holders may be exercised from time to time, and as often as may be deemed expedient, by the Trustee or by the Holders, as the case may be.

Section 6.12 Control by Holders. Subject to Section 7.02(f), the Holders of a majority in principal amount of the outstanding Securities of any Series shall have the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred on the Trustee, with respect to the Securities of such Series, provided that:

(a) such direction shall not be in conflict with any rule of law or with this Indenture,

(b) the Trustee may take any other action deemed proper by the Trustee which is not inconsistent with such direction, and

(c) subject to the provisions of Section 7.01, the Trustee shall have the right to decline to follow any such direction if the Trustee in good faith shall, by a Responsible Officer of the Trustee, determine that the proceeding so directed would involve the Trustee in personal liability.

Section 6.13 Waiver of Past Defaults. The Holders of not less than a majority in principal amount of the outstanding Securities of any Series may on behalf of the Holders of all the Securities of such Series waive any past Default hereunder with respect to such Series and its consequences, except a Default (i) in the payment of the principal of or interest on any Security of such Series (provided, however, that the Holders of a majority in principal amount of the outstanding Securities of any Series may rescind an acceleration and its consequences, including any related payment default that resulted from such acceleration) or (ii) in respect of a covenant or provision hereof which cannot be modified or amended without the consent of the Holder of each outstanding Security of such Series affected. Upon any such waiver, such Default shall cease to exist, and any Event of Default arising therefrom shall be deemed to have been cured, for every purpose of this Indenture; but no such waiver shall extend to any subsequent or other Default or impair any right consequent thereon.

Section 6.14 Undertaking for Costs. All parties to this Indenture agree, and each Holder of any Security by his acceptance thereof shall be deemed to have agreed, that any court may in its discretion require, in any suit for the enforcement of any right or remedy under this Indenture, or in any suit against the Trustee for any action taken, suffered or omitted by it as Trustee, the filing by any party litigant in such suit of an undertaking to pay the costs of such suit, and that such court may in its discretion assess reasonable costs, including reasonable attorneys' fees, against any party litigant in such suit, having due regard to the merits and good faith of the claims or defenses made by such party litigant; but the provisions of this Section shall not apply to any suit instituted by the Company, to any suit instituted by the Trustee, to any suit instituted by any Holder, or group of Holders, holding in the aggregate more than 10% in principal amount of the outstanding Securities of any Series, or to any suit instituted by any Holder for the enforcement of the payment of the principal of or interest on any Security on or after the Stated Maturity or Stated Maturities expressed in such Security (or, in the case of redemption, on the redemption date).

ARTICLE VII TRUSTEE

Section 7.01 Duties of Trustee.

(a) If an Event of Default has occurred and is continuing, the Trustee shall exercise the rights and powers vested in it by this Indenture and use the same degree of care and skill in their exercise as a prudent person would exercise or use under the circumstances in the conduct of such person's own affairs.

(b) Except during the continuance of an Event of Default:

(i) The Trustee need perform only those duties that are specifically set forth in this Indenture and no others and no implied covenants or obligations shall be read into this Indenture against the Trustee.

(ii) In the absence of bad faith on its part, the Trustee may conclusively rely and is fully protected, as to the truth of the statements and the correctness of the opinions expressed therein, upon Officers' Certificates or Opinions of Counsel furnished to the Trustee and conforming to the requirements of this Indenture; however, in the case of any such Officers' Certificates or Opinions of Counsel which by any provisions hereof are specifically required to be furnished to the Trustee, the Trustee shall examine such Officers' Certificates and Opinions of Counsel to determine whether or not they conform to the requirements of this Indenture (but need not confirm or investigate the accuracy of mathematical calculations or other facts stated therein).

(c) The Trustee may not be relieved from liability for its own negligent action, its own negligent failure to act or its own willful misconduct, except that:

(i) This paragraph does not limit the effect of paragraph (b) of this Section.

(ii) The Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer, unless it is proved that the Trustee was negligent in ascertaining the pertinent facts.

(iii) The Trustee shall not be liable with respect to any action taken, suffered or omitted to be taken by it with respect to Securities of any Series in good faith in accordance with the direction of the Holders of a majority in principal amount of the outstanding Securities of such Series relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, under this Indenture with respect to the Securities of such Series.

(d) Every provision of this Indenture that in any way relates to the Trustee is subject to paragraph (a), (b) and (c) of this Section.

(e) The Trustee may refuse to perform any duty or exercise any right or power at the request or direction of any Holder unless it receives indemnity reasonably satisfactory to it against any loss, liability or expense.

(f) The Trustee shall not be liable for interest on any money received by it except as the Trustee may agree in writing with the Company. Money held in trust by the Trustee need not be segregated from other funds except to the extent required by law.

(g) No provision of this Indenture shall require the Trustee to risk its own funds or otherwise incur any financial liability in the performance of any of its duties, or in the exercise of any of its rights or powers, if it shall have reasonable grounds for believing that repayment of such funds or adequate indemnity against such risk is not reasonably assured to it.

(h) The rights, privileges, protections, immunities and benefits given to the Trustee, including the right to be indemnified, are extended to, and shall be enforceable by the Trustee in each of its capacities hereunder and to its agents. The provisions set forth in paragraphs (a), (b) and (c) of this Section shall apply to the Trustee in each of its capacities hereunder and its agents.

Section 7.02 Rights of Trustee.

(a) The Trustee may conclusively rely on and shall be protected in acting or refraining from acting upon any document believed by it to be genuine and to have been signed or presented by the proper person. The Trustee need not investigate any fact or matter stated in the document.

(b) Before the Trustee acts or refrains from acting at the direction of the Company, it may require an Officers' Certificate. The Trustee shall not be liable for any action it takes or omits to take in good faith in reliance on such Officers' Certificate.

(c) The Trustee may act through agents and shall not be responsible for the misconduct or negligence of any agent appointed with due care. No Depositary shall be deemed an agent of the Trustee, and the Trustee shall not be responsible for any act or omission by any Depositary.

(d) The Trustee shall not be liable for any action it takes or omits to take in good faith which it believes to be authorized or within its rights or powers, provided that the Trustee's conduct does not constitute negligence or willful misconduct.

(e) The Trustee may consult with counsel, and the advice of such counsel or any Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken, suffered or omitted by it hereunder without negligence and in good faith and in reliance thereon.

(f) The Trustee shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request or direction of any of the Holders of Securities unless such Holders shall have offered to the Trustee security or indemnity satisfactory to it against the costs, expenses and liabilities which might be incurred by it in compliance with such request or direction.

(g) The Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture, note, other evidence of indebtedness or other paper or document believed by the Trustee to be genuine and to have been signed or delivered by the proper person.

(h) The Trustee shall not be deemed to have notice of any Default or Event of Default, other than a failure by the Company to make any payment hereunder when due if the Trustee is the Paying Agent, unless a Responsible Officer of the Trustee has actual knowledge thereof or unless written notice of any event which is in fact such a default is received by the Trustee at the Corporate Trust Office of the Trustee, and such notice references the Securities generally or the Securities of a particular Series and this Indenture and states that it is a "notice of default."

(i) The permissive rights of the Trustee enumerated herein shall not be construed as duties.

(j) In no event shall the Trustee be responsible or liable for any special, indirect, punitive, incidental or consequential loss or damage of any kind whatsoever (including, but not limited to, lost profits) irrespective of whether the Trustee has been advised of the likelihood of such loss or damage and regardless of the form of action.

(k) Neither the Trustee nor any Agent shall be responsible or liable for any failure or delay in the performance of its obligation under this Indenture arising out of or caused, directly or indirectly, by circumstances beyond its reasonable control, including, without limitation, acts of God; earthquakes; fire; flood; wars; acts of terrorism; civil or military disturbances; sabotage;

epidemic; riots; interruptions, loss or malfunctions of utilities, computer (hardware or software) or communications services; accidents; labor disputes; acts of civil or military authority or governmental action; it being understood that each of the Trustee and Agents shall use commercially reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as reasonably practicable under the circumstances.

(l) The Trustee shall not be required to give any bond or surety in respect of the performance of its powers and duties hereunder.

Section 7.03 Individual Rights of Trustee. The Trustee in its individual or any other capacity may become the owner or pledgee of Securities and may otherwise deal with the Company or an Affiliate of the Company with the same rights it would have if it were not Trustee. Any Agent may do the same with like rights. The Trustee is also subject to Sections 7.10 and 7.11.

Section 7.04 Trustee's Disclaimer. The Trustee makes no representation as to the validity or adequacy of this Indenture or the Securities, it shall not be accountable for the Company's use of the proceeds from the Securities, and it shall not be responsible for any statement in the Securities other than its authentication.

Section 7.05 Notice of Defaults. If a Default or Event of Default occurs and is continuing with respect to the Securities of any Series and if it is known to a Responsible Officer of the Trustee, the Trustee shall deliver to each Holder of the Securities of that Series notice of a Default or Event of Default within 90 days after it occurs or, if later, after a Responsible Officer of the Trustee has knowledge of such Default or Event of Default. Except in the case of a Default or Event of Default in payment of principal of or interest on any Security of any Series, the Trustee may withhold the notice if and so long as it in good faith determines that withholding the notice is in the interests of Holders of that Series.

Section 7.06 Reports by Trustee to Holders. Within 60 days after March 15 in each year, the Trustee shall transmit by deliver to all Holders, as their names and addresses appear on the register kept by the Registrar a brief report dated as of such March 15, in accordance with, and to the extent required under, TIA Section 313. A copy of each report at the time of its delivery to Holders of any Series shall be filed with the SEC and each stock exchange on which the Securities of that Series are listed. The Company shall promptly notify the Trustee when Securities of any Series are listed on any stock exchange.

Section 7.07 Compensation and Indemnity. The Company shall pay to the Trustee from time to time compensation for its services as the Company and the Trustee shall from time to time agree upon in writing. The Trustee's compensation shall not be limited by any law on compensation of a trustee of an express trust. The Company shall reimburse the Trustee upon request for all reasonable out-of-pocket expenses incurred by it. Such expenses shall include the reasonable compensation and expenses of the Trustee's agents and counsel. The Company shall indemnify each of the Trustee and any predecessor Trustee (including the cost of defending itself) against any loss, liability or expense, including taxes (other than taxes based upon, measured by or determined by the income of the Trustee) incurred by it except as set forth in this Section 7.07 in the performance of its

duties under this Indenture as Trustee or Agent. The Trustee shall notify the Company promptly of any claim for which it may seek indemnity. Failure or delay by the Trustee to so notify the Company of any claim for which it may seek indemnity shall not relieve the Company of its obligations hereunder except to the extent such failure or delay shall have materially prejudiced the Company. The Company shall defend the claim and the Trustee shall cooperate in the defense. The Trustee may have one separate counsel and the Company shall pay the reasonable fees and expenses of such counsel. The Company need not pay for any settlement made without its consent, which consent shall not be unreasonably withheld. This indemnification shall apply to officers, directors, employees, shareholders and agents of the Trustee. The Company need not reimburse any expense or indemnify against any loss or liability incurred by the Trustee or by any officer, director, employee, shareholder or agent of the Trustee through the gross negligence or willful misconduct of any such persons as determined by a final order of a court of competent jurisdiction. When the Trustee incurs expenses or renders services after an Event of Default specified in Section 6.01(d) or (e) occurs, the expenses and the compensation for the services are intended to constitute expenses of administration under any insolvency, bankruptcy or similar law. The provisions of this Section shall survive the resignation or removal of the Trustee and the termination or discharge of this Indenture.

Section 7.08 Replacement of Trustee. A resignation or removal of the Trustee and appointment of a successor Trustee shall become effective only upon the successor Trustee's acceptance of appointment as provided in this Section. The Trustee may resign with respect to the Securities of one or more Series by so notifying the Company at least 30 days prior to the date of the proposed resignation. The Holders of a majority in principal amount of the Securities of any Series may remove the Trustee with respect to that Series by so notifying the Trustee and the Company. The Company may remove the Trustee with respect to Securities of one or more Series if:

- (a) the Trustee fails to comply with Section 7.10;
- (b) the Trustee is adjudged bankrupt or insolvent or an order for relief is entered with respect to the Trustee under any insolvency, bankruptcy or similar law;
- (c) a custodian or public officer takes charge of the Trustee or its property; or
- (d) the Trustee becomes incapable of acting.

If the Trustee resigns or is removed or if a vacancy exists in the office of Trustee for any reason, the Company shall promptly appoint a successor Trustee.

If a successor Trustee with respect to the Securities of any one or more Series does not take office within 60 days after the retiring Trustee resigns or is removed, the retiring Trustee, the Company or the Holders of at least a majority in principal amount of the Securities of the applicable Series may petition any court of competent jurisdiction for the appointment of a successor Trustee.

A successor Trustee shall deliver a written acceptance of its appointment to the retiring Trustee and to the Company. Immediately after that, the retiring Trustee shall transfer all property held by it as Trustee to the successor Trustee subject to the lien provided for in Section 7.07, the resignation or removal of the retiring Trustee shall become effective, and the successor Trustee shall have all the rights, powers and duties of the Trustee with respect to each Series of Securities for which it is acting as Trustee under this Indenture. A successor Trustee shall deliver a notice of its succession to each Holder of each such Series. Notwithstanding replacement of the Trustee pursuant to this Section 7.08, the Company's obligations under Section 7.07 hereof shall continue for the benefit of the retiring Trustee with respect to expenses and liabilities incurred by it prior to the date of such replacement.

Section 7.09 Successor Trustee by Merger, etc. If the Trustee consolidates with, merges or converts into, or transfers all or substantially all of its corporate trust business (including administration of this Indenture) to, another corporation, the successor corporation without any further act shall be the successor Trustee.

Section 7.10 Eligibility; Disqualification. This Indenture shall always have a Trustee who satisfies the requirements of TIA Section 310(a)(1), (2) and (5) and has a combined capital and surplus of at least \$50,000,000. The Trustee shall comply with TIA Section 310(b).

Section 7.11 Preferential Collection of Claims Against Company. The Trustee is subject to TIA Section 311(a), excluding any creditor relationship listed in TIA Section 311(b). A Trustee who has resigned or been removed shall be subject to TIA Section 311(a) to the extent indicated.

ARTICLE VIII SATISFACTION AND DISCHARGE; DEFEASANCE

Section 8.01 Satisfaction and Discharge of Indenture.

This Indenture shall upon Company Order cease to be of further effect (except as hereinafter provided in this Section 8.01), and the Trustee, at the expense of the Company, shall execute proper instruments acknowledging satisfaction and discharge of this Indenture, when

(a) any of the following shall have occurred:

(i) no Securities have been issued hereunder;

(ii) all Securities theretofore authenticated and delivered (other than Securities that have been destroyed, lost or stolen and that have been replaced or paid) have been delivered to the Trustee for cancellation; or

(iii) all such Securities not theretofore delivered to the Trustee for cancellation (1) have become due and payable, or (2) will become due and payable at their Stated Maturity within one year, or (3) are to be called for redemption within one year under arrangements satisfactory to the Trustee for the giving of notice of redemption by the Trustee in the name, and at the expense, of the Company;

and the Company has irrevocably deposited or caused to be deposited with the Trustee as trust funds in trust an amount sufficient for the purpose of paying and discharging the entire indebtedness on such Securities not theretofore delivered to the Trustee for cancellation, for principal and interest to the date of such deposit (in the case of Securities which have become due and payable on or prior to the date of such deposit) or to the Stated Maturity or redemption date, as the case may be;

(b) the Company has paid or caused to be paid all other sums payable hereunder by the Company; and

(c) the Company has delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that all conditions precedent herein provided for relating to the satisfaction and discharge of this Indenture have been complied with.

Notwithstanding the satisfaction and discharge of this Indenture, the obligations of the Company to the Trustee under Section 7.07 and, if money shall have been deposited with the Trustee pursuant to clause (a) of this Section, the provisions of Sections 2.04, 2.05, 2.07, 2.08, 8.01, 8.02 and 8.05 shall survive.

Section 8.02 Application of Trust Funds; Indemnification.

(a) Subject to the provisions of Section 8.05, all money deposited with the Trustee pursuant to Section 8.01, all money and U.S. Government Obligations or Foreign Government Obligations deposited with the Trustee pursuant to Section 8.03 or 8.04 and all money received by the Trustee in respect of U.S. Government Obligations or Foreign Government Obligations deposited with the Trustee pursuant to Section 8.03 or 8.04, shall be held in trust and applied by it, in accordance with the provisions of the Securities and this Indenture, to the payment, either directly or through any Paying Agent (other than the Company acting as its own Paying Agent) as the Trustee may determine, to the persons entitled thereto, of the principal and interest for whose payment such money has been deposited with or received by the Trustee or analogous payments as contemplated by Sections 8.03 or 8.04.

(b) The Company shall pay and shall indemnify the Trustee against any tax, fee or other charge imposed on or assessed against U.S. Government Obligations or Foreign Government Obligations deposited pursuant to Sections 8.03 or 8.04 or the interest and principal received in respect of such obligations other than any payable by or on behalf of Holders.

(c) The Trustee shall deliver or pay to the Company from time to time upon Company Request any U.S. Government Obligations or Foreign Government Obligations or money held by it as provided in Sections 8.03 or 8.04 which, in the opinion of a nationally recognized firm of independent certified public accountants expressed in a written certification thereof delivered to the Trustee, are then in excess of the amount thereof which then would have been required to be deposited for the purpose for which such U.S. Government Obligations or Foreign Government Obligations or money were deposited or received. This provision shall not authorize the sale by the Trustee of any U.S. Government Obligations or Foreign Government Obligations held under this Indenture.

Section 8.03 Legal Defeasance of Securities of any Series. Unless this Section 8.03 is otherwise specified, pursuant to Section 2.02(s), to be inapplicable to Securities of any Series, the Company shall be deemed to have paid and discharged the entire indebtedness on all the outstanding Securities of any Series on the 91st day after the date of the deposit referred to in subparagraph (d) hereof, and the provisions of this Indenture, as it relates to such outstanding Securities of such Series, shall no longer be in effect (and the Trustee, at the expense of the Company, shall, at Company Request, execute such instruments reasonably requested by the Company acknowledging the same), except as to:

(a) the rights of Holders of Securities of such Series to receive, from the trust funds described in subparagraph (d) hereof, (i) payment of the principal of and each installment of principal of and interest on the outstanding Securities of such Series on the Stated Maturity of such principal or installment of principal or interest, and (ii) the benefit of any mandatory sinking fund payments applicable to the Securities of such Series on the day on which such payments are due and payable in accordance with the terms of this Indenture and the Securities of such Series; and

(b) the provisions of Sections 2.04, 2.05, 2.07, 2.08, 8.02, 8.03 and 8.05; and

(c) the rights, powers, trust and immunities of the Trustee hereunder; provided that, the following conditions shall have been satisfied:

(d) with reference to this Section 8.03, the Company shall have deposited or caused to be irrevocably deposited (except as provided in Section 8.02(c)) with the Trustee as trust funds in trust for the purpose of making the following payments, specifically pledged as security for and dedicated solely to the benefit of the Holders of such Securities (i) in the case of Securities of such Series denominated in Dollars, cash in Dollars and/or U.S. Government Obligations, or (ii) in the case of Securities of such Series denominated in a Foreign Currency (other than a composite currency), money and/or Foreign Government Obligations, which through the payment of interest and principal in respect thereof in accordance with their terms, will provide (and without reinvestment and assuming no tax liability will be imposed on such Trustee), not later than one day before the due date of any payment of money, an amount in cash, sufficient, in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee, to pay and discharge each installment of principal of and interest, if any, on and any mandatory sinking fund payments in respect of all the Securities of such Series on the dates such installments of interest or principal and such sinking fund payments are due;

(e) such deposit will not result in a breach or violation of, or constitute a default under, this Indenture or any other agreement or instrument to which the Company is a party or by which it is bound;

(f) no Default or Event of Default with respect to the Securities of such Series shall have occurred and be continuing on the date of such deposit or during the period ending on the 91st day after such date;

(g) the Company shall have delivered to the Trustee an Officers' Certificate and an Opinion of Counsel to the effect that (i) the Company has received from, or there has been published by, the Internal Revenue Service a ruling, or (ii) since the date of execution of this Indenture, there has been a change in the applicable Federal income tax law, in either case to the effect that, and based thereon such Opinion of Counsel shall confirm that, the Holders of the Securities of such Series will not recognize income, gain or loss for Federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to Federal income tax on the same amounts and in the same manner and at the same times as would have been the case if such deposit, defeasance and discharge had not occurred;

(h) the Company shall have delivered to the Trustee an Officers' Certificate stating that the deposit was not made by the Company with the intent of preferring the Holders of the Securities of such Series over any other creditors of the Company or with the intent of defeating, hindering, delaying or defrauding any other creditors of the Company;

(i) the Company shall have delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that all conditions precedent provided for relating to the defeasance contemplated by this Section have been complied with; and

(j) such defeasance shall not result in the trust arising from such deposit constituting an investment company within the meaning of the Investment Company Act of 1940, as amended, unless such trust shall be registered under such Act or exempt from registration thereunder.

Section 8.04 Covenant Defeasance. Unless this Section 8.04 is otherwise specified, pursuant to Section 2.02(s), to be inapplicable to Securities of any Series, on and after the 91st day after the date of the deposit referred to in subparagraph (a) hereof, the Company may omit to comply with respect to the Securities of any Series with any term, provision or condition set forth under Sections 4.02, 4.03, and 5.01 as well as any additional covenants specified in a supplemental indenture for such Series of Securities or a Board Resolution or an Officers' Certificate delivered pursuant to Section 2.02 (and the failure to comply with any such covenants shall not constitute a Default or Event of Default with respect to such Series under Section 6.01) and the occurrence of any event specified in a supplemental indenture for such Series of Securities or a Board Resolution or an Officers' Certificate delivered pursuant to Section 2.02 and designated as an Event of Default shall not constitute a Default or Event of Default hereunder, with respect to the Securities of such Series, provided that the following conditions shall have been satisfied:

(a) with reference to this Section 8.04, the Company has deposited or caused to be irrevocably deposited (except as provided in Section 8.02(c)) with the Trustee as trust funds in trust for the purpose of making the following payments specifically pledged as security for, and dedicated solely to, the benefit of the Holders of such Securities (i) in the case of Securities of such Series denominated in Dollars, cash in Dollars and/or U.S. Government Obligations, or (ii) in the case of Securities of such Series denominated in a Foreign Currency (other than a composite currency), money and/or Foreign Government Obligations, which through the payment of interest and principal in respect thereof in accordance with their terms, will provide (and without

reinvestment and assuming no tax liability will be imposed on such Trustee), not later than one day before the due date of any payment of money, an amount in cash, sufficient, in the opinion of a nationally recognized firm of independent certified public accountants expressed in a written certification thereof delivered to the Trustee, to pay and discharge each installment of principal of and interest, if any, on and any mandatory sinking fund payments in respect of the Securities of such Series on the dates such installments of interest or principal and such sinking fund payments are due;

(b) such deposit will not result in a breach or violation of, or constitute a default under, this Indenture or any other agreement or instrument to which the Company is a party or by which it is bound;

(c) no Default or Event of Default with respect to the Securities of such Series shall have occurred and be continuing on the date of such deposit or during the period ending on the 91st day after such date;

(d) the Company shall have delivered to the Trustee an Opinion of Counsel to the effect that Holders of the Securities of such Series will not recognize income, gain or loss for federal income tax purposes as a result of such deposit and covenant defeasance and will be subject to federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such deposit and covenant defeasance had not occurred;

(e) the Company shall have delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that all conditions precedent herein provided for relating to the covenant defeasance contemplated by this Section have been complied with; and

(f) Such defeasance shall not result in the trust arising from such deposit constituting an investment company within the meaning of the Investment Company Act of 1940, as amended, unless such trust shall be registered under such Act or exempt from registration thereunder.

Section 8.05 Repayment to Company. The Trustee and the Paying Agent shall pay to the Company upon written request any money held by them for the payment of principal and interest that remains unclaimed for two years, and after such time, Holders entitled to the money must look to the Company for payment as general creditors unless an applicable abandoned property law designates another person.

Section 8.06 Reinstatement. If the Trustee or the Paying Agent is unable to apply any money deposited with respect to Securities of any series in accordance with Section 8.01 by reason of any legal proceeding or by reason of any order or judgment of any court or governmental authority enjoining, restraining or otherwise prohibiting such application, the obligations of the Company under this Indenture with respect to the Securities of such series and under the Securities of such series shall be revived and reinstated as though no deposit had occurred pursuant to Section 8.01 until such time as the Trustee or the Paying Agent is permitted to apply all such money in accordance with Section 8.01; provided, however, that if the Company has made any payment of principal of, premium (if any) or interest on any Additional Amounts with respect to any Securities because of the reinstatement of its obligations, the Company shall be subrogated to the rights of the Holders of such Securities to receive such payment from the money held by the Trustee or the Paying Agent.

**ARTICLE IX
AMENDMENTS AND WAIVERS**

Section 9.01 Without Consent of Holders. Unless otherwise specified for a particular Series by a Board Resolution, a supplemental indenture or an Officers' Certificate, the Company and the Trustee may amend or supplement this Indenture or the Securities of one or more Series without the consent of any Holder:

(a) to evidence the succession of another person to the Company under this Indenture and the Securities and the assumption by any such Successor Person of the obligations of the Company hereunder and under the Securities;

(b) to add covenants of the Company for the benefit of the Holders of all or any series of Securities (and if such covenants are to be for the benefit of less than all series of Securities, stating that such covenants are expressly being included for the benefit of such series) or to surrender any right or power herein conferred upon the Company provided such action does not adversely affect the interests of the Holders;

(c) to add any additional Events of Default;

(d) to add to or change any of the provisions of this Indenture to such extent as shall be necessary to permit or facilitate the issuance of Securities in bearer form, registrable or not registrable as to principal, and with or without interest coupons, or to permit or facilitate the issuance of Securities in uncertificated form;

(e) to add to, change or eliminate any of the provisions of this Indenture in respect of one or more series of Securities, provided that any such addition, change or elimination (A) shall neither (i) apply to any Security of any series created prior to the execution of such supplemental indenture and entitled to the benefit of such provision nor (ii) modify the rights of the Holder of any such Security with respect to such provision or (B) shall become effective only when there is no such Security Outstanding;

(f) to establish the forms or terms of the Securities of any series issued pursuant to the terms hereof;

(g) to cure any ambiguity or correct any inconsistency in this Indenture;

(h) to evidence and provide for the acceptance of appointment hereunder by a successor Trustee with respect to the Securities of one or more series and to add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one Trustee;

- (i) to qualify this Indenture under the Trust Indenture Act;
- (j) to provide for uncertificated securities in addition to certificated securities;
- (k) to supplement any provisions of this Indenture necessary to permit or facilitate the defeasance and discharge of any series of Securities, provided that such action does not adversely affect the interests of the Holders of Securities of such series or any other series;
- (l) to conform the Indenture to any Description of Securities for a particular Series of Securities; and
- (m) to comply with the rules or regulations of any securities exchange or automated quotation system on which any of the Securities may be listed or traded.

Section 9.02 With Consent of Holders. The Company and the Trustee may enter into a supplemental indenture with the written consent of the Holders of at least a majority in principal amount of the outstanding Securities of each Series affected by such supplemental indenture (including consents obtained in connection with a tender offer or exchange offer for the Securities of such Series), for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of any supplemental indenture or of modifying in any manner the rights of the Holders of each such Series. Except as provided in Section 6.13, the Holders of at least a majority in principal amount of the outstanding Securities of any Series by notice to the Trustee (including consents obtained in connection with a tender offer or exchange offer for the Securities of such Series) may waive compliance by the Company with any provision of this Indenture or the Securities with respect to such Series. It shall not be necessary for the consent of the Holders of Securities under this Section 9.02 to approve the particular form of any proposed supplemental indenture or waiver, but it shall be sufficient if such consent approves the substance thereof. After a supplemental indenture or waiver under this section becomes effective, the Company shall deliver to the Holders of Securities affected thereby a notice briefly describing the supplemental indenture or waiver. Any failure by the Company to deliver such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such supplemental indenture or waiver.

Section 9.03 Limitations. Unless otherwise specified for a particular Series by a Board Resolution, a supplemental indenture or an Officers' Certificate, without the consent of each Holder affected, an amendment or waiver may not:

- (a) reduce the amount of Securities whose Holders must consent to an amendment, supplement or waiver;
- (b) reduce the rate of or extend the time for payment of interest (including default interest) on any Security;

(c) reduce the principal or change the Stated Maturity of any Security or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation;

(d) reduce the principal amount of Discount Securities payable upon acceleration of the maturity thereof;

(e) waive a Default or Event of Default in the payment of the principal of or interest, if any, on any Security (except a rescission of acceleration of the Securities of any Series by the Holders of at least a majority in principal amount of the outstanding Securities of such Series and a waiver of the payment default that resulted from such acceleration);

(f) make the principal of or interest, if any, on any Security payable in any currency other than that stated in the Security;

(g) make any change in Sections 6.08, 6.13, or 9.03; or

(h) waive a redemption payment with respect to any Security.

Section 9.04 Compliance with Trust Indenture Act. Every amendment to this Indenture or the Securities of one or more Series shall be set forth in a supplemental indenture hereto that complies with the TIA as then in effect.

Section 9.05 Revocation and Effect of Consents. Until an amendment is set forth in a supplemental indenture or a waiver becomes effective, a consent to it by a Holder of a Security is a continuing consent by the Holder and every subsequent Holder of a Security or portion of a Security that evidences the same debt as the consenting Holder's Security, even if notation of the consent is not made on any Security. However, any such Holder or subsequent Holder may revoke the consent as to his Security or portion of a Security if the Trustee receives the notice of revocation before the date of the supplemental indenture or the date the waiver becomes effective. Any amendment or waiver once effective shall bind every Holder of each Series affected by such amendment or waiver unless it is of the type described in any of clauses (a) through (h) of Section 9.03. In that case, the amendment or waiver shall bind each Holder of a Security who has consented to it and every subsequent Holder of a Security or portion of a Security that evidences the same debt as the consenting Holder's Security.

Section 9.06 Notation on or Exchange of Securities. The Trustee may place an appropriate notation about an amendment or waiver on any Security of any Series thereafter authenticated. The Company in exchange for Securities of that Series may issue and the Trustee shall authenticate upon request new Securities of that Series that reflect the amendment or waiver.

Section 9.07 Trustee Protected. In executing, or accepting the additional trusts created by, any supplemental indenture permitted by this Article or the modifications thereby of the trusts created by this Indenture, the Trustee shall receive, in addition to the documents required by Section 10.04, and (subject to Section 7.01) shall be fully protected in relying upon, an Opinion of

Counsel stating that all conditions precedent in this Indenture to the execution of such supplemental indenture, if any, have been complied with, such supplemental indenture is authorized hereunder, and, that such supplemental indenture is the valid and legally binding obligation of the Company. The Trustee shall sign all supplemental indentures, except that the Trustee need not sign any supplemental indenture that adversely affects its rights.

**ARTICLE X
MISCELLANEOUS**

Section 10.01 Trust Indenture Act Controls. If any provision of this Indenture limits, qualifies or conflicts with another provision which is required or deemed to be included in this Indenture by the TIA, such required or deemed provision shall control.

Section 10.02 Notices.

(a) Any notice or communication by the Company or the Trustee to the other, or by a Holder to the Company or the Trustee, is duly given if in writing and delivered in person or mailed by first-class mail or sent by telecopier transmission or electronic transmission in PDF addressed as follows:

if to the Company:

Fluidigm Corporation
7000 Shoreline Court, Suite 100
South San Francisco, CA 94080
Attention: Vikram Jog, Chief Financial Officer
Telephone: (650) -26-6000

if to the Trustee:

U.S. Bank National Association
Global Corporate Trust Services
633 West Fifth Street, 24th Floor
Los Angeles, CA 90071
Attention: Paula Oswald (Fluidigm Convertible Senior Notes due 2034)
Telephone: (213) 615-6043

(b) The Company or the Trustee by notice to the other may designate additional or different addresses for subsequent notices or communications. Any notice or communication to a Holder shall be delivered to his address shown on the register kept by the Registrar. Failure to deliver a notice or communication to a Holder of any Series or any defect in it shall not affect its sufficiency with respect to other Holders of that or any other Series. If a notice or communication is delivered in the manner provided above, within the time prescribed, it is duly given, whether or not the Holder receives it. If the Company delivers a notice or communication to Holders, it shall deliver a copy to the Trustee and each Agent at the same time.

(c) Any notice or demand that by any provision of this Indenture is required or permitted to be given or served by the Company may, at the Company's written request received by the Trustee not fewer than five (5) Business Days prior (or such shorter period of time as may be acceptable to the Trustee) to the date on which such notice must be given or served, be given or served by the Trustee in the name of and at the expense of the Company.

Section 10.03 Communication by Holders with Other Holders. Holders of any Series may communicate pursuant to TIA Section 312(b) with other Holders of that Series or any other Series with respect to their rights under this Indenture or the Securities of that Series or all Series. The Company, the Trustee, the Registrar and anyone else shall have the protection of TIA Section 312(c).

Section 10.04 Certificate and Opinion as to Conditions Precedent. Upon any request or application by the Company to the Trustee to take any action under this Indenture, the Company shall furnish to the Trustee:

- (a) an Officers' Certificate stating that, in the opinion of the signers, all conditions precedent, if any, provided for in this Indenture relating to the proposed action have been complied with; and
- (b) an Opinion of Counsel stating that, in the opinion of such counsel, all such conditions precedent have been complied with.

Section 10.05 Statements Required in Certificate or Opinion. Each certificate or opinion with respect to compliance with a condition or covenant provided for in this Indenture (other than a certificate provided pursuant to TIA Section 314(a)(4)) shall comply with the provisions of TIA Section 314(e) and shall include:

- (a) a statement that the person making such certificate or opinion has read such covenant or condition;
- (b) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based;
- (c) a statement that, in the opinion of such person, he has made such examination or investigation as is necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been complied with; and
- (d) a statement as to whether or not, in the opinion of such person, such condition or covenant has been complied with.

Section 10.06 Rules by Trustee and Agents. The Trustee may make reasonable rules for action by or a meeting of Holders of one or more Series. Any Agent may make reasonable rules and set reasonable requirements for its functions.

Section 10.07 Legal Holidays. Unless otherwise provided by Board Resolution, Officers' Certificate or supplemental indenture hereto for a particular Series, a "Legal Holiday" is any day that is not a Business Day. If a payment date is a Legal Holiday at a place of payment, payment may be made at that place on the next succeeding day that is not a Legal Holiday, and no interest shall accrue for the intervening period.

Section 10.08 No Recourse Against Others. A director, officer, employee or stockholder, as such, of the Company shall not have any liability for any obligations of the Company under the Securities or the Indenture or for any claim based on, in respect of or by reason of such obligations or their creation. Each Holder by accepting a Security waives and releases all such liability. The waiver and release are part of the consideration for the issue of the Securities.

Section 10.09 Counterparts. This Indenture may be executed in any number of counterparts and by the parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement. The exchange of copies of this Indenture and of signature pages by facsimile or PDF transmission shall constitute effective execution and delivery of this Indenture as to the parties hereto and may be used in lieu of the original Indenture for all purposes. Signatures of the parties hereto transmitted by facsimile or PDF shall be deemed to be their original signatures for all purposes.

Section 10.10 Governing Laws. This Indenture and the Securities will be governed by, and construed in accordance with, the internal laws of the State of New York.

Section 10.11 No Adverse Interpretation of Other Agreements. This Indenture may not be used to interpret another indenture, loan or debt agreement of the Company or a Subsidiary of the Company. Any such indenture, loan or debt agreement may not be used to interpret this Indenture.

Section 10.12 Successors. All agreements of the Company in this Indenture and the Securities shall bind its successor. All agreements of the Trustee in this Indenture shall bind its successor.

Section 10.13 Severability. In case any provision in this Indenture or in the Securities shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

Section 10.14 Table of Contents, Headings, Etc. The Table of Contents, Cross-Reference Table, and headings of the Articles and Sections of this Indenture have been inserted for convenience of reference only, are not to be considered a part hereof, and shall in no way modify or restrict any of the terms or provisions hereof.

Section 10.15 Securities in a Foreign Currency. Unless otherwise specified in a Board Resolution, a supplemental indenture hereto or an Officers' Certificate delivered pursuant to Section 2.02 of this Indenture with respect to a particular Series of Securities, whenever for purposes of this Indenture any action may be taken by the Holders of a specified percentage in aggregate

principal amount of Securities of all Series or all Series affected by a particular action at the time outstanding and, at such time, there are outstanding Securities of any Series which are denominated in a coin or currency other than Dollars, then the principal amount of Securities of such Series which shall be deemed to be outstanding for the purpose of taking such action shall be that amount of Dollars that could be obtained for such amount at the Market Exchange Rate at such time. For purposes of this Section 10.15, “*Market Exchange Rate*” shall mean the noon Dollar buying rate in New York City for cable transfers of that currency as published by the Federal Reserve Bank of New York. If such Market Exchange Rate is not available for any reason with respect to such currency, the Company shall use, in its sole discretion and without liability on its part, such quotation of the Federal Reserve Bank of New York as of the most recent available date, or quotations from one or more major banks in The City of New York or in the country of issue of the currency in question or such other quotations as the Company, shall deem appropriate. The provisions of this paragraph shall apply in determining the equivalent principal amount in respect of Securities of a Series denominated in currency other than Dollars in connection with any action taken by Holders of Securities pursuant to the terms of this Indenture. All decisions and determinations of the Company regarding the Market Exchange Rate or any alternative determination provided for in the preceding paragraph shall be in its sole discretion and shall, in the absence of manifest error, to the extent permitted by law, be conclusive for all purposes and irrevocably binding upon the Company, the Trustee and all Holders. The Trustee shall have no duty to calculate or verify the calculations made pursuant to this Section 10.15.

Section 10.16 U.S.A. Patriot Act. The Company acknowledges that in accordance with Section 326 of the U.S.A. Patriot Act, the Trustee, like all financial institutions, and in order to help fight the funding of terrorism and money laundering, is required to obtain, verify, and record information that identifies each person or legal entity that establishes a relationship or opens an account with the Trustee. The Company agrees that it will provide the Trustee with such information as it may reasonably request as required in order for the Trustee to satisfy the requirements of the U.S.A. Patriot Act.

Section 10.17 Waiver of Jury Trial. EACH OF THE COMPANY AND THE TRUSTEE HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING AS BETWEEN THE COMPANY AND THE TRUSTEE ONLY ARISING OUT OF OR RELATING TO THIS INDENTURE OR THE SECURITIES.

ARTICLE XI SINKING FUNDS

Section 11.01 Applicability of Article. The provisions of this Article shall be applicable to any sinking fund for the retirement of the Securities of a Series, except as otherwise permitted or required by any form of Security of such Series issued pursuant to this Indenture. The minimum amount of any sinking fund payment provided for by the terms of the Securities of any Series is herein referred to as a “*mandatory sinking fund payment*” and any other amount provided for by the terms of Securities of such Series is herein referred to as an “*optional sinking fund payment*.” If provided for by the terms of Securities of any Series, the cash amount of any sinking fund payment may be subject to reduction as provided in Section 11.02. Each sinking fund payment shall be applied to the redemption of Securities of any Series as provided for by the terms of the Securities of such Series.

Section 11.02 Satisfaction of Sinking Fund Payments with Securities. The Company may, in satisfaction of all or any part of any sinking fund payment with respect to the Securities of any Series to be made pursuant to the terms of such Securities (1) deliver outstanding Securities of such Series to which such sinking fund payment is applicable (other than any of such Securities previously called for mandatory sinking fund redemption) and (2) apply as credit Securities of such Series to which such sinking fund payment is applicable and which have been repurchased by the Company or redeemed either at the election of the Company pursuant to the terms of such Series of Securities (except pursuant to any mandatory sinking fund) or through the application of permitted optional sinking fund payments or other optional redemptions pursuant to the terms of such Securities, provided that such Securities have not been previously so credited. Such Securities shall be received by the Trustee, together with an Officers' Certificate with respect thereto, not later than 15 days prior to the date on which the Trustee begins the process of selecting Securities for redemption, and shall be credited for such purpose by the Trustee at the price specified in such Securities for redemption through operation of the sinking fund and the amount of such sinking fund payment shall be reduced accordingly. If as a result of the delivery or credit of Securities in lieu of cash payments pursuant to this Section 11.02, the principal amount of Securities of such Series to be redeemed in order to exhaust the aforesaid cash payment shall be less than \$100,000, the Trustee need not call Securities of such Series for redemption, except upon receipt of a Company Order that such action be taken, and such cash payment shall be held by the Trustee or a Paying Agent and applied to the next succeeding sinking fund payment, provided, however, that the Trustee or such Paying Agent shall from time to time upon receipt of a Company Order pay over and deliver to the Company any cash payment so being held by the Trustee or such Paying Agent upon delivery by the Company to the Trustee of Securities of that Series purchased by the Company having an unpaid principal amount equal to the cash payment required to be released to the Company.

Section 11.03 Redemption of Securities for Sinking Fund. Not less than 45 days (unless otherwise indicated in the Board Resolution, supplemental indenture or Officers' Certificate in respect of a particular Series of Securities) prior to each sinking fund payment date for any Series of Securities, the Company will deliver to the Trustee an Officers' Certificate specifying the amount of the next ensuing mandatory sinking fund payment for that Series pursuant to the terms of that Series, the portion thereof, if any, which is to be satisfied by payment of cash and the portion thereof, if any, which is to be satisfied by delivering and crediting of Securities of that Series pursuant to Section 11.02, and the optional amount, if any, to be added in cash to the next ensuing mandatory sinking fund payment, and the Company shall thereupon be obligated to pay the amount therein specified. Not less than 30 days (unless otherwise indicated in the Board Resolution, Officers' Certificate or supplemental indenture in respect of a particular Series of Securities) before each such sinking fund payment date the Trustee shall select the Securities to be redeemed upon such sinking fund payment date in the manner specified in Section 3.02 and cause notice of the redemption thereof to be given in the name of and at the expense of the Company in the manner provided in Section 3.03. Such notice having been duly given, the redemption of such Securities shall be made upon the terms and in the manner stated in Sections 3.04, 3.05 and 3.06.

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IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed and attested, all as of the day and year first above written.

FLUIDIGM CORPORATION

By: _____

Name: Vikram Jog

Title: Chief Financial Officer

U.S. BANK NATIONAL ASSOCIATION

as Trustee

By: _____

Name: Paula Oswald

Title: Vice President

[Signature Page to Indenture]

January 29, 2014

Fluidigm Corporation
7000 Shoreline Court, Suite 100
South San Francisco, California 94080

Re: Fluidigm Corporation – Registration Statement on Form S-3

Ladies and Gentlemen:

At your request, we have examined the Registration Statement on Form S-3 (the “Registration Statement”), filed by Fluidigm Corporation, a Delaware corporation (the “Company”), with the Securities and Exchange Commission (the “Commission”) in connection with the registration pursuant to the Securities Act of 1933, as amended (the “Act”), of the Securities (as defined below). The Registration Statement relates to the proposed offer, issuance and sale by the Company, from time to time pursuant to Rule 415 under the Act as set forth in the Registration Statement, the prospectus contained therein (the “Prospectus”) and the supplements to the prospectus referred to therein (the “Prospectus Supplements”) of up to an aggregate offering price of \$350,000,000, or the equivalent thereof, of (a) shares of the Company’s common stock, \$0.001 par value per share (the “Common Stock”), (b) shares of the Company’s preferred stock, \$0.001 par value per share (the “Preferred Stock”), (c) the Company’s senior and subordinated debt securities (the “Debt Securities”), (d) warrants to purchase shares of the Company’s Common Stock, Preferred Stock or Debt Securities (the “Warrants”), or (e) units (the “Units”) consisting of Common Stock, Preferred Stock, Debt Securities, Warrants or any combination of the foregoing (the Common Stock, Preferred Stock, Debt Securities, Warrants and Units are collectively referred to herein as the “Company Securities”).

The Debt Securities are to be issued pursuant to an indenture (the “Indenture”), which has been filed as an exhibit to the Registration Statement, entered into between the Company and U.S. Bank National Association (the “Trustee”). The indenture may be supplemented, as applicable, in connection with the issuance of each such series of Debt Securities, by a supplemental indenture or other appropriate action of the Company creating such series (each, a “Supplemental Indenture”). The Debt Securities are to be issued in the form to be included in the Supplemental Indenture used for any particular series of Debt Securities that will be filed under a Current Report on Form 8-K, that will be incorporated by reference into the Registration Statement. The shares of Common Stock and Preferred Stock and the Debt Securities, Warrants and Units are to be sold pursuant to a purchase, underwriting, placement agency or similar agreement in substantially the form to be filed under a Current Report on Form 8-K.

We have examined instruments, documents, certificates and records which we have deemed relevant and necessary for the basis of our opinion hereinafter expressed. In such examination, we have assumed (i) the authenticity of original documents and the genuineness of all signatures; (ii) the conformity to the originals of all documents submitted to us as copies; (iii) the truth, accuracy, and

completeness of the information, representations and warranties contained in the instruments, documents, certificates and records we have reviewed; (iv) the Registration Statement, and any amendments thereto (including post-effective amendments), will have become effective under the Act; (v) a prospectus supplement will have been filed with the Commission describing the Securities offered thereby; (vi) all Securities will be issued and sold in compliance with applicable Federal and state securities laws and in the manner stated in the Registration Statement and the applicable prospectus supplement; (vii) a definitive purchase, underwriting, placement agency or similar agreement with respect to any Securities offered will have been duly authorized and validly executed and delivered by the Company, as applicable, and the other parties thereto; (viii) any Securities issuable upon conversion, exchange, redemption, or exercise of any Company Securities being offered will be duly authorized, created and, if appropriate, reserved for issuance upon such conversion, exchange, redemption, or exercise; and (ix) with respect to shares of Common Stock or Preferred Stock offered, that there will be sufficient shares of Common Stock or Preferred Stock authorized under the Company's organizational documents and not otherwise reserved for issuance. As to any facts material to the opinions expressed herein that were not independently established or verified, we have relied upon oral or written statements and representations of officers and other representatives of the Company.

Based on such examination, we are of the opinion that:

1. with respect to shares of Common Stock that are Company Securities, when (a) the Board of Directors of the Company or a duly constituted and acting committee thereof (such Board of Directors or committee being hereinafter referred to as the "Board") has taken all necessary corporate action to approve the issuance of and the terms of the offering of such shares of Common Stock and related matters and (b) certificates representing such shares of Common Stock have been duly executed, countersigned, registered and delivered either (i) in accordance with the applicable definitive purchase, underwriting, placement agency or similar agreement approved by the Board, or upon the exercise of Warrants to purchase Common Stock, upon payment of the consideration therefor (not less than the par value of the Common Stock) provided for therein, or (ii) upon conversion or exercise of any other Company Security, in accordance with the terms of such Company Security or the instrument governing such Company Security providing for such conversion or exercise as approved by the Board, for the consideration approved by the Board (not less than the par value of the Common Stock), then such shares of Common Stock will be validly issued, fully paid and nonassessable;

2. with respect to any particular series of shares of Preferred Stock, when (a) the Board has taken all necessary corporate action to approve the issuance and terms of the shares of Preferred Stock, the terms of the offering thereof, and related matters, including the adoption of a certificate of designation relating to such Preferred Stock conforming to the Delaware General Corporation Law (a "Certificate") and the filing of the Certificate with the Secretary of State of the State of Delaware and (b) certificates representing the shares of Preferred Stock have been duly executed, countersigned, registered and delivered either (i) in accordance with the applicable definitive purchase, underwriting, placement agency or similar agreement approved by the Board, or upon

exercise of Warrants to purchase Preferred Stock, upon payment of consideration (not less than the par value of the Preferred Stock) provided for therein, or (ii) upon conversion or exercise of any other Security, in accordance with the terms of such Security or the instrument governing such Security providing for such conversion or exercise as approved by the Board, for the consideration approved by the Board (not less than the par value of the Preferred Stock), then the shares of Preferred Stock will be validly issued, fully paid and nonassessable;

3. with respect to Debt Securities to be issued under the Indenture, when (a) the Trustee is qualified to act as Trustee under the Indenture, (b) the Trustee has duly executed and delivered the Indenture, (c) the Indenture has been duly authorized and validly executed and delivered by the Company to the Trustee, (d) the Indenture has been duly qualified under the Trust Indenture Act of 1939, as amended, (e) the Board has taken all necessary corporate action to approve the issuance and terms of such Debt Securities, the terms of the offering thereof and related matters, and (f) such Debt Securities have been duly executed, authenticated, issued and delivered in accordance with the provisions of the Indenture, and the applicable definitive purchase, underwriting, placement agency or similar agreement approved by the Board, such Debt Securities will be validly issued and will constitute valid and binding obligations of the Company, enforceable against the Company, in accordance with their terms, and entitled to the benefits of the Indenture;

4. with respect to the Warrants, when (a) the Board has taken all necessary corporate action to approve the issuance of and the terms of the Warrants and related matters and (b) the Warrants have been duly executed and delivered against payment therefor, pursuant to the applicable definitive purchase, underwriting, warrant, placement agency or similar agreement duly authorized, executed and delivered by the Company and a warrant agent and the certificates for the Warrants have been duly executed and delivered by the Company and such warrant agent, then the Warrants will be validly issued and will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms; and

5. with respect to the Units, when (a) the Board has taken all necessary corporate action to approve the issuance of and the terms of the Units and related matters and (b) the Units have been duly executed and delivered against payment therefor, pursuant to the applicable definitive purchase, underwriting, unit, placement agency or similar agreement duly authorized, executed and delivered by the Company and the certificates for the Units have been duly executed and delivered in accordance with such purchase, underwriting, unit, placement agency or similar agreement, then the Units will be validly issued and will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

Our opinion that any document is legal, valid and binding is qualified as to:

(a) limitations imposed by bankruptcy, insolvency, reorganization, arrangement, fraudulent conveyance, moratorium or other laws relating to or affecting the rights of creditors generally;

(b) rights to indemnification and contribution which may be limited by applicable law or equitable principles; and

(c) general principles of equity, including without limitation concepts of materiality, reasonableness, good faith and fair dealing, and the possible unavailability of specific performance or injunctive relief and limitation of rights of acceleration, regardless of whether such enforceability is considered in a proceeding in equity or at law.

We express no opinion as to the laws of any other jurisdiction other than the Federal laws of the United States of America, the laws of the State of New York as to the enforceability of the Debt Securities, the laws of the State of California and the laws of the State of Delaware.

* * *

We hereby consent to the filing of this opinion as an exhibit to the above-referenced Registration Statement and to the use of our name wherever it appears in the Registration Statement, the Prospectus, any Prospectus Supplement, and in any amendment or supplement thereto. In giving such consent, we do not believe that we are “experts” within the meaning of such term as used in the Act or the rules and regulations of the Commission issued thereunder with respect to any part of the Registration Statement, including this opinion as an exhibit or otherwise.

Sincerely,

WILSON SONSINI GOODRICH & ROSATI Professional
Corporation

/s/ WILSON SONSINI GOODRICH & ROSATI, P.C.

Fluidigm Corporation
Ratio of earnings to fixed charges
Fiscal Years 2008 through 2012 & Nine months ended September 30, 2013

(In thousands)	Fiscal Year Ended					9-mths Ended Sept. 30, 2013
	December 27, 2008	December 31, 2009	December 31, 2010	December 31, 2011	December 31, 2012	
Earnings:						
Net loss attributed to common stockholders before income taxes	\$ (29,646)	\$ (19,178)	\$ (16,819)	\$ (22,304)	\$ (18,888)	\$ (11,788)
Add: Combined fixed charges and preference dividends	2,562	3,761	2,908	3,578	1,006	704
Less: Capitalized interest	—	—	—	—	—	—
Total earnings for computation of ratio	(27,084)	(15,417)	(13,911)	(18,726)	(17,882)	(11,084)
Fixed Charges:						
Interest expense including capitalized interest	2,031	2,876	2,158	3,101	628	13
Estimated interest component of rent	531	885	750	477	378	691
Total fixed charges	2,562	3,761	2,908	3,578	1,006	704
Combined fixed charges and preference dividends:						
Interest expense including capitalized interest	2,031	2,876	2,158	3,101	628	13
Estimated interest component of rent	531	885	750	477	378	691
Deemed dividend	—	—	—	9,900	—	—
Total combined fixed charges and preference dividends	\$ 2,562	\$ 3,761	\$ 2,908	\$ 13,478	\$ 1,006	\$ 704
Ratio of earnings to fixed charges (1)	—	—	—	—	—	—
Ratio of earnings to combined fixed charges and preference dividends (1)	—	—	—	—	—	—

- (1) Earnings for 2008, 2009, 2010, 2011 and 2012 and the nine months ended September 30, 2013 were insufficient to cover fixed charges by \$29.6 million, \$19.2 million, \$16.8 million, \$22.3 million, \$18.9 million and \$11.8 million, respectively.

Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption "Experts" in the Registration Statement (Form S-3) and related Prospectus of Fluidigm Corporation for the sale of common stock, preferred stock, warrants and debt securities and to the incorporation by reference therein of our reports dated March 12, 2013, with respect to the consolidated financial statements and schedule of Fluidigm Corporation, and the effectiveness of internal control over financial reporting of Fluidigm Corporation, included in its Annual Report (Form 10-K) for the year ended December 31, 2012, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Redwood City, California
January 29, 2014

Consent of Independent Registered Public Accounting Firm

Fluidigm Corporation
South San Francisco, California

We hereby consent to the incorporation by reference in the prospectus constituting a part of this Registration Statement on Form S-3 of our report dated June 7, 2013, relating to the consolidated financial statements of DVS Sciences, Inc. as of December 31, 2012 and 2011 and for the years then ended, appearing in Fluidigm Corporation's Current Report on Form 8-K filed on January 29, 2014.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ BDO USA, LLP

San Jose, CA
January 29, 2014

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM T-1

**STATEMENT OF ELIGIBILITY UNDER
THE TRUST INDENTURE ACT OF 1939
OF A CORPORATION DESIGNATED TO ACT AS TRUSTEE** **Check if an Application to Determine Eligibility of a Trustee Pursuant to Section 305(b)(2)**

U.S. BANK NATIONAL ASSOCIATION(Exact name of Trustee as specified in its charter)

31-0841368I.R.S. Employer
Identification No.**800 Nicollet Mall**
Minneapolis, Minnesota
(Address of principal executive offices)**55402**
(Zip Code)**Paula Oswald**
U.S. Bank National Association
633 W. 5TH Street, 24th Floor
Los Angeles, CA 90071
(213) 615-6043
(Name, address and telephone number of agent for service)

FLUIDIGM CORPORATION
(Exact name of obligor as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)
7000 Shoreline Court, Suite 100,
South San Francisco, CA
(Address of Principal Executive Offices)**77-0513190**
(I.R.S. Employer
Identification No.)**94080**
(Zip Code)

Debt Securities
(Title of the Indenture Securities)

FORM T-1

Item 1. GENERAL INFORMATION. Furnish the following information as to the Trustee.

a) *Name and address of each examining or supervising authority to which it is subject.*

Comptroller of the Currency
Washington, D.C.

b) *Whether it is authorized to exercise corporate trust powers.*

Yes

Item 2. AFFILIATIONS WITH OBLIGOR. *If the obligor is an affiliate of the Trustee, describe each such affiliation.*

None

Items 3-15 *Items 3-15 are not applicable because to the best of the Trustee's knowledge, the obligor is not in default under any Indenture for which the Trustee acts as Trustee.*

Item 16. LIST OF EXHIBITS: *List below all exhibits filed as a part of this statement of eligibility and qualification.*

1. A copy of the Articles of Association of the Trustee.*
2. A copy of the certificate of authority of the Trustee to commence business, attached as Exhibit 2.
3. A copy of the certificate of authority of the Trustee to exercise corporate trust powers, attached as Exhibit 3.
4. A copy of the existing bylaws of the Trustee.**
5. A copy of each Indenture referred to in Item 4. Not applicable.
6. The consent of the Trustee required by Section 321(b) of the Trust Indenture Act of 1939, attached as Exhibit 6.
7. Report of Condition of the Trustee as of September 30, 2013 published pursuant to law or the requirements of its supervising or examining authority, attached as Exhibit 7.

* Incorporated by reference to Exhibit 25.1 to Amendment No. 2 to registration statement on S-4, Registration Number 333-128217 filed on November 15, 2005.

** Incorporated by reference to Exhibit 25.1 to registration statement on S-4, Registration Number 333-166527 filed on May 5, 2010.

SIGNATURE

Pursuant to the requirements of the Trust Indenture Act of 1939, as amended, the Trustee, U.S. BANK NATIONAL ASSOCIATION, a national banking association organized and existing under the laws of the United States of America, has duly caused this statement of eligibility and qualification to be signed on its behalf by the undersigned, thereunto duly authorized, all in the City of Los Angeles, State of California on the 29th of January, 2014.

By: /s/ Paula Oswald
Paula Oswald
Vice President



Comptroller of the Currency
Administrator of National Banks
Washington, DC 20219

CERTIFICATE OF CORPORATE EXISTENCE

I, Thomas J. Curry, Comptroller of the Currency, do hereby certify that:

1. The Comptroller of the Currency, pursuant to Revised Statutes 324, et seq, as amended, and 12 USC 1, et seq, as amended, has possession, custody, and control of all records pertaining to the chartering, regulation, and supervision of all national banking associations.
2. "U.S. Bank National Association," Cincinnati, Ohio (Charter No. 24), is a national banking association formed under the laws of the United States and is authorized thereunder to transact the business of banking on the date of this certificate.



IN TESTIMONY WHEREOF, today, February 27, 2013, I have hereunto subscribed my name and caused my seal of office to be affixed to these presents at the U.S. Department of the Treasury, in the City of Washington, District of Columbia.

Comptroller of the Currency



Comptroller of the Currency
Administrator of National Banks
Washington, DC 20219

CERTIFICATION OF FIDUCIARY POWERS

I, Thomas J. Curry, Comptroller of the Currency, do hereby certify that:

1. The Office of the Comptroller of the Currency, pursuant to Revised Statutes 324, et seq, as amended, and 12 USC 1, et seq, as amended, has possession, custody, and control of all records pertaining to the chartering, regulation, and supervision of all national banking associations.
2. "U.S. Bank National Association," Cincinnati, Ohio (Charter No. 24), was granted, under the hand and seal of the Comptroller, the right to act in all fiduciary capacities authorized under the provisions of the Act of Congress approved September 28, 1962, 76 Stat. 668, 12 USC 92a, and that the authority so granted remains in full force and effect on the date of this certificate.



IN TESTIMONY WHEREOF, today, February 27, 2013, I have hereunto subscribed my name and caused my seal of office to be affixed to these presents at the U.S. Department of the Treasury, in the City of Washington, District of Columbia.

Comptroller of the Currency

Exhibit 6

CONSENT

In accordance with Section 321(b) of the Trust Indenture Act of 1939, the undersigned, U.S. BANK NATIONAL ASSOCIATION hereby consents that reports of examination of the undersigned by Federal, State, Territorial or District authorities may be furnished by such authorities to the Securities and Exchange Commission upon its request therefor.

Dated: January 29, 2014

By: /s/ Paula Oswald
Paula Oswald
Vice President

Exhibit 7
U.S. Bank National Association
Statement of Financial Condition
As of 9/30/2013

(\$000's)

	9/30/2013
Assets	
Cash and Balances Due From	\$ 11,611,724
Depository Institutions	
Securities	75,731,096
Federal Funds	109,251
Loans & Lease Financing Receivables	229,278,111
Fixed Assets	4,752,165
Intangible Assets	13,284,803
Other Assets	21,823,306
Total Assets	\$356,590,456
Liabilities	
Deposits	\$269,648,386
Fed Funds	2,649,382
Treasury Demand Notes	0
Trading Liabilities	377,760
Other Borrowed Money	27,410,355
Acceptances	0
Subordinated Notes and Debentures	4,836,320
Other Liabilities	11,663,931
Total Liabilities	\$316,586,134
Equity	
Common and Preferred Stock	18,200
Surplus	14,231,285
Undivided Profits	24,168,331
Minority Interest in Subsidiaries	\$ 1,586,506
Total Equity Capital	\$ 40,004,322
Total Liabilities and Equity Capital	\$356,590,456