
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

**FORM S-3
REGISTRATION STATEMENT**
*UNDER
THE SECURITIES ACT OF 1933*

Caribou Biosciences, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

45-3728228
(I.R.S. Employer
Identification Number)

**2929 7th Street, Suite 105
Berkeley, California 94710
(510) 982-6030**
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Rachel E. Haurwitz, Ph.D.
President and Chief Executive Officer
Caribou Biosciences, Inc.
2929 7th Street, Suite 105
Berkeley, California 94710
(510) 982-6030
(Name, address, including zip code, and telephone number, including area code, of agent for service)

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Chief Legal Officer and Corporate Secretary
Caribou Biosciences, Inc.
2929 7th Street, Suite 105
Berkeley, California 94710
(510) 982-6030

Approximate date of commencement of proposed sale to the public: From time to time after this Registration Statement becomes effective.

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, check 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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input checked="" type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

This registration statement contains two prospectuses:

- a base prospectus covering the offer, issuance, and sale by us of up to a maximum aggregate offering price of \$400,000,000 of our common stock, preferred stock, debt securities, warrants, rights, and units; and
- a sales agreement prospectus covering the offer, issuance, and sale by us of up to a maximum aggregate offering price of \$100,000,000 of our common stock that may be issued and sold under an Open Market Sale AgreementSM, or the Sales Agreement, by and between us and Jefferies LLC.

The base prospectus immediately follows this explanatory note. The sales agreement prospectus immediately follows the base prospectus. The common stock that may be offered, issued, and sold by us under the sales agreement prospectus is included in the \$400,000,000 of securities that may be offered, issued, and sold by us under the base prospectus. Upon termination of the sales agreement with Jefferies LLC, any portion of the \$100,000,000 included in the sales agreement prospectus that remains unsold pursuant to the sales agreement will be available for sale in other offerings pursuant to the base prospectus and a corresponding prospectus supplement, and if no shares are sold under the sales agreement, the full \$100,000,000 of securities not sold may be sold in other offerings pursuant to the base prospectus and a corresponding prospectus supplement.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated August 9, 2022

PROSPECTUS



\$400,000,000
Common Stock
Preferred Stock
Debt Securities
Warrants
Rights
Units

From time to time, we may offer to sell the securities described in this prospectus separately or together in any combination, in one or more classes or series, in amounts, at prices, and on terms to be determined at the time of any such offering. The aggregate offering price of the securities we sell pursuant to this prospectus will not exceed \$400,000,000.

This prospectus provides a general description of the securities that we may offer. Each time any securities are offered pursuant to this prospectus, we will provide specific information about the offered securities in one or more supplements to this prospectus.

Prospectus supplements may also add, update or change information in this prospectus. If the information varies between this prospectus and any accompanying prospectus supplement, you should rely on the information in the prospectus supplement.

Our common stock is listed on The Nasdaq Global Select Market under the symbol "CRBU." Any prospectus supplement will indicate if the securities offered thereby will be listed on any securities exchange.

You should carefully read this prospectus and any applicable prospectus supplement, together with the documents we incorporate by reference, before you invest in our securities. This prospectus may not be used to offer and sell our securities unless accompanied by a prospectus supplement describing the method and terms of the offering.

Investing in any of our securities involves a high degree of risk. Please read carefully the section entitled "[Risk Factors](#)" on page 8 of this prospectus and the "Risk Factors" section contained in any applicable prospectus supplement and in the documents incorporated by reference in this prospectus before investing in our securities.

We are an "emerging growth company" under applicable Securities and Exchange Commission rules and, as such, are eligible for reduced public company reporting requirements.

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.

The date of this prospectus is , 2022

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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 registration process, we may, from time to time, sell any combination of the securities described in this prospectus in one or more offerings.

This prospectus provides you with a general description of the securities that may be offered pursuant to the registration statement of which this prospectus forms a part. Each time we sell securities pursuant to the registration statement of which this prospectus forms a part, a prospectus supplement will be provided that contains specific information about the terms of that offering and the securities being sold in that offering. The prospectus supplement may also add to, update or change the information contained in or incorporated by reference in this prospectus. If information varies between this prospectus and any prospectus supplement, you should rely on the information in the prospectus supplement.

You should only rely on the information contained in or incorporated by reference in this prospectus, any prospectus supplement and any free writing prospectus prepared by or on behalf of us or to which we have referred you. We have not authorized anyone to provide you with different information. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. If anyone provides you with different or inconsistent information, you should not rely on it. We are not making offers to sell the securities described in this prospectus in any jurisdiction in which an offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation.

Before purchasing any securities, you should carefully read both this prospectus and any prospectus supplement, together with the additional information described under the heading “Where You Can Find Additional Information” and “Information We Incorporate by Reference.” You should assume that the information contained in this prospectus, any prospectus supplement or any free writing prospectus is accurate only as of the date on its respective cover, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations, and prospects may have changed materially since those dates.

References in this prospectus to the terms “we,” “us,” “our,” “the Company,” or other similar terms refer to Caribou Biosciences, Inc., a Delaware corporation, together with its consolidated subsidiaries.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

This prospectus is part of a registration statement on Form S-3 that we filed with the SEC. This prospectus does not contain all of the information included in the registration statement.

We file annual, quarterly, and current reports, proxy statements, and other information with the SEC. Our SEC filings are available to the public at the SEC's website at www.sec.gov. We also maintain a website located at www.cariboubio.com, where these SEC filings and other information about our Company can be accessed, free of charge, as soon as reasonably practicable after we electronically file the information with, or furnish it to, the SEC. The information contained on or that can be accessed through our website does not constitute part of this prospectus, except for reports filed with the SEC that are specifically incorporated herein by reference.

Forms of any documents establishing the terms of the offered securities are filed as exhibits to the registration statement of which this prospectus forms a part or will be filed through an amendment to our registration statement on Form S-3 or under cover of a Current Report on Form 8-K or other document filed with the SEC and incorporated into this prospectus by reference. Statements in this prospectus about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. The full registration statement, including exhibits thereto, may be obtained from either the SEC or us as indicated above.

INFORMATION WE INCORPORATE BY REFERENCE

The SEC allows us to “incorporate by reference” information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this prospectus. Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent a statement contained in this prospectus or in any other subsequently filed document that is or is deemed to be incorporated by reference in this prospectus modifies or supersedes that statement. We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below (other than Current Reports on Form 8-K or portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed or furnished on such form that are related to such items) that we have filed with the SEC (File No. 001-40631):

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2021, filed with the SEC on March 21, 2022;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2022 and June 30, 2022, filed with the SEC on [May 9, 2022](#) and [August 9, 2022](#), respectively;
- our Current Reports on Form 8-K and 8-K/A filed with the SEC on [January 18, 2022](#), [January 19, 2022](#), [May 11, 2022](#) (except for item 7.01), [May 12, 2022](#) (except for item 7.01), [June 10, 2022](#) (except for item 7.01), [July 15, 2022](#), [July 18, 2022](#), and [August 9, 2022](#) (except for item 2.02); and
- the description of our common stock contained in our registration statement on [Form 8-A](#) filed with the SEC on July 19, 2021, as updated by the description of our common stock contained in [Exhibit 4.1](#) to our Annual Report on Form 10-K for the year ended December 31, 2021, and any amendments or reports filed for the purposes of updating this description.

We also incorporate by reference the information contained in all other documents that we file with the SEC pursuant to Sections 13(a), 13(c), 14, or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act (other than the portions that are deemed to have been furnished and not filed in accordance with SEC rules, unless otherwise indicated therein), on or after the date of the registration statement of which this prospectus forms a part and prior to its effectiveness and prior to the completion of the offering of all securities under this prospectus and any prospectus supplement. The information contained in any such document will be considered part of this prospectus from the date the document is filed with the SEC. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus and any accompanying prospectus supplement to the extent that a statement contained herein or therein or in any other subsequently filed document, which also is or is deemed to be incorporated by reference herein or therein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus or any accompanying prospectus supplement. We will provide to each person, including any beneficial owner, to whom a prospectus (or a notice of registration in lieu thereof) is delivered, a copy of any or all of the documents incorporated by reference in this prospectus or any accompanying prospectus supplement (other than an exhibit to these filings, unless the exhibit is specifically incorporated by reference in the document requested) at no cost. Any such request can be made by writing or telephoning us at the following address and telephone number:

Caribou Biosciences, Inc.
2929 7th Street, Suite 105
Berkeley, California 94710
Attention: Chief Legal Officer
(510) 982-6030

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements. All statements other than statements of historical facts contained in this prospectus, or incorporated by reference herein, including: statements regarding our business strategy, plans, and objectives; expectations regarding our clinical and preclinical development programs, including our timing expectations with respect to such programs and the expected timing of disclosure of data from such programs; future regulatory filings; our results of operations and financial position; plans and objectives of management for future operations; and the like, are forward-looking statements. In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “predict,” “potential,” or “continue,” or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words. Forward-looking statements include, but are not limited to, statements concerning:

- our expectations regarding the initiation, timing, progress, and results of our product candidate preclinical studies, clinical trials, and research programs including, without limitation, our timing expectations relating to the release of additional data from our ANTLER phase 1 clinical trial for CB-010, the submission of our investigational new drug, or IND, applications for CB-011 and CB-012, and our target selection for CB-020;
- the likelihood of our clinical trials demonstrating safety and efficacy of our product candidates as well as the risk that initial, interim, or preliminary clinical trial data will not ultimately be predictive of the safety and efficacy of our product candidates or that clinical outcomes may differ as more patient data become available;
- the timing or likelihood of regulatory filings and approval for our product candidates;
- our ability to successfully develop our product candidates and to obtain and maintain regulatory approval for our product candidates;
- the beneficial characteristics, therapeutic effects, and potential advantages of our product candidates;
- our strategic plans for our business, product candidates, research programs, and technologies;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates and genome-editing technology;
- anticipated developments related to our competitors and our industry;
- estimates regarding the sufficiency of our existing capital resources to fund our future operating expenses and capital expenditure requirements; and
- our anticipated use of net proceeds from this offering, as well as our existing resources, capital requirements, and needs for additional financing.

The forward-looking statements in this prospectus and the documents incorporated by reference herein are only predictions and are based largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition, and results of operations. These forward-looking statements speak only as of the date of this prospectus, or in the case of any information incorporated by reference only as of the date of the document incorporated by reference, and are subject to a number of known and unknown risks, uncertainties, and assumptions, including those described under the section in this prospectus entitled “Risk Factors” and elsewhere in this prospectus, or in the documents incorporated by reference herein. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as assurances of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or may not occur and actual results could differ materially from those projected in the forward-looking statements.

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Moreover, we operate in a very competitive and rapidly evolving environment. These factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included in this prospectus and the documents incorporated herein by reference. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained, or incorporated by reference, herein, whether as a result of any new information, future events, changed circumstances, or otherwise.

ABOUT CARIBOU BIOSCIENCES, INC.

This summary highlights selected information contained elsewhere in this prospectus and in the documents we incorporate by reference. This summary does not contain all of the information you should consider before making an investment decision. You should read this entire prospectus carefully, especially the risks discussed under “[Risk Factors](#)” beginning on page 8 of this prospectus, along with our consolidated financial statements and notes to those consolidated financial statements and the other information incorporated by reference in this prospectus.

We are a clinical-stage CRISPR genome-editing biopharmaceutical company dedicated to developing innovative, transformative therapies for patients with devastating diseases. CRISPR is an acronym for **C**lustered **R**egularly **I**nterspaced **S**hort **P**alindromic **R**epeats. Our novel CRISPR platform, **C**RISPR **h**ybrid **R**N**A-D**N**A**, or chRDNA (pronounced “chardonnay”), enables high genome-editing precision to develop cell therapies that are specifically engineered to target cancer and are armored for enhanced persistence. We are advancing a pipeline of allogeneic, or off-the-shelf, chimeric antigen receptor, or CAR, -T, or CAR-T, and -natural killer, or CAR-NK, cell therapies for the treatment of patients with hematologic malignancies and solid tumors. Our renowned founders, including a Nobel Prize laureate, are pioneers in the field of CRISPR genome editing. Our chRDNA technology has demonstrated superior specificity and high efficiency in preclinical studies and enables us to perform multiple, precise genome edits, while maintaining genomic integrity.

We believe that our technology has broad potential to generate gene and cell therapies in oncology and in therapeutic areas beyond oncology. Potential applications include immune cell therapies, cell therapies derived from genome-edited induced pluripotent stem cells, or iPSCs, and *in vivo* genome-edited therapies.

The genome-editing technologies currently used in the allogeneic cell therapy field generally have limited efficiency, specificity, and versatility for performing the multiple, precise genome edits necessary to address insufficient persistence. Our chRDNA technology is designed to address these genome-editing limitations and improve cell therapy activity. By applying our approach to allogeneic cell therapies, we believe we can unlock their full potential by improving upon their effectiveness and durability.

We are initially focused on advancing multiple proprietary allogeneic cell therapies for the treatment of both hematologic malignancies and solid tumors against cell surface targets for which autologous CAR-T cell therapeutics have previously demonstrated clinical proof of concept, including CD19 and B cell maturation antigen, as well as other targets. We use our chRDNA technology to enhance, or armor, our cell therapies with multiple strategies, such as checkpoint disruption and immune cloaking, to improve persistence of antitumor activity.

Corporate Information

Our principal executive offices are located at 2929 7th Street, Suite 105, Berkeley, California 94710 and our telephone number is (510) 982-6030. Our website address is www.cariboubio.com. The information on, or that can be accessed through, our website is not part of this prospectus and is not incorporated by reference herein. We have included our website address as an inactive textual reference only.

Implications of Being an Emerging Growth Company

We are an emerging growth company as defined in the Jumpstart Our Business Startups Act of 2012, as amended, or the JOBS Act. We will remain an emerging growth company until the earliest of: (i) December 31, 2026; (ii) the last day of the fiscal year in which we have total annual gross revenue of at least \$1.07 billion; (iii) the last day of the fiscal year in which we are deemed to be a “large accelerated filer” as defined in Rule

12b-2 under the Exchange Act, which would occur if the market value of our common stock held by non-affiliates exceeded \$700 million as of the last business day of the second fiscal quarter of such year; or (iv) the date on which we have issued more than \$1 billion in non-convertible debt securities during the prior three-year period. An emerging growth company may take advantage of specified reduced reporting requirements and is relieved of certain other significant requirements that are otherwise generally applicable to public companies. As an emerging growth company:

- we avail ourselves of the exemption from the requirement to obtain an attestation and report from our independent registered public accounting firm on the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act;
- we provide less extensive disclosure about our executive compensation arrangements; and
- we do not require stockholder non-binding advisory votes on executive compensation or golden parachute arrangements.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have elected to use the extended transition period for any new or revised accounting standards during the period in which we remain an emerging growth company; however, we may adopt certain new or revised accounting standards early.

Trademarks

We have registered Caribou Biosciences, Caribou, Site-Seq, and our logo as trademarks or service marks in the United States and certain other jurisdictions. This prospectus contains references to our trademarks and service marks and to those belonging to other entities. Solely for convenience, trademarks, service marks, and trade names referred to in this prospectus, including logos, artwork, and other visual displays, may appear without the ® or ™ symbols, but in the case of our trademarks, service marks, and trade names, such references are not intended to indicate in any way that we will not assert, to the fullest extent under applicable law, our rights to these trademarks, service marks, and trade names. We do not intend our use or display of other entities' trade names, trademarks, or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other entity.

RISK FACTORS

Investing in any of our securities involves significant risks. Before making an investment decision, in addition to the other information contained in or incorporated by reference in this prospectus and any prospectus supplement, you should carefully consider the specific risks set forth under the heading “Risk Factors” in our most recent Annual Report on Form 10-K filed with the SEC, as such risk factors may be amended, supplemented, or superseded from time to time by other reports we file with the SEC, including subsequent Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q, and the risk factors described under the caption “Risk Factors” in any applicable prospectus supplement. See “Where You Can Find Additional Information” and “Information We Incorporate by Reference.” If any of these risks actually occurs, our business, results of operations, and financial condition could suffer. In that case, the trading price of our securities could decline, and you could lose all or part of your investment. Additional risks and uncertainties not currently known to us, or that we currently believe are immaterial, may also adversely affect our business, operating results, and financial condition and the value of an investment in our securities. In addition, past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of any securities offered under this prospectus for general corporate purposes, unless otherwise indicated in the applicable prospectus supplement. General corporate purposes may include research and development activities; clinical trial expenditures; manufacturing costs; the acquisition or in-license of products, product candidates, businesses, or technologies; hiring additional personnel; working capital; and capital expenditures. We may temporarily invest the net proceeds in a variety of capital preservation instruments, including short term, investment grade, interest-bearing instruments, and U.S. government securities, until they are used for their stated purpose. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of the net proceeds of any offering.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock, and certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws, are summaries of material terms and provisions and are qualified by reference to our amended and restated certificate of incorporation and our amended and restated bylaws, copies of which have been filed with the SEC and are incorporated by reference as exhibits to the registration statement of which this prospectus forms a part.

General

Our authorized capital stock consists of 310,000,000 shares, all with a par value of \$0.0001 per share, of which:

- 300,000,000 shares are designated as common stock; and
- 10,000,000 shares are designated as preferred stock.

As of August 1, 2022, we had outstanding 60,840,446 shares of common stock held of record by 44 stockholders. This number does not include beneficial owners whose shares were held in street name by banks, brokers, and other financial institutions.

Common Stock

Voting Rights. Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders, except for certain votes that relate solely to the terms of preferred stock, and do not have cumulative voting rights in the election of directors. An election of directors by our stockholders will be determined by a plurality of the votes cast by the stockholders entitled to vote on the election.

Dividend Rights. Holders of our common stock are entitled to receive proportionately any dividends as may be declared from time to time by our board of directors out of legally available funds, subject to any preferential dividend rights of any series of preferred stock that we may designate and issue in the future.

Liquidation, Dissolution, and Winding Up. In the event of our liquidation or dissolution, holders of our common stock are entitled to receive proportionately our net assets legally available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock.

Other Rights. Holders of our common stock will have no preemptive, subscription, redemption, or conversion rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences, and privileges of holders of our common stock are subject to and may be adversely affected by the rights of holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

The authorized shares of preferred stock are available for issuance without further action by our stockholders unless required by law or by the rules and regulations of any stock exchange on which our common stock may be listed. Our amended and restated certificate of incorporation authorizes our board of directors to establish, from time to time, the number of shares to be included in each series of preferred stock, and to fix the designation, powers, privileges, preferences, and relative participating, optional or other rights, if any, of the shares of each series of preferred stock, and any of its qualifications, limitations or restrictions. Our board of directors is authorized to increase or decrease the number of shares of any series of preferred stock, but not below the number of shares of that series of preferred stock then outstanding, without any further vote or action by the stockholders.

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The issuance of preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the existence of unissued and unreserved common stock or preferred stock may enable our board of directors to issue shares to persons friendly to current management, which could render more difficult or discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise, and could thereby protect the continuity of our management and possibly deprive stockholders of opportunities to sell their shares of common stock at prices higher than prevailing market prices.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare, N.A. The transfer agent and registrar for the preferred stock will be set forth in the applicable prospectus supplement.

Listing

Our common stock is listed on The Nasdaq Global Select Market under the symbol “CRBU.”

Anti-Takeover Effects of Our Certificate of Incorporation and Our Bylaws

Our amended and restated certificate of incorporation and our amended and restated bylaws contain provisions that are intended to enhance the likelihood of continuity and stability in the composition of our board of directors, but which may have the effect of delaying, deferring, or preventing a future takeover or change in control of us unless such takeover or change in control is approved by our board of directors.

These provisions include:

Classified Board. Our amended and restated certificate of incorporation provides that, other than any directors elected by the separate vote of one or more series of preferred stock (if any) who are entitled to elect directors, our board of directors is divided into three classes of directors. As a result, approximately one-third of our board of directors is elected each year. The classification of directors makes it more difficult for stockholders to change the composition of our board of directors. Our amended and restated certificate of incorporation also provides that, subject to any rights of holders of preferred stock to elect additional directors under specified circumstances, the number of directors will be fixed exclusively pursuant to one or more resolutions adopted from time to time by our board of directors. Our board of directors currently has eight members.

Action by Written Consent; Special Meetings of Stockholders. Our amended and restated certificate of incorporation provides that stockholder action can be taken only at an annual or special meeting of stockholders and cannot be taken by written consent. Our amended and restated certificate of incorporation and our amended and restated bylaws also provide that, except as otherwise required by statute and subject to the rights, if any, of the holders of any series of preferred stock, special meetings of the stockholders can only be called pursuant to a resolution adopted by a majority of our board of directors, the chair of our board of directors, or our chief executive officer. Except as described above, our stockholders will not be permitted to call a special meeting or to require our board of directors to call a special meeting.

Removal of Directors. Our amended and restated certificate of incorporation provides that, subject to the special rights of the holders of one or more series of preferred stock (if any) to elect directors, our directors may be removed only for cause and only by the affirmative vote of at least 66 2/3% of the voting power of our outstanding shares of capital stock, voting together as a single class. This requirement of a supermajority vote to remove directors could enable holders of a minority of our stock to prevent a change in the composition of our board of directors.

Advance Notice Procedures. Our amended and restated bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of our stockholders, including proposed

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nominations of persons for election to our board of directors. Stockholders at an annual meeting will only be able to consider proposals or nominations specified in our notice of the annual meeting or brought before the meeting specifically by or at the direction of our board of directors or by a stockholder who was a stockholder of record both at the time of giving the stockholder's notice referenced below and at the time of the meeting, who is entitled to vote at the meeting and is present in person at the meeting, and who has given our corporate secretary timely written notice, in proper form, of the stockholder's intention to bring that business before the meeting and must update and supplement that written notice on a timely basis as described in our amended and restated bylaws. Although our amended and restated bylaws do not give our board of directors the power to approve or disapprove stockholder nominations of candidates or proposals regarding other business to be conducted at a special or annual meeting, our amended and restated bylaws may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed or may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect its own slate of directors or otherwise attempting to obtain control of us.

Supermajority Approval Requirements. The Delaware General Corporation Law, or DGCL, generally provides that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless either a corporation's certificate of incorporation or bylaws requires a greater percentage. Our amended and restated certificate of incorporation and amended and restated bylaws provide that the affirmative vote of holders of at least 66 2/3% of the voting power of all of our then-outstanding shares of the capital stock entitled to vote generally in the election of directors is required to adopt, amend, or repeal our amended and restated bylaws and certain specified provisions of our amended and restated certificate of incorporation. This requirement of a supermajority vote to approve amendments to our amended and restated certificate of incorporation and amended and restated bylaws could enable holders of a minority of our stock to exercise veto power over any such amendments.

Authorized but Unissued Shares. Our authorized but unissued shares of common stock and preferred stock will be available for future issuance without stockholder approval. These additional shares may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions, and employee benefit plans. The existence of authorized but unissued shares of common stock and preferred stock could render more difficult or discourage an attempt to obtain control of a majority of our common stock by means of a proxy contest, tender offer, merger, or otherwise.

Exclusive Forum. Our amended and restated certificate of incorporation requires, to the fullest extent permitted by law, that derivative actions brought on behalf of our Company, actions against current or former directors, officers, employees, agents, or stockholders for breach of a fiduciary duty, and other similar actions be brought only in specified courts in the State of Delaware. This exclusive forum provision explicitly does not apply to actions arising under federal securities laws, including suits brought to enforce any liability or duty created by the Securities Act of 1933, as amended, or the Securities Act, the Exchange Act, or any other claim for which federal courts have exclusive jurisdiction. Furthermore, our amended and restated certificate of incorporation also provides that unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. Although we believe these provisions benefit us by providing increased consistency in the application of Delaware law in the types of lawsuits to which it applies, these provisions may have the effect of discouraging lawsuits against our directors and executive officers. It is also possible that a court could rule that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

Section 203 of the DGCL

We are subject to the provisions of Section 203 of the DGCL. In general, Section 203 prohibits a publicly-held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that such stockholder becomes an interested stockholder, unless the business

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combination is approved in a prescribed manner. A “business combination” includes, among other things, a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An “interested stockholder” is a person who, together with affiliates and associates, owns, or did own within three years prior to the determination of interested stockholder status, 15% or more of the corporation’s voting stock.

Under Section 203 of the DGCL, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions: (i) before the stockholder became interested, our board of directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder; (ii) upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances; or (iii) at or after the time the stockholder became interested, the business combination was approved by our board of directors of the corporation and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

A Delaware corporation may “opt out” of these provisions with an express provision in its original certificate of incorporation or an express provision in its certificate of incorporation or bylaws resulting from a stockholders’ amendment approved by at least a majority of the outstanding voting shares. We have not opted out Section 203 of the DGCL. As a result, mergers, or other takeover or change in control attempts of us may be discouraged or prevented.

DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplement, summarizes certain general terms and provisions of the debt securities that we may offer in one or more series under this prospectus. When we offer to sell a particular series of debt securities, we will describe the specific terms of the series in a supplement to this prospectus. We will also indicate in the supplement to what extent the general terms and provisions described in this prospectus apply to a particular series of debt securities. To the extent the information contained in the prospectus supplement differs from this summary description, you should rely on the information in the prospectus supplement.

We will issue any senior debt securities under the senior indenture that we will enter into with the trustee to be named in the senior indenture. We will issue any subordinated debt securities under the subordinated indenture that we will enter into with the trustee to be named in the subordinated indenture. We have filed forms of these indentures as exhibits to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC. Unless the context requires otherwise, we use the term “indenture” to refer to both the senior indenture and the subordinated indenture, as well as to refer to any supplemental indentures that specify the terms of a particular series of debt securities. Except as we may otherwise indicate, the terms of the senior indenture and the subordinated indenture are identical.

The indenture will be qualified under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act. We use the term “trustee” to refer to either the senior trustee or the subordinated trustee, as applicable.

The following summary of material provisions of the senior debt securities, the subordinated debt securities, and the indenture is subject to, and is qualified in its entirety by reference to, all the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplement related to the debt securities that we sell under this prospectus, as well as the complete indenture that contains the terms of the debt securities.

General

The indenture does not limit the aggregate principal amount of debt securities that may be issued thereunder. The debt securities may be issued from time to time in one or more series and the terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth in an officer’s certificate or a supplemental indenture. The particular terms of each series of debt securities will be described in a prospectus supplement relating to that series (including any pricing supplement or term sheet), including the following terms, if applicable:

- the title of the debt securities;
- the price or prices (expressed as a percentage of the principal amount) at which we will sell the debt securities;
- the aggregate principal amount of the debt securities being offered and any limit on the aggregate principal amount of that series of debt securities;
- whether any of our direct or indirect subsidiaries will guarantee the debt securities, including the terms of subordination, if any, of those guarantees;
- the ranking (including the terms of the subordination of any series of subordinated debt securities);
- the date or dates on which the principal of the securities of the series is payable;
- the interest rate or rates (which may be fixed or variable), if any, and the method for calculating such interest rate or rates;

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- the identity of the trustee;
- the dates from which interest will accrue, the interest payment dates, and the record dates for the interest payments;
- the place or places where the principal of, and any premium or interest on, the debt securities shall be payable, where the securities of that series may be surrendered for registration of transfer or exchange, and where notices and demands to us in respect of the debt securities may be delivered;
- any mandatory or optional redemption terms, including any conditions precedent to such optional redemption;
- 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 must be redeemed or may be redeemed, in whole or in part, at our option;
- any obligation we have to redeem or purchase the debt securities pursuant to any sinking fund or analogous provisions or at the option of a holder of debt securities 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 that obligation;
- any dates, if any, on which, and the price or prices at which, we will repurchase debt securities at the option of the holders of debt securities and other detailed terms and provisions of any such repurchase obligations;
- the denominations in which the debt securities will be issued;
- whether the debt securities will be issued in the form of certificated debt securities or global debt securities;
- if other than the principal amount thereof, the portion of the principal amount of the debt securities of the series that shall be payable upon declaration of acceleration of the maturity thereof;
- if the debt securities are denominated in other than U.S. dollars, the currency or currencies (including composite currencies) in which the debt securities are denominated, and if such currency of denomination is a composite currency, the agency or organization, if any, responsible for overseeing such composite currency;
- the designation of the currency, currencies or currency units in which payment of the principal of, and any premium or interest on, the debt securities of the series will be made;
- if payments of principal of, or any premium or interest on, the debt securities will be made in one or more currencies or currency units other than that or those in which the debt securities are denominated, the manner in which the exchange rate with respect to those payments will be determined;
- the manner in which the amounts of payment of principal of, and any premium or interest on, the debt securities will be determined, including if these amounts may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index;
- any provisions, if any, relating to any security provided for the debt securities;
- any addition to, deletion of or change in the Events of Default described in this prospectus or in the indenture with respect to the debt securities and any change in the acceleration provisions described in this prospectus or in the indenture with respect to the debt securities;
- any addition to, deletion of or change in the definitions, covenants, and successors described in this prospectus or in the indenture with respect to the debt securities;
- any depositaries, interest rate calculation agents, exchange rate calculation agents, or other agents appointed with respect to the debt securities;

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- the provisions, if any, relating to conversion or exchange of any series of debt securities, including if applicable, the conversion or exchange price and period, the securities or other property into which the debt securities will be convertible, provisions as to whether conversion or exchange will be mandatory, at the option of the holders thereof or at our option, the events requiring an adjustment of the conversion price or exchange price, and provisions affecting conversion or exchange if that series of debt securities is redeemed; and
- any other terms of the series of debt securities that may supplement, modify, or delete any provision of the indenture (including any definitions therein) as it applies to that series, including any terms that may be required under applicable law or regulations or advisable in connection with the marketing of the debt securities.

In addition, we will provide you with information on the federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

If we denominate the purchase price of any of the debt securities in a foreign currency or currencies or a foreign currency unit or units, or if the principal of, or any premium or interest on, any series of debt securities is payable in a foreign currency or currencies or a foreign currency unit or units, we will provide you with information on the restrictions, elections, general tax considerations, specific terms, and other information with respect to that issue of debt securities and the foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

Transfer and Exchange

Each debt security will be represented by either one or more global securities registered in the name of The Depository Trust Company, as the depository, or a nominee of the depository (we will refer to any such debt security as a “global debt security”), or a certificate issued in definitive registered form (we will refer to any debt security represented by a certificate as a “certificated debt security”) as set forth in the applicable prospectus supplement. Except as set forth below, global debt securities will not be issuable in certificated form.

Certificated Debt Securities. You may transfer or exchange certificated debt securities at any office we maintain for this purpose in accordance with the terms of the indenture. No service charge will be made for any transfer or exchange of certificated debt securities, but we may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with a transfer or exchange.

You may effect the transfer of certificated debt securities and the right to receive the principal of and any premium and interest on certificated debt securities only by surrendering the certificate representing those certificated debt securities and either reissuance by us or the trustee of the certificate to the new holder or the issuance by us or the trustee of a new certificate to the new holder.

Global Debt Securities and Book-Entry System. Each global debt security will be deposited with, or on behalf of, the depository, and registered in the name of the depository or a nominee of the depository. Beneficial interests in global debt securities will not be issuable in certificated form unless (i) the depository has notified us that it is unwilling or unable to continue as depository for that global debt security or has ceased to be qualified to act as such as required by the indenture and we fail to appoint a successor depository within 90 days of such event; (ii) we determine, in our sole discretion, not to have those securities represented by one or more global securities; or (iii) any other circumstances shall exist, in addition to or in lieu of those described above, as may be described in the applicable prospectus supplement. Unless and until a global debt security is exchanged for certificated debt securities under the limited circumstances described in the previous sentence, a global debt security may not be transferred except as a whole by the depository to its nominee or by the nominee to the depository, or by the depository or its nominee to a successor depository or to a nominee of the successor depository.

Consolidation, Merger, and Sale of Assets

The indenture generally provides that we may not consolidate with or merge with or into, sell, convey, transfer, or dispose of all or substantially all of our assets to another entity, whether in one transaction or a series of related transactions, unless: (a)(i) the Company is the surviving corporation or (ii) the successor person (if other than the Company) (A) is a corporation, limited liability corporation, partnership, or trust organized under the laws of the United States, any state thereof, or the District of Columbia, and (B) expressly assumes by a supplemental indenture all of our obligations under the debt securities and the indenture, and (b) immediately after giving effect to the transaction no default or Event of Default (as defined below) and no circumstances which, after notice or lapse of time or both, would become an Event of Default, shall have happened and be continuing, and (c) we shall have delivered to the trustee an officer's certificate and an opinion of counsel, each stating that such consolidation, merger, or transfer and such supplemental indenture comply with the indenture.

Notwithstanding the above, (i) any subsidiary of the Company may consolidate with, merge into, or transfer all or part of its properties to us and (ii) the Company may merge with or into an affiliate of the Company incorporated or formed solely for the purpose of reincorporating or reorganizing the Company in another state of the United States or the District of Columbia or changing the legal domicile of the Company or for the sole purpose of forming or collapsing a holding company structure or changing the form of legal entity. Neither an officer's certificate nor an opinion of counsel shall be required to be delivered in connection therewith.

Events of Default

"*Event of Default*" means, with respect to any series of debt securities, any of the following:

- default in the payment of any interest upon any debt 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 the payment is deposited by us with the trustee or with a paying agent prior to the expiration of the 30-day period);
- default in the payment of principal of, or any premium on, any debt security of that series at its maturity;
- default in the performance or breach of any covenant by us in the indenture (other than defaults described above or defaults relating to a covenant that has been included in the indenture solely for the benefit of a series of debt securities other than that series), which default continues uncured for a period of 90 days after we receive written notice thereof;
- the occurrence of specified events of bankruptcy, insolvency, or reorganization; and
- any other event of default provided with respect to a series of debt securities that is described in the applicable supplemental indenture or prospectus supplement.

No Event of Default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency, or reorganization) necessarily constitutes an Event of Default with respect to any other series of debt securities. The occurrence of certain Events of Default or an acceleration under the indenture may constitute an Event of Default under certain indebtedness of ours or our subsidiaries outstanding from time to time.

If an Event of Default with respect to any series of debt securities at the time outstanding occurs and is continuing (other than an Event of Default resulting from certain events of bankruptcy, insolvency, or reorganization), then the trustee or the holders of not less than 25% in principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the trustee if given by the holders), declare to be due and payable immediately the principal of (or, if the debt securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) and accrued and unpaid interest, if any, on all debt securities of that series. In the case of an Event of Default resulting from certain events of

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bankruptcy, insolvency, or reorganization, the principal amount (or such specified amount) of and accrued and unpaid interest, if any, on all outstanding debt securities will become and be immediately due and payable without any declaration or other act on the part of the trustee or any holder of outstanding debt securities. At any time after a declaration of acceleration with respect to debt securities of any series has been made, but before a judgment or decree for payment of the money due has been obtained by the trustee, the holders of a majority in principal amount of the outstanding debt securities of that series, by written notice to us and the trustee, may rescind and annul such declaration of acceleration and its consequences if all Events of Default, other than the non-payment of accelerated principal and interest, if any, with respect to debt securities of that series, have been cured or waived as provided in the indenture. We refer you to the prospectus supplement relating to any series of debt securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of those discount securities upon the occurrence of an Event of Default.

The indenture provides that the trustee will be under no obligation to perform any duty or exercise any of its rights or powers under the indenture unless the trustee receives indemnity satisfactory to it against any cost, liability, or expense, which might be incurred by it in performing that duty or exercising that right or power. Subject to certain rights of the trustee, the holders of a majority in principal amount of the outstanding debt securities of any series will 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 debt securities of that series.

No holder of any debt security of any series will have any right to institute any proceeding, judicial or otherwise, with respect to the indenture or for the appointment of a receiver or trustee, or for any remedy under the indenture, unless:

- that holder has previously given to the trustee written notice of a continuing Event of Default with respect to debt securities of that series;
- the holders of not less than 25% in principal amount of the outstanding debt securities of that series have made written request to the trustee to institute the proceedings in respect of that Event of Default in its own name as trustee under the indenture;
- such holder or holders have offered to the trustee indemnity or security satisfactory to the trustee against the costs, expenses, and liabilities, which might be incurred by the trustee in compliance with the request;
- the trustee has failed to institute any such proceeding for 60 days after its receipt of such notice, request, and offer of indemnity; and
- no direction inconsistent with the written request has been given to the trustee during that 60-day period by holders of a majority in principal amount of the outstanding debt securities of that series.

Notwithstanding any other provision in the indenture, the holder of any debt security will have an absolute and unconditional right to receive payment of the principal of, and any interest on, that debt security on or after the due dates expressed in that debt security (or, in the case of redemption, on the redemption date, subject to the satisfaction of any conditions to such redemption) and to institute suit for the enforcement of any such payment, and such rights shall not be impaired without the consent of such holder.

The indenture requires us, within 120 days after the end of our fiscal year, to furnish to the trustee a statement as to compliance with the indenture from our principal executive officer, principal financial officer, or principal accounting officer. If a default or Event of Default occurs and is continuing with respect to the debt securities of any series and if it is actually known to a responsible officer of the trustee, the trustee shall mail to each holder of the debt 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. The indenture provides that the trustee may withhold notice to the holders of debt securities of any series of any

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default or Event of Default (except in payment on any debt securities of that series) with respect to debt securities of that series if the trustee determines in good faith that withholding notice is in the interest of the holders of those debt securities.

Modification and Waiver

We and the trustee may modify and amend or supplement the indenture or the debt securities of one or more series without the consent of any holder of any debt security:

- to add guarantees with respect to debt securities of a series or secure debt securities of a series;
- to surrender any of our rights or powers under the indenture;
- to add covenants or Events of Default for the benefit of the holders of any series of debt securities;
- to comply with the applicable rules or procedures of any applicable depository;
- to cure any ambiguity, defect, or inconsistency;
- to comply with the provisions of the indenture concerning consolidations, mergers, and transfers of all or substantially all of our assets;
- to provide for uncertificated securities in addition to or in place of certificated securities;
- to make any change that does not materially adversely affect the rights of any holder of that series of debt securities;
- to evidence and provide for the appointment of a successor trustee with respect to the debt securities of any series and to add to or change any of the provisions of the indenture as shall be necessary to provide for or facilitate administration by more than one trustee;
- to comply with requirements of the SEC in order to effect or maintain the qualification of the indenture under the Trust Indenture Act;
- to comply with the rules or regulations of any securities exchange or automated quotation system on which any of the debt securities may be listed or traded;
- to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture;
- to change or eliminate any of the provisions of the indenture, provided that any such change or elimination shall not be effective with respect to any outstanding debt securities of any series created prior to the execution of such supplemental indenture which is entitled to the benefit of such provision; and
- for certain other reasons set forth in any prospectus supplement.

We may also modify and amend the indenture with the consent of the holders of at least a majority in principal amount of the outstanding debt securities of each series affected by the modifications or amendments. We may not make any modification or amendment without the consent of the holders of each affected debt security then outstanding if that amendment will:

- reduce the principal amount of debt securities of that series whose holders must consent to an amendment, supplement or waiver;
- reduce the rate of or extend the time for payment of interest (including default interest) on any debt security or that series;
- reduce the principal of, or change the fixed maturity of, any debt security of that series or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation with respect to that series of debt securities;

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- reduce the principal amount of discount securities of that series payable upon acceleration of maturity;
- waive a default or Event of Default in the payment of the principal of, or interest, if any, on any debt security of that series (except a rescission of acceleration of the debt securities of any series by the holders of at least a majority in principal amount of the then outstanding debt securities of that series and a waiver of the payment default that resulted from such acceleration);
- make the principal of, or any interest on, any debt security of that series payable in currency other than that stated in the debt security;
- make any change to certain provisions of the indenture relating to, among other things, (i) the right of holders of debt securities to receive payment of the principal of, and any interest on, those debt securities and to institute suit for the enforcement of any such payment and (ii) waivers or amendments; or
- waive a redemption payment with respect to any debt security of that series, provided that such redemption is made at our option.

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding debt securities of any series may, on behalf of the holders of all debt securities of that series, by written notice to the trustee, waive our compliance with provisions of the indenture or the debt securities with respect to that series. The holders of a majority in principal amount of the outstanding debt securities of any series may, on behalf of the holders of all the debt securities of that series, waive any past default under the indenture with respect to that series and its consequences, except a default in the payment of the principal of, or any interest on, any debt security of that series; provided, however, that the holders of a majority in principal amount of the outstanding debt securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration.

Satisfaction and Discharge of Indenture

The indenture shall cease to be of further effect with respect to a series of debt securities when either:

- we have delivered to the trustee for cancellation all outstanding debt securities of that series, other than any debt securities that have been destroyed, lost, or stolen and that have been replaced or paid as provided in the indenture;
- all outstanding debt securities of that series that have not been delivered to the trustee for cancellation have become due and payable or are by their terms to become due and payable within one year or are to be called for redemption within one year under arrangements satisfactory to the trustee for the giving of notice of redemption, and we have irrevocably deposited with the trustee as trust funds the entire amount, in cash in U.S. dollars or U.S. governmental obligations, sufficient to pay at maturity or upon redemption all debt securities of that series, including principal of and any premium and interest due or to become due to such date of maturity or date fixed for redemption, as the case may be; or
- we have properly fulfilled any other means of satisfaction and discharge that may be set forth in the terms of the debt securities of that series.

In each case, we will also pay all other sums payable by us under the indenture with respect to the debt securities of that series and deliver to the trustee an opinion of counsel and an officer's certificate, each stating that all conditions precedent to satisfaction and discharge with respect to the debt securities of that series have been complied with.

Defeasance

Legal Defeasance. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, we may be discharged from any and all obligations in respect of the debt securities of

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any series (subject to certain exceptions). We will be so discharged upon the deposit with the trustee, in trust, of money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal of and interest, if any, on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities.

This discharge may occur only if, among other things, we have delivered to the trustee an opinion of counsel stating that we have received from, or there has been published by, the U.S. Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable U.S. federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the holders of the debt securities of that series will not recognize income, gain or loss for U.S. federal income tax purposes as a result of the deposit, defeasance and discharge and will be subject to U.S. federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit, defeasance, and discharge had not occurred.

Defeasance of Certain Covenants. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, upon compliance with certain conditions, which we refer to as covenant defeasance, then:

- we may be released from our obligations with respect to certain covenants set forth in the indenture, as well as any additional covenants that may be set forth in the applicable prospectus supplement and supplemental indenture; and
- any omission to comply with those covenants will not constitute a default or an Event of Default with respect to the debt securities of that series.

The conditions include:

- depositing with the trustee money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal of and interest, if any, on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities;
- delivering to the trustee an opinion of counsel to the effect that the holders of the debt securities of that series will not recognize income, gain or loss for U.S. federal income tax purposes as a result of the deposit and related covenant defeasance and will be subject to U.S. federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit and related covenant defeasance had not occurred; and
- delivering to the trustee an opinion of counsel and an officer's certificate, each stating that all conditions precedent to defeasance with respect to the debt securities of that series have been complied with.

Governing Law

The indenture and any debt securities issued thereunder will be governed by and construed in accordance with the laws of the State of New York (without regard to the conflicts of law provisions other than Section 5-1401 of the New York General Obligations Law).

Subordination of Subordinated Debt Securities

The subordinated debt securities will be subordinate and junior in priority to certain of our other indebtedness to the extent described in a prospectus supplement.

DESCRIPTION OF WARRANTS

We may issue warrants to purchase shares of our common stock, shares of our preferred stock, or debt securities. We may issue warrants independently of or together with shares of our common stock, shares of our preferred stock, debt securities, or other securities offered by any prospectus supplement. Warrants sold with other securities may be attached to or separate from shares of our common stock, shares of our preferred stock, debt securities, or other securities. We may issue warrants under one or more warrant agreements between us and a bank or trust company, as warrant agent, which we will name in the prospectus supplement relating to the particular issue of offered warrants. If we appoint a warrant agent, such warrant agent will act solely as our agent in connection with the warrants and will not assume any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants.

The prospectus supplement relating to any warrants we offer will include specific terms relating to the offering. These terms may include some or all of the following:

- the title of the warrants;
- the aggregate number of warrants to be offered;
- the price or prices at which the warrants will be issued;
- the currency or currencies, including composite currencies, in which the price of the warrants may be payable;
- the designation and terms of the securities purchasable upon exercise of the warrants and the number of securities issuable upon exercise of the warrants;
- the price at which and the currency or currencies, including composite currencies, in which the securities purchasable upon exercise of the warrants may be purchased;
- the date on which the right to exercise the warrants shall commence and the date on which that right will expire;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security;
- if applicable, the terms related to any permitted adjustment in the exercise price of or number of securities covered by the warrants;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- if applicable, a discussion of any material federal income tax considerations; and
- any other terms of the warrants, including terms, procedures, and limitations relating to the exchange and exercise of warrants.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the specified time on the expiration date, unexercised warrants will become void.

Warrants may be exercised as described in the applicable prospectus supplement. Upon receipt of the required payment and the warrant certificate properly completed and duly executed at the corporate trust office of

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the warrant agent or any other office indicated in the applicable prospectus supplement, we will, as soon as practicable, issue and deliver the underlying securities purchasable upon such exercise. If fewer than all of the warrants represented by a warrant certificate are exercised, we will issue a new warrant certificate for the remaining amount of warrants.

The description in the applicable prospectus supplement of any warrants we offer will not necessarily be complete and will be qualified in its entirety by reference to the applicable form of warrant agreement, including a form of warrant certificate, which will describe the terms of the series of warrants being offered, and which will be filed with the SEC and incorporated by reference in the registration statement of which this prospectus is a part.

DESCRIPTION OF RIGHTS

We may issue rights for the purchase of shares of our common stock, shares of our preferred stock, or debt securities. Each series of rights will be issued under a separate rights agreement to be entered into with a bank or trust company, as rights agent, all as set forth in the applicable prospectus supplement. The rights agent will act solely as our agent in connection with the certificates relating to the rights and will not assume any obligation or relationship of agency or trust with any holders of rights certificates or beneficial owners of rights.

The prospectus supplement relating to any rights we offer will describe the specific terms of those rights. These terms may include some or all of the following:

- the date for determining the persons entitled to participate in the rights distribution;
- the title and aggregate number or amount of underlying securities purchasable upon exercise of the rights and the exercise price;
- the aggregate number of rights being issued;
- the date, if any, on and after which the rights may be transferable separately;
- the date on which the right to exercise the rights will commence and the date on which the right will expire;
- the number of rights outstanding, if any;
- if applicable, a discussion of any material federal income tax considerations; and
- any other terms of the rights, including the terms, procedures, and limitations relating to the distribution, exchange and exercise of the rights.

The description in the applicable prospectus supplement of any rights we offer will not necessarily be complete and will be qualified in its entirety by reference to the applicable form of rights agreement, which will describe the terms of the series of rights being offered, and which will be filed with the SEC and incorporated by reference in the registration statement of which this prospectus is a part.

DESCRIPTION OF UNITS

We may issue units comprising two or more securities described in this prospectus in any combination. For example, we might issue units consisting of a combination of debt securities and warrants to purchase common stock. The following description sets forth certain general terms and provisions of the units that we may offer pursuant to this prospectus. The particular terms of the units and the extent, if any, to which the general terms and provisions may apply to the units so offered will be described in the applicable prospectus supplement.

Each unit will be issued so that the holder of the unit also is the holder of each security included in the unit. Thus, the unit will have the rights and obligations of a holder of each included security. Units will be issued pursuant to the terms of a unit agreement, which may provide that the securities included in the unit may not be held or transferred separately at any time or at any time before a specified date.

The prospectus supplement relating to any particular issuance of units we offer will describe the terms of those units. These terms may include some or all of the following:

- the designation and terms of the units and the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provision for the issuance, payment, settlement, transfer, or exchange of the units or of the securities comprising the units; and
- whether the units will be issued in fully registered or global form.

The description in the applicable prospectus supplement of any units we offer will not necessarily be complete. Such description will be qualified in its entirety by reference to the applicable form of unit agreement, including a form of unit certificate, which will describe the terms of the series of units being offered, and which will be filed with the SEC and incorporated by reference in the registration statement of which this prospectus is a part.

PLAN OF DISTRIBUTION

We may offer and sell the securities described in this prospectus from time to time in one or more transactions, including without limitation:

- directly to one or more investors, including through a specific bidding, auction, or other process;
- to investors through agents;
- directly to agents;
- to or through brokers or dealers;
- to the public through underwriting syndicates led by one or more managing underwriters;
- to one or more underwriters acting alone for resale to investors or to the public; or
- through a combination of any of these methods or any other method permitted pursuant to applicable law.

In addition, the manner in which we may offer and sell some or all of the securities described in this prospectus includes, without limitation, through:

- a block trade in which a broker-dealer will attempt to sell as agent, but may position or resell a portion of the block, as principal, in order to facilitate the transaction;
- purchases by a broker-dealer, as principal, and resale by the broker-dealer for its account;
- ordinary brokerage transactions and transactions in which a broker solicits purchasers; or
- privately negotiated transactions.

A prospectus supplement with respect to each offering of securities will set forth the terms of the offering and the method of distribution of the securities and will identify any firms acting as underwriters, dealers or agents in connection with the offering, including:

- the name or names of any underwriters, dealers, or agents and the amounts of securities underwritten or purchased by each of them, if any;
- the purchase price of the securities being offered and the net proceeds to be received by us from the sale;
- any public offering price;
- any over-allotment options under which the underwriters may purchase additional securities from us;
- any delayed delivery arrangements;
- any underwriting discounts or commissions or agency fees and other items constituting compensation to underwriters, dealers or agents;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any securities exchange or markets on which the securities offered in the prospectus supplement may be listed.

The offer and sale of the securities described in this prospectus by us, the underwriters or the third parties described above may be effected from time to time in one or more transactions, including privately negotiated transactions, either:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;

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- in “at the market offerings,” within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market, on an exchange or otherwise;
- at prices related to the prevailing market prices; or
- at negotiated prices.

In connection with the sale of the securities, underwriters, dealers, or agents may be deemed to have received compensation from us in the form of underwriting discounts or commissions and also may receive commissions from securities purchasers for whom they may act as agent. Underwriters may sell the securities to or through dealers, and the dealers may receive compensation in the form of discounts, concessions, or commissions from the underwriters or commissions from the purchasers for whom they may act as agent.

Underwriters, dealers, and agents participating in the securities distribution may be deemed to be underwriters, and any discounts and commissions they receive and any profit they realize on the resale of the securities may be deemed to be underwriting discounts and commissions under the Securities Act. Underwriters and their controlling persons, dealers, and agents may be entitled, under agreements entered into with us, to indemnification against and contribution toward specific civil liabilities, including liabilities under the Securities Act.

Any securities we sell pursuant to a prospectus supplement may or may not be listed on a national securities exchange. It is possible that one or more underwriters may make a market in the securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice. No assurance can be given as to the liquidity of, or the trading market for, any offered securities.

In connection with any offering, the underwriters may purchase and sell securities in the open market. These transactions may include short sales, stabilizing transactions, and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of securities than they are required to purchase in an offering. Stabilizing transactions consist of bids or purchases made for the purpose of preventing a decline in the market price of the securities while an offering is in progress. The underwriters also may impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the underwriters have repurchased securities sold by or for the account of that underwriter in stabilizing or short-covering transactions. These activities by the underwriters may stabilize, maintain, or otherwise affect the market price of the securities. As a result, the price of the securities may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. Underwriters may engage in over-allotment. If any underwriters create a short position in the securities in an offering in which 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 the securities in the open market.

Underwriters, dealers, or agents that participate in the offer of securities, or their affiliates or associates, may have engaged or engage in transactions with and perform services for, us or our affiliates in the ordinary course of business for which they may have received or receive customary fees and reimbursement of expenses.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, certain legal matters regarding the validity of the securities to be offered by this prospectus will be passed upon for us by Reed Smith LLP, Los Angeles, California and New York, New York. Additional legal matters may be passed upon for us or any underwriters, dealers, or agents by counsel that will be named in the applicable prospectus supplement.

EXPERTS

The financial statements of Caribou Biosciences, Inc. as of December 31, 2021 and 2020, and for each of the three years in the period ended December 31, 2021, incorporated by reference in this prospectus by reference to Caribou Biosciences, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2021, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report. Such financial statements are incorporated by reference in reliance upon the report of such firm given their authority as experts in accounting and auditing.



\$400,000,000
Common Stock
Preferred Stock
Debt Securities
Warrants
Rights
Units

PROSPECTUS

, 2022

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion, dated August 9, 2022

PROSPECTUS



Up to \$100,000,000

Common Stock

We have entered into an Open Market Sale AgreementSM, or the Sales Agreement, with Jefferies LLC, or Jefferies, dated August 9, 2022, relating to the sale of shares of our common stock, par value \$0.0001 per share. In accordance with the terms of the Sales Agreement, under this prospectus we may offer and sell shares of our common stock having an aggregate offering price of up to \$100,000,000 from time to time through Jefferies, acting as our agent.

Our common stock is listed on The Nasdaq Global Select Market under the symbol "CRBU." On August 8, 2022, the last reported sale price of our common stock on The Nasdaq Global Select Market was \$8.45 per share.

Sales of our common stock, if any, under this prospectus will be made in sales deemed to be an "at the market offering" as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended, or the Securities Act. Jefferies is not required to sell any specific amount of securities, but will act as our sales agent using commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between Jefferies and us. There is no arrangement for funds to be received in any escrow, trust, or similar arrangement.

Jefferies will be entitled to compensation at a commission rate equal to 3.0% of the gross proceeds of the shares of common stock sold under the Sales Agreement. In connection with the sale of the common stock on our behalf, Jefferies will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of Jefferies will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to Jefferies with respect to certain liabilities, including liabilities under the Securities Act or the Securities Exchange Act of 1934, as amended, or the Exchange Act. See "[Plan of Distribution](#)" beginning on page S-14 for additional information regarding the compensation to be paid to Jefferies.

Investing in our common stock involves a high degree of risk. Please read carefully the section entitled "[Risk Factors](#)" on page S-8 of this prospectus and the "Risk Factors" section contained in the documents incorporated by reference in this prospectus before investing in our common stock.

We are an "emerging growth company" under applicable Securities and Exchange Commission rules and, as such, are eligible for reduced public company reporting requirements.

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.

Jefferies

The date of this prospectus is _____, 2022.

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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 registration process, we may from time to time sell shares of our common stock having an aggregate offering price of up to \$400,000,000 at prices and on terms to be determined by market conditions at the time of the offering. The \$100,000,000 of shares of our common stock that may be sold under this prospectus are included in the \$400,000,000 of shares of common stock that may be sold under the registration statement.

You should only rely on the information contained in or incorporated by reference in this prospectus. We have not, and Jefferies has not, authorized anyone to provide you with different information. We and Jefferies take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. If anyone provides you with different or inconsistent information, you should not rely on it. We and Jefferies are not making offers to sell the common stock described in this prospectus in any jurisdiction in which an offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation.

Before purchasing our common stock, you should carefully read both this prospectus and any prospectus supplement, together with the additional information described under the heading “Where You Can Find Additional Information” and “Information We Incorporate by Reference.” You should assume that the information contained in this prospectus, any prospectus supplement, or any free writing prospectus is accurate only as of the date on its respective cover, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations, and prospects may have changed materially since those dates.

No action is being taken in any jurisdiction outside the United States to permit a public offering of our common stock or possession or distribution of this prospectus in that jurisdiction. Persons who come into possession of this prospectus in jurisdictions outside the United States are required to inform themselves about and to observe any restrictions as to this offering and the distribution of this prospectus applicable to that jurisdiction.

References in this prospectus to the terms “we,” “us,” “our,” “the Company,” or other similar terms refer to Caribou Biosciences, Inc., a Delaware corporation, together with its consolidated subsidiaries.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements. All statements other than statements of historical facts contained in this prospectus, or incorporated by reference herein, including: statements regarding our business strategy, plans, and objectives; expectations regarding our clinical and preclinical development programs, including our timing expectations with respect to such programs and the expected timing of disclosure of data from such programs; future regulatory filings; our results of operations and financial position; plans and objectives of management for future operations; and the like, are forward-looking statements. In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “predict,” “potential,” or “continue,” or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words. Forward-looking statements include, but are not limited to, statements concerning:

- our expectations regarding the initiation, timing, progress, and results of our product candidate preclinical studies, clinical trials, and research programs including, without limitation, our timing expectations relating to the release of additional data from our ANTLER phase 1 clinical trial for CB-010, the submission of our IND applications for CB-011 and CB-012, and our target selection for CB-020;
- the likelihood of our clinical trials demonstrating safety and efficacy of our product candidates as well as the risk that initial, interim, or preliminary clinical trial data will not ultimately be predictive of the safety and efficacy of our product candidates or that clinical outcomes may differ as more patient data become available;
- the timing or likelihood of regulatory filings and approval for our product candidates;
- our ability to successfully develop our product candidates and to obtain and maintain regulatory approval for our product candidates;
- the beneficial characteristics, therapeutic effects, and potential advantages of our product candidates;
- our strategic plans for our business, product candidates, research programs, and technologies;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates and genome-editing technology;
- anticipated developments related to our competitors and our industry;
- estimates regarding the sufficiency of our existing capital resources to fund our future operating expenses and capital expenditure requirements; and
- our anticipated use of net proceeds from this offering, as well as our existing resources, capital requirements, and needs for additional financing.

The forward-looking statements in this prospectus and the documents incorporated by reference herein are only predictions and are based largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition, and results of operations. These forward-looking statements speak only as of the date of this prospectus, or in the case of any information incorporated by reference only as of the date of the document incorporated by reference, and are subject to a number of known and unknown risks, uncertainties, and assumptions, including those described under the section in this prospectus entitled “Risk Factors” and elsewhere in this prospectus, or in the documents incorporated by reference herein. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as assurances of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or may not occur and actual results could differ materially from those projected in the forward-looking statements.

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Moreover, we operate in a very competitive and rapidly evolving environment. These factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included in this prospectus and the documents incorporated herein by reference. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained, or incorporated by reference, herein, whether as a result of any new information, future events, changed circumstances, or otherwise.

PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus and in the documents we incorporate by reference. This summary does not contain all of the information you should consider before making an investment decision. You should read this entire prospectus carefully, especially the risks of investing in our common stock discussed under “[Risk Factors](#)” beginning on page S-8 of this prospectus, along with our consolidated financial statements and notes to those consolidated financial statements and the other information incorporated by reference in this prospectus.

Our Business

We are a clinical-stage CRISPR genome-editing biopharmaceutical company dedicated to developing innovative, transformative therapies for patients with devastating diseases. CRISPR is an acronym for **C**lustered **R**egularly **I**nterspaced **S**hort **P**alindromic **R**epeats. Our novel CRISPR platform, **CRISPR hybrid RNA-DNA**, or chRDNA (pronounced “chardonnay”), enables high genome-editing precision to develop cell therapies that are specifically engineered to target cancer and are armored for enhanced persistence. We are advancing a pipeline of allogeneic, or off-the-shelf, chimeric antigen receptor, or CAR, -T, or CAR-T, and -natural killer, or CAR-NK, cell therapies for the treatment of patients with hematologic malignancies and solid tumors. Our renowned founders, including a Nobel Prize laureate, are pioneers in the field of CRISPR genome editing. Our chRDNA technology has demonstrated superior specificity and high efficiency in preclinical studies and enables us to perform multiple, precise genome edits, while maintaining genomic integrity.

We believe that our technology has broad potential to generate gene and cell therapies in oncology and in therapeutic areas beyond oncology. Potential applications include immune cell therapies, cell therapies derived from genome-edited induced pluripotent stem cells, or iPSCs, and *in vivo* genome-edited therapies.

The genome-editing technologies currently used in the allogeneic cell therapy field generally have limited efficiency, specificity, and versatility for performing the multiple, precise genome edits necessary to address insufficient persistence. Our chRDNA technology is designed to address these genome-editing limitations and improve cell therapy activity. By applying our approach to allogeneic cell therapies, we believe we can unlock their full potential by improving upon their effectiveness and durability.

We are initially focused on advancing multiple proprietary allogeneic cell therapies for the treatment of both hematologic malignancies and solid tumors against cell surface targets for which autologous CAR-T cell therapeutics have previously demonstrated clinical proof of concept, including CD19 and B cell maturation antigen, as well as other targets. We use our chRDNA technology to enhance, or armor, our cell therapies with multiple strategies, such as checkpoint disruption and immune cloaking, to improve persistence of antitumor activity.

Corporate Information

Our principal executive offices are located at 2929 7th Street, Suite 105, Berkeley, California 94710 and our telephone number is (510) 982-6030. Our website address is www.cariboubio.com. The information on, or that can be accessed through, our website is not part of this prospectus and is not incorporated by reference herein. We have included our website address as an inactive textual reference only.

Implications of Being an Emerging Growth Company

We are an emerging growth company as defined in the Jumpstart Our Business Startups Act of 2012, as amended, or the JOBS Act. We will remain an emerging growth company until the earliest of: (i) December 31,

2026; (ii) the last day of the fiscal year in which we have total annual gross revenue of at least \$1.07 billion; (iii) the last day of the fiscal year in which we are deemed to be a “large accelerated filer” as defined in Rule 12b-2 under the Exchange Act, which would occur if the market value of our common stock held by non-affiliates exceeded \$700 million as of the last business day of the second fiscal quarter of such year; or (iv) the date on which we have issued more than \$1 billion in non-convertible debt securities during the prior three-year period. An emerging growth company may take advantage of specified reduced reporting requirements and is relieved of certain other significant requirements that are otherwise generally applicable to public companies. As an emerging growth company:

- we avail ourselves of the exemption from the requirement to obtain an attestation and report from our independent registered public accounting firm on the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act;
- we provide less extensive disclosure about our executive compensation arrangements; and
- we do not require stockholder non-binding advisory votes on executive compensation or golden parachute arrangements.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have elected to use the extended transition period for any new or revised accounting standards during the period in which we remain an emerging growth company; however, we may adopt certain new or revised accounting standards early.

Trademarks

We have registered Caribou Biosciences, Caribou, Site-Seq, and our logo as trademarks or service marks in the United States and certain other jurisdictions. This prospectus contains references to our trademarks and service marks and to those belonging to other entities. Solely for convenience, trademarks, service marks, and trade names referred to in this prospectus, including logos, artwork, and other visual displays, may appear without the ® or ™ symbols, but in the case of our trademarks, service marks, and trade names, such references are not intended to indicate in any way that we will not assert, to the fullest extent under applicable law, our rights to these trademarks, service marks, and trade names. We do not intend our use or display of other entities’ trade names, trademarks, or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other entity.

THE OFFERING

Issuer	Caribou Biosciences, Inc.
Common Stock Offered By Us	Shares of our common stock having an aggregate offering price of up to \$100,000,000.
Common Stock to be Outstanding After this Offering	Up to 72,672,689 shares (as more fully described in the notes following this table), assuming sales of 11,834,319 shares of common stock in this offering at an offering price of \$8.45 per share, which was the last reported sale price of our common stock on The Nasdaq Global Select Market on August 8, 2022. The actual number of shares issued will vary depending on the sales price under this offering.
Plan of Distribution	We will sell the shares of our common stock offered hereby by any method permitted that is deemed an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act, through our sales agent, Jefferies. See “Plan of Distribution.”
Use of Proceeds	<p>We intend to use the net proceeds from the sale of any common stock offered under this prospectus primarily for general corporate purposes, which may include working capital and capital expenditures, expenses related to research and development activities, clinical trial expenditures, the hiring of additional personnel, general and administrative expenses, collaborations, and the potential acquisition or in-license of products, product candidates, businesses, or technologies.</p> <p>Pending the specific use of net proceeds as described in this prospectus, we intend to invest the net proceeds to us from this offering in investment-grade, interest-bearing instruments. See “Use of Proceeds.”</p>
Risk Factors	Investing in our common stock involves a high degree of risk. See “ Risk Factors ” beginning on page S-8 of this prospectus and in the documents incorporated by reference into this prospectus for a discussion of certain factors to consider carefully before deciding to purchase any shares of our common stock.
The Nasdaq Global Select Market Symbol	“CRBU”

The number of shares of our common stock to be outstanding after this offering is based on 60,838,370 shares of common stock outstanding as of June 30, 2022 and excludes:

- 3,491,951 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2022 under the 2013 Equity Incentive Plan, or the 2013 plan, at a weighted-average exercise price of \$3.81 per share;
- 3,119,007 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2022 under the 2021 Equity Incentive Plan, or the 2021 Plan, at a weighted-average exercise price of \$15.26 per share;
- 60,000 shares of common stock issuable upon the settlement of restricted stock units, or RSUs, outstanding as of June 30, 2022 issued pursuant to our 2021 Plan;

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- 6,310,513 shares of common stock available for future issuance as of June 30, 2022 under the 2021 Plan; and
- 1,077,035 shares of common stock reserved for future issuance as of June 30, 2022 under the 2021 Employee Stock Purchase Plan, or the 2021 ESPP.

Unless we specifically state otherwise, all information in this prospectus assumes no exercise of the outstanding options or settlement of the outstanding RSUs described above.

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before deciding to invest in our common stock, you should carefully consider the risks and uncertainties described below together with all of the other information contained in this prospectus and in the documents incorporated by reference herein, including the risks described in “Item 1A. Risk Factors” of our most recent Annual Report on Form 10-K or Quarterly Report on Form 10-Q filed with the SEC, as such risk factors may be amended, supplemented or superseded from time to time by other reports we file with the SEC, including subsequent Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q. If any of these risks actually occur, our business, prospects, operating results, and financial condition could suffer materially. In such event, the trading price of our common stock could decline and you might lose all or part of your investment.

Risks Related to our Common Stock

The market price of our common stock has been, and may continue to be, volatile, which could result in substantial losses for investors purchasing shares in this offering, if the price of our common stock drops significantly.

Some of the factors that may cause the market price of our common stock to fluctuate include:

- the timing and results of preclinical studies and clinical trials for any product candidates that we develop;
- delay, failure, or discontinuation of any of our product candidates or research programs;
- results of preclinical studies, clinical trials, or regulatory approvals of product candidates of our competitors, or announcements about new research programs or product candidates of our competitors;
- adverse regulatory decisions, including failure to receive regulatory approval of one or more of our product candidates;
- unanticipated or serious safety concerns related to our product candidates;
- developments or changing views regarding the use of biologics, including those that involve genome editing;
- commencement or termination of collaborations;
- regulatory or legal developments in the United States and other countries;
- assertions that our product candidates infringe third-party patents;
- invalidity challenges to our intellectual property, including intellectual property that we have in-licensed;
- manufacturing delays;
- acceptance or lack of acceptance of allogeneic cell therapy products;
- inability to meet our obligations under the Collaboration and License Agreement we entered into with AbbVie Manufacturing Management Unlimited Company in February 2021;
- inability to obtain additional collaboration partners;
- the recruitment and retention of key personnel;
- the level of expenses related to any of our product candidates, including preclinical studies and clinical trials, as well as the level related to our research programs;
- the results of our efforts to develop additional product candidates or technologies;

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- actual or anticipated changes in estimates as to financial results, development timelines, or recommendations by securities analysts;
- announcements or expectations of additional financing efforts;
- significant lawsuits, including contract disputes with our licensors, licensees, assignors, assignees, contract manufacturers, suppliers, clinical research organizations, clinical sites, or stockholder litigation;
- sales of our common stock by us, our insiders, or other stockholders;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry, and market conditions;
- the impact of the COVID-19 pandemic or geopolitical events, including the conflict in Ukraine, on our clinical development or operations; and
- the other factors described in the “Risk Factors” sections in our Annual Report on Form 10-K for the year ended December 31, 2021 and our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2022 and June 30, 2022 and in subsequent filings we make with the SEC.

In recent years, the stock market in general, and the market for pharmaceutical and biotechnology companies in particular, has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to changes in the operating performance of the companies whose stock is experiencing those price and volume fluctuations, including recently in connection with the COVID-19 pandemic. Broad market and industry factors, including potentially worsening economic conditions, and other adverse effects or developments, may seriously affect the market price of our common stock, regardless of our actual operating performance. Following periods of such volatility in the market price of a company’s securities, securities class action litigation has often been brought against that company. Because of the potential volatility of our stock price, we may become the target of securities litigation in the future. Securities litigation could result in substantial costs and divert our management’s attention and resources from our business.

A significant portion of our total outstanding shares are eligible to be sold into the market, which could cause the market price of our common stock to drop significantly.

Sales of a substantial number of shares of our common stock in the public market, or the perception in the market that the holders of a large number of stockholders intend to sell shares of our common stock, could reduce the market price of our common stock. As of August 1, 2022, we had 60,840,446 shares of common stock outstanding. We have also registered all shares of common stock subject to outstanding equity awards or reserved for future issuance under our equity compensation plans on registration statements on Form S-8, and these shares can be freely sold in the public market upon issuance, subject to volume limitations application to affiliates under Rule 144 under the Securities Act. We cannot predict what effect, if any, market sales of shares held by any stockholder or the availability of shares for future sale will have on the market price of our common stock.

Insiders will continue to have substantial influence over us after this offering, which could limit your ability to affect the outcome of key transactions, including a change of control.

As of August 1, 2022, our directors and executive officers and our stockholders who owned more than 5% of our outstanding common stock beneficially owned shares representing approximately 20.4% of our outstanding common stock. As a result, these stockholders, if they choose to act together, will be able to influence our management and affairs and all matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions.

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Some of these persons or entities may have interests different than yours. For example, because many of these stockholders purchased their shares at prices substantially below the current market price of our common stock and have held their shares for a longer period, they may be more interested in selling our Company to an acquirer than other investors, or they may want us to pursue strategies that deviate from the interests of other stockholders.

Risks Related to this Offering

If you purchase shares of common stock in this offering, you may experience immediate and substantial dilution in your investment. You may experience further dilution if we issue additional equity securities in the future.

Because the price per share of our common stock being offered may be higher than the net tangible book value per share of our common stock, you may experience immediate and substantial dilution with respect to the net tangible book value per share of the shares of our common stock you purchase in this offering. After giving effect to the sale of shares of our common stock in the aggregate amount of \$100,000,000 at an assumed offering price of \$8.45 per share, the last reported sale price of our common stock on The Nasdaq Global Select Market on August 8, 2022, after deducting commissions and estimated aggregate offering expenses payable by us, you would experience immediate dilution of \$2.34 per share, representing the difference between our as adjusted net tangible book value per share as of June 30, 2022 after giving effect to this offering and the assumed offering price of \$8.45 per share. See “Dilution.” The actual amount of dilution will be based on a number of factors, including the use of proceeds, and cannot be determined at this time. We may also choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders or result in downward pressure on the price of our common stock.

Our management will have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

We cannot specify with certainty the particular uses of the net proceeds we will receive from this offering. Our management will have broad discretion in the application of the net proceeds, including for any of the purposes described in “Use of Proceeds.” Accordingly, you will have to rely upon the judgment of our management with respect to the use of the proceeds, with only limited information concerning management’s specific intentions. Our management may spend a portion or all of the net proceeds from this offering in ways that our stockholders may not desire or that may not yield a favorable return. The failure by our management to apply these funds effectively could harm our business, financial condition, results of operations, and prospects. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

The common stock offered hereby will be sold in “at the market offerings,” and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices, and so may experience different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold. The Sales Agreement does not specify any required minimum or maximum sales price. Investors may experience a decline in the value of their shares as a result of share sales made at prices lower than the prices they paid.

The actual number of shares we will issue under the Sales Agreement, at any one time or in total, is uncertain.

Subject to certain limitations in the Sales Agreement and compliance with applicable law, we have the discretion to submit an order to Jefferies to sell shares of our common stock at any time throughout the term of

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the Sales Agreement. The number of shares that are sold by Jefferies after we submit any such order will fluctuate based on the market price of the common stock during the sales period and limits we set with Jefferies. Because the price per share of each share sold will fluctuate based on the market price of our common stock during the sales period, it is not possible at this stage to predict the number of shares that will be ultimately issued.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of any common stock offered under this prospectus primarily for general corporate purposes, which may include working capital and capital expenditures, expenses related to research and development activities, clinical trial expenditures, the hiring of additional personnel, general and administrative expenses, collaborations, and the potential acquisition or in-license of products, product candidates, businesses, or technologies.

Pending the specific use of net proceeds as described in this prospectus, we intend to invest the net proceeds to us from this offering in investment-grade, interest-bearing instruments.

DILUTION

If you invest in our common stock, your interest will be diluted to the extent of the difference between the price per share you pay in this offering and the net tangible book value per share of our common stock immediately after this offering.

Our historical net tangible book value of our common stock as of June 30, 2022 was approximately \$347.9 million, or approximately \$5.72 per share of common stock based upon 60,838,370 shares outstanding. Net tangible book value per share is equal to our total tangible assets, less our total liabilities, divided by the total number of shares outstanding as of June 30, 2022.

After giving effect to the sale of our common stock in this offering in the aggregate amount of \$100,000,000 at an assumed offering price of \$8.45 per share, the last reported sale price of our common stock on The Nasdaq Global Select Market on August 8, 2022, and after deducting commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of June 30, 2022 would have been \$444.3 million, or \$6.11 per share of common stock. This represents an immediate increase in net tangible book value of \$0.39 per share to our existing stockholders and an immediate dilution in net tangible book value of \$2.34 per share to new investors in this offering.

The following table illustrates this calculation on a per share basis. The as adjusted information is illustrative only and will adjust based on the actual price to the public, the actual number of shares sold and other terms of the offering determined at the time shares of our common stock are sold pursuant to this prospectus. The as adjusted information assumes that all of our common stock in the aggregate amount of \$100,000,000 is sold at the assumed offering price of \$8.45 per share, the last reported sale price of our common stock on The Nasdaq Global Select Market on August 8, 2022. The shares sold in this offering, if any, will be sold from time to time at various prices.

Assumed public offering price per share	\$8.45
Historical net tangible book value per share as of June 30, 2022	\$5.72
Increase in net tangible book value per share attributable to this offering	<u>\$0.39</u>
As adjusted net tangible book value per share after giving effect to this offering	<u>\$6.11</u>
Dilution per share to new investors participating in this offering	<u>\$2.34</u>

The table and calculations above are based 60,838,370 shares of common stock outstanding as of June 30, 2022 and excludes:

- 3,491,951 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2022 under the 2013 Plan at a weighted-average exercise price of \$3.81 per share;
- 3,119,007 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2022 under the 2021 Plan at a weighted-average exercise price of \$15.26 per share;
- 60,000 shares of common stock issuable upon the settlement of RSUs outstanding as of June 30, 2022 issued pursuant to our 2021 Plan;
- 6,310,513 shares of common stock available for future issuance as of June 30, 2022 under the 2021 Plan; and
- 1,077,035 shares of common stock reserved for future issuance as of June 30, 2022 under the 2021 ESPP.

To the extent that outstanding options are exercised, you will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of such securities may result in further dilution to our stockholders.

PLAN OF DISTRIBUTION

We have entered into the Sales Agreement with Jefferies, under which we may offer and sell our shares of common stock from time to time through Jefferies acting as agent. Pursuant to this prospectus, we may offer and sell up to \$100,000,000 of our shares of common stock. Sales of our shares of common stock, if any, under this prospectus will be made by any method that is deemed to be an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act.

Each time we wish to issue and sell shares of common stock under the sales agreement, we will notify Jefferies of the number of shares to be issued, the dates on which such sales are anticipated to be made, any limitation on the number of shares to be sold in any one day and any minimum price below which sales may not be made. Once we have so instructed Jefferies, unless Jefferies declines to accept the terms of such notice, Jefferies has agreed to use its commercially reasonable efforts consistent with its normal trading and sales practices to sell such shares up to the amount specified on such terms. The obligations of Jefferies under the sales agreement to sell our shares of common stock are subject to a number of conditions that we must meet.

The settlement of sales of shares between us and Jefferies is generally anticipated to occur on the second trading day following the date on which the sale was made. Sales of our shares of common stock as contemplated in this prospectus will be settled through the facilities of The Depository Trust Company or by such other means as we and Jefferies may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

We will pay Jefferies a commission equal to 3.0% of the aggregate gross proceeds we receive from each sale of our shares of common stock. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. In addition, we have agreed to reimburse Jefferies for the fees and disbursements of its counsel, payable upon execution of the sales agreement, in an amount not to exceed \$75,000, in addition to certain ongoing disbursements of its legal counsel, unless we and Jefferies otherwise agree. We estimate that the total expenses for the offering, excluding any commissions or expense reimbursement payable to Jefferies under the terms of the sales agreement, will be approximately \$400,000. The remaining sale proceeds, after deducting any other transaction fees, will equal our net proceeds from the sale of such shares.

Jefferies will provide written confirmation to us before the open on The Nasdaq Global Select Market on the day following each day on which shares of our common stock are sold under the sales agreement. Each confirmation will include the number of shares sold on that day, the aggregate gross proceeds of such sales and the proceeds to us.

In connection with the sale of the shares of common stock on our behalf, Jefferies will be deemed to be an “underwriter” within the meaning of the Securities Act, and the compensation of Jefferies will be deemed to be underwriting commissions or discounts. We have agreed to indemnify Jefferies against certain civil liabilities, including liabilities under the Securities Act. We have also agreed to contribute to payments Jefferies may be required to make in respect of such liabilities.

The offering of our shares of common stock pursuant to the sales agreement will terminate upon the earlier of (i) the sale of all shares of common stock subject to the sales agreement and (ii) the termination of the sales agreement as permitted therein.

This summary of the material provisions of the sales agreement does not purport to be a complete statement of its terms and conditions. A copy of the sales agreement is filed as an exhibit to the registration statement of which this prospectus forms a part.

Jefferies and its affiliates may in the future provide various investment banking, commercial banking, financial advisory and other financial services for us and our affiliates, for which services they may in the future

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receive customary fees. In the course of its business, Jefferies may actively trade our securities for its own account or for the accounts of customers, and, accordingly, Jefferies may at any time hold long or short positions in such securities. This prospectus in electronic format may be made available on a website maintained by Jefferies, and Jefferies may distribute this prospectus electronically.

LEGAL MATTERS

The validity of the shares of common stock being offered by this prospectus will be passed upon for us by Reed Smith LLP, Los Angeles, California and New York, New York. Jefferies LLC is being represented in connection with this offering by Cooley LLP, New York, New York.

EXPERTS

The financial statements of Caribou Biosciences, Inc. as of December 31, 2021 and 2020, and for each of the three years in the period ended December 31, 2021, incorporated by reference in this prospectus by reference to Caribou Biosciences, Inc.'s annual report on Form 10-K for the year ended December 31, 2021, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report. Such financial statements are incorporated by reference in reliance upon the report of such firm given their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

This prospectus is part of a registration statement on Form S-3 that we filed with the SEC. This prospectus does not contain all of the information included in the registration statement.

We file annual, quarterly, and current reports, proxy statements, and other information with the SEC. Our SEC filings are available to the public at the SEC's website at www.sec.gov. We also maintain a website located at www.cariboubio.com, where these SEC filings and other information about our Company can be accessed, free of charge, as soon as reasonably practicable after we electronically file the information with, or furnish it to, the SEC. The information contained on or that can be accessed through our website does not constitute part of this prospectus, except for reports filed with the SEC that are specifically incorporated herein by reference.

Forms of any documents establishing the terms of the offered securities are filed as exhibits to the registration statement of which this prospectus forms a part or will be filed through an amendment to our registration statement on Form S-3 or under cover of a Current Report on Form 8-K or other document filed with the SEC and incorporated into this prospectus by reference. Statements in this prospectus about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. The full registration statement, including exhibits thereto, may be obtained from either the SEC or us as indicated above.

INFORMATION WE INCORPORATE BY REFERENCE

The SEC allows us to “incorporate by reference” information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this prospectus. Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent a statement contained in this prospectus or in any other subsequently filed document that is or is deemed to be incorporated by reference in this prospectus modifies or supersedes that statement. We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below (other than Current Reports on Form 8-K or portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed or furnished on such form that are related to such items) that we have filed with the SEC (File No. 001-40631):

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2021, filed with the SEC on March 21, 2022;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2022 and June 30, 2022, filed with the SEC on [May 9, 2022](#) and [August 9, 2022](#), respectively;
- our Current Reports on Form 8-K and 8-K/A filed with the SEC on [January 18, 2022](#), [January 19, 2022](#), [May 11, 2022](#) (except for item 7.01), [May 12, 2022](#) (except for item 7.01), [June 10, 2022](#) (except for item 7.01), [July 15, 2022](#), [July 18, 2022](#), and [August 9, 2022](#) (except for item 2.02); and
- the description of our common stock contained in our registration statement on [Form 8-A](#) filed with the SEC on July 19, 2021, as updated by the description of our common stock contained in [Exhibit 4.1](#) to our Annual Report on Form 10-K for the year ended December 31, 2021, and any amendments or reports filed for the purposes of updating this description.

We also incorporate by reference the information contained in all other documents that we file with the SEC pursuant to Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act, (other than the portions that are deemed to have been furnished and not filed in accordance with SEC rules, unless otherwise indicated therein), on or after the date of the registration statement of which this prospectus forms a part and prior to its effectiveness and prior to the completion of the offering of all securities under this prospectus and any prospectus supplement. The information contained in any such document will be considered part of this prospectus from the date the document is filed with the SEC. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus and any accompanying prospectus supplement to the extent that a statement contained herein or therein or in any other subsequently filed document, which also is or is deemed to be incorporated by reference herein or therein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus or any accompanying prospectus supplement. We will provide to each person, including any beneficial owner, to whom a prospectus (or a notice of registration in lieu thereof) is delivered, a copy of any or all of the documents incorporated by reference in this prospectus or any accompanying prospectus supplement (other than an exhibit to these filings, unless the exhibit is specifically incorporated by reference in the document requested) at no cost. Any such request can be made by writing or telephoning us at the following address and telephone number:

Caribou Biosciences, Inc.
2929 7th Street, Suite 105
Berkeley, California 94710
Attention: Chief Legal Officer
(510) 982-6030



Up to \$100,000,000

Common Stock

PROSPECTUS

Jefferies

, 2022

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following is a statement of the estimated expenses (except in the case of the SEC registration fee and the FINRA filing fee), to be paid solely by the registrant, of the issuance and distribution of the securities being registered hereby:

SEC registration fee	\$37,080
FINRA filing fee	60,500
Trustee's fees and expenses	*
Transfer agent and registrar fees	*
Printing expenses	*
Accounting fees and expenses	*
Rating agency fees	*
Legal fees and expenses	*
Miscellaneous expenses	*
Total	<u>\$97,580</u>

* These fees are calculated based on the securities offered and the number of issuances and accordingly cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers.

As permitted by Section 102(b)(7) of the DGCL, our amended and restated certificate of incorporation contains a provision to eliminate the personal liability of our directors for monetary damages for breach of their fiduciary duties as directors, subject to certain exceptions. In addition, our amended and restated certificate of incorporation and amended and restated bylaws provide that we are required to indemnify our executive officers and directors under certain circumstances, including those circumstances in which indemnification would otherwise be discretionary, and we are required to advance expenses to our executive officers and directors as incurred in connection with proceedings against them for which they may be indemnified, subject to the indemnitee signing an undertaking to repay all amounts so advanced if it shall ultimately be determined by final judicial decision that such indemnitee is not entitled to be indemnified for such expenses.

Section 145(a) of the DGCL provides that a corporation shall have the power to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending, or completed action, suit, or proceeding, whether civil, criminal, administrative, or investigative (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee, or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust, or other enterprise, against expenses (including attorneys' fees), judgments, fines, and amounts paid in settlement actually and reasonably incurred by them in connection with such action, suit, or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interest of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe their conduct was unlawful. The termination of any action, suit, or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent shall not, of itself, create a presumption that the person did not act in good faith and in a manner that the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that their conduct was unlawful.

Section 145(b) of the DGCL provides that a corporation shall have the power to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending, or completed action or suit by or

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in the right of the corporation to procure a judgment in its favor by reason of the fact that the person is or was a director, officer, employee, or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust, or other enterprise against expenses (including attorneys' fees) actually and reasonably incurred by them in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation and except that no indemnification shall be made with respect to any claim, issue, or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery of the State of Delaware or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses, which the Court of Chancery of the State of Delaware or such other court shall deem proper.

We have entered into indemnification agreements with our executive officers, directors, and controller.

We maintain director and officer liability insurance for the benefit of our directors, executive officers, and controller.

Item 16. Exhibits.

A list of exhibits included as part of this registration statement is set forth in the Exhibit Index and is 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;

(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) that, 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 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 a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(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 (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the information required to be included by post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to section 13 or section 15(d) of 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.

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- (2) That, for the purpose of determining any liability under the Securities Act of 1933, as amended, or the Securities Act, each such 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.
- (4) That, for the purpose of determining liability under the Securities Act to any purchaser:
 - (i) 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
 - (ii) 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 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 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 in 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.
- (5) 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) The undersigned registrant hereby undertakes 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 the registration statement

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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.

- (c) 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 foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities 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 Securities Act and will be governed by the final adjudication of such issue.
- (d) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the SEC under section 305(b)(2) of the Trust Indenture Act.

EXHIBIT INDEX

Exhibit Number	Description
1.1*	Form of Underwriting Agreement
1.2+	Open Market Sale AgreementSM, dated August 9, 2022, by and between Caribou Biosciences, Inc. and Jefferies LLC
4.1	Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K, filed by the Registrant with the SEC on July 28, 2021)
4.2	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 of the Registrant's Current Report on Form 8-K, filed by the Registrant with the SEC on July 28, 2021)
4.3*	Form of Certificate of Designation, Preferences and Rights for Preferred Stock (including form of preferred stock certificate)
4.4+	Form of Indenture for Senior Debt Securities
4.5+	Form of Indenture for Subordinated Debt Securities
4.6*	Form of Global Note for Senior Debt Securities
4.7*	Form of Global Note for Subordinated Debt Securities
4.8*	Form of Warrant Agreement and Warrant Certificate
4.9*	Form of Rights Agreement
4.10*	Form of Unit Agreement and Unit Certificate
5.1+	Opinion of Reed Smith LLP relating to base prospectus
5.2+	Opinion of Reed Smith LLP relating to sales agreement prospectus
23.1+	Consent of Independent Registered Public Accounting Firm
23.2+	Consent of Reed Smith LLP (included in Exhibit 5.1 filed herewith)
23.3+	Consent of Reed Smith LLP (included in Exhibit 5.2 filed herewith)
24.1+	Power of Attorney (included on signature page hereto)
25.1**	Form T-1 Statement of Eligibility and Qualification of Trustee under the Senior Indenture under the Trust Indenture Act of 1939, as amended
25.2**	Form T-1 Statement of Eligibility and Qualification of Trustee under the Subordinated Indenture under the Trust Indenture Act of 1939, as amended
107+	Filing Fee Table

+ Filed herewith.

* To be filed, if necessary, either by amendment to this registration statement or as an exhibit to a document to be incorporated by reference in this registration statement.

** To be filed, if necessary, separately under the electronic form type 305B2 pursuant to Section 305(B)(2) of the Trust Indenture Act of 1939, as amended.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, 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 City of Berkeley, State of California, on this 9th day of August, 2022.

CARIBOU BIOSCIENCES, INC.

By: /s/ Rachel E. Haurwitz
Rachel E. Haurwitz
President and Chief Executive Officer

POWER OF ATTORNEY

We the undersigned executive officers and directors of Caribou Biosciences, Inc., hereby severally constitute and appoint Rachel E. Haurwitz and Jason V. O'Byrne, and each of them singly, our true and lawful attorneys with full power to any of them, and to each of them singly, to sign for us and in our names in the capacities indicated below the registration statement on Form S-3 filed herewith and any and all pre-effective and post-effective amendments to said registration statement and any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and to file the same with all exhibits thereto, and the other documents in connection therewith, with the Securities and Exchange Commission, and generally to do all such things in our name and behalf in our capacities as executive officers and directors to enable Caribou Biosciences, Inc. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorneys, or any of them, to said registration statement and any and all amendments thereto.

Pursuant to the requirements of the Securities Act of 1933, as amended, 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/ Rachel E. Haurwitz</u> Rachel E. Haurwitz	President and Chief Executive Officer and Director (Principal Executive Officer)	August 9, 2022
<u>/s/ Jason V. O'Byrne</u> Jason V. O'Byrne	Chief Financial Officer (Principal Financial Officer)	August 9, 2022
<u>/s/ Ryan Fischesser</u> Ryan Fischesser	Controller (Principal Accounting Officer)	August 9, 2022
<u>/s/ Scott Braunstein</u> Scott Braunstein	Director	August 9, 2022
<u>/s/ Andrew Guggenhime</u> Andrew Guggenhime	Director	August 9, 2022
<u>/s/ David L. Johnson</u> David L. Johnson	Director	August 9, 2022
<u>/s/ Dara Richardson-Heron</u> Dara Richardson-Heron	Director	August 9, 2022
<u>/s/ Natalie R. Sacks</u> Natalie R. Sacks	Director	August 9, 2022
<u>/s/ Nancy Whiting</u> Nancy Whiting	Director	August 9, 2022
<u>/s/ Ran Zheng</u> Ran Zheng	Director	August 9, 2022

OPEN MARKET SALE AGREEMENTSM

August 9, 2022

JEFFERIES LLC
520 Madison Avenue
New York, New York 10022

Ladies and Gentlemen:

Caribou Biosciences, Inc., a Delaware corporation (the “**Company**”), proposes, subject to the terms and conditions stated herein, to issue and sell from time to time through Jefferies LLC, as sales agent and/or principal (the “**Agent**”), shares of the Company’s common stock, par value \$0.0001 per share (the “**Common Shares**”), on the terms set forth in this agreement (this “**Agreement**”).

Section 1. DEFINITIONS

(a) Certain Definitions. For purposes of this Agreement, capitalized terms used herein and not otherwise defined shall have the following respective meanings:

“**Affiliate**” of a Person means another Person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such first- mentioned Person. The term “control” (including the terms “controlling,” “controlled by” and “under common control with”) means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise.

“**Agency Period**” means the period commencing on the date of this Agreement and expiring on the earliest to occur of (x) the date on which the Agent shall have placed the Maximum Program Amount pursuant to this Agreement and (y) the date this Agreement is terminated pursuant to Section 7.

“**Commission**” means the U.S. Securities and Exchange Commission.

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

“**Floor Price**” means the minimum price per share set by the Company in the Issuance Notice below which the Agent shall not sell Shares during the applicable period set forth in the Issuance Notice, which may be adjusted by the Company at any time during the period set forth in the Issuance Notice by delivering written notice of such change to the Agent and which in no event shall be less than \$1.00 without the prior written consent of the Agent, which may be withheld in the Agent’s sole discretion.

SM “Open Market Sale Agreement” is a service mark of Jefferies LLC

“**Issuance Amount**” means the aggregate Sales Price of the Shares to be sold by the Agent pursuant to any Issuance Notice.

“**Issuance Notice**” means a written notice delivered to the Agent by the Company in accordance with this Agreement in the form attached hereto as Exhibit A that is executed by its Chief Executive Officer, President or Chief Financial Officer.

“**Issuance Notice Date**” means any Trading Day during the Agency Period that an Issuance Notice is delivered pursuant to Section 3(b)(i).

“**Issuance Price**” means the Sales Price less the Selling Commission.

“**Maximum Program Amount**” means Common Shares with an aggregate Sales Price of the lesser of (a) the number or dollar amount of Common Shares registered under the effective Registration Statement (defined below) pursuant to which the offering is being made, (b) the number of authorized but unissued Common Shares (less Common Shares issuable upon exercise, conversion or exchange of any outstanding securities of the Company or otherwise reserved from the Company’s authorized capital stock), (c) the number or dollar amount of Common Shares permitted to be sold under Form S-3 (including General Instruction I.B.6 thereof, if applicable), or (d) the number or dollar amount of Common Shares for which the Company has filed a Prospectus (defined below).

“**Person**” means an individual or a corporation, partnership, limited liability company, trust, incorporated or unincorporated association, joint venture, joint stock company, governmental authority or other entity of any kind.

“**Principal Market**” means The Nasdaq Global Select Market or such other national securities exchange on which the Common Shares, including any Shares, are then listed.

“**Sales Price**” means the actual sale execution price of each Share placed by the Agent pursuant to this Agreement.

“**Securities Act**” means the Securities Act of 1933, as amended, and the rules and regulations of the Commission thereunder.

“**Selling Commission**” means three percent (3.0%) of the gross proceeds of Shares sold pursuant to this Agreement, or as otherwise agreed between the Company and the Agent with respect to any Shares sold pursuant to this Agreement.

“**Settlement Date**” means the second business day following each Trading Day during the period set forth in the Issuance Notice on which Shares are sold pursuant to this Agreement, when the Company shall deliver to the Agent the amount of Shares sold on such Trading Day and the Agent shall deliver to the Company the Issuance Price received on such sales.

“**Shares**” shall mean the Company’s Common Shares issued or issuable pursuant to this Agreement.

“**Trading Day**” means any day on which the Principal Market is open for trading.

Section 2. REPRESENTATIONS AND WARRANTIES OF THE COMPANY

The Company represents and warrants to, and agrees with, the Agent that as of (1) the date of this Agreement, (2) each Issuance Notice Date, (3) each Settlement Date, (4) each Triggering Event Date and (5) as of each Time of Sale (each of the times referenced above is referred to herein as a “**Representation Date**”) (other than representations and warranties that by their terms address matters only as of another specified time, which shall be true only as of such time), except as may be disclosed in the Prospectus (including any documents incorporated by reference therein and any supplements thereto) on or before a Representation Date:

(a) **Registration Statement.** The Company has prepared and filed, or will file, with the Commission a shelf registration statement on Form S-3 that contains a base prospectus (the “**Base Prospectus**”). Such registration statement registers the issuance and sale by the Company of the Shares under the Securities Act. The Company may file one or more additional registration statements from time to time that will contain a base prospectus and related prospectus or prospectus supplement, if applicable, with respect to the Shares. Except where the context otherwise requires, such registration statement(s), including any information deemed to be a part thereof pursuant to Rule 430B under the Securities Act, including all financial statements, exhibits and schedules thereto and all documents incorporated or deemed to be incorporated therein by reference pursuant to Item 12 of Form S-3 under the Securities Act as from time to time amended or supplemented, is herein referred to as the “**Registration Statement**,” and the prospectus constituting a part of such registration statement(s) that relates to the Shares, together with any prospectus supplement filed with the Commission pursuant to Rule 424(b) under the Securities Act relating to a particular issuance of the Shares, including all documents incorporated or deemed to be incorporated therein by reference pursuant to Item 12 of Form S-3 under the Securities Act, in each case, as from time to time amended or supplemented, is referred to herein as the “**Prospectus**,” except that if any revised prospectus is provided to the Agent by the Company for use in connection with the offering of the Shares that is not required to be filed by the Company pursuant to Rule 424(b) under the Securities Act, the term “**Prospectus**” shall refer to such revised prospectus from and after the time it is first provided to the Agent for such use. The Registration Statement at the time it originally became effective is herein called the “**Original Registration Statement**.” As used in this Agreement, the terms “amendment” or “supplement” when applied to the Registration Statement or the Prospectus shall be deemed to include the filing by the Company with the Commission of any document under the Exchange Act after the date hereof that is or is deemed to be incorporated therein by reference.

All references in this Agreement to financial statements and schedules and other information which is “contained,” “included” or “stated” in the Registration Statement or the Prospectus (and all other references of like import) shall be deemed to mean and include all such financial statements and schedules and other information which is or is deemed to be incorporated by reference in or otherwise deemed under the Securities Act to be a part of or included in the Registration Statement or the Prospectus, as the case may be, as of any specified date; and all references in this Agreement to amendments or supplements to the Registration Statement or the Prospectus shall be deemed to mean and include, without limitation, the filing of any document under the Exchange Act which is or is deemed to be incorporated by reference in or otherwise deemed under the Securities Act to be a part of or included in the Registration Statement or the Prospectus, as the case may be, as of any specified date.

At the time the Original Registration Statement was or will be declared effective and at the time the Company's most recent annual report on Form 10-K was filed with the Commission, if later, the Company met the then-applicable requirements for use of Form S-3 under the Securities Act. During the Agency Period, each time the Company files an annual report on Form 10-K the Company will meet the then-applicable requirements for use of Form S-3 under the Securities Act.

(b) **Compliance with Registration Requirements.** The Original Registration Statement and any Rule 462(b) Registration Statement has been or will have been declared effective by the Commission under the Securities Act prior to the furnishing of any Issuance Notices by the Company. The Company has complied or will comply, to the Commission's satisfaction, with all requests of the Commission for additional or supplemental information, if any. No stop order suspending the effectiveness of the Registration Statement or any Rule 462(b) Registration Statement is in effect and no proceedings for such purpose have been instituted or are pending or, to the best knowledge of the Company, are threatened by the Commission.

The Prospectus when filed complied or will comply in all material respects with the Securities Act and, if filed with the Commission through its Electronic Data Gathering, Analysis and Retrieval system ("**EDGAR**") (except as may be permitted by Regulation S-T under the Securities Act), was identical to the copy thereof delivered to the Agent for use in connection with the issuance and sale of the Shares. Each of the Registration Statement, any Rule 462(b) Registration Statement and any post-effective amendment thereto, at the time it became or becomes effective and at each Representation Date, complied and will comply in all material respects with the Securities Act and did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. As of the date of this Agreement, the Prospectus and any Free Writing Prospectus (as defined below) considered together (collectively, the "**Time of Sale Information**") did not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Prospectus, as amended or supplemented, as of its date and at each Representation Date, did not and will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties set forth in the three immediately preceding sentences do not apply to statements in or omissions from the Registration Statement, any Rule 462(b) Registration Statement, or any post-effective amendment thereto, or the Prospectus, or any amendments or supplements thereto, made in reliance upon and in conformity with information relating to the Agent furnished to the Company in writing by the Agent expressly for use therein, it being understood and agreed that the only such information furnished by the Agent to the Company consists of the information described in Section 6 below. There are no contracts or other documents required to be described in the Prospectus or to be filed as exhibits to the Registration Statement which have not been described or filed as required. The Registration Statement and the offer and sale of the Shares as contemplated hereby meet the requirements of Rule 415 under the Securities Act and comply in all material respects with said rule.

(c) Ineligible Issuer Status. The Company is not an “ineligible issuer” in connection with the offering of the Shares pursuant to Rules 164, 405 and 433 under the Securities Act. Any Free Writing Prospectus that the Company is required to file pursuant to Rule 433(d) under the Securities Act has been, or will be, filed with the Commission in accordance with the requirements of the Securities Act. Each Free Writing Prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act or that was prepared by or on behalf of or used or referred to by the Company complies or will comply in all material respects with the requirements of Rule 433 under the Securities Act including timely filing with the Commission or retention where required and legending, and each such Free Writing Prospectus, as of its issue date and at all subsequent times through the completion of the issuance and sale of the Shares did not, does not and will not include any information that conflicted, conflicts with or will conflict with the information contained in the Registration Statement or the Prospectus, including any document incorporated by reference therein. Except for the Free Writing Prospectuses, if any, and electronic road shows, if any, furnished to the Agent before first use, the Company has not prepared, used or referred to, and will not, without the Agent’s prior consent, prepare, use or refer to, any Free Writing Prospectus.

(d) Incorporated Documents. The documents incorporated or deemed to be incorporated by reference in the Registration Statement and the Prospectus, at the time they were filed with the Commission, complied in all material respects with the requirements of the Exchange Act, as applicable, and, when read together with the other information in the Prospectus, do not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(e) Exchange Act Compliance. The documents incorporated or deemed to be incorporated by reference in the Prospectus, at the time they were or hereafter are filed with the Commission, and any Free Writing Prospectus or amendment or supplement thereto complied and will comply in all material respects with the requirements of the Exchange Act, and, when read together with the other information in the Prospectus, at the time the Registration Statement and any amendments thereto become effective and at each Time of Sale (as defined below), as the case may be, will not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(f) Emerging Growth Company Status. The Company has been and is an “emerging growth company,” as defined in Section 2(a) of the Securities Act (an “**Emerging Growth Company**”).

(g) Independent Accountants. Deloitte & Touche LLP or other accountants (the “**Accountants**”), who certified the financial statements and supporting schedules included in or incorporated by reference in each of the Registration Statement and the Prospectus are independent public accountants as required by the Securities Act and the Public Company Accounting Oversight Board (the “**PCAOB**”).

(h) Financial Statements. The financial statements included in or incorporated by reference in each of the Registration Statement and the Prospectus, together with the related schedules and notes, present fairly in all material respects the financial position of the Company and its consolidated subsidiaries at the dates indicated and the statement of operations, stockholders’ equity and cash flows of the Company and its consolidated subsidiaries for the

periods specified; said financial statements have been prepared in conformity with U.S. generally accepted accounting principles (“GAAP”) applied on a consistent basis throughout the periods involved, except in the case of unaudited interim financial statements, subject to normal year-end audit adjustments and the exclusion of certain footnotes as permitted by the applicable rules of the Commission. The supporting schedules, if any, present fairly in all material respects in accordance with GAAP the information required to be stated therein. The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the information called for in all material respects and has been prepared in accordance with the Commission’s rules and guidelines applicable thereto. The financial information included in the Registration Statement and the Prospectus present fairly in all material respects the information shown therein and have been compiled on a basis consistent with that of the audited financial statements included therein. Except as included therein, no historical or pro forma financial statements or supporting schedules are required to be included in the Registration Statement or the Prospectus under the Securities Act. No other financial statements or supporting schedules are required to be included in the Registration Statement or the Prospectus.

(i) No Material Adverse Change. Except as otherwise stated therein, since the respective dates as of which information is given in the Registration Statement or the Prospectus, (A) there has been no material adverse change in the condition, financial or otherwise, or in the earnings, business affairs or business prospects of the Company and its subsidiaries considered as one enterprise, whether or not arising in the ordinary course of business (a “Material Adverse Effect”), (B) there have been no transactions entered into by the Company or any of its subsidiaries, other than those in the ordinary course of business, which are material with respect to the Company and its subsidiaries considered as one enterprise, and (C) there has been no dividend or distribution of any kind declared, paid or made by the Company on any class of its capital stock.

(j) Incorporated Documents. The documents incorporated or deemed to be incorporated by reference in the Registration Statement and the Prospectus, at the time they were filed with the Commission, complied in all material respects with the requirements of the Exchange Act, as applicable, and, when read together with the other information in the Prospectus, do not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(k) Incorporation and Good Standing of the Company. The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Delaware and has all requisite corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement and the Prospectus and to enter into and perform its obligations under this Agreement; and the Company is duly qualified as a foreign corporation to transact business and is in good standing in each other jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure so to qualify or to be in good standing would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect.

(l) Subsidiaries. Each of the Company's subsidiaries (as such term is defined in Rule 405 under the Securities Act), if any, has been duly organized and is validly existing in good standing under the laws of the jurisdiction of its incorporation or organization, has all requisite corporate or similar power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement and the Prospectus and is duly qualified to transact business and is in good standing in each jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure to so qualify or to be in good standing would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. Except as otherwise disclosed in the Registration Statement and the Prospectus, all of the issued and outstanding limited liability company membership interests of each subsidiary has been duly authorized and validly issued and is owned by the Company, directly or through subsidiaries, free and clear of any security interest, mortgage, pledge, lien, encumbrance, claim or equity. None of the outstanding limited liability company membership interests of any subsidiary were issued in violation of the preemptive or similar rights of any securityholder of such subsidiary. The only subsidiaries of the Company are the subsidiaries listed on Exhibit 21 to the Company's most recent Annual Report on Form 10-K.

(m) Capitalization and Other Capital Stock Matters. The authorized, issued and outstanding shares of capital stock of the Company are as set forth in the Registration Statement and the Prospectus (except for subsequent issuances, if any, pursuant to this Agreement, pursuant to reservations, agreements or employee benefit plans referred to in the Registration Statement and the Prospectus or pursuant to the exercise of convertible securities or options referred to in the Registration Statement and the Prospectus). The outstanding shares of capital stock of the Company have been duly authorized and validly issued and are fully paid and non-assessable. None of the outstanding shares of capital stock of the Company were issued in violation of the preemptive or other similar rights of any securityholder of the Company.

(n) This Agreement. This Agreement has been duly authorized, executed and delivered by the Company.

(o) Authorization of the Shares. The Shares have been duly authorized for issuance and sale pursuant to this Agreement and, when issued and delivered by the Company against payment therefor pursuant to this Agreement, will be validly issued, fully paid and nonassessable, and the issuance and sale of the Shares is not subject to any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase the Shares. The Common Stock conforms in all material respects to all statements relating thereto contained in the Registration Statement and the Prospectus and such description conforms in all material respects to the rights set forth in the instruments defining the same. No holder of Shares will be subject to personal liability solely by reason of being such a holder.

(p) No Applicable Registration or Other Similar Rights. There are no persons with registration rights or other similar rights to have any securities registered for sale pursuant to the Registration Statement or otherwise registered for sale or sold by the Company under the Securities Act pursuant to this Agreement, other than those rights that have been disclosed in the Registration Statement and the Prospectus and have been waived.

(q) Non-Contravention of Existing Instruments; No Further Authorizations or Approvals Required. Neither the Company nor any of its subsidiaries is (A) in violation of its charter, by-laws or similar organizational document, (B) in default in the performance or observance of any obligation, agreement, covenant or condition contained in any contract, indenture, mortgage, deed of trust, loan or credit agreement, note, lease or other agreement or instrument to which the Company or any of its subsidiaries is a party or by which it or any of them may be bound or to which any of the properties or assets of the Company or any subsidiary is subject (collectively, “**Agreements and Instruments**”), except for such defaults that would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect, or (C) in violation of any law, statute, rule, regulation, judgment, order, writ or decree of any U.S. or non-U.S. federal, national, state, local or other governmental or regulatory authority, agency or body, court, arbitrator or self-regulatory organization having jurisdiction over the Company or any of its subsidiaries or any of their respective properties, assets or operations (each, a “**Governmental Authority**”), except for such violations that would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The execution, delivery and performance of this Agreement and the consummation of the transactions contemplated herein and in the Registration Statement and the Prospectus (including the issuance and sale of the Shares and the use of the proceeds from the sale of the Shares as described therein under the caption “**Use of Proceeds**”) and compliance by the Company with its obligations hereunder have been duly authorized by all necessary corporate action and do not and will not, whether with or without the giving of notice or passage of time or both, conflict with or constitute a breach of, or default or Repayment Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any properties or assets of the Company or any subsidiary pursuant to, the Agreements and Instruments (except for such conflicts, breaches, defaults or Repayment Events or liens, charges or encumbrances that would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect), nor will such action result in any violation of the provisions of the charter, by-laws or similar organizational document of the Company or any of its subsidiaries or any law, statute, rule, regulation, judgment, order, writ or decree of any Governmental Authority. As used herein, a “**Repayment Event**” means any event or condition which gives the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder’s behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company or any of its subsidiaries.

(r) Absence of Labor Dispute. No labor dispute with the employees of the Company or any of its subsidiaries exists or, to the knowledge of the Company, is imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its or any subsidiary’s principal suppliers, manufacturers, customers or contractors, which, in either case, would, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect.

(s) Absence of Proceedings. Except as disclosed in the Registration Statement and the Prospectus, there is no action, suit, proceeding, inquiry or investigation before or brought by any Governmental Authority (including, without limitation, the U.S. Food and Drug Administration (the “**FDA**”) now pending or, to the knowledge of the Company, threatened, against or affecting the Company or any of its subsidiaries, which might, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect, or which would reasonably be expected to materially and adversely affect their respective properties or assets or the consummation of the

transactions contemplated in this Agreement or the performance by the Company of its obligations hereunder; and the aggregate of all pending legal or governmental actions, suits, inquiries, investigations or proceedings to which the Company or any such subsidiary is a party or of which any of their respective properties or assets is the subject which are not described in the Registration Statement and the Prospectus, including ordinary routine litigation incidental to the business, would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect.

(t) Accuracy of Exhibits. There are no contracts or documents that are required to be described in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement, which have not been so described and filed as required.

(u) Absence of Further Requirements. No filing with, or authorization, approval, consent, license, order, registration, qualification or decree of, any Governmental Authority is necessary or required for the performance by the Company of its obligations hereunder, in connection with the offering, issuance or sale of the Shares hereunder or the consummation of the transactions contemplated by this Agreement, except such as have been already obtained or as may be required under the Securities Act, the rules of the Principal Market, state securities laws or the rules of the Financial Industry Regulatory Authority, Inc. (“FINRA”).

(v) All Necessary Permits, etc. The Company and its subsidiaries possess, or qualify for an exemption from any applicable requirement to obtain, such permits, licenses, approvals, clearances, certificates, consents and other authorizations issued by the appropriate Governmental Authorities necessary to conduct the business now operated by them (including, without limitation, all such permits, licenses, approvals, clearances, certificates, consents and other authorizations required by the FDA or any other federal, state, local or foreign agencies or bodies engaged in the regulation of pre-clinical studies and clinical trials or activities related to the business now operated by the Company and its subsidiaries in such jurisdictions) (collectively, “**Governmental Licenses**”), except where the failure so to possess or qualify for an exemption would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The Company and its subsidiaries are in compliance with the terms and conditions of all Governmental Licenses, except where the failure so to comply would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. All of the Governmental Licenses are valid and in full force and effect, except where the invalidity of such Governmental Licenses or the failure of such Governmental Licenses to be in full force and effect would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any of its subsidiaries has received any notice of proceedings relating to the revocation or modification of any Governmental Licenses which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would reasonably be expected to result in a Material Adverse Effect.

(w) Title to Properties. The Company and its subsidiaries do not currently own any real property. The Company and its subsidiaries have good and marketable title to all other properties owned by them, in each case, free and clear of all mortgages, pledges, liens, security interests, claims, restrictions or encumbrances of any kind except such as (A) are described in the Registration Statement and the Prospectus or (B) do not, singly or in the aggregate, materially and adversely affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company or any of its subsidiaries. All of the real property leases material to the business of the Company and its subsidiaries, considered as one

enterprise, and under which the Company or any of its subsidiaries holds properties described in the Registration Statement or the Prospectus, are in full force and effect, and neither the Company nor any such subsidiary has received any notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company or any subsidiary under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company or such subsidiary to the continued possession of the leased or subleased premises under any such lease or sublease.

(x) **Intellectual Property Rights.** Except as otherwise may be disclosed in the Registration Statement and the Prospectus, the Company and its subsidiaries own or have valid license to the patents and patent applications, copyrights, trademark applications and registrations, know-how (including trade secrets and other unpatented and/or unpatentable confidential information) and/or other intellectual property (collectively, “**Intellectual Property**”) used in or reasonably necessary to the conduct of their business as now conducted as described in the Registration Statement and the Prospectus. The Company and its subsidiaries have not received any written notice of any infringement, violation, or misappropriation of third-party intellectual property, and there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding, or claim regarding any such infringement, violation, or misappropriation. To the Company’s knowledge, the operation of the business of the Company as now conducted as described in the Registration Statement and the Prospectus does not infringe, misappropriate, or otherwise violate the intellectual property rights of any third party. The Company and its subsidiaries have not received any written notice challenging the validity, enforceability, or scope of any Intellectual Property owned by the Company or any of its subsidiaries (“**Company Intellectual Property**”) and the Company Intellectual Property has not been adjudged by a court of competent jurisdiction to be invalid or unenforceable, in whole or in part, and the Company is unaware of any facts that would form a reasonable basis for any such adjudication. Except as otherwise may be disclosed in the Registration Statement and the Prospectus, to the knowledge of the Company, all material Company Intellectual Property is valid and enforceable. The Company and its subsidiaries are unaware of any facts or circumstances that would reasonably be expected to render any of the Company Intellectual Property invalid or unenforceable. To the knowledge of the Company, there is no infringement, misappropriation, or other violation of the Company Intellectual Property, and there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding, or claim by any third party challenging the Company’s or any of its subsidiaries’ rights in, or the validity, ownership, registrability, enforceability, or scope of, any such Company Intellectual Property. Except as otherwise may be disclosed in the Registration Statement and the Prospectus, (1) the Company and its subsidiaries are in compliance in all material respects with the terms of each agreement pursuant to which Intellectual Property has been licensed to the Company or its subsidiaries, (2) the Company and its subsidiaries have not received any unresolved written notice alleging any such noncompliance and are unaware of any facts or circumstances which would form a reasonable basis for any such claim, and (3) all such agreements are in full force and effect. All material Company Intellectual Property have been duly maintained, and the Company is unaware of any material defects in, including in connection with the filing and prosecution of, any of the material Company Intellectual Property. Each employee of the Company, or any of its subsidiaries, expected to be involved in inventive activities for or on behalf of the Company or such subsidiaries has signed agreements containing invention assignment obligations effectively assigning to the Company or any of its subsidiaries all of such person’s rights in and to such inventive activity (including any Intellectual Property). The

Company and its subsidiaries have taken reasonable steps to maintain and protect the confidentiality of material, confidential information used in connection with the business of the Company and its subsidiaries. To the knowledge of the Company, the confidentiality of such material, confidential information has not been compromised, disclosed to, or accessed by any third party except pursuant to appropriate nondisclosure and confidentiality agreements, and, to the Company's knowledge, no employee of the Company is in or has been in violation of any material term of the Company's Confidential Information and Invention Assignment Agreement or any material restrictive covenant to or with a former employer that is known to the Company where the basis of such violation relates to such employee's employment with the Company. No university, military, educational institution, research center, Governmental Authority, or other organization has any claim of right to, ownership of or other lien on any Company Intellectual Property. The duty of candor and good faith as required by the United States Patent and Trademark Office during the prosecution of the United States patents and patent applications included in the Company Intellectual Property have been complied with in all material respects. None of the Company Intellectual Property has been obtained or is being used by the Company or its subsidiaries in violation of any contractual obligation binding on the Company or its subsidiaries or any of their respective officers, directors, or employees or otherwise in violation of the rights of any persons. The product candidates, or the use or manufacture thereof, described in the Registration Statement and the Prospectus as under development by the Company or any subsidiary fall within the scope of the claims of one or more patents owned by, or exclusively licensed to, the Company or any subsidiary.

(y) Compliance with Environmental Laws. Except as would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect, (A) neither the Company nor any of its subsidiaries is in violation of any federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or administrative interpretation thereof, including any judicial or administrative order, consent decree or judgment, relating to pollution or protection of health and safety (including occupational health and safety), sustainability, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata), natural resources or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of, or exposure to, chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, radioactive substances, petroleum, petroleum products, asbestos-containing materials, polychlorinated biphenyls, per- and polyfluoroalkyl substances, greenhouse gases or mold (collectively, "**Hazardous Materials**") or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport, discharge, emission or handling of Hazardous Materials (collectively, "**Environmental Laws**"), (B) the Company and its subsidiaries have all permits, authorizations, registrations and approvals required under any applicable Environmental Laws and are each in compliance with their requirements, (C) there are no pending or, to the knowledge of the Company, threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigations or proceedings relating to any Environmental Law or Hazardous Materials against the Company or any of its subsidiaries and (D) to the knowledge of the Company, there are no events or circumstances that would reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or Governmental Authority, against or affecting the Company or any of its subsidiaries relating to Hazardous Materials or any Environmental Laws.

(z) Periodic Review of Costs of Environmental Compliance. In the ordinary course of its business, the Company considers the effect of Environmental Laws on the business, operations, and properties of the Company and its subsidiaries, in the course of which it identifies and evaluates associated costs and liabilities (including, without limitation, any capital or operating expenditures required for compliance with Environmental Laws or any permit, license, or approval, any related constraints on operating activities, and any potential liabilities to third parties). No facts or circumstances have come to the Company's attention that could result in costs or liabilities that could be expected, individually or in the aggregate, to result in a Material Adverse Effect.

(aa) Accounting Controls. The Company and each of its subsidiaries maintain effective internal control over financial reporting (as defined under Rules 13a-15 and 15d-15 under the Exchange Act) and a system of internal accounting controls sufficient to provide reasonable assurances that (A) transactions are executed in accordance with management's general or specific authorization; (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (C) access to assets is permitted only in accordance with management's general or specific authorization; (D) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and (E) the interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement and the Prospectus fairly presents the information called for in all material respects and is prepared in accordance with the Commission's rules and guidelines applicable thereto. Except as described in the Registration Statement and the Prospectus, since the end of the Company's most recent audited fiscal year, there has been (1) no material weakness in the Company's internal control over financial reporting (whether or not remediated) and (2) no change in the Company's internal control over financial reporting that has materially and adversely affected, or is reasonably likely to materially and adversely affect, the Company's internal control over financial reporting.

(bb) Compliance with Sarbanes-Oxley. The Company is in compliance, in all material respects, with all applicable provisions of the Sarbanes-Oxley Act of 2002 ("**Sarbanes-Oxley Act**") and the rules and regulations promulgated thereunder and is or will be taking reasonable steps to ensure that it will be in compliance with other provisions of the Sarbanes-Oxley Act not currently in effect, upon the effectiveness of such provisions.

(cc) Payment of Taxes. All United States federal income tax returns of the Company and its subsidiaries required by law to be filed have been filed, except where the failure to do so would not singly or in the aggregate reasonably be expected to have a Material Adverse Effect, or where a timely extension as provided by law has been requested, and all taxes shown by such returns or otherwise assessed, which are due and payable, have been paid, except assessments against which appeals have been or will be promptly taken and as to which adequate reserves have been provided in accordance with GAAP by the Company. The Company and its subsidiaries have filed all other tax returns that are required to have been filed by them pursuant to applicable federal, state, local, foreign, or other law except insofar as the failure to file such returns would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect, and has paid all taxes due pursuant to such returns or pursuant to any assessment received by the Company and its subsidiaries, except for such taxes, if any, as are being contested in good faith and as to which adequate reserves have been established by the Company. The charges, accruals and reserves on the books of the Company in respect of any income and corporation tax liability for any years not finally determined are adequate to meet any assessments or re-assessments for additional income tax for any years not finally determined, except to the extent of any inadequacy that would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect.

(dd) Insurance. The Company and its subsidiaries carry or are entitled to the benefits of insurance, with financially sound and reputable insurers, in such amounts and covering such risks as is generally maintained by similarly-sized companies of established repute engaged in the same or similar business, and all such insurance is in full force and effect. The Company has no reason to believe that it or any of its subsidiaries will not be able (A) to renew its existing insurance coverage as and when such policies expire or (B) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any of its subsidiaries has been denied any insurance coverage which it has sought or for which it has applied where such denial would or has resulted in a Material Adverse Effect.

(ee) Investment Company Act. The Company is not required, and upon the issuance and sale of the Shares as herein contemplated and the application of the net proceeds therefrom as described in the Prospectus will not be required, to register as an “investment company” under the Investment Company Act of 1940, as amended (the “**Investment Company Act**”).

(ff) Absence of Manipulation. Neither the Company nor, to the knowledge of the Company, any Affiliate of the Company has taken, nor will the Company or any Affiliate of the Company take, directly or indirectly, any action which is designed, or would be reasonably expected, to cause or result in, or which constitutes, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares or to result in a violation of Regulation M under the Exchange Act (“**Regulation M**”).

(gg) Anti-Corruption and Anti-Bribery Laws. None of the Company, any of its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, Affiliate or other person acting on behalf of the Company or any of its subsidiaries is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (the “**FCPA**”), including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any “foreign official” (as such term is defined in the FCPA) or any foreign political party or official thereof or any candidate for foreign political office, in contravention of the FCPA and the Company and, to the knowledge of the Company, its Affiliates have conducted their businesses in compliance with the FCPA and any other applicable anti-bribery or anticorruption laws and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith. None of the Company, any of its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, Affiliate or other person acting on behalf of the Company or any of its subsidiaries has (A) violated or is in violation of any provision of the Bribery Act 2010 of the United Kingdom or any applicable law or regulation implementing the OECD

Convention on Combating Bribery of Foreign Public Officials in International Business Transactions or any other applicable anti-bribery or anticorruption law or (B) made any bribe, rebate, payoff, influence payment, kickback or other unlawful payment, or offered, agreed, requested or promised to make any such payment or taken an act in furtherance of any bribe or other unlawful benefit, including, without limitation, any rebate, payoff, influence benefit, kickback or other unlawful or improper payment.

(hh) Money Laundering Laws. The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all applicable jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any Governmental Authority (collectively, the “**Money Laundering Laws**”); and no action, suit or proceeding by or before any Governmental Authority involving the Company or any of its subsidiaries with respect to the Money Laundering Laws is pending or, to the best knowledge of the Company, threatened.

(ii) Sanctions. None of the Company, any of its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, Affiliate or representative of the Company or any of its subsidiaries is a Person currently the subject or target of any sanctions administered or enforced by the United States Government, including, without limitation, the U.S. Department of the Treasury’s Office of Foreign Assets Control (“**OFAC**”), the United Nations Security Council (“**UNSC**”), the European Union, Her Majesty’s Treasury (“**HMT**”), or other relevant sanctions authority (collectively, “**Sanctions**”), nor is the Company located, organized or resident in a country or territory that is the subject of Sanctions, including, without limitation, Cuba, Iran, North Korea, Syria, and the Crimea, so-called Donetsk People’s Republic, and so-called Luhansk People’s Republic regions of Ukraine (collectively, the “**Sanctioned Countries**”); and the Company will not directly or indirectly use the proceeds of the sale of the Shares, or lend, contribute or otherwise make available such proceeds to any subsidiaries, joint venture partners or other Person, to fund any activities of or business with any Person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions or in any other manner that will result in a violation by any Person (including any Person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. For the past five years, the Company and its subsidiaries have not knowingly engaged in and are not now knowingly engaged in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

(jj) Lending Relationship. Except as disclosed in the Registration Statement and the Prospectus, the Company (i) does not have any material lending or other relationship with any bank or lending affiliate of the Agent and (ii) does not intend to use any of the proceeds from the sale of the Shares to repay any outstanding debt owed to any Affiliate of the Agent.

(kk) Statistical and Market-Related Data. Any statistical and market-related data included in the Registration Statement or the Prospectus are based on or derived from sources that the Company believes, after reasonable inquiry, to be reliable and accurate in all material respects and, to the extent required, the Company has obtained the written consent to the use of such data from such sources.

(II) **Cybersecurity.** (A) There has been no security breach or incident, unauthorized access or disclosure, or other compromise of or relating to the Company's or its subsidiaries' information technology and computer systems, networks, hardware, software, data and databases (including the data and information of patients, customers, employees, suppliers, vendors and any third party data maintained, processed or stored by the Company or its subsidiaries, and any such data processed or stored by third parties on behalf of the Company or its subsidiaries), equipment or technology (collectively, "**IT Systems and Data**"); (B) neither the Company nor its subsidiaries have been notified of, nor have any knowledge of any event or condition that would result in, any security breach or incident, unauthorized access or disclosure of or other compromise to their IT Systems and Data and, to the Company's knowledge, no Person has claimed or threatened to claim, and no grounds exist for an individual to claim, compensation from the Company or any of its subsidiaries for breaches of IT Systems and Data; and (C) the Company and its subsidiaries have implemented appropriate controls, policies, procedures, and technological safeguards to maintain and protect the integrity, continuous operation, redundancy, disaster recovery and security of their IT Systems and Data consistent with industry standards and practices, or as required by applicable Data Protection Laws, Health Care Laws and all other applicable laws, rules and regulations; except with respect to clauses (A) and (B), for any such security breach or incident, unauthorized access or disclosure, or other compromises, as would not, individually or in the aggregate, have a Material Adverse Effect, or with respect to clause (C), where the failure to do so would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. The IT Systems and Data are adequate and operational, in accordance with their documentation and functional specifications, in all material respects for the business of the Company and its subsidiaries as now operated as described in the Registration Statement and the Prospectus. None of the software developed or owned by the Company or its subsidiaries is subject to any escrow obligation or any condition, obligation or other requirement that it be licensed pursuant to a free or open source software license or that the source code for such software be delivered, disclosed, licensed or otherwise made available to any other Person. The Company and its subsidiaries have taken all reasonable steps necessary to protect, and are presently in compliance with all applicable laws, rules and regulations or statutes and all judgments, orders, rules and regulations of any Governmental Authority, internal policies and contractual obligations relating to, the privacy and security of IT Systems and Data, including the collection, use, transfer, processing, disposal, disclosure, handling, storage and analysis of personally identifiable information, protected health information, consumer information and other confidential information of the Company, its subsidiaries and any third parties in their possession ("**Sensitive Company Data**"), and to the protection of such IT Systems and Data and Sensitive Company Data from unauthorized use, access, misappropriation or modification, except where the failure to so be in compliance would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The Company and its subsidiaries have not received any notice, claim, complaint, demand or letter from any Person or Governmental Authority in respect of their businesses under applicable laws, rules, regulations, contractual and fiduciary obligations, privacy policies and industry standards regarding misuse, loss, unauthorized destruction or unauthorized disclosure of any Sensitive Company Data. To the Company's knowledge, there has been no unauthorized or illegal use of or access to any Sensitive Company Data by any third party, except where such unauthorized or illegal use of or access to any Sensitive Company Data would not be reasonably expected to, singly or in the aggregate, result in a Material Adverse Effect. The Company and its subsidiaries have not been required by any Governmental Entity or otherwise under applicable law or by any contractual obligation to notify any individual or data protection authority of any information security breach, compromise or incident involving Sensitive Company Data and, to the Company's knowledge, are not the subject of any inquiry or investigation by any Governmental Authority or data protection authority regarding any of the foregoing.

(mm) Compliance with Data Privacy Laws. The Company and its subsidiaries are, and at all prior times were, in material compliance with all applicable state and federal data privacy and security laws and regulations, including without limitation HIPAA, (collectively, the “**Privacy Laws**”). To ensure compliance with the Privacy Laws, the Company and its subsidiaries have in place, comply with, and take appropriate steps reasonably designed to ensure compliance in all material respects with their policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling, and analysis of any Personal Data (the “**Policies**”). The Company and its subsidiaries have at all times made all disclosures to users or customers required by applicable laws and regulatory rules or requirements, and none of such disclosures made or contained in any Policy have, to the knowledge of the Company, been inaccurate or in violation of any applicable laws and regulatory rules or requirements in any material respect. The Company further certifies that neither it nor any subsidiary: (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order or decree that imposes any obligation or liability under any Privacy Law.

(nn) No Rated Securities. Neither the Company nor its subsidiaries have any debt securities or preferred stock that are rated by any “nationally recognized statistical rating agency” (as defined in Section 3(a)(62) of the Exchange Act).

(oo) ERISA Compliance. The Company and its subsidiaries and any “Employee Benefit Plan” (as defined under the Employee Retirement Income Security Act of 1974, as amended, and the regulations and published interpretations promulgated thereunder (collectively, “**ERISA**”)) for which the Company, its subsidiaries or its or their “**ERISA Affiliates**” (as defined below) could reasonably be expected to have any liability (each, a “**Plan**”) are in compliance in all material respects with ERISA and each Plan has been established and maintained in compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to, ERISA and the Internal Revenue Code of 1986, as amended, and the regulations and published interpretations thereunder (the “**Code**”). “**ERISA Affiliate**” means, with respect to the Company, any member of any group of organizations described in Sections 414(b), (c), (m) or (o) of the Code of which the Company or such subsidiary is a member. No “reportable event” (as defined under ERISA) has occurred or is reasonably expected to occur with respect to any Plan. No Plan, if such Plan were terminated, would have any “amount of unfunded benefit liabilities” (as defined under ERISA), as the fair market value of the assets under each Plan (excluding for these purposes accrued but unpaid contributions) exceeds the present value of all benefits accrued under such Plan (determined based on those assumptions used to fund such Plan). Neither the Company, its subsidiaries nor any of its or their ERISA Affiliates has incurred or reasonably expects to incur any obligation or liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any Plan, (ii) Sections 412 and 430, 4971, 4975 or 4980B of the Code or (iii) Sections 302 and 303, 406, 4063 and 4064 of ERISA. Each Plan that is intended to be qualified

under Section 401(a) of the Code is so qualified and nothing has occurred, whether by action or failure to act, which would reasonably be expected to cause the loss of such qualification. There is no pending audit or investigation by the Internal Revenue Service, the U.S. Department of Labor, the Pension Benefit Guaranty Corporation or any other Governmental Authority with respect to any Plan that could reasonably be expected to result in liability to the Company or any of its subsidiaries. Neither the Company nor any of its subsidiaries have any “accumulated post-retirement benefit obligations” (within the meaning of Statement of Financial Accounting Standards 106).

(pp) Regulatory Matters. Except as described in the Registration Statement and the Prospectus: (i) the Company and its subsidiaries and their respective directors and officers, and, to the Company’s knowledge, their respective agents and representatives, are and at all times have been, in compliance with the Federal Food, Drug and Cosmetic Act (21 U.S.C. § 301 et seq.), as amended, and the regulations promulgated thereunder (the “**FFDCA**”), the Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the Civil Monetary Penalties Law (42 U.S.C. § 1320a-7a), the Physician Payment Sunshine Act (42 U.S.C. § 1320a-7h), the Civil False Claims Act (31 U.S.C. § 3729 et seq.), the criminal False Claims Law (42 U.S.C. § 1320a-7b(a)), all criminal laws relating to health care fraud and abuse, including but not limited to 18 U.S.C. Sections 286 and 287, Medicare (Title XVIII of the Social Security Act), Medicaid (Title XIX of the Social Security Act), applicable laws regarding the regulation of biological products, including those promulgated under Section 351 of the Public Health Service Act, and any and all other similar state, local, federal or foreign health care law applicable to the Company and its subsidiaries, and the regulations promulgated pursuant to such laws, including all laws and regulations applicable to ownership, testing, development, manufacture, packaging, processing, use, distribution, storage, import, export or disposal of any of the Company’s or its subsidiaries’ product candidates, each as amended from time to time (collectively, “**Health Care Laws**”), except where the failure to be so in compliance would not, individually or in the aggregate, result in a Material Adverse Effect; (ii) neither the Company nor its subsidiaries has received any written notice of adverse filing, FDA Form 483, warning letter, untitled letter or other correspondence or notice from the FDA or other Governmental Authority, alleging or asserting material noncompliance with (x) the Health Care Laws or (y) any Governmental Licenses required by any such Health Care Laws, except where being in contravention of such of the foregoing representations and warranties, singly or in the aggregate, would not result in a Material Adverse Effect; (iii) neither the Company nor its subsidiaries received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any Governmental Authority or third party alleging that any operation or activity is in violation of any Health Care Laws; (iv) neither the Company nor its subsidiaries has received written notice that any Governmental Authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any Governmental Licenses; (v) the Company and its subsidiaries have filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by applicable Health Care Laws, and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete, correct and not misleading on the date filed (or were corrected or supplemented by a subsequent submission); (vi) neither the Company nor its subsidiaries or any of their respective directors, officers, or to the knowledge of the Company, employees or agents is or has engaged in activities which are cause for, or has been convicted of any federal civil or criminal activity or engaged in any conduct that would result in mandatory or permissive debarment, suspension or

exclusion from any federal or state government health care program or, to the knowledge of the Company, is subject to an inquiry, investigation, proceeding, or other similar action by any Governmental Authority that could reasonably be expected to result in debarment, suspension, or exclusion; and (vii) the Company is not a party to and the Company does not have any ongoing reporting obligations pursuant to, any corporate integrity agreements, deferred prosecution agreements, monitoring agreements, consent decrees, settlement orders, plans of correction or similar agreements with or imposed by an Governmental Authority.

(qq) Preclinical Studies and Clinical Trials. The preclinical studies and clinical trials conducted by, on behalf of or sponsored by the Company or its subsidiaries, or in which the Company or its subsidiaries has participated, that are described in the Registration Statement and the Prospectus, or the results of which are referred to in the Registration Statement and the Prospectus, as applicable, were, and if still pending are, being conducted in accordance with the experimental protocols established for each study or trial, as well as any conditions of approval and policies imposed by any institutional review board, ethics review board or committee responsible for the oversight of such preclinical studies and clinical trials and all applicable rules and regulations of the FDA and comparable regulatory agencies outside of the United States to which they are subject (such institutional review boards, ethics review boards, committees, the FDA or any comparable regulatory agencies, collectively, the “**Regulatory Authorities**”) and any and all applicable Health Care Laws; the descriptions in the Registration Statement or the Prospectus of the results of such studies and trials are accurate and complete in all material respects and fairly present the data derived from such studies and trials and known at the time of disclosure; the Company has no knowledge of any other preclinical studies or clinical trials not described in the Registration Statement and the Prospectus, the results of which are inconsistent with or reasonably call into question the results described or referred to in the Registration Statement and the Prospectus; neither the Company nor its subsidiaries have received any written notices, correspondence or other communications from the Regulatory Authorities or any other Governmental Agency requiring or threatening (i) the termination or suspension or clinical hold of any preclinical studies or clinical trials that are described in, or the results of which are referred to in, the Registration Statement and the Prospectus, or (ii) the material modification of any preclinical studies or clinical trials that would cause them to materially differ from their descriptions in the Registration Statement and the Prospectus, other than ordinary course communications with respect to modifications in connection with the design and implementation of such preclinical studies or clinical trials, and, to the Company’s knowledge, there are no reasonable grounds for the same. The Company is taking all reasonable steps necessary to ensure that its clinical trials will be conducted in accordance with any conditions of approval and policies imposed by Regulatory Authorities for such clinical trials.

(rr) Health Care Products Manufacturing. The manufacture of the Company’s and its subsidiaries’ product candidates, or to the knowledge of the Company, by or on behalf of the Company and its subsidiaries is being conducted in compliance in all material respects with all applicable Health Care Laws, including, without limitation, the FDA’s current good manufacturing practice regulations at 21 CFR Part 600, 601, 610 and 21 CFR Part 1271, as applicable, and, to the extent applicable, the respective counterparts thereof promulgated by any Governmental Authority. Neither the Company nor any of its subsidiaries has had any manufacturing site (whether Company-owned, subsidiary-owned or that of a third party manufacturer for the Company’s or its subsidiaries’ product candidates) subject to a Governmental Authority shutdown

or import or export prohibition, nor received any written notice of adverse filing, warning letter, untitled letter, requests to make material changes to the Company's or its subsidiaries' product candidates, processes or operations, or similar correspondence or notice from the FDA or any other Governmental Authority alleging or asserting material noncompliance with any applicable Health Care Laws, other than those that have been satisfactorily addressed and/or closed with the FDA or other Governmental Authority. To the knowledge of the Company, neither the FDA nor any other Governmental Authority is considering such action.

(ss) No Safety Notices. (i) There have been no recalls, field notifications, field corrections, market withdrawals or replacements, warnings, "dear doctor" letters, investigator notices, safety alerts or other notice of action relating to an alleged lack of safety, efficacy, or regulatory compliance of the Company's or its subsidiaries' product candidates (collectively, "**Safety Notices**"), except as would not reasonably be expected to, singly or in the aggregate, result in a Material Adverse Effect, and (ii) there are no facts that would be reasonably likely to result in (x) a Safety Notice with respect to the Company's or its subsidiaries' product candidates, or (y) a material change in labeling of any of the Company's or its subsidiaries' product candidates or (z) a termination or suspension of marketing, testing or distribution of any of the Company's or its subsidiaries' product candidates, except in each of cases (x), (y) or (z) such as would not reasonably be expected to, singly or in the aggregate, result in a Material Adverse Effect.

(tt) Dividend Restrictions. Except as disclosed in the Prospectus, no subsidiary of the Company is prohibited or restricted, directly or indirectly, from paying dividends to the Company, or from making any other distribution with respect to such subsidiary's equity securities or from repaying to the Company or any other subsidiary of the Company any amounts that may from time to time become due under any loans or advances to such subsidiary from the Company or from transferring any property or assets to the Company or to any other subsidiary.

(uu) Disclosure Controls and Procedures. The Company and its subsidiaries have established and maintain disclosure controls and procedures (as defined in Rules 13a-15 and 15d-15 under the Exchange Act), which (i) are designed to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to the Company's principal executive officer and its principal financial officer by others within those entities, particularly during the periods in which the periodic reports required under the Exchange Act are being prepared; (ii) have been evaluated by management of the Company for effectiveness as of the end of the Company's most recent fiscal quarter; and (iii) are effective in all material respects to perform the functions for which they were established.

(vv) Stock Exchange Listing. The Common Shares are registered pursuant to Section 12(b) or 12(g) of the Exchange Act and are listed on the Principal Market, and the Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Common Shares under the Exchange Act or delisting the Common Shares from the Principal Market, nor has the Company received any notification that the Commission or the Principal Market is contemplating terminating such registration or listing. To the Company's knowledge, it is in compliance with all applicable listing requirements of the Principal Market.

(ww) Related Party Transactions. There are no business relationships or related-party transactions involving the Company or any of its subsidiaries or any other person required to be described in the Registration Statement or the Prospectus which have not been described as required.

(xx) Forward-Looking Statements. No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) contained in the Registration Statement or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

(yy) FINRA Matters. All of the information provided to the Agent or to counsel for the Agent by the Company, its counsel, its officers and directors and the holders of any securities (debt or equity) or options to acquire any securities of the Company in connection with the offering of the Shares is true, complete, correct and compliant with FINRA's rules and any letters, filings or other supplemental information provided to FINRA pursuant to FINRA Rules or NASD Conduct Rules is true, complete and correct.

(zz) Brokers. Except as otherwise disclosed in the Prospectus, there is no broker, finder or other party that is entitled to receive from the Company any brokerage or finder's fee or other fee or commission as a result of any transactions contemplated by this Agreement.

(aaa) No Outstanding Loans or Other Extensions of Credit. The Company does not have any outstanding extension of credit, in the form of a personal loan, to or for any director or executive officer (or equivalent thereof) of the Company except for such extensions of credit as are expressly permitted by Section 13(k) of the Exchange Act.

(bbb) Duties, Transfer Taxes, Etc. No stamp or other issuance or transfer taxes or duties and no capital gains, income, withholding or other taxes are payable by the Agent in the United States or any political subdivision or taxing authority thereof or therein in connection with the execution, delivery or performance of this Agreement by the Company or the sale and delivery by the Company of the Shares.

(ccc) Other Underwriting Agreements. The Company is not a party to any agreement with an agent or underwriter for any other "at the market" or continuous equity transaction.

Any certificate signed by any officer or representative of the Company or any of its subsidiaries and delivered to the Agent or counsel for the Agent in connection with an issuance of Shares shall be deemed a representation and warranty by the Company to the Agent as to the matters covered thereby on the date of such certificate.

The Company acknowledges that the Agent and, for purposes of the opinions to be delivered pursuant to Section 4(p) hereof, counsel to the Company and counsel to the Agent, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

Section 3. ISSUANCE AND SALE OF COMMON SHARES

(a) Sale of Securities. On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, the Company and the Agent agree that the Company may from time to time seek to sell Shares through the Agent, acting as sales agent, or directly to the Agent, acting as principal, as follows, with an aggregate Sales Price of up to the Maximum Program Amount, based on and in accordance with Issuance Notices as the Company may deliver, during the Agency Period.

(b) Mechanics of Issuances.

(i) Issuance Notice. Upon the terms and subject to the conditions set forth herein, on any Trading Day during the Agency Period on which the conditions set forth in Section 5(a) and Section 5(b) shall have been satisfied, the Company may exercise its right to request an issuance of Shares by delivering to the Agent an Issuance Notice; provided, however, that (A) in no event may the Company deliver an Issuance Notice to the extent that (I) the sum of (x) the aggregate Sales Price of the requested Issuance Amount, plus (y) the aggregate Sales Price of all Shares issued under all previous Issuance Notices effected pursuant to this Agreement, would exceed the Maximum Program Amount; and (B) prior to delivery of any Issuance Notice, the period set forth for any previous Issuance Notice shall have expired or been terminated. An Issuance Notice shall be considered delivered on the Trading Day that it is received by e-mail to the persons set forth in Schedule A hereto and confirmed by the Company by telephone (including a voicemail message to the persons so identified), with the understanding that, with adequate prior written notice, the Agent may modify the list of such persons from time to time.

(ii) Agent Efforts. Upon the terms and subject to the conditions set forth in this Agreement, upon the receipt of an Issuance Notice, the Agent will use its commercially reasonable efforts consistent with its normal sales and trading practices to place the Shares with respect to which the Agent has agreed to act as sales agent, subject to, and in accordance with the information specified in, the Issuance Notice, unless the sale of the Shares described therein has been suspended, cancelled or otherwise terminated in accordance with the terms of this Agreement. For the avoidance of doubt, the parties to this Agreement may modify an Issuance Notice at any time provided they both agree in writing to any such modification.

(iii) Method of Offer and Sale. The Shares may be offered and sold (A) in negotiated transactions with the consent of the Company or (B) by any other method permitted by law deemed to be an “**at the market offering**” as defined in Rule 415(a)(4) under the Securities Act, including block transactions, sales made directly on the Principal Market or sales made into any other existing trading market of the Common Shares. Nothing in this Agreement shall be deemed to require either party to agree to the method of offer and sale specified in the preceding sentence, and (except as specified in clause (A) above) the method of placement of any Shares by the Agent shall be at the Agent’s discretion.

(iv) Confirmation to the Company. If acting as sales agent hereunder, the Agent will provide written confirmation to the Company no later than the opening of the Trading Day next following the Trading Day on which it has placed Shares hereunder setting forth the number of shares sold on such Trading Day, the corresponding Sales Price and the Issuance Price payable to the Company in respect thereof.

(v) Settlement. Each issuance of Shares will be settled on the applicable Settlement Date for such issuance of Shares and, subject to the provisions of Section 5, on or before each Settlement Date, the Company will, or will cause its transfer agent to, electronically transfer the Shares being sold by crediting the Agent or its designee's account at The Depository Trust Company through its Deposit/Withdrawal At Custodian (DWAC) System, or by such other means of delivery as may be mutually agreed upon by the parties hereto and, upon receipt of such Shares, which in all cases shall be freely tradable, transferable, registered shares in good deliverable form, the Agent will deliver, by wire transfer of immediately available funds, the related Issuance Price in same day funds delivered to an account designated by the Company prior to the Settlement Date. The Company may sell Shares to the Agent as principal at a price agreed upon at each relevant time Shares are sold pursuant to this Agreement (each, a "**Time of Sale**").

(vi) Suspension or Termination of Sales. Consistent with standard market settlement practices, the Company or the Agent may, upon notice to the other party hereto in writing or by telephone (confirmed immediately by verifiable e-mail), suspend any sale of Shares, and the period set forth in an Issuance Notice shall immediately terminate; provided, however, that (A) such suspension and termination shall not affect or impair either party's obligations with respect to any Shares placed or sold hereunder prior to the receipt of such notice; (B) if the Company suspends or terminates any sale of Shares after the Agent confirms such sale to the Company, the Company shall still be obligated to comply with Section 3(b)(v) with respect to such Shares; and (C) if the Company defaults in its obligation to deliver Shares on a Settlement Date, the Company agrees that it will hold the Agent harmless against any loss, claim, damage or expense (including, without limitation, penalties, interest and reasonable legal fees and expenses), as incurred, arising out of or in connection with such default by the Company (provided, however, that such default was not caused by any failure by the Agent to fulfill its obligations hereunder). The parties hereto acknowledge and agree that, in performing its obligations under this Agreement, the Agent may borrow Common Shares from stock lenders in the event that the Company has not delivered Shares to settle sales as required by subsection (v) above, and may use the Shares to settle or close out such borrowings. The Company agrees that no such notice shall be effective against the Agent unless it is made to the persons identified in writing by the Agent pursuant to Section 3(b)(i).

(vii) No Guarantee of Placement, Etc. The Company acknowledges and agrees that (A) there can be no assurance that the Agent will be successful in placing Shares; (B) the Agent will incur no liability or obligation to the Company or any other Person if it does not sell Shares; and (C) the Agent shall be under no obligation to purchase Shares on a principal basis pursuant to this Agreement, except as otherwise specifically agreed by the Agent and the Company.

(viii) Material Non-Public Information. Notwithstanding any other provision of this Agreement, the Company and the Agent agree that the Company shall not deliver any Issuance Notice to the Agent, and the Agent shall not be obligated to place any Shares, during any period in which the Company is in possession of material non-public information.

(c) Fees. As compensation for services rendered, the Company shall pay to the Agent, on the applicable Settlement Date, the Selling Commission for the applicable Issuance Amount (including with respect to any suspended or terminated sale pursuant to Section 3(b)(vi)) by the Agent deducting the Selling Commission from the applicable Issuance Amount. For the avoidance of doubt, the Company shall not be required to pay the Agent any Selling Commission with respect to any Issuance Notice, except to the extent Shares are placed pursuant thereto.

(d) Expenses. The Company agrees to pay all costs, fees and expenses incurred in connection with the performance of its obligations hereunder and in connection with the transactions contemplated hereby, including without limitation (i) all expenses incident to the issuance and delivery of the Shares (including all printing and engraving costs); (ii) all fees and expenses of the registrar and transfer agent of the Shares; (iii) all necessary issue, transfer and other stamp taxes in connection with the issuance and sale of the Shares; (iv) all fees and expenses of the Company's counsel, independent public or certified public accountants and other advisors; (v) all costs and expenses incurred in connection with the preparation, printing, filing, shipping and distribution of the Registration Statement (including financial statements, exhibits, schedules, consents and certificates of experts), the Prospectus, any Free Writing Prospectus (as defined below) prepared by or on behalf of, used by, or referred to by the Company, and all amendments and supplements thereto, and this Agreement; (vi) all filing fees, attorneys' fees and expenses incurred by the Company or the Agent in connection with qualifying or registering (or obtaining exemptions from the qualification or registration of) all or any part of the Shares for offer and sale under the state securities or blue sky laws or the provincial securities laws of Canada, and, if requested by the Agent, preparing and printing a "Blue Sky Survey" or memorandum and a "Canadian wrapper", and any supplements thereto, advising the Agent of such qualifications, registrations, determinations and exemptions; (vii) the reasonable and documented fees and disbursements of the Agent's counsel, including the reasonable fees and expenses of counsel for the Agent in connection with, FINRA review, if any, and approval of the Agent's participation in the offering and distribution of the Shares; (viii) the filing fees incident to FINRA review, if any; (ix) the costs and expenses of the Company relating to investor presentations on any "road show" undertaken in connection with the marketing of the offering of the Shares, including, without limitation, expenses associated with the preparation or dissemination of any electronic road show, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations with the prior approval of the Company, travel and lodging expenses of the representatives, employees and officers of the Company and of the Agent and any such consultants, and the cost of any aircraft chartered in connection with the road show; and (x) the fees and expenses associated with listing the Shares on the Principal Market. The fees and disbursements of Agent's counsel pursuant to subsections (vi) and (vii) above shall not exceed (A) \$75,000 in connection with execution of this Agreement; (B) \$25,000 in connection with each Triggering Event Date (as defined below) involving the filing of a Form 10-K on which the Company is required to provide a certificate pursuant to Section 4(p) and (C) \$15,000 in connection with each other Triggering Event Date (as defined below) on which the Company is required to provide a certificate pursuant to Section 4(p).

Section 4. ADDITIONAL COVENANTS

The Company covenants and agrees with the Agent as follows, in addition to any other covenants and agreements made elsewhere in this Agreement:

(a) Exchange Act Compliance. During the Agency Period, the Company shall file, on a timely basis, with the Commission all reports and documents required to be filed under Section 13, 14 or 15 of the Exchange Act in the manner and within the time periods required by the Exchange Act; and either include in its quarterly reports on Form 10-Q and its annual reports on Form 10-K, a summary detailing, for the relevant reporting period, (1) the number of Shares sold through the Agent pursuant to this Agreement and (2) the net proceeds received by the Company

from such sales or prepare a prospectus supplement containing, or include in such other filing permitted by the Securities Act or Exchange Act (each an “**Interim Prospectus Supplement**”), such summary information and, at least once a quarter and subject to this Section 4, file such Interim Prospectus Supplement pursuant to Rule 424(b) under the Securities Act (and within the time periods required by Rule 424(b) and Rule 430B under the Securities Act)).

(b) Securities Act Compliance. After the date of this Agreement, the Company shall promptly advise the Agent in writing (i) of the receipt of any comments of, or requests for additional or supplemental information from, the Commission relating to the Registration Statement or the Prospectus; (ii) of the time and date of any filing of any post-effective amendment to the Registration Statement, any Rule 462(b) Registration Statement or any amendment or supplement to the Prospectus, other than by means of incorporation by reference into the Registration Statement or Prospectus, or any Free Writing Prospectus; (iii) of the time and date that any post-effective amendment to the Registration Statement or any Rule 462(b) Registration Statement becomes effective; and (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto, any Rule 462(b) Registration Statement or any amendment or supplement to the Prospectus or of any order preventing or suspending the use of any Free Writing Prospectus or the Prospectus, or of any proceedings to remove, suspend or terminate from listing or quotation the Common Shares from any securities exchange upon which they are listed for trading or included or designated for quotation, or of the threatening or initiation of any proceedings for any of such purposes. If the Commission shall enter any such stop order at any time, the Company will use its reasonable best efforts to obtain the lifting of such order as soon as practicable. Additionally, the Company agrees that it shall comply with the provisions of Rule 424(b) and Rule 433, as applicable, under the Securities Act and will use its reasonable efforts to confirm that any filings made by the Company under such Rule 424(b) or Rule 433 were received in a timely manner by the Commission.

(c) Amendments and Supplements to the Prospectus and Other Securities Act Matters. If any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Prospectus so that the Prospectus does not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered to a purchaser, not misleading, or if in the opinion of the Agent or counsel for the Agent it is otherwise necessary to amend or supplement the Prospectus to comply with applicable law, including the Securities Act, the Company agrees (subject to Section 4(d) and Section 4(f)) to promptly prepare, file with the Commission and furnish at its own expense to the Agent, amendments or supplements to the Prospectus (including by filing a document incorporated by reference therein) so that the statements in the Prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered to a purchaser, not misleading or so that the Prospectus, as amended or supplemented, will comply with applicable law including the Securities Act. Neither the Agent’s consent to, or delivery of, any such amendment or supplement shall constitute a waiver of any of the Company’s obligations under Section 4(d) and Section 4(f). Notwithstanding the foregoing, the Company shall not be required to file such amendment or supplement if there is no pending Issuance Notice and the Company believes that it is in its best interest not to file such amendment or supplement; however, the Company agrees not to provide an Issuance Notice or otherwise sell under this agreement until such amendment or supplement is filed.

(d) Agent's Review of Proposed Amendments and Supplements. Prior to amending or supplementing the Registration Statement (including any registration statement filed under Rule 462(b) under the Securities Act) or the Prospectus (excluding any amendment or supplement through incorporation of any report filed under the Exchange Act), the Company shall furnish to the Agent for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of each such proposed amendment or supplement, if such proposed amendment or supplement relates to the matters contemplated by this Agreement, and the Company shall not file or use any such proposed amendment or supplement without the Agent's prior consent, which shall not be unreasonably withheld, conditioned or delayed, and to file with the Commission within the applicable period specified in Rule 424(b) under the Securities Act any prospectus required to be filed pursuant to such Rule.

(e) Use of Free Writing Prospectus. Neither the Company nor the Agent has prepared, used, referred to or distributed, or will prepare, use, refer to or distribute, without the other party's prior written consent, which shall not be unreasonably withheld, conditioned, or delayed, any "written communication" that constitutes a "free writing prospectus" as such terms are defined in Rule 405 under the Securities Act with respect to the offering contemplated by this Agreement (any such free writing prospectus being referred to herein as a "**Free Writing Prospectus**").

(f) Free Writing Prospectuses. The Company shall furnish to the Agent for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of each proposed Free Writing Prospectus or any amendment or supplement thereto to be prepared by or on behalf of, used by, or referred to by the Company and the Company shall not file, use or refer to any proposed Free Writing Prospectus or any amendment or supplement thereto without the Agent's consent, which shall not be unreasonably withheld, conditioned or delayed. The Company shall furnish to the Agent, without charge, as many copies of any Free Writing Prospectus prepared by or on behalf of, or used by the Company, as the Agent may reasonably request. If at any time when a prospectus is required by the Securities Act (including, without limitation, pursuant to Rule 173(d)) to be delivered in connection with sales of the Shares (but in any event if at any time through and including the date of this Agreement) there occurred or occurs an event or development as a result of which any Free Writing Prospectus prepared by or on behalf of, used by, or referred to by the Company conflicted or would conflict with the information contained in the Registration Statement or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at that subsequent time, not misleading, the Company shall promptly amend or supplement such Free Writing Prospectus to eliminate or correct such conflict or so that the statements in such Free Writing Prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such subsequent time, not misleading, as the case may be; provided, however, that prior to amending or supplementing any such Free Writing Prospectus, the Company shall furnish to the Agent for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of such proposed amended or supplemented Free Writing Prospectus and the Company shall not file, use or refer to any such amended or supplemented Free Writing Prospectus without the Agent's consent, which shall not be unreasonably withheld, conditioned or delayed.

(g) Filing of Agent Free Writing Prospectuses. The Company shall not take any action that would result in the Agent or the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a Free Writing Prospectus prepared by or on behalf of the Agent that the Agent otherwise would not have been required to file thereunder.

(h) Copies of Registration Statement and Prospectus. After the date of this Agreement through the last time that a prospectus is required by the Securities Act (including, without limitation, pursuant to Rule 173(d)) to be delivered in connection with sales of the Shares, the Company agrees to furnish the Agent with copies (which may be electronic copies) of the Registration Statement and each amendment thereto, and with copies of the Prospectus and each amendment or supplement thereto, in each case other than by means of incorporation of documents by reference into the Registration Statement or Prospectus, in the form in which it is filed with the Commission pursuant to the Securities Act or Rule 424(b) under the Securities Act, both in such quantities as the Agent may reasonably request from time to time; provided, however, that the Company shall not be required to furnish any document (other than the Prospectus) to the Agent to the extent such document is available on EDGAR; and, if the delivery of a prospectus is required under the Securities Act or under the blue sky or securities laws of any jurisdiction at any time on or prior to the applicable Settlement Date for any period set forth in an Issuance Notice in connection with the offering or sale of the Shares and if at such time any event has occurred as a result of which the Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made when such Prospectus is delivered, not misleading, or, if for any other reason it is necessary during such same period to amend or supplement the Prospectus or to file under the Exchange Act any document incorporated by reference in the Prospectus in order to comply with the Securities Act or the Exchange Act, to notify the Agent and to request that the Agent suspend offers to sell Shares (and, if so notified, the Agent shall cease such offers as soon as practicable); and if the Company decides to amend or supplement the Registration Statement or the Prospectus as then amended or supplemented, to advise the Agent promptly by telephone (with confirmation in writing) and to prepare and cause to be filed promptly with the Commission an amendment or supplement to the Registration Statement or the Prospectus as then amended or supplemented that will correct such statement or omission or effect such compliance, including by filing a document incorporated by reference therein (it being acknowledged that the Company may delay the filing of any amendment or supplement, if, in the judgment of the Company, it is in the best interest of the Company; provided, however, the Company agrees not to provide an Issuance Notice or otherwise sell under this Agreement until such amendment or supplement is filed or it is determined that such amendment or supplement is no longer required); provided, however, that if during such same period the Agent is required to deliver a prospectus in respect of transactions in the Shares, the Company shall promptly prepare and file with the Commission such an amendment or supplement.

(i) Blue Sky Compliance. The Company shall cooperate with the Agent and counsel for the Agent to qualify or register the Shares for sale under (or obtain exemptions from the application of) the state securities or blue sky laws or Canadian provincial securities laws of those jurisdictions designated by the Agent, shall comply with such laws and shall continue such qualifications, registrations and exemptions in effect so long as required for the distribution of the Shares. The Company shall not be required to qualify as a foreign corporation or to take any action that would subject it to general service of process in any such jurisdiction where it is not presently qualified or where it would be subject to taxation as a foreign corporation. The Company will advise the Agent promptly of the suspension of the qualification or registration of (or any such exemption relating to) the Shares for offering, sale or trading in any jurisdiction or any initiation or threat of any proceeding for any such purpose, and in the event of the issuance of any order suspending such qualification, registration or exemption, the Company shall use its best efforts to obtain the withdrawal thereof as soon as practicable.

(j) Earnings Statement. As soon as practicable, the Company will make generally available to its security holders and to the Agent an earnings statement (which need not be audited) covering a period of at least twelve months beginning with the first fiscal quarter of the Company occurring after the date of this Agreement which shall satisfy the provisions of Section 11(a) of the Securities Act and Rule 158 under the Securities Act, which requirement may be satisfied by publicly filing the required information on EDGAR or any successor to such system.

(k) Listing; Reservation of Shares. (a) The Company will use commercially reasonable efforts to maintain the listing of the Shares on the Principal Market; and (b) the Company will reserve and keep available at all times, free of preemptive rights, Shares for the purpose of enabling the Company to satisfy its obligations under this Agreement.

(l) Transfer Agent. The Company shall engage and maintain, at its expense, a registrar and transfer agent for the Shares.

(m) Emerging Growth Company Status. During the Agency Period, the Company agrees to notify the Agent as soon as practicable upon the Company ceasing to be an Emerging Growth Company.

(n) Due Diligence. During the term of this Agreement, the Company will reasonably cooperate with any reasonable due diligence review conducted by the Agent in connection with the transactions contemplated hereby, including, without limitation, providing information and making available documents and senior corporate officers, during normal business hours and at the Company's principal offices, as the Agent may reasonably request from time to time.

(o) Representations and Warranties. The Company acknowledges that each delivery of an Issuance Notice and each delivery of Shares on a Settlement Date shall be deemed to be (i) an affirmation to the Agent that the representations and warranties of the Company contained in or made pursuant to this Agreement are true and correct as of the date of such Issuance Notice or of such Settlement Date, as the case may be, as though made at and as of each such date, except as may be disclosed in the Prospectus (including any documents incorporated by reference therein and any supplements thereto); and (ii) an undertaking that the Company will advise the Agent if any of such representations and warranties will not be true and correct as of the Settlement Date for the Shares relating to such Issuance Notice, as though made at and as of each such date (except that such representations and warranties shall be deemed to relate to the Registration Statement and the Prospectus as amended and supplemented relating to such Shares).

(p) Deliverables at Triggering Event Dates; Certificates. The Company agrees that on or prior to the date of the first Issuance Notice and, during the term of this Agreement after the date of the first Issuance Notice, upon:

(A) the filing of the Prospectus or the amendment or supplement of any Registration Statement or Prospectus (other than a prospectus supplement relating solely to an offering of securities other than the Shares or a prospectus filed pursuant to Section 4(a)(ii)(B)), by means of a post-effective amendment, sticker or supplement, but not by means of incorporation of documents by reference into the Registration Statement or Prospectus;

(B) the filing with the Commission of an annual report on Form 10-K or a quarterly report on Form 10-Q (including any Form 10-K/A or Form 10-Q/A containing amended financial information or a material amendment to the previously filed annual report on Form 10-K or quarterly report on Form 10-Q; provided, however, for the purposes of the foregoing, a Form 10-K/A filed solely to include information required by Part III of Form 10-K shall not be considered a material amendment), in each case, of the Company; or

(C) the filing with the Commission of a current report on Form 8-K of the Company containing amended financial information (other than information “furnished” pursuant to Item 2.02 or 7.01 of Form 8-K or to provide disclosure pursuant to Item 8.01 of Form 8-K relating to reclassification of certain properties as discontinued operations in accordance with Statement of Financial Accounting Standards No. 144) that is material to the offering of securities of the Company in the Agent’s reasonable discretion;

(any such event, a “**Triggering Event Date**”), the Company shall furnish the Agent (but in the case of clause (C) above only if the Agent reasonably determines that the information contained in such current report on Form 8-K of the Company is material) with a certificate as of the Triggering Event Date, in the form and substance reasonably satisfactory to the Agent and its counsel, substantially similar to the form previously provided to the Agent and its counsel, modified, as necessary, to relate to the Registration Statement and the Prospectus as amended or supplemented, (A) confirming that the representations and warranties of the Company contained in this Agreement are true and correct, (B) confirming that the Company has performed all of its obligations hereunder to be performed on or prior to the date of such certificate and as to the matters set forth in Section 5(a)(iii) hereof, and (C) containing any other certification that the Agent shall reasonably request. The requirement to provide a certificate under this Section 4(p) shall be automatically waived for any Triggering Event Date occurring at a time when no Issuance Notice is pending or a suspension is in effect, which waiver shall continue until the earlier to occur of the date the Company delivers instructions for the sale of Shares hereunder (which for such calendar quarter shall be considered a Triggering Event Date) and the next occurring Triggering Event Date. Notwithstanding the foregoing, if the Company subsequently decides to sell Shares following a Triggering Event Date when a suspension was in effect and did not provide the Agent with a certificate under this Section 4(p), then before the Company delivers the instructions for the sale of Shares or the Agent sells any Shares pursuant to such instructions, the Company shall provide the Agent with a certificate in conformity with this Section 4(p) dated as of the date that the instructions for the sale of Shares are issued.

(q) Legal Opinions. On or prior to the date of the first Issuance Notice and on or prior to each Triggering Event Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 4(p) for which no waiver is applicable and excluding the date of this Agreement, a negative assurances letter and the written legal opinion of Reed Smith LLP, counsel to the Company, of Barbara G. McClung, intellectual property counsel to the Company, and of Reed Smith LLP, special intellectual property counsel to the Company, each dated the date of delivery, in form and substance reasonably satisfactory to Agent and its counsel, substantially similar to the form previously provided to the Agent and its counsel, modified, as necessary, to relate to the Registration Statement and the Prospectus as then amended or supplemented. In lieu of such opinions for subsequent periodic filings, in the discretion of the Agent, the Company may furnish a reliance letter from such counsel to the Agent, permitting the Agent to rely on a previously delivered opinion letter, modified as appropriate for any passage of time (except that statements in such prior opinion shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented to the time of delivery of such opinion). The Company shall be required to furnish no more than one written legal opinion and negative assurances letter from Reed Smith LLP and one written legal opinion regarding intellectual property matters from each of Barbara G. McClung and Reed Smith LLP hereunder per each filing of an annual report on Form 10-K or a quarterly report on Form 10-Q.

(r) Comfort Letter. On or prior to the date of the first Issuance Notice and on or prior to each Triggering Event Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 4(p) for which no waiver is applicable and excluding the date of this Agreement, the Company shall cause the Accountants, the independent registered public accounting firm who has audited the financial statements included or incorporated by reference in the Registration Statement, to furnish the Agent a comfort letter, dated the date of delivery, in form and substance reasonably satisfactory to the Agent and its counsel, substantially similar to the form previously provided to the Agent and its counsel; provided, however, that any such comfort letter will only be required with respect to the Triggering Event Date specified to the extent that it contains financial statements filed with the Commission under the Exchange Act and incorporated or deemed to be incorporated by reference into a Prospectus. If requested by the Agent, the Company shall also cause a comfort letter to be furnished to the Agent in connection with the filing of a current report on Form 8-K containing material amended financial information of the Company, including the restatement of the Company's financial statements; provided that such comfort letter shall not be required to be delivered to the Agent unless and until the Company delivers an Issuance Notice that is effective on or after the date of occurrence of such event which triggered the filing of such Form 8-K. The Company shall be required to furnish no more than one comfort letter hereunder per each filing of an annual report on Form 10-K or a quarterly report on Form 10-Q.

(s) Secretary's Certificate. On or prior to the date of the first Issuance Notice and on or prior to each Triggering Event Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 4(p) for which no waiver is applicable and excluding the date of this Agreement, the Company shall furnish the Agent a certificate executed by the Secretary of the Company, signing in such capacity, dated the date of delivery (i) certifying that attached thereto are true and complete copies of the resolutions duly adopted by the Board of Directors of the Company authorizing the execution and delivery of this Agreement and the consummation of the transactions contemplated hereby (including, without limitation, the issuance of the Shares pursuant to this Agreement), which authorization shall be in full force and effect on and as of the date of such certificate, (ii) certifying and attesting to the office, incumbency, due authority and specimen signatures of each Person who executed this Agreement for or on behalf of the Company, and (iii) containing any other certification that the Agent shall reasonably request.

(t) Agent's Own Account; Clients' Account. The Company consents to the Agent trading, in compliance with applicable law, in the Common Shares for the Agent's own account and for the account of its clients at the same time as sales of the Shares occur pursuant to this Agreement.

(u) Investment Limitation. The Company shall not invest, or otherwise use the proceeds received by the Company from its sale of the Shares in such a manner as would require the Company or any of its subsidiaries to register as an investment company under the Investment Company Act.

(v) Market Activities. The Company will not take, directly or indirectly, any action designed to or that might be reasonably expected to cause or result in stabilization or manipulation of the price of the Shares or any other reference security, whether to facilitate the sale or resale of the Shares or otherwise, and the Company will, and shall cause each of its Affiliates to, comply with all applicable provisions of Regulation M. If the limitations of Rule 102 of Regulation M ("**Rule 102**") do not apply with respect to the Shares or any other reference security pursuant to any exception set forth in Section (d) of Rule 102, then promptly upon notice from the Agent (or, if later, at the time stated in the notice), the Company will, and shall cause each of its Affiliates to, comply with Rule 102 as though such exception were not available but the other provisions of Rule 102 (as interpreted by the Commission) did apply. The Company shall promptly notify the Agent if it no longer meets the requirements set forth in Section (d) of Rule 102.

(w) Notice of Other Sale. Without the written consent of the Agent, the Company will not, directly or indirectly, offer to sell, sell, contract to sell, grant any option to sell or otherwise dispose of any Common Shares or securities convertible into or exchangeable for Common Shares (other than Shares hereunder), warrants or any rights to purchase or acquire Common Shares, or effect a reverse stock split, recapitalization, share consolidation, reclassification or similar transaction affecting the outstanding Common Shares, during the period beginning on the third Trading Day immediately prior to the date on which any Issuance Notice is delivered to the Agent hereunder and ending on earlier of (A) the third Trading Day immediately following the Settlement Date with respect to Shares sold pursuant to such Issuance Notice and (B) the date that such Issuance Notice is cancelled if no Shares have been sold pursuant to such Issuance Notice; and will not directly or indirectly enter into any other "at the market" or continuous equity transaction to offer to sell, sell, contract to sell, grant any option to sell or otherwise dispose of any Common Shares (other than the Shares offered pursuant to this Agreement) or securities convertible into or exchangeable for Common Shares, warrants or any rights to purchase or acquire, Common Shares prior to the termination of this Agreement; provided, however, that such restrictions will not be required in connection with the Company's (i) issuance or sale of Common Shares, options or other equity awards to purchase or acquire Common Shares, restricted stock units, performance stock units, or Common Shares issuable upon the exercise of options, or vesting of restricted stock units, performance stock units, or other equity awards pursuant to any employee or director share option, equity incentive or benefit plan, share purchase or ownership plan, long-term incentive

plan, dividend reinvestment plan, inducement award under the rules of the Nasdaq Stock Market LLC or other compensation plan of the Company or its subsidiaries, whether in effect on the date of this Agreement or hereafter implemented, (ii) issuance or sale of Common Shares issuable upon exchange, conversion or redemption of securities or the exercise or vesting of warrants, options or other equity awards, (iii) modification of any outstanding options, warrants, restricted stock units, performance stock units, or any other rights to purchase or acquire Common Shares and (iv) Common Shares or securities convertible into or exchangeable for Common Shares as consideration for mergers, acquisitions, other business combinations, joint ventures, collaboration agreements, sponsored research, marketing, manufacturing, license, distribution, commercial relationships or other strategic transactions occurring after the date of this Agreement which transaction as a whole is not entered into primarily for capital raising purposes; provided, however, that the number of Common Shares that the Company may issue pursuant this clause (iv) shall not exceed 5.0% of the aggregate number of the Common Shares outstanding immediately following such issuance.

Section 5. CONDITIONS TO DELIVERY OF ISSUANCE NOTICES AND TO SETTLEMENT

(a) Conditions Precedent to the Right of the Company to Deliver an Issuance Notice and the Obligation of the Agent to Sell Shares. The right of the Company to deliver an Issuance Notice hereunder is subject to the satisfaction, on the date of delivery of such Issuance Notice, and the obligation of the Agent to use its commercially reasonable efforts to place Shares during the applicable period set forth in the Issuance Notice, is subject to the satisfaction, on each Trading Day during the applicable period set forth in the Issuance Notice, of each of the following conditions:

(i) Accuracy of the Company's Representations and Warranties; Performance by the Company. The Company shall have delivered the certificate required to be delivered pursuant to Section 4(p) on or before the date on which delivery of such certificate is required pursuant to Section 4(p). The Company shall have performed, satisfied and complied with all covenants, agreements and conditions required by this Agreement to be performed, satisfied or complied with by the Company at or prior to such date, including, but not limited to, the covenants contained in Section 4(q), Section 4(r) and Section 4(s).

(ii) No Injunction. No statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or governmental authority of competent jurisdiction or any self-regulatory organization having authority over the matters contemplated hereby that prohibits or directly and materially adversely affects any of the transactions contemplated by this Agreement, and no proceeding shall have been commenced that may have the effect of prohibiting or materially adversely affecting any of the transactions contemplated by this Agreement.

(iii) Material Adverse Effects. Except as disclosed in the Prospectus and the Time of Sale Information, (a) in the judgment of the Agent there shall not have occurred any Material Adverse Effect; and (b) there shall not have occurred any downgrading, nor shall any notice have been given of any intended or potential downgrading or of any review for a possible change that does not indicate the direction of the possible change, in the rating accorded any securities of the Company or any of its subsidiaries by any “nationally recognized statistical rating organization” as such term is defined for purposes of Section 3(a)(62) of the Exchange Act.

(iv) No Suspension of Trading in or Delisting of Common Shares; Other Events. The trading of the Common Shares (including without limitation the Shares) shall not have been suspended by the Commission, the Principal Market or FINRA and the Common Shares (including without limitation the Shares) shall have been approved for listing or quotation on and shall not have been delisted from the Principal Market or any of their constituent markets. There shall not have occurred (and be continuing in the case of occurrences under clauses (i) and (ii) below) any of the following: (i) trading or quotation in any of the Company’s securities shall have been suspended or limited by the Commission or by the Principal Market or trading in securities generally on the Principal Market shall have been suspended or limited, or minimum or maximum prices shall have been generally established on any of such stock exchanges by the Commission or the FINRA; (ii) a general banking moratorium shall have been declared by any of federal or New York, authorities; or (iii) there shall have occurred any outbreak or escalation of national or international hostilities or any crisis or calamity, or any change in the United States or international financial markets, or any substantial change or development involving a prospective substantial change in United States’ or international political, financial or economic conditions, as in the judgment of the Agent is material and adverse and makes it impracticable to market the Shares in the manner and on the terms described in the Prospectus or to enforce contracts for the sale of securities.

(b) Documents Required to be Delivered on each Issuance Notice Date. The Agent’s obligation to use its commercially reasonable efforts to place Shares hereunder shall additionally be conditioned upon the delivery to the Agent on or before the Issuance Notice Date of a certificate in form and substance reasonably satisfactory to the Agent, executed by the President and Chief Executive Officer or Chief Financial Officer of the Company, to the effect that all conditions to the delivery of such Issuance Notice shall have been satisfied as at the date of such certificate (which certificate shall not be required if the foregoing representations shall be set forth in the Issuance Notice).

(c) No Misstatement or Material Omission. Agent shall not have advised the Company that the Registration Statement, the Prospectus or the Time of Sale Information, or any amendment or supplement thereto, contains an untrue statement of fact that in the Agent’s reasonable opinion is material, or omits to state a fact that in the Agent’s reasonable opinion is material and is required to be stated therein or is necessary to make the statements therein not misleading.

(d) Agent Counsel Legal Opinion. Agent shall have received from Cooley LLP, counsel for Agent, such opinion or opinions, on or before the date on which the delivery of the Company counsel legal opinion is required pursuant to Section 4(q), with respect to such matters as Agent may reasonably require, and the Company shall have furnished to such counsel such documents as they request for enabling them to pass upon such matters.

Section 6. INDEMNIFICATION AND CONTRIBUTION

(a) Indemnification of the Agent. The Company agrees to indemnify and hold harmless the Agent, its officers and employees, and each person, if any, who controls the Agent within the meaning of the Securities Act or the Exchange Act against any loss, claim, damage, liability or expense, as incurred, to which the Agent or such officer, employee or controlling person may become subject, under the Securities Act, the Exchange Act, other federal or state statutory law or regulation, or the laws or regulations of foreign jurisdictions where Shares have been offered or sold or at common law or otherwise (including in settlement of any litigation), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, including any information deemed to be a part thereof pursuant to Rule 430B under the Securities Act, or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading; or (ii) any untrue statement or alleged untrue statement of a material fact contained in any Free Writing Prospectus that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433(d) of the Securities Act or the Prospectus (or any amendment or supplement thereto), or the omission or alleged omission therefrom of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading and to reimburse the Agent and each such officer, employee and controlling person for any and all expenses (including the reasonable and documented fees and disbursements of counsel chosen by the Agent) as such expenses are reasonably incurred by the Agent or such officer, employee or controlling person in connection with investigating, defending, settling, compromising or paying any such loss, claim, damage, liability, expense or action; provided, however, that the foregoing indemnity agreement shall not apply to any loss, claim, damage, liability or expense to the extent, but only to the extent, arising out of or based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with written information furnished to the Company by the Agent expressly for use in the Registration Statement, any such Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto), it being understood and agreed that the only such information furnished by the Agent to the Company consists of the information described in subsection (b) below. The indemnity agreement set forth in this Section 6(a), shall be in addition to any liabilities that the Company may otherwise have.

(b) Indemnification of the Company, its Directors and Officers. The Agent agrees to indemnify and hold harmless the Company, each of its directors, each of its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act against any loss, claim, damage, liability or expense, as incurred, to which the Company or any such director, officer or controlling person may become subject, under the Securities Act, the Exchange Act, or other federal or state statutory law or regulation, or the laws or regulations of foreign jurisdictions where Shares have been offered or sold or at common law or otherwise (including in settlement of any litigation), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, including any information deemed to be a part thereof pursuant to Rule 430B under the Securities Act, or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading; or (ii) any untrue statement or alleged untrue statement of a material fact contained in any Free Writing Prospectus that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433(d) of the Securities Act or the Prospectus (or any amendment or supplement thereto), or the omission or alleged omission therefrom of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; but, for each of (i) and (ii) above, only to the extent arising out of or based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with written information furnished to the Company by the Agent expressly for use in the Registration Statement, any such Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto), it being understood and agreed that the only such information furnished by the Agent to the Company as of the date hereof consists of the information set forth in the first sentence of the ninth paragraph under the caption "Plan of Distribution" in the Prospectus, and to reimburse the Company and each such director, officer and controlling person for any and all expenses (including the fees and disbursements of one counsel chosen by the Company) as such expenses are reasonably incurred by the Company or such officer, director or controlling person in connection with investigating, defending, settling, compromising or paying any such loss, claim, damage, liability, expense or action. The indemnity agreement set forth in this Section 6(b) shall be in addition to any liabilities that the Agent or the Company may otherwise have.

(c) Notifications and Other Indemnification Procedures. Promptly after receipt by an indemnified party under this Section 6 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against an indemnifying party under this Section 6, notify the indemnifying party in writing of the commencement thereof, but the omission to so notify the indemnifying party will not relieve it from any liability which it may have to any indemnified party for contribution or otherwise than under the indemnity agreement contained in this Section 6 or to the extent it is not prejudiced as a proximate result of such failure. In case any such action is brought against any indemnified party and such indemnified party seeks or intends to seek indemnity from an indemnifying party, the indemnifying party will be entitled to participate in, and, to the extent that it shall elect, jointly with all other indemnifying parties similarly notified, by written notice delivered to the indemnified party promptly after receiving the aforesaid notice from such indemnified party, to assume the defense thereof with counsel reasonably satisfactory to such indemnified party; provided, however, if the defendants in any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded based on the advice of counsel that a conflict may arise between the positions of the indemnifying party and the indemnified party in conducting the defense of any such action or that there may be legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party, the indemnified

party or parties shall have the right to select separate counsel to assume such legal defenses and to otherwise participate in the defense of such action on behalf of such indemnified party or parties. Upon receipt of notice from the indemnifying party to such indemnified party of such indemnifying party's election to so assume the defense of such action and approval by the indemnified party of counsel, the indemnifying party will not be liable to such indemnified party under this Section 6 for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof unless (i) the indemnified party shall have employed separate counsel in accordance with the proviso to the preceding sentence (it being understood, however, that the indemnifying party shall not be liable for the fees and expenses of more than one separate counsel (together with local counsel), representing the indemnified parties who are parties to such action), which counsel (together with any local counsel) for the indemnified parties shall be selected by the indemnified party (in the case of counsel for the indemnified parties referred to in Section 6(a) or Section 6(b) above), (ii) the indemnifying party shall not have employed counsel reasonably satisfactory to the indemnified party to represent the indemnified party within a reasonable time after notice of commencement of the action or (iii) the indemnifying party has authorized in writing the employment of counsel for the indemnified party at the expense of the indemnifying party, in each of which cases the fees and expenses of counsel shall be at the expense of the indemnifying party and shall be paid as they are incurred.

(d) Settlements. The indemnifying party under this Section 6 shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party against any loss, claim, damage, liability or expense by reason of such settlement or judgment. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by Section 6(c) hereof, the indemnifying party agrees that it shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by such indemnifying party of the aforesaid request; and (ii) such indemnifying party shall not have reimbursed the indemnified party in accordance with such request prior to the date of such settlement. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement, compromise or consent to the entry of judgment in any pending or threatened action, suit or proceeding in respect of which any indemnified party is or could have been a party and indemnity was or could have been sought hereunder by such indemnified party, unless such settlement, compromise or consent includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such action, suit or proceeding.

(e) Contribution. If the indemnification provided for in this Section 6 is for any reason held to be unavailable to or otherwise insufficient to hold harmless an indemnified party in respect of any losses, claims, damages, liabilities or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount paid or payable by such indemnified party, as incurred, as a result of any losses, claims, damages, liabilities or expenses referred to therein (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Agent, on the other hand, from the offering of the Shares pursuant to this Agreement; or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the Agent, on the other

hand, in connection with the statements or omissions which resulted in such losses, claims, damages, liabilities or expenses, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the Agent, on the other hand, in connection with the offering of the Shares pursuant to this Agreement shall be deemed to be in the same respective proportions as the total gross proceeds from the offering of the Shares (before deducting expenses) received by the Company bear to the total commissions received by the Agent. The relative fault of the Company, on the one hand, and the Agent, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company, on the one hand, or the Agent, on the other hand, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The amount paid or payable by a party as a result of the losses, claims, damages, liabilities and expenses referred to above shall be deemed to include, subject to the limitations set forth in Section 6(c), any reasonable and documented legal or other fees or expenses reasonably incurred by such party in connection with investigating or defending any action or claim. The provisions set forth in Section 6(c) with respect to notice of commencement of any action shall apply if a claim for contribution is to be made under this Section 6(e); provided, however, that no additional notice shall be required with respect to any action for which notice has been given under Section 6(c) for purposes of indemnification.

The Company and the Agent agree that it would not be just and equitable if contribution pursuant to this Section 6(e) were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to in this Section 6(e).

Notwithstanding the provisions of this Section 6(e), the Agent shall not be required to contribute any amount in excess of the Selling Commission received by the Agent in connection with the offering contemplated hereby. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 6(e), each officer and employee of the Agent and each person, if any, who controls the Agent within the meaning of the Securities Act or the Exchange Act shall have the same rights to contribution as the Agent, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of the Securities Act and the Exchange Act shall have the same rights to contribution as the Company.

Section 7. TERMINATION & SURVIVAL

(a) Term. Subject to the provisions of this Section 7, the term of this Agreement shall continue from the date of this Agreement until the end of the Agency Period, unless earlier terminated by the parties to this Agreement pursuant to this Section 7.

(b) Termination; Survival Following Termination.

(i) Either party may terminate this Agreement prior to the end of the Agency Period, by giving written notice as required by this Agreement, upon ten (10) Trading Days' notice to the other party; provided that, (A) if the Company terminates this Agreement after the Agent confirms to the Company any sale of Shares, the Company shall remain obligated to comply with Section 3(b)(v) with respect to such Shares and (B) Section 2, Section 3(d), Section 6, Section 7 and Section 8 shall survive termination of this Agreement. If termination shall occur prior to the Settlement Date for any sale of Shares, such sale shall nevertheless settle in accordance with the terms of this Agreement.

(ii) In addition to the survival provision of Section 7(b)(i), the respective indemnities, agreements, representations, warranties and other statements of the Company, of its officers and of the Agent set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by or on behalf of the Agent or the Company or any of its or their partners, officers or directors or any controlling person, as the case may be, and, anything herein to the contrary notwithstanding, will survive delivery of and payment for the Shares sold hereunder and any termination of this Agreement.

Section 8. MISCELLANEOUS

(a) Press Releases and Disclosure. The Company may issue a press release describing the material terms of the transactions contemplated hereby as soon as practicable following the date of this Agreement, and may file with the Commission a Current Report on Form 8-K or other report the Company is obligated to file under the Exchange Act, with this Agreement attached as an exhibit thereto, describing the material terms of the transactions contemplated hereby, and the Company shall consult with the Agent prior to making such disclosures, and the parties hereto shall use all commercially reasonable efforts, acting in good faith, to agree upon a text for such disclosures that is reasonably satisfactory to all parties hereto. No party hereto shall issue thereafter any press release or like public statement (including without limitation any disclosure required in reports filed with the Commission pursuant to the Exchange Act) related to this Agreement or any of the transactions contemplated hereby without the prior written approval of the other party hereto, except as may be necessary or appropriate in the reasonable opinion of the party seeking to make disclosure to comply with the requirements of applicable law or stock exchange rules; provided however, that the Company may make statements about the contents of this Agreement that are consistent with statements previously approved by the Agent and describing the Shares sold and proceeds received under this Agreement, as required by Section 4(a) of this Agreement without the prior written approval of the Agent. If any such press release or like public statement is so required other than in a report filed with the Commission under the Exchange Act, the party making such disclosure shall consult with the other party prior to making such disclosure, and the parties shall use all commercially reasonable efforts, acting in good faith, to agree upon a text for such disclosure that is reasonably satisfactory to all parties hereto.

(b) No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (i) the transactions contemplated by this Agreement, including the determination of any fees, are arm's-length commercial transactions between the Company and the Agent, (ii) when acting as a principal under this Agreement, the Agent is and has been acting solely as a principal and is not the agent or fiduciary of the Company, or its stockholders, creditors, employees or any other party, (iii) the Agent has not assumed nor will assume an advisory or fiduciary responsibility in

favor of the Company with respect to the transactions contemplated hereby or the process leading thereto (irrespective of whether the Agent has advised or is currently advising the Company on other matters) and the Agent does not have any obligation to the Company with respect to the transactions contemplated hereby except the obligations expressly set forth in this Agreement, (iv) the Agent and its Affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, and (v) the Agent has not provided any legal, accounting, regulatory or tax advice with respect to the transactions contemplated hereby and the Company has consulted its own legal, accounting, regulatory and tax advisors to the extent it deemed appropriate.

(c) Research Analyst Independence. The Company acknowledges that the Agent's research analysts and research departments are required to and should be independent from their respective investment banking divisions and are subject to certain regulations and internal policies, and as such the Agent's research analysts may hold views and make statements or investment recommendations and/or publish research reports with respect to the Company or the offering that differ from the views of their respective investment banking divisions. The Company understands that the Agent is a full service securities firm and as such from time to time, subject to applicable securities laws, may effect transactions for its own account or the account of its customers and hold long or short positions in debt or equity securities of the companies that may be the subject of the transactions contemplated by this Agreement.

(d) Notices. All communications hereunder shall be in writing and shall be mailed, hand delivered, sent via electronic mail (if applicable) or telecopied and confirmed to the parties hereto as follows:

If to the Agent:

Jefferies LLC
520 Madison Avenue
New York, NY 10022
Facsimile: (646) 786-5719
Attention: General Counsel

with a copy (which shall not constitute notice) to:

Cooley LLP
55 Hudson Yards
New York, NY 10001
Attention: Daniel I. Goldberg
E-mail: dgoldberg@cooley.com

If to the Company:

Caribou Biosciences, Inc.
2929 7th Street, Suite 105
Berkeley, CA 94710
Attention: Barbara G. McClung, Chief Legal Officer
E-mail: legalnotices@cariboubio.com

with a copy (which shall not constitute notice) to:

Reed Smith LLP
1901 Avenue of the Stars, Suite 700
Los Angeles, CA 90067
Attention: Ashok Mukhey and Wendy Grasso
E-mail: AMukhey@reedsmith.com; WGrasso@reedsmith.com

Any party hereto may change the address for receipt of communications by giving written notice to the others in accordance with this Section 8(d).

(e) Successors. This Agreement will inure to the benefit of and be binding upon the parties hereto, and to the benefit of the employees, officers and directors and controlling persons referred to in Section 6, and in each case their respective successors, and no other person will have any right or obligation hereunder. The term “successors” shall not include any purchaser of the Shares as such from the Agent merely by reason of such purchase.

(f) Partial Unenforceability. The invalidity or unenforceability of any Article, Section, paragraph or provision of this Agreement shall not affect the validity or enforceability of any other Article, Section, paragraph or provision hereof. If any Article, Section, paragraph or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

(g) Governing Law Provisions. This Agreement shall be governed by and construed in accordance with the internal laws of the State of New York applicable to agreements made and to be performed in such state. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby may be instituted in the federal courts of the United States of America located in the Borough of Manhattan in the City of New York or the courts of the State of New York in each case located in the Borough of Manhattan in the City of New York (collectively, the “**Specified Courts**”), and each party irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any such court, as to which such jurisdiction is non-exclusive) of such courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to such party’s address set forth above shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action or other proceeding brought in any such court has been brought in an inconvenient forum.

(h) General Provisions. This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof. This Agreement may be executed in two or more counterparts, each one of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument, and may be delivered by facsimile transmission or by electronic delivery of a portable document format (PDF) file (including any electronic signature covered by the U.S. federal E-SIGN Act of 2000,

Uniform Electronic Transactions Act, the Electronic Signatures and Records Act or other applicable law, e.g., www.docusign.com). This Agreement may not be amended or modified unless in writing by all of the parties hereto, and no condition herein (express or implied) may be waived unless waived in writing by each party whom the condition is meant to benefit. The Article and Section headings herein are for the convenience of the parties only and shall not affect the construction or interpretation of this Agreement.

[Signature Page Immediately Follows]

If the foregoing is in accordance with your understanding of our agreement, kindly sign and return to the Company the enclosed copies hereof, whereupon this instrument, along with all counterparts hereof, shall become a binding agreement in accordance with its terms

Very truly yours,

CARIBOU BIOSCIENCES, INC.

By: /s/ Jason O'Byrne

Name: Jason O'Byrne

Title: Chief Financial Officer

The foregoing Agreement is hereby confirmed and accepted by the Agent in New York, New York as of the date first above written.

JEFFERIES LLC

By: /s/ Donald Lynaugh

Name: Donald Lynaugh

Title: Managing Director

EXHIBIT A

ISSUANCE NOTICE

[Date]

Jefferies LLC
520 Madison Avenue
New York, New York 10022

Attn: [_____]

Reference is made to the Open Market Sale AgreementSM between Caribou Biosciences, Inc. (the “**Company**”) and Jefferies LLC (the “**Agent**”) dated as of August [•], 2022. The Company confirms that all conditions to the delivery of this Issuance Notice are satisfied as of the date hereof.

Date of Delivery of Issuance Notice (determined pursuant to Section 3(b)(i)):

Issuance Amount (equal to the total Sales Price for such Shares):

\$ _____

Number of days in selling period:

First date of selling period:

Last date of selling period:

Settlement Date(s) if other than standard T+2 settlement:

Floor Price Limitation (in no event less than \$1.00 without the prior written consent of the Agent, which consent may be withheld in the Agent’s sole discretion): \$ ____ per share

Comments: _____

By: _____

Name:

Title:

Schedule A

Notice Parties

The Company

Rachel E. Haurwitz, Ph.D.
Jason V. O'Byrne, M.B.A.
Barbara G. McClung, J.D.

The Agent

Michael Magarro
Donald Lynaugh

CARIBOU BIOSCIENCES, INC.

INDENTURE

Dated as of , 20

[]

Trustee

Senior Debt Securities

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CARIBOU BIOSCIENCES, INC.

Reconciliation and tie between Trust Indenture Act of 1939 and
Indenture, dated as of , 20

§ 310(a)(1)	7.10
(a)(2)	7.10
(a)(3)	Not Applicable
(a)(4)	Not Applicable
(a)(5)	7.10
(b)	7.10
§ 311(a)	7.11
(b)	7.11
§ 312(a)	2.7
(b)	10.3
(c)	10.3
§ 313(a)	7.6
(b)(1)	7.6
(b)(2)	7.6
(c)(1)	7.6
(d)	7.6
§ 314(a)	4.2, 10.5
(b)	Not Applicable
(c)(1)	10.4
(c)(2)	10.4
(c)(3)	Not Applicable
(d)	Not Applicable
(e)	10.5
(f)	Not Applicable
§ 315(a)	7.1
(b)	7.5
(c)	7.1
(d)	7.1
(e)	6.14
§ 316(a)	2.11
(a)(1)(A)	6.12
(a)(1)(B)	6.13
(b)	6.8
§ 317(a)(1)	6.3
(a)(2)	6.4
(b)	2.6
§ 318(a)	10.1

Note: This reconciliation and tie shall not, for any purpose, be deemed to be part of the Indenture.

Indenture dated as of , 20 , between CARIBOU BIOSCIENCES, INC., a company incorporated under the laws of the State of Delaware (“*Company*”), and , 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 1
DEFINITIONS AND INCORPORATION BY REFERENCE

Section 1.1 Definitions.

“*Affiliate*” of any specified person means any other person directly or indirectly controlling or controlled by or under 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.

“*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 certification and delivered to the Trustee.

“*Business Day*” means, for a particular Series, any day except a Saturday, Sunday or any day, including a legal holiday, on which banking institutions are authorized or required by law, regulation or executive order to close in The City of New York (or in connection with any payment, the place of payment).

“*Capital Stock*” of any person means any and all shares, interests, participations, rights or other equivalents (however designated) of the equity of such person.

“*Certificated Securities*” means definitive Securities in registered non-global certificated form.

“*Company*” means the party named as such above until a successor, which duly assumes the obligations under this Indenture, replaces it and thereafter means the successor.

“*Company Order*” means a written order signed in the name of the Company by an Officer.

“*Corporate Trust Office*” means the office of the Trustee at which at any particular time its corporate trust business related to this Indenture shall be principally administered, which office at the date hereof is located at , ; Attention: , or such other address as the Trustee may designate from time to time by notice to the Holders and the Company, or the corporate trust office of any successor Trustee at which this Indenture shall be administered (or such other address as a successor Trustee may designate from time to time by notice to the Holders of 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 in 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 6.2.

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

“*Exchange Act*” means the Securities Exchange Act of 1934, as amended.

“*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, direct obligations of, or obligations guaranteed by, the government that issued or caused to be issued such currency for the payment of which obligations its full faith and credit is pledged and which are not callable or redeemable at the option of the issuer thereof.

“*GAAP*” means accounting principles generally accepted in The United States of America set forth in the opinions and pronouncements of the Accounting Principles Board of the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board or in such other statements by such other entity as have been approved by a significant segment of the accounting profession, which are in effect as of the date of determination.

“*Global Security*” or “*Global Securities*” means a Security or Securities, as the case may be, in the form established pursuant to Section 2.2 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*” or “*Securityholder*” means a person in whose name a Security is registered on the books of the Registrar.

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

“*Maturity*,” when used with respect to any Security, means the date on which the principal of such Security 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, President, any Vice President, the Treasurer or Secretary of the Company.

“*Officer’s Certificate*” means a certificate signed by any Officer (or any person designated in writing by an Officer of the Company as authorized to execute and deliver Officer’s Certificates) and delivered to the Trustee.

“*Opinion of Counsel*” means a written opinion of legal counsel. The counsel may be an employee of or counsel to the Company. Opinions of Counsel required to be delivered under this Indenture may have qualifications, assumptions, limitations and exceptions customary for opinions of the type required.

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

“*principal*” of a Security means the principal of the Security plus, when appropriate, the premium, if any, on the Security.

“*Responsible Officer*” means any officer of the Trustee in its Corporate Trust Office having direct responsibility for 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 and who shall have direct responsibility for the administration of this Indenture.

“*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 2.1 and 2.2 hereof.

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

“*Subsidiary*” means, with respect to any person, any corporation, partnership, joint venture, limited liability company or other business entity of which a majority of the outstanding shares of Capital Stock or other interests having the power to vote in the election of directors, managers or trustees thereof is at the time directly or indirectly owned or controlled by such person or one or more of the other Subsidiaries of such person, or a combination thereof.

“*TIA*” means the Trust Indenture Act of 1939 (15 U.S. Code §§ 77aaa-77bbb) as in effect on the date of this Indenture; 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 or include 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.

“*United States*” or “*U.S.*” means The United States of America (including the states thereof and the District of Columbia), its territories and possessions and other areas subject to its jurisdiction.

“U.S. Government Obligations” means securities which are direct obligations of, or guaranteed by, The United States of America for the payment of which its full faith and credit is pledged 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 1.2 Other Definitions.

TERM	DEFINED IN SECTION
“Bankruptcy Law”	6.1
“Custodian”	6.1
“Event of Default”	6.1
“Judgment Currency”	10.16
“Legal Holiday”	10.7
“mandatory sinking fund payment”	11.1
“optional sinking fund payment”	11.1
“Paying Agent”	2.5
“Registrar”	2.5
“Required Currency”	10.16
“successor person”	5.1

Section 1.3 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.

“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 1.4 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 GAAP;
- (c) “or” is not exclusive;
- (d) words in the singular include the plural, and in the plural include the singular;
- (e) provisions apply to successive events and transactions;
- (f) in the computation of periods of time from a specified date to a later specified date, the word “from” means “from and including,” and the words “to” and “until” each mean “to but excluding”; and
- (g) the phrase “in writing” as used herein shall be deemed to include PDFs, e-mails and other electronic means of transmission, unless otherwise indicated.

ARTICLE 2
THE SECURITIES

Section 2.1 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 hereto or Officer’s Certificate establishing the terms of such Series. In the case of Securities of a Series to be issued from time to time, the Board Resolution, Officer’s Certificate or supplemental indenture establishing the terms thereof 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 this Indenture.

Section 2.2 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 2.2.1 and either as to such Securities within the Series or as to the Series generally in the case of Subsections 2.2.2 through 2.2.24) by or pursuant to a Board Resolution, and set forth or determined in the manner provided in a Board Resolution, supplemental indenture hereto or Officer’s Certificate:

2.2.1. the title (which shall distinguish the Securities of that particular Series from the Securities of any other Series) of the Series;

2.2.2. the price or prices (expressed as a percentage of the principal amount thereof) at which the Securities of the Series will be issued;

2.2.3. 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 Section 2.8, 2.9, 2.12, 3.6 or 9.6);

2.2.4. the date or dates on which the principal of the Securities of the Series is payable;

2.2.5. 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;

2.2.6. 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 delivered, and the method of such payment, if by wire transfer, mail or other means;

2.2.7. 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 must be redeemed or may be redeemed, in whole or in part, at the option of the Company;

2.2.8. 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;

2.2.9. 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;

2.2.10. if other than denominations of \$1,000 and integral multiples of \$1,000 in excess thereof, the denominations in which the Securities of the Series shall be issuable;

2.2.11. the forms of the Securities of the Series and whether the Securities will be issuable as Global Securities;

2.2.12. 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 6.2;

2.2.13. the currency of denomination of the Securities of the Series, which may be Dollars or any Foreign Currency, and if such currency of denomination is a composite currency, the agency or organization, if any, responsible for overseeing such composite currency;

2.2.14. the designation of the currency, currencies or currency units in which payment of the principal of and interest, if any, on the Securities of the Series will be made;

2.2.15. if payments of principal of or interest, if any, on the Securities of the Series are to be made in one or more currencies or currency units other than that or those in which such Securities are denominated, the manner in which the exchange rate with respect to such payments will be determined;

2.2.16. the manner in which the amounts of payment of principal of or interest, if any, on the Securities of the Series will be determined, if such amounts may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index;

2.2.17. the provisions, if any, relating to any security provided for the Securities of the Series;

2.2.18. any addition to, deletion of 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 6.2;

2.2.19. any addition to, deletion of or change in the covenants set forth in Articles 4 or 5 which applies to Securities of the Series;

2.2.20. any addition to, deletion of or change in the definitions set forth in Article 1 which applies to the Securities of the Series;

2.2.21. any Depositaries, trustees, interest rate calculation agents, exchange rate calculation agents, or other agents with respect to Securities of such Series if other than those appointed herein;

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

2.2.23. whether any of the Company's direct or indirect Subsidiaries will guarantee the Securities of that Series, including the terms of subordination, if any, of such guarantees; and

2.2.24. any other terms of the Series (which may supplement, modify, or delete any provision of this Indenture insofar as it applies to such Series), including any terms that may be required under applicable law or regulations or advisable in connection with the marketing of Securities of that 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 Officer's Certificate referred to above.

Section 2.3 Denominations; Provision for Payment.

The Securities of any Series shall be issuable, except as otherwise provided with respect to Securities of any Series pursuant to Section 2.2, as registered Securities in the denominations of one thousand Dollars (\$1,000) or any integral multiples of \$1,000 in excess thereof. Unless otherwise provided with respect to Securities of any Series pursuant to Section 2.2, the principal of and the interest on the Securities of any Series, if any, thereon, shall be payable in Dollars at the Corporate Trust Office of the Trustee. Unless otherwise specified pursuant to Section 2.2 with respect to any Securities of any Series, interest on the Securities of any Series shall be computed on the basis of a 360-day year consisting of twelve 30-day months.

Section 2.4 Execution and Authentication.

An Officer shall sign the Securities for the Company by manual, facsimile or electronic 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 Officer's Certificate, upon receipt by the Trustee of a Company Order. Each Security shall be dated the date of its authentication.

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 Officer's Certificate delivered pursuant to Section 2.2, except as provided in Section 2.9.

Prior to the issuance of Securities of any Series, the Trustee shall have received and (subject to Section 7.1) shall be fully protected in conclusively relying on: (a) the Board Resolution, supplemental indenture hereto or Officer's Certificate delivered pursuant to Section 2.2 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 Officer's Certificate complying with Section 9.7 (with respect to the execution of supplemental indentures) and Section 10.4, and (c) an Opinion of Counsel complying with Section 9.7 (with respect to the execution of supplemental indentures) and Section 10.4.

The Trustee shall have the right, but not the obligation, to decline to authenticate and deliver any Securities of such Series: (a) if the Trustee, being advised by counsel, determines that such action may not be taken lawfully; or (b) if the Trustee in good faith determines that such action would expose the Trustee to personal liability.

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 2.5 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, 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 to their transfer and exchange (the "*Security Register*"). 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. If at any time the Company shall fail to maintain any such required Registrar or Paying Agent or shall fail to furnish the Trustee with the name and address thereof, such presentations and surrenders may be made or served at the Corporate Trust Office of the Trustee, and the Company hereby appoints the Trustee as its agent to receive all such presentations and surrenders.

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 or Paying Agent in each place so specified 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 or any of its Affiliates may serve as Registrar or 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 2.6 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 Securityholders 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 Securities of that Series, and will notify the Trustee in writing 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 Securityholders of any Series of Securities all money held by it as Paying Agent. Upon any bankruptcy, reorganization or similar proceeding with respect to the Company, the Trustee shall serve as Paying Agent for the Securities.

Section 2.7 Securityholder 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 Securityholders of each Series of Securities and shall otherwise comply with TIA § 312(a). If the Trustee is not the Registrar, the Company shall furnish to the Trustee at least ten days before each interest payment date and at such other times as the Trustee may request in writing, within 30 days after receipt by the Company of any such request, a list, in such form and as of such date as the Trustee may reasonably require, of the names and addresses of Securityholders of each Series of Securities.

Every Holder, by receiving and holding Securities, agrees with the Company and the Trustee that neither the Company nor the Trustee or any agent of either of them shall be held accountable by reason of the disclosure of any such information as to the names and addresses of the Holders in accordance with TIA § 312, regardless of the source from which such information was derived, and that the Trustee shall not be held accountable by reason of mailing any material pursuant to a request made under TIA § 312(b).

Section 2.8 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 2.12, 3.6 or 9.6).

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 15 days immediately preceding the mailing 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 mailing, (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 or (c) to register the transfer of or exchange Securities of any Series between a record date and payment date for such Series of Securities.

Section 2.9 Mutilated, Destroyed, Lost and Stolen Securities.

If any mutilated Security is surrendered to the Trustee, the Company shall execute and the Trustee shall authenticate and deliver 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 (a) evidence to their satisfaction of the destruction, loss or theft of any Security and (b) such security or indemnity bond as may be required by each of them to hold itself and any of its agents harmless, then, in the absence of written notice to the Company or the Trustee that such Security has been acquired by a bona fide purchaser, the Company shall execute and upon receipt of a Company Order 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 or is about to become due and payable, the Company in its discretion may, instead of issuing a new Security, pay such Security.

Upon the issuance of any new Security under this Section 2.9, 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 2.9 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 2.9 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 2.10 Outstanding Securities.

The Securities outstanding at any time are all the Securities authenticated by the Trustee except for those canceled by the Registrar and those described in this Section 2.10 as not outstanding.

If a Security is replaced pursuant to Section 2.9, it ceases to be outstanding unless the Trustee receives proof satisfactory to it that the replaced Security is held by a bona fide 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.

The Company may purchase or otherwise acquire the Securities, whether by open market purchases, negotiated transactions or otherwise. 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 6.2.

Section 2.11 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 or any Affiliate of the Company shall be disregarded, except that for the purposes of determining whether the Trustee shall be protected in conclusively 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. Securities so owned which have been pledged in good faith shall not be disregarded if the pledgee establishes to the satisfaction of the Trustee the pledgee's right to deliver any such request, demand, authorization, direction, notice, consent or waiver with respect to the Securities and that the pledgee is not the Company or any other obligor upon the Securities or any Affiliate of the Company or of such other obligor.

Section 2.12 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 receipt of a Company Order 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 2.13 Cancellation.

The Company at any time may deliver Securities to the Trustee for cancellation. The Registrar and the Paying Agent, if not the Trustee, 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 transfer, exchange, payment, replacement, conversion or cancellation and shall dispose of such canceled Securities (subject to the record retention requirement of the Exchange Act and the Trustee) in accordance with its customary procedures and deliver a certificate of such cancellation to the Company upon written request of the Company. The Company may not issue new Securities to replace Securities that it has paid or delivered to the Trustee for cancellation.

Section 2.14 Defaulted Interest.

If the Company defaults in a payment of interest on a Series of Securities, it may pay the defaulted interest, plus, to the extent permitted by law, any interest payable on the defaulted interest, to the persons who are Securityholders of the Series on a subsequent special record date. The Company shall fix the record date and payment date. At least ten days before the special record date, the Company shall mail to the Trustee and to each Securityholder of the Series a notice that states the special record date, the payment date and the amount of interest to be paid. The Company may pay defaulted interest in any other lawful manner.

Section 2.15 Global Securities.

2.15.1. Terms of Securities. A Board Resolution, a supplemental indenture hereto or an Officer's 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.

2.15.2. Transfer and Exchange. Notwithstanding any provisions to the contrary contained in Section 2.8 of this Indenture and in addition thereto, any Global Security shall be exchangeable pursuant to Section 2.8 of this Indenture for Securities registered in the names of Holders other than the Depositary for such Security or its nominee only if (a) 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 or (b) the Company determines in its sole discretion not to have such Securities represented by one or more Global Securities and executes and delivers to the Trustee an Officer's Certificate to the effect that such Global Security shall be so exchangeable. 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.

Except as provided in this Section 2.15.2, 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.

2.15.3. 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.”

2.15.4. 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 this Indenture.

2.15.5. Payments. Notwithstanding the other provisions of this Indenture, unless otherwise specified as contemplated by Section 2.2, payment of the principal of and interest, if any, on any Global Security shall be made to the Holder thereof, which in the case of a Depositary therefor will be made in accordance with its applicable procedures.

2.15.6. Consents, Declaration and Directions. 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 or by the applicable procedures of such 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.

Section 2.16 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 Trustee shall have no liability for any defect in the “CUSIP” numbers as they appear on any Security, notice or elsewhere. The Company will promptly notify the Trustee in writing of any change in the “CUSIP” numbers.

Section 2.17 Evidence of Ownership.

The Company, the Trustee and any agent of the Company or the Trustee may deem and treat the person in whose name any registered Security shall be registered upon the Security Register for such series as the absolute owner of such registered Security (whether or not such registered Security shall be overdue and notwithstanding any notation of ownership or other writing thereon) for the purpose of receiving payment of or on account of the principal of and, subject to the provisions of this Indenture, interest on such registered Security and for all other purposes; and neither the Company nor the Trustee nor any agent of the Company or the Trustee shall be affected by any notice to the contrary.

ARTICLE 3
REDEMPTION

Section 3.1 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 in writing of the redemption date and the principal amount of Series of Securities to be redeemed. The Company shall give the notice to the Trustee at least 15 days before the redemption date, unless a shorter period is specified in the Securities to be redeemed or otherwise as may be acceptable to the Trustee.

Section 3.2 Selection of Securities to be Redeemed.

Unless otherwise indicated for a particular Series by a Board Resolution, a supplemental indenture hereto or an Officer’s 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, including selecting by lot or other method, unless otherwise required by law or applicable stock exchange requirements, subject, in the case of Global Securities, to the applicable rules and procedures of the Depository; *provided that* the unredeemed portion of the principal amount of any Security shall be in an authorized denomination (which shall not be less than the minimum authorized denomination) for such Security. The Trustee shall make the selection from Securities of the Series outstanding not previously called for redemption. 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.

Section 3.3 Notice of Redemption.

Unless otherwise indicated for a particular Series by Board Resolution, a supplemental indenture hereto or an Officer's Certificate, at least 15 days but not more than 60 days before a redemption date, the Company shall mail a notice of redemption by first-class mail or electronically, in accordance with the procedures of the Depository, to each Holder whose Securities are to be redeemed.

The notice shall identify the Securities of the Series to be redeemed and shall state:

- (a) the redemption date;
- (b) the redemption price and the amount of accrued interest, if any, to be paid;
- (c) the name and address of the Paying Agent and, if applicable, the conversion Agent;
- (d) for convertible Securities, the conversion price;
- (e) if any Global Security is being redeemed in part, the portion of the principal amount of such Global Security to be redeemed and that, after the redemption date upon surrender of such Global Security, the principal amount thereof will be decreased by the portion thereof redeemed pursuant thereto;
- (f) if any Certificated Security is being redeemed in part, the portion of the principal amount of such Security to be redeemed, and that, after the redemption date, upon surrender of such Security, a new Certificated Security in principal amount equal to the unredeemed portion thereof will be issued in the name of the Holder thereof upon cancellation of the original Certificated Security;
- (g) that Securities of the Series (or portion thereof) called for redemption must be surrendered to the Paying Agent to collect the redemption price;
- (h) that interest on Securities of the Series called for redemption ceases to accrue on and after the redemption date, subject to the satisfaction of any conditions to such redemption, unless the Company defaults in the deposit of the redemption price;
- (i) the CUSIP number, if any, and state that no representation is made as to the correctness or accuracy of the CUSIP number, if any, listed in the SEC's notice or printed on the Securities; and
- (j) 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, however, that the Company has delivered to the Trustee, at least 15 days (unless a shorter time shall be acceptable to the Trustee) prior to the notice date, an Officer's Certificate requesting that the Trustee give such notice and setting forth the information to be stated in such notice.

Section 3.4 Effect of Notice of Redemption.

Once notice of redemption is mailed as provided in Section 3.3, Securities of a Series called for redemption become due and payable on the redemption date and at the redemption price. Except as otherwise provided in the supplemental indenture, Board Resolution or Officer's Certificate for a Series, 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 other than Securities or portions of Securities called for redemption which have been delivered by the Company to the Registrar for cancellation. The Paying Agent shall return to the Company any money not required for that purpose.

To the extent provided for in the supplemental indenture, Board Resolution or Officer's Certificate for a Series, in connection with any redemption of Securities of a Series, any such redemption may, at the Company's discretion, be subject to one or more conditions precedent, such as refinancings, acquisitions or equity offerings. In addition, if such redemption or notice is subject to satisfaction of one or more conditions precedent, such notice shall state that, in the Company's discretion, the redemption date may be delayed until such time as any or all such conditions shall be satisfied (or waived by the Company in its sole discretion), or such redemption may not occur and such notice may be rescinded in the event that any or all such conditions shall not have been satisfied (or waived by the Company in its sole discretion) by the redemption date, or by the redemption date so delayed.

Unless the Company shall default in the payment of Securities (and accrued interest) called for redemption, interest on such Securities shall cease to accrue after the redemption date, subject to the satisfaction of any conditions to the redemption to the extent that conditional redemption is provided for in the supplemental indenture, Board Resolution or Officer's Certificate for a Series. Convertible Securities called for redemption shall cease to be convertible after the close of business on the Business Day immediately preceding the redemption date, unless the Company shall default in the payment of such Securities on the redemption date, in which event the Securities shall remain convertible until paid (together with accrued interest).

Failure to give notice of redemption, or any defect in such notice to the Holder of any Security of a Series designated for redemption, in whole or in part, shall not affect the sufficiency of any notice of redemption with respect to the Holder of any other Security of such Series.

Section 3.5 Deposit of Redemption Price.

On or before 10:00 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 subject to the satisfaction of any conditions to such redemption.

Section 3.6 Securities Redeemed in Part.

Upon surrender of a Certificated Security that is redeemed in part, the Trustee shall authenticate for the Holder a new Certificated Security of the same Series and the same maturity equal in principal amount to the unredeemed portion of the Security surrendered and concurrently cancel the surrendered Certificated Security.

ARTICLE 4 COVENANTS

Section 4.1 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. On or before 10:00 a.m., New York City time, on the applicable payment date, the Company shall deposit with the Paying Agent money sufficient to pay the principal of and interest, if any, on the Securities of each Series in accordance with the terms of such Securities and this Indenture. Principal and interest shall be considered paid on the date due if the Paying Agent holds in accordance with this Indenture on that date money sufficient to pay all principal and interest then due and the Paying Agent is not prohibited from paying such money to the Holders on such date pursuant to the terms of this Indenture.

Section 4.2 Reports by Company.

(a) As long as any Securities are outstanding, the Company shall file with the Trustee, with written instructions for mailing (or in the case of Global Securities, delivery pursuant to applicable Depositary procedures) to the Holders of Notes, such information, documents and other reports, and such summaries thereof, as may be required pursuant to TIA § 314(a). All reports, information and documents referred to in this Section 4.2 will be deemed to be filed with the Trustee and transmitted to the Holders (with no need for written instructions from the Company) at the time such reports, information or documents are publicly filed with the SEC via the SEC's EDGAR filing system (or any successor system), it being understood that the Trustee shall have no responsibility whatsoever to determine if such filings have been made.

(b) Delivery of reports, information and documents to the Trustee under this Section 4.2 are for informational purposes only and shall not constitute a representation or warranty as to the accuracy or completeness of the reports, information and documents. The Trustee's receipt of the foregoing shall not constitute constructive notice of any information contained therein or determinable from information contained therein, including the Company's compliance with any of its covenants hereunder (as to which the Trustee is entitled to rely exclusively on Officer's Certificates).

Section 4.3 Compliance Certificate.

To the extent any Securities of a Series are outstanding, the Company shall deliver to the Trustee, within 120 days after the end of each fiscal year of the Company, an Officer's Certificate (which need not contain the statements provided for in Section 10.4) from its principal executive officer, principal financial officer or principal accounting officer stating that a review of the activities of the Company and its Subsidiaries during the preceding fiscal year has been made under the supervision of the signing Officer with a view to determining whether the Company has kept, observed, performed and fulfilled its obligations under this Indenture, and further stating, as to such Officer signing such certificate, that to his or her knowledge the Company is not in default in the performance or observance of any of the terms, provisions and conditions hereof (or, if a Default or Event of Default shall have occurred, describing all such Defaults or Events of Default of which the Officer has knowledge). Such Officer's Certificate need not include a reference to any non-compliance that has been fully cured prior to the date as of which such certificate speaks.

Section 4.4 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; 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.

Section 4.5 Corporate Existence.

Subject to Article 5, the Company will do or cause to be done all things necessary to preserve and keep in full force and effect its corporate existence and rights (charter and statutory); provided, however, that the Company shall not be required to preserve any such right if the Board of Directors shall determine that the preservation thereof is no longer desirable in the conduct of the business of the Company and its Subsidiaries taken as a whole and that the loss thereof is not adverse in any material respect to the Holders.

ARTICLE 5
SUCCESSORS

Section 5.1 Consolidation, Merger and Sale of Assets.

The Company may not consolidate with or merge with or into, sell, convey, transfer, or dispose of all or substantially all of its assets to any other person (a “*successor person*”), whether in one transaction or a series of related transactions, unless:

(a) (i) the Company is the surviving corporation or (ii) the successor person (if other than the Company) (A) is a corporation, limited liability corporation, partnership, or trust organized under the laws of the United States, any state thereof, or the District of Columbia; and (B) expressly assumes, by an indenture supplemental hereto, all of 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 happened and be continuing.

The Company shall deliver to the Trustee prior to the consummation of the proposed transaction an Officer’s Certificate to the foregoing effect and an Opinion of Counsel stating that the proposed transaction and any supplemental indenture comply with Section 5.1 of this Indenture.

Notwithstanding the above, (i) any Subsidiary of the Company may consolidate with, merge into, or transfer all or part of its properties to the Company and (ii) the Company may merge with or into an Affiliate of the Company incorporated or formed solely for the purpose of reincorporating or reorganizing the Company in another state of the United States or the District of Columbia or changing the legal domicile of the Company or for the sole purpose of forming or collapsing a holding company structure or changing the form of legal entity. Neither an Officer’s Certificate nor an Opinion of Counsel shall be required to be delivered in connection therewith.

Section 5.2 Successor Person Substituted.

Upon any consolidation or merger, or any sale, conveyance, transfer, or lease of all or substantially all of the assets of the Company and its Subsidiaries in accordance with Section 5.1, the successor person formed by such consolidation or into or with which the Company is merged or to which such sale, conveyance, transfer, or lease is made shall succeed to, and be substituted for, and may exercise every right and power of, the Company under this Indenture and the Securities with the same effect as if such successor person has been named as the Company herein; and, thereafter, the predecessor Company, in the case of a sale, conveyance or transfer (other than a lease), shall be released from all obligations and covenants under this Indenture and the Securities.

ARTICLE 6
DEFAULTS AND REMEDIES

Section 6.1 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 Officer’s Certificate, it is provided that such Series shall not have the benefit of said Event of Default:

(a) failure to pay 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 10:00 a.m., New York City time, on the 30th day of such period);

(b) failure to pay principal of any Security of that Series at its Maturity;

(c) default in the performance or breach of any covenant of the Company in this Indenture (other than defaults pursuant to sub-clauses (a) through (b) above or defaults related to a covenant 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 90 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 at least 25% 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;

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

(i) commences a voluntary case,

(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, or

(iv) makes a general assignment for the benefit of its creditors;

(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 60 consecutive 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 Officer’s Certificate, in accordance with Section 2.2.18.

The term “*Bankruptcy Law*” means title 11, 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.

A Default under one Series of Securities issued under this Indenture will not necessarily be a default under another Series of Securities under this Indenture.

The Company will, so long as any of the Securities are outstanding, deliver to the Trustee, within 30 days of becoming aware of any Default or Event of Default, an Officer’s Certificate specifying such Default or Event of Default and what action the Company is taking or proposes to take with respect thereto.

Section 6.2 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 6.1(d) or (e)) then in every such case the Trustee or the Holders of not less than 25% 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 6.1(d) or (e) shall occur, the principal amount (or specified amount) of and accrued and unpaid interest, if any, on all outstanding Securities shall *ipso facto* become and 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, 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 6.3 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, or

(c) default is made in the deposit of any sinking fund payment, if any, when and as due by the terms of a Security,

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 6.4 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 relating 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 7.7.

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 6.5 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 6.6 Application of Money Collected.

Any money or property 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 or property 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 to the Trustee under this Indenture; 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 6.7 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 not less than 25% in principal amount of the outstanding Securities of that Series 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 have offered to the Trustee indemnity or security satisfactory to the Trustee against the costs, expenses, and liabilities which might be incurred by the Trustee in compliance with such request;

(d) the Trustee has failed to institute any such proceeding for 60 days after its receipt of such notice, request and offer of indemnity; 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, intended and expressly covenanted by the Holder of every Security with every other Holder and the Trustee 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 of the applicable Series.

Section 6.8 Unconditional Right of Holders to Receive Principal and Interest.

Notwithstanding any other provision in this Indenture, the Holder of any Security has the right, which is absolute and unconditional, to receive payment of the principal of and interest, if any, on such Security on the Maturity of such Security, including the Stated Maturity expressed in such Security (or, in the case of redemption, on the redemption date, subject to the satisfaction of any conditions to such redemption) 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 6.9 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 2.9, 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.

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;
- (c) subject to the provisions of Section 7.1, 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; and
- (d) prior to taking any action as directed under this Section 6.12, the Trustee shall be entitled to indemnity satisfactory to it against the costs, expenses, and liabilities which might be incurred by it in compliance with such request or direction.

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 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). 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 and expenses, 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 6.14 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 Maturity of such Security, including the Stated Maturity expressed in such Security (or, in the case of redemption, on the redemption date).

ARTICLE 7
TRUSTEE

Section 7.1 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.

(ii) In the absence of bad faith on its part, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon Officer's Certificates or Opinions of Counsel furnished to the Trustee and conforming to the requirements of this Indenture; however, in the case of any such Officer's Certificates or Opinions of Counsel which by any provisions hereof are specifically required to be furnished to the Trustee, the Trustee shall examine such Officer's 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 sub-clause (c) does not limit the effect of sub-clause (b) of this Section 7.1.

(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 in accordance with Section 6.12.

(d) Every provision of this Indenture that in any way relates to the Trustee is subject to sub-clauses (a), (b) and (c) of this Section 7.1.

(e) The Trustee may refuse to perform any duty or exercise any right or power unless it receives indemnity satisfactory to it against the costs, expenses, and liabilities which might be incurred by it in performing such duty or exercising such right or power.

(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 adequate indemnity against such risk is not assured to the Trustee in its satisfaction.

(h) The Paying Agent, the Registrar and any authenticating agent shall be entitled to the protections and immunities as are set forth in sub-clauses (e), (f) and (g) of this Section 7.1 and in Section 7.2, each with respect to the Trustee.

Section 7.2 Rights of Trustee.

(a) The Trustee may conclusively rely on and shall be protected in acting or refraining from acting upon any document (whether in its original or facsimile form) 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, it shall be entitled to receive an Officer's Certificate or an Opinion of Counsel or both. The Trustee shall not be liable for any action it takes or omits to take in good faith in conclusive reliance on such Officer's Certificate or Opinion of Counsel.

(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 Depository shall be deemed an agent of the Trustee and the Trustee shall not be responsible for any act or omission by any Depository.

(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 willful misconduct or negligence.

(e) The Trustee may consult with counsel of its selection 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 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 reasonably 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, but the Trustee, in its discretion, may make such further inquiry or investigation into such facts or matters as it may see fit and shall incur no liability or additional liability of any kind by reason of such inquiry or investigation.

(h) The Trustee shall not be deemed to have notice of any Default or Event of Default 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 a Responsible Officer of 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.

(i) In no event shall the Trustee be liable to any person for special, punitive, indirect, consequential or incidental loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Trustee has been advised of the likelihood of such loss or damage.

(j) The permissive right of the Trustee to take the actions permitted by this Indenture shall not be construed as an obligation or duty to do so.

(k) The rights, privileges, protections, immunities and benefits given to the Trustee, including, without limitation, its right to be indemnified, are extended to, and shall be enforceable by, the Trustee in each of its capacities hereunder, and each agent, custodian and other Person employed to act hereunder.

(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 7.3 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. However, the Trustee is also subject to Sections 7.10 and 7.11 hereof.

Section 7.4 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 7.5 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 actually known to a Responsible Officer of the Trustee, the Trustee shall mail to each Securityholder 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 Securityholders of that Series.

Section 7.6 Reports by Trustee to Holders.

Within 60 days after each anniversary of the date of this Indenture, the Trustee shall transmit by mail to all Securityholders, as their names and addresses appear on the register kept by the Registrar, a brief report dated as of such reporting date, in accordance with, and to the extent required under, TIA § 313. A copy of each report at the time of its mailing to Securityholders of any Series shall be filed with the SEC and each national securities exchange on which the Securities of that Series are listed. The Company shall promptly notify the Trustee in writing when Securities of any Series are listed on any national securities exchange or of any delisting thereof.

Section 7.7 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 against any cost, expense, claim (whether asserted by the Company, a Holder or any other person) or liability (including the cost of defending itself), 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 the next paragraph 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 by the Trustee to so notify the Company shall not relieve the Company of its obligations hereunder, unless and to the extent that the Company is materially prejudiced thereby. 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 will 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 or shareholder of the Trustee through willful misconduct or negligence.

To secure the Company's payment obligations in this Section 7.7, the Trustee shall have a lien prior to the Securities of any Series on all money or property held or collected by the Trustee, except that held in trust to pay principal of and interest on particular Securities of that Series.

When the Trustee incurs expenses or renders services after an Event of Default specified in Section 6.1(f) or (g) occurs, the expenses and the compensation for the services are intended to constitute expenses of administration under any Bankruptcy Law.

The provisions of this Section 7.7 shall survive the termination of this Indenture or the resignation or removal of the Trustee.

Section 7.8 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 7.8.

The Trustee may resign at any time 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 in writing. 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 a bankrupt or an insolvent or an order for relief is entered with respect to the Trustee under any Bankruptcy 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. Within one year after the successor Trustee takes office, the Holders of a majority in principal amount of the then outstanding Securities may appoint a successor Trustee to replace the successor Trustee appointed by the Company.

If a successor Trustee with respect to the Securities of any one or more Series does not take office within 30 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 at the expense of the Company.

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 7.7, 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 mail a notice of its succession to each Securityholder of each such Series. Notwithstanding replacement of the Trustee pursuant to this Section 7.8, the Company's obligations under Section 7.7 hereof shall continue for the benefit of the retiring Trustee with respect to expenses and liabilities incurred by it for actions taken or omitted to be taken in accordance with its rights, powers and duties under this Indenture prior to such replacement.

Section 7.9 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 to, another corporation, the successor corporation without any further act shall be the successor Trustee, if such successor corporation is eligible and qualified under Section 7.10.

Section 7.10 Eligibility; Disqualification.

This Indenture shall always have a Trustee who satisfies the requirements of TIA § 310(a)(1), (2) and (5). The Trustee shall always have a combined capital and surplus of at least \$25,000,000 as set forth in its most recent published annual report of condition. The Trustee shall comply with TIA § 310(b).

Section 7.11 Preferential Collection of Claims Against Company.

The Trustee is subject to TIA § 311(a), excluding any creditor relationship listed in TIA § 311(b). A Trustee who has resigned or been removed shall be subject to TIA § 311(a) to the extent indicated.

ARTICLE 8
SATISFACTION AND DISCHARGE; DEFEASANCE

Section 8.1 Satisfaction and Discharge of Indenture.

This Indenture shall upon Company Order cease to be of further effect (except as hereinafter provided in this Section 8.1), and the Trustee, at the expense of the Company, shall execute instruments acknowledging satisfaction and discharge of this Indenture, when

(a) either

(i) all Securities theretofore authenticated and delivered (other than Securities that have been destroyed, lost or stolen and that have been replaced or paid as provided in Section 2.9) have been delivered to the Trustee for cancellation; or

(ii) 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) have been called for redemption or 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, in the case of (1), (2) or (3) above, has irrevocably deposited or caused to be deposited with the Trustee as trust funds in trust an amount of money or U.S. Government Obligations 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 Officer's 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 7.7, and, if money shall have been deposited with the Trustee pursuant to sub-clause (a) of this Section 8.1, the provisions of Sections 2.5, 2.8, 2.9, 8.2 and 8.5 shall survive.

Section 8.2 Application of Trust Funds; Indemnification.

(a) Subject to the provisions of Section 8.5, all money or U.S. Government Obligations deposited with the Trustee pursuant to Section 8.1, all money and U.S. Government Obligations or Foreign Government Obligations deposited with the Trustee pursuant to Section 8.3 or 8.4 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 8.3 or 8.4, 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 (including 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 to make mandatory sinking fund payments or analogous payments as contemplated by Sections 8.3 or 8.4.

(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 8.3 or 8.4 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 Order any U.S. Government Obligations or Foreign Government Obligations or money held by it as provided in Sections 8.3 or 8.4 which, in the opinion of a nationally recognized firm of independent certified public accountants or investment bank 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 8.3 Legal Defeasance of Securities of any Series.

Unless this Section 8.3 is otherwise specified, pursuant to Section 2.2, 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 sub-clause (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, upon receipt of a Company Order, execute instruments acknowledging the same), except as to:

(a) the rights of Holders of Securities of such Series to receive, from the trust funds described in sub-clause (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 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;

(b) the provisions of Sections 2.5, 2.8, 2.9, 8.2, 8.3 and 8.5; and

(c) the rights, powers, trust and immunities of the Trustee hereunder and the Company's obligations in connection therewith;

provided that, the following conditions shall have been satisfied:

(d) the Company shall have deposited or caused to be irrevocably deposited (except as provided in Section 8.2(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 (and without reinvestment), will provide, 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 or investment bank 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 Officer's 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 U.S. 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 U.S. federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to U.S. federal income tax on the same amount 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 Officer's Certificate stating that the deposit was not made by the Company with the intent of defeating, hindering, delaying or defrauding any other creditors of the Company; and

(i) the Company shall have delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that all conditions precedent provided for relating to the defeasance contemplated by this Section 8.3 have been complied with.

Section 8.4 Covenant Defeasance.

Unless this Section 8.4 is otherwise specified pursuant to Section 2.2 to be inapplicable to Securities of any Series, the Company may omit to comply with respect to the Securities of any Series with any term, provision or condition set forth under Sections 4.2 and 4.3, 4.4 and 5.1 as well as any additional covenants specified in a supplemental indenture for such Series of Securities or a Board Resolution or an Officer's Certificate delivered pursuant to Section 2.2 (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 6.1) and the occurrence of any event specified in a supplemental indenture for such Series of Securities or a Board Resolution or an Officer's Certificate delivered pursuant to Section 2.2.18 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 8.4, the Company has deposited or caused to be irrevocably deposited (except as provided in Section 8.2(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 (and without reinvestment), will provide, 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 or investment bank 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;

(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 U.S. federal income tax purposes as a result of such deposit and covenant defeasance and will be subject to U.S. 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 Officer's Certificate stating the deposit was not made by the Company with the intent of defeating, hindering, delaying or defrauding any other creditors of the Company; and

(f) The Company shall have delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that all conditions precedent herein provided for relating to the covenant defeasance contemplated by this Section 8.4 have been complied with.

Section 8.5 Repayment to Company.

Subject to applicable abandoned property law, the Trustee and the Paying Agent shall pay to the Company upon request any money held by them for the payment of principal or interest that remains unclaimed for two years after such principal or interest has become due and payable. After that, Securityholders entitled to the money must look to the Company for payment as general creditors unless an applicable abandoned property law designates another person.

Section 8.6 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 8.1 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 8.1 until such time as the Trustee or the Paying Agent is permitted to apply all such money in accordance with Section 8.1; provided, however, that if the Company has made any payment of principal of or interest on 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 or U.S. Government Obligations held by the Trustee or Paying Agent after payment in full to the Holders.

ARTICLE 9
AMENDMENTS AND WAIVERS

Section 9.1 Without Consent of Holders.

The Company and the Trustee may amend or supplement this Indenture or the Securities of one or more Series without the consent of any Securityholder:

- (a) to add guarantees with respect to any Series of Securities or secure any Series of Securities;
- (b) to surrender any of the Company's rights or powers under this Indenture;
- (c) to add covenants or Events of Default for the benefit of the Securityholders of any Series of Securities;
- (d) to comply with the applicable rules or procedures of the Depository;
- (e) to cure any ambiguity, defect, or inconsistency, as described in the Officer's Certificate delivered pursuant to Section 10.4;
- (f) to comply with Article 5;
- (g) to provide for uncertificated Securities in addition to or in place of certificated Securities;
- (h) to make any change that does not materially adversely affect the rights of any Securityholder;
- (i) to provide for the issuance of and establish the form and terms and conditions of Securities of any Series as permitted by this Indenture;
- (j) 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;
- (k) to comply with requirements of the SEC in order to effect or maintain the qualification of this Indenture under the TIA;

(l) 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; and

(m) to change or eliminate any of the provisions of this Indenture, *provided* that any such change or elimination shall not be effective with respect to any outstanding Securities of any Series created prior to the execution of such supplemental indenture which is entitled to the benefit of such provision.

Section 9.2 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 Securityholders 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 written 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 9.2 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 9.2 becomes effective, the Company shall mail to the Holders of Securities affected thereby, a notice briefly describing the supplemental indenture or waiver. Any failure by the Company to mail or publish 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 9.3 Limitations.

Without the consent of each Securityholder affected, an amendment or waiver may not:

- (a) reduce the principal 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 or that Series;
- (c) reduce the principal of, 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 then 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 6.8 or 6.13 or this Section 9.3; or
- (h) waive a redemption payment with respect to any Security.

Section 9.4 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 9.5 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.

Any amendment or waiver once effective shall bind every Securityholder of each Series affected by such amendment or waiver unless it is of the type described in any of sub-clauses (a) through (h) of Section 9.3. 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.

The Company may, but shall not be obligated to, fix a record date for the purpose of determining the Holders entitled to give their consent or take any other action described above or required or permitted to be taken pursuant to this Indenture. If a record date is fixed, then notwithstanding the immediately preceding paragraph, those Persons who were Holders at such record date (or their duly designated proxies), and only those persons, shall be entitled to give such consent or to revoke any consent previously given or take any such action, whether or not such Persons continue to be Holders after such record date. No such consent shall be valid or effective for more than 120 days after such record date.

Section 9.6 Notation on or Exchange of Securities.

The Company or the Trustee may, but shall not be obligated to, 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 9.7 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, and (subject to Section 7.1) shall be fully protected in conclusively relying upon, an Officer's Certificate or an Opinion of Counsel or both complying with Section 10.4 and stating that the supplemental indenture is the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, subject to customary exceptions. The Trustee shall sign all supplemental indentures upon delivery of such an Officer's Certificate or Opinion of Counsel or both, except that the Trustee need not sign any supplemental indenture that, in its sole discretion, adversely affects its rights.

ARTICLE 10
MISCELLANEOUS

Section 10.1 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 10.2 Notices.

Any request, demand, 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, email or overnight air courier guaranteeing next day delivery, to the others' address:

if to the Company:

Caribou Biosciences, Inc.
2929 7th Street, Suite 105
Berkeley, California 94710
Attention: Barbara G. McClung, JD, Chief Legal Officer and Corporate Secretary

if to the Trustee:

Attention: _____

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 Securityholder shall be sent electronically or mailed by first-class mail or overnight air courier to his, her or its address shown on the register kept by the Registrar, in accordance with the procedures of the Depository. Failure to mail a notice or communication to a Securityholder of any Series or any defect in it shall not affect its sufficiency with respect to other Securityholders of that or any other Series.

If a notice or communication is sent, mailed or published in the manner provided above, within the time prescribed, it is duly given, whether or not the Securityholder receives it.

If the Company sends or mails a notice or communication to Securityholders, it shall mail a copy to the Trustee and each Agent at the same time.

Notwithstanding any other provision of this Indenture or any Security, where this Indenture or any Security provides for notice of any event (including any notice of redemption) to a Holder of a Global Security (whether by mail or otherwise), such notice shall be sufficiently given to the Depository for such Security (or its designee) pursuant to the customary procedures of such Depository.

Section 10.3 Communication by Holders with Other Holders.

Securityholders of any Series may communicate pursuant to TIA § 312(b) with other Securityholders 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 § 312(c).

Section 10.4 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 Officer's 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 10.5 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 § 314(a)(4)) shall comply with the provisions of TIA § 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, such person has made such examination or investigation as is necessary to enable such person 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 10.6 Rules by Trustee and Agents.

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

Section 10.7 Legal Holidays.

Unless otherwise provided by Board Resolution, Officer's 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 10.8 No Recourse Against Others.

A director, officer, employee or stockholder (past or present), as such, of the Company shall not have any liability for any obligations of the Company under the Securities or this Indenture or for any claim based on, in respect of or by reason of such obligations or their creation. Each Securityholder 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 10.9 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 Law; Jury Trial Waiver.

THIS INDENTURE AND THE SECURITIES, INCLUDING ANY CLAIM OR CONTROVERSY ARISING OUT OF OR RELATING TO THIS INDENTURE OR THE SECURITIES, SHALL BE GOVERNED BY THE LAWS OF THE STATE OF NEW YORK (WITHOUT REGARD TO THE CONFLICTS OF LAWS PROVISIONS THEREOF OTHER THAN SECTION 5-1401 OF THE GENERAL OBLIGATIONS LAW).

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 ARISING OUT OF OR RELATING TO THIS INDENTURE, THE SECURITIES OR THE TRANSACTION CONTEMPLATED HEREBY.

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 Officer's Certificate delivered pursuant to Section 2.2 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 more than one currency, 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 determined by converting any such other currency into a currency that is designated upon issuance of any particular Series of Securities. Unless otherwise specified in a Board Resolution, a supplemental indenture hereto or an Officer's Certificate delivered pursuant to Section 2.2 of this Indenture with respect to a particular Series

of Securities, such conversion shall be at the spot rate for the purchase of the designated currency as published in The Financial Times in the “Currency Rates” section (or, if The Financial Times is no longer published, or if such information is no longer available in The Financial Times, such source as may be selected in good faith by the Company) on any date of determination. 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 provided for in the preceding paragraph shall, in the absence of manifest error, to the extent permitted by law, be conclusive for all purposes and irrevocably binding upon the Trustee and all Holders.

Section 10.16 Judgment Currency.

The Company agrees, to the fullest extent that it may effectively do so under applicable law, that (a) if for the purpose of obtaining judgment in any court it is necessary to convert the sum due in respect of the principal of or interest or other amount on the Securities of any Series (the “*Required Currency*”) into a currency in which a judgment will be rendered (the “*Judgment Currency*”), the rate of exchange used shall be the rate at which in accordance with normal banking procedures the Trustee could purchase in The City of New York the Required Currency with the Judgment Currency on the day on which final unappealable judgment is entered, unless such day is not a Business Day, then the rate of exchange used shall be the rate at which in accordance with normal banking procedures the Trustee could purchase in The City of New York the Required Currency with the Judgment Currency on the Business Day preceding the day on which final unappealable judgment is entered and (b) its obligations under this Indenture to make payments in the Required Currency (i) shall not be discharged or satisfied by any tender, or any recovery pursuant to any judgment (whether or not entered in accordance with subsection (a)), in any currency other than the Required Currency, except to the extent that such tender or recovery shall result in the actual receipt, by the payee, of the full amount of the Required Currency expressed to be payable in respect of such payments, (ii) shall be enforceable as an alternative or additional cause of action for the purpose of recovering in the Required Currency the amount, if any, by which such actual receipt shall fall short of the full amount of the Required Currency so expressed to be payable, and (iii) shall not be affected by judgment being obtained for any other sum due under this Indenture.

Section 10.17 Force Majeure.

In no event shall the Trustee be responsible or liable for any failure or delay in the performance of its obligations hereunder arising out of or caused by, directly or indirectly, forces beyond its control, including, without limitation, strikes, work stoppages, accidents, acts of war or terrorism, civil or military disturbances, nuclear or natural catastrophes, pandemics, epidemics or other public health emergencies or acts of God, and interruptions, loss or malfunctions of utilities, communications or computer (software and hardware) services, it being understood that the Trustee shall use reasonable best efforts which are consistent with accepted practices in the banking industry to resume performance as soon as practicable under the circumstances.

Section 10.18 U.S.A. Patriot Act.

The parties hereto acknowledge 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 parties to this Indenture agree that they will provide the Trustee with such information as it may request in order for the Trustee to satisfy the requirements of the U.S.A. Patriot Act.

ARTICLE 11
SINKING FUNDS

Section 11.1 Applicability of Article.

The provisions of this Article shall be applicable to any sinking fund for the retirement of the Securities of a Series if so provided by the terms of such Securities pursuant to Section 2.2 and 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 11.2. 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 11.2 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 (a) 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 (b) 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 the Securities of such Series (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 Officer’s 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 11.2, 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 11.3 Redemption of Securities for Sinking Fund.

Not less than 45 days (unless otherwise indicated in the Board Resolution, supplemental indenture hereto or Officer’s 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 Officer’s 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 11.2, 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, Officer's 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 3.2 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 3.3. Such notice having been duly given, the redemption of such Securities shall be made upon the terms and in the manner stated in Sections 3.4, 3.5 and 3.6.

[Signature page follows]

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

CARIBOU BIOSCIENCES, INC., as Issuer

By: _____

Name:

Its:

, as Trustee

By: _____

Name:

Its:

CARIBOU BIOSCIENCES, INC.

INDENTURE

Dated as of , 20

[]

Trustee

Subordinated Securities

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CARIBOU BIOSCIENCES, INC.

Reconciliation and tie between Trust Indenture Act of 1939 and
Indenture, dated as of , 20

§ 310(a)(1)	7.10
(a)(2)	7.10
(a)(3)	Not Applicable
(a)(4)	Not Applicable
(a)(5)	7.10
(b)	7.10
§ 311(a)	7.11
(b)	7.11
§ 312(a)	2.7
(b)	10.3
(c)	10.3
§ 313(a)	7.6
(b)(1)	7.6
(b)(2)	7.6
(c)(1)	7.6
(d)	7.6
§ 314(a)	4.2, 10.5
(b)	Not Applicable
(c)(1)	10.4
(c)(2)	10.4
(c)(3)	Not Applicable
(d)	Not Applicable
(e)	10.5
(f)	Not Applicable
§ 315(a)	7.1
(b)	7.5
(c)	7.1
(d)	7.1
(e)	6.14
§ 316(a)	2.11
(a)(1)(A)	6.12
(a)(1)(B)	6.13
(b)	6.8
§ 317(a)(1)	6.3
(a)(2)	6.4
(b)	2.6
§ 318(a)	10.1

Note: This reconciliation and tie shall not, for any purpose, be deemed to be part of the Indenture.

Indenture dated as of , 20 , between CARIBOU BIOSCIENCES, INC., a company incorporated under the laws of the State of Delaware (“*Company*”), and , 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 1
DEFINITIONS AND INCORPORATION BY REFERENCE

Section 1.1 Definitions.

“*Affiliate*” of any specified person means any other person directly or indirectly controlling or controlled by or under 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.

“*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 certification and delivered to the Trustee.

“*Business Day*” means, for a particular Series, any day except a Saturday, Sunday or any day, including a legal holiday, on which banking institutions are authorized or required by law, regulation or executive order to close in The City of New York (or in connection with any payment, the place of payment).

“*Capital Stock*” of any person means any and all shares, interests, participations, rights or other equivalents (however designated) of the equity of such person.

“*Certificated Securities*” means definitive Securities in registered non-global certificated form.

“*Company*” means the party named as such above until a successor, which duly assumes the obligations under this Indenture, replaces it and thereafter means the successor.

“*Company Order*” means a written order signed in the name of the Company by an Officer.

“*Corporate Trust Office*” means the office of the Trustee at which at any particular time its corporate trust business related to this Indenture shall be principally administered, which office at the date hereof is located at , ; Attention: , or such other address as the Trustee may designate from time to time by notice to the Holders and the Company, or the corporate trust office of any successor Trustee at which this Indenture shall be administered (or such other address as a successor Trustee may designate from time to time by notice to the Holders of 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 in 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 6.2.

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

“*Exchange Act*” means the Securities Exchange Act of 1934, as amended.

“*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, direct obligations of, or obligations guaranteed by, the government that issued or caused to be issued such currency for the payment of which obligations its full faith and credit is pledged and which are not callable or redeemable at the option of the issuer thereof.

“*GAAP*” means accounting principles generally accepted in The United States of America set forth in the opinions and pronouncements of the Accounting Principles Board of the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board or in such other statements by such other entity as have been approved by a significant segment of the accounting profession, which are in effect as of the date of determination.

“*Global Security*” or “*Global Securities*” means a Security or Securities, as the case may be, in the form established pursuant to Section 2.2 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*” or “*Securityholder*” means a person in whose name a Security is registered on the books of the Registrar.

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

“*Maturity*,” when used with respect to any Security, means the date on which the principal of such Security 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, President, any Vice President, the Treasurer or Secretary of the Company.

“*Officer’s Certificate*” means a certificate signed by any Officer (or any person designated in writing by an Officer of the Company as authorized to execute and deliver Officer’s Certificates) and delivered to the Trustee.

“*Opinion of Counsel*” means a written opinion of legal counsel. The counsel may be an employee of or counsel to the Company. Opinions of Counsel required to be delivered under this Indenture may have qualifications, assumptions, limitations and exceptions customary for opinions of the type required.

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

“*principal*” of a Security means the principal of the Security plus, when appropriate, the premium, if any, on the Security.

“*Responsible Officer*” means any officer of the Trustee in its Corporate Trust Office having direct responsibility for 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 and who shall have direct responsibility for the administration of this Indenture.

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

“*Securities*” means the subordinated 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 2.1 and 2.2 hereof.

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

“*Subsidiary*” means, with respect to any person, any corporation, partnership, joint venture, limited liability company or other business entity of which a majority of the outstanding shares of Capital Stock or other interests having the power to vote in the election of directors, managers or trustees thereof is at the time directly or indirectly owned or controlled by such person or one or more of the other Subsidiaries of such person, or a combination thereof.

“*TIA*” means the Trust Indenture Act of 1939 (15 U.S. Code §§ 77aaa-77bbb) as in effect on the date of this Indenture; 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 or include 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.

“*United States*” or “*U.S.*” means The United States of America (including the states thereof and the District of Columbia), its territories and possessions and other areas subject to its jurisdiction.

“U.S. Government Obligations” means securities which are direct obligations of, or guaranteed by, The United States of America for the payment of which its full faith and credit is pledged 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 1.2 Other Definitions.

TERM	DEFINED IN SECTION
“Bankruptcy Law”	6.1
“Custodian”	6.1
“Event of Default”	6.1
“Judgment Currency”	10.16
“Legal Holiday”	10.7
“mandatory sinking fund payment”	11.1
“optional sinking fund payment”	11.1
“Paying Agent”	2.5
“Registrar”	2.5
“Required Currency”	10.16
“successor person”	5.1

Section 1.3 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.

“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 1.4 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 GAAP;
- (c) “or” is not exclusive;
- (d) words in the singular include the plural, and in the plural include the singular;
- (e) provisions apply to successive events and transactions;
- (f) in the computation of periods of time from a specified date to a later specified date, the word “from” means “from and including,” and the words “to” and “until” each mean “to but excluding”; and
- (g) the phrase “in writing” as used herein shall be deemed to include PDFs, e-mails and other electronic means of transmission, unless otherwise indicated.

ARTICLE 2
THE SECURITIES

Section 2.1 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 hereto or Officer’s Certificate establishing the terms of such Series. In the case of Securities of a Series to be issued from time to time, the Board Resolution, Officer’s Certificate or supplemental indenture establishing the terms thereof 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 this Indenture.

Section 2.2 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 2.2.1 and either as to such Securities within the Series or as to the Series generally in the case of Subsections 2.2.2 through 2.2.25) by or pursuant to a Board Resolution, and set forth or determined in the manner provided in a Board Resolution, supplemental indenture hereto or Officer’s Certificate:

2.2.1. the title (which shall distinguish the Securities of that particular Series from the Securities of any other Series) of the Series;

2.2.2. the price or prices (expressed as a percentage of the principal amount thereof) at which the Securities of the Series will be issued;

2.2.3. 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 Section 2.8, 2.9, 2.12, 3.6 or 9.6);

2.2.4. the date or dates on which the principal of the Securities of the Series is payable;

2.2.5. 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;

2.2.6. 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 delivered, and the method of such payment, if by wire transfer, mail or other means;

2.2.7. 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 must be redeemed or may be redeemed, in whole or in part, at the option of the Company;

2.2.8. 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;

2.2.9. 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;

2.2.10. if other than denominations of \$1,000 and integral multiples of \$1,000 in excess thereof, the denominations in which the Securities of the Series shall be issuable;

2.2.11. the forms of the Securities of the Series and whether the Securities will be issuable as Global Securities;

2.2.12. 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 6.2;

2.2.13. the currency of denomination of the Securities of the Series, which may be Dollars or any Foreign Currency, and if such currency of denomination is a composite currency, the agency or organization, if any, responsible for overseeing such composite currency;

2.2.14. the designation of the currency, currencies or currency units in which payment of the principal of and interest, if any, on the Securities of the Series will be made;

2.2.15. if payments of principal of or interest, if any, on the Securities of the Series are to be made in one or more currencies or currency units other than that or those in which such Securities are denominated, the manner in which the exchange rate with respect to such payments will be determined;

2.2.16. the manner in which the amounts of payment of principal of or interest, if any, on the Securities of the Series will be determined, if such amounts may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index;

2.2.17. the provisions, if any, relating to any security provided for the Securities of the Series;

2.2.18. any addition to, deletion of 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 6.2;

2.2.19. any addition to, deletion of or change in the covenants set forth in Articles 4 or 5 which applies to Securities of the Series;

2.2.20. any addition to, deletion of or change in the definitions set forth in Article 1 which applies to the Securities of the Series;

2.2.21. any Depositaries, trustees, interest rate calculation agents, exchange rate calculation agents, or other agents with respect to Securities of such Series if other than those appointed herein;

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

2.2.23. whether any of the Company's direct or indirect Subsidiaries will guarantee the Securities of that Series, including the terms of subordination, if any, of such guarantees;

2.2.24. the ranking (including the subordination terms of the Securities of the Series); and

2.2.25. any other terms of the Series (which may supplement, modify, or delete any provision of this Indenture insofar as it applies to such Series), including any terms that may be required under applicable law or regulations or advisable in connection with the marketing of Securities of that 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 Officer's Certificate referred to above.

Section 2.3 Denominations; Provision for Payment.

The Securities of any Series shall be issuable, except as otherwise provided with respect to Securities of any Series pursuant to Section 2.2, as registered Securities in the denominations of one thousand Dollars (\$1,000) or any integral multiples of \$1,000 in excess thereof. Unless otherwise provided with respect to Securities of any Series pursuant to Section 2.2, the principal of and the interest on the Securities of any Series, if any, thereon, shall be payable in Dollars at the Corporate Trust Office of the Trustee. Unless otherwise specified pursuant to Section 2.2 with respect to any Securities of any Series, interest on the Securities of any Series shall be computed on the basis of a 360-day year consisting of twelve 30-day months.

Section 2.4 Execution and Authentication.

An Officer shall sign the Securities for the Company by manual, facsimile or electronic 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 Officer's Certificate, upon receipt by the Trustee of a Company Order. Each Security shall be dated the date of its authentication.

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 Officer's Certificate delivered pursuant to Section 2.2, except as provided in Section 2.9.

Prior to the issuance of Securities of any Series, the Trustee shall have received and (subject to Section 7.1) shall be fully protected in conclusively relying on: (a) the Board Resolution, supplemental indenture hereto or Officer's Certificate delivered pursuant to Section 2.2 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 Officer's Certificate complying with Section 9.7 (with respect to the execution of supplemental indentures) and Section 10.4, and (c) an Opinion of Counsel complying with Section 9.7 (with respect to the execution of supplemental indentures) and Section 10.4.

The Trustee shall have the right, but not the obligation, to decline to authenticate and deliver any Securities of such Series: (a) if the Trustee, being advised by counsel, determines that such action may not be taken lawfully; or (b) if the Trustee in good faith determines that such action would expose the Trustee to personal liability.

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 2.5 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, 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 to their transfer and exchange (the "*Security Register*"). 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. If at any time the Company shall fail to maintain any such required Registrar or Paying Agent or shall fail to furnish the Trustee with the name and address thereof, such presentations and surrenders may be made or served at the Corporate Trust Office of the Trustee, and the Company hereby appoints the Trustee as its agent to receive all such presentations and surrenders.

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 or Paying Agent in each place so specified 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 or any of its Affiliates may serve as Registrar or 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 2.6 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 Securityholders 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 Securities of that Series, and will notify the Trustee in writing 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 Securityholders of any Series of Securities all money held by it as Paying Agent. Upon any bankruptcy, reorganization or similar proceeding with respect to the Company, the Trustee shall serve as Paying Agent for the Securities.

Section 2.7 Securityholder 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 Securityholders of each Series of Securities and shall otherwise comply with TIA § 312(a). If the Trustee is not the Registrar, the Company shall furnish to the Trustee at least ten days before each interest payment date and at such other times as the Trustee may request in writing, within 30 days after receipt by the Company of any such request, a list, in such form and as of such date as the Trustee may reasonably require, of the names and addresses of Securityholders of each Series of Securities.

Every Holder, by receiving and holding Securities, agrees with the Company and the Trustee that neither the Company nor the Trustee or any agent of either of them shall be held accountable by reason of the disclosure of any such information as to the names and addresses of the Holders in accordance with TIA § 312, regardless of the source from which such information was derived, and that the Trustee shall not be held accountable by reason of mailing any material pursuant to a request made under TIA § 312(b).

Section 2.8 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 2.12, 3.6 or 9.6).

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 15 days immediately preceding the mailing 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 mailing, (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 or (c) to register the transfer of or exchange Securities of any Series between a record date and payment date for such Series of Securities.

Section 2.9 Mutilated, Destroyed, Lost and Stolen Securities.

If any mutilated Security is surrendered to the Trustee, the Company shall execute and the Trustee shall authenticate and deliver 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 (a) evidence to their satisfaction of the destruction, loss or theft of any Security and (b) such security or indemnity bond as may be required by each of them to hold itself and any of its agents harmless, then, in the absence of written notice to the Company or the Trustee that such Security has been acquired by a bona fide purchaser, the Company shall execute and upon receipt of a Company Order 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 or is about to become due and payable, the Company in its discretion may, instead of issuing a new Security, pay such Security.

Upon the issuance of any new Security under this Section 2.9, 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 2.9 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 2.9 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 2.10 Outstanding Securities.

The Securities outstanding at any time are all the Securities authenticated by the Trustee except for those canceled by the Registrar and those described in this Section 2.10 as not outstanding.

If a Security is replaced pursuant to Section 2.9, it ceases to be outstanding unless the Trustee receives proof satisfactory to it that the replaced Security is held by a bona fide 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.

The Company may purchase or otherwise acquire the Securities, whether by open market purchases, negotiated transactions or otherwise. 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 6.2.

Section 2.11 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 or any Affiliate of the Company shall be disregarded, except that for the purposes of determining whether the Trustee shall be protected in conclusively 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. Securities so owned which have been pledged in good faith shall not be disregarded if the pledgee establishes to the satisfaction of the Trustee the pledgee's right to deliver any such request, demand, authorization, direction, notice, consent or waiver with respect to the Securities and that the pledgee is not the Company or any other obligor upon the Securities or any Affiliate of the Company or of such other obligor.

Section 2.12 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 receipt of a Company Order 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 2.13 Cancellation.

The Company at any time may deliver Securities to the Trustee for cancellation. The Registrar and the Paying Agent, if not the Trustee, 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 transfer, exchange, payment, replacement, conversion or cancellation and shall dispose of such canceled Securities (subject to the record retention requirement of the Exchange Act and the Trustee) in accordance with its customary procedures and deliver a certificate of such cancellation to the Company upon written request of the Company. The Company may not issue new Securities to replace Securities that it has paid or delivered to the Trustee for cancellation.

Section 2.14 Defaulted Interest.

If the Company defaults in a payment of interest on a Series of Securities, it may pay the defaulted interest, plus, to the extent permitted by law, any interest payable on the defaulted interest, to the persons who are Securityholders of the Series on a subsequent special record date. The Company shall fix the record date and payment date. At least ten days before the special record date, the Company shall mail to the Trustee and to each Securityholder of the Series a notice that states the special record date, the payment date and the amount of interest to be paid. The Company may pay defaulted interest in any other lawful manner.

Section 2.15 Global Securities.

2.15.1. Terms of Securities. A Board Resolution, a supplemental indenture hereto or an Officer's 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.

2.15.2. Transfer and Exchange. Notwithstanding any provisions to the contrary contained in Section 2.8 of this Indenture and in addition thereto, any Global Security shall be exchangeable pursuant to Section 2.8 of this Indenture for Securities registered in the names of Holders other than the Depositary for such Security or its nominee only if (a) 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 or (b) the Company determines in its sole discretion not to have such Securities represented by one or more Global Securities and executes and delivers to the Trustee an Officer's Certificate to the effect that such Global Security shall be so exchangeable. 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.

Except as provided in this Section 2.15.2, 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.

2.15.3. 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.”

2.15.4. 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 this Indenture.

2.15.5. Payments. Notwithstanding the other provisions of this Indenture, unless otherwise specified as contemplated by Section 2.2, payment of the principal of and interest, if any, on any Global Security shall be made to the Holder thereof, which in the case of a Depositary therefor will be made in accordance with its applicable procedures.

2.15.6. Consents, Declaration and Directions. 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 Depository or by the applicable procedures of such Depository 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.

Section 2.16 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 Trustee shall have no liability for any defect in the “CUSIP” numbers as they appear on any Security, notice or elsewhere. The Company will promptly notify the Trustee in writing of any change in the “CUSIP” numbers.

Section 2.17 Evidence of Ownership.

The Company, the Trustee and any agent of the Company or the Trustee may deem and treat the person in whose name any registered Security shall be registered upon the Security Register for such series as the absolute owner of such registered Security (whether or not such registered Security shall be overdue and notwithstanding any notation of ownership or other writing thereon) for the purpose of receiving payment of or on account of the principal of and, subject to the provisions of this Indenture, interest on such registered Security and for all other purposes; and neither the Company nor the Trustee nor any agent of the Company or the Trustee shall be affected by any notice to the contrary.

ARTICLE 3
REDEMPTION

Section 3.1 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 in writing of the redemption date and the principal amount of Series of Securities to be redeemed. The Company shall give the notice to the Trustee at least 15 days before the redemption date, unless a shorter period is specified in the Securities to be redeemed or otherwise as may be acceptable to the Trustee.

Section 3.2 Selection of Securities to be Redeemed.

Unless otherwise indicated for a particular Series by a Board Resolution, a supplemental indenture hereto or an Officer’s 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, including selecting by lot or other method, unless otherwise required by law or applicable stock exchange requirements, subject, in the case of Global Securities, to the applicable rules and

procedures of the Depository; *provided that* the unredeemed portion of the principal amount of any Security shall be in an authorized denomination (which shall not be less than the minimum authorized denomination) for such Security. The Trustee shall make the selection from Securities of the Series outstanding not previously called for redemption. 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.

Section 3.3 Notice of Redemption.

Unless otherwise indicated for a particular Series by Board Resolution, a supplemental indenture hereto or an Officer's Certificate, at least 15 days but not more than 60 days before a redemption date, the Company shall mail a notice of redemption by first-class mail or electronically, in accordance with the procedures of the Depository, to each Holder whose Securities are to be redeemed.

The notice shall identify the Securities of the Series to be redeemed and shall state:

- (a) the redemption date;
- (b) the redemption price and the amount of accrued interest, if any, to be paid;
- (c) the name and address of the Paying Agent and, if applicable, the conversion Agent;
- (d) for convertible Securities, the conversion price;
- (e) if any Global Security is being redeemed in part, the portion of the principal amount of such Global Security to be redeemed and that, after the redemption date upon surrender of such Global Security, the principal amount thereof will be decreased by the portion thereof redeemed pursuant thereto;
- (f) if any Certificated Security is being redeemed in part, the portion of the principal amount of such Security to be redeemed, and that, after the redemption date, upon surrender of such Security, a new Certificated Security in principal amount equal to the unredeemed portion thereof will be issued in the name of the Holder thereof upon cancellation of the original Certificated Security;
- (g) that Securities of the Series (or portion thereof) called for redemption must be surrendered to the Paying Agent to collect the redemption price;
- (h) that interest on Securities of the Series called for redemption ceases to accrue on and after the redemption date, subject to the satisfaction of any conditions to such redemption, unless the Company defaults in the deposit of the redemption price;
- (i) the CUSIP number, if any, and state that no representation is made as to the correctness or accuracy of the CUSIP number, if any, listed in the SEC's notice or printed on the Securities; and
- (j) 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, however, that the Company has delivered to the Trustee, at least 15 days (unless a shorter time shall be acceptable to the Trustee) prior to the notice date, an Officer's Certificate requesting that the Trustee give such notice and setting forth the information to be stated in such notice.

Section 3.4 Effect of Notice of Redemption.

Once notice of redemption is mailed as provided in Section 3.3, Securities of a Series called for redemption become due and payable on the redemption date and at the redemption price. Except as otherwise provided in the supplemental indenture, Board Resolution or Officer's Certificate for a Series, 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 other than Securities or portions of Securities called for redemption which have been delivered by the Company to the Registrar for cancellation. The Paying Agent shall return to the Company any money not required for that purpose.

To the extent provided for in the supplemental indenture, Board Resolution or Officer's Certificate for a Series, in connection with any redemption of Securities of a Series, any such redemption may, at the Company's discretion, be subject to one or more conditions precedent, such as refinancings, acquisitions or equity offerings. In addition, if such redemption or notice is subject to satisfaction of one or more conditions precedent, such notice shall state that, in the Company's discretion, the redemption date may be delayed until such time as any or all such conditions shall be satisfied (or waived by the Company in its sole discretion), or such redemption may not occur and such notice may be rescinded in the event that any or all such conditions shall not have been satisfied (or waived by the Company in its sole discretion) by the redemption date, or by the redemption date so delayed.

Unless the Company shall default in the payment of Securities (and accrued interest) called for redemption, interest on such Securities shall cease to accrue after the redemption date, subject to the satisfaction of any conditions to the redemption to the extent that conditional redemption is provided for in the supplemental indenture, Board Resolution or Officer's Certificate for a Series. Convertible Securities called for redemption shall cease to be convertible after the close of business on the Business Day immediately preceding the redemption date, unless the Company shall default in the payment of such Securities on the redemption date, in which event the Securities shall remain convertible until paid (together with accrued interest).

Failure to give notice of redemption, or any defect in such notice to the Holder of any Security of a Series designated for redemption, in whole or in part, shall not affect the sufficiency of any notice of redemption with respect to the Holder of any other Security of such Series.

Section 3.5 Deposit of Redemption Price.

On or before 10:00 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 subject to the satisfaction of any conditions to such redemption.

Section 3.6 Securities Redeemed in Part.

Upon surrender of a Certificated Security that is redeemed in part, the Trustee shall authenticate for the Holder a new Certificated Security of the same Series and the same maturity equal in principal amount to the unredeemed portion of the Security surrendered and concurrently cancel the surrendered Certificated Security.

ARTICLE 4 COVENANTS

Section 4.1 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. On or before 10:00 a.m., New York City time, on the applicable payment date, the Company shall deposit with the Paying Agent money sufficient to pay the principal of and interest, if any, on the Securities of each Series in accordance with the terms of such Securities and this Indenture. Principal and interest shall be considered paid on the date due if the Paying Agent holds in accordance with this Indenture on that date money sufficient to pay all principal and interest then due and the Paying Agent is not prohibited from paying such money to the Holders on such date pursuant to the terms of this Indenture.

Section 4.2 Reports by Company.

(a) As long as any Securities are outstanding, the Company shall file with the Trustee, with written instructions for mailing (or in the case of Global Securities, delivery pursuant to applicable Depositary procedures) to the Holders of Notes, , such information, documents and other reports, and such summaries thereof, as may be required pursuant to TIA § 314(a). All reports, information and documents referred to in this Section 4.2 will be deemed to be filed with the Trustee and transmitted to the Holders (with no need for written instructions from the Company) at the time such reports, information or documents are publicly filed with the SEC via the SEC's EDGAR filing system (or any successor system), it being understood that the Trustee shall have no responsibility whatsoever to determine if such filings have been made.

(b) Delivery of reports, information and documents to the Trustee under this Section 4.2 are for informational purposes only and shall not constitute a representation or warranty as to the accuracy or completeness of the reports, information and documents. The Trustee's receipt of the foregoing shall not constitute constructive notice of any information contained therein or determinable from information contained therein, including the Company's compliance with any of its covenants hereunder (as to which the Trustee is entitled to rely exclusively on Officer's Certificates).

Section 4.3 Compliance Certificate.

To the extent any Securities of a Series are outstanding, the Company shall deliver to the Trustee, within 120 days after the end of each fiscal year of the Company, an Officer's Certificate (which need not contain the statements provided for in Section 10.4) from its principal executive officer, principal financial officer or principal accounting officer stating that a review of the activities of the Company and its Subsidiaries during the preceding fiscal year has been made under the supervision of the signing Officer with a view to determining whether the Company has kept, observed, performed and fulfilled its obligations under this Indenture, and further stating, as to such Officer signing such certificate, that to his or her knowledge the Company is not in default in the performance or observance of any of the terms, provisions and conditions hereof (or, if a Default or Event of Default shall have occurred, describing all such Defaults or Events of Default of which the Officer has knowledge). Such Officer's Certificate need not include a reference to any non-compliance that has been fully cured prior to the date as of which such certificate speaks.

Section 4.4 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; 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.

Section 4.5 Corporate Existence.

Subject to Article 5, the Company will do or cause to be done all things necessary to preserve and keep in full force and effect its corporate existence and rights (charter and statutory); provided, however, that the Company shall not be required to preserve any such right if the Board of Directors shall determine that the preservation thereof is no longer desirable in the conduct of the business of the Company and its Subsidiaries taken as a whole and that the loss thereof is not adverse in any material respect to the Holders.

ARTICLE 5
SUCCESSORS

Section 5.1 Consolidation, Merger and Sale of Assets.

The Company may not consolidate with or merge with or into, sell, convey, transfer, or dispose of all or substantially all of its assets to any other person (a “*successor person*”), whether in one transaction or a series of related transactions, unless:

(a) (i) the Company is the surviving corporation or (ii) the successor person (if other than the Company) (A) is a corporation, limited liability corporation, partnership, or trust organized under the laws of the United States, any state thereof, or the District of Columbia; and (B) expressly assumes, by an indenture supplemental hereto, all of 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 happened and be continuing.

The Company shall deliver to the Trustee prior to the consummation of the proposed transaction an Officer’s Certificate to the foregoing effect and an Opinion of Counsel stating that the proposed transaction and any supplemental indenture comply with Section 5.1 of this Indenture.

Notwithstanding the above, (i) any Subsidiary of the Company may consolidate with, merge into, or transfer all or part of its properties to the Company and (ii) the Company may merge with or into an Affiliate of the Company incorporated or formed solely for the purpose of reincorporating or reorganizing the Company in another state of the United States or the District of Columbia or changing the legal domicile of the Company or for the sole purpose of forming or collapsing a holding company structure or changing the form of legal entity. Neither an Officer’s Certificate nor an Opinion of Counsel shall be required to be delivered in connection therewith.

Section 5.2 Successor Person Substituted.

Upon any consolidation or merger, or any sale, conveyance, transfer, or lease of all or substantially all of the assets of the Company and its Subsidiaries in accordance with Section 5.1, the successor person formed by such consolidation or into or with which the Company is merged or to which such sale, conveyance, transfer, or lease is made shall succeed to, and be substituted for, and may exercise every right and power of, the Company under this Indenture and the Securities with the same effect as if such successor person has been named as the Company herein; and, thereafter, the predecessor Company, in the case of a sale, conveyance or transfer (other than a lease), shall be released from all obligations and covenants under this Indenture and the Securities.

ARTICLE 6
DEFAULTS AND REMEDIES

Section 6.1 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 Officer’s Certificate, it is provided that such Series shall not have the benefit of said Event of Default:

(a) failure to pay 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 10:00 a.m., New York City time, on the 30th day of such period);

(b) failure to pay principal of any Security of that Series at its Maturity;

(c) default in the performance or breach of any covenant of the Company in this Indenture (other than defaults pursuant to sub-clauses (a) through (b) above or defaults related to a covenant 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 90 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 at least 25% 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;

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

(i) commences a voluntary case,

(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, or

(iv) makes a general assignment for the benefit of its creditors;

(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 60 consecutive 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 Officer’s Certificate, in accordance with Section 2.2.18.

The term “*Bankruptcy Law*” means title 11, 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.

A Default under one Series of Securities issued under this Indenture will not necessarily be a default under another Series of Securities under this Indenture.

The Company will, so long as any of the Securities are outstanding, deliver to the Trustee, within 30 days of becoming aware of any Default or Event of Default, an Officer’s Certificate specifying such Default or Event of Default and what action the Company is taking or proposes to take with respect thereto.

Section 6.2 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 6.1(d) or (e)) then in every such case the Trustee or the Holders of not less than 25% 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 6.1(d) or (e) shall occur, the principal amount (or specified amount) of and accrued and unpaid interest, if any, on all outstanding Securities shall *ipso facto* become and 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, 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 6.3 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, or

(c) default is made in the deposit of any sinking fund payment, if any, when and as due by the terms of a Security,

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 6.4 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 relating 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 7.7.

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 6.5 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 6.6 Application of Money Collected.

Any money or property 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 or property 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 to the Trustee under this Indenture; and

Second: To the payment of all indebtedness of the Company to which such Series of Securities is subordinated to the extent required by Article 12 of this Indenture; and

Third: 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

Fourth: To the Company.

Section 6.7 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 not less than 25% in principal amount of the outstanding Securities of that Series 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 have offered to the Trustee indemnity or security satisfactory to the Trustee against the costs, expenses, and liabilities which might be incurred by the Trustee in compliance with such request;

(d) the Trustee has failed to institute any such proceeding for 60 days after its receipt of such notice, request and offer of indemnity; 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, intended and expressly covenanted by the Holder of every Security with every other Holder and the Trustee 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 of the applicable Series.

Section 6.8 Unconditional Right of Holders to Receive Principal and Interest.

Notwithstanding any other provision in this Indenture, the Holder of any Security has the right, which is absolute and unconditional, to receive payment of the principal of and interest, if any, on such Security on the Maturity of such Security, including the Stated Maturity expressed in such Security (or, in the case of redemption, on the redemption date, subject to the satisfaction of any conditions to such redemption) 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 6.9 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 2.9, 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.

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;
- (c) subject to the provisions of Section 7.1, 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; and
- (d) prior to taking any action as directed under this Section 6.12, the Trustee shall be entitled to indemnity satisfactory to it against the costs, expenses, and liabilities which might be incurred by it in compliance with such request or direction.

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 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). 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 and expenses, 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 6.14 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 Maturity of such Security, including the Stated Maturity expressed in such Security (or, in the case of redemption, on the redemption date).

ARTICLE 7
TRUSTEE

Section 7.1 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.

(ii) In the absence of bad faith on its part, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon Officer's Certificates or Opinions of Counsel furnished to the Trustee and conforming to the requirements of this Indenture; however, in the case of any such Officer's Certificates or Opinions of Counsel which by any provisions hereof are specifically required to be furnished to the Trustee, the Trustee shall examine such Officer's 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 sub-clause (c) does not limit the effect of sub-clause (b) of this Section 7.1.

(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 in accordance with Section 6.12.

(d) Every provision of this Indenture that in any way relates to the Trustee is subject to sub-clauses (a), (b) and (c) of this Section 7.1.

(e) The Trustee may refuse to perform any duty or exercise any right or power unless it receives indemnity satisfactory to it against the costs, expenses, and liabilities which might be incurred by it in performing such duty or exercising such right or power.

(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 adequate indemnity against such risk is not assured to the Trustee in its satisfaction.

(h) The Paying Agent, the Registrar and any authenticating agent shall be entitled to the protections and immunities as are set forth in sub-clauses (e), (f) and (g) of this Section 7.1 and in Section 7.2, each with respect to the Trustee.

Section 7.2 Rights of Trustee.

(a) The Trustee may conclusively rely on and shall be protected in acting or refraining from acting upon any document (whether in its original or facsimile form) 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, it shall be entitled to receive an Officer's Certificate or an Opinion of Counsel or both. The Trustee shall not be liable for any action it takes or omits to take in good faith in conclusive reliance on such Officer's Certificate or Opinion of Counsel.

(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 Depository shall be deemed an agent of the Trustee and the Trustee shall not be responsible for any act or omission by any Depository.

(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 willful misconduct or negligence.

(e) The Trustee may consult with counsel of its selection 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 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 reasonably 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, but the Trustee, in its discretion, may make such further inquiry or investigation into such facts or matters as it may see fit and shall incur no liability or additional liability of any kind by reason of such inquiry or investigation.

(h) The Trustee shall not be deemed to have notice of any Default or Event of Default 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 a Responsible Officer of 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.

(i) In no event shall the Trustee be liable to any person for special, punitive, indirect, consequential or incidental loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Trustee has been advised of the likelihood of such loss or damage.

(j) The permissive right of the Trustee to take the actions permitted by this Indenture shall not be construed as an obligation or duty to do so.

(k) The rights, privileges, protections, immunities and benefits given to the Trustee, including, without limitation, its right to be indemnified, are extended to, and shall be enforceable by, the Trustee in each of its capacities hereunder, and each agent, custodian and other Person employed to act hereunder.

(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 7.3 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. However, the Trustee is also subject to Sections 7.10 and 7.11 hereof.

Section 7.4 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 7.5 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 actually known to a Responsible Officer of the Trustee, the Trustee shall mail to each Securityholder 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 Securityholders of that Series.

Section 7.6 Reports by Trustee to Holders.

Within 60 days after each anniversary of the date of this Indenture, the Trustee shall transmit by mail to all Securityholders, as their names and addresses appear on the register kept by the Registrar, a brief report dated as of such reporting date, in accordance with, and to the extent required under, TIA § 313. A copy of each report at the time of its mailing to Securityholders of any Series shall be filed with the SEC and each national securities exchange on which the Securities of that Series are listed. The Company shall promptly notify the Trustee in writing when Securities of any Series are listed on any national securities exchange or of any delisting thereof.

Section 7.7 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 against any cost, expense, claim (whether asserted by the Company, a Holder or any other person) or liability (including the cost of defending itself), 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 the next paragraph 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 by the Trustee to so notify the Company shall not relieve the Company of its obligations hereunder, unless and to the extent that the Company is materially prejudiced thereby. 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 will 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 or shareholder of the Trustee through willful misconduct or negligence.

To secure the Company's payment obligations in this Section 7.7, the Trustee shall have a lien prior to the Securities of any Series on all money or property held or collected by the Trustee, except that held in trust to pay principal of and interest on particular Securities of that Series.

When the Trustee incurs expenses or renders services after an Event of Default specified in Section 6.1(f) or (g) occurs, the expenses and the compensation for the services are intended to constitute expenses of administration under any Bankruptcy Law.

The provisions of this Section 7.7 shall survive the termination of this Indenture or the resignation or removal of the Trustee.

Section 7.8 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 7.8.

The Trustee may resign at any time 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 in writing. 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 a bankrupt or an insolvent or an order for relief is entered with respect to the Trustee under any Bankruptcy 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. Within one year after the successor Trustee takes office, the Holders of a majority in principal amount of the then outstanding Securities may appoint a successor Trustee to replace the successor Trustee appointed by the Company.

If a successor Trustee with respect to the Securities of any one or more Series does not take office within 30 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 at the expense of the Company.

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 7.7, 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 mail a notice of its succession to each Securityholder of each such Series. Notwithstanding replacement of the Trustee pursuant to this Section 7.8, the Company's obligations under Section 7.7 hereof shall continue for the benefit of the retiring Trustee with respect to expenses and liabilities incurred by it for actions taken or omitted to be taken in accordance with its rights, powers and duties under this Indenture prior to such replacement.

Section 7.9 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 to, another corporation, the successor corporation without any further act shall be the successor Trustee, if such successor corporation is eligible and qualified under Section 7.10.

Section 7.10 Eligibility; Disqualification.

This Indenture shall always have a Trustee who satisfies the requirements of TIA § 310(a)(1), (2) and (5). The Trustee shall always have a combined capital and surplus of at least \$25,000,000 as set forth in its most recent published annual report of condition. The Trustee shall comply with TIA § 310(b).

Section 7.11 Preferential Collection of Claims Against Company.

The Trustee is subject to TIA § 311(a), excluding any creditor relationship listed in TIA § 311(b). A Trustee who has resigned or been removed shall be subject to TIA § 311(a) to the extent indicated.

ARTICLE 8 SATISFACTION AND DISCHARGE; DEFEASANCE

Section 8.1 Satisfaction and Discharge of Indenture.

This Indenture shall upon Company Order cease to be of further effect (except as hereinafter provided in this Section 8.1), and the Trustee, at the expense of the Company, shall execute instruments acknowledging satisfaction and discharge of this Indenture, when

(a) either

(i) all Securities theretofore authenticated and delivered (other than Securities that have been destroyed, lost or stolen and that have been replaced or paid as provided in Section 2.9) have been delivered to the Trustee for cancellation; or

(ii) 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) have been called for redemption or 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, in the case of (1), (2) or (3) above, has irrevocably deposited or caused to be deposited with the Trustee as trust funds in trust an amount of money or U.S. Government Obligations 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 Officer's 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 7.7, and, if money shall have been deposited with the Trustee pursuant to sub-clause (a) of this Section 8.1, the provisions of Sections 2.5, 2.8, 2.9, 8.2 and 8.5 shall survive.

Section 8.2 Application of Trust Funds; Indemnification.

(a) Subject to the provisions of Section 8.5, all money or U.S. Government Obligations deposited with the Trustee pursuant to Section 8.1, all money and U.S. Government Obligations or Foreign Government Obligations deposited with the Trustee pursuant to Section 8.3 or 8.4 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 8.3 or 8.4, 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 (including 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 to make mandatory sinking fund payments or analogous payments as contemplated by Sections 8.3 or 8.4.

(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 8.3 or 8.4 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 Order any U.S. Government Obligations or Foreign Government Obligations or money held by it as provided in Sections 8.3 or 8.4 which, in the opinion of a nationally recognized firm of independent certified public accountants or investment bank 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 8.3 Legal Defeasance of Securities of any Series.

Unless this Section 8.3 is otherwise specified, pursuant to Section 2.2, 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 sub-clause (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, upon receipt of a Company Order, execute instruments acknowledging the same), except as to:

(a) the rights of Holders of Securities of such Series to receive, from the trust funds described in sub-clause (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 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;

(b) the provisions of Sections 2.5, 2.8, 2.9, 8.2, 8.3 and 8.5; and

(c) the rights, powers, trust and immunities of the Trustee hereunder and the Company's obligations in connection therewith;

provided that, the following conditions shall have been satisfied:

(d) the Company shall have deposited or caused to be irrevocably deposited (except as provided in Section 8.2(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 (and without reinvestment), will provide, 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 or investment bank 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 Officer's 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 U.S. 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 U.S. federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to U.S. federal income tax on the same amount 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 Officer's Certificate stating that the deposit was not made by the Company with the intent of defeating, hindering, delaying or defrauding any other creditors of the Company; and

(i) the Company shall have delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that all conditions precedent provided for relating to the defeasance contemplated by this Section 8.3 have been complied with.

Section 8.4 Covenant Defeasance.

Unless this Section 8.4 is otherwise specified pursuant to Section 2.2 to be inapplicable to Securities of any Series, the Company may omit to comply with respect to the Securities of any Series with any term, provision or condition set forth under Sections 4.2 and 4.3, 4.4 and 5.1 as well as any additional covenants specified in a supplemental indenture for such Series of Securities or a Board Resolution or an Officer's Certificate delivered pursuant to Section 2.2 (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 6.1) and the occurrence of any event specified in a supplemental indenture for such Series of Securities or a Board Resolution or an Officer's Certificate delivered pursuant to Section 2.2.18 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 8.4, the Company has deposited or caused to be irrevocably deposited (except as provided in Section 8.2(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 (and without reinvestment), will provide, 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 or investment bank 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;

(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 U.S. federal income tax purposes as a result of such deposit and covenant defeasance and will be subject to U.S. 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 Officer's Certificate stating the deposit was not made by the Company with the intent of defeating, hindering, delaying or defrauding any other creditors of the Company; and

(f) The Company shall have delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that all conditions precedent herein provided for relating to the covenant defeasance contemplated by this Section 8.4 have been complied with.

Section 8.5 Repayment to Company.

Subject to applicable abandoned property law, the Trustee and the Paying Agent shall pay to the Company upon request any money held by them for the payment of principal or interest that remains unclaimed for two years after such principal or interest has become due and payable. After that, Securityholders entitled to the money must look to the Company for payment as general creditors unless an applicable abandoned property law designates another person.

Section 8.6 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 8.1 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 8.1 until such time as the Trustee or the Paying Agent is permitted to apply all such money in accordance with Section 8.1; provided, however, that if the Company has made any payment of principal or interest on 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 or U.S. Government Obligations held by the Trustee or Paying Agent after payment in full to the Holders.

ARTICLE 9
AMENDMENTS AND WAIVERS

Section 9.1 Without Consent of Holders.

The Company and the Trustee may amend or supplement this Indenture or the Securities of one or more Series without the consent of any Securityholder:

- (a) to add guarantees with respect to any Series of Securities or secure any Series of Securities;
- (b) to surrender any of the Company's rights or powers under this Indenture;
- (c) to add covenants or Events of Default for the benefit of the Securityholders of any Series of Securities;
- (d) to comply with the applicable rules or procedures of the Depositary;
- (e) to cure any ambiguity, defect, or inconsistency, as described in the Officer's Certificate delivered pursuant to Section 10.4;
- (f) to comply with Article 5;
- (g) to provide for uncertificated Securities in addition to or in place of certificated Securities;
- (h) to make any change that does not materially adversely affect the rights of any Securityholder;
- (i) to provide for the issuance of and establish the form and terms and conditions of Securities of any Series as permitted by this Indenture;

(j) 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;

(k) to comply with requirements of the SEC in order to effect or maintain the qualification of this Indenture under the TIA;

(l) 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; and

(m) to change or eliminate any of the provisions of this Indenture, *provided* that any such change or elimination shall not be effective with respect to any outstanding Securities of any Series created prior to the execution of such supplemental indenture which is entitled to the benefit of such provision.

Section 9.2 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 Securityholders 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 written 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 9.2 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 9.2 becomes effective, the Company shall mail to the Holders of Securities affected thereby, a notice briefly describing the supplemental indenture or waiver. Any failure by the Company to mail or publish 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 9.3 Limitations.

Without the consent of each Securityholder affected, an amendment or waiver may not:

(a) reduce the principal 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 or that Series;

(c) reduce the principal of, 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 then 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 6.8 or 6.13 or this Section 9.3; or
- (h) waive a redemption payment with respect to any Security.

Section 9.4 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 9.5 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.

Any amendment or waiver once effective shall bind every Securityholder of each Series affected by such amendment or waiver unless it is of the type described in any of sub-clauses (a) through (h) of Section 9.3. 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.

The Company may, but shall not be obligated to, fix a record date for the purpose of determining the Holders entitled to give their consent or take any other action described above or required or permitted to be taken pursuant to this Indenture. If a record date is fixed, then notwithstanding the immediately preceding paragraph, those Persons who were Holders at such record date (or their duly designated proxies), and only those persons, shall be entitled to give such consent or to revoke any consent previously given or take any such action, whether or not such Persons continue to be Holders after such record date. No such consent shall be valid or effective for more than 120 days after such record date.

Section 9.6 Notation on or Exchange of Securities.

The Company or the Trustee may, but shall not be obligated to, 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 9.7 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, and (subject to Section 7.1) shall be fully protected in conclusively relying upon, an Officer's Certificate or an Opinion of Counsel or both complying with Section 10.4 and stating that the supplemental indenture is the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, subject to customary exceptions. The Trustee shall sign all supplemental indentures upon delivery of such an Officer's Certificate or Opinion of Counsel or both, except that the Trustee need not sign any supplemental indenture that, in its sole discretion, adversely affects its rights.

ARTICLE 10
MISCELLANEOUS

Section 10.1 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 10.2 Notices.

Any request, demand, 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, email or overnight air courier guaranteeing next day delivery, to the others' address:

if to the Company:

Caribou Biosciences, Inc.
2929 7th Street, Suite 105
Berkeley, California 94710
Attention: Barbara G. McClung, JD, Chief Legal Officer and Corporate Secretary

if to the Trustee:

Attention: _____

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 Securityholder shall be sent electronically or mailed by first-class mail or overnight air courier to his, her or its address shown on the register kept by the Registrar, in accordance with the procedures of the Depositary. Failure to mail a notice or communication to a Securityholder of any Series or any defect in it shall not affect its sufficiency with respect to other Securityholders of that or any other Series.

If a notice or communication is sent, mailed or published in the manner provided above, within the time prescribed, it is duly given, whether or not the Securityholder receives it.

If the Company sends or mails a notice or communication to Securityholders, it shall mail a copy to the Trustee and each Agent at the same time.

Notwithstanding any other provision of this Indenture or any Security, where this Indenture or any Security provides for notice of any event (including any notice of redemption) to a Holder of a Global Security (whether by mail or otherwise), such notice shall be sufficiently given to the Depositary for such Security (or its designee) pursuant to the customary procedures of such Depositary.

Section 10.3 Communication by Holders with Other Holders.

Securityholders of any Series may communicate pursuant to TIA § 312(b) with other Securityholders 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 § 312(c).

Section 10.4 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 Officer's 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 10.5 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 § 314(a)(4)) shall comply with the provisions of TIA § 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, such person has made such examination or investigation as is necessary to enable such person 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 10.6 Rules by Trustee and Agents.

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

Section 10.7 Legal Holidays.

Unless otherwise provided by Board Resolution, Officer's 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 10.8 No Recourse Against Others.

A director, officer, employee or stockholder (past or present), as such, of the Company shall not have any liability for any obligations of the Company under the Securities or this Indenture or for any claim based on, in respect of or by reason of such obligations or their creation. Each Securityholder 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 10.9 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 Law; Jury Trial Waiver.

THIS INDENTURE AND THE SECURITIES, INCLUDING ANY CLAIM OR CONTROVERSY ARISING OUT OF OR RELATING TO THIS INDENTURE OR THE SECURITIES, SHALL BE GOVERNED BY THE LAWS OF THE STATE OF NEW YORK (WITHOUT REGARD TO THE CONFLICTS OF LAWS PROVISIONS THEREOF OTHER THAN SECTION 5-1401 OF THE GENERAL OBLIGATIONS LAW).

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 ARISING OUT OF OR RELATING TO THIS INDENTURE, THE SECURITIES OR THE TRANSACTION CONTEMPLATED HEREBY.

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 Officer's Certificate delivered pursuant to Section 2.2 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 more than one currency, 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 determined by converting any such other currency into a currency that is designated upon issuance of any particular Series of Securities. Unless otherwise specified in a Board Resolution, a supplemental indenture hereto or an Officer's Certificate delivered pursuant to Section 2.2 of this Indenture with respect to a particular Series of Securities, such conversion shall be at the spot rate for the purchase of the designated currency as published in The Financial Times in the "Currency Rates" section (or, if The Financial Times is no longer published, or if such information is no longer available in The Financial Times, such source as may be selected in good faith by the Company) on any date of determination. 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 provided for in the preceding paragraph shall, in the absence of manifest error, to the extent permitted by law, be conclusive for all purposes and irrevocably binding upon the Trustee and all Holders.

Section 10.16 Judgment Currency.

The Company agrees, to the fullest extent that it may effectively do so under applicable law, that (a) if for the purpose of obtaining judgment in any court it is necessary to convert the sum due in respect of the principal of or interest or other amount on the Securities of any Series (the "*Required Currency*") into a currency in which a judgment will be rendered (the "*Judgment Currency*"), the rate of exchange used shall be the rate at which in accordance with normal banking procedures the Trustee could purchase in The City of New York the Required Currency with the Judgment Currency on the day on which final unappealable judgment is entered, unless such day is not a Business Day, then the rate of exchange used shall be the rate at which in accordance with normal banking procedures the Trustee could purchase in The City of New York the Required Currency with the Judgment Currency on the Business Day preceding the day on which final unappealable judgment is entered and (b) its obligations under this Indenture to make payments in the Required Currency (i) shall not be discharged or satisfied by any tender, or any recovery pursuant to any judgment (whether or not entered in accordance with subsection (a)), in any currency other than the Required Currency, except to the extent that such tender or recovery shall result in the actual receipt, by the payee, of the full amount of the Required Currency expressed to be payable in respect of such payments, (ii) shall be enforceable as an alternative or additional cause of action for the purpose of recovering in the Required Currency the amount, if any, by which such actual receipt shall fall short of the full amount of the Required Currency so expressed to be payable, and (iii) shall not be affected by judgment being obtained for any other sum due under this Indenture.

Section 10.17 Force Majeure.

In no event shall the Trustee be responsible or liable for any failure or delay in the performance of its obligations hereunder arising out of or caused by, directly or indirectly, forces beyond its control, including, without limitation, strikes, work stoppages, accidents, acts of war or terrorism, civil or military disturbances, nuclear or natural catastrophes, pandemics, epidemics or other public health emergencies or acts of God, and interruptions, loss or malfunctions of utilities, communications or computer (software and hardware) services, it being understood that the Trustee shall use reasonable best efforts which are consistent with accepted practices in the banking industry to resume performance as soon as practicable under the circumstances.

Section 10.18 U.S.A. Patriot Act.

The parties hereto acknowledge 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 parties to this Indenture agree that they will provide the Trustee with such information as it may request in order for the Trustee to satisfy the requirements of the U.S.A. Patriot Act.

ARTICLE 11
SINKING FUNDS

Section 11.1 Applicability of Article.

The provisions of this Article shall be applicable to any sinking fund for the retirement of the Securities of a Series if so provided by the terms of such Securities pursuant to Section 2.2 and 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 11.2. 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 11.2 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 (a) 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 (b) 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 the Securities of such Series (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 Officer’s 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 11.2, 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 11.3 Redemption of Securities for Sinking Fund.

Not less than 45 days (unless otherwise indicated in the Board Resolution, supplemental indenture hereto or Officer's 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 Officer's 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 11.2, 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, Officer's 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 3.2 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 3.3. Such notice having been duly given, the redemption of such Securities shall be made upon the terms and in the manner stated in Sections 3.4, 3.5 and 3.6.

ARTICLE 12
SUBORDINATION OF SECURITIES

Section 12.1 Subordination of Terms.

The payment by the Company of the principal of, premium, if any, and interest on any Series of Securities issued under this Indenture shall be subordinated to the extent set forth in a Board Resolution, supplemental indenture hereto or Officer's Certificate relating to such Series of Securities.

[Signature page follows]

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

CARIBOU BIOSCIENCES, INC., as Issuer

By: _____
Name:
Its:
, as Trustee

By: _____
Name:
Its:



Reed Smith LLP
 599 Lexington Avenue
 New York, NY 10022-7650
 +1 212 521 5400
 Fax +1 212 521 5450
 reedsmith.com

August 9, 2022
 Caribou Biosciences, Inc.
 2929 7th Street, Suite 105
 Berkeley, California 94710

Ladies and Gentlemen:

We have acted as legal counsel to Caribou Biosciences, Inc., a Delaware corporation (the “**Company**”), in connection with the preparation and filing with the Securities and Exchange Commission (the “**Commission**”) of a shelf-registration statement on Form S-3 (the “**Registration Statement**”), including a base prospectus dated August 9, 2022, included in such Registration Statement (the “**Base Prospectus**”), pursuant to which the Company is registering under the Securities Act of 1933, as amended (the “**Securities Act**”), the offer and sale of the following:

- (i) common stock, \$0.0001 par value per share (the “**Common Stock**”);
- (ii) preferred stock, \$0.0001 par value per share (the “**Preferred Stock**”);
- (iii) senior debt securities, in one or more series (the “**Senior Debt Securities**”), which may be issued pursuant to an indenture to be dated on or about the date of the first issuance of Senior Debt Securities thereunder, by and between the Company and a trustee to be selected by the Company, in the form attached as Exhibit 4.4 to the Registration Statement (the “**Senior Indenture**”);
- (iv) subordinated debt securities, in one or more series (the “**Subordinated Debt Securities**” and, together with the Senior Debt Securities, the “**Debt Securities**”), which may be issued pursuant to an indenture to be dated on or about the date of the first issuance of Subordinated Debt Securities thereunder, by and between the Company and a trustee to be selected by the Company, in the form attached as Exhibit 4.5 to the Registration Statement (the “**Subordinated Indenture**”);
- (v) warrants to purchase Common Stock, Preferred Stock, and/or Debt Securities (the “**Warrants**”), which may be issued under warrant agreements, to be dated on or about the date of the first issuance of the applicable Warrants thereunder, by and between the Company and a warrant agent to be selected by the Company (each, a “**Warrant Agreement**”);
- (vi) rights to purchase Common Stock, Preferred Stock, and/or Debt Securities (the “**Rights**”), which may be issued pursuant to a rights agreement and certificates issued thereunder, to be dated on or about the date of the first issuance of the applicable Rights thereunder, by and between the Company and a rights agent to be selected by the Company (each, a “**Rights Agreement**”); and
- (vii) units comprised of one or more Debt Securities, shares of Common Stock, Preferred Stock, Rights, and Warrants, in any combination (the “**Units**”), which may be issued under unit agreements, to be dated on or about the date of the first issuance of the applicable Units thereunder, by and between the Company and a unit agent to be selected by the Company (each, a “**Unit Agreement**”).

ABU DHABI ♦ ATHENS ♦ AUSTIN ♦ BEIJING ♦ BRUSSELS ♦ CENTURY CITY ♦ CHICAGO ♦ DALLAS ♦ DUBAI ♦ FRANKFURT ♦ HONG KONG
 HOUSTON ♦ KAZAKHSTAN ♦ LONDON ♦ LOS ANGELES ♦ MIAMI ♦ MUNICH ♦ NEW YORK ♦ PARIS ♦ PHILADELPHIA ♦ PITTSBURGH ♦ PRINCETON
 RICHMOND ♦ SAN FRANCISCO ♦ SHANGHAI ♦ SILICON VALLEY ♦ SINGAPORE ♦ TYSONS ♦ WASHINGTON, D.C. ♦ WILMINGTON

The Common Stock, the Preferred Stock, the Debt Securities, the Warrants, the Rights and the Units are collectively referred to herein as the “**Securities**.” The Registration Statement relates to the registration of the Securities to be offered and sold by the Company from time to time on a delayed or continuous basis pursuant to Rule 415 under the Securities Act. The maximum aggregate public offering price of the Securities being registered is \$400,000,000. This opinion is being rendered in connection with the filing of the Registration Statement with the Commission. All capitalized terms used herein and not otherwise defined shall have the respective meanings given to them in the Registration Statement.

This opinion letter is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act.

We have reviewed originals or copies of (i) the Base Prospectus; (ii) the Registration Statement; (iii) the certificate of incorporation and bylaws of the Company, each as amended through the date hereof (the “**Amended and Restated Certificate of Incorporation**” and the “**Amended and Restated Bylaws**”, respectfully), and (iv) certain resolutions of the board of directors of the Company. We have also examined originals or copies, certified or otherwise identified to our satisfaction, of such documents, corporate records, certificates of public officials and other instruments as we have deemed necessary or advisable as a basis for the opinion set forth below.

In rendering the opinion set forth below, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all items submitted to us as originals, the conformity with originals of all items submitted to us as copies, and the authenticity of the originals of such copies. As to any facts material to the opinions expressed herein, we have relied upon statements and representations of officers and other representatives of the Company and public officials. We have not independently established the validity of the foregoing assumptions.

In our capacity as counsel to the Company in connection with such registration, we are familiar with the proceedings taken and proposed to be taken by the Company in connection with the authorization and issuance of the Securities. For purposes of this opinion, we have assumed that such proceedings will be timely and properly completed, in accordance with all requirements of applicable federal and Delaware laws, in the manner presently proposed.

The opinions set forth below are subject to the following exceptions, limitations and qualifications: (i) the effect of bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws now or hereafter in effect relating to or affecting the rights and remedies of creditors; (ii) the effect of general principles of equity, whether enforcement is considered in a proceeding in equity or at law, and the discretion of the court before which any proceeding therefor may be brought; (iii) the unenforceability under certain circumstances under law or court decisions of provisions providing for the indemnification of, or contribution to, a party with respect to a liability where such indemnification or contribution is contrary to public policy; (iv) we express no opinion concerning the enforceability of any waiver of rights or defenses with respect to stay, extension or usury laws; and (v) we express no opinion with respect to whether acceleration of any Debt Securities may affect the ability to collect any portion of the stated principal amount thereof which might be determined to constitute unearned interest thereon. In addition, we express no opinion as to the validity, legally binding effect or enforceability of Section 10.13 of the Senior Indenture and Section 10.13 of the Subordinate Indenture relating to the severability of provisions of each indenture.

We have relied as to certain matters on information obtained from public officials, officers of the Company, and other sources believed by us to be responsible and we have assumed that the Senior Indenture

and the Subordinated Indenture will be duly authorized, executed, and delivered by the respective trustees thereunder and that the Warrant Agreement, Rights Agreement, and Unit Agreement will be duly authorized, executed, and delivered by the warrant agent, rights agent, and unit agent, respectively, thereunder. Furthermore, we have also assumed that, at the time of issuance and sale of the Securities, the Company will be in good standing under the laws of the State of Delaware. With respect to our opinion as to the Common Stock and Securities convertible into or exercisable for shares of Common Stock, we have assumed that, at the time of issuance and sale, a sufficient number of shares of Common Stock are authorized and available for issuance under the Company's Amended and Restated Certificate of Incorporation as then in effect and that the consideration for the issuance and sale of the Common Stock (or Preferred Stock, Debt Securities convertible into Common Stock or Warrants or Rights exercisable for Common Stock or any Units of such Securities) is in an amount that is not less than the par value of the Common Stock. With respect to our opinion as to the Preferred Stock and Securities convertible into or exercisable for shares of Preferred Stock, we have assumed that, at the time of issuance and sale, a sufficient number of shares of Preferred Stock are authorized, designated, and available for issuance under the Company's Amended and Restated Certificate of Incorporation as then in effect and that the consideration for the issuance and sale of the Preferred Stock (or Debt Securities convertible into Preferred Stock or Warrants or Rights exercisable for Preferred Stock or any Units of such Securities) is in an amount that is not less than the par value of the Preferred Stock. We have also assumed that any Warrants, Rights, and Units offered under the Registration Statement, and the related Warrant Agreement, Rights Agreement and Unit Agreement, as applicable, will be executed in the forms to be filed as exhibits to the Registration Statement or incorporated by reference therein. We have not independently verified any of the foregoing assumptions.

It is understood that this opinion is to be used only in connection with the offer and sale of Securities while the Registration Statement is effective under the Securities Act.

This opinion letter is limited to the federal laws of the United States of America, the laws of the State of New York and the Delaware General Corporation Law. We express no opinion, and make no statement, as to the laws, rules, or regulations of any other jurisdiction or as to the municipal laws or the laws, rules, or regulations of any local agencies or governmental authorities of or within the State of Delaware, or as to any matters arising thereunder or relating thereto. We do not find it necessary for the purposes of this opinion letter to cover, and accordingly we express no opinion as to, the application of the securities or blue sky laws of the various states to sales of the Securities.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. The Securities may be issued from time to time on a delayed or continuous basis, but this opinion is based upon currently existing statutes, rules, regulations, and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

Based upon the foregoing, we are of the opinion that:

1. With respect to the Common Stock, when (i) specifically authorized for issuance by the Company's board of directors or an authorized committee thereof (the "**Authorizing Resolutions**"), (ii) the Registration Statement, as finally amended (including all post-effective amendments), has become effective under the Securities Act, (iii) an appropriate prospectus supplement with respect to the applicable shares of Common Stock has been prepared, delivered, and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (iv) if the applicable shares of

Common Stock are to be sold pursuant to a definitive purchase, underwriting or similar agreement (an “**Underwriting Agreement**”), such Underwriting Agreement with respect to the applicable shares of Common Stock in the form filed as an exhibit to the Registration Statement, any post-effective amendment thereto or to a Current Report on Form 8-K, has been duly authorized, executed, and delivered by the Company and the other parties thereto, (v) the terms of the Common Stock and of their issuance and sale of the Common Stock have been duly established in conformity with the Company’s then operative Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws and do not violate any applicable law or result in a default under or breach of any agreement or instrument binding on the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, (vi) the Common Stock has been issued and sold as contemplated by the Registration Statement and the prospectus included therein, and (vii) the Company has received the consideration provided for in the Authorizing Resolutions and, if applicable, the Underwriting Agreement, the Common Stock will be validly issued, fully paid, and nonassessable.

2. With respect to the Preferred Stock, when (i) specifically authorized for issuance by the Authorizing Resolutions, (ii) the Registration Statement, as finally amended (including all post-effective amendments), has become effective under the Securities Act, (iii) an appropriate prospectus supplement with respect to the applicable shares of Preferred Stock has been prepared, delivered, and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (iv) if the applicable shares of Preferred Stock are to be sold pursuant to an Underwriting Agreement, such Underwriting Agreement with respect to the applicable shares of Preferred Stock in the form filed as an exhibit to the Registration Statement, any post-effective amendment thereto or to a Current Report on Form 8-K, has been duly authorized, executed, and delivered by the Company and the other parties thereto, (v) an appropriate certificate or certificates of amendment or designation relating to a class or series of the Preferred Stock to be sold under the Registration Statement has been duly authorized and adopted and filed with the Secretary of State of the State of Delaware in accordance with the Company’s then operative Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws and the Delaware General Corporation Law prior to the issuance of the Preferred Stock, (vi) the terms of the Preferred Stock and of their issuance and sale of shares of such class or series of Preferred Stock have been duly established in conformity with the Company’s then operative Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws and do not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, (vii) shares of such class or series of Preferred Stock have been issued and sold as contemplated by the Registration Statement and the prospectus included therein, and (viii) the Company has received the consideration provided for in the Authorizing Resolutions and, if applicable, the Underwriting Agreement, the Preferred Stock will be validly issued, fully paid, and nonassessable.

3. With respect to the Debt Securities, when (i) specifically authorized for issuance by the Authorizing Resolutions, (ii) the Registration Statement, as finally amended (including all post-effective amendments), has become effective under the Securities Act, (iii) the Senior Indenture or the Subordinated Indenture, whichever the case may be, has been duly authorized, executed, and delivered by the Company, (iv) an appropriate prospectus supplement with respect to the applicable Debt Securities has been prepared, delivered, and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (v) if the applicable Debt Securities are to be sold pursuant

to an Underwriting Agreement, such Underwriting Agreement with respect to the applicable Debt Securities in the form filed as an exhibit to the Registration Statement, any post-effective amendment thereto or to a Current Report on Form 8-K, has been duly authorized, executed, and delivered by the Company and the other parties thereto; (vi) the terms of the Debt Securities and of their issuance and sale have been duly established in conformity with the Senior Indenture or the Subordinated Indenture, whichever the case may be, and such terms, execution, issuance and sale as well as authentication of the Debt Securities do not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, (vii) such Debt Securities have been duly executed and authenticated in accordance with the Senior Indenture or the Subordinated Indenture, whichever the case may be, and issued and sold as contemplated in the Registration Statement and the prospectus included therein, (viii) the Senior Indenture or the Subordinated Indenture, whichever the case may be, relating to the Debt Securities has been qualified under the Trust Indenture Act of 1939, as amended, and (ix) the Company has received the consideration provided for in the Authorizing Resolutions and, if applicable, the Underwriting Agreement, the Debt Securities will constitute valid and binding obligations of the Company.

4. With respect to the Warrants, when (i) specifically authorized for issuance by the Authorizing Resolutions, (ii) the Registration Statement, as finally amended (including all post-effective amendments), has become effective under the Securities Act, (iii) the Warrant Agreement relating to the Warrants has been duly authorized, executed, and delivered by the Company, (iv) an appropriate prospectus supplement with respect to the applicable Warrants has been prepared, delivered, and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (v) if the applicable Warrants are to be sold pursuant to an Underwriting Agreement, such Underwriting Agreement with respect to the applicable Warrants in the form filed as an exhibit to the Registration Statement, any post-effective amendment thereto or to a Current Report on Form 8-K, has been duly authorized, executed, and delivered by the Company and the other parties thereto, (vi) the terms of the Warrants and of their issuance and sale have been duly established in conformity with the Warrant Agreement and do not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, (vii) the Warrants have been duly executed and countersigned in accordance with the Warrant Agreement and issued and sold as contemplated by the Registration Statement and the prospectus included therein, and (viii) the Company has received the consideration provided for in the Authorizing Resolutions and, if applicable, the Underwriting Agreement, the Warrants will constitute valid and binding obligations of the Company.

5. With respect to the Rights, when (i) specifically authorized for issuance by the Authorizing Resolutions, (ii) the Registration Statement, as finally amended (including all post-effective amendments), has become effective under the Securities Act, (iii) the Rights Agreement and any certificates relating to the Rights have been duly authorized, executed, and delivered by the Company, (iv) an appropriate prospectus supplement with respect to the applicable Rights has been prepared, delivered, and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (v) if the applicable Rights are to be sold pursuant to an Underwriting Agreement, such Underwriting Agreement with respect to the applicable Rights in the form filed as an exhibit to the Registration Statement, any post-effective amendment thereto or to a Current Report on Form 8-K, has been duly authorized, executed, and delivered by the Company and the other parties thereto, (vi) the

terms of the Rights and of their issuance and sale have been duly established in conformity with the Rights Agreement and any certificates relating to the Rights and do not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, (vii) the Rights have been duly executed and countersigned in accordance with the Rights Agreement and issued and sold as contemplated by the Registration Statement and the prospectus included therein, and (viii) the Company has received the consideration provided for in the Authorizing Resolutions and, if applicable, the Underwriting Agreement, the Rights will constitute valid and binding obligations of the Company.

6. With respect to the Units, when (i) specifically authorized for issuance by the Authorizing Resolutions, (ii) the Registration Statement, as finally amended (including all post-effective amendments), has become effective under the Securities Act, (iii) the Unit Agreement relating to the Units has been duly authorized, executed, and delivered by the Company, (iv) an appropriate prospectus supplement with respect to the applicable Units has been prepared, delivered, and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (v) if the applicable Units are to be sold pursuant to an Underwriting Agreement, such Underwriting Agreement with respect to the applicable Units in the form filed as an exhibit to the Registration Statement, any post-effective amendment thereto or to a Current Report on Form 8-K, has been duly authorized, executed, and delivered by the Company and the other parties thereto, (vi) the terms of the Units and of their issuance and sale have been duly established in conformity with the Unit Agreement and the Company's then operative Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws and do not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, (vii) the Units have been duly executed and countersigned in accordance with the Unit Agreement and issued and sold as contemplated by the Registration Statement and the prospectus included therein, and (viii) the Company has received the consideration provided for in the Authorizing Resolutions and, if applicable, the Underwriting Agreement, the Units will constitute valid and binding obligations of the Company.

The opinions set forth herein are given as of the date hereof, and we undertake no obligation to update or supplement this opinion letter if any applicable law changes after the date hereof or if we become aware of any fact or other circumstances that changes or may change our opinion set forth herein after the date hereof or for any other reason.

We consent to the inclusion of this opinion letter as an exhibit to the Registration Statement and further consent to all references to us under the caption "Legal Matters" in the Base Prospectus. In giving this consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Reed Smith LLP
REED SMITH LLP



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 New York, NY 10022-7650
 +1 212 521 5400
 Fax +1 212 521 5450
 reedsmith.com

August 9, 2022
 Caribou Biosciences, Inc.
 2929 7th Street, Suite 105
 Berkeley, California 94710

Ladies and Gentlemen:

We have acted as counsel to Caribou Biosciences, Inc., a Delaware corporation (the “**Company**”), in connection with the offer and sale by the Company of up to \$100,000,000 of shares (the “**Shares**”) of its common stock, par value \$0.0001 per share (the “**Common Stock**”), pursuant to that certain open market sale agreementSM, dated as of August 9, 2022, by and between the Company and JEFFERIES LLC (the “**Sales Agreement**”). The Shares will be offered and sold pursuant to the Company’s shelf-registration statement on Form S-3 under the Securities Act of 1933, as amended (the “**Act**”), filed with the Securities and Exchange Commission (the “**Commission**”) on August 9, 2022 (the “**Registration Statement**”), a base prospectus dated August 9, 2022, included in the Registration Statement (the “**Base Prospectus**”), and a prospectus relating to the at-the-market offering of the Shares contemplated by the Sales Agreement, included in the Registration Statement (together with the Base Prospectus and the documents incorporated or deemed to be incorporated by reference therein pursuant to Item 12 of Form S-3 under the Act, the “**Prospectus**”).

This opinion letter is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act.

We have reviewed originals or copies of (i) the Prospectus; (ii) the Registration Statement; (iii) an executed copy of the Sales Agreement, (iv) the certificate of incorporation and bylaws of the Company, as amended through the date hereof, and (v) certain resolutions of the board of directors of the Company. We have also examined originals or copies, certified or otherwise identified to our satisfaction, of such documents, corporate records, certificates of public officials and other instruments as we have deemed necessary or advisable as a basis for the opinion set forth below.

In rendering the opinion set forth below, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all items submitted to us as originals, the conformity with originals of all items submitted to us as copies, and the authenticity of the originals of such copies. As to any facts material to the opinions expressed herein, we have relied upon statements and representations of officers and other representatives of the Company and public officials. We have also assumed, with respect to the issuance of the Shares, the amount of valid consideration paid in respect of such Shares will equal or exceed the par value of such Shares. We have not independently established the validity of the foregoing assumptions.

This opinion letter is limited to the federal laws of the United States of America and the Delaware General Corporation Law. We express no opinion, and make no statement, as to the laws, rules, or regulations of any other jurisdiction or as to the municipal laws or the laws, rules, or regulations of any local agencies or governmental authorities of or within the State of Delaware, or as to any matters arising thereunder or relating thereto. We do not find it necessary for the purposes of this opinion letter to cover, and accordingly we express no opinion as to, the application of the securities or blue sky laws of the various states to sales of the Shares.

ABU DHABI ♦ ATHENS ♦ AUSTIN ♦ BEIJING ♦ BRUSSELS ♦ CENTURY CITY ♦ CHICAGO ♦ DALLAS ♦ DUBAI ♦ FRANKFURT ♦ HONG KONG
 HOUSTON ♦ KAZAKHSTAN ♦ LONDON ♦ LOS ANGELES ♦ MIAMI ♦ MUNICH ♦ NEW YORK ♦ PARIS ♦ PHILADELPHIA ♦ PITTSBURGH ♦ PRINCETON
 RICHMOND ♦ SAN FRANCISCO ♦ SHANGHAI ♦ SILICON VALLEY ♦ SINGAPORE ♦ TYSONS ♦ WASHINGTON, D.C. ♦ WILMINGTON

Based on, and subject to the foregoing and the other limitations, qualifications, exceptions, and assumptions set forth herein, we are of the opinion that the Shares have been duly authorized and, when issued and delivered by the Company pursuant to the provisions of the Sales Agreement against payment of the requisite consideration therefor, will be validly issued, fully paid, and non-assessable.

The opinions set forth herein are given as of the date hereof, and we undertake no obligation to update or supplement this opinion letter if any applicable law changes after the date hereof or if we become aware of any fact or other circumstances that changes or may change our opinion set forth herein after the date hereof or for any other reason.

We consent to the inclusion of this opinion letter as an exhibit to the Registration Statement and further consent to all references to us under the caption "Legal Matters" in the Prospectus. In giving this consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Reed Smith LLP

REED SMITH LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-3 of our report dated March 21, 2022, relating to the financial statements of Caribou Biosciences, Inc., appearing in the Annual Report on Form 10-K of Caribou Biosciences, Inc. for the year ended December 31, 2021. We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ Deloitte & Touche LLP

San Francisco, California

August 9, 2022

Calculation of Filing Fee Tables

Form S-3
(Form Type)

Caribou Biosciences, Inc.

(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered and Carry Forward Securities

	Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee	Carry Forward Form Type	Carry Forward File Number	Carry Forward Initial Effective Date	Filing Fee Previously Paid In Connection with Unsold Securities to be Carried Forward
Newly Registered Securities												
Fees to Be Paid	Equity	Common Stock, par value \$0.001 per share	(1)	(1)	(1)	(1)	(1)	(1)	—	—	—	—
Fees to Be Paid	Equity	Preferred Stock	(1)	(1)	(1)	(1)	(1)	(1)	—	—	—	—
Fees to Be Paid	Debt	Debt Securities	(1)	(1)	(1)	(1)	(1)	(1)	—	—	—	—
Fees to Be Paid	Equity	Warrants	(1)	(1)	(1)	(1)	(1)	(1)	—	—	—	—
Fees to Be Paid	Equity	Rights	(1)	(1)	(1)	(1)	(1)	(1)	—	—	—	—
Fees to Be Paid	Equity	Units(2)	(1)	(1)	(1)	(1)	(1)	(1)	—	—	—	—
Fees to Be Paid	Unallocated (Universal) Shelf	Unallocated (Universal) Shelf	457(o)	(1)	—	\$400,000,000	0.0000927	\$37,080	—	—	—	—
Fees Previously Paid	—	—	—	—	—	—	—	—	—	—	—	—
Carry Forward Securities												
Carry Forward Securities	—	—	—	—	—	—	—	—	—	—	—	—
	Total Offering Amounts					\$400,000,000(1)		\$37,080				
	Total Fees Previously Paid								—			
	Total Fee Offsets								—			
	Net Fee Due							\$37,080				

- (1) Pursuant to Instruction 2.A(iii)(b) of Item 16(b) of Form S-3, this information is not required to be included. An indeterminate amount of the securities of each identified class is being registered as may from time to time be offered under this registration statement at indeterminate prices, along with an indeterminate number of securities that may be issued upon exercise, settlement, exchange or conversion of securities offered or sold under this registration statement, as shall have an aggregate initial offering price up to \$400,000,000. Pursuant to Rule 416 under the Securities Act of 1933, as amended, or the Securities Act, this registration statement also covers any additional securities that may be offered or issued in connection with any stock split, stock dividend or pursuant to anti-dilution provisions of any of the securities. Separate consideration may or may not be received for securities that are issuable upon conversion, exercise or exchange of other securities. In addition, the total amount to be registered and the proposed maximum offering price are estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act.
- (2) Units may be issued under a unit agreement and will represent an interest in one or more securities registered under this registration statement including shares of common stock or preferred stock, debt securities, warrants, or rights, in any combination, which may or may not be separable from one another.