

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 1
TO
FORM S-1
ON FORM S-3
REGISTRATION STATEMENT
Under
The Securities Act of 1933

Artelo Biosciences, Inc.

(Exact name of Registrant as specified in its charter)

Nevada

(State or other jurisdiction of
incorporation or organization)

33-1220924

(I.R.S. Employer
Identification Number)

888 Prospect Street, Suite 210
La Jolla, CA 92037
(760) 943-1689

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

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From time to time after this Registration Statement becomes effective.

(Approximate date of commencement of proposed sale to the public)

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 post-effective amendment filed pursuant to Rule 462(d) 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. (Check one):

Large accelerated filer
Non-accelerated filer

Accelerated filer
Smaller reporting company
Emerging growth company

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 to Section 7(a)(2)(B) of the 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(c) 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(c), may determine.

EXPLANATORY NOTE

The Registrant is filing a single prospectus in this Registration Statement pursuant to Rule 429 under the Securities Act, in order to satisfy the requirements of the Securities Act and the rules and regulations thereunder for this offering. Pursuant to Rule 429 under the Securities Act of 1933, the prospectus included in this Registration Statement is a combined prospectus relating to (i) Registration Statement No. 333-222756 previously filed by the Registrant on Form S-1 on January 29, 2018 and declared effective by the Securities and Exchange Commission on May 29, 2018 and which related to the resale of up to shares of common stock of the Registrant (including shares issuable upon

exercise of warrants held by certain selling stockholders) from time to time by the selling stockholders named therein (the “First Registration Statement”) and (ii) Registration Statement No. 333-227571 previously filed by the Registrant on Form S-1 on September 27, 2018 and declared effective by the Securities and Exchange Commission on October 5, 2018, and which related to the resale of shares of common stock of the Registrant (including shares issuable upon exercise of warrants held by certain selling stockholders) from time to time by the selling stockholders named therein (the “Second Registration Statement”).

This Post-Effective Amendment to Form S-1 on Form S-3 constitutes a Post-Effective Amendment No. 1 to the First Registration Statement and the Second Registration Statement and is being filed by the Registrant to convert the First Registration Statement and Second Registration Statement into a registration statement on Form S-3. This Registration Statement contains an updated prospectus relating to the offering and sale of the shares that were registered for resale on the First Registration Statement and the Second Registration Statement. Such post-effective amendments shall hereafter become effective concurrently with the effectiveness of this Registration Statement in accordance with Section 8(c) of the Securities Act of 1933, as amended.

All filing fees payable in connection with the registration of the shares of the common stock covered by this Registration Statement were paid by the Registrant at the time of the initial filings of each of the First Registration Statement and the Second Registration Statement.

The information in this prospectus is not complete and may be changed. The selling stockholders 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 is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED OCTOBER 29, 2019

PROSPECTUS

Artelo Biosciences, Inc.

Common Stock

899,183 Shares of Common Stock

Offered by Selling Stockholders

This prospectus relates to the disposition from time to time of up to 899,183 shares of our common stock (including up to 495,306 shares issuable upon exercise of warrants), which are held by the selling stockholders named in this prospectus. We will not receive any of the proceeds from the sale of our common stock by the selling stockholders.

The selling stockholders identified in this prospectus, or their permitted transferees or other successors-in-interest, may offer the shares from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices, or at privately negotiated prices. We provide additional information about how the selling stockholders may sell their shares of common stock in the section entitled "Plan of Distribution" beginning on page 11 of this prospectus. We will not be paying any underwriting discounts or selling commissions in connection with any offering of common stock under this prospectus.

Our common stock and public warrants are quoted on the Nasdaq Capital Market ("Nasdaq") under the symbols "ARTL" and "ARTLW," respectively. The last reported sale price of our common stock as reported on Nasdaq on October 28, 2019 was \$2.48 per share.

Investing in our common stock involves a high degree of risk. Please see the section entitled "Risk Factors" beginning on page 3 of this prospectus and under similar headings in any amendment or supplements to this prospectus or as updated by any subsequent filing with the Securities and Exchange Commission that is incorporated by reference herein.

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 , 2019.

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This prospectus is part of a registration statement on Form S-3 that we filed with the United States Securities and Exchange Commission, or the SEC, using a “shelf” registration process. Under this shelf process, the selling stockholders may from time to time sell up to an aggregate amount of 899,183 shares of our common stock (including up to 495,306 shares issuable upon exercise of warrants) in one or more offerings. You should not assume that the information contained in this prospectus is accurate on any date subsequent to the date set forth on the front cover of this prospectus or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus is delivered or shares of common stock are sold or otherwise disposed of on a later date. It is important for you to read and consider all information contained in this prospectus, including the documents incorporated by reference therein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you under the captions “Where You Can Find Additional Information” and “Information Incorporated by Reference” in this prospectus.

We have not authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy any of our shares of common stock other than the shares of our common stock covered hereby, nor does this prospectus constitute an offer to sell or the solicitation of an offer to buy any securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such 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 the offering and the distribution of this prospectus applicable to those jurisdictions.

This prospectus incorporates by reference market data, industry statistics and other data that have been obtained from, or compiled from, information made available by third parties. We have not independently verified their data.

Except where the context otherwise requires or where otherwise indicated, the terms “we,” “us,” “our,” “Artelo Biosciences,” “Artelo” and “the company” refer to Artelo Biosciences, Inc., a Nevada corporation, and its consolidated subsidiaries. References to the “selling stockholders” refer to the stockholders listed herein under the heading “Selling Stockholders” and each of their donees, pledgees, transferees or other successors-in-interest.

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Forward-Looking Statements

The information in this Registration Statement on Form S-3 and the information incorporated herein by reference, include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements are based on current expectations and beliefs and involve numerous risks and uncertainties that could cause actual results to differ materially from expectations. These forward-looking statements should not be relied upon as predictions of future events as we cannot assure you that the events or circumstances reflected in these statements will be achieved or will occur. When used in this report, the words “believe,” “may,” “could,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “expect,” “indicate,” “seek,” “should,” “would” and similar expressions are intended to identify forward-looking statements, though not all forward-looking statements contain these identifying words. All statements, other than statements of historical fact, are statements that could be deemed forward-looking statements.

These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in greater detail in our reports filed from time to time under the Securities Act and/or the Exchange Act, including the risks identified under the heading “Risk Factors” in our most recent Annual Report on Form 10-K and our most recent Quarterly Report on Form 10-Q which are incorporated by reference into this prospectus in their entirety. We encourage you to read these filings as they are made. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement.

You should read this prospectus, the documents incorporated by reference herein, and any prospectus supplement or free writing prospectus that we have authorized for use in connection with this offering completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances

reflected in the forward-looking statements will be achieved or occur. Moreover, except as required by law, we undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus to conform these statements to actual results or to changes in our expectations. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.



PROSPECTUS SUMMARY

This summary highlights selected information appearing elsewhere in this prospectus and is qualified in its entirety by the more detailed information and financial statements included elsewhere in this prospectus. This summary may not contain all the information you should consider before investing in our common stock. You should carefully read this prospectus in its entirety before investing in our common stock, including the sections titled Risk Factors and Management's Discussion and Analysis of Financial Condition and Results of Operations and our financial statements and related notes included elsewhere in this prospectus. Unless the context otherwise requires, the terms "Artelo Biosciences," "Artelo," "the Company," "our company," "we," "us," and "our," refer to Artelo Biosciences, Inc.

Corporate Overview

We are a clinical stage biopharmaceutical company focused on developing and commercializing treatments intended to modulate the endocannabinoid system (the "ECS"), including a solid-state composition of cannabidiol ("CBD co-crystal"), with improved pharmaceutical-like properties which could have a meaningful impact on cannabinoid-based drug development. Our management team is highly experienced and has a successful history of development, regulatory approval and commercialization of pharmaceuticals.

Our pipeline broadly leverages leading scientific methodologies to ECS modulation, balances risk across mechanism of action and stages of development, and represents a comprehensive approach in utilizing the power of the ECS to develop pharmaceuticals for patients with unmet healthcare needs. In addition to our co-crystal program, we are currently evaluating ART27.13, which is entering a Phase 1b/2a trial for cancer related anorexia, and ART26.12, which is being studied as an endocannabinoid modulator and cancer therapeutic and is in the late pre-clinical stage.

The crystal structure of cannabidiol ("CBD") is known to exhibit polymorphism, or the ability to manifest in different forms. Polymorphism can adversely affect stability, dissolution, and bioavailability of a drug product and thus affect its quality, safety, and efficacy. We have developed a proprietary co-crystal composition of CBD, which we have designated as ART12.11. We believe our co-crystal exists as a single crystal form and as such is anticipated to have advantages over other forms of CBD that exhibit polymorphism. Anticipated advantages of this single crystal structure include improved stability, solubility, and a more consistent absorption profile. We believe these features will result in more consistent bioavailability and may lead to improved safety and efficacy.

U.S. and international patent applications including broad claims to our novel co-crystal composition of CBD were filed in late 2018. Composition claims are generally known in the pharmaceutical industry as the most desired type of intellectual property and, if issued, should provide for long lasting market exclusivity for our CBD co-crystal drug product candidate. In addition, due to the reasons outlined above, we believe that our CBD co-crystal will have superior pharmaceutical properties compared to non-co-crystal CBD product candidates in development at other competing companies.

In addition to our own internal discovery research, we are currently developing two patent protected product candidates that we obtained through our in-licensing activities. Our first program is a synthetic cannabinoid product candidate, ART27.13, being developed for cancer-related anorexia. ART27.13 is a peripherally-restricted high-potency dual CB₁ and CB₂ receptor agonist which was originally developed at AstraZeneca plc ("AstraZeneca"). We have exercised our option to exclusively license this product candidate through adMare BioInnovations, formerly known as the NEOMED Institute, a Canadian not-for-profit corporation ("NEOMED"). In Phase 1 single dose studies in healthy volunteers and a multiple ascending dose study in otherwise healthy patients with back pain conducted by AstraZeneca, ART27.13 exhibited an attractive pharmacokinetic and absorption, distribution, metabolism, and excretion ("ADME") profile and was well tolerated within the target exposure range. It also exhibited dose-dependent and potentially clinically meaningful increases in body weight. Importantly, the changes in body weight were not associated with fluid retention or other adverse effects and occurred at exposures without CNS side effects. Preliminary discussions with U.S. and Canadian regulators suggest there is a potential pathway for development of ART27.13 for the treatment of cancer-related anorexia, which affects approximately 60% of advanced stage cancer patients. We plan to initiate a Phase 1b/2a clinical study of cancer-related anorexia with ART27.13 upon successful manufacturing of new supply of clinical material and obtaining scientific advice from the regulatory authorities.

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Our second in-licensed program is a platform of small-molecule inhibitors targeting fatty acid binding protein 5 (“FABP5”), based upon scientific developments achieved at Stony Brook University (“SBU”) which we have designated ART26.12. To date, SBU has received nearly \$4 million in funding from the National Institutes of Health to begin developing these candidates. Fatty acid binding proteins (“FABPs”) are attractive therapeutic targets, however, their high degree of similarity among the various types has proven challenging to the creation of drugs targeting specific FABPs. FABP5 is believed to specifically target and regulate one of the body's endogenous cannabinoids, anandamide (“AEA”). While searching for a FABP5 inhibitor to regulate AEA, we believe researchers at SBU discovered the chemistry for creating a highly specific and potent small molecule inhibitor for FABP5. In addition to its potential as an endocannabinoid modulator, FABP5 is also an attractive target for cancer drug development. Large amounts of human clinical epidemiological and animal model data support FABP5 as a well validated oncology therapeutic target, especially for triple negative breast cancer and castration-resistant prostate cancer. We licensed exclusive world-wide rights to these inhibitors from SBU. The program is in the final stages of lead optimization, and we plan to initiate regulatory enabling studies thereafter. We anticipate clinical studies in cancer can begin in 2020.

We are developing our product candidates in accordance with traditional drug development standards and plan to make them available to the general public via prescription or physician orders only after obtaining marketing authorization from a regulatory authority, such as the U.S. Food and Drug Administration (the “FDA”). Our management team has experience developing and commercializing ethical pharmaceutical products, including several first-in-class therapeutics. Based upon our current management’s capabilities and the future talent we may attract, we expect to retain rights to internally develop and commercialize products, however, we may seek collaborations with partners in the biopharmaceutical industry when that strategy serves to maximize value for our stockholders.

Background

The ECS is composed of cannabinoid receptors, endogenous receptor ligands (“endocannabinoids”) and their associated transporter mechanisms, as well as enzymes responsible for the synthesis and degradation of endocannabinoids, and has emerged as a considerable target for pharmacotherapy approaches of numerous human diseases. As a widespread modulatory system, the ECS plays important roles in the central nervous system (the “CNS”), development, synaptic plasticity, and the response to endogenous and environmental factors.

The modulation of the ECS can be effected by using selective or non-selective agonists, partial agonists, inverse agonists, and antagonists of the cannabinoid receptors, CB₁ and CB₂. The CB₁ receptor is distributed in brain areas associated with motor control, emotional responses, motivated behavior and energy homeostasis. In the periphery, CB₁ is ubiquitously expressed in the adipose tissue, pancreas, liver, gastrointestinal tract, skeletal muscles, heart and the reproductive system. The CB₂ receptor is mainly expressed in the immune system regulating its functions, and is upregulated in response to tissue stress or damage in most cell types. The ECS is therefore involved in pathophysiological conditions in both the central and peripheral tissues.

The actions of endogenous ligands can be enhanced or attenuated by targeting mechanisms that are associated with their transport within the cellular and extra cellular matrix as well as their synthesis and breakdown. Small molecule chemical modulators of the ECS can be derived from naturally occurring cannabinoids, can be synthetic cannabinoids, or can be completely new chemical entities. We plan to develop approaches within our portfolio that address receptor binding and endocannabinoid transport modulation using only small molecule synthetic new chemical entities. Future approaches may also involve targeting synthesis or breakdown enzymes.

ECS targeting cannabinoid-based medicines are already approved and used to treat numerous medical conditions. The ECS is further implicated in many disease states within the peer reviewed literature including conditions which involve the regulation of food intake, central nervous system, pain, cardiovascular, gastrointestinal, immune and inflammation, behavioral, antiproliferative and reproductive functions. These areas of ECS pathophysiology are aligned with our therapeutic areas of focus: pain, inflammation, anorexia, cardiovascular, and cancer.

Business Strategy

Our objective is to develop and commercialize ethical pharmaceutical products that provide physicians with access to the therapeutic potential of cannabinoid therapeutics and other modulators of the ECS. We intend to pursue promising technologies and compounds that modulate the ECS, including fully synthetic cannabinoids, as well as new chemical compounds that promote the effectiveness of the ECS and other related mechanisms to improve human health.

Risks Associated with our Business

Our ability to execute our business strategy is subject to numerous risks, as more fully described in the section captioned “Risk Factors” immediately following this prospectus summary. You should read these risks before you invest in our common stock and warrants. In particular, risks associated with our business include, but are not limited to, the following:

- if we fail to comply with our obligations under our patent licenses with third parties, we could lose license rights that are vital to our business;
- our ability to continue our operations requires that we raise additional capital and our operations could be curtailed if we are unable to obtain the additional funding as or when needed;
- we face many of the risks and difficulties frequently encountered by relatively new companies with respect to our operations;
- we do not have any therapeutic products that are approved for commercial sale. Our ability to generate revenue from product sales and become profitable depends significantly on our success in a number of factors;
- we have no mature product candidates and may not be successful in licensing any;
- we will need to raise additional financing to support our business objectives. We cannot be sure we will be able to obtain additional financing on terms favorable to us when needed, or at all. If we are unable to obtain additional financing to meet our needs, our operations may be adversely affected or terminated;
- we have very limited operating history and capabilities;
- if we are unable to obtain and maintain patent protection for our products, our competitors could develop and commercialize products and technology similar or identical to our product candidates, and our ability to successfully commercialize any product candidates we may develop, and our science may be adversely affected;
- obtaining and maintaining our patent protection depends on compliance with various procedural measures, document submissions, fee payments and other requirements imposed by government patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements;
- we may be subject to claims challenging the inventorship of our patents and other intellectual property;
- intellectual property litigation could cause us to spend substantial resources and distract our personnel from their normal responsibilities;
- our executive officers and certain stockholders possess the majority of our voting power, and through this ownership, control the Company and our corporate actions; and
- shares of our common stock that have not been registered under federal securities laws are subject to resale restrictions imposed by Rule 144, including those set forth in Rule 144(i) which apply to a former “shell company.”

Corporate and other Information

We were incorporated in the State of Nevada on May 2, 2011 as Knight Knox Development Corp. On January 19, 2017 we changed our name to Reactive Medical, Inc. and on April 14, 2017 we changed our name to Artelo Biosciences, Inc. Our principal executive offices are located at 888 Prospect Street, Suite 210, La Jolla, California 92037 and our telephone number is (760) 943-1689. Our corporate website address is www.artelobio.com. Information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus, and you should not consider information on our website to be part of this prospectus.

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Implications of being an Emerging Growth Company

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, enacted in April 2012. An “emerging growth company” may take advantage of reduced reporting requirements that are otherwise applicable to public companies. These provisions include, but are not limited to:

- being permitted to present only two years of audited financial statements and only two years of “Selected Financial Data” and related “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in this prospectus;
- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended;
- reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We may use these provisions until the last day of our fiscal year ending August 2020. However, if certain events occur prior to the end of such period, including if we become a “large accelerated filer,” our annual gross revenue exceeds \$1.07 billion or we issue more than \$1.0 billion of non-convertible debt in any three-year period, we will cease to be an emerging growth company prior to the end of such period.

We have elected to take advantage of certain of the reduced disclosure obligations in the registration statement of which this prospectus is a part and may elect to take advantage of other reduced reporting requirements in future filings. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

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, delaying the adoption of these accounting standards until they would apply to private companies. We have elected to avail ourselves of this exemption and, therefore, we are not subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

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THE OFFERING

Common stock offered by the selling stockholders	899,183 shares of our common stock (including up to 495,306 shares issuable upon exercise of warrants).
Use of proceeds	We will not receive any proceeds from the sale of shares of our common stock by the selling stockholders. See “Selling Stockholders” and “Plan of Distribution.”
Risk Factors	See “Risk Factors” and other information included in this prospectus for a discussion of factors you should consider carefully before deciding to invest in shares of our common stock.
Nasdaq symbol for Common Stock	ARTL
Nasdaq symbol for public warrants	ARTLW

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RISK FACTORS

Before you invest in our securities, you should be aware that our business faces numerous financial and market risks, including those described below, as well as general economic and business risks. Our securities are speculative, and you should not make an investment in Artelo Biosciences unless you can afford to bear the loss of your entire investment. Prior to making a decision about investing in our common stock, you should carefully consider the risks, uncertainties and assumptions discussed under Item 1A, "Risk Factors," in our Annual Report on Form 10-K for the fiscal year ended August 31, 2018 and our most recent Quarterly Report on Form 10-Q for the quarter ended May 31, 2019, as updated by our subsequent filings with the Securities and Exchange Commission, or the SEC, under the Securities Exchange Act of 1934, as amended, or the Exchange Act, which are incorporated herein by reference, together with the information in this prospectus and any other information incorporated by reference into this prospectus. Before you decide whether to invest in our securities, you should carefully consider these risks and uncertainties, together with all of the other information included in or incorporated by reference into this prospectus. The risks and uncertainties identified are not the only risks and uncertainties we face. If any of the material risks or uncertainties that we face were to occur, you could lose part or all of your investment.

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USE OF PROCEEDS

We will not receive any of the proceeds from the sale of the common stock by the selling stockholders named in this prospectus; however, to the extent the selling stockholders exercise the warrants, we will receive the aggregate exercise price from the exercise of the warrants. All proceeds from the resale of the shares of our common stock offered by this prospectus will belong to the selling stockholders identified in this prospectus under “Selling Stockholders.”

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SELLING STOCKHOLDERS

The shares may be offered by the selling stockholders or by pledges, donees, transferees or other successors in interest that receive such shares as a gift or through a private sale or transfer. We may amend or supplement this prospectus from time to time to update information provided in the table.

Selling Stockholder	Shares Beneficially	Number of	Shares Beneficially	Percentage of Shares
	Owned Prior to	Shares Being	Owned After	Beneficially Owned
	Offering	Offered	Offering	After Offering (1)
Alinga Capital Fund, L.P. (2)	113,125	28,750	37,500	1.10%
Andrew Yates (3)	3,367	3,367	0	*
ATGC Partners, LLC (4)	3,850	3,850	0	*
Barry Collins (5)	23,735	23,735	0	*
Bernard Bradley (6)	9,375	9,375	0	*
Brady Costello (7)	3,333	3,333	0	*
Brett Nesland (8)	37,500	37,500	0	*
Brian Murphy (9)	7,000	3,333	3,667	*
Candida Del Rosario-Boardman (10)	1,000	1,000	0	*
CB1 Wellness Master Fund LP (11)	32,500	32,500	0	*
Charles M. Natcher (12)	2,500	2,500	0	*
Charles W. Howe (13)	10,000	10,000	0	*
Christopher A. Bellamy (14)	3,333	3,333	0	*
Colum Whelan (15)	3,333	3,333	0	*
David Kaufman (16)	10,000	10,000	0	*
David Moss (17)	249,057	81,731	167,326	4.90%
Don Stangle (18)	60,049	60,049	0	*
Duncan Ley (19)	3,333	3,333	0	*
Eric Baum (20)	15,833	15,833	0	*
Evan Duggan (21)	3,125	3,125	0	*
Five Points Capital Management LLC (22)	17,500	17,500	0	*
GammaQ LLC (23)	76,923	76,923	0	*
Gregory D. Gorgas (24)	257,019	37,019	220,000	6.44%
Jamie Sherry (25)	4,624	4,624	0	*
Jeffery Bergau (26)	5,750	5,750	0	*
John Brady (27)	14,615	11,282	3,333	*
Jon Smith (28)	19,040	19,040	0	*
Justin R. Hone (29)	3,846	3,846	0	*
Loretta Kelly (30)	5,000	5,000	0	*
Malibu Investments, Ltd. (31)	7,693	7,693	0	*
Mark Sockell (32)	6,667	6,667	0	*
Matt Matthews (33)	4,500	4,500	0	*

Michael Donnelly (34)	5,000	5,000	0	*
Michael Hay (35)	8,250	8,250	0	*
Mosetta Nominees (36)	7,179	7,179	0	*
NEOMED Institute (37)	76,297	15,000	61,297	1.79%
Nicholas O'Connor (38)	1,381	1,381	0	*
Patrick Lawlor (39)	10,000	10,000	0	*
Patton Acquisitions Ltd. (40)	3,333	3,333	0	*
Paul Quilkey (41)	113,125	46,875	37,500	1.10%
Prodigious Wealth Limited (42)	125,000	125,000	0	*
Rachel Tubridy (43)	2,500	2,500	0	*
Robert Emmet Bourke (44)	19,575	19,575	0	*
Robert Kelly (45)	15,011	7,693	7,318	*
Robert Morlock (46)	20,432	20,432	0	*
Rudi Neuman (47)	4,413	4,413	0	*
Shawn Bohannon (48)	9,615	9,615	0	*
Steven M. Bathgate (49)	5,000	5,000	0	*
The Colm Egan Pension Fund (50)	7,495	7,495	0	*
Thomas William Corbett (51)	5,144	5,144	0	*
Value of Insight Consulting, Inc. (52)	27,500	27,500	0	*
Windsor Wealth Management (53)	1,563	1,563	0	*
WOCO Limited (54)	7,179	7,179	0	*
WS Investment Company, LLC (55)	19,232	19,232	0	*
Total		899,183		

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- (1) Based upon 3,414,913 shares of common stock outstanding as of the close of business on October 16, 2019 (the “Measurement Date”) in accordance with Rule 13d-3 under the Securities Exchange Act of 1934.
- (2) Shares beneficially owned includes warrant(s) to purchase a total of 28,750 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase, and 23,437 shares of our common stock and warrant(s) to purchase a total of 23,438 shares of our common stock held by Paul Quilkey, a principal of Alinga Capital Fund, L.P.
- (3) Shares beneficially owned includes warrant(s) to purchase a total of 1,684 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (4) Shares beneficially owned includes warrant(s) to purchase a total of 1,925 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (5) Shares beneficially owned includes warrant(s) to purchase a total of 11,869 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (6) Shares beneficially owned includes warrant(s) to purchase a total of 4,688 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (7) Shares beneficially owned includes warrant(s) to purchase a total of 1,667 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (8) Shares beneficially owned includes warrant(s) to purchase a total of 25,000 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (9) Shares beneficially owned includes warrant(s) to purchase a total of 1,667 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (10) Shares beneficially owned includes warrant(s) to purchase a total of 500 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (11) Shares beneficially owned includes warrant(s) to purchase a total of 16,250 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.

- (12) Shares beneficially owned includes warrant(s) to purchase a total of 1,250 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (13) Shares beneficially owned includes warrant(s) to purchase a total of 5,000 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (14) Shares beneficially owned includes warrant(s) to purchase a total of 1,667 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (15) Shares beneficially owned includes warrant(s) to purchase a total of 1,667 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (16) Shares beneficially owned includes warrant(s) to purchase a total of 5,000 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (17) Shares beneficially owned includes warrant(s) to purchase a total of 40,866 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (18) Shares beneficially owned includes warrant(s) to purchase a total of 53,750 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (19) Shares beneficially owned includes warrant(s) to purchase a total of 1,667 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (20) Shares beneficially owned includes warrant(s) to purchase a total of 7,917 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (21) Shares beneficially owned includes warrant(s) to purchase a total of 1,563 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (22) Shares beneficially owned includes warrant(s) to purchase a total of 8,750 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (23) Shares beneficially owned includes warrant(s) to purchase a total of 38,462 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (24) Shares beneficially owned includes warrant(s) to purchase a total of 18,510 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (25) Shares beneficially owned includes warrant(s) to purchase a total of 2,313 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (26) Shares beneficially owned includes warrant(s) to purchase a total of 2,875 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (27) Shares beneficially owned includes warrant(s) to purchase a total of 5,642 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (28) Shares beneficially owned includes warrant(s) to purchase a total of 9,520 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.

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- (29) Shares beneficially owned includes warrant(s) to purchase a total of 1,923 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (30) Shares beneficially owned includes warrant(s) to purchase a total of 2,500 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (31) Shares beneficially owned includes warrant(s) to purchase a total of 7,693 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (32) Shares beneficially owned includes warrant(s) to purchase a total of 3,334 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (33) Shares beneficially owned includes warrant(s) to purchase a total of 2,250 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (34) Shares beneficially owned includes warrant(s) to purchase a total of 5,000 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (35) Shares beneficially owned includes warrant(s) to purchase a total of 4,125 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (36) Shares beneficially owned includes warrant(s) to purchase a total of 3,590 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (37) Shares beneficially owned do not include any warrant(s) to purchase shares of our common stock.
- (38) Shares beneficially owned includes warrant(s) to purchase a total of 691 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (39) Shares beneficially owned includes warrant(s) to purchase a total of 5,000 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (40) Shares beneficially owned includes warrant(s) to purchase a total of 1,667 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (41) Shares beneficially owned includes 23,437 shares of our common stock and warrant(s) to purchase a total of 23,438 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase and warrant(s) to purchase a total of 28,750 shares of our common stock held by Alinga Capital Fund, L.P.
- (42) Shares beneficially owned includes warrant(s) to purchase a total of 62,500 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (43) Shares beneficially owned includes warrant(s) to purchase a total of 1,250 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (44) Shares beneficially owned includes warrant(s) to purchase a total of 9,788 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (45) Shares beneficially owned includes warrant(s) to purchase a total of 3,847 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.

- (46) Shares beneficially owned includes warrant(s) to purchase a total of 10,217 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (47) Shares beneficially owned includes warrant(s) to purchase a total of 2,207 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (48) Shares beneficially owned includes warrant(s) to purchase a total of 4,808 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (49) Shares beneficially owned includes warrant(s) to purchase a total of 5,000 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (50) Shares beneficially owned includes warrant(s) to purchase a total of 3,748 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (51) Shares beneficially owned includes warrant(s) to purchase a total of 2,573 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (52) Shares beneficially owned includes warrant(s) to purchase a total of 13,750 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (53) Shares beneficially owned includes warrant(s) to purchase a total of 782 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (54) Shares beneficially owned includes warrant(s) to purchase a total of 3,590 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.
- (55) Shares beneficially owned includes warrant(s) to purchase a total of 9,616 shares of our common stock, which are fully exercisable for up to five (5) years from the date of purchase.

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PLAN OF DISTRIBUTION

The selling stockholders and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. As of the date of this prospectus, our common stock is quoted for trading on Nasdaq and, for so long as our common stock continues to be quoted for trading in that venue, we expect that sales made in the Nasdaq market will likely be effected through that quotation system. As of October 28, 2019, the last reported closing price for our common stock on Nasdaq was \$2.48 per share, and as such represented the market price for our common stock as of that date. Sales of the common stock to be registered hereunder could be made at prevailing market prices at the time of the sale, at fixed prices, at negotiated prices, or at varying prices determined at the time of sale. As a result, we cannot know the price at which any of our common stock to be registered hereunder may ultimately be sold by the holders thereof. Shares of our common stock are currently quoted for trading on the Nasdaq under the symbol ARTL. The selling stockholders may use any one or more of the following methods when disposing of shares or interests therein:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales effected after the date the registration statement of which this prospectus is a part is declared effective by the SEC;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;

- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted by applicable law.

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our common stock or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of our common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling stockholders from the sale of the common stock offered by them will be the purchase price of the common stock less discounts or commissions, if any. Each of the selling stockholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of common stock to be made directly or through agents. We will not receive any of the proceeds from this offering. Upon any exercise of the warrants by payment of cash, however, we will receive the exercise price of the warrants.

The selling stockholders also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act, provided that they meet the criteria and conform to the requirements of that rule.

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The selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of the common stock or interests therein may be “underwriters” within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are “underwriters” within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the shares of our common stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In order to comply with the securities laws of some states, if applicable, the common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the common stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates. In addition, to the extent applicable we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We have agreed to indemnify the selling stockholders against liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the shares offered by this prospectus.

We have agreed with the selling stockholders to keep the registration statement of which this prospectus constitutes a part effective until the earlier of (1) such time as all of the shares covered by this prospectus have been disposed of pursuant to and in accordance with the registration statement or (2) the date on which all of the shares may be sold without restriction pursuant to Rule 144 of the Securities Act.

LEGAL MATTERS

Selected legal matters with respect to the validity of the securities offered by this prospectus will be passed upon for us by Fennemore Craig, P.C., Reno, Nevada.

EXPERTS

The consolidated financial statements of Artelo Biosciences, Inc. as of August 31, 2018 and 2017 and for each of the two years in the period ended August 31, 2018 have been incorporated by reference herein and in the registration statement have been so included in reliance on the report (which includes an explanatory paragraph relating to Artelo's ability to continue as a going concern as described in Note 3 to the financial statements) of MaloneBailey, LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We file annual, quarterly and other reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including any amendments to those reports, and other information we file with or furnish to the SEC pursuant to Section 13(a) or 15(d) of the Exchange Act can also be accessed free of charge at our website at <http://www.artelobio.com>. Such information is made available on our website as soon as reasonably practicable after we electronically file it with or furnish it to the SEC. Information contained on our website is not part of this prospectus.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information we file with the SEC, which means we may disclose important information to you by referring you to other documents we file separately with the SEC. The information we incorporate by reference is considered a part of this prospectus. We hereby incorporate by reference the following documents previously filed with the SEC:

- Artelo's Annual Report on Form 10-K for the fiscal year ended August 31, 2018 filed on November 29, 2018;
- Artelo's Quarterly Reports on Form 10-Q for the quarters ended November 30, 2018, February 28, 2019 and May 31, 2019 filed on January 14, 2019, April 15, 2019 and July 15, 2019, respectively;
- Artelo's Current Reports on Form 8-K filed on March 7, 2019, March 8, 2019, April 30, 2019, June 25, 2019 and September 6, 2019; and
- Artelo's description of its common stock set forth in the registration statement on Form 8-A registering the common stock under Section 12 of the Exchange Act filed on June 21, 2019, including any amendments or reports filed for purposes of updating such description.

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Any information in the foregoing documents will automatically be deemed to be modified or superseded to the extent that information in this prospectus modifies or replaces such information. We also incorporate by reference any future filings (other than information furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act until we file a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold. Information in such future filings shall be deemed to update and supplement the information provided in this prospectus, and any statements in such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that the statements in the later filed document modify or replace such earlier statements.

You may obtain from us copies of the documents incorporated by reference in this prospectus, at no cost, by requesting them in writing or by telephone at:

Artelo Biosciences, Inc.
888 Prospect Street, Suite 210
La Jolla, California 92037
(760) 943-1689

You should rely only on the information incorporated by reference or provided in this prospectus. We have not authorized anyone to provide you with different information. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front of this document. Any statement contained in a document incorporated in this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus modifies or supersedes that statement. Any statement that is modified or superseded will not constitute a part of this prospectus, except as modified or superseded.

Copies of the documents incorporated by reference may also be found on our website at www.artelobio.com. Except with respect to the documents expressly incorporated by reference above which are accessible at our website, the information contained on our website is not a part of, and should not be construed as being incorporated by reference into, this prospectus.

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**899,183 Shares of Common Stock
Offered by Selling Stockholders**

Artelo Biosciences, Inc.

Common Stock

PROSPECTUS

, 2019

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PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth expenses in connection with the issuance and distribution of the securities being registered. All amounts shown are estimated.

Legal and SEC fees	\$	100,000
Printing costs		500
Accounting fees and expenses		10,000
Miscellaneous		9,500
Total	\$	120,000

We have agreed to pay the foregoing expenses and we will not be seeking reimbursement from the selling stockholders.

Item 15. Indemnification of Directors and Officers.

The Company's Articles of Incorporation and Bylaws provide that, to the fullest extent permitted by the laws of the State of Nevada, any officer or director of the Company, 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, by reason of the fact that he/she is or was or has agreed to serve at the request of the Corporation as a director, officer, employee or agent of the Corporation, or while serving as a director or officer of the Corporation, is or was serving or has agreed to serve at the request of the Corporation as a director, officer, employee or agent (which, for purposes hereof, shall include a trustee, partner or manager or similar capacity) of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise, or by reason of any action alleged to

have been taken or omitted in such capacity. For the avoidance of doubt, the foregoing indemnification obligation includes, without limitation, claims for monetary damages against Indemnitee to the fullest extent permitted under Section 78.7502 of the Nevada Revised Statutes as in existence on the date hereof.

The indemnification provided shall be from and against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with such action, suit or proceeding and any appeal therefrom, but shall only be provided if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action, suit or proceeding, had no reasonable cause to believe Indemnitee's conduct was unlawful.

In the case of any threatened, pending or completed action or suit by or in the right of the Corporation to procure a judgment in its favor by reason of the fact that he/she is or was a director, officer, employee or agent of the Corporation, or while serving as a director or officer of the Corporation, is or was serving or has agreed to serve at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise, no indemnification shall be made in respect of any claim, issue or matter as to which Indemnitee shall have been adjudged to be liable to the Corporation unless, and only to the extent that, the Nevada courts 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, Indemnitee is fairly and reasonably entitled to indemnity for such expenses which the Nevada courts or such other court shall deem proper.

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 he/she did not act in good faith and in a manner which Indemnitee 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 Indemnitee's conduct was unlawful.

To the extent that indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling our company pursuant to the foregoing provisions, we have been informed that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable. If a claim for indemnification against such liabilities (other than the payment by us of expenses incurred or paid by a director, officer or controlling person of our company in the successful defense of any action, suit or proceeding) is asserted by any of our directors, officers or controlling persons in connection with the securities being registered, we will, unless in the opinion of our counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by us is against public policy as expressed in the Securities Act and will be governed by the final adjudication of that issue.

Item 16. Exhibits.

(a) *Exhibits.*

The exhibits to the registration statement are listed in the Exhibit Index attached hereto and incorporated by reference herein.

Item 17. Undertakings.

- (a) The undersigned registrant hereby undertakes:
 - (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) to include any prospectus required by section 10(a)(3) of the Securities Act of 1933;
 - (ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in 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 Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 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 (I)(i), (I)(ii) and (I)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended, that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement

- (2) That, for the purpose of determining any liability under the Securities Act of 1933, 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 of 1933 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 of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.
- (b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 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 Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on October 29, 2019.

ARTELO BIOSCIENCES, INC.

By: /s/ Gregory D. Gorgas
Name: Gregory D. Gorgas
Title: President & Chief Executive Officer

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

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Gregory D. Gorgas</u> Gregory D. Gorgas	President, Chief Executive Officer and Director (Principal Executive Officer, Principal Financial Officer and Principal Accounting Officer)	October 29, 2019
<u>*</u> Connie Matsui	Director, Chair of the Board	October 29, 2019
<u>*</u>	Director	October 29, 2019

Steven Kelly

* _____ Director October 29, 2019
Douglas Blayney

* _____ Director October 29, 2019
R. Martin Emanuele

* _____ Director October 29, 2019
Georgia Erbez

* Pursuant to power of attorney

By: /s/ Gregory D. Gorgas _____
Gregory D. Gorgas
Attorney-in-fact

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EXHIBIT INDEX

Exhibit Number	Description	Form	File No.	Filing Date	Filed Herewith
<u>3.1</u>	<u>Articles of Incorporation and Amendments</u>	S-1	333-199213	10/8/2014	
<u>3.2</u>	<u>Certificate of Amendment filed with the Nevada Secretary of State on February 2, 2017 with an effective date of February 10, 2017.</u>	8-K	333-199213	2/9/2017	
<u>3.3</u>	<u>Certificate of Change.</u>	8-K	333-199213	4/17/2017	
<u>3.4</u>	<u>Bylaws</u>	S-1	333-199213	10/8/2014	
<u>3.5</u>	<u>Certificate of Amendment to Articles of Incorporation filed with the Nevada Secretary of State on June 19, 2019.</u>	S-1/A	333-230658	6/20/2019	
<u>4.1</u>	<u>Form of Public Warrant</u>	S-1/A	333-230658	6/20/2019	
<u>4.2</u>	<u>Form of Underwriter's Warrant</u>	S-1/A	333-230658	6/20/2019	
<u>4.3</u>	<u>Form of Private Placement Warrant</u>	8-K/A	333-199213	10/3/2017	
<u>5.1</u>	<u>Legal Opinion of Fennemore Craig, P.C.</u>				*
<u>10.1</u>	<u>Senior Promissory Note dated November 18, 2016</u>	8-K	333-199213	11/18/2016	

<u>10.2</u>	<u>Consultancy Agreement by and between the Company and Dr. Saoirse O'Sullivan, PhD dated March 22, 2017.</u>	8-K	333-199213	4/7/2017	
<u>10.3#</u>	<u>Employment Agreement by and between the Company and Gregory D. Gorgas dated April 3, 2017.</u>	8-K	333-199213	4/7/2017	
<u>10.4</u>	<u>Securities Purchase Agreement by and between the Company and Gregory D. Gorgas dated April 3, 2017.</u>	8-K	333-199213	4/7/2017	
<u>10.5#</u>	<u>Form of Indemnification Agreement</u>	8-K	333-199213	5/8/2017	
<u>10.6</u>	<u>Note Repayment Agreement by and between Artelo Biosciences, Inc. and Malibu Investments Limited</u>	8-K	333-199213	5/8/2017	
<u>10.7</u>	<u>Stock Purchase Agreement dated May 4, 2017</u>	8-K	333-199213	5/8/2017	
<u>10.8</u>	<u>Form of Private Placement Subscription Agreement</u>	8-K	333-199213	8/4/2017	
<u>10.9</u>	<u>Form of Registration Rights Agreement</u>	8-K	333-199213	8/4/2017	
<u>10.10#</u>	<u>Indemnification Agreement dated as of July 31, 2017</u>	8-K	333-199213	8/4/2017	
<u>10.11</u>	<u>Stock Purchase Agreement dated as of August 1, 2017</u>	8-K	333-199213	8/4/2017	
<u>10.12#</u>	<u>Form of Indemnification Agreement, by and between the Company and its directors.</u>	8-K	333-199213	9/25/2017	
<u>10.13</u>	<u>Material and Data Transfer, Option and License Agreement dated as of December 20, 2017 by and between the Company and NEOMED Institute+</u>	10-Q	33-199213	1/16/2018	
<u>10.14+</u>	<u>First Amendment to Material and Data Transfer, Option and License Agreement by and between the Company and NEOMED Institute, dated as of January 4, 2019</u>	10-Q	333-199213	4/15/2019	
<u>10.15#</u>	<u>2018 Equity Incentive Plan</u>	S-1	333-227571	9/27/2018	
<u>10.16#</u>	<u>Form of Stock Option Agreement—2018 Equity Incentive Plan</u>	S-1	333-227571	9/27/2018	
<u>10.17</u>	<u>Form of Warrant Agency Agreement</u>	S-1/A	333-230658	6/20/2019	
<u>10.18+</u>	<u>License Agreement with Stony Brook University, by and between the Company and Stony Brook University, dated January 18, 2018</u>	S-1/A	333-222756	4/17/2018	
<u>10.19#</u>	<u>Consulting Agreement by and between the Company and Blackrock Ventures Ltd. dated as of April 1, 2018.</u>	S-3	333-232853	4/26/2019	
<u>23.1</u>	<u>Consent of Independent Registered Public Accounting Firm</u>				*
<u>23.2</u>	<u>Consent of Fennemore Craig, P.C. (included in exhibit 5.1)</u>				*
<u>24.1</u>	<u>Power of attorney</u>	S-1	333-222756	1/29/2018	
			333-227571	9/27/2018	

Management contracts or compensatory plans, contracts or arrangements.

+ Certain portions of this exhibit have been omitted.

October 29, 2019

Artelo Biosciences, Inc.
888 Prospect Street, Suite 210
La Jolla, CA 92037

Re: Post-Effective Amendment No. 1 to Form S-1 on Form S-3 Registration Statement for Artelo Biosciences, Inc.

Ladies and Gentlemen:

We are acting as special Nevada counsel for Artelo Biosciences, Inc., a Nevada corporation (the "Company"), in connection with the filing with the Securities and Exchange Commission (the "**Commission**") of a Post-Effective Amendment No. 1 to Form S-1 on Form S-3 Registration Statement (the "**Registration Statement**"), filed by the Company on the date hereof with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Act"), relating to the offering for resale of 899,183 shares of common stock of the Company, par value \$0.001 per share (the "Common Stock"), consisting of (i) 403,877 shares of Common Stock (the "Issued Shares") issued pursuant to the Subscription Agreements (as defined below) and (ii) 495,306 shares of Common Stock (the "Warrant Shares") issuable upon exercise of the Warrants (as defined below), in each case for the account of the selling shareholders identified in the Registration Statement.

We have examined originals or copies of each of the documents listed below:

1. The Articles of Incorporation of the Company, as amended, as certified by an officer of the Company as of the date hereof;
 2. The Bylaws of the Company, as certified by an officer of the Company as of the date hereof;
 3. Resolutions of the Board of Directors of the Company, relating to the issuance of the Issued Shares and the Warrants, as certified by an officer of the Company as of the date hereof;
 4. the form of the subscription agreements attached as Exhibits to the respective Resolutions of the Board of Directors of the Company (the "Subscription Agreements");
-

FENNEMORE CRAIG
ATTORNEYS

October 29, 2019
Page 2

5. the form of the Series A Common Stock Purchase Warrant, associated with the Series A issuance which closed July 31, 2017, the form of the Series A Common Stock Purchase Warrant associated with the Series B issuance which closed March 23, 2018, and the form of the Series C Common Stock Purchase Warrant (collectively, the “Warrants”); and

6. The Registration Statement.

We have examined originals or copies of such other corporate records, certificates of corporate officers and public officials and other agreements and documents as we have deemed necessary or advisable for purposes of this opinion letter. We have relied upon the certificates of all public officials and corporate officers with respect to the accuracy of all factual matters contained therein.

Without limiting the generality of the foregoing, in our examination, we have, with your permission, assumed without independent verification, that (i) all documents submitted to us as originals are authentic, the signatures on all documents that we examined are genuine, and all documents submitted to us as certified, conformed, photostatic, electronic or facsimile copies conform to the original document; and (ii) all corporate records made available to us by the Company and all public records we have reviewed are accurate and complete. We note that the Company has reserved, and assume it will continue to maintain reserved, a sufficient number of shares of its duly authorized, but unissued, common stock as is necessary to provide for the issuance of the Warrant Shares.

1. The Issued Shares have been duly authorized by the Company and the Issued Shares are validly issued, fully paid and nonassessable.
2. The Warrant Shares have been duly and validly authorized and when issued and paid for in accordance with the terms and conditions of each Warrant, the Warrant Shares will be validly issued, fully paid and nonassessable.

We express no opinion as to the laws of any jurisdiction other than the laws of the State of Nevada. The opinions expressed above concern only the effect of the laws (excluding the principles of conflict of laws) of the State of Nevada currently in effect. We assume no obligation to supplement this opinion if any applicable laws change after the date of this opinion, or if we become aware of any facts that might change the opinions expressed above after the date of this opinion.

This opinion is issued in the State of Nevada. By issuing this opinion, Fennemore Craig, P.C. (i) shall not be deemed to be transacting business in

any other state or jurisdiction other than the State of Nevada and (ii) does not consent to the jurisdiction of any state other than the State of Nevada. Any claim or cause of action arising out of the opinions expressed herein must be brought in the State of Nevada. Your acceptance of this opinion shall constitute your agreement to the foregoing.

We consent to your filing of this opinion as an exhibit to the Registration Statement and further consent to the use of our name wherever appearing in the Registration Statement. In giving these consents, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Act, the rules and regulations of the Securities and Exchange Commission promulgated thereunder, or Item 509 of Regulation S-K. The opinions expressed in this letter are rendered as of the date hereof, and we express no opinion as to circumstances or events that may occur subsequent to such date. Our opinion is expressly limited to the matters set forth above and we render no opinion, whether by implication or otherwise, as to any other matters relating to the Company or the common stock of the Company.

Very truly yours,

/s/ Fennemore Craig, P.C.
Fennemore Craig, P.C.

CDOL



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 November 29, 2018 with respect to the audited consolidated financial statements of Artelo Biosciences, Inc. for the years ended August 31, 2018 and 2017. Our report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

We also consent to the references to us under the heading "Experts" in such Registration Statement.

/s/ MaloneBailey, LLP
www.malonebailey.com
Houston, Texas
October 29, 2019

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