

DIVISION OF CORPORATION FINANCE

April 7, 2020

Gregory Gorgas President, Chief Executive Officer and Chief Financial Officer Artelo Biosciences, Inc. 888 Prospect Street, Suite 210 La Jolla, CA 92037

> Re: Artelo Biosciences, Inc. Form 10-K for the Fiscal Year Ended August 31, 2019 Response Dated March 27, 2020 File No. 1-38951

Dear Mr. Gorgas:

We have reviewed your March 27, 2020 response to our comment letter and have the following comment. In our comment, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this comment within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comment applies to your facts and circumstances, please tell us why in your response.

After reviewing your response to this comment, we may have additional comments. Unless we note otherwise, the reference to our prior comment is to our comment in our March 23, 2020 letter.

Form 10-K for the Fiscal Year Ended August 31, 2019

Statements of Operations, page F-3

1. We reviewed your response to our previous comment. You state that you increased the numerator to increase the net loss due to the change in the fair value of the derivative liability related to outstanding warrants. Please explain to us why the assumed exercise of outstanding warrants does not result in an increase in the denominator used to compute diluted loss per share. In doing so, tell us the number of shares of common stock you could acquire based on the average share trading price during the year ended August 31, 2019 as compared to the assumed proceeds from exercise of the warrants.

Gregory Gorgas Artelo Biosciences, Inc. April 7, 2020 Page 2

You may contact Scott Stringer at 202-551-3272 or me at 202 -551-3344 with any questions.

Sincerely,

Division of Corporation Finance Office of Trade & Services

cc: Randy Schreckhise, Vice President, Finance and Operations