

CERTAIN PORTIONS OF THIS LETTER AS FILED VIA EDGAR HAVE BEEN OMITTED AND FILED SEPARATELY WITH THE COMMISSION. CONFIDENTIAL TREATMENT HAS BEEN REQUESTED WITH RESPECT TO THE OMITTED PORTIONS. OMITTED INFORMATION HAS BEEN REPLACED IN THIS LETTER AS FILED VIA EDGAR WITH A PLACEHOLDER IDENTIFIED BY THE MARK “[*].” THE OMITTED PORTIONS ARE BRACKETED IN THIS PAPER LETTER FOR EASE OF IDENTIFICATION.

October 9, 2014

Jeffrey P. Riedler
Assistant Director
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: Jaguar Animal Health, Inc.
Draft Registration Statement on Form S-1
Filed September 9, 2014
File No. 333-198383

Dear Mr. Riedler:

On behalf of our client, Jaguar Animal Health, Inc., a Delaware corporation (the “Company”), and in connection with the submission of letters dated August 11, 2014 (the “First Response Letter”) and September 9, 2014 (the “Second Response Letter”), in response to comments (the “Comments”) of the Staff (the “Staff”) of the Securities and Exchange Commission (the “Commission”) issued in a letter dated July 14, 2014 (the “Initial Letter”) and August 25, 2014 (the “Second Letter”), respectively, regarding the Company’s above-referenced Registration Statement on Form S-1, originally confidentially submitted to the Commission on June 16, 2014, and as subsequently amended on August 11, 2014, publicly filed on Form S-1 on August 27, 2014, and as further amended on September 9, 2014 (as so amended, the “Registration Statement”), we submit this supplemental letter to further address comment 8 of the First Response Letter and comment 4 of the Second Response Letter.

Because of the commercially sensitive nature of information contained herein, this submission is accompanied by the Company’s request for confidential treatment for selected portions of this letter. The Company has filed a separate letter with the Office of Freedom of Information and Privacy Act Operations in connection with the confidential treatment request, pursuant to Rule 83 of the Commission’s Rules on Information and Requests, 17 C.F.R. § 200.83. For the Staff’s reference, we have enclosed a copy of the Company’s letter to the Office of Freedom of Information and Privacy Act Operations, as well as a copy of this correspondence, marked to show the portions redacted from the version filed via EDGAR and for which the Company is requesting confidential treatment.

For the convenience of the Staff, we have recited the prior comment from the Staff in bold type and have followed the comment with the Company’s response.

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- 8. Progressively bridge your fair value determinations to the estimated IPO price range. Please reconcile and explain the differences between the mid-point of your estimated offering price range and the fair values included in any analysis you provide. Also, note that we are deferring a final evaluation of any stock compensation and other costs for future equity issuances including options, warrants, common shares and preferred shares until an amendment containing the estimated offering price is filed.**
- 4. Please refer to prior comment 8. We acknowledge the information provided in your response but may have additional comments on your accounting for stock compensation once you have disclosed an estimated offering price. When the amendment containing the estimated offering price is filed, please provide us separately a quantitative and qualitative analysis explaining the difference between the estimated offering price and the fair value of your most recent equity issuance.**

Response:

Estimated Offering Price Range

The Company advises the Staff that the Company currently estimates, based in part on advice and input recently received from its underwriters, that the initial public offering price per share of its currently contemplated initial public offering (“IPO”) will be between \$[*] - \$[*] per share (the “Price Range”), which does not take into account an expected reverse stock split of the Company’s capital stock (the “Reverse Stock Split”) to be implemented prior to the

IPO. The Price Range does not take into account the current lack of liquidity for the Company's common stock and assumes a successful IPO with no weighting attributed to any other outcome for the Company's business, such as remaining a privately-held company or being sold in an acquisition transaction.

The Company expects to include the Price Range and the size of the Reverse Stock Split in an amendment to the Registration Statement that would shortly precede the commencement of the Company's road show process. We are providing this information to you supplementally to facilitate your review process.

Most Recent Equity Issuance; Value Determination and Methodology

June 2014

As previously disclosed to the Staff in the First Response Letter, on June 2, 2014, the board of directors granted restricted stock units ("RSUs") to the Company's employees for an aggregate of 118,953 shares of common stock and granted a non-qualified option to purchase 59,116 shares of common stock with an exercise price \$3.22 per share to one director, Mr. Bochnowski. The value of the RSUs and the option exercise price per share were determined by the Board of Director after considering the factors set forth on pages 59-60 of the Registration Statement and on a valuation performed by the Company and a third-party firm as of June 1, 2014 (the "June 2014 Valuation"). The Board of Directors has not granted any stock awards since June 2, 2014.

The Company respectfully advises the Staff that the June 2014 Valuation resulted from valuing the enterprise value of the Company and then allocating the enterprise value among the various classes of Company stock. Of the three approaches used to determine equity value, the Company relied on the market approach and did not rely upon the income approach or cost approach. The Company considered the three primary methodologies under the market approach — (i) the guideline company method, (ii) the guideline transaction method and (iii) the subject company transaction method.

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The Company utilized two methodologies to determine the fair value of the common stock: (i) the probability-weighted expected returns method ("PWERM") and (ii) the option-pricing method ("OPM"), weighted 70% and 30%, respectively.

Pursuant to the PWERM, the Company reviewed various future outcomes and estimated enterprise values dependent upon such outcome and allocated a percentage likelihood to each as follows: (i) IPO — 50%, (ii) sale or merger — 20%, (iii) continue as private company — 10% and (iv) failure — 20%. The fair value under the PWERM analysis was estimated to be \$4.99 per share.

The beginning point of the OPM is an estimate of enterprise valuation. As disclosed on page 102 of the Registration Statement, in April and May 2014, the Company received additional aggregate gross proceeds of \$1,777,338 from the issuance of 790,911 shares of Series A preferred stock. Following such additional issuances the implied post-money enterprise value of the Company was \$20.0 million. The Company respectfully submits that the enterprise value ascribed to the Company by the professional investors who purchased the Series A preferred stock is the best indicator of the enterprise value of the Company as of June 1, 2014. Pursuant to the OPM analysis, the Company estimated the value of call options on the common stocks' participation in the value of the Company above the respective preferred stockholders' liquidation rights. The OPM involved estimating the value of call options using an OPM at a series of exercise prices that coincide with the liquidation and conversion preferences of the preferred and common stockholders. After applying a volatility factor of 63.07%, a term of 0.90 (weighted average time of an IPO and sale or merger exit) and a risk-free rate of return of 0.29%, the fair value under the OPM analysis was estimated to be \$2.34 per share.

Based upon a factor of 70% for the PWERM and 30% for the OPM, the Company determined that the fair value of the common stock was \$4.19 per share, before applying a discount for lack of marketability. The Company calculated a discount rate for lack of marketability of 23.3% based upon both quantitative and qualitative analysis and estimated a fair value of \$3.22 per share.

Company Milestones Impacting Value

Subsequent to the June 2014 Valuation, the Company has achieved the following milestones:

- The Company continued to progress towards the proposed IPO and made its first confidential submission with the Commission of the draft Registration Statement on Form S-1 on June 16, 2014, which it amended on August 11, 2014 in response to comments from the Commission and made its first public filing of the Registration Statement on Form S-1 on August 27, 2014, with the first amendment filed on September 9, 2014 in response to further comments from the Commission.
- The Company engaged in "test-the-waters" meetings with investors pursuant to Section 5(d) of the Securities Act. In connection with such "test-the-waters" meetings, the Company received feedback from potential investors regarding the Company's enterprise value that has caused management to increase its expectations regarding the anticipated price range of an IPO of the Company's common stock.
- The Company successfully raised \$150,000 of additional capital in July 2014 through the issuance of convertible promissory notes, with the conversion price fixed at a discount to the IPO price, and in August 2014, secured a \$1 million standby line of credit (which debt may become convertible at the holder's into shares of the Company's common stock at a conversion price

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fixed at a discount to the IPO price), and issued warrants to the lender with the exercise price fixed at a discount to the IPO price.

- The Company continued to execute on its operational plans and hired two employees in June 2014 (an additional veterinary doctor, as well as a vice president, commercial), had three additional employees join the Company in September 2014 (an equine veterinary doctor, an executive director of regulatory affairs and a field sales manager), with a fourth (a director of operations) who started in early October 2014.
- The Company filed investigational new drug applications (“INAD”) with the Food and Drug Administration (“FDA”) for additional pipeline prescription drug products in July 2014 (Virend, for herpes virus in cats) and in September 2014 (NP-500, for obesity related metabolic dysfunction in dogs), scheduled the meeting with the FDA to review the minor use major species, or MUMS, designation for crofelemer for chemotherapy induced diarrhea in dogs (to be held in late October 2014), and in mid-August 2014, commenced the ongoing field studies for Neonorm™ in preweaned dairy calves.
- In July 2014, the Company commenced initial launch activities for its lead non-prescription product, Neonorm™, and met with key opinion leaders in the dairy industry.
- In August 2014, the Company entered into its first distributorship arrangement for the Upper Midwest region with Animart.
- In September 2014, the Company executed an additional distributor agreement with a national master distributor. The Company also received finished product for Neonorm™ Calf and formally launched Neonorm™ Calf at the World Dairy Expo in partnership with Animart.

Although, no stock awards have been granted since June 2, 2014, the Company advises the Staff, that in August 2014, the Company conducted a valuation with a third-party firm of the fair value of the common stock. The valuation utilized the same methodologies as the June 2014 Valuation (with different weightings and discounts) and estimated a fair value of \$4.45 per share as of August 15, 2014.

Conclusion

The Company respectfully advises the Staff that it believes that the items discussed above since the June 2014 Valuation bridge the Company’s fair value determinations to the Price Range and the change in value is also supported by the following factors:

- The Company and the third-party firm utilized quantitative methodologies to determine the fair value of the common stock, which may differ from the more qualitative and subjective methodologies that may be used by some public market investors to determine the price they are willing to pay in an IPO.
- The Price Range represents a future price for shares of common stock that, if issued in the IPO, will be immediately freely tradable in a public market, whereas the estimated fair value of the common stock as of the June 2, 2014 grant date represents a contemporaneous estimate of the fair value of shares that were then illiquid, might never become liquid and, even if an IPO were successfully completed, would remain illiquid at least until the expiration of the 180-day lockup

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period following the IPO. This illiquidity also accounts for a substantial difference between the fair value of the common stock as of June 2, 2014 grant date and the Price Range.

- The Price Range does not take into account the probability of alternative outcomes that could yield lower valuations, such as an acquisition at differing valuations or that the Company may continue as a private, stand-alone entity or fail to continue as a going concern.
- The holders of the Company’s preferred stock currently enjoy substantial economic rights and preferences over the holders of its common stock, including the right to receive dividends prior to any dividends declared or paid on any shares of the Company’s common stock and liquidation payments in preference to holders of common stock. The Price Range described assumes the conversion of all of the Company’s preferred stock upon the completion of its IPO. The corresponding elimination of the preferences and rights enjoyed by the holders of such preferred stock results in a higher valuation.
- The successful completion of an IPO would strengthen the Company’s balance sheet, provide access to public equity and provide enhanced operational flexibility.

In conclusion, the Company respectfully submits to the Staff that the changes between the June 2014 Valuation and the Price Range are reasonable in light of the considerations outlined above. The Company also respectfully submits that the determination of the fair value of its common stock in June 2014 was consistent with the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*.

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Should you have any questions concerning any of the foregoing, please contact me by telephone at (415) 659-5936.

Sincerely,

/s/ Marianne C. Sarrazin

Marianne C. Sarrazin

Reed Smith LLP

Cc: Lisa A. Conte, Jaguar Animal Health, Inc., by e-mail
Bryan Gendron, BDO USA, LLP, by e-mail
Donald C. Reinke, Reed Smith LLP, by e-mail
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