

September 13, 2022

Ms. Abby Adams  
Office of Life Sciences  
Division of Corporation Finance  
U.S. Securities and Exchange Commission  
100 F Street NE  
Washington, DC 20549

**Re: LMF Acquisition Opportunities, Inc.  
Amendment No. 2 to Registration Statement on Form S-4  
Filed August 24, 2022  
File No. 333-264993**

Dear Ms. Adams:

On behalf of our client, LMF Acquisition Opportunities, Inc. (the "Company" or "LMAO"), set forth below are the responses of the Company to the comments of the Staff (the "Staff") of the Securities and Exchange Commission set forth in the Staff's letter, dated September 2, 2022, with respect to the above-referenced filing. The numbered items set forth below repeat (in bold italics) the comments of the Staff reflected in the comment letter, and following such comments are the responses of the Company (in regular type). Concurrently herewith, the Company is filing Amendment No. 3 to the Registration Statement on Form S-4 (the "Amended Registration Statement") that reflects the responses to your comments. In addition, we are delivering to the Staff clean and marked courtesy copies of the Amended Registration Statement. Capitalized terms used but not defined in this letter have the meanings given to such terms in the Amended Registration Statement. References to page numbers in this letter are to page numbers in the Amended Registration Statement.

**Amendment No. 2 to Registration Statement on Form S-4**

Cover Page

- We note the revised disclosure on the cover page in response to comment 1. We further note that your "anticipated" scenario shown on the cover page appears to actually be your "No Redemption" scenario shown on page 121. Please update your disclosure to clarify the estimated ownership percentages provided is for the "No Redemption" scenario or otherwise advise. Also, please revise the assumptions underlying the two scenarios depicted on the cover page to eliminate repetition and highlight the differences as it appears the only differences between the two scenarios is "no redemptions" versus "maximum redemptions." Finally, please refrain from describing your "No Redemption" scenario as the "anticipated" or "expected" scenario and make clarifying disclosure throughout your filing, including on pages 8, 26, 73, and 143.***

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DALLAS	LOS ANGELES	NEW YORK	SILICON VALLEY	TOKYO
DENVER	MADISON	ORLANDO	TALLAHASSEE	

Response:

In response to the Staff's comment, the Company has revised the disclosure on the cover page and also in numerous other places in the Amended Registration Statement. In addition to the cover page, please see pages 3, 8-9, 27-28, 75-76, 125-126, 150-151, and 215 of the Amended Registration Statement.

Questions and Answers about the Proposals

Q: What equity stake will current stockholders of LMAO and SeaStar Medical stockholders hold in the Combined Company after closing?., page 8

2. ***Given the uncertainty regarding the potential number of LMAO public stockholders exercising their redemption rights, please update your disclosure in this section so that the disclosure is consistent with your three scenarios (No Redemptions, 50% Redemption and Maximum Redemption) set out in your table on page 27.***

Response:

In response to the Staff's comment, the Company has revised the disclosure on pages 8-9 of the Amended Registration Statement to be consistent with the three ownership scenarios.

Background of the Business Combination., page 99

3. ***We reissue comments 5 and 6 to the extent it remains unclear who led the efforts on behalf of LMAO to find an acquisition partner and what consideration the Board gave to various potential candidates in the process, including when and how many times the Board met to consider acquisition candidates. Revise to clarify. In doing so, please clarify throughout the background section what transactions the Board considered and determined to pursue or eliminated from consideration. In particular, for example, on page 101, you disclose, "[a]fter several more discussions between LMAO's management team and Board and with Company A and its financial advisors" further action occurred. Clarify if there were "several more discussions" with the Board and how many times the Board met with members of management at that point and each time you reference "several more discussions" involving the Board, which occurs again numerous times throughout the background section.***

Response:

In response to the Staff's comment, the Company has revised the disclosure in the "*Background of the Business Combination*" section to include substantial additional detail regarding the process and efforts of the Board and LMAO's management to find an acquisition partner. This additional detail includes, among other things, meeting dates, other key dates, meeting topics, and the identification of participating LMAO management and Board members (as well as a description of who led the various efforts for LMAO). Please see pages 105-108 of the Amended Registration Statement.

4. ***We note the information provided in response to comment 8. Please update your disclosure to clarify why the Board felt it appropriate to rely on the enterprise valuations of large cap comparable companies given the current size of SeaStar Medical. In your correspondence you state the "LMAO Board believed that the nature of SeaStar Medical's product candidate in conjunction with its regulatory strategy was an important element of the future value of SeaStar Medical." Please update your disclosure in your registration statement to discuss the qualitative and quantitative factors your Board relied upon in greater detail to arrive at the pre-money valuation of no less than \$85 million.***

Response:

In response to the Staff's comment, the Company has revised the subject disclosure to include, among other things, a more detailed description of the quantitative and qualitative factors considered by the Board in arriving at its valuation determination, including the reasons for the Board's consideration of large-cap comparables and how they factored into the Board's review. Please see pages 115 and 117-118 of the Amended Registration Statement.

Proposal 6 – The Nasdaq Proposal  
Overview, page 143

5. ***Please update your disclosure here to disclose the \$2.5 million of Commitment Shares payable to Tumim Stone Capital under the Common Stock Purchase Agreement.***

Response:

In response to the Staff's comment, the Company has revised the disclosure on page 149 of the Amended Registration Statement.

Clinical Studies, page 169

6. ***We reissue comment 12 to the extent that you have not disclosed all serious adverse events that were deemed study related. For example, on pages 170-171, list all of the SAEs experienced. On page 171, for the SCD-003-IDEG090189 study where no SAEs were found to be "definitively" related to the device by the principal investigator, please disclose any SAEs that were possibly related to the device or otherwise advise. In addition, in the first full paragraph on page 172, list all SAEs, not only "the most frequent categories." In this regard, it may be useful to provide this disclosure in tabular form.***

Response:

In response to the Staff's comment, the Company has revised the disclosure on pages 178-181 of the Amended Registration Statement to include all serious adverse events, principally in a tabular format.

General

7. *We note the revised disclosure on the cover page regarding the Tumim Stone Capital LLC Common Stock Purchase Agreement. Revise the cover page to disclose the discount to market price to be paid by Tumim and clarify that the agreement is an "equity-line financing agreement" consistent with your disclosure on page 24 and elsewhere. In addition, please update your disclosure on the cover page to describe the \$2.5 million commitment fee payable to Tumim in the form of Commitment Shares and update your estimated ownership percentages upon completion of the Business Combination throughout your filing to account for the estimated Commitment Shares. Finally, please include a separate risk factor to address the potential dilutive effect of your equity line agreement with Tumim.*

Response:

In response to the Staff's comment, the Company has revised the disclosure on the cover page and pages 8-9, 27-30, 75-77, 125-128, 149-151, 207, and 260 of the Amended Registration Statement.

8. *We note the revised disclosure on page 108 in response to comment 2. The revised disclosure states the fact of the potential conflict of interest, but does not address what consideration the board gave to the fact. Please revise accordingly. In addition, please include a cross-reference to your risk factor on page 72 where Maxim's potential conflicts of interest is discussed in greater detail.*

Response:

In response to the Staff's comment, the Company has revised the disclosure on page 113 of the Amended Registration Statement to include additional detail regarding the consideration that the Board gave to Maxim's potential conflicts of interest and to provide the requested cross-reference.

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Please note that the Company has also updated certain other portions of the registration statement on Form S-4, as shown on the clean and marked courtesy copies of the Amended Registration Statement provided.

\* \* \*

If the Staff has any questions with respect to any of the foregoing, please contact the undersigned at (813) 225-4122.

Very truly yours,

/s/ Curt P. Creely, Esq.  
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Curt P. Creely, Esq.  
Foley & Lardner LLP

cc: Bruce M. Rodgers, LMF Acquisition Opportunities, Inc.  
Richard Russell, LMF Acquisition Opportunities, Inc.