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August 22, 2022

By EDGAR

Office of Manufacturing Securities and Exchange Commission Division of Corporation Finance 100 F Street NE Washington, D.C. 20549-3561

Attn: Sherry Haywood Erin Purnell

Re: Kensington Capital Acquisition Corp. IV

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

Filed August 10, 2022 File No. 333-265740

Ladies and Gentlemen:

On behalf of our client, Kensington Capital Acquisition Corp. IV, a Cayman Islands exempted company incorporated with limited liability (the "Company"), set forth below are the Company's responses to the comments of the Staff communicated in the letter dated August 18, 2022 addressed to the Company with respect to the above-referenced Amendment No. 2 to Registration Statement on Form S-4 (the "Registration Statement"). In connection with such responses, we are concurrently submitting, electronically via EDGAR, Amendment No. 3 ("Amendment No. 3") to the Registration Statement.

For ease of reference, each of the Staff's comments is reproduced below in bold and italics and is followed by the Company's response. In addition, unless otherwise indicated, all references to page numbers in such responses are to page numbers in Amendment No. 3. Capitalized terms used in this letter but not otherwise defined herein have the meanings ascribed to them in Amendment No. 3.

Registration Statement on Form S-4/A#2 filed on August 10, 2022

Unaudited Pro Forma Condensed Combined Financial Information, page 91

- 1. We note your response to prior comment 1. Based on your presentation of an additional pro forma scenario, which assumes Amprius waives the Minimum Cash Condition, please revise the filing to address the following:
 - Ensure disclosures throughout the filing adequately present and address the potential impact of all three pro forma scenarios now
 presented, for example, it appears you should revise disclosures on pages 12, 13, 27, and 276 to also present the potential impact of
 the full redemptions scenario;

- Revise MD&A to disclose and discuss the potential impact on the merged entity's financial condition and proposed expansion plans if Amprius waives the Minimum Cash Condition; and
- Disclose and discuss any additional potential risks and consequences to shareholders of the merged entity if Amprius waives the Minimum Cash Condition.

The Company has revised the disclosure on pages 3-4 of the letter to shareholders and on pages 12, 13, 27, 215 and 280 in response to the Staff's comment. Additionally, the Company has added a new risk factor on page 75 in response to the Staff's comment.

Index to Financial Statements, page F-1

2. Please provide updated interim financial statements and related disclosures as required by Rule8-08 of Regulation S-X.

The Company has included in Amendment No. 3 updated interim financial statements and related disclosures as required by Rule8-08 of Regulation S-X in response to the Staff's comment.

If you have any questions in connection with the filing or this response letter, please contact the undersigned at (212)837-6454.

Very truly yours, /s/ Charles A. Samuelson Charles A. Samuelson

cc: Justin Mirro Chairman and Chief Executive Officer Kensington Capital Acquisition Corp. IV

> Michael J. Danaher, Mark B. Baudler Wilson Sonsini Goodrich & Rosati, P.C.