

UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549

July 27, 2021

Eric Scheyer Chief Executive Officer Star Peak Corp II 1603 Orrington Avenue, 13th Floor Evanston, IL 60201

Re: Star Peak Corp II
Amendment No. 2 to Registration Statement on Form S-4
Filed July 15, 2021
File No. 333-256161

Dear Mr. Scheyer:

We have reviewed your amended registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our July 7, 2021 letter.

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

The Merger

Unaudited Prospective Financial Information of Benson Hill, page 144

1. We note your response to prior comment six in which you explain the prospective financial information was prepared as part of Benson Hill's annual planning process. Further, we note you have removed the assumption that the merger and related transactions are completed from the list of assumptions on page 147. Please include disclosure to indicate the prospective financial information does not assume the completion of the merger and related transactions and remove reference to the completion of the merger when detailing your financing assumptions.

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- 2. We note the revisions you have made to your disclosures in response to prior comments seven and eight and note you continue to characterize your responsibility to advise investors of material changes to the assumptions underlying your projections as an exception to your intention to not provide such disclosures, and which continues to indicate that you have not taken into consideration any events occurring after the date the information was prepared. We believe that you will need to substantially revise this disclosure to clearly acknowledge your responsibility and view of the projected amounts. Please provide the clarifying disclosures requested in these prior comments.
- We note your response to prior comment 10 and reissue it in part. Please revise your 3. disclosure to quantitatively discuss all material assumptions underlying the projections and provide insight as to how such assumptions impacted your projections. For example, describe any material assumptions regarding acquisition of acreage; capital expenditures; availability and terms of financing; product development; and rate of expansion of the plant-based meat alternative market and the percent of market percentage. Please also ensure you include a description and quantification of any material assumptions underlying the magnitude and growth in revenue and gross margin from 2022 through 2027. In that regard, we note that STPC's board considered the Unaudited Prospective Financial Information and the company's growth prospects, large addressable market, economics, and financial condition and outlook, in recommending to its shareholders that the transaction be approved. If you believe that additional quantitative disclosure regarding the assumptions underlying the projections is not material, please provide your analysis supporting this conclusion. In addition, please disclose how the length of time for the projections was selected. In that regard, we note that the projections extend through 2027.

Material U.S. Federal Income Tax Consequences, page 197

4. We note your response to prior comment 13 and are unable to concur. Please amend the disclosure throughout your filing, including this section and your Questions and Answers section, to describe the material federal income tax consequences of the merger and related transactions, and not just the federal income tax consequences of redemptions. See Item 4(a)(6) of Form S-4. In this regard, we note that Section 5.6 of the merger agreement provides that the parties intend that the merger qualifies as a "reorganization" within the meaning of Section 368(a) of the Code. If the merger and related transactions are not taxable to shareholders, please also file a tax opinion with your registration statement. Refer to Item 601(b)(8) of Regulation S-K. For guidance, refer to Section III of Staff Legal Bulletin No. 19. In the alternative, please provide your analysis as to why the tax consequences of the transaction are not material.

General

5. We note that it appears that you have removed in this amendment certain disclosures relating to Benson Hill that are required by Form S-4. For example, please provide the disclosure required by Item 4(a)(2) of Form S-4 regarding the reasons of Benson Hill for

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engaging in the transaction, and the disclosure required by Item 4(a)(4) regarding an explanation of any material differences between the rights of Benson Hill stockholders and the rights of New Benson Hill stockholders. Similarly, please provide the disclosure required by Item 18(a)(5)(i) of Form S-4.

You may contact Joseph Klinko, Staff Accountant, at (202) 551-3824 or Jenifer Gallagher, Staff Accountant, at (202) 551-3706 if you have questions regarding comments on the financial statements and related matters. Please contact Karina Dorin, Staff Attorney, at (202) 551-3763 or Laura Nicholson, Special Counsel, at (202) 551-3584 with any other questions.

Sincerely,

Division of Corporation Finance Office of Energy & Transportation

cc: Bryan D Flannery