

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

November 8, 2022

Paul Mann

Chairman, Chief Executive Officer and Chief Financial Officer ASP Isotopes Inc. 433 Plaza Real, Suite 275 Boca Raton, Florida 33432

Re: ASP Isotopes Inc.

Amendment No. 4 to Registration Statement on Form S-1

Filed November 4, 2022 File No. 333-267392

Dear Paul Mann:

We have reviewed your amended registration statement 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 letter by amending your registration statement and providing the requested information. If you do not believe our comment applies 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 this comment, we may have additional comments.

Amendment No. 4 to Form S-1 filed November 4, 2022

Risk Factors

Risks Related to This Offering and Ownership of Our Common Stock

The price of our stock may be volatile, and you could lose all or part of your investment, page 33

1. We note recent instances of extreme stock price run-ups followed by rapid price declines and stock price volatility seemingly unrelated to company performance following a number of recent initial public offerings, particularly among companies with relatively smaller public floats. Please revise your risk factor to clearly state that such volatility, including any stock run-up, may be unrelated to both your actual and expected operating performance and financial condition or prospects, making it difficult for prospective investors to assess the rapidly changing value of your stock.

Paul Mann ASP Isotopes Inc. November 8, 2022 Page 2

You may contact Brian Cascio at 202-551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Jordan Nimitz at 202-551-5831 or Margaret Schwartz at 202-551-7153 with any other questions.

Sincerely,

Division of Corporation Finance Office of Industrial Applications and Services

cc: Brenda Hamilton, Esq.