

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

FORM 10-K/A

(Amendment No. 2)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the year ended December 31, 2023

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number 001-39069

ASP Isotopes Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

87-2618235

(I.R.S. Employer Identification No.)

**1101 Pennsylvania Avenue NW, Suite 300
Washington, DC**

(Address of principal executive offices)

20004

(Zip code)

(202) 756-2245

(Registrant's telephone number, including area code)

Not Applicable

(Former name, former address and former fiscal year, if changed since last report)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of exchange on which registered:
Common stock, par value \$0.01 per share	ASPI	The Nasdaq Capital Market LLC

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated Filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input checked="" type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the voting stock held by non-affiliates of the registrant as of June 30, 2023 (the last business day of the registrant's most recently completed second fiscal quarter) was approximately \$10.2 million.

There were 48,923,276 shares of the registrant's common stock, \$0.01 par value, outstanding as of April 8, 2024.

EXPLANATORY NOTE

ASP Isotopes Inc. (“ASP Isotopes,” the “Company,” “we,” “us,” or “our”) is filing this Amendment No. 2 on Form 10-K/A (this “Amendment No.2”) to our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, originally filed with the Securities and Exchange Commission (the “SEC”) on April 10, 2024 (the “Original Filing”), as amended by Amendment No.1 thereto filed with the SEC on April 29, 2024 (“Amendment No.1”), to amend and restate Part II “Item 9A: Controls and Procedures” solely to revise Management’s Annual Report on Internal Controls Over Financial Reporting in order to correct a typographical error to state that, based on management’s evaluation, the Company’s internal control over financial reporting was not effective as of the end of the period covered by the Original Filing due to the material weaknesses previously disclosed in the Original Filing.

This Amendment No.2 contains only an updated cover page, this explanatory note, the complete text of Item 9A, the exhibit list, a signature page and the certifications pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

Except as described above, this Amendment No.2 does not amend any other information set forth in the Original Filing, and the Company has not updated disclosures included therein to reflect any subsequent events. Accordingly, this Amendment No.2 should be read in conjunction with our Original Filing, Amendment No.1 and with our other filings with the SEC subsequent to the Original Filing.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2023. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, mean controls and other procedures of a company that are designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms. Disclosure controls include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company on the reports that it files or submits under the Exchange Act is accumulated and communicated to management, including, our principal executive and principal financial officers, as appropriate, to allow timely decisions regarding required disclosure.

Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgement in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of December 31, 2023, our Chief Executive Officer and Chief Financial Officer concluded that, as a result of a material weakness identified in our internal control over financial reporting, our disclosure controls and procedures were not effective as of December 31, 2023.

In the course of preparing the financial statements that are included in this Form 10-K, management has determined that a material weakness exists within the internal controls over financial reporting. The material weakness identified relates to the lack of formal control documentation and consistent execution of control procedures, and the lack of a sufficient complement of personnel within the finance and accounting function with an appropriate degree of knowledge, experience and training. We also noted a material weakness related to logical security and privileged access in the area of information technology. We concluded that the material weaknesses in our internal control over financial reporting information technology occurred because, prior to becoming a public company, we were a private company and did not have the necessary business processes, systems, personnel, and related internal controls necessary to satisfy the accounting and financial reporting requirements of a public company.

In order to remediate the material weaknesses, we expect to enhance our formal documentation over internal control procedures and management controls infrastructure to allow for more consistent execution of control procedures and hire additional accounting, and finance and information technology resources or consultants with public company experience.

We may not be able to fully remediate the identified material weakness until the steps described above have been completed and our internal controls have been operating effectively for a sufficient period of time. We believe we have already and will continue to make progress in our remediation plan during the year ending December 31, 2023, but cannot assure you that we will be able to fully remediate the material weakness in 2024. If the steps we take do not correct the material weakness in a timely manner, we will be unable to conclude that we maintain effective internal control over financial reporting. Accordingly, there could continue to be a reasonable possibility that a material misstatement of our financial statements would not be prevented or detected on a timely basis. We also may incur significant costs to execute various aspects of our remediation plan but cannot provide a reasonable estimate of such costs at this time.

Management’s Annual Report on Internal Controls Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). Our internal control system was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes, in accordance with generally accepted accounting principles in the United States. Due to inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness of the internal control over financial reporting to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with policies and procedures may deteriorate. Our management, under the supervision and with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our internal control over financial reporting as of the end of the period covered by this Annual Report on Form 10-K based on the framework in Internal Control---Integrated Framework (2013 framework) issued by the Committee of Sponsoring Organizations of the Treadway Commission, or COSO. Based on such evaluation, our management concluded that our internal control over financial reporting was not effective as of the end of the period covered by this Annual Report on Form 10-K due to the material weaknesses described above.

This Annual Report on Form 10-K does not include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. Our auditors will not be required to opine on the effectiveness of our internal control over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002 until we are no longer an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during our most recent fiscal quarter that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART IV

Item 15. Exhibits, Financial Statement Schedules

The following documents are filed or furnished as part of this Form 10K/A:

(a) Financial Statements

The information concerning our consolidated financial statements and Report of Independent Registered Public Accounting Firm (PCAOB ID 274; Iselin, New Jersey) required by this Item is set forth in Item 8 of the Original Filing, entitled "Financial Statements and Supplementary Data."

(b) Financial Statement Schedules

All schedules have been omitted because the required information is not present or not present in amounts sufficient to require submission of the schedules, or because the information required is included in the Financial Statements or notes thereto.

(c) Exhibits

Exhibit Number	Description of Document
<u>3.1**</u>	<u>Amended and Restated Certificate of Incorporation.</u>
<u>3.2**</u>	<u>Amended and Restated Bylaws.</u>
<u>4.1**</u>	<u>Description of Securities Registered Under Section 12 of the Securities Exchange Act of 1934.</u>
<u>4.2**</u>	<u>Common Stock Purchase Warrant dated March 17, 2023.</u>
<u>4.3**</u>	<u>Placement Agent Common Stock Purchase Warrant dated March 17, 2023.</u>
<u>10.1+**</u>	<u>ASP Isotopes Inc. 2021 Stock Incentive Plan, as amended, and form of award agreements thereunder (incorporated by reference to Exhibit 10.1 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.2+**</u>	<u>ASP Isotopes Inc. 2022 Equity Incentive Plan and form of award agreements thereunder (incorporated by reference to Exhibit 10.2 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.3+**</u>	<u>Performance Share Award Grant Notice and Performance Share Award Agreement with Paul Mann, dated October 4, 2021, as amended (incorporated by reference to Exhibit 10.3 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.4+**</u>	<u>Form of Indemnification Agreement between the registrant and each of its directors and executive officers (incorporated by reference to Exhibit 10.4 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.5+**</u>	<u>Form of Director Agreement (incorporated by reference to Exhibit 10.5 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.6+**</u>	<u>Executive Employment Agreement by and between the registrant and Paul Mann, dated October 4, 2021 (incorporated by reference to Exhibit 10.6 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.7+**</u>	<u>Executive Employment Agreement by and between ASP Isotopes Guernsey Limited and Hendrik Strydom, dated January 19, 2022 (incorporated by reference to Exhibit 10.7 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.8+**</u>	<u>Executive Employment Agreement by and between ASP Isotopes Guernsey Limited and Robert Ainscow, dated October 4, 2021, as amended (incorporated by reference to Exhibit 10.8 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.9**</u>	<u>Advisory Agreement by and between the registrant and ChemBridges LLC, dated October 27, 2021, as amended (incorporated by reference to Exhibit 10.9 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.10**</u>	<u>License Agreement between ASP Isotopes South Africa (Proprietary) Limited (formerly PDS Photonica Holdings South Africa (Proprietary) Limited) and Klydon (Proprietary) Limited dated September 30, 2021, as amended (incorporated by reference to Exhibit 10.10 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.11**</u>	<u>License Agreement between ASP Isotopes South Africa (Proprietary) Limited and Klydon (Proprietary) Limited dated January 25, 2021 (incorporated by reference to Exhibit 10.11 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.12**</u>	<u>Contract for a Turnkey Molybdenum Enrichment Plan between ASP Isotopes South Africa (Proprietary) Limited (formerly PDS Photonica Holdings South Africa (Proprietary) Limited) and Klydon (Proprietary) Limited dated November 1, 2021 (incorporated by reference to Exhibit 10.12 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.13**</u>	<u>Letter Agreements between the registrant and Dr Einar Ronander and Dr Hendrik Strydom, dated January 2021 (incorporated by reference to Exhibit 10.13 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.14**</u>	<u>Chief Scientific Adviser Agreement between the registrant and Dr Einar Ronander, dated January 2021 (incorporated by reference to Exhibit 10.14 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.15**</u>	<u>Lease for Molybdenum Processing Plant between ASP Isotopes South Africa (Proprietary) Limited (formerly PDS Photonica Holdings South Africa (Proprietary) Limited) and Morgan Creek Properties 311 Pty Ltd. (incorporated by reference to Exhibit 10.15 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.16**</u>	<u>Form of Subscription Agreement (incorporated by reference to Exhibit 10.16 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>
<u>10.17**</u>	<u>License Agreement between ASP Isotopes UK Ltd and Klydon (Proprietary) Limited dated July 26, 2022 (incorporated by reference to Exhibit 10.17 to the Form S-1/A filed on November 9, 2022 (File No. 333-267392)).</u>

Exhibit Number	Description of Document
10.18**	Amended Advisory Agreement between the registrant and ChemBridges, LLC, dated December 12, 2022.
10.19**	Amended Executive Employment Agreement between the registrant and Paul Mann effective December 20, 2022.
10.20**	Acknowledgement of Debt Agreement between ASP Isotopes South Africa (Proprietary) Limited and Klydon (Proprietary) Limited dated November 30, 2022
10.21**	Deed of Security Agreement between ASP Isotopes South Africa (Proprietary) Limited and Klydon (Proprietary) Limited dated November 30, 2022
10.22**	Securities Purchase Agreement dated March 14, 2023 (private placement of shares and warrants).
10.23**	Registration Rights Agreement dated March 14, 2023 (private placement of shares and warrants).
10.24**	Release Agreement, dated March 23, 2023 between Revere Securities LLC and ASP Isotopes Inc.
10.25**	Form of Securities Purchase Agreement by and between ASP Isotopes Inc. and the purchasers named therein (October 2023 private placement of shares).
10.26**	Form of Registration Rights Agreement by and between ASP Isotopes Inc. and the purchasers named therein (October 2023 private placement of shares).
10.27**	Share Purchase Agreement, dated October 30, 2023, by and between ASP Isotopes Inc., as purchaser, and Nucleonics Imaging Proprietary Limited, as seller, relating to the purchase and sale of ordinary shares of Pet Labs Pharmaceuticals Proprietary Limited.
10.28**	Convertible Note Purchase Agreement (including Form of Convertible Promissory QLE Note), dated as of February 29, 2024, by and among Quantum Leap Energy LLC and the Purchasers listed therein.
10.29**	Registration Rights Agreement, dated as of February 29, 2024, by and among Quantum Leap Energy LLC and the Purchasers listed therein.
10.30+**	Quantum Leap Energy LLC 2024 Equity Incentive Plan.
21.1**	List of Subsidiaries of the Registrant
23.1**	Consent of EisnerAmper LLP, independent registered public accounting firm.
24.1**	Power of Attorney (included as part of the signature page to this report).

Exhibit Number	Description of Document
<u>31.1*</u>	<u>Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
<u>31.2*</u>	<u>Certification of Principal Accounting Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
<u>32.1***</u>	<u>Certification of Principal Executive Officer and Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
<u>97.1**</u>	<u>Policy Relating to Recovery of Erroneously Awarded Compensation, effective October 2, 2023.</u>
<u>99.1**</u>	<u>License Agreement, dated as of February 16, 2024, among ASP Isotopes UK Limited, as licensor, and Quantum Leap Energy LLC and Quantum Leap Energy Limited, as licensee.</u>
<u>99.2**</u>	<u>EPC Services Framework Agreement, dated as of February 16, 2024, between ASP Isotopes Inc. and Quantum Leap Energy LLC.</u>
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Filed herewith.

** Previously filed

*** Previously furnished

+ Management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 1st day of July, 2024.

ASP Isotopes Inc.

By /s/ Paul E. Mann
Paul E. Mann
Chief Executive Officer and
Executive Chairman

CERTIFICATIONS UNDER SECTION 302

I, Paul Mann, certify that:

1. I have reviewed this Annual Report on Form 10-K/A of ASP Isotopes Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 1, 2024

/s/ Paul Mann
Paul Mann
Chief Executive Officer (principal executive officer)

CERTIFICATIONS UNDER SECTION 302

I, Heather Kiessling, certify that:

1. I have reviewed this Annual Report on Form 10-K/A of ASP Isotopes Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 1, 2024

/s/ Heather Kiessling
Heather Kiessling
Chief Financial Officer
(principal financial officer and principal accounting officer)