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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): **June 11, 2025**

ASP Isotopes Inc.

(Exact name of registrant as specified in its charter)

Delaware	**001-41555**	**87-2618235**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

601 Pennsylvania Avenue NW South Building, Suite 900 Washington, DC	**20004**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(202) 756-2245**

Not Applicable
(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01	**ASPI**	**The Nasdaq Stock Market LLC**

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☒

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 ☐

Item 8.01. Other Events.

On June 11, 2025, ASP Isotopes Inc. (the "Company") issued a press release announcing the appointment of Dr. Ryno Pretorius, PhD as Chief Executive Officer of Quantum Leap Energy LLC, the Company's subsidiary that is pursuing an initiative to develop and commercialize advanced nuclear fuels, such as HALEU and Lithium-6. A copy of the press release is attached to this Current Report on Form 8-K as Exhibit 99.1 and is incorporated herein by reference, other than the fifth and sixth paragraphs of the press release.

Item 9.01. Financial Statements and Exhibits.

Exhibit No.	Description
99.1	Press Release, dated June 11, 2025, of ASP Isotopes Inc. announcing the appointment of Dr. Ryno Pretorius, PhD as Chief Executive Officer of Quantum Leap Energy LLC.
104	Cover Page Interactive Date File (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

ASP ISOTOPES INC.

Date: June 11, 2025

By: */s/ Paul Mann*
Name: Paul Mann
Title: Chief Executive Officer

ASP Isotopes Inc. Enhances the Quantum Leap Energy LLC (QLE) Executive Leadership Team with the Appointment of Ryno Pretorius as Chief Executive Officer of QLE

Washington, D.C., June 11, 2025 (GLOBE NEWSWIRE) -- ASP Isotopes Inc. NASDAQ: ASPI ("ASP Isotopes" or the "Company"), an advanced materials company dedicated to the development of technology and processes for the production of isotopes for use in multiple industries, today announced the appointment of Dr. Ryno Pretorius, PhD as Chief Executive Officer of Quantum Leap Energy LLC (QLE), the Company's subsidiary that is pursuing an initiative to develop and commercialize advanced nuclear fuels, such as High Assay Low-Enriched Uranium (HALEU) and Lithium-6. Dr. Pretorius has previously served as a consultant to both ASP Isotopes and QLE.

Paul Mann will continue to serve as the chairman and CEO of ASPI and the chairman of QLE.

Dr. Pretorius has spent the last decade and a half as a practicing chemical engineer facilitating technology scale-up for multiple organizations globally. Importantly, he spent four years working for Necsa (South African Nuclear Energy Company) at Pelindaba, where he gained a comprehensive understanding of the nuclear fuel supply chain, fluorination's role in nuclear fuel production and technology scale-up. He has spent the last ten years as technical director and CEO of Free Radical Process Design, a global consulting firm specializing in the design, development and economic evaluation of engineering technologies and processes where he managed a team of chemical engineers and chemists to solve technical challenges for many companies globally. Free Radical Process Design has been one of ASP Isotopes' key consultants that has been engaged in solving chemical engineering problems associated with isotope enrichment facilities.

Dr. Pretorius has a B. Eng, B. Eng (Hons) and an M. Eng in chemical engineering from the University of Pretoria, as well as a PhD in chemical engineering from the University of Pretoria, where he specialized in fluorochemical engineering and developed a novel fluorination process in the critical materials value-chain. In addition, he also attended the postgraduate program in Data Science and Business Analytics at the University of Texas, Austin. Dr. Pretorius is registered as a Professional Engineer (Pr. Eng - Chemical Engineering) in South Africa. He is the inventor of two patented processes, the first covering electrochemical recovery of trace metals from dilute aqueous streams and in the production of heavy metal fluorides with a reduced CAPEX and OPEX process. Dr. Pretorius is an author or coauthor on a number of scientific papers and articles focussing on gas-solid chemistry, halogenation reactions, electrochemistry and fluorine production. Dr. Pretorius will be based in Austin, Texas, which is set to become the global headquarters of both ASP Isotopes and QLE following the closing of the previously announced acquisition of Renergen Limited.

"*As we prepare for the spin out of QLE, anticipated during 2H 2025, it is an important step to build out the senior leadership team of QLE in order for it to become a standalone company. We have got to know Ryno well over the past four years. His understanding of the nuclear fuel supply chain industry, as well as solving process engineering challenges is second to none and he will make an exceptional leader of our nuclear fuels focused subsidiary*", said Paul Mann, Executive Chairman and Chief Executive Officer of ASP Isotopes.

"I am excited to join and lead QLE during this important stage of its corporate growth and beyond. Having already spent four years working with the teams at ASP Isotopes and QLE to help overcome many of the engineering challenges that their groundbreaking enrichment methods have encountered., I feel highly confident that we can bring new technologies to the world to solve a growing supply shortage of nuclear fuels and energy isotopes" said Dr. Pretorius.

As previously announced, QLE and certain of its subsidiaries has entered into a loan agreement and certain other related agreements with TerraPower, a US nuclear innovation company, related to financing support for the construction of a new uranium enrichment facility capable of producing HALEU at Pelindaba in South Africa. QLE is also in discussions with other governments and expects to build enrichment facilities in other regions, specifically the UK and the USA.

ASP Isotopes believes its proprietary Quantum Enrichment process will be able to produce HALEU at an attractive price, allowing new nuclear energy to become available at a "green discount" to carbon-intensive electricity production processes. This "green energy cost advantage" is expected to help accelerate the global adoption of new nuclear energy, with a corresponding benefit to climate goals. The Quantum Enrichment process, an isotope enrichment method under development by the Company's scientists, is a laser-based enrichment method, which it believes will have both the lowest levelized cost of HALEU production, the lowest cash operating cost of HALEU production, low capital expenditure, and efficient construction cycles. The Company's first Quantum Enrichment Facility, for the production of Ytterbium-176, completed its commissioning phase during 1H 2025 and is currently in the process of enriching commercial samples for customers, which the Company expects to ship during 3Q 2025.

HALEU will be required to enable advanced nuclear reactors, such as SMRs (small modular reactors), which are now under development for commercial and government uses, to operate in the future. Currently, there are no Western producers of HALEU in commercial quantities, and many SMR companies worldwide face substantial delays until this fuel supply issue is resolved. The Nuclear Energy Institute estimates that there may be a HALEU supply demand of approximately 3,000 metric tons by 2035. However, based on discussions with and the interest received from potential customers, the Company believes this figure may be significantly larger.

During the next 30 years, global energy consumption is expected to double. To meet 2050 climate goals, this must occur with a zero increase in carbon emissions. The advanced nuclear fuels required during the next 50 years are expected to differ significantly from those used in the last 50 years. Specifically, many small modular and advanced nuclear reactors in the future are expected to require HALEU.

Inducement Grant

In connection with his appointment as Chief Executive Officer of Quantum Leap Energy LLC, the Company granted Dr. Pretorius 30,000 shares of the Company's common stock. Subject to Dr. Pretorius being continuously employed by the Company or QLE through each applicable vesting date, the shares will vest in eight equal instalments over four years, with 3,750 shares on each of the six-month anniversaries of Dr. Pretorius' employment start date. This restricted stock award was approved by the Company's Compensation Committee and Board of Directors and granted under the Company's 2024 Inducement Equity Incentive Plan as an inducement material to Dr. Pretorius entering into employment with QLE, in accordance with Nasdaq Listing Rule 5635(c)(4).

About ASP Isotopes Inc.

ASP Isotopes Inc. is a development stage advanced materials company dedicated to the development of technology and processes to produce isotopes for use in multiple industries. The Company employs proprietary technology, the Aerodynamic Separation Process ("ASP technology"). The Company's initial focus is on producing and commercializing highly enriched isotopes for the healthcare and technology industries. The Company also plans to enrich isotopes for the nuclear energy sector using Quantum Enrichment technology that the Company is developing. The Company has isotope enrichment facilities in Pretoria, South Africa, dedicated to the enrichment of isotopes of elements with a low atomic mass (light isotopes).

There is a growing demand for isotopes such as Silicon-28, which will enable quantum computing, and Molybdenum-100, Molybdenum-98, Zinc-68, Ytterbium-176, and Nickel-64 for new, emerging healthcare applications, as well as Chlorine-37, Lithium-6, and Uranium-235 for green energy applications. We believe the ASP technology (Aerodynamic Separation Process) is ideal for enriching low and heavy atomic mass molecules. For more information, please visit www.aspisotopes.com.

Forward Looking Statements

This press release contains "forward-looking statements" within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based only on our current beliefs, expectations, and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy, and other future conditions. Forward-looking statements can be identified by words such as "believes," "plans," "anticipates," "expects," "estimates," "projects," "will," "may," "might," and words of a similar nature. Examples of forward-looking statements include, among others but are not limited to, the future of the company's enrichment technologies as applied to uranium enrichment, the outcome of the company's initiative to commence enrichment of uranium in South Africa and the company's discussions with nuclear regulators, the outcome of the project contemplated with Necsa, the expected need or desire for HALEU by third parties, the outcome of the transactions contemplated by the definitive agreements with TerraPower, potential receipt of additional funding and effects, the commencement of supply of isotopes to customers, the construction of additional enrichment facilities, and statements we make regarding expected operating results, such as future revenues and prospects from the potential commercialization of isotopes, future performance under contracts, and our strategies for product development, engaging with potential customers, market position, and financial results. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks, and changes in circumstances that are difficult to predict, many of which are outside our control. Our actual results, financial condition, and events may differ materially from those indicated in the forward-looking statements based upon a number of factors. Forward-looking statements are not a guarantee of future performance or developments. You are strongly cautioned that reliance on any forward-looking statements involves known and unknown risks and uncertainties. Therefore, you should not rely on any of these forward-looking statements. There are many important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements, including, but not limited to: the failure to obtain necessary regulatory and shareholder approvals for the proposed acquisition of Renergen; disruption from the proposed acquisition of Renergen making it more difficult to maintain business and operational relationships; significant transaction costs and unknown liabilities related to the proposed acquisition of Renergen; litigation or regulatory actions related to the proposed acquisition of Renergen; the outcomes of various strategies and projects undertaken by the Company; the potential impact of laws or government regulations or policies in South Africa, the United Kingdom or elsewhere; our reliance on the efforts of third parties; our future capital requirements and sources and uses of cash; our ability to obtain funding for our operations and future growth; our reliance on the efforts of third parties; our ability to complete the construction and commissioning of our enrichment plants or to commercialize isotopes using the ASP technology or the Quantum Enrichment Process; our ability to obtain regulatory approvals for the production and distribution of isotopes; the financial terms of any current and future commercial arrangements; our ability to complete certain transactions and realize anticipated benefits from acquisitions and contracts; dependence on our Intellectual Property (IP) rights, certain IP rights of third parties; the competitive nature of our industry; and the factors disclosed in Part I, Item 1A. "Risk Factors" of the company's Annual Report on Form 10-K for the fiscal year ended December 31, 2024 and any amendments thereto and in the company's subsequent reports and filings with the U.S. Securities and Exchange Commission. Any forward-looking statement made by us in this press release is based only on information currently available to us and speaks only as of the date on which it is made. We undertake no obligation to publicly update any forward-looking statement, whether as a result of new information, future developments or otherwise. This press release includes market and industry data and forecasts that we obtained from internal research, publicly available information and industry publications and surveys. Industry publications and surveys generally state that the information contained therein has been obtained from sources believed to be reliable. Unless otherwise noted, statements as to our potential market position relative to other companies are approximated and based on third-party data and internal analysis and estimates as of the date of this press release. We have not independently verified this information, and it could prove inaccurate. Industry and market data could be wrong because of the method by which sources obtained their data and because information cannot always be verified with certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data-gathering process and other limitations and uncertainties. In addition, we do not know all of the assumptions regarding general economic conditions or growth that were used in preparing the information and forecasts from sources cited herein. No information in this press release should be interpreted as an indication of future success, revenues, results of operation, or stock price. All forward-looking statements herein are qualified by reference to the cautionary statements set forth herein and should not be relied upon.

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