UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2025

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: 001-41555

ASP Isotopes Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**87-2618235**
(State or other jurisdiction of incorporation or organization)	(I.R.S. 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

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 $0.01per share	ASPI	The Nasdaq Capital Market LLC

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, 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	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		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. ☐

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

As of May 20, 2025, the registrant had 75,061,842 shares of common stock, $0.01 par value per share, outstanding.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of the federal securities laws. All statements other than statements of historical fact contained in this Quarterly Report on Form 10-Q, including statements regarding our future results of operations and financial position, business strategy and plans and objectives of management for future operations, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as “may,” “should,” “would,” “expects,” “plans,” “anticipates,” “could,” “intends,” “target,” “projects,” “contemplates,” “believes,” “estimates,” “predicts,” “potential” or “continue” or the negative of these terms or other similar expressions. The forward-looking statements in this Quarterly Report on Form 10-Q are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. These forward-looking statements speak only as of the date of this Quarterly Report on Form 10-Q and are subject to a number of risks, uncertainties and assumptions described in the section titled “Risk Factors” and elsewhere in this Quarterly Report on Form 10-Q. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Some of the key factors that could cause actual results to differ from our expectations include:

- our ability to achieve or sustain positive cash flows from operations or profitability;
- our ability to complete the construction of, commission and successfully operate isotope enrichment plants in a cost-effective manner;
- our ability to meet, and to continue to meet, applicable regulatory requirements for the use of the isotopes we may produce using the ASP technology or the Quantum Enrichment technology;
- our ability to obtain regulatory approvals for the production and distribution of isotopes;
- our ability to comply on an ongoing basis with the numerous regulatory requirements applicable to the ASP technology, the Quantum Enrichment technology and our enrichment facilities in South Africa;
- the introduction, market acceptance and success of Mo-100 that we may produce using ASP technology as an alternative and potentially more convenient production route for Tc-99m;
- the success or profitability of our future offtake arrangements with respect to various isotopes that we may produce using ASP technology or the Quantum Enrichment technology;
- a failure of demand for various isotopes that we may produce using ASP technology or the Quantum Enrichment technology;
- our future capital requirements and sources and uses of cash;
- our ability to obtain funding for our operations and future growth;
- the extensive costs, time and uncertainty associated with new technology development;
- our ability to implement and maintain effective internal controls;
- developments and projections relating to our competitors and industry;
- the ability to recognize the anticipated benefits of acquisitions, including our acquisition of assets of Molybdos (Pty) Limited in the “business rescue” auction, the assets and intellectual property we acquired from Klydon Proprietary Ltd, and our investment in PET Labs Pharmaceuticals;
- problems with the performance of the ASP technology or the Quantum Enrichment technology in the enrichment of isotopes;
- our dependence on a limited number of third-party suppliers for certain components;
- our inability to adapt to changing technology and diagnostic landscape, such as the emergence of new diagnostic scanners or tracers;
- our expected dependence on a limited number of key customers for isotopes that we may produce using ASP technology or the Quantum Enrichment technology;
- our inability to protect our intellectual property and the risk of claims that we have infringed on the intellectual property of others;
- our inability to compete effectively;
- risks associated with the current economic environment;
- risks associated with our international operations;
- our credit counterparty risks;
- geopolitical risk and changes in applicable laws or regulations;
- our inability to adequately protect our technology infrastructure;
- our inability to hire or retain skilled employees and the loss of any of our key personnel;
- operational risk;
- costs and other risks associated with becoming a reporting company and becoming subject to the Sarbanes-Oxley Act;
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- our ability to successfully negotiate favorable terms to complete the acquisition of the target entity in South Africa under an exclusivity agreement;
- our inability to recover the exclusivity fee of $10,000,000 paid should we be unsuccessful in our bid to acquire the target entity; and
- other factors that are described in "Risk Factors," on page 33.

These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties, and other factors that may cause our actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by these forward-looking statements. Factors that may cause actual results to differ materially from current expectations include, among other things, those set forth in Part I, Item 1A - "Risk Factors" below and for the reasons described elsewhere in this Quarterly Report on Form 10-Q. Any forward-looking statement in this Quarterly Report on Form 10-Q reflects our current view with respect to future events and is subject to these and other risks, uncertainties, and assumptions relating to our operations, results of operations, industry, and future growth. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

This Quarterly Report on Form 10-Q also contains estimates, projections, and other information concerning our industry, our business, and the potential markets for certain isotopes, including data regarding the estimated size of those markets, their projected growth rates, and the incidence of certain medical conditions. Information that is based on estimates, forecasts, projections, or similar methodologies is inherently subject to uncertainties, and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained these industry, business, market, and other data from reports, research surveys, studies, and similar data prepared by third parties, industry, medical and general publications, government data, and similar sources. In some cases, we do not expressly refer to the sources from which these data are derived.

Except where the context otherwise requires, in this Quarterly Report on Form 10-Q, "we," "us," "our," "ASP Isotopes," and the "Company" refer to ASP Isotopes Inc. and, where appropriate, its consolidated subsidiaries.

Trademarks

All trademarks, service marks, and trade names included in this Quarterly Report on Form 10-Q are the property of their respective owners. Solely for convenience, the trademarks and trade names in this report may be referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

PART I-FINANCIAL INFORMATION

Item 1. Financial Statements.

ASP Isotopes Inc.
Condensed Consolidated Balance Sheets
(unaudited)

		March 31, 2025		December 31, 2024
Assets				
Current assets:				
Cash and cash equivalents	$	55,965,443	$	61,890,048
Accounts receivable		692,243		706,925
Inventory		342,688		65,655
Receivable from noncontrolling interests		—		27,556
Prepaid expenses and other current assets		2,026,705		3,053,478
Total current assets		59,027,079		65,743,662
Property and equipment, net		25,380,780		22,354,377
Operating lease right-of-use assets, net		1,024,575		1,122,134
Deferred tax assets		114,372		31,847
Goodwill		3,262,200		3,168,101
Other noncurrent assets		2,064,653		1,927,867
Total assets	**$**	**90,873,659**	**$**	**94,347,988**
Liabilities and stockholders' equity				
Current liabilities:				
Accounts payable	$	2,048,087	$	1,021,393
Accrued expenses		3,045,379		2,275,681
Notes payable - current		774,738		939,110
Finance lease liabilities – current		135,011		125,862
Operating lease liabilities – current		576,873		557,676
Deferred revenue		882,000		882,000
Other current liabilities		488,231		1,256,549
Share liability		234,500		—
Total current liabilities		8,184,819		7,058,271
Convertible notes payable, at fair value		34,390,592		33,433,184
Notes payable - noncurrent		1,459,701		1,441,286
Finance lease liabilities – noncurrent		541,513		560,328
Operating lease liabilities – noncurrent		569,928		688,479
Total liabilities		45,146,553		43,181,548
Commitments and contingencies (Note 8)				
Stockholders' equity				
Preferred stock, $0.01 par value; 10,000,000 shares authorized, no shares issued and outstanding as of March 31, 2025 and December 31, 2024		—		—
Common stock, $0.01 par value; 500,000,000 shares authorized, 72,068,059 shares issued and outstanding as of March 31, 2025 and December 31, 2024		720,681		720,681
Additional paid-in capital		107,404,706		105,515,005
Accumulated deficit		(64,619,078)		(56,172,881)
Accumulated other comprehensive loss		(993,612)		(2,164,313)
Total stockholders' equity attributed to ASP Isotopes Inc. stockholders		42,512,697		47,898,492
Noncontrolling interests in consolidated subsidiaries		3,214,409		3,267,948
Total stockholders' equity		45,727,106		51,166,440
Total liabilities and stockholders' equity	**$**	**90,873,659**	**$**	**94,347,988**

The accompanying notes are an integral part of these condensed consolidated financial statements.

ASP Isotopes Inc.
Condensed Consolidated Statements of Operations and Comprehensive Loss
(unaudited)

	Three Months Ended March 31, 2025	Three Months Ended March 31, 2024
Product revenue	$ 1,101,605	$ 840,354
Cost of goods sold	774,765	561,484
Gross profit	326,840	278,870
Operating expenses:		
Research and development	1,529,795	215,134
Selling, general and administrative	6,749,381	5,878,546
Total operating expenses	8,279,176	6,093,680
Loss from operations	(7,952,336)	(5,814,810)
Other (expense) income:		
Foreign exchange transaction loss	(61,470)	(24,343)
Change in fair value of share liability	12,500	(218,000)
Change in fair value of convertible notes payable	(957,408)	(953,710)
Interest income	513,713	12,188
Interest expense	(87,151)	(13,788)
Total other expense	(579,816)	(1,197,653)
Loss before income tax expense	(8,532,152)	(7,012,463)
Income tax benefit	70,720	47,619
Net loss before allocation to noncontrolling interests	(8,461,432)	(6,964,844)
Less: Net loss attributable to noncontrolling interests	(15,235)	(16,759)
Net loss attributable to ASP Isotopes Inc. shareholders	**$ (8,446,197)**	**$ (6,948,085)**
Net loss per share, attributable to ASP Isotopes Inc. shareholders, basic and diluted	**$ (0.12)**	**$ (0.16)**
Weighted average shares of common stock outstanding, basic and diluted	**69,484,200**	**44,561,844**
Comprehensive loss:		
Net loss before allocation to noncontrolling interests	$ (8,461,432)	$ (6,964,844)
Foreign currency translation	1,170,701	(543,729)
Total comprehensive loss before allocation to noncontrolling interests	(7,290,731)	(7,508,573)
Less: Comprehensive loss attributable to noncontrolling interests	(1,466)	(7,530)
Total comprehensive loss	**$ (7,289,265)**	**$ (7,501,043)**

The accompanying notes are an integral part of these condensed consolidated financial statements.

ASP Isotopes Inc.
Condensed Consolidated Statements of Changes in Stockholders' Equity
(unaudited)

	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Noncontrolling Interests	Total Stockholders' Equity
Balance as of December 31, 2024	**72,068,059**	**$ 720,681**	**$ 105,515,005**	**$ (2,164,313)**	**$ (56,172,881)**	**$ 3,267,948**	**$ 51,166,440**
Stock-based compensation expense	—	—	1,889,701	—	—	—	1,889,701
Distribution to noncontrolling interest of VIE	—	—	—	—	—	(38,304)	(38,304)
Foreign currency translation	—	—	—	1,170,701	—	—	1,170,701
Net loss	—	—	—	—	(8,446,197)	(15,235)	(8,461,432)
Balance as of March 31, 2025	**72,068,059**	**$ 720,681**	**$ 107,404,706**	**$ (993,612)**	**$ (64,619,078)**	**$ 3,214,409**	**$ 45,727,106**
Balance as of December 31, 2023	**48,923,276**	**$ 489,233**	**$ 40,567,003**	**$ (920,982)**	**$ (23,839,300)**	**$ 2,534,677**	**$ 18,830,631**
Retired unvested restricted shares	(325,000)	(3,250)	3,250	—	—	—	—
Stock-based compensation expense	—	—	1,713,654	—	—	—	1,713,654
Distribution to noncontrolling interest of VIE	—	—	—	—	—	(8,694)	(8,694)
Foreign currency translation	—	—	—	(543,729)	—	—	(543,729)
Net loss	—	—	—	—	(6,948,085)	(16,759)	(6,964,844)
Balance as of March 31, 2024	**48,598,276**	**$ 485,983**	**$ 42,283,907**	**$ (1,464,711)**	**$ (30,787,385)**	**$ 2,509,224**	**$ 13,027,018**

The accompanying notes are an integral part of these condensed consolidated financial statements.

ASP Isotopes Inc.
Condensed Consolidated Statements of Cash Flows
(unaudited)

	Three Months Ended March 31, 2025	Three Months Ended March 31, 2024
Cash flows from Operating activities		
Net loss	$ (8,461,432)	$ (6,964,844)
Adjustments to reconcile net loss to cash used in operating activities:		
Foreign exchange transaction loss (gain) from intercompany	61,129	(26,387)
Depreciation	149,003	103,210
Stock-based compensation	1,889,701	1,713,654
Convertible note payable for non-cash issuance costs	—	513,748
Shares issued for non-cash consultant expense	247,000	195,000
Change in fair value of share liability	(12,500)	218,000
Change in fair value of convertible notes payable	957,408	953,710
Change in right-of-use lease asset	129,709	98,658
Change in deferred taxes	(80,842)	(49,771)
Changes in operating assets and liabilities:		
Accounts receivable	31,275	(144,392)
Inventory	(272,599)	699,510
Prepaid expenses and other current assets	1,190,337	(299,130)
Other noncurrent assets	38,834	(60,203)
Accounts payable	1,072,221	(54,988)
Accrued expenses	720,070	505,480
Operating lease liabilities	(60,514)	(101,700)
Other current liabilities	(768,776)	(270,024)
Net cash used in operating activities	(3,169,976)	(2,970,469)
Cash flows from investing activities		
Purchases of property and equipment	(2,309,308)	(1,245,825)
Cash advance paid for property and equipment	(50,060)	—
Net cash used in investing activities	(2,359,368)	(1,245,825)
Cash flows from financing activities		
Proceeds from collection of receivable from noncontrolling interest in VIE	28,857	—
Distribution to noncontrolling interest in VIE	(38,304)	(8,429)
Proceeds from issuance of convertible notes payable	—	20,550,000
Proceeds from bank loans	46,655	—
Payment of notes payable	(187,167)	(263,141)
Payment of principal portion of bank loans	(64,870)	—
Payment of principal portion of finance leases	(10,267)	(14,435)
Net cash (used in) provided by financing activities	(225,096)	20,263,995
Net change in cash and cash equivalents	(5,754,440)	16,047,701
Effect of exchange rate changes on cash and cash equivalents	(170,165)	(65,071)
Cash and cash equivalents - beginning of period	61,890,048	7,908,181
Cash and cash equivalents - end of period	**$ 55,965,443**	**$ 23,890,811**
Supplemental disclosures of non-cash investing and financing activities:		
Purchase of property and equipment included in accounts payable	$ 466,040	$ 1,188,655
Purchase of property and equipment with bank loans	$ 47,080	$ 1,653,000
Right-of-use asset obtained in exchange for operating lease liability	$ —	$ 364,458

The accompanying notes are an integral part of these condensed consolidated financial statements.

1. Organization

Description of Business

ASP Isotopes Inc. was incorporated in the state of Delaware on September 13, 2021 and has its principal operations in Washington, DC. ASP Isotopes Inc.'s subsidiary, ASP Isotopes Guernsey Limited ("ASP Guernsey"), has its principal operations in Guernsey. ASP Guernsey's subsidiary, ASP Isotopes Holdings South Africa Proprietary Limited ("ASP South Africa"), has its principal operations in South Africa. ASP Rentals Proprietary Limited ("ASP Rentals"), a variable interest entity ("VIE") of ASP South Africa, has its principal operations in South Africa. Enlightened Isotopes (Pty) Ltd ("Enlightened Isotopes"), a 80% owned subsidiary of ASP South Africa, was formed in March 2023 and began operations in January 2024. ASP Isotopes UK Ltd ("ASP UK"), a subsidiary of ASP Guernsey, was incorporated in July 2022. ASPI South Africa Asset Finance Proprietary Limited ("ASP SA Asset Finance"), a subsidiary of ASP South Africa, was incorporated in July 2024. PET Labs Global Nuclear Medicine SEZC ("PET Labs Global"), a subsidiary of ASP Guernsey, was incorporated in June 2024 in the Cayman Islands. PET Labs Pharmaceuticals Proprietary Limited ("PET Labs"), a 51% owned subsidiary of ASP Isotopes Inc. operates in South Africa. ASP Isotopes Inc.'s subsidiary, Quantum Leap Energy LLC, was formed in the state of Delaware in September 2023 and began operations in February 2024. Quantum Leap Energy LLC's subsidiary Quantum Leap Energy Proprietary Limited ("Quantum Leap Energy South Africa"), has its operations in South Africa. ASP Isotopes Inc., its subsidiaries and ASP Rentals are collectively referred to as "the Company" throughout these consolidated statements.

The Company is a development stage advanced materials company dedicated to the development of technology and processes that, if successful, will allow for the enrichment of natural isotopes into higher concentration products, which could be used in several industries. The Company's proprietary technologies, the Aerodynamic Separation Process ("ASP technology") and Quantum Enrichment technology ("QE technology"), are designed to enable the production of isotopes used in several industries. The Company's initial focus is on the production and commercialization of enriched Carbon-14 ("C-14"), Silicon-28 ("Si-28") and Ytterbium-176 ("Yb-176").

The Company has completed the commissioning phase and are commencing commercial production at the C-14, Si-28 and Yb-176 enrichment facilities located in Pretoria, South Africa. We expect our first three enrichment facilities to generate commercial supply during 2025. In addition, the Company has started planning additional isotope enrichment plants both in South Africa and in other jurisdictions. The Company believes the C-14 it may produce using the ASP technology may be used in the development of new pharmaceuticals and agrochemicals. The Company believes the Si-28 it may produce using the ASP technology may be used to develop advanced semiconductors and in quantum computing. The Company believes the Yb-176 we may produce using the QE technology may be used to create radiotherapeutics that treat various forms of oncology.

In addition, the Company is considering the future development of the ASP technology for the separation of Zinc-68, Xenon-129/136 for potential use in the healthcare end market, Germanium 70/72/74 for possible use in the semiconductor end market, and Chlorine-37 for potential use in the nuclear energy end market.

The Company is also considering the future development of QE technology for the separation of Nickel-64, Gadolinium-160, Lithium 6 and Lithium-7. The Company is also pursuing an initiative to apply our enrichment technologies to the enrichment of Uranium-235 ("U-235"). The Company believes the U-235 that it may produce using quantum enrichment technology may be commercialized as a nuclear fuel component for use in the new generation of high-assay low-enriched uranium (HALEU)-fueled small modular reactors that are now under development for commercial and government uses.

Liquidity

The Company has experienced net losses and negative cash flows from operating activities since its inception. The Company incurred net losses of $8.5 million and $7.0 million for the three months ended March 31, 2025 and 2024, respectively. The Company currently expects that its cash and cash equivalents of $56.0 million as of March 31, 2025 will be sufficient to fund its operating expenses and capital requirements for more than 12 months from the date the financial statements are issued.

There can be no assurance that the Company will achieve or sustain positive cash flows from operations or profitability. The Company anticipates it will need to continue to raise capital through additional equity and/or debt financings and/or collaborative development agreements to fund its operations beyond the next year. However, such funding may not be available on a timely basis on terms acceptable to the Company, or at all. If the Company is unable to raise additional capital when required or on acceptable terms, the Company may be required to scale back or discontinue the advancement of product candidates, reduce headcount, reorganize, merge with another entity, or cease operations.

2. Basis of Presentation and Summary of Significant Accounting Policies

Unaudited Financial Information

The Company's unaudited condensed consolidated financial statements included herein have been prepared in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP"), and pursuant to the rules and regulations of the Securities and Exchange Commission, or SEC. In the Company's opinion, the information furnished reflects all adjustments, all of which are of a normal and recurring nature, necessary for a fair presentation of the financial position and results of operations for the reported interim periods. The Company considers events or transactions that occur after the balance sheet date but before the financial statements are issued to provide additional evidence relative to certain estimates or to identify matters that require additional disclosure. The results of operations for interim periods are not necessarily indicative of results to be expected for the full year or any other interim period. These unaudited condensed consolidated financial statements should be read in conjunction with the audited financial statements and related notes for the year ended December 31, 2024.

Basis of Presentation and Use of Estimates

The Company’s condensed consolidated financial statements are prepared in accordance with U.S. GAAP. The preparation of the Company’s condensed consolidated financial statements requires management to make estimates and assumptions that impact the reported amounts of assets, liabilities and expenses and disclosure in the Company’s condensed consolidated financial statements and accompanying notes. The most significant estimates in the Company’s consolidated financial statements relate to stock-based compensation, fair value of convertible notes, loss contingencies and accounting for acquisitions, including goodwill. Although these estimates are based on the Company’s knowledge of current events and actions it may undertake in the future, actual results may materially differ from these estimates and assumptions.

Principles of consolidation

The Company’s condensed consolidated financial statements include the accounts of ASP Isotopes Inc., its wholly-owned subsidiaries, the 80% owned Enlightened Isotopes, the 51% owned PET Labs and the 42% owned VIE ASP Rentals. All intercompany balances and transactions have been eliminated in consolidation.

Currency and currency translation

The condensed consolidated financial statements are presented in U.S. dollars, the Company’s reporting currency. The functional currency of ASP Isotopes Inc. and ASP Guernsey is the U.S. dollar. The functional currency of the Company’s subsidiaries ASP South Africa and Quantum Leap Energy South Africa is the South African Rand. The functional currency of the 80% owned Enlighted Isotopes, the 51% owned PET Labs and the 42% owned VIE ASP Rentals is the South African Rand. Adjustments that arise from exchange rate changes on transactions of each group entity denominated in a currency other than the functional currency are included in other income and expense in the consolidated statements of operations and comprehensive loss. Assets and liabilities of the entities with functional currency of South African Rand are recorded in South African Rand and translated into the U.S. dollar reporting currency of the Company at the exchange rate on the balance sheet date. Revenue and expenses of the entities with functional currency of South African Rand are recorded in South African Rand and translated into the U.S. dollar reporting currency of the Company at the average exchange rate prevailing during the reporting period. Resulting translation adjustments are recorded separately in stockholders’ equity as a component of accumulated other comprehensive (loss) income.

Concentration of Credit Risk and other Risks

Cash balances are maintained at U.S. financial institutions and may exceed the Federal Deposit Insurance Corporation (“FDIC”) insurance limit of $250,000 per depositor, per insured bank for each account ownership category. Although the Company currently believes that the financial institutions with whom it does business, will be able to fulfill their commitments to the Company, there is no assurance that those institutions will be able to continue to do so. The Company has not experienced any credit losses associated with its balances in such accounts for the three months ended March 31, 2025 and 2024.

The Company's foreign subsidiaries held cash of approximately $6,781,000 and $1,512,000 as of March 31, 2025 and December 31, 2024, respectively, which is included in cash on the consolidated balance sheets. The Company's strategic plan does not require the repatriation of foreign cash in order to fund its operations in the U.S., and it is the Company's current intention to indefinitely reinvest its foreign cash outside of the U.S. If the Company were to repatriate foreign cash to the U.S., the Company would be required to accrue and pay U.S. taxes in accordance with applicable U.S. tax rules and regulations as a result of the repatriation.

The Company is potentially subject to concentrations of credit risk in accounts receivable as the following customer balances exceed 10% of accounts receivable in the consolidated balance sheet as March 31, 2025 and December 31, 2024.

	As of March 31, 2025		As of December 31, 2024	
	Accounts Receivable	**% of Total Accounts Receivable**	**Accounts Receivable**	**% of Total Accounts Receivable**
Customer A	$ —	—	$ 200,000	28%
Customer B	$ 98,864	14%	$ 144,590	20%
Customer C	$ 84,715	12%	$ —	—

Although the Company is directly affected by the financial condition of its customers, management does not believe significant credit risks exist at March 31, 2025. Generally, we do not require collateral or other securities to support its accounts receivable.

There was one customer representing 11%, or $119,000, of the Company's consolidated revenues for the three months ended March 31, 2025 and one customer representing 11%, or $89,000, of the Company's consolidated revenues for the three months ended March 31, 2024.

Cash and Cash Equivalents

The Company considers all highly liquid investments with original maturities at the date of purchase of three months or less to be cash equivalents. Cash and cash equivalents are stated at fair value and may include money market funds, U.S. Treasury and U.S. government-sponsored agency securities, corporate debt, commercial paper and certificates of deposit. The Company had no cash equivalents as of March 31, 2025 and December 31, 2024.

Fair Value of Financial Instruments

Accounting guidance defines fair value, establishes a consistent framework for measuring fair value, and expands disclosure for each major asset and liability category measured at fair value on either a recurring or nonrecurring basis. Fair value is defined as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, the accounting guidance establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

Level 1: Observable inputs such as quoted prices in active markets;

Level 2: Inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and

Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

The Company's share liability (Note 12) is measured as a Level 1 fair value on a recurring basis. There was no share liability as of December 31, 2024. The Company's share liability was $234,500 as of March 31, 2025. The Company's convertible notes payable (Note 6) is measured as a Level 3 fair value on a recurring basis and was $34,390,592 as of March 31, 2025. There were no transfers among Level 1, Level 2 or Level 3 categories in the three months ended March 31, 2025. The following table provides a reconciliation of the Company's liabilities measured as a Level 3 at fair value on a recurring basis using significant unobservable inputs:

	Convertible Notes Payable	Share Liability
Balance as of December 31, 2023	$ —	$ 140,455
Fair value at issuance	26,558,143	669,700
Fair value adjustment	6,875,041	194,540
Settlement of liability	—	(1,004,695)
Balance as of December 31, 2024	33,433,184	—
Fair value of additional liability	—	247,000
Fair value adjustment	957,408	(12,500)
Balance as of March 31, 2025	$ 34,390,592	$ 234,500

The carrying amounts of accounts payable, accrued expenses and notes payable are considered to be representative of their respective fair values because of the short-term nature of those instruments.

Revenue Recognition

The Company's revenue relates to PET Labs, in which the Company acquired 51% ownership on October 31, 2023 (Note 11). The Company recognizes revenue in accordance with Accounting Standard Codification ("ASC") Topic 606, Revenue from Contracts with Customers ("ASC 606"). The Company enters into transactions with radiopharmacy companies that are within the scope of ASC 606. The terms of these transactions include payment for delivery of nuclear medical doses for PET scanning in South Africa.

Under ASC 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine the appropriate amount of revenue to be recognized for arrangements determined to be within the scope of ASC 606, the Company performs the following five steps: (i) identification of the promised goods or services in the contract; (ii) determination of whether the promised goods or services are performance obligations including whether they are distinct in the context of the contract; (iii) measurement of the transaction price, including the constraint on variable consideration; (iv) allocation of the transaction price to the performance obligations; and (v) recognition of revenue when (or as) the Company satisfies each performance obligation. The Company only applies the five-step model to contracts when it is probable that the entity will collect consideration it is entitled to in exchange for the goods or services it transfers to the customer.

The Company evaluates a transaction's performance obligations to determine if promised goods or services in a contract to transfer a distinct good or service to the customer and are considered distinct when (i) the customer can benefit from the good or service on its own or together with other readily available resources and (ii) the promised good or service is separately identifiable from other promises in the contract. In assessing whether promised goods or services are distinct, the Company considers whether the goods or services are integral or dependent to other goods or services in the contract.

The Company determines the transaction price based on the agreed government rates for the promised goods in the contract.

The consideration is recognized as revenue when control is transferred for the related goods.

The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition. The Company receives payments from its customers based on billing schedules established in each contract. Upfront payments and fees are recorded as deferred revenue upon receipt or when due until the Company performs its obligations under these arrangements. Amounts are recorded as accounts receivable when the Company's right to consideration is unconditional.

Accounts Receivable

Accounts receivable are stated at the amount management expects to collect from outstanding balances. An allowance for expected credit losses is estimated for those accounts receivable considered to be uncollectible based upon historical experience and management's evaluation of outstanding accounts receivable. The Company maintains an allowance for expected credit losses for accounts receivable, which is recorded as an offset to accounts receivable, and changes in such are classified as selling, general and administrative expense in the Consolidated Statements of Operations and Comprehensive Loss. The Company assesses collectability by reviewing accounts receivable on a collective basis where similar characteristics exist and on an individual basis when the Company identifies specific customers with known disputes or collectability issues. In determining the amount of the allowance for credit losses, the Company considers historical collectability based on past due status and make judgments about the creditworthiness of customers based on ongoing credit evaluations. The Company also considers customer-specific information, current market conditions, and reasonable and supportable forecasts of future economic conditions. Bad debts are written off against the allowance when identified. As of March 31, 2025 and December 31, 2024 there was no allowance for expected credit losses.

Inventory

The Company uses the first in, first out inventory method to account for its inventory. As of December 31, 2024, inventory consists of raw materials and is stated at the lower of cost or net realizable value. As of March 31, 2025, inventory consists of raw materials and work-in-process and is stated at the lower of cost or net realizable value.

Property and Equipment

Property and equipment include costs of assets constructed, purchased or leased under a finance lease, related delivery and installation costs and interest incurred on significant capital projects during their construction periods. Expenditures for renewals and betterments also are capitalized, but expenditures for normal repairs and maintenance are expensed as incurred. Costs associated with yearly planned major maintenance are generally deferred and amortized over 12 months or until the same major maintenance activities must be repeated, whichever is shorter. The cost and accumulated depreciation applicable to assets retired or sold are removed from the respective accounts, and gains or losses thereon are included in the statement of operations and comprehensive loss.

The Company assigns the useful lives of its property and equipment based upon its internal engineering estimates, which are reviewed periodically. The estimated useful lives of the Company's property and equipment range from 3 to 10 years, or the shorter of the useful life or remaining life of the lease for leasehold improvements. Depreciation is recorded using the straight-line method.

Construction in progress (Note 4) is carried at cost and consists of specifically identifiable direct and indirect development and construction costs. While under construction, costs of the property are included in construction in progress until the property is placed in service, at which time costs are transferred to the appropriate property and equipment account, including, but not limited to, leasehold improvements or other such accounts.

Property and equipment acquired in the acquisition of PET Labs was measured at fair value on October 31, 2023. The fair value forms the new basis of these assets and is depreciated over the remaining estimated useful lives of the related assets.

Business Combination and Asset Acquisitions

The Company evaluates acquisitions of assets and other similar transactions to assess whether or not the transaction should be accounted for as a business combination or asset acquisition by first applying a screen to determine if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets. If the screen is met, the transaction is accounted for as an asset acquisition. If the screen is not met, further determination is required as to whether or not the Company has acquired inputs and processes that have the ability to create outputs, which would meet the requirements of a business. If determined to be a business combination, the Company accounts for the transaction under the acquisition method of accounting in accordance with ASC Topic 805 Business Combinations ("ASC 805"), which requires the acquiring entity in a business combination to recognize the fair value of all assets acquired, liabilities assumed, and any non-controlling interest in the acquiree and establishes the acquisition date as the fair value measurement point. Accordingly, the Company recognizes assets acquired and liabilities assumed in business combinations, including contingent assets and liabilities, and non-controlling interest in the acquiree based on the fair value estimates as of the date of acquisition. In accordance with ASC 805, the Company recognizes and measures goodwill as of the acquisition date, as the excess of the fair value of the consideration paid over the fair value of the identified net assets acquired.

The consideration for the Company’s business acquisitions may include future payments that are contingent upon the occurrence of a particular event or events. The obligations for such contingent consideration payments are recorded at fair value on the acquisition date. The contingent consideration obligations are then evaluated each reporting period. Changes in the fair value of contingent consideration, other than changes due to payments, are recognized as a gain or loss and recorded within change in the fair value of deferred and contingent consideration liabilities in the consolidated statements of comprehensive loss.

If determined to be an asset acquisition, the Company accounts for the transaction under ASC 805-50, which requires the acquiring entity in an asset acquisition to recognize assets acquired and liabilities assumed based on the cost to the acquiring entity on a relative fair value basis, which includes transaction costs in addition to consideration given. No gain or loss is recognized as of the date of acquisition unless the fair value of non-cash assets given as consideration differs from the assets’ carrying amounts on the acquiring entity’s books. Consideration transferred that is non-cash will be measured based on either the cost (which shall be measured based on the fair value of the consideration given) or the fair value of the assets acquired and liabilities assumed, whichever is more reliably measurable. Goodwill is not recognized in an asset acquisition and any excess consideration transferred over the fair value of the net assets acquired is allocated to the identifiable assets based on relative fair values.

Contingent consideration payments in asset acquisitions are recognized when the contingency is resolved and the consideration is paid or becomes payable (unless the contingent consideration meets the definition of a derivative, in which case the amount becomes part of the basis in the asset acquired). Upon recognition of the contingent consideration payment, the amount is included in the cost of the acquired asset or group of assets.

Goodwill

Goodwill represents the amount of consideration paid in excess of the fair value of net assets acquired as a result of the Company’s business acquisitions accounted for using the acquisition method of accounting. Goodwill is not amortized and is subject to impairment testing at a reporting unit level on an annual basis or when a triggering event occurs that may indicate the carrying value of the goodwill is impaired. An entity is permitted to first assess qualitative factors to determine if a quantitative impairment test is necessary. Further testing is only required if the entity determines, based on the qualitative assessment, that it is more likely than not that the fair value of the reporting unit is less than its carrying amount. The Company will perform its annual test for goodwill as of October 31.

Variable Interest Entities

The Company accounts for the investments it makes in certain legal entities in which equity investors do not have (1) sufficient equity at risk for the legal entity to finance its activities without additional subordinated financial support, or (2) as a group, the holders of the equity investment at risk do not have either the power, through voting or similar rights, to direct the activities of the legal entity that most significantly impact the entity’s economic performance, or (3) the obligation to absorb the expected losses of the legal entity or the right to receive expected residual returns of the legal entity. These certain legal entities are referred to as variable interest entities (“VIEs”).

The Company would consolidate the results of any such entity in which it determined that it had a controlling financial interest. The Company would have a “controlling financial interest” in such an entity if the Company had both the power to direct the activities that most significantly affect the VIE’s economic performance and the obligation to absorb the losses of, or right to receive benefits from, the VIE that could be potentially significant to the VIE. On a quarterly basis, the Company will reassess whether it has a controlling financial interest in any investments it has in these certain legal entities.

Convertible Notes Payable

Convertible notes payable are accounted for in accordance with ASC Topic 825, *Financial Instruments* ("ASC 825"). Upon issuance the Company has elected the fair value option to account for the convertible notes payable. Changes in fair value during the reporting period are recognized in other income (expense) in the consolidated statement of operations and comprehensive loss.

Leases

Leases are accounted for in accordance with ASC Topic 842, *Leases* ("ASC 842"). At the inception of an arrangement, the Company determines whether the arrangement is or contains a lease based on specific facts and circumstances, the existence of an identified asset(s), if any, and the Company’s control over the use of the identified asset(s), if applicable. Operating lease liabilities and their corresponding right-of-use ("ROU") assets are recorded based on the present value of future lease payments over the expected lease term. The interest rate implicit in lease contracts is typically not readily determinable. As such, the Company will utilize the incremental borrowing rate, which is the rate incurred to borrow on a collateralized basis over a similar term an amount equal to the lease payments in a similar economic environment, and considering the region in which the ROU asset and liabilities are located.

The Company has elected to combine lease and non-lease components as a single component. Operating leases are recognized on the balance sheet as ROU lease assets, lease liabilities current and lease liabilities non-current. Fixed rents are included in the calculation of the lease balances, while variable costs paid for certain operating and pass-through costs are excluded. Lease expense is recognized over the expected term on a straight-line basis.

Finance leases are recognized on the balance sheet as property and equipment, finance lease liabilities current and finance lease liabilities non-current. Finance lease ROU assets and the related lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. The finance lease ROU assets are amortized on a straight-line basis over the lease term with the related interest expense of the lease liability payment recognized over the lease term using the effective interest method.

Impairment of Long-lived Assets

Long-lived assets consist primarily of property and equipment. The Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate the carrying amount of an asset is not recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the future undiscounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured as the amount by which the carrying amount of the asset exceeds the fair value of the assets. The Company did not recognize any impairment losses for the three months ended March 31, 2025 or 2024.

Research and Development Costs

Research and development costs consist primarily of fees paid to consultants, license fees and facilities costs. Nonrefundable advance payments for goods and services that will be used in future research and development activities are expensed when the activity has been performed or when the goods have been received rather than when the payment is made. All research and development costs are expensed as incurred.

Selling, General and Administrative Costs

Selling, general and administrative expenses consist primarily of salaries and related benefits, including stock-based compensation expense, related to the Company's executive, finance, business development, legal, human resources and support functions. Other general and administrative expenses include professional fees for auditing, tax, consulting and patent-related services, rent and utilities and insurance.

Stock-based Compensation Expense

Stock-based compensation expense represents the cost of the grant date fair value of employee stock awards recognized over the requisite service period of the awards (usually the vesting period) on a straight-line basis. The Company estimates the fair value of each stock-based award on the date of grant using the Black-Scholes option pricing model. The Black-Scholes option pricing model incorporates various assumptions, such as the value of the underlying common stock, the risk-free interest rate, expected volatility, expected dividend yield, and expected life of the options. Forfeitures are recognized as a reduction of stock-based compensation expense as they occur.

The Company also awards restricted stock to employees and directors. Restricted stock is generally subject to forfeiture if employment terminates prior to the completion of the vesting restrictions. The Company expenses the cost of the restricted stock, which is determined to be the fair market value of the shares of common stock underlying the restricted stock at the date of grant, ratably over the period during which the vesting restrictions lapse.

Stock-based compensation expense is classified in the statement of operations and comprehensive loss in the same manner in which the award recipients’ payroll costs are classified or in which the award recipients’ service payments are classified.

Income Taxes

Deferred income tax assets and liabilities arise from temporary differences associated with differences between the financial statements and tax basis of assets and liabilities, as measured by the enacted tax rates, which are expected to be in effect when these differences reverse. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized.

Prior to the acquisition of 51% of PET Labs in October 2023, the Company had generated net losses since inception and accordingly had not recorded a provision for income taxes. Subsequent to the acquisition of 51% of PET Labs, the Company records the provision for income taxes for the activity from PET Labs operations.

The Company follows the provisions of ASC 740-10, *Uncertainty in Income Taxes,* or ASC 740-10. The Company has not recognized a liability for any uncertain tax positions. A reconciliation of the beginning and ending amount of unrecognized tax benefits has not been provided since there is no unrecognized benefit since the date of adoption. The Company has not recognized interest expense or penalties as a result of the implementation of ASC 740-10. If there were an unrecognized tax benefit, the Company would recognize interest accrued related to unrecognized tax benefits and penalties in income tax expense.

The Company has identified the United States, South Africa and Guernsey as its major tax jurisdictions. Refer to Note 15 for further details.

Comprehensive Loss

Comprehensive loss is defined as a change in equity during a period from transactions and other events and circumstances from non-owner sources. The Company's comprehensive loss is comprised of net loss and the effect of currency translation adjustments.

Recently Issued Accounting Pronouncements

The Company has reviewed recently issued accounting pronouncements and plans to adopt those that are applicable to it. The Company does not expect the adoption of any recently issued pronouncements to have a material impact on its results of operations or financial position.

In December 2023, the FASB issued ASU No. 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures, which requires an annual tabular effective tax rate reconciliation disclosure including information for specified categories and jurisdiction levels, as well as, disclosure of income taxes paid, net of refunds received, disaggregated by federal, state/local, and significant foreign jurisdiction. This ASU is effective for fiscal years beginning after December 15, 2024, with early adoption permitted. The adoption will have an impact on disclosures and not impact the Company's consolidated results of operations, cash flows, nor financial position.

In November 2024, the FASB issued ASU 2024-03, Disaggregation of Income Statement Expenses ("ASU 2024-03") and is effective for annual reporting periods beginning after December 15, 2026 and interim reporting periods beginning after December 15, 2027. ASU 2024-03 requires disclosures about specific types of expenses included in the expense captions presented on the face of the income statement as well as disclosures about selling expenses. The Company is still assessing the impact of adopting this standard.

3. Revenue and Segment Information

In connection with the Company's acquisition of 51% ownership of PET Labs in October 2023, the Company manufactures and sells nuclear medical doses for PET scanning in South Africa. The Company recognized revenue of $1,101,605 and $840,354 for the three months ended March 31, 2025 and 2024, respectively.

The following table presents changes in the Company's accounts receivable for the three months ended March 31, 2025:

	Balance as of December 31, 2024	Additions	Deductions	Balance as of March 31, 2025
Accounts receivable	$ 706,925	$ 1,101,605	$ (1,116,287)	$ 692,243

Segment Information

Beginning in 2024, primarily as a result of increased business activities of its subsidiary, Quantum Leap Energy LLC, the Company has two operating segments: (i) nuclear fuels, and (ii) specialist isotopes and related services.

The nuclear fuels segment is focused on research and development of technologies and methods used to produce high-assay low-enriched uranium (HALEU) and Lithium-6 for the advanced nuclear fuels target end market.

The specialist isotopes and related services segment is focused on research and development of technologies and methods used to separate high-value, low-volume isotopes (such as C-14, Mo-100 and Si-28) for highly specialized target end markets other than advanced nuclear fuels, including pharmaceuticals and agrochemicals, nuclear medical imaging and semiconductors, as well as services related to these isotopes, and this segment includes PET Labs.

The Company's chief operating decision maker ("CODM") is its chief executive officer. The segment revenue and segment net loss is regularly reviewed by the CODM in deciding how to allocate resources. The Company manages assets on a total company basis, not by operating segment, as the assets are shared or commingled. Therefore, the CODM does not regularly review any asset information by operating segment and, accordingly, asset information is not reported on a segment basis.

Select information from the consolidated statements of operations and comprehensive loss as of the three months ended March 31, 2025 and 2024 is as follows:

	Revenues Three Months Ended March 31,		Net Loss Before Allocation to Noncontrolling Interest Three Months Ended March 31,	
Segment	2025	2024	2025	2024
Specialist isotopes and related services	$ 1,101,605	$ 840,354	$ (6,389,533)	$ (4,643,494)
Nuclear fuels	—	—	(2,093,649)	(2,079,007)
Corporate	—	—	21,750	(242,343)
	$ 1,101,605	$ 840,354	$ (8,461,432)	$ (6,964,844)

A reconciliation of total segment revenue to total consolidated revenue and of total segment gross profit and segment operating income to total consolidated income before income taxes, for the three months ended March 31, 2025 and 2024, is as follows:

	Three Months Ended March 31, 2025			
	Specialist isotopes and related services	Nuclear fuels	Corporate	Total
Sales from external customers	$ 1,101,605	$ —	$ —	$ 1,101,605
Less: cost of sales	(774,765)	—	—	(774,765)
Segment gross profit	326,840	—	—	326,840
Personnel expenses	3,300,041	591,243	—	3,891,284
Professional fees	1,968,498	376,029	—	2,344,527
Other segment expenses	1,698,974	344,391	—	2,043,365
Segment operating loss	(6,640,673)	(1,311,663)	—	(7,952,336)
Foreign exchange transaction gain	—	—	(61,470)	(61,470)
Change in fair value of share liability	—	—	12,500	12,500
Change in fair value of convertible notes payable	—	(957,408)	—	(957,408)
Interest income (expense), net	251,140	175,422	—	426,562
Loss before income tax expense	$ (6,389,533)	$ (2,093,649)	$ (48,970)	$ (8,532,152)

	Three Months Ended March 31, 2024			
	Specialist isotopes and related services	Nuclear fuels	Corporate	Total
Sales from external customers	$ 840,354	$ —	$ —	$ 840,354
Less: cost of sales	(561,484)	—	—	(561,484)
Segment gross profit	278,870	—	—	278,870
Personnel expenses	2,606,446	—	—	2,606,446
Professional fees	1,248,982	1,110,188	—	2,359,170
Other segment expenses	1,128,064	—	—	1,128,064
Segment operating loss	(4,704,622)	(1,110,188)	—	(5,814,810)
Foreign exchange transaction gain	—	—	(24,343)	(24,343)
Change in fair value of share liability	—	—	(218,000)	(218,000)
Change in fair value of convertible notes payable	—	(953,710)	—	(953,710)
Interest income (expense), net	(1,600)	—	—	(1,600)
Loss before income tax expense	$ (4,706,222)	$ (2,063,898)	$ (242,343)	$ (7,012,463)

4. Property and Equipment

Property and equipment as of March 31, 2025 and December 31, 2024 consisted of the following:

	Useful Lives (Years)	March 31, 2025	December 31, 2024
Construction in progress	-	$ 740,364	$ 13,969,784
Tools, machinery and equipment	3 - 10	6,021,572	5,898,618
Plant	10	18,004,077	2,269,204
Computer equipment	3 - 4	175,219	145,225
Vehicles	5	351,553	292,498
Software	5	466,134	1,590
Office furniture	5 - 10	152,821	147,079
Leasehold improvements	5	119,332	115,890
Property and equipment, at cost		26,031,072	22,839,888
Less accumulated depreciation		(650,292)	(485,511)
Property and equipment, net		$ 25,380,780	$ 22,354,377

The Company has three plants in Pretoria, South Africa: a Carbon-14 plant, a multi-isotope plant and a laser isotope separation plan using quantum enrichment technology. The Carbon-14 plant was completed in June 2024 and depreciation began in July 2024. The multi-isotope plant and the laser isotope separation plant were completed in March 2025 and depreciation will begin in April 2025. As of December 31, 2024, costs incurred for the multi-isotope plant and the laser isotope separation plant were considered construction in progress because the work was not complete. There was no depreciation expense as it relates to the construction in progress for the three months ended March 31, 2025 and 2024. Depreciation expense was $149,003 and $103,210 for the three months ended March 31, 2025 and 2024, respectively.

5. Accrued Expenses

Accrued expenses as of March 31, 2025 and December 31, 2024 consisted of the following:

	March 31, 2025	December 31, 2024
Accrued professional	$ 772,625	$ 671,314
Accrued salaries and other employee costs	2,189,349	1,584,273
Accrued other	83,405	20,094
Total accrued expenses	$ 3,045,379	$ 2,275,681

6. Notes Payable

Debt consisted of the following as of March 31, 2025 and December 31, 2024:

		March 31, 2025		December 31, 2024
Promissory notes	$	223,544	$	409,696
Motor vehicle and equipment loans		2,010,895		1,970,700
Total notes payable		2,234,439		2,380,396
less current portion of notes payable		(774,738)		(939,110)
Long term portion of notes payable	$	1,459,701	$	1,441,286

Promissory Note Payable

During 2021, the Company executed a promissory note payable with an aggregate principal balance of $33,500 (25,000 GBP). The note was due after a period of two months, followed by mutually agreed upon monthly extensions, and does not bear interest. As of March 31, 2025 and December 31, 2024, the promissory note payable balance was $32,395 and $31,380, respectively, and continues to be automatically extended on a monthly basis. This note was paid in full on April 2, 2025.

In November 2024, the Company executed a promissory note payable with a finance company to fund its directors and officers' insurance policy for $500,923. This note bears interest at an annual rate of 8.45% with seven monthly payments beginning in December 31, 2024. In November 2023, the Company executed a promissory note payable with a finance company to fund its directors and officers' insurance policy for $526,282. This note bore interest at an annual rate of 8.74% with six monthly payments beginning in December 2023. The note was repaid in full in May 2024. For the three months ended March 31, 2025 and 2024, the Company recorded interest expense of $6,680 and $6,748, respectively. As of March 31, 2025 and December 31, 2024, the promissory note payable balance was $191,149 and $378,316, respectively.

Motor Vehicle and Equipment Loans

Periodically, the Company enters into loans to purchase motor vehicles and certain equipment. For the three months ended March 31, 2025, the Company entered into new loans totaling $47,080. For the year ended December 31, 2024, the Company entered into loans totaling $2,020,511. These loans are secured by the underlying assets included in property and equipment. The loans have variable interest rates ranging from 10.15% to 12.00% and mature from September 2028 to March 2030. Minimum monthly payments total $42,312. For the three months ended March 31, 2025 and 2024, interest expense under the outstanding loans was $58,225 and $0, respectively. As of March 31, 2025 and December 31, 2024, motor vehicle and equipment loans totaled $2,010,895 and $1,970,700, respectively.

Convertible Notes Payable

In March 2024, the Company issued convertible notes payable ("March 2024 Convertible Notes") totaling $21,063,748 and received aggregate cash of $20,550,000. One of the notes totaling $513,748 was issued to the placement agent in lieu of cash issuance costs. Issuance costs paid in cash totaling $521,423 and the value of the note issued upon issuance to the placement agent were expensed in selling, general and administrative costs in the condensed consolidated statement of operations and comprehensive loss for the three months ended March 31, 2024.

In June 2024, the Company issued additional convertible notes payable ("June 2024 Convertible Notes") totaling $5,494,395 and received aggregate cash of $5,386,228. One of the notes totaling $108,167 was issued to the placement agent in lieu of cash issuance costs and was expensed in selling, general and administrative costs in the condensed consolidated statement of operations and comprehensive loss for the year ended December 31, 2024. Issuance costs paid in cash were negligible. The March 2024 Convertible Notes and the June 2024 Convertible Notes are collectively the "Convertible Notes".

The Convertible Notes are payable on demand in March 2029 and bear an annual interest rate of 6% through March 7, 2025 and 8% thereafter. Upon a qualified financing event the Convertible Notes convert into the shares issued in that qualified financing event at a price per share equal to 80% of the share price issued subject to a valuation cap. Upon a qualified transaction, the noteholders may elect to receive either 1.5x the principal and accrued interest balance in cash or convert into common shares.

The Convertible Notes are recorded on the condensed consolidated balance sheet at their fair values. The fair value of the March Convertible Notes on the date of issuance was $21,063,748. The fair value of the June Convertible Notes on the date of issuance was $5,494,395. The fair value of the Convertible Notes as of March 31, 2025 has been determined to be $34,390,592 and the resultant change in fair value of $957,408 has been recorded in other income and expense in the condensed consolidated statement of operations and comprehensive loss for the three months ended March 31, 2025. As of March 31, 2025, the total principal and accrued interest of the Convertible Notes is $26,558,143 of which $1,651,906 relates to the interest portion.

7. Deferred Revenues

In June 2023, the Company entered into a Supply Agreement with a customer for the delivery of Molybdenum-100 and Molybdenum-98 beginning in 2024. In conjunction with the Supply Agreement, the Company received $882,000 in September 2023, as an advance towards future revenue. The Company has recorded $882,000 as deferred revenue on the balance sheet as of March 31, 2025 and December 31, 2024.

8. Commitments and Contingencies

Commitments

Share Purchase Agreement relating to PET Labs

On October 31, 2023, the Company entered into a Share Purchase Agreement with Nucleonics Imaging Proprietary Limited, a company incorporated in the Republic of South Africa (the "Seller"), relating to the purchase and sale of ordinary shares in the issued share capital of Pet Labs. PET Labs is a South African radiopharmaceutical operations company, dedicated to nuclear medicine and the science of radiopharmaceutical production.

Under the Purchase Agreement, the Company has agreed to purchase from the Seller 51 ordinary shares in the issued share capital of PET Labs (the "Initial Sale Shares") (representing 51% of the issued share capital of PET Labs) and has an option to purchase from the Seller the remaining 49 ordinary shares in the issued share capital of PET Labs (the "Option Shares") (representing the remaining 49% of the issued share capital of PET Labs). The Company agreed to pay to the Seller an aggregate of $2,000,000 for the Initial Sale Shares, of which aggregate amount of $500,000 was payable on the completion of the sale of the Initial Sale Shares and $1,500,000 is payable on demand after one calendar year from the agreement date. In January 2024, the Company agreed to pay $264,750 to the Seller. The Company paid an additional $750,000 in January 2025, leaving a balance due for the Initial Sale Shares as of March 31, 2025 of $485,250, which is recorded in other current liabilities on the condensed consolidated balance sheet. If the Company exercises its option to purchase the Option Shares (which option is exercisable from the agreement date until January 31, 2027, provided that the Initial Sale Shares have been paid for in full), the Company has agreed to pay $2,200,000 for the Option Shares upon exercise.

PET Labs Global

In August 2024, PET Labs Global entered into a three-year service agreement with Cayman Enterprise City and is licensed to operate from within the Cayman Islands' Special Economic Zone ("SEZ"). The service fee includes among other things the right to use certain office space and associated facilities within the SEZ. The Company has applied the guidance in ASC 842 and determined that this agreement is not a leasing arrangement. Management has determined that based on the nature of the combined services the expense should be recognized as incurred.

Exclusivity Agreement

On March 31, 2025, after the annual report on Form 10-K was filed, the Company entered into an Exclusivity Agreement with Renergen Limited ("Renergen") an entity in South Africa listed on the Johannesburg Stock Exchange ("JSE") and the Australian Stock Exchange. On May 18, the Exclusivity Agreement was amended. Per the terms of the amended Exclusivity Agreement, the Company received the rights to negotiate the terms of the acquisition of Renergen during an exclusive negotiation period that ends on May 31, 2025. In April 2025, the Company paid an exclusivity fee of $10,000,000 to Renergen. On May 19, 2025 the Company agreed to the terms of the acquisition and simultaneously entered into a Loan Agreement in which this exclusivity fee was applied to the principal amount (see Note 16).

Contingencies

From time to time, the Company may have certain contingent liabilities that arise in the ordinary course of its business activities. The Company accrues liabilities for such matters when future expenditures are probable and such expenditures can be reasonably estimated.

On December 4, 2024, a purported stockholder of the Company filed a putative securities class action on behalf of purchasers of the Company's securities between October 30, 2024 through November 26, 2024 against ASP Isotopes Inc. and certain of its executive officers in the United States District Court for the Southern District of New York (*Corredor v. ASP Isotopes Inc., et al.*, Case No. 1:24-cv-09253 (S.D.N.Y)) (the "Securities Class Action"). The Securities Class Action alleges that the Company, its chief executive officer and chief financial officer ("Defendants") made materially misleading or false statements or omissions regarding the Company's business and asserts purported claims under §§ 10(b) and 20(a) of the Securities Exchange Act of 1934 and SEC Rule 10b-5 promulgated thereunder. The complaint seeks unspecified compensatory damages, attorney's fees and costs. On May 2, the Court appointed Mark Leone ("Leone") as lead plaintiff and directed the Clerk of court to amend the caption to substitute Leone for Alexander Corredor as plaintiff. On May 2, the Court also appointed lead counsel and set deadlines for filing an amended consolidated class action complaint and briefing schedules for a motion to dismiss, if any, and class certification. Defendants intend to vigorously defend against the Securities Class Action; however, we cannot be certain of the outcome and, if decided adversely to us, our business and financial condition may be adversely affected.

In addition to the matters described above, from time to time, we may become subject to arbitration, litigation or claims arising in the ordinary course of business. The results of any current or future claims or proceedings cannot be predicted with certainty, and regardless of the outcome, litigation can have an adverse impact on us because of defense and litigation costs, diversion of management resources, reputational harm and other factors.

9. Leases

The Company accounts for all leases in accordance with ASC 842 (Note 2). The Company is party to five facility leases in South Africa for office, manufacturing and laboratory space.

A lease for office and laboratory space in Pretoria, South Africa commenced in October 2021 with the initial term set to expire in December 2030. The Company has applied the guidance in ASC 842 and has determined that it should be classified as an operating lease. The Company's incremental borrowing rate for this lease is 7.5% based on the remaining lease term of the applicable lease. Consequently, a ROU lease asset of $952,521 with a corresponding lease liability of $952,521 based on the present value of the minimum rental payments of such lease was recorded at the inception of the lease.

A lease for additional production space in Pretoria, South Africa commenced in April 2023 with the initial term set to expire in March 2024. Effective February 1, 2024, this lease was amended such that the new term begins on February 1, 2024 and expires in February 2026. Prior to the amendment, the Company had applied the guidance in ASC 842 and determined that this lease was a short-term lease and expensed the monthly payments as incurred. The Company has applied the guidance in ASC 842 to the amended lease and has determined that it should be classified as an operating lease. The Company's incremental borrowing rate for this lease is 10.6% based on the lease term of the applicable lease. Consequently, a ROU lease asset of $364,458 with a corresponding lease liability of $364,458 based on the present value of the minimum rental payments of such lease was recorded at the inception of the amended lease.

A lease for laboratory space in Pretoria, South Africa commenced in November 2023 with the initial term set to expire in October 2026. The Company has applied the guidance in ASC 842 and has determined that it should be classified as an operating lease. The Company's incremental borrowing rate for this lease is 13.16% based on the remaining lease term of the applicable lease. Consequently, a ROU lease asset of $70,607 with a corresponding lease liability of $70,607 based on the present value of the minimum rental payments of such lease was recorded at the inception of the lease.

A lease for office and production space in Pretoria, South Africa commenced prior to October 31, 2023 with the initial term set to expire in March 2026. The Company has applied the guidance in ASC 842 and has determined that it should be classified as an operating lease effective on the date of ASP Isotopes' acquisition of 51% of PET Labs. The Company's incremental borrowing rate is approximately 12.875% based on the expected remaining lease term of the applicable lease. Consequently, a ROU lease asset of $592,304 which reflects an $84,858 unfavorable adjustment based on the fair value of the lease terms and a corresponding lease liability of $677,163 based on the present value of the minimum rental payments of such lease was recorded at the date of ASP Isotopes acquisition of 51% of PET Labs. Dr. Gerdus Kemp, an officer of PET Labs and an employee of ASP UK, is the sole owner of the facility under this lease agreement.

A summary of long-term leases in the condensed consolidated balance sheet as of March 31, 2025 is as follows:

	ROU Asset	Operating Lease Liability - Current	Operating Lease Liability – Non-Current	Total Operating Lease Liability
Lease:				
Office and laboratory, Pretoria, South Africa	$ 536,626	$ 68,854	$ 552,588	$ 621,442
Additional production, Pretoria, South Africa	173,615	173,615	—	173,615
Laboratory, Pretoria, South Africa	41,059	25,679	17,340	43,019
Office and production, Pretoria, South Africa	273,275	308,725	—	308,725
Total	$ 1,024,575	$ 576,873	$ 569,928	$ 1,146,801

A summary of long-term leases in the condensed consolidated balance sheet as of December 31, 2024 is as follows:

	ROU Asset	Operating Lease Liability - Current	Operating Lease Liability – Non-Current	Total Operating Lease Liability
Lease:				
Office and laboratory, Pretoria, South Africa	$ 538,942	$ 63,703	$ 554,332	$ 618,035
Additional production, Pretoria, South Africa	211,829	179,948	31,881	211,829
Laboratory, Pretoria, South Africa	45,433	23,653	23,674	47,327
Office and production, Pretoria, South Africa	325,930	290,372	78,592	368,964
Total	$ 1,122,134	$ 557,676	$ 688,479	$ 1,246,155

A lease for additional production space in Pretoria, South Africa commenced prior to October 31, 2023 with the initial term expiring in March 2024 and the Company is maintaining the lease under the agreed upon monthly extensions. The Company has applied the guidance in ASC 842 and has determined that this lease is a short-term lease effective on the date of ASP Isotopes acquisition of 51% of PET Labs and expensed the monthly payments for the three months ended March 31, 2025 and 2024.

Quantitative information regarding the Company's operating lease liabilities is as follows:

	Three Months Ended March 31, 2025	2024
Operating Lease Cost		
Operating lease cost	$ 168,458	$ 148,900
Other Information		
Operating cash flows paid for amounts included in the measurement of lease liabilities	$ 165,104	$ 143,338
Operating lease liabilities arising from obtaining right-of-use assets	$ —	$ 364,458
Weighted average remaining lease term (years)	3.58	3.94
Weighted average discount rate	9.63 %	10.23 %

Future lease payments under noncancelable operating lease liabilities as of March 31, 2025 are as follows:

	Operating Leases
Future Lease Payments	
2025 (remaining nine months)	$ 504,179
2026	261,317
2027	128,476
2028	138,112
2029	148,470
Thereafter	159,606
Total lease payments	$ 1,340,160
Less: imputed interest	(193,359)
Total operating lease liabilities	$ 1,146,801
Less current portion	$ (576,873)
Operating lease liability - noncurrent	$ 569,928

The Company records the expense from short-term leases as incurred. Lease expense from short-term leases was $31,595 and $27,443 for the three months ended March 31, 2025 and 2024, respectively.

The Company accounts for finance leases in accordance with ASC 842 (Note 2). The Company is party to several ongoing finance leases in South Africa for certain fixed assets, including new finance leases for additional equipment in May and October 2024.

Quantitative information regarding the Company's finance lease liabilities is as follows:

	Three Months Ended March 31, 2025	2024
Finance Lease Cost		
Interest on lease liabilities	$ 22,247	$ 7,040
Other Information		
Operating cash flows paid for amounts included in the measurement of finance lease liabilities	$ 29,911	$ 14,378
Amortization of right-of-use assets	$ 40,549	$ 9,441
Weighted average remaining lease term (years)	4.2	3.7
Weighted average discount rate	13.0 %	11.3 %

Future lease payments under noncancelable finance lease liabilities are as follows as of March 31, 2025:

	Finance Leases
Future Lease Payments	
2025 (remaining nine months)	$ 161,588
2026	217,978
2027	213,065
2028	175,447
2029	68,184
Thereafter	66,841
Total lease payments	$ 903,103
Less: imputed interest	(226,579)
Total lease liabilities	$ 676,524
Less current portion	$ (135,011)
Finance lease liability - noncurrent	$ 541,513

10. License Agreements

Klydon Proprietary Ltd ("Klydon")

In July 2022, ASP UK entered into a license agreement with Klydon, as licensor, pursuant to which ASP Isotopes UK Ltd acquired from Klydon an exclusive license to use, develop, modify, improve, subcontract and sublicense certain intellectual property rights relating to the ASP technology for the production, distribution, marketing and sale of all isotopes produced using the ASP technology (the "Klydon license agreement"). The Klydon license agreement is royalty-free, has a term of 999 years and is worldwide for the development of the ASP technology and the distribution, marketing and sale of isotopes. Future production of isotopes is limited to member countries of the Nuclear Suppliers Group. In connection with the Klydon license agreement the Company agreed to make an upfront payment of $100,000 (to be included within the payments the Company makes under the Turnkey Contract) and deferred payments of $300,000 over 24 months, which was expensed to research and development expense.

TerraPower, LLC

On April 4, 2024, the Company entered into an agreement with TerraPower LLC ("TerraPower") to develop a conceptual design, refined cost/schedule/financing, risk register, and term sheet for a High Assay Low Enriched Uranium ("HALEU") facility (the "TerraPower Agreement"). The TerraPower Agreement may be terminated for (a) breach or default, (b) the Company's convenience or (c) TerraPower's convenience. TerraPower is obligated to make all payments for milestones completed by the Company and these payments are nonrefundable.

On October 18, 2024, the Company and TerraPower signed a term sheet (the "TerraPower Term Sheet") that provides for the execution of two definitive agreements: (1) an agreement pursuant to which TerraPower will provide funding for the Company's construction of a uranium enrichment facility capable of producing HALEU using the Company's proprietary aerodynamic separation process technology to be located in the Republic of South Africa and (2) An agreement pursuant to which the Company will deliver to TerraPower the full capacity of the enrichment facility.

The Company accounts for the TerraPower Agreement in accordance with ASC 808. The Company has concluded that other authoritative accounting literature does not apply directly to these payments from TerraPower, either directly or by analogy, including ASC 606 because TerraPower is not a customer. The Company has concluded that TerraPower is not a customer because TerraPower has not contracted with the Company to obtain goods or services that are an output of the Company's ordinary activities in exchange for consideration. The Company also has concluded that there is no other authoritative accounting literature that is appropriate to apply by analogy, and, accordingly, its accounting policy is to evaluate the income statement classification for presentation of amounts associated with each separate activity. As a result, the Company concludes that all portions of the net receivable from TerraPower are directly related to the conceptual design of the HALEU facility. Furthermore, the Company and TerraPower will jointly develop criteria for optimization of the HALEU facility's operations. TerraPower shares the risks and rewards of designing the HALEU facility since its successful completion will enable TerraPower to purchase output from the HALEU facility in the future.

For the three months ended March 31, 2025, no collaboration revenue was recognized in the consolidated statements of operations and comprehensive loss.

11. Acquisitions

PET Labs

In October 2023, the Company completed the acquisition of PET Labs. The acquisition is intended to accelerate the distribution of the Company's pipeline.

Pursuant to the terms of the agreement, the Company acquired 51% of the common shares issued and outstanding for total purchase consideration of $2,000,000 in cash of which $500,000 was paid up front. In January 2025 and 2024, the Company made a partial payment of $750,000 and $264,750, respectively. The balance as of March 31, 2025 and December 31, 2024 was $485,250 and $1,235,250, respectively, and is expected to be paid in the second half of 2025. It is recorded in other current liabilities on the condensed consolidated balance sheet.

In addition to the purchase consideration, the Company has an option to purchase the remaining 49% of the issued and outstanding shares for an agreed consideration totaling $2,200,000. No consideration or value relating to this option was recognized as it was not considered probable at the time of acquisition and as of March 31, 2025.

Dr. Gerdus Kemp is an officer of PET Labs and, effective November 1, 2023, an employee of ASP Guernsey. In addition, Dr. Kemp controls the remaining 49% ownership of PET Labs.

The Company accounts for business combinations in accordance with ASU No. 2015-16, Business Combinations (Topic 805), which requires an acquirer to retrospectively adjust provisional amounts recognized in a business combination during the measurement period (which represents a period not to exceed one year from the date of the acquisition), in the reporting period in which the adjustment is determined, as well as present separately on the face of the income statement or as a disclosure in the notes to the consolidated financial statements, the portion of the amount recorded in current period earnings that would have been recorded in previous reporting periods if the adjustment to the provisional amounts had been recognized as of the acquisition date.

The changes to the carrying value of goodwill is as follows:

Balance as of December 31, 2023	$	3,267,103
Translation adjustment		(99,002)
Balance as of December 31, 2024	$	3,168,101
Translation adjustment		94,099
Balance as of March 31, 2025	$	3,262,200

ASP Rentals

In December 2023, ASP South Africa entered into a Shareholders Agreement (“ASP Rentals Shareholders Agreement”) with ASP Rentals, a newly formed equipment financing service provider formed for the sole purpose of providing financing to ASP South Africa for its significant asset purchases in South Africa. In accordance with the terms of the ASP Rentals Shareholders Agreement, ASP Rentals issued 24% of its capital stock to ASP South Africa for total consideration of ZAR 3,300,829 (which at the exchange rate as of December 31, 2023 was $180,387) and the remaining 76% of its capital stock was issued to two third party entities for combined consideration of ZAR 13,203,317 (which at the exchange rate as of December 31, 2023 was $721,548).

In June 2024, ASP Rentals issued additional capital stock to support additional financing to ASP South Africa and PET Labs. Per the terms of the ASP Rentals Shareholder Agreement, ASP Rentals issued 20% of the new capital to ASP South Africa for total consideration of ZAR 3,671,412 (which at the exchange rate as of June 30, 2024 was $201,994) and the remaining 80% of the new capital to one of the two original third party entities for a combined consideration of ZAR 18,357,063 (which at the exchange rate as of June 30, 2024 was $1,009,969).

In August 2024, ASP Rentals issued additional capital stock to support additional financing to PET Labs. Per the terms of the ASP Rentals Shareholder Agreement, ASP Rentals issued 20% of the new capital to ASP South Africa for total consideration of ZAR 369,965 (which at the exchange rate as of August 23, 2024 was $21,421) and the remaining 80% of the new capital to one of the two original third party entities for a combined consideration of ZAR 1,849,826 (which at the exchange rate as of August 23, 2024 was $104,925).

In December 2024, ASP Rentals issued additional capital stock to support additional financing to ASP South Africa. Per the terms of the ASP Rentals Shareholder Agreement, ASP Rentals issued 20% of the new capital to ASP South Africa for total consideration of ZAR 130,000 (which at the exchange rate as of December 31, 2024 was $6,889) and the remaining 80% of the new capital to one of the two original third party entities for a combined consideration of ZAR 650,000 (which at the exchange rate as of December 31, 2024 was $35,746).

As a result of the additional financings in 2024, ASP South Africa now controls 42% of ASP Rentals.

In addition to issuance of these shares, future ASP South Africa and PET Labs Pharmaceutical equipment purchases may also be financed by ASP Rentals through the issuance of additional shares. ASP South Africa will only be entitled to dividend distributions upon the two third party entities receiving a designated return on their investment.

In conjunction with the ASP Rental Shareholders Agreement, ASP South Africa and PET Labs have both entered into an Asset Sale Agreement and an Asset Rental Agreement with ASP Rentals in order to facilitate the financing of equipment recently purchased by ASP South Africa and PET Labs. As a result of the transactions contemplated by these agreements, collectively, ASP Rentals is considered a variable interest entity. In addition, since the only function of ASP Rentals is to provide financing to ASP South Africa and PET Labs, ASP Isotopes is considered to be the primary beneficiary of ASP Rentals. Therefore, ASP Rentals has been consolidated in accordance with ASC 810.

12. Stockholders’ Equity

Preferred stock

The Company has 10,000,000 shares of preferred stock authorized, of which no shares were issued and outstanding as of March 31, 2025 and December 31, 2024.

Common stock

The Company has 500,000,000 shares of common stock authorized, of which 72,068,059 shares were issued and outstanding as of March 31, 2025 and December 31, 2024. Common stockholders are entitled to one vote for each share of outstanding common stock held at all meetings of stockholders and written actions in lieu of meetings. Common stockholders are entitled to receive dividends for each share of outstanding common stock, if and when declared by the Board. No dividends have been declared or paid by the Company through March 31, 2025.

The Company’s non-employee board members agreed to receive the 2022 and 2023 director fees totaling $240,000 in shares of common stock. In August 2024, 163,632 shares of common stock were issued and the value of the fees totaling $165,000 is recorded as par and additional paid-in capital on the consolidated balance sheet. In December 2024, 77,626 shares of common stock were issued and the value of the fees totaling $75,000 is recorded as additional paid-in capital on the consolidated balance sheet. The Company's non-employee board members received 429,423 shares of common stock during 2024, of which $400,000 and $100,000 was recorded as stock compensation expense in 2024 and 2023, respectively.

In July 2024, the Company issued 13,800,000 shares of common stock in a public offering at a public offering price of $2.50 per share for aggregate gross proceeds totaling $34,500,000. Issuance costs, including commissions and expenses totaled $2,194,041.

In November 2024, the Company issued an additional 2,754,250 shares of common stock in a public offering at a public offering price of $6.75 per share for aggregate gross proceeds totaling $18,591,187. Issuance costs, including commissions and expenses totaled $1,454,344.

The following shares were issued to consultants and vendors for the three months ended March 31, 2025:

Description	Origination Date	Shares	Fair Value	Settlement Date	Fair Value at Settlement	Change in Fair Value
Issuance of common stock to consultant	January 2025	50,000	$ 247,000		$ —	$ —
		50,000	$ 247,000		$ —	$ —

The following shares were issued to consultants and vendors for the three months ended March 31, 2024:

Description	Origination Date	Shares	Fair Value	Settlement Date	Fair Value at Settlement	Change in Fair Value
Settlement of liability with consultants	January 2024	100,000	$ 195,000	September 2024	$ 219,500	$ (24,500)
		100,000	$ 195,000		$ 219,500	$ (24,500)

During the three months ended March 31, 2025 and 2024, the Company issued shares of common stock to consultants and vendors to settle share liabilities. The fair value of these shares is recorded to share liability in the consolidated balance sheet and the change in fair value upon settlement of the share liability is recorded to change in fair value of share liability in the consolidated statements of operations and comprehensive loss.

Activity of the share liabilities for the three months ended March 31, 2025 is as follows:

	Share Liability as of December 31, 2024	New Share Liabilities in 2025	Mark to Market Adjustments in 2025	Liabilities Settled in 2025	Share Liabilities as of March 31, 2025
Share liabilities	$ —	$ 247,000	$ (12,500)	$ —	$ 234,500
	$ —	$ 247,000	$ (12,500)	$ —	$ 234,500

Activity of the share liabilities for the three months ended March 31, 2024 is as follows:

	Share Liability as of December 31, 2023	New Share Liabilities in 2024	Mark to Market Adjustments in 2024	Liabilities Settled in 2024	Share Liabilities as of March 31, 2024
Share liabilities	$ —	$ 195,000	$ 218,000	$ —	$ 413,000
	$ —	$ 195,000	$ 218,000	$ —	$ 413,000

13. Stock Compensation Plan

Equity Incentive Plan

In October 2021, the Company adopted the 2021 Stock Incentive Plan (“2021 Plan”) that provided for the issuance of common stock to employees, nonemployee directors, and consultants. Recipients of incentive stock options are eligible to purchase shares of common stock at an exercise price equal to no less than the estimated fair market value of such stock on the date of grant. The 2021 Plan provided for the grant of incentive stock options, non-statutory stock options, restricted stock, restricted stock units, stock awards and stock appreciation rights. The maximum contractual term of options granted under the 2021 Plan is ten years. The maximum number of shares initially available for issuance under the 2021 Plan was 6,000,000. No further options are available to be issued under the 2021 Plan.

In November 2022, the Company adopted the 2022 Equity Incentive Plan (“2022 Plan”) that provides for the issuance of common stock to employees, nonemployee directors, and consultants. Recipients of incentive stock options are eligible to purchase shares of common stock at an exercise price equal to no less than the estimated fair market value of such stock on the date of grant. The 2022 Plan provides for the grant of incentive stock options, non-statutory stock options, restricted stock, restricted stock units, stock awards and stock appreciation rights. The maximum contractual term of options granted under the 2022 Plan is ten years. The number of shares of the Company’s common stock initially reserved for issuance under the 2022 Plan is equal to 5,000,000, subject to an annual increase, to be added on the first day of each fiscal year, beginning with the fiscal year ending December 31, 2023 and continuing until, and including, the fiscal year ending December 31, 2033, equal to the lesser of 5% of the number of shares of the Company’s common stock outstanding on such date or an amount determined by the Company's board of directors. On January 1, 2025, the Company added 3,603,403 shares to the 2022 Plan. As of March 31, 2025, 3,998,938 shares remain available for future grant under the 2022 Plan.

In June 2024, the Company adopted the 2024 Inducement Equity Incentive Plan ("2024 Plan"). The 2024 Plan will be used exclusively for the grant of equity awards to individuals who were not previously employees or directors of the Company, or following a bona fide period of non-employment, as an inducement material to such individuals entering into employment with the Company, pursuant to Nasdaq Listing Rule 5635(c)(4). Recipients of stock options are eligible to purchase shares of common stock at an exercise price equal to no less than the estimated fair market value of such stock on the date of grant. The 2024 Plan provides for the grant of non-statutory stock options, restricted stock, restricted stock units, stock awards and stock appreciation rights. The maximum contractual term of options granted under the 2024 Plan is ten years. The number of shares of the Company's common stock initially reserved for issuance under the 2024 plan is equal to 2,500,000. As of March 31, 2025, 1,825,000 shares remain available for future grant under the 2024 Plan.

Stock Options

The following table sets forth the activity for the Company's stock options during the periods presented:

	Number of Options		Weighted-Average Exercise Price per Share	Weighted Average Remaining Contractual Term (in Years)		Aggregate Intrinsic Value
Outstanding as of December 31, 2024	2,731,000	$	1.90	7.4	$	7,171,930
Granted	—	$	—			
Forfeited	(120,834)	$	2.00			
Outstanding as of March 31, 2025	2,610,166	$	1.90	7.1	$	7,283,847
Exercisable as of March 31, 2025	2,492,943	$	1.89	7.1	$	6,968,518
Vested or expected to vest as of March 31, 2025	2,610,166	$	1.90	7.1	$	7,283,847

No options were granted for the three months ended March 31, 2025.

The Company recorded stock-based compensation expense from options of $180,606 and $196,187 for the three months ended March 31, 2025 and 2024, respectively. As of March 31, 2025, there was $137,846 of unrecognized stock-based compensation expense related to non-vested stock-based compensation arrangements granted under the Plan, which is expected to be recognized over a weighted average period of approximately 0.3 years.

Stock Awards

In October 2021, the Company issued 1,500,000 shares of restricted common stock to its Chief Executive Officer. The number of shares that vest is dependent on achieving certain performance conditions and dependent market conditions upon the third anniversary from the date of grant. The Company determined that the fair value of this award was $0.25 per share for a total value of $375,000. The Company determined the performance condition probable and recognized stock-based compensation expense of $375,000 for the year ended December 31, 2024.

The Company recorded stock-based compensation expense from stock awards totaling $1,709,095 and $1,417,467 for the three months ended March 31, 2025 and 2024, respectively. As of March 31, 2025, there is $6,273,213 of unrecognized stock-based compensation expense related to the non-vested portion of restricted stock awards that is expected to be recognized over the next year.

The following table summarizes vesting of restricted common stock:

	Number of Shares		Weighted Average Grant Date Fair Value Per Share
Unvested as of December 31, 2024	2,814,703	$	3.24
Vested	(457,115)	$	3.14
Unvested as of March 31, 2025	2,357,588	$	3.26

Stock-based Compensation Expense

Stock-based compensation expense for all stock awards recognized in the accompanying consolidated statements of operations and comprehensive loss is as follows:

	Three Months Ended March 31,			
		2025		2024
Selling, general and administrative	$	1,819,099	$	1,630,591
Research and development		70,602		83,063
Total	$	1,889,701	$	1,713,654

14. Net Loss Per Share

The Company has reported losses since inception and has computed basic net loss per share attributable to common stockholders by dividing net loss attributable to common stockholders by the weighted-average number of shares of Common Stock outstanding for the period, without consideration for potentially dilutive securities. The Company computes diluted net loss per share of Common Stock after giving consideration to all potentially dilutive shares of common stock, including options to purchase common stock and warrants to purchase common stock, outstanding during the period determined using the treasury-stock and if-converted methods, except where the effect of including such securities would be antidilutive. Because the Company has reported net losses since inception, these potential shares of Common Stock have been anti-dilutive and basic and diluted loss per share were the same for all periods presented.

The following table sets forth the computation of basic and diluted net loss per share for the three months ended March 31, 2025 and 2024:

	Three Months Ended March 31, 2025	Three Months Ended March 31, 2024
Net loss attributable to ASP Isotopes Inc. shareholders	$ (8,446,197)	$ (6,948,085)
Weighted average common stock outstanding, basic and diluted	69,484,200	44,561,844
Net loss per share, basic and diluted	(0.12)	(0.16)

The following table sets forth the potentially dilutive securities that have been excluded from the calculation of diluted net loss per share because to include them would be anti-dilutive:

	As of March 31, 2025	As of March 31, 2024
Options to purchase common stock	2,610,166	2,731,000
Restricted stock	2,357,588	3,800,000
Warrants to purchase common stock	1,516,297	3,386,076
Total shares of common stock equivalents	6,484,051	9,917,076

15. Income Taxes

The Company's effective tax rate for the three months ended March 31, 2025 and 2024 was 0.8% and 0.7%, respectively. The effective tax rate for the three months ended March 31, 2025 and 2024 varied from the federal statutory rate primarily due to losses in jurisdictions for which a valuation allowance is recorded.

The Company recognizes a tax benefit from an uncertain tax position when it is more likely that not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, based on the technical merits. Income tax positions must meet a more likely than not recognition threshold to be recognized. The Company's practice is to recognize interest and/or penalties related to income tax matters in income tax expense. The Company had no accrual for interest and penalties on the Company's balance sheets and has not recognized interest and/or penalties in the consolidated statements of operations and comprehensive loss for the three months ended March 31, 2025. Uncertain tax positions are evaluated based upon the facts and circumstances that exist at each reporting period. Subsequent changes in judgment based upon new information may lead to changes in recognition, derecognition, and measurement. Adjustments may result, for example, upon resolution of an issue with the taxing authorities or expiration of a statute of limitations barring an assessment for an issue. As of March 31, 2025 and December 31, 2024, there were no uncertain tax positions.

As of March 31, 2025, the Company did not recognize any interest and penalties associated with unrecognized tax benefits. Due to net operating losses incurred, tax years from inception remain open to examination by the Federal and State taxing jurisdictions to which the Company is subject. The Company is not currently under Internal Revenue Services (IRS), state or local tax examination.

Ownership changes, as defined in the Internal Revenue Code ("IRC"), may limit the amount of net operating loss carryforwards that can be utilized annually to offset future taxable income pursuant to IRC Section 382 or similar provisions. Subsequent ownership changes could further affect the limitation in future years. The Company has not completed a study to assess whether a change of control has occurred or whether there have been multiple changes of control since the Company's formation due to the significant complexity and cost associated with such study and because there could be additional changes in control in the future. As a result, the Company is not able to estimate the effect of the change in control, if any, on the Company's ability to utilize net operating loss and research and development credit carryforwards in the future.

16. Subsequent Events

The Company has evaluated subsequent events through May 20, 2025, the date on which the accompanying condensed consolidated financial statements were issued and concluded that no subsequent events have occurred that require disclosure except as described below.

TerraPower Loan Agreement and HALEU Supply Agreements

In May 2025, the Company entered into a Loan Agreement with TerraPower, which provides conditional commitments from TerraPower to the Company through one of its wholly-owned U.S.-based subsidiaries ("Borrower") for a multiple advance term loan totaling $22,000,000 for the purpose of partially funding the construction of a proposed new uranium enrichment facility in South Africa. The total loan amount is inclusive of a 10% original issue discount on each disbursement and carries a fixed interest rate of 10% per annum. Per the terms of the Loan Agreement and subject to the satisfaction of various conditions precedent to disbursements (including receiving all required licenses and permits to perform uranium enrichment in South Africa), the Company will receive aggregate loan disbursements of $20,000,000. The Loan Agreement matures on May 16, 2032. Interest will begin accruing upon each milestone disbursement received by the Company and will be added to the principal balance until November 2027. Principal and interest payments will be made in 60 equal installments beginning in November 2027.

In addition to a loan agreement, the Company and TerraPower have entered into two supply agreements for the HALEU expected to be produced at the Company's uranium enrichment facility. The initial core supply agreement is intended to support the supply of the required first fuel cores for the initial loading of TerraPower's Natrium project in Wyoming. The long-term supply agreement is a 10-year supply agreement of up to a total of 150 metric tons of HALEU, commencing in 2028 through end of 2037.

Renergen Firm Intention Letter and Loan Agreement

Contemplated in the Exclusivity Agreement signed on March 31, 2025 and amended on May 18, 2025 (see Note 8) the Company has entered into a Firm Intention Letter with Renergen on May 19, 2025. The Firm Intention Letter sets the acquisition terms for the

Company to purchase 100% of the outstanding shares of Renergen in exchange for shares of the Company. The completion of the acquisition is subject to Renergen shareholder approval.

In addition, the Company entered into a Loan Agreement with Renergen in which a total of $30,000,000 will be provided by the Company in periodic payments for the purpose of funding Renergen’s operations. In conjunction with the Loan Agreement, the full amount of the previously paid exclusivity fee of $10,000,000 is applied to the loan. The remaining $20,000,000 available under the Loan Agreement is expected to be paid by the Company to Renergen prior to June 30, 2025. The Loan Agreement expires on September 30, 2025 and bears interest at the South African Prime Rate which is currently 11.0%.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

You should read the following discussion and analysis of our financial condition and results of operations together with our condensed consolidated financial statements and related notes included in this Quarterly Report on Form 10-Q. Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the section entitled "Risk Factors," our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. You should carefully read the section entitled "Risk Factors" to gain an understanding of the important factors that could cause actual results to differ materially from our forward- looking statements. Please also see the section entitled "Cautionary Note Regarding Forward-Looking Statements."

Overview

We are a development stage advanced materials company dedicated to the development of technology and processes that, if successful, will allow for the enrichment of natural isotopes into higher concentration products, which could be used in several industries. Our proprietary technologies, the Aerodynamic Separation Process ("ASP technology") and Quantum Enrichment technology ("QE technology"), are designed to enable the production of isotopes used in several industries. Our initial focus is on the production and commercialization of enriched Carbon-14 ("C-14"), Silicon-28 ("Si-28") and Ytterbium-176 ("Yb-176").

We have completed the commissioning phase and are commencing commercial production at our C-14, Si-28 and Yb-176 enrichment facilities in Pretoria, South Africa. Our C-14 and Si-28 enrichment facilities utilize the ASP technology and our Yb-176 enrichment facility utilizes QE technology. We expect our first three enrichment facilities to generate commercial product during 2025. In addition, we have started planning additional isotope enrichment plants both in South Africa and in other jurisdictions, including Iceland and the United States. We believe the C-14 we may produce using the ASP technology could be used in the development of new pharmaceuticals and agrochemicals. We believe the Si-28 we may produce using the ASP technology may be used to create advanced semiconductors and in quantum computing. We believe the Yb-176 we may produce using the QE technology may be used to create radiotherapeutics that treat various forms of oncology. We anticipate shipping the first commercial batches of enriched Carbon-14 in mid-2025 and enriched Silicon-28 during the second quarter of 2025. We expect to commence commercial production of Ytterbium-176 during the second quarter of 2025.

In addition, we are considering the future development of the ASP technology for the separation of Zinc-68 and Xenon-129/136 for potential use in the healthcare end market, Germanium 70/72/74 for potential use in the semiconductor end market, and Chlorine -37 for potential use in the nuclear energy end market. We are also considering the future development of QE technology for the separation of Nickel-64, Gadolinium-160, Ytterbium-171, Lithium 6 and Lithium7.

We are currently pursuing an initiative to apply our enrichment technologies to the enrichment of Uranium-235 ("U-235") in South Africa. We believe that the U-235 we may produce using quantum enrichment technology may be commercialized as a nuclear fuel component for use in the new generation of high-assay low-enriched uranium ("HALEU")-fueled small modular reactors that are now under development for commercial and government uses. In furtherance of our uranium enrichment initiative, in October 2024, we entered into a term sheet with TerraPower, LLC ("TerraPower") which contemplates the parties entering into definitive agreements pursuant to which TerraPower would provide funding for the construction of a HALEU production facility and agree to purchase all HALEU produced at the facility over a 10-year period after the planned completion of the facility in 2027. In addition, in November 2024, we entered into a memorandum of understanding with The South African Nuclear Energy Corporation ("Necsa"), a South African state-owned company responsible for undertaking and promoting research and development in the field of nuclear energy and radiation sciences, to collaborate on the research, development and ultimately the commercial production of advanced nuclear fuels. Subject to the receipt of funding and all required permits and licenses to begin enrichment of U-235 in South Africa, it is anticipated that the research, development and ultimate construction of a HALEU production facility will take place at South Africa's main nuclear research center at Pelindaba in Pretoria. See the section captioned "TerraPower" below for disclosures regarding certain definitive agreements entered into between TerraPower and us and/or our subsidiaries, including a term loan subject to conditions to support construction of a new uranium enrichment facility at Pelindaba, South Africa and supply agreements for the future supply of HALEU to TerraPower, as a customer.

Our Subsidiaries

We operate principally through our subsidiaries. ASP Isotopes Guernsey Limited (the holding company for subsidiaries in the Cayman Islands, South Africa, Iceland and the United Kingdom) is focused on the development and commercialization of high-value, low-volume isotopes for highly specialized end markets (such as C-14, Mo-100, and Si-28). ASP Isotopes UK Ltd is the owner of our technology.

QLE. In September 2023, we formed Quantum Leap Energy LLC ("QLE"), which also has subsidiaries in the United Kingdom (Quantum Leap Energy Limited) and South Africa (Quantum Leap Energy (Pty) Limited), to focus on the development and commercialization of advanced nuclear fuels such as HALEU and Lithium-6.

Although no assurance can be given, we plan to spin-out QLE as a separate public company and list the shares of QLE on a U.S. national exchange and distribute a portion of QLE's common equity to ASPI's stockholders as of a to-be-determined future record date, in each case subject to obtaining applicable approvals and consents and complying with applicable rules and regulations and public market trading and listing requirements. The regulatory landscape and supply chain for nuclear fuel production differs significantly from that of medical isotopes, hence we and QLE have different business models and we believe that both companies would benefit if QLE is independently managed and financed.

In connection with the anticipated spin-out, we entered into a number of agreements with QLE, including a License Agreement, pursuant to which QLE has licensed from us the rights to technologies and methods used to separate Uranium 235 and Lithium 6 (including but not limited to the quantum enrichment and ASP technologies) in exchange for a perpetual royalty in the amount of 10% of all future QLE revenues, and an EPC Services Framework Agreement, pursuant to which we will provide services for the engineering, procurement and construction of one or more turnkey Uranium-235 and Lithium-6 enrichment facilities in locations to be identified by QLE and owned or leased by QLE, and commissioning, start-up and test services for each such facility, subject to the receipt of all applicable regulatory approvals, permits, licenses, authorizations, registrations, certificates, consents, orders, variances and similar rights. In addition, in February 2024, we assigned to QLE certain existing memoranda of understanding with U.S.-based small modular reactor companies for the use of Quantum Enrichment for the production of HALEU. The MOUs provide for substantial financial support for the development of HALEU production facilities that should be capable of supplying metric ton quantities of HALEU by 2027.

PET Labs. We have a 51% ownership stake in PET Labs Pharmaceuticals Proprietary Limited ("PET Labs"), a South African radiopharmaceutical operations company focused on the production of fluorinated radioisotopes and active pharmaceutical ingredients, through which we entered the downstream medical isotope production and distribution market. Under the terms of the Share Purchase Agreement pursuant to which we acquired the shares in PET Labs, we agreed to pay a total of $2,000,000 for the shares in two installments. The first installment of $500,000 was paid in November 2023. In January 2025 and 2024, we paid $750,000 and $264,750, respectively, towards the balance due. The remaining balance of $485,250 is due upon demand any time after October 31, 2024, and is expected to be paid in 2025.

Beginning in 2024, primarily as a result of the increased business activities of QLE, we have two operating segments: (i) nuclear fuels, and (ii) specialist isotopes and related services.

Financings

In March 2024, our wholly owned subsidiary QLE received gross proceeds of $20,550,000 through the issuance of Convertible Promissory Notes. These convertible notes have a stated interest rate of 6% for the first year and 8% thereafter. The maturity date of these convertible promissory notes is March 7, 2029. These convertible promissory notes automatically convert into common shares upon Quantum Leap Energy's closing of an IPO or other qualifying public transaction at 80% of the share price taking into consideration a valuation cap.

In June 2024, our wholly owned subsidiary QLE received gross proceeds of $5,386,228 through this issuance of additional Convertible Promissory Notes with a stated interest rate of 6% for the first year and 8% thereafter. One of the notes totaling $108,167 was issued to the placement agent in lieu of cash issuance costs. The maturity date of the Convertible Promissory Notes is March 7, 2029. The Convertible Promissory Notes automatically convert into common shares upon Quantum Leap Energy's closing of an IPO or other qualifying public transaction at 80% of the share price taking into consideration a valuation cap.

In April 2024, we received approximately $5.5 million from the issuance of 3,164,557 shares of common stock upon the exercise of warrants.

In July 2024, we issued 13,800,000 in a public offering at a public offering price of $2.50 per share resulting in net proceeds of approximately $32.3 million after deducting underwriting discounts, commissions and offering expenses.

In October 2024, a warrant to purchase 151,741 shares of common stock was exercised and the Company received gross proceeds of $299,688.

In November 2024, we issued 2,754,250 shares of common stock at a public offering price of $6.75 per share resulting in net proceeds of approximately $17.1 million after deducting underwriting discounts, commissions and offering expenses.

TerraPower

On April 4, 2024, we entered into an agreement with TerraPower to develop a conceptual design, refined cost/schedule/financing, risk register, and term sheet for a HALEU facility (the "TerraPower Agreement"). The TerraPower Agreement may be terminated for (a) breach or default, (b) our convenience or (c) TerraPower's convenience. TerraPower is obligated to make all payments for milestones completed by us and these payments are nonrefundable.

On October 18, 2024, we signed a term sheet with TerraPower (the "TerraPower Term Sheet") that provides for the execution of two definitive agreements: (1) an agreement pursuant to which TerraPower will provide funding for our construction of a uranium enrichment facility capable of producing HALEU using our proprietary aerodynamic separation process technology to be located in the Republic of South Africa and (2) An agreement pursuant to which we will deliver to TerraPower the full capacity of the enrichment facility.

For the three months ended March 31, 2025, no collaboration revenue has been recognized in the consolidated statements of operations and comprehensive loss.

In May 2025, we entered into a Loan Agreement with TerraPower, which provides conditional commitments from TerraPower to us through one of our wholly-owned U.S.-based subsidiaries ("Borrower") for a multiple advance term loan totaling $22,000,000 for the purpose of partially funding the construction of a proposed new uranium enrichment facility in South Africa. The total loan amount is inclusive of a 10% original issue discount on each disbursement and carries a fixed interest rate of 10% per annum. Per the terms of the Loan Agreement and subject to the satisfaction of various conditions precedent to disbursements (including receiving all required licenses and permits to perform uranium enrichment in South Africa), we will receive aggregate loan disbursements of $20,000,000. The Loan Agreement matures on May 16, 2032. Interest will begin accruing upon each milestone disbursement we receive and will be added to the principal balance until November 2027. Principal and interest payments will be made in 60 equal installments beginning in November 2027.

In addition to a loan agreement, in May 2025, we and TerraPower have entered into two supply agreements for the HALEU expected to be produced at our uranium enrichment facility. The initial core supply agreement is intended to support the supply of the required first fuel cores for the initial loading of TerraPower's Natrium project in Wyoming. The long-term supply agreement is a 10-year supply agreement of up to a total of 150 metric tons of HALEU, commencing in 2028 through end of 2037.

Other Commercial Agreements

Below is a summary of the key terms of our other commercial agreements.

Lease for Molybdenum Processing Plant. On October 12, 2021, ASP South Africa entered into an agreement of lease with the landlord of the facility located at 33 Eland Street, Koedoespoort Industrial, Pretoria where we operate our Molybdenum processing plant where gaseous Molybdenum compound will be treated (which process comprises several stages of compression and expansion during which the product is purified). The term of the lease ends on December 31, 2030.

Lease for additional production space. On April 1, 2023, ASP South Africa entered into an agreement of lease with the landlord of facility located in Pretoria where we plan to perform production activities. The initial term of the lease was set to end on March 31, 2024. We entered into a new agreement of lease with the landlord. The terms of the new lease ends on February 28, 2026.

Lease for additional laboratory space. On November 1, 2023, ASP South Africa entered into an agreement of lease with the landlord of the facility located in Pretoria where we perform research and development activities. The term of the lease ends on October 30, 2026.

Lease for PET Labs operations. Commencing with our acquisition of PET Labs in October 2023, this facility has an initial term set to expire in March 2026 with automatic monthly extensions thereafter. This space is used for office and production activities.

Lease for additional PET Labs operations. Commencing with our acquisition of PET Labs in October 2023, this facility had an initial term which expired in December 2023 and is currently under automatic monthly extensions. This space is used for production activities.

Components of Results of Operations

Revenue

Effective with the acquisition of 51% of PET Labs, the Company recognizes revenue from the sale of nuclear medical doses for PET scanning.

Cost of Goods Sold

Cost of goods sold associated with the sale of nuclear medical doses for PET scanning consist of labor, delivery and materials.

Operating Expenses

Our operating expenses consist of (i) research and development expenses and (ii) selling, general and administrative expenses.

Research and Development

Our research and development expenses consist primarily of direct and indirect costs incurred in connection with the development activities for our future isotopes.

Direct costs include:

- external research and development expenses; and
- costs related to designing the development processes of isotope production.

Indirect costs include:

- personnel-related costs, which include salaries, payroll taxes, employee benefits, and other employee-related costs, including stock-based compensation expense, for personnel engaged in research and development functions; and
- facilities and other various expenses.

Research and development expenses are recognized as incurred and payments made prior to the receipt of goods or services to be used in research and development are capitalized until the goods or services are received.

We expect that our research and development expenses will increase substantially for the foreseeable future as we continue the development of our future isotopes. We cannot determine with certainty the timing of initiation, the duration or the completion costs of development activities. Actual development timelines, the probability of success and development costs can differ materially from expectations.

We will need to raise substantial additional capital in the future. In addition, we cannot forecast which future isotopes may be subject to future collaborations, when such arrangements will be secured, if at all, and to what degree such arrangements would affect our development plans and capital requirements.

Our research and development expenses may vary significantly based on a variety of factors, such as:

- the scope, rate of progress, expense and results of our development activities;
- the phase of development of our future isotopes;
- the timing, receipt, and terms of any approvals from applicable regulatory authorities including the FDA and foreign regulatory authorities;
- significant and changing government regulation and regulatory guidance;
- the cost and timing of designing the development processes of isotope production;
- the extent to which we establish additional strategic collaborations or other arrangements; and
- the impact of any business interruptions to our operations or to those of the third parties with whom we work.

A change in the outcome of any of these variables with respect to the development of any of our future isotopes could significantly change the costs and timing associated with the development of that future isotope.

Selling, General and Administrative

Selling, general and administrative expenses consist primarily of personnel-related costs, which include salaries, payroll taxes, employee benefits, and other employee-related costs, including stock-based compensation expense, for personnel in executive, sales, finance and other administrative functions. Other significant costs include legal fees relating to corporate matters, professional fees for accounting and consulting services and facility-related costs.

We expect that our ongoing selling, general and administrative expenses will increase substantially for the foreseeable future to support our increased research and development activities and increased costs of operating as a public company and in building our internal resources. These increased costs will include increased expenses related to audit, legal, regulatory and tax-related services associated with maintaining compliance with exchange listing and SEC requirements, director and officer insurance premiums and investor and public relations costs associated with operating as a public company.

Segment Information

Beginning in 2024, primarily as a result of the increased business activities of our subsidiary QLE, we have two operating segments: (i) nuclear fuels, and (ii) specialist isotopes and related services.

The nuclear fuels segment is focused on research and development of technologies and methods used to produce HALEU and Lithium-6 for the advanced nuclear fuels target end market.

The specialist isotopes and related services segment is focused on research and development of technologies and methods used to separate high-value, low-volume isotopes (such as C-14, Mo-100 and Si-28) for highly specialized target end markets other than advanced nuclear fuels, including pharmaceuticals and agrochemicals, nuclear medical imaging and semiconductors, as well as services related to these isotopes, and this segment includes PET Labs.

The financial information is regularly reviewed by the chief operating decision maker ("CODM") in deciding how to allocate resources. Our CODM is our chief executive officer.

We manage assets on a total company basis, not by operating segment, as the assets are shared or commingled. Therefore, the chief operating decision maker does not regularly review any asset information by operating segment and, accordingly, asset information is not reported on a segment basis.

Select information from the consolidated statements of operations and comprehensive loss as of the three months ended March 31, 2025 and 2024 is as follows:

	Revenues		Net Loss Before Allocation to Noncontrolling Interest	
	Three Months Ended March 31,		Three Months Ended March 31,	
Segment	2025	2024	2025	2024
Specialist isotopes and related services	$ 1,101,605	$ 840,354	$ (6,389,533)	$ (4,643,494)
Nuclear fuels	—	—	(2,093,649)	(2,079,007)
Corporate	—	—	21,750	(242,343)
	$ 1,101,605	$ 840,354	$ (8,461,432)	$ (6,964,844)

Results of Operations

Comparison of the Three Months Ended March 31, 2025 and 2024

The following table summarizes our results of operations for the three months ended March 31, 2025 and 2024:

	Three Months Ended March 31,		
	2025	2024	Change
Revenue	$ 1,101,605	$ 840,354	$ 261,251
Cost of goods sold	774,765	561,484	213,281
Gross profit	326,840	278,870	47,970
Operating expenses:			
Research and development	1,529,795	215,134	1,314,661
Selling, general and administrative	6,749,381	5,878,546	870,835
Total operating expenses	8,279,176	6,093,680	2,185,496
Other (expense) income:			
Foreign exchange transaction loss	(61,470)	(24,343)	(37,127)
Change in fair value of share liability	12,500	(218,000)	230,500
Change in fair value of convertible notes payable	(957,408)	(953,710)	(3,698)
Interest income	513,713	12,188	501,525
Interest expense	(87,151)	(13,788)	(73,363)
Total other (expense) income	(579,816)	(1,197,653)	617,837
Loss before income tax expense	$ (8,532,152)	$ (7,012,463)	$ (1,519,689)

Revenue and Cost of Goods Sold

We have recognized revenue of PET Labs from the sale of nuclear medical doses for PET scanning for the three months ended March 31, 2025 and 2024. In addition, we have recognized the related cost of goods sold, operating expenses and other income and expenses of PET Labs for the same periods.

Research and Development Expenses

The following table summarizes our research and development expenses for the three months ended March 31, 2025 and 2024:

	Three Months Ended March 31, 2025	Three Months Ended March 31, 2024	Change
Personnel-related costs	$ 518,506	$ 155,605	$ 362,901
Consulting and professional	189,515	—	189,515
Facility and depreciation expenses	670,134	39,601	630,533
Other expenses	151,640	19,928	131,712
Total research and development expenses	$ 1,529,795	$ 215,134	$ 1,314,661

Research and development expenses were $1,529,795 for the three months ended March 31, 2025, compared to $215,134 for the three months ended March 31, 2024. The overall increase of $1,314,661 was primarily due to the following:

- an increase in personnel-related costs of $362,901 primarily due to the increase in headcount and related costs;
- an increase in consulting and professional fees of $189,515 due to increased outsourced development activity for new specialty isotopes;
- an increase in facility and depreciation expenses of $630,533 due to an increase in space dedicated to development and repairs and maintenance; and
- an increase in other expenses of $131,712 primarily related to other general research and development expenses.

Selling, General and Administrative Expenses

Selling, general and administrative expenses were $6,749,381 for the three months ended March 31, 2025, compared to $5,878,546 for the three months ended March 31, 2024. The overall increase of $870,835 was primarily due to the following:

- an increase in personnel-related costs of $921,938 primarily due to the increase in headcount and salaries and travel related costs of $254,260; and
- an increase in insurance of $63,261.

The above increases were offset, in part by:

- a decrease in professional fees of $204,158; and
- a decrease in other selling, general and administrative expenses of $201,600.

Other Income and Expense

Other expense for the three months ended March 31, 2025 was $579,816, which includes a loss of $957,408 due to change in fair value of the convertible notes payable issued in March and June 2024 and a foreign exchange transaction loss of $61,470, partially offset by interest income of $513,713.

Other expense for the three months ended March 31, 2024 was $1,197,653, which includes a $218,000 change in the fair value of the share liability related to the shares issuable to a consultant and a $953,710 change in fair value of the convertible notes payable issued in March 2024.

Liquidity and Capital Resources

Sources of Liquidity

We have incurred net losses and negative cash flows from operations since our inception, and we expect to continue to incur significant and increasing net losses for the foreseeable future. We have principally financed our operations to date through the issuance of our common stock, including our IPO, and the issuance of convertible notes payable.

As of March 31, 2025, we had cash and cash equivalents of $56.0 million. We have not generated any revenue from the sale of our enriched isotopes, and our ability to generate product revenue from the sale of enriched isotopes sufficient to achieve profitability will depend on the successful development and eventual commercialization of one or more of our current or future enriched isotopes.

We recognize revenue from the sale of nuclear medical doses for PET scanning in South Africa. Our ability to generate product revenue from the sale of nuclear medical doses for PET scanning sufficient to achieve profitability will depend on the successful expansion of production capabilities and commercialization of the results of that expansion.

Future Funding Requirements

Based on our current operating plan, we estimate that our existing cash and cash equivalents will be sufficient to fund our operating expenses and capital expenditure requirements through at least the next 12 months from the date the financial statements are issued. However, our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement that involves risks and uncertainties, and actual results could vary materially. We have based this estimate on assumptions that may prove to be wrong, and we could deplete our capital resources sooner than we expect. Additionally, the process of developing isotopes is costly, and the timing of progress and expenses in these development activities is uncertain.

Our future capital requirements will depend on many factors, including:

- the type, number, scope, progress, expansions, results, costs and timing of, our development activities for our future isotopes;
- the outcome, timing and costs of regulatory review of our future isotopes;

- the costs and timing of manufacturing for our future isotopes;
- our efforts to enhance operational systems and hire additional personnel to satisfy our obligations as a public company, including enhanced internal controls over financial reporting;
- the costs associated with hiring additional personnel and consultants as our preclinical and clinical activities increase;
- the costs and timing of establishing or securing sales and marketing and distribution capabilities, whether alone or with third parties, to commercialize future isotopes for which we may obtain regulatory approval, if any;
- our ability to achieve sufficient market acceptance, coverage and adequate reimbursement from third-party payors and adequate market share and revenue for any approved products;
- the terms and timing of establishing and maintaining collaborations, licenses and other similar arrangements;
- the costs of obtaining, expanding, maintaining and enforcing our patent and other intellectual property rights; and
- costs associated with any products or technologies that we may in-license or acquire.

Developing isotopes is a time-consuming, expensive and uncertain process that takes years to complete, and we may never achieve the necessary results required or obtain applicable regulatory approval for any isotopes or generate revenue from the sale of any future isotopes (assuming applicable regulatory approval is received). In addition, our future isotopes (assuming applicable regulatory approval is received) may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of isotopes that we do not expect to be commercially available in substantial quantities until at least 2025. If we receive permits and licenses to enrich U-235 (which in itself is highly uncertain), we do not expect U-235 to be commercially available for at least several years, if ever. As a result, we may need substantial additional financing to support our continuing operations and further the development of and commercialization of our future isotopes.

Expansion of the production and distribution of nuclear medical doses for PET scanning is a time-consuming, expensive and uncertain process that may take years to complete. As a result, we may need substantial additional financing to support our continuing operations and further the development of and commercialization of future nuclear medical doses for PET scanning.

Until such time as we can generate significant revenue from sales of our future isotopes or nuclear medical doses for PET scanning, if ever, we expect to finance our cash needs through public or private equity or debt financings or other capital sources, including potential collaborations, licenses and other similar arrangements. However, we may be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all. Our ability to raise additional funds may be adversely impacted by potential worsening global economic conditions and the recent disruptions to, and volatility in, the credit and financial markets in the United States and worldwide resulting severely diminished liquidity and credit availability, increased interest rates, inflationary pressures, declines in consumer confidence, declines in economic growth, increases in unemployment rates and uncertainty about economic stability. The financial markets and the global economy may also be adversely affected by the current or anticipated impact of military conflict. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be or could be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing and equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise funds through collaborations, or other similar arrangements with third parties, we may have to relinquish valuable rights to our future isotopes, future revenue streams or research programs or may have to grant licenses on terms that may not be favorable to us and/or may reduce the value of our common stock. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market our future isotopes even if we would otherwise prefer to develop and market such isotopes ourselves.

Cash Flows

The following table summarizes our sources and uses of cash for each of the periods presented:

	Three Months Ended March 31, 2025	2024
Net cash provided by (used in):		
Operating activities	$ (3,169,976)	$ (2,970,469)
Investing activities	(2,359,368)	(1,245,825)
Financing activities	(225,096)	20,263,995
Change in cash and cash equivalents	$ (5,754,440)	$ 16,047,701

Operating Activities

Net cash used in operating activities was $3,169,976 for the three months ended March 31, 2025 and was primarily due to our net loss of $8.5 million, adjusted for stock-based compensation expense of $1,889,701, amortization of right-of-use asset of $129,709, depreciation expense of $149,003, issuance of common stock to a consultant with a fair value of $247,000, change in fair values for the convertible notes payable of $957,408 and a $1,950,848 change in our operating assets and liabilities.

Net cash used in operating activities was $2,970,469 for the three months ended March 31, 2024, and was primarily due to our net loss of $7.0 million, adjusted for stock-based compensation expense of $1,713,654, non-cash issuance costs for the convertible notes payable of $513,748, issuance of common stock to a consultant with a fair value of $195,000, change in fair values for the convertible notes payable of $953,710, change in fair value of share liability of $218,000, amortization of right-of-use asset of $98,658 and a $274,553 change in our operating assets and liabilities, partially offset by a change in deferred tax liabilities of $49,771.

Investing Activities

Net cash used in investing activities was $2,359,368 for the three months ended March 31, 2025 and was comprised of the purchases of machinery and equipment, vehicles and construction in progress.

Net cash used in investing activities was $1,245,825 for the three months ended March 31, 2024 and was comprised of the purchases of machinery and equipment and additional construction in progress.

Financing Activities

Net cash used in financing activities was $225,096 for the three months ended March 31, 2025 and was comprised primarily of payments of $187,167 on the note payable related to a financed corporate insurance policy, payment of principal portion of finance leases of $10,267 and distribution to noncontrolling interest in VIE of $38,304, partially offset by gross proceeds of proceeds from collection of receivable from noncontrolling interest in VIE of $28,857.

Net cash provided by financing activities was $20,263,995 for the three months ended March 31, 2024, and was comprised primarily of gross proceeds of $20,550,000 from the issuance of convertible notes payable, partially offset by payments of $263,141 on the note payable related to a financed corporate insurance policy.

Contractual Obligations and Commitments

We lease our main facility in Pretoria, South Africa under a lease with a base monthly rent payment of approximately $9,000 with a term expiring on December 31, 2030. We also lease additional space on a short term basis in Pretoria, South Africa under a lease with a base monthly rent payment of approximately $18,000 with a term expiring on February 28, 2026 and the Company is continuing to occupy that space under the monthly extensions. We also lease additional space in Pretoria, South Africa under a lease with a base monthly rent payment of approximately $2,000 with a term expiring on October 30, 2026.

PET Labs Pharmaceuticals operates in a facility in Pretoria, South Africa is under a lease with a base monthly rent payment of approximately $27,000 with a term expiring on March 30. 2026 with automatic monthly extension afterwards. PET Labs Pharmaceuticals also rents space at a local hospital in Pretoria, South Africa for which there was a lease with a base monthly rent payment of approximately $5,000 which expired on December 31, 2023 and is currently in automatic monthly extensions.

In November 2024 and 2023, the Company executed a promissory note payable with a finance company to fund its directors and officers' insurance policy for $500,923 and $526,282, respectively. During 2024, the Company entered into several loans to purchase motor vehicles and certain equipment totaling $2,020,511. For the three months ended March 31, 2025, the Company entered into loans to purchase motor vehicles and certain equipment totaling $47,247. These loans are secured by the underlying assets included in property and equipment. Refer to Note 6 to our condensed consolidated financial statements included in Part I, Item 1, for information regarding interest rates and maturities.

On March 31, 2025, after the annual report on Form 10-K was filed, we entered into an Exclusivity Agreement with Renergen Limited ("Renergen"), an entity in South Africa listed on the Johannesburg Stock Exchange ("JSE") and the Australian Stock Exchange. On May 18, the Exclusivity Agreement was amended. Per the terms of the amended Exclusivity Agreement, we received the rights to negotiate the terms of the acquisition of Renergen during an exclusive negotiation period that ends on May 31, 2025. In April 2025, we paid an exclusivity fee of $10,000,000 to Renergen. On May 19, 2025 we entered into a Firm Intention Letter with Renergen. The Firm Intention Letter sets the acquisition terms for us to purchase 100% of the outstanding shares of Renergen in exchange for our shares. The completion of the acquisition is subject to Renergen shareholder approval.

In addition, we entered into a Loan Agreement with Renergen in which a total of $30,000,000 will be provided by us in periodic payments for the purpose of funding Renergen's operations. In conjunction with the Loan Agreement, the full amount of the previously paid exclusivity fee of $10,000,000 is applied to the loan. The remaining $20,000,000 available under the loan is expected to be paid by us to Renergen.

In addition, we enter into contracts in the normal course of business with vendors for services and products for operating purposes. These contracts do not contain any minimum purchase commitments and generally provide for termination after a notice period and, therefore, are not considered long-term contractual obligations. Payments due upon cancellation consist only of payments for services provided and expenses incurred up to the date of cancellation.

Off-balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined in the rules and regulations of the SEC.

Critical Accounting Policies and Significant Judgments and Estimates

See Note 2 to our condensed consolidated financial statements which discusses new accounting pronouncements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

We are a smaller reporting company as defined by Item 10 of Regulation S-K and are not required to provide the information otherwise required under this item.

Item 4. 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 March 31, 2025. 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 March 31, 2025, 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, as previously disclosed in our Annual Report on Form 10-K (as amended) for the year ended December 31, 2024, our disclosure controls and procedures were not effective as of March 31, 2025. In order to remediate the material weakness, 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.

Changes in Internal Control

There has been no change in our internal control over financial reporting as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act during our most recently completed fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II-OTHER INFORMATION

Item 1. Legal Proceedings.

Except as described herein, we are currently not party to, and our property is not currently the subject of, any material pending legal matters or claims.

On December 4, 2024, a purported stockholder of the Company filed a putative securities class action on behalf of purchasers of the Company's securities between October 30, 2024 through November 26, 2024 against ASP Isotopes Inc. and certain of its executive officers in the United States District Court for the Southern District of New York (*Corredor v. ASP Isotopes Inc., et al.*, Case No. 1:24-cv-09253 (S.D.N.Y)) (the "Securities Class Action"). The Securities Class Action alleges that the Company, its chief executive officer and chief financial officer ("Defendants") made materially misleading or false statements or omissions regarding the Company's business and asserts purported claims under §§ 10(b) and 20(a) of the Securities Exchange Act of 1934 and SEC Rule 10b-5 promulgated thereunder. The complaint seeks unspecified compensatory damages, attorney's fees and costs. On May 2, the Court appointed Mark Leone ("Leone") as lead plaintiff and directed the Clerk of court to amend the caption to substitute Leone for Alexander Corredor as plaintiff. On May 2, the Court also appointed lead counsel and set deadlines for filing an amended consolidated class action complaint and briefing schedules for a motion to dismiss, if any, and class certification. Defendants intend to vigorously defend against the Securities Class Action; however, we cannot be certain of the outcome and, if decided adversely to us, our business and financial condition may be adversely affected.

In addition to the matters described above, from time to time, we may become subject to arbitration, litigation or claims arising in the ordinary course of business. The results of any current or future claims or proceedings cannot be predicted with certainty, and regardless of the outcome, litigation can have an adverse impact on us because of defense and litigation costs, diversion of management resources, reputational harm and other factors.

Item 1A. Risk Factors.

In addition to the other information set forth in this Form 10-Q, including under the heading "Cautionary Note Regarding Forward-Looking Statements," the risks and uncertainties which could adversely affect our business, financial condition, results of operations and future growth prospects that we believe are most important for you to consider are discussed in "Part II, Item 1A—Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2024, filed with the SEC on March 31, 2025 and as amended by Forms 10-K/A filed with the SEC on April 30, 2025. The risks described in our Annual Report on Form 10-K for the year ended December 31, 2024 (as amended) and those additional risks listed below are not the only risks we face. Additional risks and uncertainties not presently known to us or that we presently deem less significant may also impair our business operations. There are no material changes to the Risk Factors described in our Annual Report on Form 10-K for the year ended December 31, 2024 (as amended).

Changes in trade policy and inflation could adversely affect our business and results of operations.

Since taking office in January 2025, the current U.S. presidential administration has issued numerous executive orders, including with respect to international and domestic policies, and in the first and second quarters of 2025, there were significant changes to tariffs by the U.S. and other countries. In the second quarter of 2025, new U.S. tariffs were announced, including additional tariffs on imports from China, India, Japan, South Korea, Taiwan, Vietnam and the EU, among others. In response, several countries have imposed, or threatened to impose, reciprocal tariffs on imports from the U.S. and other retaliatory measures. Various modifications and delays to the U.S. tariffs have been announced and further changes are expected to be made in the future, which may include additional sector-based tariffs or other measures. The ultimate impact remains uncertain and will depend on several factors, including whether additional or incremental U.S. tariffs or other measures are announced or imposed, to what extent other countries implement tariffs or other retaliatory measures in response, and the overall magnitude and duration of these measures. If disputes and conflicts further escalate, actions by the governments in response could be significantly more severe and restrictive. Trade disputes, tariffs, restrictions and other political tensions between the U.S. and other countries may also exacerbate unfavorable macroeconomic conditions including inflationary pressures, foreign exchange volatility, financial market instability, and economic recessions or downturns. The ultimate impact of current or future tariffs and trade restrictions remains uncertain.

Elevated inflation, along with public health concerns, geopolitical developments, and global supply chain disruptions, have caused, and may in the future cause, global economic uncertainty and uncertainty about the interest rate environment, which may make it more difficult, costly, or dilutive for us to secure additional financing. In addition, political tensions and uncertainty as a result of trade policies could reduce trade volume, investment, technological exchange, and other economic activities between major international economies, resulting in a material adverse effect on global economic conditions and the stability of global financial markets. A failure to adequately respond to these risks could have a material adverse impact on our financial position.

Item 2. Unregistered Sales of Equity Securities, Use of Proceeds and Issuer Purchases of Equity Securities.

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

None.

Item 5. Other Information.

During the three months ended March 31, 2025, no director or officer of ours adopted or terminated a "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement," as each term is defined in Item 408(a) of Regulation S-K.

Item 6. Exhibits.

Exhibit Number	Description
31.1*	Certification of Principal Executive Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended.
31.2*	Certification of Principal Financial Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended.
32.1**	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
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 With Embedded Linkbase Documents
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Exhibits filed herewith.
** Exhibits furnished herewith.
+ Management contract or compensatory plan or arrangement.

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 thereunto duly authorized.

ASP Isotopes Inc.

Date: May 20, 2025

By: *\/s/ Paul E. Mann*
Paul E. Mann
Executive Chairman and Chief Executive Officer
(Principal Executive Officer)

Date: May 20, 2025

By: */s/ Heather Kiessling*
Heather Kiessling
Chief Financial Officer
(Principal Financial and Accounting Officer)

EXHIBIT 31.1

CERTIFICATION PURSUANT TO
SECURITIES EXCHANGE ACT RULES 13a-14(a) AND 15d-14(a)
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Paul Mann, certify that:

1.I have reviewed this Quarterly Report on Form 10-Q for the period ended March 31, 2025 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: May 20, 2025

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

EXHIBIT 31.2

CERTIFICATION PURSUANT TO
SECURITIES EXCHANGE ACT RULES 13a-14(a) AND 15d-14(a)
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Heather Kiessling, certify that:

1.I have reviewed this Quarterly Report on Form 10-Q for the period ended March 31, 2025 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: May 20, 2025

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

EXHIBIT 32.1

CERTIFICATION PURSUANT TO SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of ASP Isotopes Inc. (the "Corporation") on Form 10-Q for the fiscal quarter ended March 31, 2025, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Paul Mann, as Chief Executive Officer of the Corporation, and I, Heather Kiessling, as Chief Financial Officer of the Corporation, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1)The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2)The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Corporation.

Date: May 20, 2025

By: */s/ Paul Mann*
Paul Mann
Chief Executive Officer
(Principal Executive Officer)

Date: May 20, 2025

By: */s/ Heather Kiessling*
Heather Kiessling
Chief Financial Officer
(Principal Financial Officer)

A signed original of this written statement required by Section 906 has been provided to the Corporation and will be retained by the Corporation and furnished to the Securities and Exchange Commission or its staff upon request. This certification shall not be deemed "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liability of Section 18 of the Exchange Act. Such certification shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that the Corporation specifically incorporates it by reference.