**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, 2024**

**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.) |
| **1101 Pennsylvania Avenue NW, Suite 300 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 | Nasdaq Stock Market LLC (Nasdaq Capital Market) |

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 10, 2024, the registrant had51,762,833 shares of common stock, $0.01 par value per share, outstanding.

**Table of Contents**

## 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 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 process;
- 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 process 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 process;
- a failure of demand for various isotopes that we may produce using ASP technology or the Quantum Enrichment process;
- 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;
- 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 process 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 process;
- 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;
- we are subject to 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;
- our inability to implement and maintain effective internal controls; and
- other factors that are described in "Risk Factors," on page [•].

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, 2024 | December 31, 2023 |
|---|---|---|
| **Assets** | | |
| Current assets: | | |
| Cash | $ 23,890,811 | $ 7,908,181 |
| Accounts receivable | 354,083 | 216,504 |
| Receivable from noncontrolling interests | — | 721,548 |
| Prepaid expenses and other current assets | 1,931,708 | 1,664,023 |
| Total current assets | 26,176,602 | 10,510,256 |
| Property and equipment, net | 14,362,828 | 10,712,839 |
| Operating lease right-of-use assets, net | 1,480,266 | 1,258,701 |
| Goodwill | 3,165,531 | 3,267,103 |
| Other noncurrent assets | 200,217 | 1,793,014 |
| **Total assets** | **$ 45,385,444** | **$ 27,541,913** |
| | | |
| **Liabilities and stockholders' equity** | | |
| Current liabilities: | | |
| Accounts payable | $ 2,222,658 | $ 1,111,819 |
| Accrued expenses | 1,768,767 | 1,311,245 |
| Notes payable | 206,570 | 470,396 |
| Finance lease liabilities – current | 60,835 | 61,941 |
| Operating lease liabilities – current | 504,425 | 336,564 |
| Deferred revenue | 882,000 | 882,000 |
| Other current liabilities | 1,274,091 | 1,500,000 |
| Share liability | 413,000 | — |
| Total current liabilities | 7,332,346 | 5,673,965 |
| Deferred tax liabilities | 57,398 | 110,578 |
| Convertible notes payable, at fair value | 22,017,458 | — |
| Finance lease liabilities – noncurrent | 185,407 | 207,092 |
| Operating lease liabilities – noncurrent | 1,112,817 | 1,066,647 |
| Other liabilities | 1,653,000 | 1,653,000 |
| Total liabilities | 32,358,426 | 8,711,282 |
| **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, 2024 and December 31, 2023 | — | — |
| Common stock, $0.01 par value; 500,000,000 shares authorized, 48,598,276 and 48,923,276 shares issued and outstanding as of March 31, 2024 and December 31, 2023, respectively | 485,983 | 489,233 |
| Additional paid-in capital | 42,283,907 | 40,567,003 |
| Accumulated deficit | (30,787,385) | (23,839,300) |
| Accumulated other comprehensive loss | (1,464,711) | (920,982) |
| Total ASP Isotopes stockholders' equity | 10,517,794 | 16,295,954 |
| Noncontrolling interests | 2,509,224 | 2,534,677 |
| Total stockholders' equity | 13,027,018 | 18,830,631 |
| **Total liabilities and stockholders' equity** | **$ 45,385,444** | **$ 27,541,913** |

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, 2024 | Three Months Ended March 31, 2023 |
|---|---|---|
| **Revenue** | $ 840,354 | $ - |
| Cost of goods sold | 561,484 | - |
| Gross profit | 278,870 | - |
| **Operating expenses:** | | |
| Research and development | 215,134 | 207,334 |
| Selling, general and administrative | 5,878,546 | 3,517,490 |
| Total operating expenses | 6,093,680 | 3,724,824 |
| **Loss from operations** | (5,814,810) | (3,724,824) |
| **Other income (expense):** | | |
| Foreign exchange transaction loss | (24,343) | (935) |
| Change in fair value of convertible notes payable | (953,710) | - |
| Change in fair value of share liability | (218,000) | 110,285 |
| Interest income | 12,188 | 396 |
| Interest expense | (13,788) | - |
| Total other (expense) income | (1,197,653) | 109,746 |
| Loss before income tax expense | (7,012,463) | (3,615,078) |
| Income tax provision | 47,619 | - |
| Net loss before allocation to noncontrolling interests | (6,964,844) | (3,615,078) |
| Less: Net loss attributable to noncontrolling interests | (16,759) | - |
| **Net loss attributable to ASP Isotopes Inc. shareholders** | **$ (6,948,085)** | **$ (3,615,078)** |
| **Net loss per share attributable to ASP Isotopes Inc. shareholders, basic and diluted** | **$ (0.16)** | **$ (0.12)** |
| **Weighted average shares of common stock outstanding, basic and diluted** | **44,561,844** | **29,141,525** |
| | | |
| **Comprehensive loss:** | | |
| Net loss before allocation to noncontrolling interests | $ (6,964,844) | $ (3,615,078) |
| Foreign currency translation | (543,729) | (1,003,853) |
| Total comprehensive loss before allocation to noncontrolling interests | (7,508,573) | (4,618,931) |
| Less: Comprehensive loss attributable to noncontrolling interests | (7,530) | - |
| **Comprehensive loss attributable to ASP Isotopes Inc.** | **$ (7,501,043)** | **$ (4,618,931)** |

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 | | Additional Paid-in Capital | Accumulated Other Comprehensive (Loss) Income | Accumulated Deficit | Noncontrolling Interests | Total Stockholders' Equity |
|---|---|---|---|---|---|---|---|
| | Shares | Amount | | | | | |
| **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 | - | - | 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** |
| | | | | | | | |
| **Balance as of December 31, 2022** | **35,907,127** | **$ 359,071** | **$ 16,756,426** | **$ 255,030** | **$ (7,553,066)** | $ - | **$ 9,817,461** |
| Issuance of common stock and warrants, net of issuance costs of $506,390 | 3,164,557 | 31,646 | 4,461,964 | - | - | - | 4,493,610 |
| Cancellation of common stock received in exchange for issuance of preferred stock in subsidiary | (3,000,000) | (30,000) | 30,000 | - | - | - | - |
| Issuance of common stock in lieu of commissions | 57,250 | 573 | 74,997 | - | - | - | 75,570 |
| Issuance of restricted common stock | 1,256,750 | 12,567 | (12,567) | - | - | - | - |
| Stock-based compensation | - | - | 2,144,099 | - | - | - | 2,144,099 |
| Foreign currency translation | - | - | - | (1,003,853) | - | - | (1,003,853) |
| Net loss | - | - | - | - | (3,615,078) | - | (3,615,078) |
| **Balance as of March 31, 2023** | **37,385,684** | **$ 373,857** | **$ 23,454,919** | **$ (748,823)** | **$ (11,168,144)** | **$ -** | **$ 11,911,809** |

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, | |
|---|---|---|
| | **2024** | **2023** |
| **Cash flows from Operating activities** | | |
| Net loss | $ (6,964,844) | $ (3,615,078) |
| **Adjustments to reconcile net loss to cash used in operating activities:** | | |
| Foreign exchange transaction gain from intercompany | (26,387) | - |
| Depreciation | 103,210 | - |
| Stock-based compensation | 1,713,654 | 2,144,099 |
| Convertible note payable for non-cash issuance costs | 513,748 | - |
| Share liability for non-cash consultant expense | 195,000 | 266,200 |
| Change in fair value of share liability | 218,000 | (110,285) |
| Change in fair value of convertible notes payable | 953,710 | - |
| Change in right-of-use lease asset | 98,658 | 17,034 |
| Change in deferred tax liabilities | (49,771) | - |
| **Changes in operating assets and liabilities:** | | |
| Accounts receivable | (144,392) | - |
| Receivable from noncontrolling interest | 699,510 | - |
| Prepaid expenses and other current assets | (299,130) | 203,959 |
| Other noncurrent assets | (60,203) | (34) |
| Accounts payable | (54,988) | (388,443) |
| Accrued expenses | 505,480 | 47,404 |
| Operating lease liability | (101,700) | (9,821) |
| Other current liabilities | (270,024) | - |
| **Net cash used in operating activities** | (2,970,469) | (1,444,965) |
| **Cash flows from investing activities** | | |
| Purchases of property and equipment | (1,245,825) | (362,056) |
| **Net cash used in investing activities** | (1,245,825) | (362,056) |
| **Cash flows from financing activities** | | |
| Proceeds from issuance of common stock | - | 5,000,000 |
| Distribution to noncontrolling interest in VIE | (8,429) | - |
| Proceeds from issuance of convertible notes payable | 20,550,000 | - |
| Payment of notes payable | (263,141) | - |
| Payment of principal portion of finance leases | (14,435) | (506,390) |
| **Net cash provided by financing activities** | 20,263,995 | 4,493,610 |
| **Net change in cash** | 16,047,701 | 2,686,589 |
| Effect of exchange rate changes on cash | (65,071) | 6,561 |
| Cash - beginning of period | 7,908,181 | 2,389,140 |
| **Cash - end of period** | **$ 23,890,811** | **$ 5,082,290** |
| | | |
| **Supplemental disclosures of non-cash investing and financing activities:** | | |
| Right-of-use asset obtained in exchange for lease liability | $ 364,458 | $ - |
| Purchase of property and equipment included in accounts payable | $ 1,188,655 | $ 337,158 |
| Purchase of property and equipment included in other noncurrent liabilities | $ 1,653,000 | $ - |
| Settlement of share liability | $ - | $ 75,750 |

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

**ASP Isotopes Inc.**
**Notes to Unaudited 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 Holdings 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"), an 80% owned subsidiary of ASP South Africa, was formed in March 2023 and began operations in January 2024. ASP Isotopes UK Ltd, a wholly-owned subsidiary of ASP Guernsey, was incorporated in July 2022. ASP Isotopes Inc.'s subsidiary Enriched Energy, LLC was incorporated in January 2022. 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 has an exclusive license to use proprietary technology, the Aerodynamic Separation Process ("ASP technology"), originally developed and licensed to the Company by Klydon Proprietary Ltd ("Klydon"), for the production, distribution, marketing and sale of all isotopes. The Company's initial focus is on the production and commercialization of enriched Carbon-14 ("C-14"), Molybdenum-100 ("Mo-100") and Silicon-28 ("Si-28"). The Company believes the C-14 it may develop using the ASP technology may be used in the development of new pharmaceuticals and agrochemicals. The Company believes that the Mo-100 it may develop using the ASP technology has significant potential advantages for use in the preparation of nuclear imaging agents by radiopharmacies and others in the medical industry. The Company believes the Si-28 it may develop using the ASP technology may be used to develop advanced semiconductors and in quantum computing.

The Company also intends to use the ASP technology to produce enriched Uranium-235 ("U-235"). The Company believes that the U-235 it may develop using the ASP technology may be commercialized as a nuclear fuel component for use in the new generation of HALEU-fueled small modular reactors that are now under development for commercial and government uses. In addition, the Company is considering future development of the ASP technology for the separation of Zinc-68, Ytterbium-176, Zinc-67, Nickel-64 and Xenon-136 for potential use in the healthcare target end market, and Chlorine -37 and Lithium-6 for potential use in the nuclear energy target end market.

In November 2022, the Company completed its IPO, selling an aggregate of 1,250,000 shares of common stock at a price to the public of $4.00 per share. The Company received net proceeds from the IPO, after deducting underwriting discounts and commissions but before deducting offering costs, of approximately $3,800,000.

***Liquidity and Going Concern Uncertainty***

The accompanying consolidated financial statements have been prepared on a basis which assumes the Company is a going concern and do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classifications of liabilities that may result from any uncertainty related to the Company's ability to continue as a going concern. Such adjustments could be material. The Company has experienced net losses and negative cash flows from operating activities since its inception. The Company incurred net losses of $6,964,844 and $3,615,078 for the three months ended March 31, 2024 and 2023, respectively. 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.

The Company currently expects that its cash of $23,890,811 as of March 31, 2024, along with gross proceeds of approximately $5,500,000 received in April 2024 through the issuance of common stock from the exercise of warrants (see Note 12), will not be sufficient to fund its operating expenses and capital requirements for more than 12 months from the date the financial statements are issued. These conditions raise substantial doubt about the Company's ability to continue as a going concern. Additional funding will be necessary to complete construction of the first enrichment facility and begin operations, and although the Company has plans to seek additional funding, these plans are not currently probable.

There can be no assurance that the Company will achieve or sustain positive cash flows from operations or profitability. The Company is in the process of seeking additional debt and equity financing. 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 further scale back or discontinue the advancement of product candidates, further 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, or 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, 2023.

***Basis of Presentation and Use of Estimates***

The Company's condensed consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States ("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, the accounting for the acquisition of PET Labs Pharmaceuticals and fair value measurement of the convertible notes payable. 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 Pharmaceuticals and the 24% 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 Pharmaceuticals and the 24% 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. 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, when recorded, 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 income (loss).

***Concentration of Credit Risk and other Risks***

Cash balances maintained at U.S. financial institutions 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, 2024 and 2023.

Our foreign subsidiaries held cash of approximately $886,179 and $1,963,000 as of March 31, 2024 and December 31, 2023, respectively, which is included in cash on the consolidated balance sheets. Our strategic plan does not require the repatriation of foreign cash in order to fund our operations in the U.S., and it is our current intention to indefinitely reinvest our foreign cash outside of the U.S. If we were to repatriate foreign cash to the U.S., we 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.

***Cash***

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, 2024 and December 31, 2023.

***Segment Information***

As of December 31, 2023, we managed our operations as a single segment, specialist isotopes and related services. Beginning in 2024, primarily as a result of the increased business activities of our subsidiary, Quantum Leap Energy LLC, 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 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 Pharmaceuticals.

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

The Company manages 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 income statement information as of the three months ended March 31, 2024 and 2023 is as follows:

| | Revenues | | Net Loss Before Taxes | |
|---|---|---|---|---|
| Segment | Three Months Ended March 31, 2024 | Three Months Ended March 31, 2023 | Three Months Ended March 31, 2024 | Three Months Ended March 31, 2023 |
| Specialist isotopes and related services | $ 840,354 | $ - | $ (4,933,456) | $ (3,615,078) |
| Nuclear fuels | - | - | (2,079,007) | - |
| | $ 840,354 | $ - | $ (7,012,463) | $ (3,615,078) |

***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 and was $413,000 as of March 31, 2024. There was no share liability as of December 31, 2023. The Company's convertible notes payable (Note 5) is measured as a Level 3 fair value on a recurring basis and was $22,017,458 as of March 31, 2024. There were no transfers among Level 1, Level 2 or Level 3 categories in the three months ended March 31, 2024. The following table provides a reconciliation of the Company's liabilities measured at fair value on a recurring basis using significant unobservable inputs:

| | Convertible Notes Payable | Share Liability |
|---|---|---|
| Balance as of December 31, 2022 | $ - | $ 140,455 |
| Fair value of additional liability | - | 669,700 |
| Fair value adjustment | - | 194,540 |
| Settlement of share liability | - | (1,004,695) |
| Balance as of December 31, 2023 | - | - |
| Fair value of additional liability | 21,063,748 | 195,000 |
| Fair value adjustment | 953,710 | 218,000 |
| Balance as of March 31, 2024 | $ 22,017,458 | $ 413,000 |

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 Pharmaceuticals, in which the Company acquired 51% ownership on October 31, 2023 (Note 11). The Company recognizes revenue in accordance with 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. We maintain 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. We assess collectibility by reviewing accounts receivable on a collective basis where similar characteristics exist and on an individual basis when we identify specific customers with known disputes or collectibility issues. In determining the amount of the allowance for credit losses, we consider historical collectibility based on past due status and make judgments about the creditworthiness of customers based on ongoing credit evaluations. We also consider 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, 2024, December 31, 2023 and January 1, 2023 there was no allowance for expected credit losses.

***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.

We assign the useful lives of our property and equipment based upon our internal engineering estimates, which are reviewed periodically. The estimated useful lives of our 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 from the PET Labs Pharmaceutical Acquisition 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 805 Business Combinations, 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.

***Convertible Notes Payable***

Convertible notes payable are accounted for in accordance with ASC 825,*Financial Instruments*.

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.

***Leases***

Leases are accounted for in accordance with ASC 842,*Leases.*

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 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, 2024 or 2023.

***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, related to our 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***

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.

Equity-based compensation expense is classified in the statement of operations 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 Pharmaceuticals 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 Pharmaceuticals, the Company records the provision for income taxes for the activity from PET Labs Pharmaceuticals 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.

**3. Revenue**

In connection with our acquisition of 51% ownership of PET Labs Pharmaceuticals in October 2023, we manufacture and sell nuclear medical doses for PET scanning in South Africa. For the three months ended March 31, 2024, the Company recognized revenue of $840,354. Since the acquisition did not occur until October 2023, there is no accounts receivable as of January 1, 2023 and no revenue was recognized for the three months ended March 31, 2023.

The following table presents changes in the Company's accounts receivable for the three months ended March 31, 2024:

| | Balance as of December 31, 2023 | Additions | Deductions | Balance as of March 31, 2024 |
|---|---|---|---|---|
| Accounts receivable | $ 216,504 | $ 840,354 | $ (702,775) | $ 354,083 |

**4. Property and Equipment**

Property and equipment as of March 31, 2024 and December 31, 2023 consisted of the following:

| | Useful Lives (Years) | March 31, 2024 | December 31, 2023 |
|---|---|---|---|
| Construction in progress | - | $ 12,696,806 | $ 9,108,923 |
| Tools, machinery and equipment | 3 - 8 | 1,562,867 | 1,458,654 |
| Computer equipment | 3 - 4 | 88,349 | 60,447 |
| Vehicles | 5 | 38,610 | 39,849 |
| Software | 5 | 1,589 | 1,639 |
| Office furniture | 7 | 88,968 | 59,588 |
| Leasehold improvements | 5 | 25,340 | 21,446 |
| Property and equipment, at cost | | 14,502,529 | 10,750,546 |
| Less accumulated depreciation | | (139,701) | (37,707) |
| Property and equipment, net | | $ 14,362,828 | $ 10,712,839 |

The Company is currently building plants in Pretoria, South Africa and all costs incurred are considered construction in progress because the work is not complete as of March 31, 2024 and December 31, 2023. There was no depreciation expense as it relates to the construction in progress for the three months ended March 31, 2024 and 2023. Depreciation expense for all other asset categories was $103,210 for the three months ended March 31, 2024. No depreciation expense was recorded for the three months ended March 31, 2023.

**5. Accrued Expenses**

Accrued expenses as of March 31, 2024 and December 31, 2023 consisted of the following:

| | March 31, 2024 | December 31, 2023 |
|---|---|---|
| Accrued professional | $ 587,093 | $ 447,295 |
| Accrued salaries and other employee costs | 1,028,330 | 845,344 |
| Accrued other | 153,344 | 18,606 |
| Total accrued expenses | $ 1,768,767 | $ 1,311,245 |

**6. Notes Payable**

*Convertible Notes Payable*

In March 2024, the Company issued convertible notes payable ("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 $21,423 were expensed in selling, general and administrative costs in the condensed consolidated statement of operations for the three months ended March 31, 2024.

The Convertible Notes are payable on demand in March 2029 and bear an annual interest rate of 6% for the first year 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 Convertible Notes upon the date of issue was $21,063,748. The fair value of the Convertible Notes as of March 31, 2024 has been determined to be $22,017,458 and the resultant change in fair value of $953,710 has been recorded in other income and expense in the condensed consolidated statement of operations for the three months ended March 31, 2024. As of March 31, 2024, the total principal and accrued interest of the Convertible Notes is $21,146,850.

*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, 2024 and December 31, 2023, the promissory note payable balance was $31,142 and $31,827, respectively, and continues to be automatically extended on a monthly basis.

*Promissory Note Payable*

In November 2023, the Company executed a promissory note payable with a finance company for $526,282. This note bears interest at an annual rate of 8.74% and six monthly payments beginning in December 2023. For the three months ended March 31, 2024, the Company recorded interest expense of $6,748. As of March 31, 2024 and December 31, 2023, the promissory note payable balance was $175,428 and $438,569, respectively.

**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, 2024 and December 31, 2023. There was no deferred revenue recorded as of January 1, 2023 and March 31, 2023.

**8. Commitments and Contingencies**

***Purchase of Cyclotron***

In November 2023, the cyclotron that the Company ordered was shipped. As of December 31, 2023 the equipment had not been delivered. As of December 31, 2023 the Company was obligated to purchase this equipment and recorded the other asset and other liability for the full cost of $1,653,000 on the consolidated balance sheet as of December 31, 2023.

In March 2024, the cyclotron was received by the Company and is recorded as property and equipment. The financing company has paid the vendor, however, it is still working on finalizing the note payable with the Company as of March 31, 2024 and therefore the liability of $1,653,000 continues to be recorded as an other liability as of March 31, 2024.

***Klydon Proprietary Limited***

In November 2021, the Company entered into an agreement with Klydon Proprietary Limited ("Klydon") to design and build a plant to enrich Molybdenum in South Africa. The initial phase of the project includes the building of a plant that can support the production of at least 5kgs of Mo-100. The contracted cost for this phase is $6,800,000. The second phase of the project includes the production to be increased to 20kgs of Mo-100 with an additional cost of $5,000,000.

Klydon performed a portion of the services required under the Turnkey Contract; however, services were incomplete and many of the services were not completed within the time frame required. As a result, Klydon and ASP South Africa entered into an Acknowledgement of Debt Agreement dated November 30, 2022, whereby Klydon (i) agreed to pledge its assets (the "Pledged Assets") to ASP South Africa to secure its performance of the Turnkey Contract by December 31, 2022, and (ii) acknowledged that ASP South Africa would suffer damages in the amount of $6,050,000 ("Damage Amount") should it fail to perform. Under the Acknowledgement of Debt Agreement, the Pledged Assets would serve as collateral for Klydon's obligation to pay the Damage Amount should Klydon fail to perform. In connection therewith, also on November 30, 2022, ASP South Africa and Klydon entered into a Deed of Security Agreement whereby, if Klydon failed to complete its obligations under the Turnkey Contract by December 31, 2022, all of Klydon's rights of any nature to and interests of any nature in the Pledged Assets would be transferred to ASP South Africa. Klydon failed to complete its obligations under the Turnkey Contract by December 31, 2022, however, the Company did not perfect its interests in the assets until April 4, 2023. The Company did not believe that the amounts owed by Klydon were realizable, nor did the Company know the timing of any recovery payments. Therefore, a loss recovery receivable was not recorded at any time prior to April 4, 2023.

On April 4, 2023, the Company perfected its interest under the Acknowledgement of Debt Agreement, pursuant to which the Company acquired certain intellectual property from Klydon ("Klydon Settlement"). In addition, the Company acquired Klydon's interest in four entities which are inactive and in the process of being dissolved. The Company has concluded that the Klydon Settlement is accounted for under ASC 805, Business Combinations as an asset acquisition since the assets acquired were concentrated in a single identifiable asset from a related party. In conjunction with the Klydon Settlement, the Company recorded an increase to additional paid-in capital for the settlement of all liabilities owed to Klydon at the time of settlement totaling $626,223.

Two individuals who are officers and board members of Klydon, one who is now an officer of ASP Isotopes Inc. and the other who is now a scientific advisor of ASP Isotopes Inc., received warrants to purchase common stock of the Company and therefore are considered related parties. See Notes 10 and 12.

***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 Pharmaceuticals Proprietary Limited, a company incorporated in the Republic of South Africa ("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 $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 balance due for the Initial Sale Shares as of March 31, 2024 is $1,235,250. 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.

***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 October 25, 2022, the Company received a letter from a law firm acting on behalf of Norsk medisinsk syklotronsenter AS ("NMS"), asserting, among other things, that the grant of a license to the ASP technology to the Company by Klydon violates a pre-existing exclusive sub-license to the ASP technology granted to Radfarma. The asserted claims, arbitration and/or litigation could include claims against the Company, the Company's licensor (Klydon), or Klydon's present or former sub-licensors alleging infringement of intellectual property rights with respect to the ASP technology on which our company relies. The Company recorded legal costs totaling $78,304 which was paid to Klydon's attorneys to settle this claim. As of December 31, 2023, Radfarma has relinquished all claims and ASP Isotopes owns the rights to the licenses originally held by Klydon and acquired by ASP Isotopes.

**9. Lease**

The Company accounts for facility 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. In the consolidated balance sheet as of March 31, 2024, the Company has a ROU asset balance of $590,277 and a current and non-current lease liability of $54,644 and $603,026, respectively, relating to this ROU lease asset. In the consolidated balance sheet as of December 31, 2023, the Company has a ROU asset balance of $626,548 and a current and non-current lease liability of $53,504 and $637,348, respectively, relating to this ROU lease asset.

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 lease. In the consolidated balance sheet as of March 31, 2024, the Company has a ROU asset balance of $334,590 and a current and non-current lease liability of $166,119 and $168,470, respectively, relating to this ROU lease asset.

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. In the consolidated balance sheet as of March 31, 2024, the Company has a ROU asset balance of $61,055 and a current and non-current lease liability of $20,096 and $41,745, respectively, relating to this ROU lease asset. In the consolidated balance sheet as of December 31, 2023, the Company has a ROU asset balance of $68,089 and a current and non-current lease liability of $19,608 and $48,805, respectively, relating to this ROU lease asset.

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 Pharmaceuticals. 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 Pharmaceuticals. In the consolidated balance sheet as of March 31, 2024, the Company has a ROU asset balance of $494,344 and a current and non-current lease liability of $263,566 and $299,576, respectively, relating to this ROU lease asset. In the consolidated balance sheet as of December 31, 2023, the Company has a ROU asset balance of $564,064 and a current and non-current lease liability of $263,452 and $380,494, respectively, relating to this ROU lease asset. Dr. Gerdus Kemp, an officer of PET Labs Pharmaceuticals and an employee of ASP Isotopes UK Ltd is the sole owner of the facility under this lease agreement.

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 Pharmaceuticals and expensed the monthly payments for the three months ended March 31, 2024 and the two months ended December 31, 2023.

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

| | Three Months Ended March 31, 2024 | Three Months Ended March 31, 2023 |
|---|---|---|
| **Operating Lease Cost** | | |
| Operating lease cost | $ 148,900 | $ 31,160 |
| **Other Information** | | |
| Operating cash flows paid for amounts included in the measurement of lease liabilities | $ 143,338 | $ 23,948 |
| Operating lease liabilities arising from obtaining right-of-use assets | $ 364,458 | $ — |
| Weighted average remaining lease term (years) | 3.94 | 7.75 |
| Weighted average discount rate | 10.23% | 7.5% |

Future lease payments under noncancelable operating lease liabilities are as follows as of March 31, 2024:

| | Operating Leases |
|---|---|
| **Future Lease Payments** | |
| 2024 (remaining nine months) | $ 482,123 |
| 2025 | 650,909 |
| 2026 | 253,573 |
| 2027 | 124,669 |
| 2028 | 134,019 |
| Thereafter | 298,947 |
| Total lease payments | $ 1,944,240 |
| Less: imputed interest | (326,998) |
| Total lease liabilities | $ 1,617,242 |
| Less current portion | (504,425) |
| Lease liability – noncurrent | $ 1,112,817 |

The Company records the expense from short term leases as incurred. For the three months ended March 31, 2024, the Company recorded $27,443 in rent expense from its short term leases in Pretoria, South Africa. As of March 31, 2024, there are no short term leases in effect.

The Company accounts for finance leases in accordance with ASC 842 (Note 2). Subsequent to the acquisition of 51% of PET Labs Pharmaceuticals on October 31, 2023, the Company is party to nine finance leases in South Africa for certain fixed assets.

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

| | Three Months Ended March 31, 2024 | Three Months Ended March 31, 2023 |
|---|---|---|
| **Finance Lease Cost** | | |
| Interest on lease liabilities | $ 7,040 | $ — |
| **Other Information** | | |
| Operating cash flows paid for amounts included in the measurement of finance lease liabilities | $ 14,378 | $ — |
| Amortization of right-of-use assets | $ 9,441 | $ — |
| Weighted average remaining lease term (years) | 3.7 | — |
| Weighted average discount rate | 11.3% | —% |

Future lease payments under noncancelable finance lease liabilities are as follows as of March 31, 2024:

| | Finance Leases |
|---|---|
| **Future Lease Payments** | |
| 2024 (remaining nine months) | $ 64,747 |
| 2025 | 82,621 |
| 2026 | 75,369 |
| 2027 | 61,710 |
| 2028 | 16,653 |
| Total lease payments | $ 301,100 |
| Less: imputed interest | (54,858) |
| Total lease liabilities | $ 246,242 |
| Less current portion | (60,835) |
| Lease liability – noncurrent | $ 185,407 |

**10. License Agreements**

In September 2021, the Company licensed certain intellectual property from Klydon for the development, production distribution, marketing and sale of Mo-100. The license term is 999 years, unless terminated earlier by either party under certain provisions. Any development efforts improving the intellectual property performed by either Klydon or the Company will be the property of Klydon. There are no upfront, milestone payments, nor royalties on product sales over the term of the license. Two individuals who are officers and board members of Klydon received warrants to purchase common stock of the Company. (See Note 12.)

In January 2022, the Company licensed certain intellectual property from Klydon for the development, production distribution, marketing and sale of uranium isotope U-235 (“U-235”). The license term is 999 years, unless terminated earlier by either party under certain provisions. Any development efforts improving the intellectual property performed by either Klydon or the Company will be the property of Klydon. The Company paid an upfront fee of $100,000, which was expensed to research and development expense. The Company is required to pay a nominal royalty per Kg of product sold plus 10% royalties on product net profits over the term of the contract. One of the officers, who is also a board member of Klydon, became a board member and consultant of ASP Isotopes Inc. and an employee of ASP Guernsey in January 2022.

In July 2022, ASP Isotopes UK Ltd (a subsidiary of the Company) 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 superseded and replaced the Mo-100 license and U-235 license described in Note 8 above. 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 we make under the Turnkey Contract) and deferred payments of $300,000 over 24 months, which was expensed to research and development expense.

In July 2022, ASP South Africa acquired assets comprising a dormant Silicon-28 aerodynamic separation processing plant from Klydon for ZAR6,000,000 (which at the then current exchange rate was approximately $354,000), which was recorded to property and equipment, would have been payable to Klydon on the later of 180 days of the acquisition and the date on which the assets generate any revenues of any nature.

On April 4, 2023, the Company perfected its interest under the Acknowledgement of Debt Agreement (see Note 8), pursuant to which the Company acquired certain intellectual property from Klydon (“Klydon Settlement”). The Company concluded that the Klydon Acquisition is accounted for under ASC 805, Business Combinations as an asset acquisition since the assets acquired were concentrated in a single identifiable asset from a related party. In conjunction with the Klydon Settlement, the Company recorded an increase to additional paid-in capital for the settlement of all liabilities owed to Klydon at the time of settlement totaling $626,223.

**11. Acquisitions**

***PET Labs Pharmaceuticals***

In October 2023, the Company completed the PET Labs Pharmaceuticals Acquisition, a provider of nuclear medical doses for use in PET scans in South Africa. The acquisition of PET Labs Pharmaceuticals was intended to accelerate the distribution of the Company's pipeline. The acquisition of PET Labs Pharmaceuticals has been accounted for as a business combination in accordance with ASC 805.

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 2024, the Company made a partial payment of $264,750 and the balance of $1,235,250 is expected to be paid in the second half of 2024.

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, 2024.

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

The following table summarizes the preliminary allocation of the purchase consideration to the fair value of the assets acquired and liabilities assumed:

| | |
|---|---|
| **Consideration** | |
| Cash | $ 500,000 |
| Present value of balance due | 1,395,348 |
| | $ 1,895,348 |
| | |
| **Recognized amounts of identifiable assets acquired and liabilities assumed** | |
| Cash and cash equivalents | $ 378,152 |
| Accounts receivable | 460,165 |
| Other current assets | 184,457 |
| Property and equipment | 821,926 |
| Right of use assets | 592,304 |
| Financial liabilities | (1,248,699) |
| Right of use liabilities | (677,163) |
| Total identifiable net assets | 511,142 |
| | |
| **Noncontrolling interest** | (1,821,021) |
| **Goodwill** | 3,205,227 |
| | $ 1,895,348 |

Goodwill arising from the acquisition as of October 31, 2023 of $3,205,227 was attributable mainly to certain existing doctor and service center relationships, which are not identifiable as a separate intangible asset, along with buyer specific synergies expected to arise from the acquisition. The Company expects that no goodwill from this acquisition will be deductible for income tax purposes.

The Company considered the contractual value of accounts receivable to be the same as the fair value and expects the full amount to be collected.

The results of PET Labs Pharmaceuticals have been included in the consolidated financial statements from the date of the acquisition.

The Company accounts for business combinations in accordance with Accounting Standards Update ("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 October 31, 2023 (acquisition date) | $ 3,205,227 |
| Translation adjustment | 61,876 |
| Balance as of December 31, 2023 | 3,267,103 |
| Translation adjustment | (101,572) |
| Balance as of March 31, 2024 | $ 3,165,531 |

**ASP Rentals**

In December 2023, the Company entered into a Shareholders Agreement ("ASP Rentals Shareholders Agreement") with ASP Rentals, an equipment financing service provider in South Africa. In conjunction with the ASP Rental Shareholders Agreement, the Company entered into an Asset Sale Agreement and an Asset Rental Agreement in order to facilitate the financing of energy equipment recently purchased by ASP South Africa. ASP Rentals is considered a variable interest entity, and the Company is the primary beneficiary and therefore ASP Rentals has been consolidated in accordance with ASC 810.

Pursuant to the terms of the ASP Rentals Shareholders Agreement, as of December 31, 2023 ASP South Africa was obligated to acquire and ASP Rentals was obligated to issue 24% of the common shares of ASP Rentals to be issued and outstanding for total purchase consideration of ZAR 3,300,829 (which at the exchange rate as of December 31, 2023 was $180,387). As of March 31, 2024 and December 31, 2023 these amounts are eliminated in consolidation.

As of December 31, 2023, ASP Rentals had a receivable and an obligation to issue76% of the common shares of ASP Rentals with non-affiliates for an aggregate of ZAR 13,203,317 (which at the exchange rate as of December 31, 2023 was $721,548). As of December 31, 2023, the Company had recorded $721,548 as a receivable from noncontrolling interest in current assets and a non-controlling interest in equity.

Consideration for all common shares of ASP Rentals was received in January 2024.

In January 2024, a total of ZAR 14,351,431 (which at the exchange rate as of December 31, 2023 was $784,291) was transferred between ASP Rentals and ASP South Africa per the terms of the ASP Sale Agreement and Asset Rental Agreement, excluding VAT.

**12. Stockholders' Equity**

***Preferred stock***

ASP Isotopes Inc. has 10,000,000 shares of preferred stock authorized, of which no shares were issued and outstanding as of March 31, 2024 and December 31, 2023.

***Common stock***

The Company has 500,000,000 shares of common stock authorized, of which48,598,276 and 48,923,276 shares were issued and outstanding as of March 31, 2024 and December 31, 2023, respectively. 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, 2024.

As of December 31, 2022, the Company owed a placement agent, as amended,57,250 shares and the fair value was $90,455. The fair value of the57,250 shares issuable to the placement agent just prior to settlement in March 2023 was $75,570, resulting in a change in fair value of share liability of $14,885 for the three months ended March 31, 2023. In March 2023, the Company settled this share liability by issuing the 57,250 shares of common stock.

In November 2022, the Company was required to issue shares of common stock with a then fair value totaling $50,000 to a consultant. The fair value of the 12,500 shares as of March 31, 2023 was $50,000. There was no change in fair value for this award for the three months ended March 31, 2023. The fair value of the 12,500 shares issued in August 2023 was $18,125.

In February 2023, the Company was required to issue an aggregate of100,000 shares of common stock to two consultants. The Company determined that the fair value of these two awards was $1.55 and $1.90 per share, respectively, for a total value of $172,500. The fair value of these shares as of March 31, 2023 to the two consultants was $85,400. The resulting change in fair value loss of the share liability was $87,100 for the three months ended March 31, 2023. The fair value of these shares issued in August 2023 to the two consultants was $145,000.

In March 2023, the Company was required to issue an aggregate of100,000 shares of restricted common stock pursuant to a settlement agreement that vests immediately. The Company determined that the fair value of this award was $0.94 per share for a total value of $93,700. The fair value of these shares as of March 31, 2023 was $85,400. The resulting change in fair value loss of the share liability was $8,300 for the three months ended March 31, 2023. The fair value of these shares issued in August 2023 was $145,000.

In March 2023, an officer and scientific advisor of the Company exchanged an aggregate of 3,000,000 shares of ASP Isotopes Inc. common stock for 2,500 shares of Enlighted Isotopes convertible preferred stock. In conjunction with the exchange, Enlightened Isotopes transferred the common shares of ASP Isotopes Inc. to ASP Isotopes and then ASP Isotopes immediately cancelled all 3,000,000 shares. The Company will report the non-controlling interest of future net income or loss on the consolidated balance sheet and statement of operations and comprehensive loss. As of December 31, 2023, negligible activity has been recorded for Enlightened Isotopes. Activities for Enlightened Isotopes began in 2024.

The Company's non-employee board members agreed to receive the 2022 and 2023 cash director fees totaling $240,000 in shares of common stock. As of March 31, 2024, these shares had yet to be issued.

In March 2023, the Company issued 3,164,557 shares of the Company's common stock at a purchase price of $1.58 per share and warrants to purchase up to an aggregate of 3,164,557 shares of its common stock with an exercise price of $1.75 per share for gross proceeds of $5,000,000. The Company incurred $506,390 in cash issuance costs and issued warrants to purchase up to an aggregate of 221,519 shares of common stock with an exercise price of $1.975 per share to the placement agent with an initial fair value of $179,116.

In October 2023, the Company entered into Securities Purchase Agreements with certain institutional and other accredited investors and certain directors of the Company to issue and sell an aggregate of 9,952,510 shares of the Company's common stock, for aggregate cash consideration of $9,129,495, as follows: (i) 8,459,093 shares to investors at a purchase price per share of $0.9105, (ii) 1,190,239 shares to investors at a purchase price per share of $0.9548, and (iii) 303,178 shares to directors at a purchase price per share of $0.96. The Company incurred issuance costs equivalent to 5% of the gross proceeds from new investors which was settled in stock through the issuance of 472,582 shares to the placement agent and additional cash issuance costs totaling $57,083.

In January 2024, the Company was required to issue an aggregate of 100,000 shares of restricted common stock to a consultant that vests immediately. The Company determined that the fair value of this award was $1.95 per share for a total value of $195,000. The fair value of these shares as of March 31, 2024 was $413,000. The resulting change in fair value of the share liability expense was $218,000 for the three months ended March 31, 2024. These shares have not yet been issued as of March 31, 2024.

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 originated in 2024 | $ - | $ 195,000 | $ 218,000 | $ - | $ 413,000 |

Activity of the share liabilities for the three months ended March 31, 2023 is as follows:

| | Share Liability as of December 31, 2022 | New Share Liabilities in 2023 | Mark to Market Adjustments in 2023 | Liabilities Settled in 2023 | Share Liabilities as of March 31, 2023 |
|---|---|---|---|---|---|
| Share liabilities originated in 2022 | $ 140,455 | $ - | $ (14,885) | $ (75,570) | $ 50,000 |
| Share liabilities originated in 2023 | - | 266,200 | (95,400) | - | 170,800 |
| | $ 140,455 | $ 266,200 | $ (110,285) | $ (75,570) | $ 220,800 |

***Common Stock Warrants***

The fair values of the warrants to purchase 3,386,076 shares of common stock issued in the three months ended March 31, 2023 were estimated based on the Black-Scholes model, using the following assumptions:

| | |
|---|---|
| Expected volatility | 60.3% |
| Weighted-average risk-free rate | 3.44% |
| Expected term in years | 5.5 |
| Expected dividend yield | 0% |

Subsequent to March 31, 2024, warrants to purchase3,164,557 shares of common stock were exercised and the Company received proceeds of $5,537,975. In conjunction with this exercise, a warrant to purchase 1,225,000 shares of common stock at a strike price of $3.90 per share was issued for no consideration.The warrant expires on its five year anniversary.

**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, 2024, the Company added 2,446,164 shares to the 2022 Plan. As of March 31, 2024, 3,259,770 shares remain available for future grant under the 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, 2023 | 2,766,000 | $ 1.91 | 8.4 | $ 231,000 |
| Granted | - | $ - | - | - |
| Forfeited | (35,000) | $ 2.00 | | |
| Outstanding as of March 31, 2024 | 2,731,000 | $ 1.90 | 8.1 | $ 6,079,530 |
| | | | | |
| Exercisable as of March 31, 2024 | 1,820,875 | $ 1.88 | 8.1 | $ 4,096,351 |
| Vested or expected to vest as of March 31, 2024 | 2,731,000 | $ 1.90 | 8.1 | $ 6,079,530 |

For the three months ended March 31, 2024, no options were granted.

The Company recorded stock compensation from options of $196,187 and $356,211 for the three months ended March 31, 2024 and 2023, respectively. As of March 31, 2024, there was $1,053,192 of unrecognized compensation cost related to non-vested share-based compensation arrangements granted under the Plan, which is expected to be recognized over a weighted average period of approximately 1.1 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. Upon the performance condition being considered probable, which has not been met as of March 31, 2024, the Company will recognize stock compensation expense over the remaining measurement period.

In October 2021, the Company issued 600,000 shares of restricted common stock to a consultant who is also a member the board of directors, that vest annually over three years. The Company determined that the fair value of this award was $0.25 per share for a total value of $150,000.

In July 2022, the Company issued 600,000 shares of restricted common stock to a consultant who is also a member the board of directors, that vest quarterly over one year. The Company determined that the fair value of this award was $2.00 per share for a total value of $1,200,000.

In July 2022, the Company issued 100,000 shares of restricted common stock to a consultant, that vests on the one-year anniversary of the grant. The Company determined that the fair value of this award was $2.00 per share for a total value of $200,000.

In November 2022, the Company issued 3,000,000 shares of restricted common stock to certain employees and directors, that vest two to four years from the date of the grant. The Company determined that the fair value of these awards was $2.63 per share for a total value of $7,890,000. In January 2024, one director that had received shares in November 2022 resigned and 100,000 unvested shares were forfeited and cancelled.

In December 2022, the Company issued an aggregate of 1,550,000 shares of restricted common stock to its Chief Executive Officer and Chairman, Interim Chief Financial Officer and a director that vest quarterly over one year from the date of the grant. The Company determined that the fair value of these awards was $1.58 per share for a total value of $2,449,000.

In March 2023, the Company issued an aggregate of 1,256,750 shares of restricted common stock to its Chief Executive Officer and Chairman and a director that vests quarterly over one year from the date of the grant. The Company determined that the fair value of these awards was $1.80 per share for a total value of $2,262,150.

In August 2023, the Company issued 300,000 and 200,000 shares of restricted common stock pursuant to one employee and one director for employment services, respectively. The Company determined that the fair value of these awards was $0.55 per share and $1.22 per share, respectively for a total combined value of $409,000. In January 2024, the employee that had received shares in August 2023 resigned and 225,000 unvested shares were forfeited and cancelled.

In October 2023, the Company was obligated to issue $100,000 of common stock to a board member for his services. These shares were not awarded as of March 31, 2024, however, all related stock based compensation was recorded totaling $100,000 in October 2023.

In March 2024, the Company was obligated to issue 978,466 shares of restricted stock that vest over the period ending February 2025 to its Chief Executive Officer for his services and 100,000 shares of restricted stock that vest over the period ending October 2024 to an executive of PET Labs Pharmaceuticals for his services. These shares were not awarded as of March 31, 2024, however, stock based compensation was recorded totaling $485,192.

In January 2024, the Company was obligated to issue $100,000 of common stock to a board member for his services. These shares were not awarded as of March 31, 2024, however, all related stock based compensation was recorded totaling $100,000 in January 2024.

The Company recorded stock compensation from stock awards totaling $1,417,467 and $1,787,888 for the three months ended March 31, 2024 and 2023, respectively. As of March 31, 2024, there is $8,172,221 of unrecognized compensation cost related to the non-vested portion of 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, 2023 | 4,489,186 | $ 1.42 |
| Granted | - | $ - |
| Vested | (364,186) | $ 1.72 |
| Forfeited and retired | (325,000) | $ 1.19 |
| Unvested as of March 31, 2024 | 3,800,000 | $ 1.41 |

***Stock-based Compensation Expense***

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

| | Three Months Ended March 31, 2024 | Three Months Ended March 31, 2023 |
|---|---|---|
| Selling, general and administrative | $ 1,630,591 | $ 2,051,708 |
| Research and development | 83,063 | 92,391 |
| Total | $ 1,713,654 | $ 2,144,099 |

**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, 2024 and 2023:

| | Three Months Ended March 31, | |
|---|---|---|
| | 2024 | 2023 |
| Numerator: | | |
| Net loss attributable to ASP Isotopes shareholders | $ (6,948,085) | $ (3,615,078) |
| Denominator: | | |
| Weighted average common stock outstanding, basic and diluted | 44,561,844 | 29,141,525 |
| Net loss per share, basic and diluted | $ (0.16) | $ (0.12) |

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, | |
|---|---|---|
| | 2024 | 2023 |
| Options to purchase common stock | 2,731,000 | 2,901,000 |
| Warrants to purchase common stock | 3,386,076 | 3,386,076 |
| Restricted stock | 3,800,000 | 7,719,250 |
| Total shares of common stock equivalents | 9,917,076 | 14,006,326 |

**15. Income Taxes**

The Company's effective tax rate for the three months ended March 31, 2024 was0.7%. The Company had no income tax expense due to operating losses incurred for the three months ended March 31, 2023, as the Company had a full valuation allowance on the net deferred tax asset. The effective tax rate for the three month period ended March 31, 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 than 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 statements of operations and comprehensive loss for the three months ended March 31, 2024. 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, 2024, there were no uncertain tax positions.

As of March 31, 2024, 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 we are subject. The Company is not currently under Internal Revenue Services (IRS), state or local tax examination.

Ownership changes, as defined in the 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 15, 2024, the date on which the accompanying financial statements were issued and concluded that no subsequent events have occurred that require disclosure except as noted in Note 12.

**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 technology, the Aerodynamic Separation Process ("ASP technology"), originally developed by Klydon Proprietary Ltd ("Klydon"), is 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"), Molybdenum-100 ("Mo-100") and Silicon-28 ("Si-28"). We have commissioned an isotope enrichment plant for the enrichment of C-14 located in Pretoria, South Africa, which will be ready for production upon the final installation of essential components. We anticipate completion and commissioning of a multi-isotope enrichment plant in Pretoria, South Africa in mid-2024. In addition, we have started planning additional isotope enrichment plants. 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 Mo-100 we may produce using the ASP technology could have significant potential advantages for use in the preparation of nuclear imaging agents by radiopharmacies and others in the medical industry. We believe the Si-28 we may produce using the ASP technology may be used to create advanced semiconductors and in quantum computing. In addition, we are 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.

We are also developing Quantum Enrichment technology to produce enriched Ytterbium-176, Nickel-64, Lithium 6, Lithium7 and Uranium-235 ("U-235"). Quantum enrichment is an advanced isotope enrichment technique that is currently in development that uses lasers. 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 HALEU- fueled small modular reactors that are now under development for commercial and government uses.

On November 15, 2022, we completed an IPO of our common stock and issued and sold 1,250,000 shares of common stock at a public offering price of $4.00 per share, resulting in net proceeds of $3.8 million after deducting underwriting discounts and commissions and offering expenses.

In March 2023, we issued 3,164,557 shares of our common stock at a purchase price of $1.58 per share and warrants to purchase up to an aggregate of 3,164,557 shares of our common stock with an exercise price of $1.75 per share for gross proceeds of $5.0 million. We incurred $506,390 in cash issuance costs and issued warrants to purchase up to an aggregate of 221,519 shares of common stock with an exercise price of $1.975 per share to the placement agent with an initial fair value of $179,116.

In October 2023, the Company entered into Securities Purchase Agreements with certain institutional and other accredited investors and certain directors of the Company to issue and sell an aggregate of 9,952,510 shares of the Company's common stock, for aggregate cash consideration of $9,129,461, as follows: (i) 8,459,093 shares to investors at a purchase price per share of $0.9105, (ii) 1,190,239 shares to investors at a purchase price per share of $0.9548, and (iii) 303,178 shares to directors at a purchase price per share of $0.96. The Company incurred issuance costs equivalent to 5% of the gross proceeds from new investors which was settled in stock through the issuance of 472,582 shares to the placement agent and additional cash issuance costs totaling $57,083.

In March 2024, the Company's wholly owned subsidiary Quantum Leap Energy received gross proceeds of $20,550,000 through the issuance of Convertible Promissory Notes with a stated interest rate of 6% for the first year and 8% thereafter. 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, the Company received approximately $5.5 million from the issuance of 3,164,557 shares of common stock upon the exercise of warrants.

**Acquisition of 51% of PET Labs Pharmaceuticals**

In October 2023, the Company entered into a Share Purchase Agreement with Nucleonics Imaging Proprietary Limited, a company incorporated in South Africa, to purchase 51% of the ordinary shares in Nucleonics' wholly-owned subsidiary, Pet Labs Pharmaceuticals Proprietary Limited, a company incorporated in South Africa and dedicated to nuclear medicine and the science of radiopharmaceutical production.

Per the Share Purchase Agreement, the Company has 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 2024, the Company paid $264,750 towards the balance due. The remaining balance of $1,235,250 is due upon demand any time after October 31, 2024 and is expected to be paid in November 2024.

**Acquisition of Assets and Agreements with Klydon**

To date, we have purchased certain assets of Molybdos Proprietary Limited, a South Africa company (Molybdos), and entered into a number of agreements with Klydon (Pty) Limited, a South Africa company (Klydon). Below is a summary of the key terms for our former licenses and other agreements with Klydon.

**Acquisition of Molybdos Assets.** On September 30, 2021, our subsidiary, ASP Isotopes South Africa (Proprietary) Limited ("ASP South Africa"), participated in and was declared the winner of a competitive auction process under Section 45 of the South Africa Consumer Protection Act, 2008 related to the sale and assignment of the assets of Molybdos (the "Molybdos Business Rescue Auction"). On October 12, 2021, ASP South Africa acquired the assets of Molybdos for ZAR 11,000,000 (which at the then current exchange rate was approximately $734,000), plus value added tax (VAT) levied by the government of South Africa at the rate of 15% and auctioneers' commission at the rate of 10%.

**Acquisition of Silicon-28 Plant Assets.** On July 26, 2022, we acquired assets comprising a dormant Silicon-28 aerodynamic separation processing plant from Klydon for ZAR 6,000,000 (which at the then current exchange rate was approximately $364,000), which will be payable to Klydon on the later of 180 days of the acquisition and the date on which the assets generate any revenues of any nature.

***Exclusive Mo-100 License (superseded and replaced by new license (see "Omnibus Klydon License" below)).*** On September 30, 2021, ASP South Africa, as licensee, entered into a license with Klydon, as licensor, pursuant to which ASP South Africa acquired from Klydon an exclusive license to use, subcontract and sublicense certain intellectual property rights relating to the ASP technology for the development and/or otherwise disposing of the ASP technology and production, distribution, marketing and or sale of Mo-100 isotope produced using the ASP technology (as amended on June 8, 2022, the "Mo-100 license"). The intellectual property rights granted to us through the Mo-100 license included all existing and/or future proprietary rights of Klydon relating to the ASP technology, whether or not such rights have been registered, including the copyright, designs, know-how, patents and trademarks (although Klydon currently has no such patents, patent applications or copyrights). The exclusive Mo-100 license was royalty-free, had a term of 999 years and was for the global development of the ASP Technology and production of the Mo-100 Isotope and global for the distribution, marketing and sale of the Mo-100 Isotope. No upfront or other payment was made or is owed in connection with the Mo-100 license. Klydon had the right to terminate the exclusivity of the Mo-100 license in the event that the licensee ceased carrying on activities of Mo-100 enrichment for a period longer than 24 consecutive months. Klydon had no other rights to terminate the Mo-100 license. Effective July 26, 2022, the parties agreed to terminate the Mo-100 license, which was superseded and replaced by a new license agreement (described under the heading "Omnibus Klydon License" below).

***Exclusive U-235 License (superseded and replaced by new license (see "Omnibus Klydon License" below)).*** On January 25, 2022, ASP South Africa, as licensee, entered into a license with Klydon, as licensor, pursuant to which ASP South Africa acquired from Klydon an exclusive license to use, subcontract and sublicense certain intellectual property rights relating to the ASP technology for the development and/or otherwise disposing of the ASP technology and production, distribution, marketing and or sale of U-235 produced using the ASP (as so amended, the "U-235 license"). The intellectual property rights granted to us through the U-235 license included all existing and/or future proprietary rights of Klydon relating to the ASP technology, whether or not such rights have been registered, including the copyright, designs, know-how, patents and trademarks (although Klydon currently has no such patents, patent applications or copyrights). The exclusive U-235 license had a term of 999 years and was for the global development of the ASP technology and production of U-235 and global for the distribution, marketing and sale of U-235. In connection with the U-235 license we made an upfront payment of $100,000 and agreed to pay certain royalties (the greater of $50 per k.g. of U-235 and 10% of profits) and a 33% sublicensing revenue share of any cash consideration we may receive for any sublicenses we may grant. Klydon had the right to terminate the exclusivity of the U-235 license in the event that the licensee ceased carrying on activities of U-235 enrichment for a period longer than 24 consecutive months. Klydon had no other rights to terminate the U-235 license. Effective July 26, 2022, the parties agreed to terminate the U-235 license, which was superseded and replaced by a new license agreement (described under the heading "Omnibus Klydon License" below).

***Omnibus Klydon License.*** On July 26, 2022, ASP Isotopes UK Ltd, as licensee, 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 intellectual property rights granted to us through the Klydon license agreement included all existing and/or future proprietary rights of Klydon relating to the ASP technology, whether or not such rights have been registered, including the copyright, designs, know-how, patents and trademarks (although Klydon currently has no such patents, patent applications or copyrights). The Klydon license agreement was royalty-free, had a term of 999 years and was 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, we agreed to make an upfront payment of $100,000 (to be included within the payments we made under the Turnkey Contract (described below) and deferred payments of $300,000 over 24 months. Effective April 4, 2023, pursuant to the Acknowledgement of Debt Agreement described below, we acquired the ASP technology, among other things, from Klydon, and the Klydon license agreement is no longer in effect.

**Turnkey Contract.** On November 1, 2021, ASP South Africa and Klydon, as the contractor, entered into a contract under which Klydon has been appointed to supply to ASP South Africa a complete turnkey isotope enrichment plant (the "Turnkey Contract"). The activities to be undertaken or performed by Klydon include: taking control of the assets acquired in the Molybdos Business Rescue Auction; the design of an isotope enrichment facility; the supply of components, equipment and labor required for the construction; the installation, testing and commissioning of the isotope enrichment plant; securing all required approvals, regulatory authorizations and other required consents for the operation of the plant; providing training to local ASP Isotopes South Africa (Proprietary) Limited personnel to enable them to operate the plant going forward; and providing warranties in relation to the performance targets of the plant which are required to be met. Klydon was responsible for liaising with the relevant South African authorities, including the South African Non Proliferation Council, the Nuclear Suppliers Group and International Atomic Energy Agency to ensure that the Turnkey Contract and the isotope enrichment plant are compliant with international laws and guidelines.

***Acknowledgement of Debt Agreement.*** Klydon performed a portion of the services required under the Turnkey Contract described above; however, services were incomplete and many of the services were not completed within the time frame required. As a result, Klydon and ASP South Africa entered into an Acknowledgement of Debt Agreement dated November 30, 2022, whereby Klydon (i) agreed to pledge its assets (the "Pledged Assets") to ASP South Africa to secure its performance of the Turnkey Contract by December 31, 2022, and (ii) acknowledged that ASP South Africa would suffer damages in the amount of $6,050,000 ("Damage Amount") should it fail to perform. Under the Acknowledgement of Debt Agreement, the Pledged Assets would serve as collateral for Klydon's obligation to pay the Damage Amount should Klydon fail to perform. In connection therewith, also on November 30, 2022, ASP South Africa and Klydon entered into a Deed of Security Agreement whereby, if Klydon failed to complete its obligations under the Turnkey Contract by December 31, 2022, all of Klydon's rights of any nature to and interests of any nature in the Pledged Assets would be transferred to ASP South Africa. Klydon failed to complete its obligations under the Turnkey Contract by December 31, 2022.

On April 4, 2023, the Company perfected its interests in the assets under the Acknowledgement of Debt Agreement, pursuant to which the Company acquired the Pledged Assets, including certain intellectual property, from Klydon and settled all amounts due to Klydon, including the ZAR 6,000,000 for the acquisition of the Silicon-28 plant assets.

**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. The Company 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 Pharmaceutical operations***. Commencing with our acquisition of PET Labs Pharmaceuticals 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 Pharmaceutical operations***. Commencing with our acquisition of PET Labs Pharmaceuticals 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.

***Political Risk Insurance Policy with Optio Group.*** On October 25, 2021, ASP Guernsey entered into a contract of insurance to cover against political risk and expropriation, to off-set the risk of events detrimental to the company occurring in the Republic of South Africa for a period of three years. The insurer is Optio Group Limited which is 100% underwritten by one or more syndicates at Lloyd's of London. The specific risks covered in the policy are: (i) permanent and total abandonment of operations, (ii) deprivation of assets or shareholding, (iii) physical damage due to political violence, (iv) non-transfer or inconvertibility, (v) business interruption, (vi) non-honouring of arbitration award, and (vii) crisis management support. The limit of cover is equal to or in excess of the projected amount of investment required to complete the initial stage of the first planned Molybdenum enrichment plant. The limit of cover is capable of being increased and extended by mutual agreement with the insurer.

**Components of Results of Operations**

***Revenue***

Effective with the acquisition of 51% of PET Labs Pharmaceuticals, 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, 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.

As described above, Klydon charged us for expenses associated with these research and development functions under the Turnkey Contract. 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, 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***

As of December 31, 2023, we managed our operations as a single segment, specialist isotopes and related services. Beginning in 2024, primarily as a result of the increased business activities of our subsidiary, Quantum Leap Energy LLC, 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 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 Pharmaceuticals.

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

The Company manages 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 income statement information as of the three months ended March 31, 2024 and 2023 is as follows:

| | Revenues | | Net Loss Before Taxes | |
|---|---|---|---|---|
| Segment | Three Months Ended March 31, 2024 | Three Months Ended March 31, 2023 | Three Months Ended March 31, 2024 | Three Months Ended March 31, 2023 |
| Specialist isotopes and related services | $ 840,354 | $ - | $ (4,933,456) | $ (3,615,078) |
| Nuclear fuels | - | - | (2,079,007) | - |
| | $ 840,354 | $ - | $ (7,012,463) | $ (3,615,078) |

**Results of Operations**

***Comparison of the Three Months Ended March 31, 2024 and 2023***

The following table summarizes our results of operations for the three months ended March 31, 2024 and 2023:

| | Three Months Ended March 31, 2024 | Three Months Ended March 31, 2023 |
|---|---|---|
| Revenue | $ 840,354 | $ - |
| Cost of goods sold | 561,484 | - |
| Gross margin | 278,870 | - |
| | | |
| Operating expenses: | | |
| Research and development | 215,134 | 207,334 |
| Selling, general and administrative | 5,878,546 | 3,517,490 |
| Total operating expenses | 6,093,680 | 3,724,824 |
| Other (expense) income: | | |
| Foreign exchange transaction loss | (24,343) | (935) |
| Change in fair value of share liability | (218,000) | 110,285 |
| Change in fair value of convertible notes payable | (953,710) | - |
| Interest expense | (13,788) | - |
| Interest income | 12,188 | 396 |
| Total other (expense) income | (1,197,653) | 109,746 |
| Loss before income tax expense | $ (7,012,463) | $ (3,615,078) |

***Revenue and Cost of Goods Sold***

Effective with the acquisition of 51% of PET Labs Pharmaceuticals, the Company has recognized revenue from the sale of nuclear medical doses for PET scanning for the two month period since the acquisition was effective on October 31, 2023 and December 31, 2023 and the three months ended March 31, 2024. In addition, the Company has recognized the related cost of goods sold, operating expenses and other income and expenses of PET Labs Pharmaceuticals for the same periods. No revenue or cost of goods sold was recognized for the three months ended March 31, 2023.

***Research and Development Expenses***

The following table summarizes our research and development expenses for the three months ended March 31, 2024 and 2023:

| | Three Months Ended March 31, 2024 | Three Months Ended March 31, 2023 |
|---|---|---|
| Indirect costs: | | |
| Personnel-related costs | $ 155,605 | $ 122,391 |
| License fees | - | - |
| Consulting, facility and other expenses | 59,529 | 84,943 |
| Total research and development expenses | $ 215,134 | $ 207,334 |

Research and development expenses were $215,134 for the three months ended March 31, 2024. These expenses include $155,605 of personnel-related costs, including $83,063 in stock-based compensation, and $59,529 in consulting, facility and other expenses.

Research and development expenses were $207,334 for the three months ended March 31, 2023. These expenses include $122,391 of personnel-related costs, including $92,391 in stock-based compensation, and $84,943 in consulting, facility and other expenses.

The increase in personnel-related costs is mainly due to the increase in headcount and related costs. The decrease in consulting, facility and other expenses is mainly due to lower consulting costs in 2024 partially offset by higher facility expenses as the Company focused its activities in 2023 on completing the construction of the plant.

***Selling, General and Administrative Expenses***

Selling, general and administrative expenses were $5,878,546 for the three months ended March 31, 2024. These expenses include $820,250 of personnel-related costs, $1,630,591 in stock-based compensation, $2,172,920 of professional services and legal related fees and $1,254,785 in facility and other corporate expenses.

Selling, general and administrative expenses were $3,517,490 for the three months ended March 31, 2023. These expenses include $289,057 of personnel-related costs, $2,051,708 in stock-based compensation, $753,419 of professional services and legal related fees and $423,306 in facility and other corporate expenses.

The increase in personnel-related costs is due to an increase in headcount and salaries. The decrease in stock-based compensation is due to number of new awards decreasing compared to previous periods. The increase in professional services and legal related fees is mainly due to the issuance costs for the convertible notes issued in March 2024. The increase in facility and other corporate expenses is mainly due to the expansion of our operations in 2024.

***Other Income and Expense***

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.

Other income for the three months ended March 31, 2023 was $109,746, which includes a $110,285 change in the fair value of the share liability related to the shares issuable to a placement agent and other consultants.

**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. On April 9, 2024, the Company received approximately $5.5 million from the issuance of 3,164,557 shares of common stock upon the exercise of warrants.

As of March 31, 2024, we had cash of $23.9 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.

Effective with the acquisition of 51% of PET Labs Pharmaceuticals on October 31, 2023, we have begun to 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, will not 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 the second half of 2024. 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, 2024 | Three Months Ended March 31, 2023 |
|---|---|---|
| Net cash provided by (used in): | | |
| Operating activities | $ (2,970,469) | $ (1,444,965) |
| Investing activities | (1,245,825) | (362,056) |
| Financing activities | 20,263,995 | 4,493,610 |
| Net increase in cash and cash equivalents | $ 16,047,701 | $ 2,686,589 |

***Operating Activities***

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 $6,964,844, adjusted for stock-based compensation expense of $1,713,654, non-cash issuance costs for the convertible notes payable of $513,748, amortization of right-of-use asset of $98,658, issuance of common stock to a consultant with a fair value of $195,000, change in fair values of $1,171,710, change in deferred tax liabilities of $49,771 and a $274,553 change in our operating assets and liabilities.

Net cash used in operating activities was $1,444,965 for the three months ended March 31, 2023 and was primarily due to our net loss of $3,615,078, adjusted for stock-based compensation expense of $2,144,099, amortization of right-of-use asset of $17,034, issuance of common stock to a consultant with a fair value of $266,200 and change in fair value of share liability of $110,285, and a $146,935 change in our operating assets and liabilities.

***Investing Activities***

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

Net cash used in investing activities was $362,056 for the three months ended March 31, 2023 and was comprised of additional construction in progress.

***Financing Activities***

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.

Net cash provided by financing activities was $4,493,610 for the three months ended March 31, 2023 and was comprised of net proceeds from the issuance of 3,164,557 shares of our common stock.

**Contractual Obligations and Commitments**

We lease our main facility in Pretoria, South Africa under a lease with a base monthly rent payment of approximately $8,000 with a term expiring on December 31, 2030. We also lease additional space in Pretoria, South Africa under a lease with a base monthly rent payment of approximately $16,000 with a term that expires on February 28, 2026. 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 $28,000 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 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 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, 2024. 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, 2024, 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 for the year ended December 31, 2023, our disclosure controls and procedures were not effective as of March 31, 2024. In order to remediate the material weakness, management expects to hire additional accounting and finance 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.**

From time to time, we may be a party to litigation or subject to claims incident to the ordinary course of business. Although the results of litigation and claims cannot be predicted with certainty, we currently believe that the final outcome of these ordinary course matters will not have a material adverse effect on our business. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors. We are not currently a party to any material legal proceedings.

**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, 2023, filed with the SEC on April 10, 2024. The risks described in our Annual Report on Form 10-K for the year ended December 31, 2023 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, 2023.

**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, 2024, no director or officer of the Company 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 |
|---|---|
| 10.1 | Convertible Note Purchase Agreement (including Form of Convertible Promissory QLE Note), dated as of February 29, 2024, by and among Quantum Leap Energy LLC and the Purchasers listed therein. |
| 10.2 | Registration Rights Agreement, dated as of February 29, 2024, by and among Quantum Leap Energy LLC and the Purchasers listed therein. |
| 10.3+ | Quantum Leap Energy LLC 2024 Equity Incentive Plan. |
| 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. |
| 99.1 | License Agreement, dated as of February 16, 2024, among ASP Isotopes UK Limited, as licensor, and Quantum Leap Energy LLC and Quantum Leap Energy Limited, as licensee. |
| 99.2 | EPC Services Framework Agreement, dated as of February 16, 2024, between ASP Isotopes Inc. and Quantum Leap Energy LLC. |
| 101.INS | Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document. |
| 101.SCH | Inline XBRL Taxonomy Extension Schema Document |
| 101.CAL | Inline XBRL Taxonomy Extension Calculation Linkbase Document |
| 101.DEF | Inline XBRL Taxonomy Extension Definition Linkbase Document |
| 101.LAB | Inline XBRL Taxonomy Extension Label Linkbase Document |
| 101.PRE | Inline XBRL Taxonomy Extension Presentation Linkbase Document |
| 104 | Cover Page Interactive Data File (embedded within the Inline XBRL document) |

* 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 15, 2024

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

Date: May 15, 2024

By: */s/ Robert Ainscow*
Robert Ainscow
Chief Operating Officer and 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, 2024 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 15, 2024

*/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, Robert Ainscow, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended March 31, 2024 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 15, 2024

*/s/ Robert Ainscow*
Robert Ainscow
*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, 2024, 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, Robert Ainscow, 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 15, 2024

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

Date: May 15, 2024

By: */s/ Robert Ainscow*
Robert Ainscow
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.