FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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OMB Number:	3235-0287
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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

Check this box to indicate that a transaction was made pursuant to a contract, instruction or written plan for the purchase or sale of equity securities of the issuer that is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c). See Instruction 10.

Ainscow Robert			2. Issuer Name and Ticker or Trading Symbol ASP Isotopes Inc. [ASPI]		ionship of Reporting Person(s) all applicable) Director	10% Owner Other (specify below)	
		(Middle)	3. Date of Earliest Transaction (Month/Day/Year) 09/08/2025	X	Officer (give title below) Chief Operating O		
601 PENNSYLVANIA AVENUE NW SUITE 900		SUITE 900	4. If Amendment, Date of Original Filed (Month/Day/Year)	Individual or Joint/Group Filing (Check Applicable Lin X Form filed by One Reporting Person			
(Street) WASHINGTON	DC	20004			Form filed by More than One	e Reporting Person	
(City)	(State)	(Zip)					

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transac Code (Ir 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	Beneficial Ownership
			Code	v	Amount	(A) or (D)	Price	Transaction(s) (Instr. 3 and 4)		(Instr. 4)
Common Stock	09/08/2025		S ⁽¹⁾		8,438	D	\$8.5263(2)	1,411,554	D	
Common Stock	09/09/2025		M		150,000	A	\$0.25	1,564,554	D	
Common Stock	09/09/2025		F ⁽³⁾		4,396	D	\$8.53	1,557,158	D	
Common Stock	09/09/2025		M		12,000	A	\$2	1,569,158	D	
Common Stock	09/09/2025		F ⁽³⁾		2,813	D	\$8.53	1,566,345	D	
Common Stock	09/09/2025		M		135,000	A	\$2	1,701,345	D	
Common Stock	09/09/2025		F ⁽³⁾		31,652	D	\$8.53	1,669,693	D	

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transac Code (In 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		te Securities Underlying		8. Price of Derivative Security (Instr. 5)	Reported	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	Beneficial Ownership (Instr. 4)		
				Code	v	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares		Transaction(s) (Instr. 4)		
Employee Stock Option (right to buy)	\$0.25	09/09/2025		М			150,000	10/04/2024 ⁽⁴⁾	10/04/2031	Common Stock	150,000	\$0	0	D	
Employee Stock Option (right to buy)	\$2	09/09/2025		М			12,000	04/04/2023 ⁽⁵⁾	04/04/2032	Common Stock	12,000	\$0	0	D	
Employee Stock Option (right to buy)	\$2	09/09/2025		М			135,000	06/10/2025(6)	06/10/2032	Common Stock	135,000	\$0	0	D	

Explanation of Responses:

- 1. Represents "sell to cover" sales effected pursuant to a Rule 10b5-1 trading plan adopted by the filing person on June 9, 2025 to cover tax withholding obligations in connection with the vesting of restricted stock awards.
- 2. The price reported in Column 4 is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$8.31 to \$8.79, inclusive. The reporting person undertakes to provide ASP Isotopes Inc. (the "Company"), any stockholder of the Company, or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each separate price within the ranges set forth in Footnote 2.
- 3. Represents shares withheld by the Company in connection with net share settlement to satisfy the exercise price associated with the reporting person's exercise of employee stock options. No shares were sold by the reporting person to satisfy the exercise price or any tax liability.
- 4. These options vested in thirty-six equal installments beginning on the last day of month after the option's grant date. The option was granted on October 4, 2021.
- 5. These options vested in a single installment 12 months after the grant date. The option was granted on April 4, 2022.
- 6. These options vested in thirty-six equal installments beginning on the last day of month after the option's grant date. The option was granted on June, 10, 2022.

Remarks:

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

- * If the form is filed by more than one reporting person, see Instruction 4 (b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.