

OMB APPROVAL	
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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

1. Name and Address of Reporting Person* <u>BREWER KEVIN J</u> (Last) (First) (Middle) <u>C/O AXCELIS TECHNOLOGIES, INC.</u> <u>108 CHERRY HILL DRIVE</u> (Street) <u>BEVERLY MA 01915</u> (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>AXCELIS TECHNOLOGIES INC [ACLS]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>EVP & Chief Financial Officer</u>
	3. Date of Earliest Transaction (Month/Day/Year) <u>05/15/2023</u>	
	4. If Amendment, Date of Original Filed (Month/Day/Year)	Rule 10b5-1(c) Transaction Indication <input type="checkbox"/> Check this box to indicate that a transaction was made pursuant to a contract, instruction or written plan that is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c). See Instruction 10.

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. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	05/15/2023		A		3,005	A	\$0.00 ⁽¹⁾	39,282 ⁽²⁾	D	
Common Stock	05/15/2023		F		1,928	D ⁽³⁾	\$127.99 ⁽⁴⁾	37,354 ⁽⁵⁾	D	
Common Stock	05/15/2023		F		1,844	D ⁽³⁾	\$127.99 ⁽⁴⁾	35,510 ⁽⁶⁾	D	
Common Stock	05/16/2023		S		6,505	D	\$130.84 ⁽⁷⁾	29,005 ⁽⁸⁾	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. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V	(A)	(D)	Date Exercisable	Expiration Date					

Explanation of Responses:

- In this grant under the Company's 2012 Equity Incentive Plan, the executive may earn shares of common stock, ranging from zero to 150% of the granted units. The shares are earned based on the achievement of 2023 performance goals. Assuming continuation of employment, 100% of the earned shares will vest on February 28, 2024. Unearned restricted stock units will forfeit on February 28, 2024.
- Of the shares held after the grant on May 15, 2023, 32,777 shares were issuable on vesting of restricted stock units granted to the executive under the 2012 Equity Incentive Plan and are subject to forfeiture.
- These shares were withheld by the Company to cover the tax withholding obligations of the executive on the vesting of restricted stock units.
- Represents the closing price of the common stock on the date of the tax withholding.
- Of the shares held after this first tax withholding forfeiture (and related vesting) on May 15, 2023, 28,432 shares were issuable on vesting of restricted stock units granted to the executive under the 2012 Equity Incentive Plan and are subject to forfeiture.
- Of the shares held after this second tax withholding forfeiture (and related vesting) on May 15, 2023, 24,275 shares were issuable on vesting of restricted stock units granted to the executive under the 2012 Equity Incentive Plan and are subject to forfeiture.
- The price reported in Column 4 is a weighted-average price. These shares were sold in multiple transactions at prices ranging from \$130.70 to \$130.94, inclusive. The reporting person undertakes to provide to Axcelis Technologies, Inc., any security holder of Axcelis Technologies, Inc., or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each separate price.
- Of the shares held after this sale on May 16, 2023, 24,275 shares were issuable on vesting of restricted stock units granted to the executive under the 2012 Equity Incentive Plan and are subject to forfeiture.

Remarks:

Lynnette C. Fallon, as
attorney in fact for Kevin J. Brewer 05/16/2023

** Signature of Reporting Person Date

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.

