

<p>FORM 5</p> <p><input type="checkbox"/> Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).</p> <p><input type="checkbox"/> Form 3 Holdings Reported</p> <p><input type="checkbox"/> Form 4 Transactions Reported</p>	<p>UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549</p> <p>ANNUAL STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP</p> <p>Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(f) of the Investment Company Act of 1940</p>	<p>OMB APPROVAL</p> <hr/> <p>OMB Number: 3235-0362 Expires: January 31, 2005 Estimated average burden hours per response. . . . 1.0</p>
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<p>1. Name and Address of Reporting Person*</p> <p>Puma, Mary</p> <p>(Last) (First) (Middle)</p> <p>c/o Axcelis Technologies, Inc. 55 Cherry Hill Drive</p> <p>(Street)</p> <p>Beverly, MA 01915</p> <p>(City) (State) (Zip)</p>	<p>2. Issuer Name and Ticker or Trading Symbol</p> <p>Axcelis Technologies, Inc. ACLS</p>	<p>4. Statement for Month/Year</p> <p>12/2000</p>	<p>6. Relationship of Reporting Person(s) to Issuer (Check all applicable)</p> <p><input checked="" type="checkbox"/> Director <input type="checkbox"/> 10% Owner <input checked="" type="checkbox"/> Officer (give title below) <input type="checkbox"/> Other (specify below)</p> <p>Description President and Chief Executive Officer</p> <p>7. Individual or Joint/Group Filing (Check Applicable Line)</p> <p><input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person</p>
<p>3. I.R.S. Identification Number of Reporting Person, if an entity (voluntary)</p>		<p>5. If Amendment, Date of Original (Month/Year)</p> <p>12/2000</p>	

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 at end of Issuer's Fiscal Year (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
				Amount / A/D / Price			
Common Stock	12/01/2000		J(1)	47,522 / A / \$			
Common Stock	12/29/2000		J(2)	353 / A / \$	47,875	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(DE) and Expiration Date(ED) (Month/Day/Year)	7. Title and Amount of Underlying Securities (Instr. 3 and 4)	8. Price of Derivative Security (Instr.5)	9. Number of Derivative Securities Beneficially Owned at End of Year Reported Transaction(s) (Instr.4)	10. Ownership Form of Derivative Securities: Direct (D) or Indirect (I) (Instr.4)	11. Nature of Indirect Beneficial Ownership (Instr.4)
					A or D	DE / ED	Title / Amount or Number of Shares				
Stock option (right to buy)	\$22.00	07/10/2000		A(3)	606,100 A	(4) / 07/10/2010	common stock / 606,100	\$	606,100	D	
Stock option (right to buy)	\$10.44	12/29/2000		A(3)	12,705 A	12/29/2000 / 01/27/2008	common stock / 12,705	\$	12,705	D	
Stock option (right to buy)	\$7.17	12/29/2000		A(3)	67,759 A	12/29/2000 / 04/30/2006	common stock / 67,759	\$	67,759	D	
Stock option (right to buy)	\$8.48	12/29/2000		A(3)	63,525 A	12/29/2000 / 01/21/2007	common stock / 63,525	\$	63,525	D	
Stock option (right to buy)	\$8.44	12/29/2000		A(3)	84,699 A	(5) / 01/25/2010	common stock / 84,699	\$	84,699	D	
Stock option (right to buy)	\$8.43	12/29/2000		A(3)	177,870 A	(6) / 01/26/2009	common stock / 177,870	\$	177,870	D	

Explanation of Responses:

This Amendment to Ms. Puma's Form 5 for the year ended 12/31/2000 is being filed to correct the expiration date of her \$8.43 options.

- (1) Shares acquired by way of a grant of restricted shares from Axcelis Technologies, Inc.
- (2) Shares acquired by way of a dividend issued to all common shareholders of Eaton Corporation.
- (3) Granted under the Axcelis Technologies, Inc. 2000 Stock Plan. All grants on 12/29/2000 were granted on conversion of outstanding options for Eaton Corporation common stock.
- (4) Exercisable as to 16.5% of the shares on each of 07/10/2001 and 07/10/2002, as to 17% of the shares on 07/10/2003, 30% of the shares on 07/10/2004 and 20% of the shares on 07/10/2005.
- (5) Exercisable as to 33% of the shares on each of 01/25/2001 and 01/25/2002 and as to 34% of the shares on 01/25/2003.
- (6) Exercisable as to 33% of the shares on grant, and as to 33% of the shares on 1/26/2001 and as to 34% of the shares on 01/26/2002.

By:

Date:

/s/ Lynnette C. Fallon

01/28/2003

Attorney-in-Fact on behalf of Mary G. Puma

** Signature of Reporting Person

SEC 2270 (09-02)

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.

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