DUFF DAVID Form 4 December 27, 2004

Check this box

if no longer

subject to

Section 16.

Form 4 or

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

OMB APPROVAL

OMB 3235-0287 Number:

Expires:

January 31, 2005

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STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF **SECURITIES**

Form 5 obligations may continue. See Instruction

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(h) of the Investment Company Act of 1940

1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person *

2. Issuer Name and Ticker or Trading

5. Relationship of Reporting Person(s) to Issuer

DUFF DAVID

Symbol

AXCELIS TECHNOLOGIES INC

(Check all applicable)

[ACLS]

(Last) (First) (Middle) 3. Date of Earliest Transaction (Month/Day/Year)

Director 10% Owner X_ Officer (give title Other (specify below)

C/O AXCELIS TECHNOLOGIES. INC., 108 CHERRY HILL DRIVE

12/27/2004

Vice President/GM IIRTP

(Street)

4. If Amendment, Date Original

6. Individual or Joint/Group Filing(Check Applicable Line)

Filed(Month/Day/Year)

X Form filed by One Reporting Person Form filed by More than One Reporting

BEVERLY, MA 01915

(City) (State) (Zip)

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

1. Title of Security (Instr. 3)

2. Transaction Date 2A. Deemed (Month/Day/Year) Execution Date, if (Month/Day/Year)

3. 4. Securities TransactionAcquired (A) or Code Disposed of (D) (Instr. 3, 4 and 5) (Instr. 8)

5. Amount of Securities Beneficially Owned Following Reported

6. Ownership 7. Nature of Form: Direct Indirect (D) or Indirect Beneficial (I) Ownership (Instr. 4) (Instr. 4)

(A) Transaction(s) or (Instr. 3 and 4) Code V Amount (D) Price

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

Persons who respond to the collection of SEC 1474 information contained in this form are not (9-02)required to respond unless the form displays a currently valid OMB control number.

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

1. Title of Derivative Conversion 3. Transaction Date 3A. Deemed

5. Number of (Month/Day/Year) Execution Date, if TransactionDerivative

6. Date Exercisable and **Expiration Date**

7. Title and Amount of Underlying Securities

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(Instr. 3)			any (Month/Day/Year)	(Instr. 8)	8) .	Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)		(Month/Day/Year)		(Instr. 3 and 4)	
				Code V	V	(A)	(D)	Date Exercisable	Expiration Date		Amount or Number of Share
Stock option (right to	\$ 7.99	12/27/2004		A <u>(1)</u>		22,500		06/25/2008(2)	06/25/2014	Common Stock	22,500

Reporting Owners

Reporting Owner Name / Address Relationships

Director 10% Owner Officer Other

DUFF DAVID C/O AXCELIS TECHNOLOGIES, INC. 108 CHERRY HILL DRIVE BEVERLY, MA 01915

Vice President/GM IIRTP

(Month/Doy/Vear)

(Instr 3 and 4)

Signatures

buy)

Lynnette C. Fallon, as attorney-in-fact for David W.

Duff

12/27/2004

**Signature of Reporting Person Date

Explanation of Responses:

- * 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).
- (1) Granted Pursuant to the Axcelis Technologies, Inc. 2000 Stock Plan.
- (2) Excercisable as to 25% of the total shares on each of 6/25/2005, 6/25/2006, 6/25/2007 and 6/25/2008.

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.

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