

SCHEDULE 13G  
(Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT  
TO RULES 13d-1(b), (c), AND (d) AND AMENDMENTS THERETO FILED  
PURSUANT TO RULE 13d-2(b)  
(Amendment No. 6)<sup>1</sup>

Axcelis Technologies, Inc.

-----  
(Name of Issuer)

Common Stock

-----  
(Title of Class of Securities)

054540109

-----  
(CUSIP Number)

12/31/2004

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(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)  
 Rule 13d-1(c)  
 Rule 13d-1(d)

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1 The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 (the "Act") or otherwise subject to the liabilities of that section of the Act, but shall be subject to all other provisions of the Act (however, see the Notes.)

(Continued on following pages)

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CUSIP No. 054540109

Schedule 13G

Page 2 of 6 Pages

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1. NAMES OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)  
Wellington Management Company, LLP  
04-2683227

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2. CHECK THE APPROPRIATE BOX IF THE MEMBER OF A GROUP\*

(a)   
(b)

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3. SEC USE ONLY

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4. CITIZENSHIP OR PLACE OF ORGANIZATION  
Massachusetts

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5. SOLE VOTING POWER  
NUMBER OF  
SHARES 0

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6. SHARED VOTING POWER  
BENEFICIALLY

OWNED BY 743,200  
EACH  
REPORTING PERSON  
WITH

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7. SOLE DISPOTIVE POWER  
0

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8. SHARED DISPOTIVE POWER  
2,920,200

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9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  
2,920,200

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10. CHECK BOX IF AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN  
SHARES\*

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11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9  
2.921%

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12. TYPE OF REPORTING PERSON  
IA

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Item 1(a). Name of Issuer:

Axcelis Technologies, Inc.

Item 1(b). Address of Issuer's Principal Executive Offices:

55 Cherry Hill Drive  
Beverly, MA 01915

Item 2(a). Name of Person Filing:

Wellington Management Company, LLP(''WMC'')

Item 2(b). Address of Principal Business Office or, if None,  
Residence:

75 State St  
Boston, MA 02109

Item 2(c). Citizenship:

Massachusetts

Item 2(d). Title of Class of Securities:

Common Stock

Item 2(e). CUSIP Number:

054540109

Item 3. If This Statement is Filed Pursuant to Rule 13d-1(b), or  
13d-2(b) or (c), Check Whether the Person Filing is a:

- (a)  Broker or dealer registered under Section 15 of the Act.
- (b)  Bank as defined in Section 3(a)(6) of the Act.
- (c)  Insurance Company as defined in Section 3(a)(19) of  
the Act.

- (d)  Investment Company registered under Section 8 of the Investment Company Act.
- (e)  An investment adviser in accordance with Rule 13d-1(b)(1)(ii)(E);
- (f)  An employee benefit plan or endowment fund in accordance with Rule 13d-1(b)(1)(ii)(F);
- (g)  A parent holding company or control person in accordance with Rule 13d-1(b)(1)(ii)(G); see item 7;
- (h)  A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act;
- (i)  A church plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act;
- (j)  Group, in accordance with Rule 13d-1(b)(1)(ii)(J).

If this statement is filed pursuant to Rule 13d-1(c), check this box

Item 4. Ownership.

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

- (a) Amount Beneficially Owned: WMC, in its capacity as investment adviser, may be deemed to beneficially own 2,920,200 shares of the Issuer which are held of record by clients of WMC.
- (b) Percent of Class: 2.921%
- (c) Number of shares as to which such person has:

(i)	sole power to vote or to direct the vote	0	-----
(ii)	shared power to vote or to direct the vote	743,200	-----
(iii)	sole power to dispose or to direct the disposition of	0	-----
(iv)	shared power to dispose or to direct the disposition of	2,920,200	-----

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Item 5. Ownership of Five Percent or Less of Class.  
If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following

[X]

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

The securities as to which this Schedule is filed by WMC, in its capacity as investment adviser, are owned of record by clients of WMC. Those clients have the right to receive, or the power to direct the receipt of, dividends from, or the proceeds from the sale of, such securities. No such client is known to have such right or power with respect to more than five percent of this class of securities, except as follows:

Not Applicable

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company.

Not Applicable

Item 8. Identification and Classification of Members of the Group.

Not Applicable. This schedule is not being filed pursuant to Rule 13d-1(b)(1)(ii)(J) or Rule 13d-1(d).

Item 9. Notice of Dissolution of Group.

Not Applicable

Item 10. Certification.

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(a) The following certification shall be included if the statement is filed pursuant to Rule 13d-1(b):

"By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of or with the

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effect of changing or influencing the control of the issuer of  
the securities and were not acquired and are not held in  
connection with or as a participant in any transaction  
having that purpose or effect. "

## SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief,  
I certify that the information set forth in this statement is true,  
complete and correct.

By: --//Julie A. Jenkins//--  
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Name: Julie A. Jenkins  
Title: Vice President  
Date: February 14, 2005

\*\*Signed pursuant to a Power of Attorney dated March 3, 2004 and filed with the  
SEC on March 10, 2004.