

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

**Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): **May 29, 2012**

Axcelis Technologies, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

000-30941
(Commission
File Number)

34-1818596
(IRS Employer
Identification No.)

108 Cherry Hill Drive, Beverly, Massachusetts
(Address of principal executive offices)

01915
(Zip Code)

Registrant's telephone number, including area code: **(978) 787-4000**

(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 7.01 Regulation FD Disclosure

On May 29 and May 30, 2012, management of Axcelis Technologies, Inc. (the "Company") will be participating in a presentation and meetings with investors and analysts. The presentation is available in the "Investors" section of the Company's website at www.axcelis.com. As part of this presentation, the Company will be reiterating but not updating previously issued financial guidance for the second quarter of fiscal 2012. The second quarter guidance was originally communicated in the Company's first quarter earnings call on May 3, 2012 and was also reiterated in a press release on May 24, 2012, which is attached as Exhibit 99.1 to this Current Report on Form 8-K and incorporated by reference herein.

The information in this report shall not be deemed "filed" for any purpose, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, regardless of any general incorporation language in any such filing. This report will not be deemed an admission as to the materiality of any information in the report that is provided in connection with Regulation FD.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release dated May 24, 2012. Filed herewith.

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: May 29, 2012

Axcelis Technologies, Inc.

By: /s/ JAY ZAGER
Jay Zager
Executive Vice President
and Chief Financial Officer

**AXCELIS TECHNOLOGIES, INC. REITERATES Q2 2012 GUIDANCE**

BEVERLY, Mass., May 24, 2012 — Axcelis Technologies, Inc. (Nasdaq: ACLS) reiterated its expectations for the second quarter of 2012, originally communicated in the Company's first quarter earnings call on May 3, 2012. Axcelis expects financial results for the quarter ending June 30, 2012 to include:

- Revenue: \$60-70 million
- Gross Margins: Decline of 5-6 points from Q1 2012 level of 37.3%
- Operating Expenses: \$25 million, excluding restructuring charges
- Operating Loss: (\$4 — 6) million
- EPS: (\$0.04-0.06)
- Cash and Cash Equivalents: Flat to slightly down from Q1 2012 level of \$37.2 million

The Company also announced it will be attending the Craig-Hallum 9th Annual Institutional Investor Conference on May 30, 2012 in Minneapolis, Minnesota, and the Needham & Company Semiconductor Equipment Bus Tour on June 5, 2012 in Chelmsford, Massachusetts.

Axcelis Technologies, Inc. (Nasdaq: ACLS), headquartered in Beverly, Massachusetts, provides innovative, high-productivity solutions for the semiconductor industry. Axcelis is dedicated to developing enabling process applications through the design, manufacture and complete life cycle support of ion implantation and cleaning systems. For more information, visit the company's website at: www.axcelis.com.

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