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UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM SD

Specialized Disclosure Report

AXCELIS TECHNOLOGIES, INC.

(Exact name of registrant as specified in its charter)

Delaware, USA(State or other jurisdiction of incorporation or organization)

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)

Lynnette C. Fallon, Executive Vice President and General Counsel, 978-787-4120

(Name and telephone number, including area code, of the person to contact in connection with this report.)

Check the appropriate box to indicate the rule pursuant to which this form is being filed, and provide the period to which the information in this form applies:

x Rule 13p-1 under the Securities Exchange Act (17 CFR 240.13p-1) for the reporting period from January 1 to December 31, 2013.

Section 1 - Conflict Minerals Disclosure

Item 1.01 Conflict Minerals Disclosure and Report

a) Conflict Minerals in Products.

Conflict minerals, as defined in Item 1.01 of Form SD, are necessary to the functionality or production of products manufactured by Axcelis Technologies, Inc. ("Axcelis," or the "Company") or contracted by the Company to be manufactured (the "Company's Products") as defined in Rule 13p-1 under the Securities Exchange Act of 1934, as amended (the "Rule") and for which manufacturing was completed in the period from January 1, 2013 to December 31, 2013. Accordingly, we are filing this Form SD for the calendar year covered by this report, as required by the Rule.

b) Implementation and Results of our Reasonable Country of Origin Inquiry.

The Company has conducted in good faith a reasonable country of origin inquiry ("RCOI") that was reasonably designed to determine whether any of the conflict minerals in the Company's Products originated in the Democratic Republic of the Congo or an adjoining country or are from recycled or scrap sources. To implement our RCOI, we:

- 1. Beginning in 2012, communicated the Company's sourcing policy and commitments to our suppliers;
- 2. Beginning in 2013, educated our suppliers about the conflict minerals reporting obligation;
- 3. Beginning on February 18, 2014, requested information from our material suppliers using an on-line survey regarding the mineral content of the parts they sell us, their knowledge on the source of any conflict minerals, including whether the conflict minerals come from recycled or scrap sources (the "Survey"); and
- 4. Collected information from suppliers who responded to the Survey (including follow-up by email and/or phone) until April 30, 2014.

The Survey was sent to 810 suppliers of material included in the Company's Products. We solicited larger non-responding suppliers a second time during the 10 week Survey period. We received responses to the Survey from 236 different supplier locations. Another 100 suppliers did not respond to the Survey, *per se*, but sent us other responses, which included emails, letters, copies of applicable policies, and completed Electronics Industry Citizenship Coalition Conflict Mineral Reporting Templates. All of these responses were reviewed and categorized. At the conclusion of this process, we had responses from suppliers of parts or components included in Products representing 90.2% of the total dollars spent on materials for the Company's Products in 2013.

- (A) the conflict minerals in the Company's Products did not originate in the Democratic Republic of the Congo or an adjoining country, or came from recycled or scrap sources, or
- (B) the supplier had no reason to believe that the conflict minerals in the Company's Products may have originated in the Democratic Republic of the Congo or an adjoining country.
- (c) Due Diligence on Specific Conflict Mineral Sources. Five (5) responding suppliers (1.5% of all responding suppliers) indicated that they knew or had reason to believe that a conflict mineral (other than gold) incorporated in one or more of the Company's Products originated in the Democratic Republic of the Congo or an adjoining country, and did not come from recycled or scrap sources. Accordingly, we have exercised due diligence on the source and chain of custody of these conflict minerals that conforms to the Supplement on Tin, Tantalum and Tungsten included in the Organisation for Economic Co-operation and Development ("OECD") framework: OECD (2013), OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas: Second Edition. The Company has filed a Conflict Minerals Report with respect to these conflict minerals.

This Form SD and the Conflict Minerals Report have been disclosed on our publicly available Internet website, axcelis.com, under a heading entitled "Conflict Minerals Disclosure" which is linked here: http://www.axcelis.com/about-us/conflict-minerals-disclosure

Item 1.02. Exhibit

In accordance with Rule 13p-1 under the Securities Exchange Act of 1934, Axcelis is filing as an exhibit to this Form SD, the Conflict Minerals Report required by Item 1.01.

Section 2 — Exhibits

Item 2.01 Exhibits

The following exhibit is filed as part of this Report

Exhibit 1.02 — Conflict Minerals Report as required by Items 1.01 and 1.02 of this Form.

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SIGNATURES

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 duly authorized undersigned.

AXCELIS TECHNOLOGIES, INC. (Registrant)

/s/ Lynnette C. Fallon May 28, 2014

By Lynnette C. Fallon, Executive Vice President, HR/Legal and General Counsel

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(Date)

Axcelis Technologies, Inc. Conflict Minerals Report

Products for which manufacturing was completed during

the year ended December 31, 2013

This conflict minerals report is filed as an exhibit to Form SD filed by Axcelis Technologies, Inc. (the "Company"). As noted in the Form SD, five suppliers that responded to the Company's reasonable country of origin inquiry survey (representing 1.5% of all responding suppliers) indicated that they knew or had reason to believe that a conflict mineral (other than gold) incorporated in one or more of the Company's Products (as defined below) originated in the Democratic Republic of the Congo or an adjoining country, and did not come from recycled or scrap sources.

Due Diligence

Axcelis has exercised due diligence on the source and chain of custody of certain tin, tantalum and tungsten necessary to the functionality or production of the products described below that were manufactured, either by the Company under contract to the Company (the "Company's Products"), as defined in Rule 13p-1 under the Securities Exchange Act of 1934, as amended (the "Rule") during the period from January 1, 2013 to December 31, 2013. The Company's due diligence conformed to the Supplement on Tin, Tantalum and Tungsten to the Five-Step Framework for Risk-Based Due Diligence in the Mineral Supply Chain included in the Organisation for Economic Co-operation and Development ("OECD") *Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*, Second Edition.

The OECD defines due diligence as an on-going, proactive and reactive process through which companies can ensure that they respect human rights and do not contribute to conflict. We have taken the following actions as part of our due diligence:

Sourcing Policy. We adopted a conflict-free sourcing policy in 2012, and posted it on our internet supplier portal. We have also communicated directly with suppliers regarding the content of the policy, which provides:

Axcelis expects its suppliers to only source materials from environmentally and socially responsible sources. Specifically, Axcelis will not support any vendor or other entity in its supply chain that extracts or transports minerals (including Tin, Tantalum, Tungsten or Gold) and uses the resulting financial or other resources to fund or otherwise fuel conflict in the Democratic Republic of the Congo, or any other country. Axcelis takes seriously the allegations that some metals mined or transported by such companies may be making their way into the general industry supply chain and that profits from these businesses could potentially contribute to human rights violations.

Axcelis supports the development of independently verifiable supply chain transactions, when available and credible, to ensure materials are supplied from environmentally and socially responsible sources. Axcelis is committed to building on existing systems and practices to ensure that our suppliers comply with these expectations. Axcelis expects its vendors to comply with this policy.

Conflict Mineral Team. Beginning in 2013, the Company formed a team comprised of representatives from our Supply Chain management, Environmental, Health and Safety management and our General Counsel to focus on conflict minerals.

Risk Identification and Assessment. The Conflict Mineral team reviewed the Rule, the adopting release associated with the Rule and the Commission's FAQ. We educated ourselves regarding our industry groups' efforts to address due diligence, including the Conflict Minerals Reporting Template published by the Electronics Industry Citizenship Coalition ("EICC") and the conflict-free sourcing initiative and Conflict-Free Smelter Program established by the EICC and Global e-Sustainability Initiative. (1) The Conflict Mineral team then developed a reasonable country of origin inquiry Survey, as described in our Form SD, which allowed us to identify vendors for whom there was a risk of sourcing from the Democratic Republic of Congo or an adjoining country. We engaged in further communication with, and evaluation of, suppliers who were identified as risks through the Survey, including review of documents submitted to us, such as vendor sourcing policies, EICC Conflict Mineral Reporting Templates and other material.

Independent Private Sector Audit

The Company did not obtain an independent private sector audit of this Conflict Minerals Report as required by Item 1.01(c)(1)(ii) of Form SD promulgated under the Rule since this report falls within the temporary period specified in Instruction 2 to Item 1.01 of Form SD, in accordance with Item 1.01(c)(1)(iv) of Form SD.

Risk Mitigation Steps

During the reporting period for the calendar year ending December 31, 2014, we are continuing to engage in the activities described above in "Due Diligence." In addition, in our efforts to attain a conflict-free supply chain for our products, we intend to continue to contact our suppliers to encourage them and the smelters/refiners in our supply chain to participate in the conflict free certification program developed under the Conflict-Free Smelter Program of the EICC and the Global e-Sustainability Initiative.

⁽¹⁾ The Company, as a smaller semiconductor equipment manufacturing company, is relying on the EICC and other electronics industry groups, as contemplated by the OECD *Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*, Second Edition. Specifically, the Company notes the following observation in Section C5 of the Supplement on Tin, Tantalum and Tungsten to the OECD's Five-Step Framework for Risk-Based Due Diligence in the Mineral Supply Chain:

[&]quot;Companies which, due to their size or other factors, may find it difficult to identify actors upstream from their direct suppliers may engage and actively cooperate with industry members with whom they share suppliers or downstream companies with whom they have a business relationship to identify which smelters are in the supply chain."

With respect to those of the Company's Products on which the Company exercised due diligence, the following table provides a description of the Company's Products, the facilities used to process the necessary conflict minerals in those products, if known, the country of origin of the necessary conflict minerals, if known and the efforts to determine the mine or location of origin of those products.

| Description of Product Subject to Due Diligence | Facilities Used to Process the Conflict Minerals in the Product | Country of Origin of the Conflict Minerals | Efforts to Determine the Mine or Location of Origin |
|--|--|---|---|
| Tantalum components or parts for semiconductor processing ion implantation equipment sold by the Company purchased from one vendor, AVX Corporation | The vendor represented that all of the tantalum sourced by this vendor from the Democratic Republic of the Congo and adjoining countries was processed through the Solutions for Hope Project, founded by Motorola Solutions Inc. and AVX Corporation. According to their website, the Solutions for Hope Project uses F&X Electro-Materials Limited and Global Advanced Metals as smelters, which are on the Conflict Free Smelter List published by the CFSI (conflict-free sourcing initiative), formed by the EICC and the Global e-Sustainability Initiative. | Unknown | Receipt of completed EICC Conflict Mineral Reporting Template. |
| Tungsten, tin and tantalum components or parts for semiconductor processing ion implantation equipment sold by the Company purchased from four vendors | Unknown | Unknown | Extensive communication with the vendors, including, a commitment by the vendors to engage in further due diligence to identify the source of the conflict minerals. The Company will continue to work with these vendors to determine the mine or location of origin or to ensure a Conflict Free Smelter is utilized. |
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