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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:

Rule 13p-1 under the Securities Exchange Act (17 CFR 240.13p-1) for the reporting period from January 1 to December 31, 2017.

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, 2017 to December 31, 2017. 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:

1. Beginning in 2012, we communicated the Company’s sourcing policy and commitments to our suppliers;
2. Beginning in 2013, we educated our suppliers about the conflict minerals reporting obligation;
3. Each year since 2014, we have annually conducted a RCOI and related due diligence pertaining to the prior calendar year;
4. Specifically for the RCOI for the calendar year 2017, we began with our request for information from our 2017 material suppliers on February 27, 2018, 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”); this collection continued until May 18, 2018 (including follow-up by email and/or phone).

The Survey was sent to 810 suppliers of material included in the Company’s Products. We received responses to the Survey and other responses from 327 different supplier locations. Responses included emails, letters, copies of applicable policies, and completed Conflict Mineral Reporting Templates published by the Responsible Minerals Initiative of the Responsible Business Alliance (formerly known as the Conflict-Free Sourcing Initiative of the Electronic Industry Citizenship Coalition). 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 80.13% of the total dollars spent on materials for the Company’s Products in 2017.

As of May 18, 2018, 249 of the supplier responses (76.1% of all supplier responses) asserted that either:

- (A) no conflict minerals were present in the materials sold to the Company by the supplier; or
- (B) the conflict minerals in the materials sold to the Company by the supplier did not originate in the Democratic Republic of the Congo or an adjoining country; or
- (C) the conflict minerals in the materials sold to the Company came from recycled or scrap sources; or
- (D) the supplier had no reason to believe that the conflict minerals in the materials sold to the Company by the supplier may have originated in the Democratic Republic of the Congo or an adjoining country.

Also as of May 18, 2018, 24 of the responding suppliers had not provided sufficient clarity to determine whether they could be placed in the above categories or not, despite our efforts to obtain clear information. Four responding suppliers reported no sales in 2017.

(c) Due Diligence on Specific Conflict Mineral Sources. Fifty (50) responding suppliers (15.3% of all responding suppliers) indicated that (1) one or more conflict mineral was incorporated in the materials sold to the Company and (2) they knew or had reason to believe such conflict minerals 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 and the Supplement on Gold 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](http://www.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 1.01 — Conflict Minerals Report as required by Items 1.01 and 1.02 of this Form.

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

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

May 23, 2018

(Date)

**Axcelis Technologies, Inc. Conflict Minerals Report
Products for which manufacturing was completed during
the year ended December 31, 2017**

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, 50 suppliers that responded to the Company’s reasonable country of origin inquiry survey (representing 15.3% of all supplier responses) indicated that they knew or had reason to believe that a conflict mineral 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 gold, 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, 2017 to December 31, 2017. The Company’s due diligence conformed to the Supplement on Tin, Tantalum and Tungsten and the Supplement on Gold 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 Responsible Minerals Initiative ("RMI"), which was founded in 2008 by the Responsible Business Alliance (formerly known as the Electronics Industry Citizenship Coalition) and the Global e-Sustainability Initiative. The RMI (formerly known as the Conflict-Free Sourcing Initiative), publishes a Conflict Minerals Reporting Template and manages a Responsible Minerals Assurance Process, which is an independent, third-party audit that determines which smelters and refiners can be verified as having systems in place to responsibly source minerals in line with current global standards.⁽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, RMI Conflict Mineral Reporting Templates and other material.

Independent Private Sector Audit

The Company did not obtain an independent private sector audit (an "IPSA") of this Conflict Minerals Report as required by Item 1.01 (c)(1)(ii) of Form SD promulgated under the Rule in reliance on the statement of the Staff of the Securities and Exchange Commission issued April 29, 2014. That statement provided that an IPSA will not be required unless a company voluntarily elects to describe a product as "DRC conflict free" in its Conflict Mineral Report. Since we are not describing our products as "DRC conflict free," we have not obtained an IPSA.

Risk Mitigation Steps

During the reporting period for the calendar year ending December 31, 2018, 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 Responsible Minerals Assurance Process of the RMI and the Global e-Sustainability Initiative.

Description of Products

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.

(1) The Company, as a smaller semiconductor equipment manufacturing company, is relying on the RMI 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: "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."

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
Components or parts for semiconductor processing ion implantation equipment sold by the Company covered by 13 supplier responses.	These vendors represented that all of the conflict minerals sourced from the Democratic Republic of the Congo and adjoining countries were from RMAP Conformant Smelters and Refiners(2) or iTSCI sources.(3)	Unknown	Receipt of completed RMI Conflict Mineral Reporting Template.
Components or parts for semiconductor processing ion implantation equipment sold by the Company purchased from 37 vendors	These vendors represented that some or all of the conflict minerals sourced from the Democratic Republic of the Congo and adjoining countries were not from RMAP Conformant Smelters and Refiners or iTSCI sources.	Unknown	On-going communication with the vendors, including a reminder of the Company's sourcing policy and a request that the vendor work to ensure that all smelters/refiners used are RMAP Conformant or iTSCI sources. The Company will ask the vendor to confirm when they are using RMAP Conformant smelters or iTSCI sources, and will from time to time consider a different source of the components or parts if the vendor has not provided such confirmation.

(2) RMAP Conformant Smelters and Refiners are smelters and refiners which are conformant with the Responsible Minerals Assurance Process assessment protocols published by the RMI. These protocols are used to determine which smelters and refiners can be verified as having systems in place to responsibly source minerals in line with current global standards.

(3) iTSCI sources are sources for tin which are certified as conflict free by ITRI, the global tin industry association.