

EAST ROCKHILL TOWNSHIP BOARD OF SUPERVISORS

1622 N. RIDGE ROAD, PERKASIE, PA 18944
PHONE (215)257-9156 FAX (215)-257-1299
www.EastRockhillTownship.org

December 23, 2019

Michael Kutney, P.G. (via email)
Chief, Permits & Technical Section
Commonwealth of Pennsylvania
Department of Environmental Protection
Pottsville District Mining Office
5 West Laurel Boulevard
Pottsville, PA 17901

Subject: Rockhill Quarry (Pierson Materials/Hanson Aggregates)
Qualitative Geologic Survey Report, dated November 15, 2019
East Rockhill Township
File No. 11-225

Dear Mr. Kutney:

On behalf of East Rockhill Township (the "Township"), this office and other Township consultants have reviewed the Qualitative Geologic Survey Report ("QGSR") for the Rock Hill Quarry (the "Site"), submitted by Hanson Aggregates Pennsylvania, LLC ("Hanson"), dated November 15, 2019, as well as a letter prepared by Hanson's consultant RJ Lee Group, dated November 25, 2019. Please accept the following comments on these two submissions.

I. Insufficient Characterization of the Site

The data and conclusions presented in the QGSR are based on a deficient characterization of the Site, and therefore cannot be used as a basis on which to assess the risk from exposure to naturally-occurring asbestos ("NOA"). The deficient characterization of the Site, particularly in the areas planned for blasting, has been the subject of numerous and repeated comments from the Pennsylvania Department of Environmental Protection ("PADEP"), the Township, and other concerned parties. The Township, in particular, submitted comments on the Qualitative Geologic Survey Sampling Plan ("QGSSP") on April 17, 2019 and April 30, 2019, explaining that the QGSSP is inadequate to delineate the presence of asbestos at the Site. Hanson and its consultants (collectively, "Hanson") have chosen to ignore these comments outright, or have attempted to circumvent them by submitting insufficient information to PADEP.

The rock corings performed in the two target benches did not intercept most of the known mineral veins present in that area, and as such, no sample analysis or mineralogical descriptions of those veins were ever provided. This concern was first identified by PADEP in its April 12, 2019 comments and by the Township in its April 17, 2019 comments on the QGSSP. In a discussion on April 19, 2019 and in an April 22, 2019 email, PADEP stated that this concern had not been adequately addressed and instructed Hanson to address the Township's comments. In its April 25, 2019 response, Hanson stated that the cores would be drilled to intercept as many potential veins as practical, and if the results indicate the presence of NOA-containing veins, additional sampling may be proposed. However, the boring location plan submitted as part of Hanson's response showed that many of the veins known to be present from the bench face-mapping and suspected to contain NOA were never intended to be intercepted by any corings. Furthermore, coring B-2 was intentionally located to avoid intercepting any known veins. The Township identified this insufficient characterization to PADEP in letters dated April 17, 2019, April 30, 2019, and September 11, 2019, and requested that additional corings be proposed and samples of the veins be collected from the bench faces. By intentionally avoiding these known features suspected to contain NOA, Hanson has biased the results of the site characterization away from identifying NOA.

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The results of this intentional bias are now apparent in the QGSR and other representations that Hanson has made to PADEP. In an October 3, 2019 letter, Hanson stated that the Township's request for additional characterization is based on faulty data generated by PADEP's contract laboratory, which is false. The Township's request was based on figures and information developed by Hanson itself, prior to the generation of any laboratory data. Hanson's letter went on to state that, based on the drill core data, the amphibole veins in the deposit represent approximately 0.4% of the possible rock to be quarried. Of course, if the drill cores were placed to avoid intercepting the known mineral veins, this figure is biased low. Sections 2.4 and 4.3 of the QGSR state that the core location and drilling angles were selected to maximize encountering as many mineral veins as possible, which is false, for the reasons explained above. The conclusions of the QGSR incorrectly state that sampling at the Site was biased towards NOA detection, but, to the contrary, the rock coring and subsequent vein sampling were biased away from NOA detection. The conclusions go on to represent the calculated average asbestos content of the rock as an overestimate. Notwithstanding the analytical deficiencies addressed below, Hanson's repeated and intentional failure to address PADEP's and the Township's concerns regarding the number and spacing of the rock corings demonstrate that the estimate of the NOA present in the area planned for blasting and mining is underestimated and should not be used for risk-based decisions.

II. Analytical Deficiencies

The data and conclusions presented in the QGSR are based on an inappropriate definition of "asbestiform" and inappropriate analytical methodology, and therefore cannot be used as a basis on which to assess the risk from exposure to NOA. The inappropriate definition and analytical methods that Hanson continues to rely upon have been the subject of numerous and repeated comments from the Township and others, including the U.S. Environmental Protection Agency ("EPA"). Despite being made aware of these issues, Hanson has chosen to ignore these comments outright, or has attempted to circumvent them by submitting inaccurate or irrelevant information to DEP, most recently in its November 25, 2019 letter.

On September 20, 2019, the Department issued a letter to Hanson requesting that Hanson: (1) conduct transmission electron microscopy ("TEM") using EPA Method 600/R-93/116 (or equivalent) analysis for asbestos on all rock samples collected at the Site; (2) prepare suitable samples for petrographic analysis; (3) resample at all the water sampling locations using EPA Method 100.1; and (4) by October 7, 2019, provide the sample locations (boulder, core and aggregate) for all rock samples. To our knowledge, Hanson has still not responded to items 1-3 listed above. On October 30, 2019, the Township sent a letter to the Department requesting that the Department follow up on these requests. The Township reiterates its request for Hanson to be required to respond, in full, to the Department's letter of September 20, 2019.

Hanson continues to rely on an overly narrow definition of 'asbestiform' that is contained in EPA/600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Obviously, the material at issue is not a Bulk Building Material, and this is not the appropriate analytical method to use or to reference in this case. The definition that Hanson wishes to use would exclude any fibers less than 5 µm in length, regardless of aspect ratio, and any longer fibers with an aspect ratio lower than 20:1. However, Hanson fails to acknowledge that the same definition they wish to rely upon also contains the language, "Some asbestiform minerals may lack the properties which make asbestos commercially valuable, such as long fiber length and high tensile strength," which indicates that there are asbestiform minerals with a shorter fiber length and lower aspect ratio which are not regularly incorporated into bulk building materials. This does not mean that these minerals are not hazardous or that PADEP has no authority to regulate them. It only means that the EPA/600/R-93/116 method was designed as a more efficient means of screening bulk building materials for asbestos content, to determine whether proper disposal and OSHA abatement standards apply. As PADEP is aware, and as described in the Township's October 30, 2019 letter, EPA specifically rejected Hanson's previous attempt to rely on this definition for analysis of NOA as "inappropriate and contradictory."

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Hanson's November 25, 2019 letter claims that EPA provided no regulatory definition of "asbestiform," which is false. The two methods found in Appendix A to 40 CFR Part 763 (which regulation Hanson has specifically referenced in their letter) both contain a definition of asbestiform that is much broader than the one for which Hanson is advocating. Notably, each of these promulgated methods rely on TEM, which is more sensitive but takes longer than Polarized Light Microscopy ("PLM"). The promulgated TEM methods contain the following definitions:

- Asbestiform—A specific type of mineral fibrosity in which the fibers and fibrils possess high tensile strength and flexibility.
- Aspect ratio—A ratio of the length to the width of a particle. Minimum aspect ratio as defined by this method is equal to or greater than 5:1.
- Fiber—A structure greater than or equal to 0.5 μm in length with an aspect ratio (length to width) of 5:1 or greater and having substantially parallel sides.

Additionally, Hanson's water samples were analyzed via EPA methods 100.1 and 100.2, which each define a minimum aspect ratio of 3:1. Method 100.2 is designed to only detect asbestos structures over 10 μm in length. Method 100.1 is designed to detect all asbestos fibers, and notes that asbestos fibers range in length from 0.1 μm to over 20 μm . However, Hanson used a modified version of this method to only detect fibers greater than 5 μm in length (for reasons that remain unknown), while still using a minimum aspect ratio of 3:1. Although Hanson has used these methods in characterizing the Site, and apparently requested a modification of method 100.1 to further reduce asbestiform detections, they failed to reference these promulgated definitions in their November 25, 2019 letter.

Although Hanson's consultant, RJ Lee Group, has been aware since 2006 that the EPA/600/R-93/116 definition of "asbestiform" is inappropriate and contradictory in the context of characterizing NOA, and although Hanson references several other analytical methods and regulations that do contain more appropriate definitions and more sensitive analytical techniques, it has failed to disclose these facts to PADEP in further effort to bias the results of the Site characterization away from the detection of NOA. The large difference between Hanson's and PADEP's split sample results clearly demonstrate that the analytical technique and the morphological definition of asbestiform can have a dramatic effect on the reported results. The regulations and experts in this field, including those at EPA, have repeatedly demonstrated that using TEM in conjunction with a broader definition of asbestiform is appropriate when assessing the presence of NOA to inform risk-based decisions. Hanson's continued reliance on a restricted and inappropriate definition of "asbestiform" further renders the data and conclusions contained in the QGSR unrepresentative of site conditions and inappropriate for purposes of assessing health risks and evaluating emissions control practices.

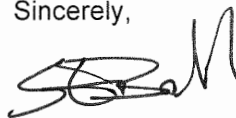
III. Conclusion

Throughout its correspondence with PADEP, Hanson has intentionally avoided providing complete and accurate information as part of a concerted effort to bias the results of the QGSR away from the detection of NOA and to further obfuscate any meaningful discussion of these issues. Because of the inherent bias present from the initial site characterization and continuing through the laboratory analysis of samples, the data and conclusions presented in the QGSR cannot be relied upon by PADEP or others to make important decisions regarding health risks associated with the Site. Until these overarching issues are resolved, any such decisions rendered with respect to risks presented by NOA at the Site would be premature and irresponsible.

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If you have any questions, do not hesitate to contact me.

Sincerely,



Steven Baluh, P.E.
Township Engineer
C. Robert Wynn Associates, Inc.
(215) 536-7336 – Office

SB/mew

cc: Marianne Morano, Township Manager (via email)
Patrick M. Armstrong Esq. (via email)
Louis Vittorio (via email)
Thomas Duncan (via email)
Suzanne Schiller (via email)
William Hitchcock (via email)
Michael Kutney PADEP (via email)
Gary Latsha, PADEP (via email)
Amiee Bollinger PADEP (via email)
James Rebarchak, PADEP (via email)
Richard Tallman PADEP (via email)
Virginia Cain, PADEP (via email)
Robert Fogel, PADEP (via email)
Daniel Sammarco, PADEP (via email)
John Stefanko, PADEP (via email)
Sachin Shankar, PADEP (via email)
Craig Lambeth, PADEP (via email)
Erika Furlong, PADEP (via email)
Andrew Gutshall, Lehigh Hanson (via email)
Matthew Burns, Lehigh Hanson (via email)
Curt Mitchell, Pierson Materials (via email)
Mark Kendrick, Pierson Materials (via email)
Mike Logan, CPS (via email)
Kelly Bailey, (via email)
David Raphael (via email)