



SPECIALTY GRANULES LLC

13424 Pennsylvania Ave, Suite 303 // Hagerstown, MD 21742 // Tel: 301-733-4000 // Fax: 301-733-4003 www.specialtygranules.com

December 11, 2019

Chadwick Paronish, P.G.
Licensed Professional Geologist
Bureau of District Mining Operations
Pennsylvania Department of Environmental Protection
Cambria District Mining Office
286 Industrial Park
Ebensburg, PA 15931-4119

RE: Response to Technical Deficiency Letter
Specialty Granules, LLC, Northern Tract Quarry
Permit No. PA0279617
Hamiltonban Township, Adams County, Pennsylvania

Dear Mr. Paronish:

We are writing in response to the Department's letter dated September 20, 2019. The information requests stated in the Department's letter are set out below (in italics), followed by our responses.

1. *The Northern Tract Core Samples Report (Appendix 7.1) analytical data submitted on November 12, 2018 appears to have been generated using only a polarized light microscopy (PLM) method to evaluate the extent and quantity of naturally occurring asbestos (NOA). It does not appear that the samples were also analyzed using a transmission electron microscopy (TEM) method. Unless DEP is incorrect about the existence of analytical data using TEM, please elaborate on the methods used to evaluate the extent and quantity of NOA. If the November 12, 2018 Report did not utilize TEM, and no additional NOA data exists that was analyzed using TEM, DEP recommends using the following procedures and requests that SGI either perform these or respond to the recommended procedures:*

RESPONSE:

SGI believes that the PLM analytical method previously employed to evaluate the core samples was appropriate. Use of the method for this purpose is explained in the Explanation of Analytical Methods for Asbestos Analyses Associated with Sampling from Specialty Granules LLC's Charmian Quarry by R J Lee Group dated November 27, 2019 (**Attachment A**). Nevertheless, SGI intends to re-analyze the core samples using TEM and PLM, pursuant to the protocol provided to the Department via email dated October 15, 2019 (**Attachment B**), which the Department approved by letter dated December 4, 2019.

- a. *Perform additional NOA site characterization activities demonstrating that the procedures are adequate to fully delineate and evaluate the potential for incurring NOA as a result of proposed mining activities at the Northern Tract Quarry.*

RESPONSE:

SGI intends to perform the additional core sample analyses described in the October 15, 2019 email to the Department (**Attachment B**), which the Department approved by letter dated December 4, 2019. The results of those analyses will be provided to the Department upon completion.

- b. *Provide a comprehensive mapping and survey of all lithographic or structural units that potentially contain NOA, including veining and other relevant geological features at the proposed mining activities at the Northern Tract quarry.*

RESPONSE:

It is not feasible to provide comprehensive mapping and survey of all lithographical or structural units that potentially contain NOA at the Northern Tract Quarry. From a lithological (rock type) perspective, given the geologic consistency seen in the 17 core holes and from mining in the same formation for the past 50+ years, additional lithological units different from those currently identified are not anticipated. The likely presence of NOA would not be expected from changes in lithology. Although a larger structural overprint (fractures, foliations, etc.) exists at the Northern Tract, it is not connective. The extent of NOA is most often proportional to the connectivity of rock structures. The lack of structural connectivity at the Northern Tract precludes the association with and the distribution of potential NOA across the larger structural footprint of the Northern Tract. Consequently, the presence of NOA likely would be associated only with isolated micro-structures (veinlets, asymmetric lenses) and often in the presence of localized alteration mineralogy. Given that these infrequent micro-structures can be very limited in their vertical and horizontal extent, they cannot readily be identified by site exploration and mapping efforts. Consequently, SGI has adopted its Suspect Minerals Identification and Management Protocol (Appendix 7.1 to SGI's First Response) to provide for identification, segregation and avoidance of materials that potentially contain NOA. Utilization of this Protocol allows SGI to observe the ongoing geology of the operating face within the quarry, which is a more effective tool for identifying possible NOA than up-front site exploration and mapping. This process also allows SGI to identify more readily and respond more quickly to any NOA condition of concern.

- c. *Please demonstrate that, in addition to all 17 core holes and all 50-foot lift intervals, all zones of geologic or structural variability are represented in the sample collection methods.*

RESPONSE:

The 17 core holes were intended to cover the horizontal extent of the proposed Northern Tract Quarry footprint as uniformly as possible while maintaining both safe access and working conditions. Drilling depths reflected an anticipated conceptual mine plan and mining depth with selected holes advancing to the full depth of the planned quarry.

Anticipated structural features and geologic composition were assessed from published reports and, more importantly, the experience of operating two quarries (West Ridge Quarry and current Pitts Quarry) within the same rock formation and proximal to the Northern Tract Quarry for over the past 50 years.

The rock cores were logged/sampled by a qualified Geologist familiar with the geology of the Catoclin Rock Formation. This formation hosts the Northern Tract as well as the other two SGI quarries mentioned above.

The core logging noted rock type, matrix textures, primary and secondary alteration mineralization (matrix replacement and cross-cutting mineralogy) as well as structural features (foliations, fractures, etc.). Core sampling occurred on a consistent interval of a one foot section of core taken for every five feet of running core within each 50 foot lift. The sampling interval was intended to capture an overall representative understanding of the geologic and structural variations of the rock formation.

- d. *Prepare the samples for analysis using a preparation method that does not excessively pulverize the sample. Please provide a specific analysis of and justification for the selected pulverization method proposed for the Northern Tract Quarry.*

RESPONSE:

SGI intends to perform the additional core sample analyses in accordance with the methods described in the October 15, 2019 email to the Department (**Attachment B**), which the Department approved by letter dated December 4, 2019.

- e. *Please evaluate the suitability of the following methods to characterize the presence of NOA: PLM, utilizing the California Air Resources Board (CARB) 435 method; TEM, utilizing the EPA 600/R-93/1 I 6 and CARB-modified bulk TEM protocol modified for NOA analysis; and the applicability of multiincrement sampling; as well as any other methods SGI proposes. Please evaluate the suitability of the above referenced procedures for analysis of all 40 existing sampling locations, as well as any additional sampling locations that may be necessary, or propose a plan for the application of the above referenced procedures on a number of samples deemed satisfactory to adequately characterize the presence of NOA at the Northern Tract Quarry. Please provide all arguments and supporting documentation to advance the proposed methodology. The*

proposal must be approved by the Department in writing prior to implementation. If previous SGI submissions addressed this issue, please refine the previous response.

RESPONSE:

SGI intends to perform the additional core sample analyses in accordance with the methods described in the October 15, 2019 email to the Department (**Attachment B**), which the Department approved by letter dated December 4, 2019.

The Explanation of Analytical Methods for Asbestos Analyses Associated with Sampling from Specialty Granules LLC's Charmian Quarry by R J Lee Group dated November 27, 2019 (**Attachment A**) includes an explanation of the various analytical procedures.

- f. *Submit the resulting NOA data in a format that clearly identifies the locations of the samples.*

RESPONSE:

The results of the 2017 core sample analyses are provided (**Attachment C**). A multi-page map showing the locations of core sampling also is provided (**Appendix D**). The 2019 analyses of core samples will be provided when complete.

With respect to sample location, Sheet 1 of the sample location map (**Appendix D**) shows a plan view of the drill hole locations while Sheets 2, 3 and 4 show cross-sectional views of the drill holes. As shown on Sheets 2, 3 and 4, each 50-foot section of drill hole from which samples were collected has a unique sample number. Those same sample numbers appear on the R J Lee Laboratory Report under the column entitled, "Client Sample Number."

2. *Please provide the chain of custody, and any additional information necessary, to identify the locations of the samples collected for the Northern Tract Core Samples Report.*

RESPONSE:

Documentation of the chain of custody relating to the 2017 core sample analyses is included in **Attachment C**. The chain of custody for the 2019 core sample analyses will be provided when that work is complete.

3. *Please address whether SGI will propose a program for NOA testing of settled dust due to truck traffic and other quarry operations, and what the extent of that program will be.*

RESPONSE:

SGI proposes to monitor outdoor air for asbestos in accordance with the attached Asbestos Air Monitoring and Mitigation Plan (**Attachment E**), to be implemented in connection with the Northern Tract permit. The proposed plan provides for perimeter air sampling at upwind and downwind locations twice per month. In the event of a detection above 0.01 fibers/cc, SGI will implement corrective actions as specified in the plan. The proposed perimeter monitoring will capture potential off-site migration of dust and allow SGI to identify more readily and respond more quickly to any condition of concern, as compared to a traditional settled dust program. Passive and active sampling to date has not indicated any material concern relating to asbestos in the outdoor (or indoor) air at the site.

SGI routinely collects air samples in the workplace and analyzes them for asbestos for industrial hygiene purposes. SGI also routinely collects samples from processed material and product and analyzes them for asbestos. And, for purposes of this application, SGI has collected and analyzed samples from surface waters and outdoor ambient air. Based on all of these data, there is no reason to believe dust at the quarry would contain NOA in any quantities presenting any health hazard.

Dust suppression by wetting is used on the haul road to minimize dust generation and the mine implements multiple other dust suppression methods. These measures are sufficient without an additional settled dust monitoring program.

4. *Please address the potential for NOA-containing dust from drill rigs and blasting, including the possible use of water controls, particulate capture systems (hoods, skirts, ducts), and/or particulate filters.*

RESPONSE:

Please refer to the Asbestos Air Monitoring and Mitigation Plan (**Attachment E**). Additionally, the blasting protocol SGI has implemented provides for use of smaller explosive charges thereby minimizing both seismic impact and dust. SGI does not believe that its dust contains asbestos at elevated levels harmful to humans, and all prior sampling has confirmed this conclusion.

5. *Please address the potential for NOA-containing dust on public roadways, including use of water trucks and other methods when icing may be a problem.*

RESPONSE:

There is no indication that any dust at the SGI mine contains NOA at any level harmful to humans. In any event, SGI employs dust suppression methods for public roadways including truck tire washing, paving, and sweeping (see SGI Response to Public Comments, dated November 12, 2018, pp. 44-45 & 67). Please refer, also, to the Asbestos Air Monitoring and Mitigation Plan (**Attachment E**).

6. *Please conduct additional water sampling and analysis for NOA using EPA Method 100.1.*

RESPONSE:

ARM Group, Inc. (ARM) collected additional water samples. The report from ARM dated September 25, 2019 (**Attachment F, Part 2**) shows the sample locations and explains collection methods. The sampling included multiple samples from Miney Branch and Tom's Creek, as well as onsite at Pitts Pond 1. R J Lee Group analyzed the samples using the specified method. The report from ARM dated July 3, 2019 (previously provided to the Department) also is included as **Attachment F, Part 1**, and describes the sample locations and collection methods from the initial water sampling in July.

The analytical results from both rounds of water sampling (included in **Attachment F**) indicate one actinolite fiber in one sample (from Pitts Pond, from the most recent sampling) and no asbestos in any other sample. The concentration of asbestos in the sample from Pitts Pond is 35 times lower than the maximum contaminant level promulgated by EPA for safe drinking water and is not at a level harmful to humans.

- a. *If filtration is being used prior to discharge at Outfall 001 (NPDES permit no. PA0009059), collect samples before and after filtration.*

RESPONSE:

ARM collected additional water samples from the locations shown on the map included in its report (**Attachment F, Part 2**). The water sample for Outfall 001 was collected in a manner that avoided influence by the filtration system. Water discharging from the filter system was not captured in the sample reported for Outfall 001.

- b. *Collect samples upstream and downstream of the discharge on Miney Branch, and upstream of the proposed discharges to Tom's Creek.*

RESPONSE:

ARM collected additional water samples from the locations shown on the map included in its report (**Attachment F, Part 2**). Upstream and downstream locations for Miney Branch and Tom's Creek were included in this sample program.

- c. *Water used for dust suppression of any sort should be monitored for asbestos using EPA Method 100.1, with resampling of water sources at least once per month.*

RESPONSE:

ARM collected additional water samples from the locations shown on the map included in its report (**Attachment F, Part 2**). R J Lee Group analyzed the samples using the specified method. Based on the results, SGI does not believe that ongoing sampling and analysis of water sources for dust suppression is necessary. Pursuant to the Asbestos Air Monitoring and Mitigation Plan (**Attachment E**), SGI will collect air samples twice per month, which will more than adequately address the risk of asbestos fibers in outdoor air at the facility.

7. *Please submit to DEP for review all existing NOA analytical results in the possession of SGI or its consultants for both the Northern Tract proposal and the existing Pitts Quarry.*

RESPONSE:

Attached are the results of analyses for asbestos from the following types of sampling:

- Core sampling (**Attachment C**)

- Industrial hygiene sampling (**Attachment G**)
- Perimeter air sampling (**Attachment H**)
- Water sampling (**Attachment F**)
- Processed material and product sampling (**Attachment I**)

With respect to core sampling, results of the 2017 core sample analyses are provided in **Attachment C**; the results of the 2019 analyses will be provided when complete.

With respect to industrial hygiene sampling, **Attachment G** includes copies of laboratory reports and, to the extent available, related chain of custody documents dating back to 2009. Also included are spreadsheets that summarize the results of industrial hygiene sampling efforts between 1976 and 1993 and a portion of 2009. SGI has been unable to uncover the laboratory reports that support the data results that are summarized in those spreadsheets.

With respect to perimeter air sampling, **Attachment H** includes R J Lee Group's original Perimeter Air Sampling Report dated November 2018 (**Attachment H, Part 1**), as well as a new report dated October 2019 (**Attachment H, Part 2**) which summarizes the results R J Lee Group's second round of perimeter air sampling efforts (see response to item 25 below).

With respect to water sampling, **Attachment F** includes the results of the two rounds of sample, including ARM reports explaining sample locations and methods and R J Lee Group reports of analytical results (see response to item 6 above).

Finally, with respect to processed material and product sampling, **Attachment I** includes copies of laboratory reports and related chain of custody documents that document the results of SGI's periodic, regular sampling efforts dating back to 2011. For ease of review and in order to avoid confusion, we have redacted information in these documents that do not relate to the Charmian facility.¹ As explained in prior submissions to the Department, samples are first analyzed using EPA method EPA/600/R-93/116, a polarized light microscopy (PLM) method. If any amount of possible asbestos is reported by this analysis, then the sample is analyzed by ASTM Method D-5756, a transmission electron microscopy (TEM) method. In the vast majority of samples, initial PLM testing identified no potential asbestos. On only four occasions in the last 8+ years, initial PLM testing identified low levels of possible asbestos. Further, on only one of these occasions—sampling for the second quarter of 2019—did follow-up TEM testing identify the presence of any asbestos in any product or processed material samples. Initial TEM testing for the second quarter of 2019 identified the presence of asbestiform amphibole in four samples. (See R J Lee Group Job No. AOH1055599, report dated November 12, 2019.) Given the unusual nature of these results, SGI requested that R J Lee Group conduct TEM testing on the retained material for these samples. This second round of TEM testing identified the presence of amphibole asbestos in only one sample, in an amount well below any level of concern (0.001% by weight). (See R J Lee Group Job No. ATH1056162-0, report dated November 25, 2019.)

8. *Please update the Appendix 7.2 Suspect Minerals Identification and Management Guide in accordance with the results of the additional NOA site characterization activities and comprehensive mapping and survey noted above.*

RESPONSE:

The results of the additional site characterization activities provided with this letter provide no reason to update the Suspect Minerals Identification and Management Guide. The Guide was updated in 2018 and is current. The Asbestos Monitoring and Mitigation Plan presented herein will be implemented separately.

9. *Please utilize historical data collected from the Pitts Quarry to explain how much NOA has been found since quarry mining began. Please also describe whether this information is predictive of mining in the Northern Tract Quarry.*

RESPONSE:

Based on the Northern Tract geological drill core logs, there is less overall secondary alteration mineralogy observed when compared to the Pitts Quarry. Given that the potential for NOA usually rises with increased secondary alteration mineralogy, we anticipate a lower occurrence of NOA at the Northern Tract.

¹ SGI does not claim the redacted information as confidential. The redacted material simply is not pertinent to the Charmian site and the redactions are intended to avoid confusion. SGI would be pleased to provide the un-redacted documents to the Department upon request.

SGI is not able to quantify the amount of NOA found since Pitts Quarry mining began in 1996, as SGI does not test Pitts Quarry for NOA. Instead, SGI follows its Suspect Materials Protocol which addresses any rock formation possibly containing NOA and takes it out of the process to be safely handled.

To assure safe working conditions SGI conducts routine industrial hygiene air tests for NOA and tests whenever handling suspect material. Review of the last 5 years of industrial hygiene sampling indicates no exceedances of NOA air limits. The Department also has requested additional ambient air and water samples, the results of which have been zero or minute, confirming NOA does not exist in the air or water at any level harmful to humans.

10. *Please specifically evaluate and address in detail the related NOA issues regarding the geologic characterization sampling methodology, sample preparation, and laboratory analysis, including the counting of cleavage fragments, raised by Erskine Environmental Consulting in its June 6, 2019 Review of the Qualitative Geologic Survey Sampling Plan for the Rock Hill Quarry located in East Rockhill Township, Bucks County, PA; and in Erskine Environmental's September 1, 2019 and September 23, 2019 reviews of laboratory reports. Relevant documents may be found on the Department's website under Regional Resources - Southeast Regional - Community Information - Rock Hill Quarry.*

RESPONSE:

Please see the Response to Issues Raised by Erskine Environmental Consulting by R J Lee Group dated December 9, 2019 (**Attachment J**).

11. *Please address the potential for mitigation or elimination of the presence of NOA in any wet dust suppression system, or water used for dust control, such that NOA present in any water source will not be aerosolized during dust-suppression activities.*

RESPONSE:

Recent sampling indicates that there is no NOA in the water supply used for dust suppression at any levels dangerous to humans.

12. *How is the quarry expansion expected to impact the existing air-permitted equipment at the existing Pitts Quarry?*

RESPONSE:

The expansion into the Northern Tract will not have an impact on the existing air-permitted equipment at the Pitts Quarry, or the adjacent West Ridge facility where most of the processing equipment is located. The Northern Tract permit is an expansion for existing operations and will not change production levels.

13. *Please provide any documentation that may be available showing the friable materials that are emitted to the air and their contents.*

RESPONSE:

Please see the industrial hygiene and outdoor air sampling results provided.

14. *Please provide information regarding any regulations related to asbestos or other friable materials, pursuant to which the existing facility has in the past taken any special precautions, obtained any permits or licenses, or had any contacts with any government agencies.*

RESPONSE:

SGI's operations at the Charmian Quarry are regulated by the U.S. Department of Labor, Mine Safety and Health Administration ("MSHA"), including the Safety and Health Standards contained in 30 CFR Part 56, applicable to surface metal and nonmetal mines. SGI maintains a safe workplace by assuring concentrations of asbestos in the employee air are below MSHA standards. The mine does not have any licenses or permits related to asbestos, nor are any required. Nevertheless, the facility conducts routine industrial hygiene air sampling for asbestos, and has implemented a Suspect Material Protocol. In 2019 an MSHA inspector discussed asbestos in the workplace with SGI and took asbestos air samples at the facility. Our understanding is this was related to community contacts with MSHA over the pending Mine Permit Application. Also, in 2019 in relation with the pending Mine Permit Application, the Department requested data on asbestos and conducted discussions with SGI regarding asbestos. SGI has no records of any previous contact with any governmental agency regarding asbestos.

15. *Please provide copies of any studies of which the facility is aware, which may address the existence (or not) of increased public health risks due to asbestos fibers in neighborhoods in the vicinity or metabasalt quarrying operations.*

RESPONSE:

SGI is not aware of any such studies.

16. *Please provide copies of any studies or other information which the facility may possess regarding the potential health risks to employees at similar facilities due to the release of asbestos fibers in the workplace.*

RESPONSE:

SGI does not possess any such studies. In general, SGI is aware that regulatory agencies, including the U.S. Department of Labor, Occupational Safety and Health Administration ("OSHA") and MSHA, have conducted studies of potential health risks to employees from the release of asbestos fibers in a range of workplace settings. These studies, which are numerous, provide the bases for the regulatory programs under which SGI operates in a manner that is protective of employee health.

17. *Please provide information regarding any reports from any current or past employees at the Pitts Quarry that their health has been negatively impacted by exposure to asbestos or silica dust at the facility.*

RESPONSE:

SGI is aware of three former employee reports of alleged negative health impacts from exposure to asbestos or silica dust.

One former employee, who worked for SGI from 1972 until 2011 was diagnosed with lung cancer. In 2018 he initiated a legal action seeking compensation for the development of lung cancer naming SGI as one of numerous defendants. The employee, a smoker, alleged that his exposure to asbestos caused his development of lung cancer. SGI disputed the allegations for multiple reasons. By stipulation of the parties, SGI was dismissed from the action in 2018, without prejudice and without any payment to the former employee.

A second former employee, who worked for SGI from 1995 until 2008, died from lung cancer in 2008. The employee was a smoker and his medical tests showed no signs of silicosis. His next of kin subsequently filed a Worker's Compensation fatal claim petition alleging silica exposure significantly contributed to his lung cancer. SGI disputed the allegations for multiple reasons, including that there was no evidence of silica exposure and no medical evidence that silica causes lung cancer in the absence of silicosis. The claim was ultimately settled for an amount substantially below the demand.

A third former employee, who worked for SGI from 1975 until 2008 was granted long term disability with extended medical coverage. The granting of long-term disability does not require a determination of the cause of the medical condition, only that the worker is disabled for any reason. The employee was diagnosed with asbestosis, pneumoconiosis secondary to dust and silica exposure, and other acute and subacute respiratory conditions that his doctor opined was due to fume and vapor exposure. It was alleged that in the early part of his career the employee worked with a fibrous asbestos product purchased by SGI from a third party vendor for use in maintenance activities, which product is no longer used at the mine.

18. *Please provide information regarding any monetary settlements with any current or past employees with regard to allegations that their health has been negatively impacted by exposure to asbestos or silica dust at the facility.*

RESPONSE:

See the response to item 17 above.

19. *One public commenter alleges that “I know for a fact that in 1975, when mining a company operated under the acronym GAF, at least one employee died from mesothelioma, an asbestos-associated malignancy. And his family was compensated in an out of court settlement for an undisclosed amount of money.” Please respond to this allegation, as well as any relevant details, if true.*

RESPONSE:

SGI has no information regarding the alleged event described.

20. *Has the facility ever been cited or otherwise investigated by EPA, MSHA, or OSHA for any air quality issues, especially related to asbestos or silicates?*

RESPONSE:

Neither EPA nor OSHA has ever cited or (to SGI’s knowledge) investigated the facility for air quality issues.

With respect to MSHA, SGI reviewed on-line citation records since 1996 which showed one citation for air quality issues. In March 2009, a \$100 citation was issued for an alleged silica air sample in the workplace exceeding the permissible exposure limit (“PEL”) but not the PEL times the error factor.

To SGI’s knowledge, the only other investigation by MSHA was conducted in 2019 in response to a community concern regarding asbestos. MSHA’s findings were negative (no asbestos exposure found).

21. *One public commenter asserts that “The employees now have to wear special sealed masks so as not to breathe in any of the air and it is recommended by the company to change clothes and shoes, before leaving.” Please confirm whether or not this is true, and also provide details on any other precautions regarding asbestos or other occupational dust that the facility may require of, or recommend to, its employees.*

RESPONSE:

SGI adheres to all legal requirements and standard industry practices with respect to worker protection. With regard to dust exposure, our machinery is equipped with required dust control devices and procedures are in place to lower worker exposure to dust. There is a respirator policy in place (**Attachment K**) and respirators must be worn during activities that may expose workers to excessive dust or while working in certain areas. Respirators certified for dust exposure are available for all employees, employees are trained on their proper use and they are fit tested. There is no requirement for respirators to be worn to prevent asbestos exposure as there are no levels of asbestos at the facility that would require workers to wear respirators.

22. *One commenter asserts that “The health of the community is threatened by the heavy dust (probably laced with asbestos) and definitely laced with very fine silica, both of which caused a friend’s grandfather to die of Mesothelioma because he worked at the Grit Mill before they required masks.” Please comment on any knowledge or information that the facility may have of this incident.*

RESPONSE:

See the response to item 17. See also the response to item 5.

23. *Please provide any information of which the facility is aware, regarding the presence of, or emission of crystalline silica (as opposed to asbestos) at the existing facility, and any related health affects to employees or to the general public.*

RESPONSE:

The metabasalt processed at Pitts Quarry contains 4 to 12% crystalline silica. The facility adheres to the requirements of MSHA to control exposure to airborne contaminants and ensure the protection of employee health. See answer to items 21 and 22.

As part of its industrial hygiene program, SGI collects and analyzes air samples for respirable dust on a quarterly basis. The results of this sampling are attached (**Attachment L**). Additional historic results associated with sampling and analyses for respirable dust are included in **Appendix G**.

24. *Please provide any manuals or guidance used by SGI in identifying and managing suspect asbestos-containing materials.*

RESPONSE:

SGI previously provided the Department with its Suspect Minerals Identification and Management Guide (see SGI Response to Public Comments, dated November 12, 2018, pp. 62-63 & Appendix 7.2).

25. *DEP has determined that the R.J. Lee Group passive sampling methods used at the SGI existing quarry is not adequate and lacks sufficient scientific foundation for use in determining public health impacts of asbestos in and around the SGI quarry. Rather, DEP believes that an active sampling method is appropriate, using low-flow air sampling pumps collecting samples at selected locations. Please provide SGI's response to this.*

RESPONSE:

The Explanation of Analytical Methods for Asbestos Analyses Associated with Sampling from Specialty Granules LLC's Charmian Quarry by R J Lee Group dated November 27, 2019 (**Attachment A**) includes an explanation of the analytical procedures that SGI has utilized.

As requested by the Department, SGI, in September 2019, conducted a second round of perimeter air sampling using the specified active sampling method and other sampling methods requested. The report from R J Lee Group dated October 3, 2019 (**Attachment H, Part 2**) details the methods and results of such sampling. No fibers of asbestos were found in the second round of air samples collected.

26. *In order to fully characterize the ambient public health impacts of possible asbestos exposure in and around the SGI quarry, including current quarrying operations, DEP believes that air sampling and analysis should be conducted according to recommendations in the EPA OSWER Directive #9200.0-68, Framework for Investigating Asbestos-Contaminated Superfund Sites, including preferential use of ISO 10312 TEM as outlined in that document. DEP believes that all references in the plans to sampling, preparation and analysis methodologies should be re-evaluated with this document in mind. Please provide SGI's response to this.*

RESPONSE:

The Explanation of Analytical Methods for Asbestos Analyses Associated with Sampling from Specialty Granules LLC's Charmian Quarry by R J Lee Group dated November 27, 2019 (**Attachment A**) includes an explanation of the analytical procedures that SGI has utilized. See also the response to item 25.

27. *In order to proceed with processing SGI's mining permit application, DEP envisions that SGI will need to provide a comprehensive and detailed sampling analysis protocol based on the methods specified above. Please provide a revised asbestos sampling plan/protocol addressing at least the following elements:*

RESPONSE:

Please see the response to item 25.

- a. *Address a coordinated air sampling event at the existing quarry, to take place as soon as possible, the results of which may be used to inform DEP's decision-making on the Northern Tract Quarry Permit Application. It is anticipated that, depending on the results of this sampling event, and other information which may be provided in response to this technical deficiency letter, that further periodic air sampling may also be required, either at the existing quarry, or in related to any quarry expansion which may be approved.*

RESPONSE:

Please see the response to item 25.

SGI proposes to monitor outdoor air for asbestos in accordance with the attached Asbestos Air Monitoring and Mitigation Plan (**Attachment E**), to be implemented in connection with the Northern Tract permit.

- b. *Address consistency with EPA OSWER Directive #9200.0-68, Framework for Investigating Asbestos-Contaminated Superfund Sites, including preferential use of ISO 10312 TEM.*

RESPONSE:

See the Explanation of Analytical Methods for Asbestos Analyses Associated with Sampling from Specialty Granules LLC's Charmian Quarry by R J Lee Group dated November 27, 2019 (**Attachment A**). As noted therein, ambient air samples obtained via active samplers were analyzed using ISO 10312.

- c. *Provide a description of how wind direction, wind speed, relative humidity, and temperature will be monitored during each sampling event, including whether the use of an automated, site-specific weather monitoring station is feasible, and whether wind speed and direction can be monitored at a frequency of no less than one time per hour for each sampling event.*

RESPONSE:

SGI is in the process of installing a perimeter weather station in the vicinity of the Advance Stockpile. The location was selected because of its elevation and central location within the Charmian site. The weather station will provide all requested data, including wind speed and direction, and will be capable of collecting data on hourly intervals.

- d. *Include a specific recommendation for the air quality sampling frequency and duration at the existing SGI Pitts Quarry, based on the relative diurnal activity in the quarry.*

RESPONSE:

Please see the attached Asbestos Air Monitoring and Mitigation Plan (**Attachment E**), to be implemented in connection with the Northern Tract permit.

- e. *Specify the pore size for air sampling filters. DEP recommends that air sampling should use 0.45-micron pore size filters unless there are technical reasons that necessitate otherwise, such as excessive dust near the sampling to the extent that the filter clogs and a sufficient volume cannot be sampled.*

RESPONSE:

The second round of perimeter air monitoring utilized filters with 0.45-micron pore size as suggested by the Department. In connection with the Asbestos and Air Monitoring and Mitigation Plan, SGI proposes to utilize filters with 0.8-micron pore size in order to avoid excessive clogging.

- f. *Specify that all sampling events, except pre-operation monitoring, should take place at times when the permitted sources and general quarry activities are in operation.*

RESPONSE:

Please see the attached Asbestos Air Monitoring and Mitigation Plan (**Attachment E**), to be implemented in connection with the Northern Tract permit.

- g. *Specify sample turnaround times no longer than 24 hours for relevant test results.*

RESPONSE:

Please see the attached Asbestos Air Monitoring and Mitigation Plan (**Attachment E**), to be implemented in connection with the Northern Tract permit.

- h. *Provide a description of the operational response action to be taken in the event that there is an exceedance of an action level of 0.01 f/cc result for asbestos.*

RESPONSE:

In the event of a detection above 0.01 fibers/cc, SGI will implement corrective actions specified in the attached Asbestos Air Monitoring and Mitigation Plan (**Attachment E**).

28. SGI has indicated to DEP that it subjects itself to a certification/testing process in order to conclude that its products are free of asbestos. This process is also reportedly related to the generation of SDS documentation for SGI's products. Please explain the following items:

- a. What is the "certification" you are referring to? Is it an in-house, International Organization for Standardization (ISO), or something else? Please identify and clarify.

RESPONSE:

SGI routinely tests its process material and products for quality control and quality assurance according to the protocol attached (Product Quality Testing for Properties and Constituents in Raw Granules, Rock Fines and Finished Products, **Attachment M**). There is no "certification" by a third party. SGI utilizes the results of the testing to assure compliance with its Safety Data Sheet ("SDS") reporting obligations.

- b. Provide details of testing such as:
- i. Sample acquisition - how the samples were collected.
 - ii. Location and frequency of sample collection - provide map.
 - iii. Number of samples required to be collected to be representative of the ambient air concentration of asbestos.
 - iv. Time between collection and analyses.
 - v. Sample stabilization - if applicable.
 - vi. Chain of custody.
 - vii. Sample preparation.
 - viii. Analytical procedures used such as EPA, ASTM, etc.
 - ix. Analytes and concentration ranges.
 - x. Physical analyses utilized such as microscopic analysis.

RESPONSE:

See **Attachment M**.

- c. Parameters and specifications required to be met for "certification" to occur.

RESPONSE:

There is no third-party "certification."

- d. Furnish any written work products that result from the certification process, such as SDS sheets or other product certification materials.

RESPONSE:

There is no written work product resulting from a "certification" process. SGI does prepare Safety Data Sheets for its products. A sample is provided (**Attachment N**). None of the Safety Data Sheets for SGI products document asbestos in any quantity.

Sincerely,



Matthew S. McClure
Executive Director Operations

cc: Justin P. Dunlap
Kevin Moore
Celeste Levine
Drew Van Orden
R. Timothy Weston
Craig P. Wilson

Attachments:

- A. Explanation of Analytical Methods for Asbestos Analyses Associated with Sampling from Specialty Granules LLC's Charmian Quarry
- B. Email to the Department dated October 15, 2019 (protocol for core sample analysis)
- C. Core sampling results
- D. Core sample location map
- E. Asbestos Air Monitoring and Mitigation Plan
- F. Water sampling locations and results
- G. Industrial hygiene sampling results (asbestos)
- H. Perimeter air sampling results
- I. Processed material and product sampling results
- J. Response to Issues Raised by Erskine Environmental Consulting
- K. Policy and Procedure, Respiratory Protection (June 25, 2019)
- L. Industrial hygiene sampling results (respirable dust)
- M. SGI Product Quality Testing for Properties and Constituents in Raw Granules, Rock Fines and Finished Products
- N. Safety Data Sheet