



April 12, 2021

Hanson Aggregates PA, LLC
7660 Imperial Way
Allentown, PA 18195-1040

Re: Elevated Review Technical Deficiencies
Application No. 7974SM1C10
Rock Hill Quarry Operation
East Rock Hill Township, Bucks County

Dear Mr. Gutshall:

The Department of Environmental Protection (DEP) has received your January 15, 2021 response to the November 18, 2020 Technical Deficiency Letter and has the following comments on the responses and submissions therein.

1. Module 8.3: Groundwater Information §77.532, §77.522, §77.403
 - a. In the previously submitted Module 8.3, dewatering of the quarry pit was proposed at the rate of 0.23 Million Gallons per Day (MGD). Please explain your intentions regarding dewatering of the pit and how it may relate to the planned removal of the 500 tons per year.
2. Module 8.4: Surface Water Information §77.406, §77.532, §77.521
 - a. Please address any potential for degradation of Bog Run due to dewatering of the quarry pit or from the release of stormwater from the Rock Hill Quarry site considering the Naturally Occurring Asbestos (NOA) content in the water emanating from the Rock Hill Quarry Site.
3. Module 10.1: Equipment and Operation Plan: §77.452
 - a. Please provide the number hours each day and the number of days and each month that there will be any form of activity at the Rock Hill Quarry. NPDES sample collection will be at least twice per month as opposed to the cited "monthly" collection.
 - b. Please provide a detailed security proposal for the Rock Hill Quarry including the frequency of routine site inspections and security visits and please describe the activity and duration associated with these security visits.
4. Module 10.1: Equipment and Operation Plan: "Annual Removal of 500 tons.": §77.452, §77.455, §77.404(5)

According to sampling results provided by Hanson in their August 14, 2020, Additional Sample Analysis report, seven (7) of the sixteen (16) aggregate samples showed results ranging from 0.11% to 0.52% by weight using ISO10312, 2019-10, Annex C counting rules. Considering the limited data provided by the sample set, please explain:

- a. Why Hanson believes these aggregate piles may be safely disturbed under any conditions.
- b. Where and how this aggregate will be used, if at all.
- c. Explain how receivers of the aggregate will be advised of the asbestos content of the aggregate and precautions they will be required to take concerning the use of the aggregate.

5. Module 10.1: Equipment and Operation Plan: "Non-Scheduled Site Maintenance" §77.452, §77.455

- a. The narrative in 10.1 under Non-Scheduled Site Maintenance contains the following passages (italics):

"At such time authorized by the Department, mining of the Rock Hill Quarry will commence in a single phase. Bulldozers or track loaders, excavators, and haul trucks will be used to remove and stockpile topsoil and overburden from the mining area. Overburden will be hauled to and stored in the designated overburden material stockpile. The underlying rock will then be drilled and blasted to facilitate its removal. The shot rock will be excavated by front-end loader, track loader, or excavator.

The excavated material will then be loaded into a haul truck and transported to either a portable processing plant or a stationary processing plant that will be located within the Surface Mine Permit boundary. The processed material will be staged for sale in stockpiles. Support area in the northwest corner of the permitted area will likely be used to stockpile material."

Please explain how the mining activities described in the above passages factor into Non-Scheduled Site Maintenance activities or in the proposed minimum 500 tons per year of stockpile crushed aggregate. It appears the described mining activities are for full site mining development, are included with Non-Scheduled Site Maintenance, and conflict with the proposed activities described for the immediate future at the Rock Hill Quarry.

- b. Please explain why air monitoring is excluded for dry aggregate or earthen material disturbance activities lasting less than 4 hours.

6. Module 10.7: Identification of Toxic Materials §77.452, §77.404

- a. Please explain the response of N/A to this module, particularly since NOA, a toxic substance, has been found to exist in the rock at the Rock Hill Quarry.
- b. Please describe in detail the procedures that will be employed in identification of NOA. The asbestos fiber structure counting criteria should be in concert with the structure counting criteria expressed in ISO 10312, 2019-10, Annex C.

7. Module 10.8: Special Handling of Toxic Material §77.452, §77.404

- a. Please explain the response of N/A to this module, particularly since NOA, a toxic substance, has been found to exist in the rock at the Rock Hill Quarry.
 - b. Please describe in detail the procedures that will be employed in the handling of NOA including NOA containing rock and/or soil. The asbestos fiber structure counting criteria should be in concert with the structure counting criteria expressed in ISO 10312, 2019-10, Annex C.
8. Module 10.15: Bonding Calculations: See Attachment 3(c)(i) – Conceptual Reclamation Plan: §77.456, §77.453, §77.455, §77.457, §77.462, §77.404
- a. The Conceptual Reclamation Plan includes the blasting of 52,000 cubic yards of rock to reclaim the affected highwall. Please provide a comprehensive dust monitoring and dust suppression plan for reclamation blasting activity.
 - b. The Conceptual Reclamation Plan states that 8,700 cubic yards of existing overburden material would be moved from its present location to the disturbed area for reclamation. Please provide a comprehensive dust monitoring and dust suppression plan for this overburden transport activity.
 - c. Please provide an analysis of the overburden material to assess its potential of containing NOA.
9. Module 17.2: Air Pollution Control Plan: §77.455, §77.452, §77.458, §77.631
- a. Attachment 4(b)(ii) Draft Air Monitoring Plan – Annual removal of 500 tons of crushed aggregate from existing stockpiles:
 - i. Please include a provision committing to provide notice to DEP no less than five (5) working days prior to the beginning any activity that may disturb material on-site, including 500 ton removal events.
 - ii. Please include provisions to ensure that water and/or other dust suppression methods/devices are on-site and in usable condition, prior to undertaking any activity at the site.
 - iii. DEP requests that you commit to cleaning the public road if any material is dragged onto the public road by Hanson or any of their contractors, no later than the end of each work shift. Please provide a detailed plan for cleaning the public road.
 - iv. Please include provisions ensuring that street sweepers are only operated with sufficient water and dust suppression controls to prevent them from being a source of dust emissions.
 - v. DEP requests that a commercial wash station be installed at a sufficient distance from the exit so that vehicles can be cleaned to prevent deposition of material off-site. This should be used by all vehicles leaving the site.

- vi. Please ensure there is a water truck and/or other dust suppression methods/devices on-site and useable prior to beginning any activities during a 500 ton removal event.
- vii. Existing moisture level of aggregate piles and roads may not always be sufficient to control emissions. Please include provisions indicating that you will add moisture to roads, product stockpiles, soil, or other on-site material, as needed to control dust, prior to disturbing said material and during times when no activity is occurring on-site.
- viii. Please include additional provisions for dust control measures during loading of trucks, such as water sprays during loading, use of directed fog cannons, etc.
- ix. Please elaborate on the protocol of adjusting air sampling locations depending on wind speed and direction during the annual removal of 500 tons of crushed aggregate. Please detail the decision process that will be used to determine the need for an adjustment of air sampling locations specifying action levels of wind speed or changes in direction.
- x. During any 500 ton removal activities, ensure that the air samples are delivered to the laboratory for analysis after each workday and the sample results have a 24-hour turnaround time from the laboratory.
- xi. Please clearly indicate that sampling during 500 ton removal events will take place while material is being handled and moved regardless of any 4-hour time constraint.
- xii. Please include provisions indicating that sample results will be forwarded to DEP via email within 24 hours of receipt from the laboratory.
- xiii. Please include a provision committing to not conduct a 500 ton removal event at the site until at least 5 ambient air monitoring events are conducted during idle or low activity conditions at the site and all results are less than the action level.
- xiv. Please detail or specify methods, standards and action levels that will be used to initiate corrective actions, such as the use of water to suppress dust, in the following operations:
 - a) Loading of aggregate onto trucks
 - b) Adding moisture to the stockpiled aggregate.
 - c) Overburden loading and transportation.
 - d) Drilling and blasting.
 - e) Loading of shot rock.
 - f) Crushing and stockpiling.
 - g) Haulage on the Rock Hill Quarry site
 - h) Haulage off the Rock Hill Quarry site on public highways.

- xv. Please provide specific engineering detail(s) on all devices planned to be used for dust suppression specific to each operational application including rates of application.
- b. Attachment 4(b)(ii) Draft Air Monitoring Plan – General DEP Comments on Analytical Procedures: §77.455, §77.130
- i. Please explain the reference to the 5 micrometers in length in the definition of asbestos fiber. The definition of an asbestos fiber should be consistent with the counting methodology as found in ISO 10312-2019-10 “Ambient Air – Determination of Asbestos Fibers – Direct Transfer Transmission Electron Microscopy Method”, as modified in Appendix C, Page C-3: Fiber Measurement and Identification detailed in “OSWER Directive #9200.0-68, September 2008, Framework for Investigating Asbestos-Contaminated Superfund Sites”¹.
 - ii. Please indicate that 0.45 micrometer pore size filters will be used unless 0.8 pore size is approved by DEP in a particular instance (i.e. clogging).
 - iii. Please include procedures to ensure that sample durations are adequate to achieve a reporting limit of 0.005 f/cc or lower.
 - iv. DEP believes that the appropriate methodology for analyzing samples in this situation is ISO 10312-2019-10 “Ambient Air – Determination of Asbestos Fibers – Direct Transfer Transmission Electron Microscopy Method”, as modified in Appendix C, Page C-3: Fiber Measurement and Identification detailed in EPA’s “OSWER Directive #9200.0-68, September 2008, Framework For Investigating Asbestos-Contaminated Superfund Sites”. If Hanson wishes to do concurrent sampling to demonstrate the efficacy of other analysis methods for this site, then that may be proposed.
 - v. Please provide detailed laboratory standard operating procedures (SOPs) that will be used to prepare samples, analyze samples, and calculate results.
- c. Attachment 4(b)(ii) Draft Air Monitoring Plan – General DEP Comments on Sampling Methodology. §77.455, §77.401
- i. Please provide a plan to determine background offsite NOA levels in surrounding communities and vulnerable populations.
 - ii. Please explain how the proposed one-time background air monitoring event lasting two days at the Rock Hill Quarry is sufficient to characterize background air conditions.

¹ “Under the ISO method, two specific counting schemes are detailed. The first scheme is more general and allows for the counting of fibers that are 0.5 μm in length or greater and have aspect ratios of 5:1 or greater. In routine practice, TEM can resolve fibers down to approximately 0.1 μm in width, as compared to the resolution for routine PCM (0.25 μm). Therefore, short thin fibers that would not be detected using PCM will be detected using TEM under the general counting scheme. EPA recommends modification of the aspect ratio to 3:1 for this counting scheme.”

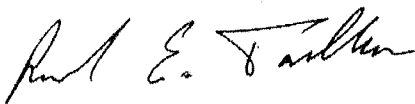
- iii. Please explain in detail the methodology that will be used to locate the upwind and downwind sampling locations for air monitoring specific to the Rock Hill Quarry. Previous submissions (R.J. Pierson, December 2018) cited wind data from the Allentown Bethlehem Airport which is approximately 20 miles away with significant topographical features between the airport and the Rock Hill Quarry.
- iv. Please include provisions and specifications for installation of a permanent weather station measuring wind direction and speed at the site for more accurate determination of those parameters.
- v. Please specify that data from the on-site weather station will be used to assess the proper sampling locations.
- vi. Please specify that at least 5 locations will be sampled during each event.
- vii. Please include procedures for collecting data if the weather station is inoperable and unable to monitor wind speed or direction for greater than 12 hours.
- viii. Please provide procedures and timeframes for multiple sampling events during idle or low activity conditions to take place on a regular basis over an extended time to address concerns about differing weather and seasonal conditions. For example, sampling every 6 days for 5 consecutive events over 30 days, once each quarter.
- ix. Please include a planned protocol for adjusting sampling locations depending on wind speed and direction during the sampling event and sufficient detail on the parameters used to determine the sampling locations and the general condition of the sampling site including - local obstructions, distance to the driplines of surrounding trees, type of tree (evergreen or deciduous) height of the sampler, etc.
- x. Please define an action level for asbestos sample results. Based on previous discussions it is suggested that this be 0.01 fibers/cubic centimeter (f/cc).
- xi. Please provide a detailed plan for what actions will be taken when sample results are above the action level. Please include maximum timeframes to take those actions.
- xii. Please include provisions indicating that all sample results will be forwarded to DEP via email within 24 hours of receipt from the laboratory.
- xiii. Please include provisions indicating that DEP will be notified within 24 hours of receipt of a sample result from the laboratory over the action level.
- xiv. Please propose procedures indicating how Hanson will conduct initial asbestos air monitoring during low activity conditions and the use of on-site roads (i.e.: water sample collection, site inspections, security, etc.) demonstrating that ambient levels of asbestos do not exceed the action level.

- xv. Please include provisions to ensure that water emitting devices or other appropriate dust control equipment is on-site and useable prior to beginning activity where material, soil or rock on site may be disturbed, regardless of the planned length of the activity.
 - xvi. Please provide engineering detail(s) on water emitting devices planned to be used for controlling dust specific to the operational application.
 - xvii. Please include provisions in the air monitoring plan to sample and monitor ambient air levels of asbestos during any activity where material, soil or rock on site will be disturbed, regardless of the planned length of the activity.
10. Please provide an up to date comprehensive NOA Monitoring and Risk Mitigation Plan for the Rock Hill Quarry.: §77.451, §77.105, §77.130
- a. Please detail all methods, protocols and compliance standards that will be employed to assess the background exposure of NOA in the communities surrounding the Rock Hill Quarry.
 - b. Please detail all methods, protocols and compliance standards that will be employed to identify and quantify the NOA content in the rock or overburden at the Rock Hill Quarry.
 - c. Please detail all methods, protocols and compliance standards that will be employed to monitor the migration of NOA from the Rock Hill Quarry Site.
 - d. All methods, protocols and compliance standards that will be employed to control migration of NOA from the Rock Hill Quarry site whether they be in air, water, overburden, waste, or products produced by the Rock Hill Quarry.
 - e. Please determine, quantify, and express the site-specific incremental risk of cancer above background risks that the proposed operations at the Rock Hill quarry will have on surrounding communities.
11. Please address suggestions provided by Secretary Dr. Rachel Levine the Pennsylvania Department of Health in the September 16, 2020 letter to Secretary McDonnell of the Pennsylvania Department of Environmental Protection including: §77.126, §77.104
- a. Conducting comprehensive health-based environmental sampling of air and soil for onsite, source, property/fence line and offsite locations.
 - b. Produce sample data applicable to human health, stationary breathing and on-person sampling over several weeks including summer and winter seasons covering various weather conditions.
 - c. Conducting various activity-based personal sampling.
 - d. Determine the risk of exposure to vulnerable populations including schools, daycares, hospitals, etc.

- e. Conduct waterbody sampling.
 - f. Utilizing the EPA executed comprehensive NOA environmental sampling study protocols as guidelines.
 - g. Please provide a complete all-encompassing Workplace Controls and Practices Plan to Reduce NOA Exposure
 - h. Please provide a complete all-encompassing plan to prevent NOA exposure to the surrounding community.
12. Testing provided by Hanson Aggregates has shown that NOA and Elongate Mineral Particles are present at the Rock Hill Quarry Site. §77.451, §77.104
- a. Please quantify the background levels of airborne NOA and EMPs in the vicinity of the Rock Hill Quarry site by performing a background level assessment utilizing the structure counting criteria as described in ISO 10312-2019-10 "Ambient Air – Determination of Asbestos Fibers – Direct Transfer Transmission Electron Microscopy Method", as modified in Appendix C, Page C-3: Fiber Measurement and Identification detailed in EPA's "OSWER Directive #9200.0-68, September 2008, Framework For Investigating Asbestos-Contaminated Superfund Sites".
 - b. Utilizing the background levels of NOA and EMPs, specify the corrective action levels to be used to maintain NOA and EMPs transmission and/or migration below levels known to be associated with asbestos related diseases with the assumption that EMPs may pose the same health risks as NOA.
 - c. Please provide a detailed all-encompassing site-specific NOA and EMP guidance document for the Rock Hill Quarry addressing sampling, analysis, monitoring, and controlling NOA & EMP transmission resulting from any operation at the Rock Hill Quarry via air, water or aggregate production and transportation.

Should you have any questions regarding the identified deficiencies, please contact me to discuss your concerns or to schedule a meeting. If you believe the stated deficiencies are not significant, you have the option of declining and asking the Department to decide based on the information you have already made available. Please keep in mind that if you ignore this request or fail to respond to all of the deficiencies listed above by July 6, 2021, your application may be denied. Also, please note that due to the application deficiencies noted above, the Permit Decision Guarantee timeframes are no longer applicable.

Sincerely,



Richard E. Tallman P.E.
Environmental Engineer
Bureau of District Mining Operations

cc: John J. Stefanko, Deputy Secretary
Daniel Sammarco, P.E., Director DMO
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