



September 6, 2018

Hanson Aggregates PA, LLC  
7600 Imperial Way  
Allentown, PA 18195

Re: Technical Deficiencies  
Rock Hill Quarry Operation  
Permit Application No. 7974SM1C10  
Bonding Increment No. 24143-7974SM1-02  
East Rock Hill Township, Bucks County

Ladies and Gentlemen:

The Department has reviewed your application and has determined that the following significant deficiencies exist:

1. Module 6.2 Map:

- a. Please show background monitoring points SW-1 and SW-2 and provide permit and limit of mining acreages.
- b. Please delineate the zone of influence as indicated in 8.6b. See Item 3. e. (77.410)

2. Module 8:

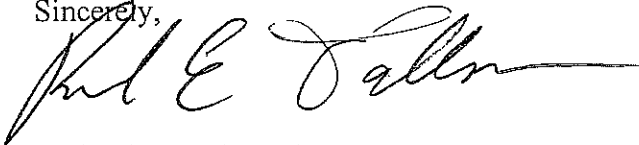
- a. Please explain the high pH results of groundwater samples from MW-1 and MW-2 and the impact the intercepted groundwater discharged during mining operations may have on the receiving water. (77.405)
- b. The monitoring plan (8.2b) proposes to conduct monthly monitoring of groundwater elevations in monitoring wells MW-1, 2, 3 & 4, however given the proximity of Perkasie Regional Authority water supply wells to the Rock Hill Quarry, monitoring should be conducted twice monthly when quarry pumping is initiated. Monitoring results should be compared to groundwater elevations predicted by the groundwater model at full expansion of the quarry as discussed in the GPE. (77.405)

3. GPE:

- a. The StreamStats statistics "Harmonic Mean Streamflow" results are less than the "Base Flow x-Year Recurrence Interval" results for the drainage basins of SW-1, 2 & 3. Please explain this apparent discrepancy.
- b. Attachment B provides a saturated thickness (b) of 155 feet for the calculation of hydraulic conductivity (K) at MW-3, however based on static water level

- measurements given in Module 8.1(A) saturated thickness ranged from 54 – 102 feet. Please explain the saturated thickness determination for MW-3 in Attachment B.
- c. Table 6: Please explain the hydraulic conductivity value of 0.1 ft/day for “Layer 2 & 3 Diabase North” given the K values for “Layer 2 Diabase South” (0.015 ft/d) and “Layer 3 Diabase South” (0.00001 ft/d).
  - d. Please correct formation names in the hydraulic conductivity section of the table under comments.
  - e. Please modify the groundwater model to show the predicted zone of influence for a total drawdown of 130 feet as it would occur across the entire pit floor at full expansion.

Sincerely,



Richard E. Tallman, E.I.T.  
Civil Engineer (General)  
Bureau of District Mining Operations

cc: Michael P. Kutney P.G., EGM  
Michele Hamlin, Geologic Specialist  
Gary Latsha, EGM  
Amiee Bollinger, SMCI  
EarthRes Group, Inc., Consultant  
Tickler: 10/6/18  
File  
MS1-Hanson Rock Def (9-18)

MPK:RET:jaj