



Memorandum

DATE: March 08, 2022

TO: Interested Public

FROM: Joseph M. Koon, Manager
Mining & Reclamation Section
Division of Mining and Solid Waste Management

RE: Approval of Application and Issuance of Permit Modification
Response to Comments
Permit I-000802, Orangeburg Quarry, Orangeburg County

South Carolina's Department of Health and Environmental Control (DHEC) has completed the review of information submitted for the modification to the mine operating permit for Orangeburg Quarry, requested by Martin Marietta Materials, Inc (Operator). This review process included information submitted by the Operator, comments from governmental agencies, and the interested public. The requested modification to the permit is to add approximately 998ac to the mine permit. Pursuant to the S.C. Mining Act, DHEC has approved the application to modify the Mine Operating Permit.

The following provides responses to the concerns shared during the public hearing and the public comment periods.

Concern #1: Water Quality

Comments were received regarding the quality of the groundwater, specifically the hardness of the water. Water's hardness is based on the concentration of magnesium and/or calcium ions in the water; the more of these ions present, the harder the water. The local geology is dominated by limestone (calcium carbonate), which is the source of the calcium ions making the water hard in this area. It is not the presence of the quarry that is making the water hard; the limestone aquifers are doing it naturally.

Concern #2: Sinkholes

Sinkholes occur naturally in a limestone. Dewatering groundwater and exposing the limestone to naturally acidic rainwater may exacerbate the formation of sinkholes. However, the Operator does not dewater this quarry below the top of the limestone layer, and it is required to maintain groundwater levels above the top of the limestone at the permit boundary. Therefore, it is not expected that the quarry will contribute to the formation of sinkholes in any significant way.

Concern #3: Quality of Life

Comments were received regarding the potential impacts of the proposed mine on the local community's way of life. DHEC is committed to fulfilling the agency's responsibilities to protect and promote the health of the public and the environment. Through the exercise of those responsibilities, DHEC works to improve the quality of life of individuals and communities. However, the agency may only act within the limits of its statutory and regulatory authority. Through statutes and regulations, the General Assembly has established conditions and criteria the agency uses to ensure public health and environmental protection. DHEC is required to make its permit decision based only on technical review of the permit application and the Act and Regulations in place at the time of DHEC's review.

Concern #4: Blasting

Surface blasting requirements are regulated in R.89-150. All blasting is required to be performed by a S.C. licensed blaster and be within 1.0 inch per second peak particle velocity (PPV) at the closest inhabited structure, which is considered more than adequate to protect the structure's integrity.

Per Regulation 89-150.I., to provide for adequate public safety, DHEC is required to establish a minimum distance between blasting and any structure not owned by the operator. The operator must maintain a blasting limit greater than 550ft from blasting to the nearest inhabited structure, in order to satisfy that part of the Regulation.

Ground vibrations, due to blasting, may be felt outside of the permit boundary. Federal guidelines on surface blasting state that a PPV of 2.0ips is considered safe for structures; South Carolina goes one step further and limits PPV to 1.0ips (Regulation 89-150.E.) at the closest structure for an additional measure of safety. So, while ground vibrations may be felt offsite as an annoyance, it is not considered intense enough to cause damage to structures or roads. Additionally, the air blast from a quarry may be heard off-site, but would not be strong enough to produce damage to residential structures.

R.89-150.A. requires the operator to perform a Pre-Blast Survey of inhabited structures that are within one-half mile of any blasting at the landowners' approval. A copy of this report will be given to the operator, the landowner, and DHEC.

Concern #5: Property Value

Comments were received regarding the impact to property values and possible economic impacts. All zoning decisions are made at the local level by a city or county zoning authority, usually before a permit request is received. DHEC cannot dictate where a facility locates or factor property value impacts into our permitting decision. We encourage residents to contact their local city or county council representatives for more information on how to get involved in local zoning and planning issues.

Any affected party has the right to request a final review of this permit decision. This request must be made in writing to the Clerk of the DHEC Board. Procedures for requesting this review are enclosed. Should there be any questions or if DHEC may be of further assistance, please do not hesitate to contact the project manager, Jeremy Eddy, at 803-898-7609 or by e-mail at eddy@dhec.sc.gov.