

O. GENE DASHNER
DIRECTOR

CHARLES M. HALE, JR.
CHIEF DEPUTY DIRECTOR

BENNY H. WAMPLER
DEPUTY DIRECTOR



DIVISIONS
ENERGY
GAS AND OIL
MINED LAND RECLAMATION
MINERAL MINING
MINERAL RESOURCES
MINES
ADMINISTRATION

COMMONWEALTH of VIRGINIA

Department of Mines, Minerals and Energy

Division of Mineral Mining

P.O. Box 3727

Charlottesville, Virginia 22903-0727

(434) 951-6310

Conrad T. Spangler III, Division Director

December 5, 2002

Mr. Gregory A. Bowles
General Shale Products LLC
P.O. Box 3547
Johnson City, TN 37602

RE: General Shale Products LLC, Application to Mine Shale In Orange County

Dear Mr. Bowles:

This letter is in reference to the hearing on the General Shale Products LLC permit application, which was held pursuant to Virginia Code 45.1-184.1 in Orange, Virginia on August 29, 2002.

Enclosed is a copy of the Hearing Officer's finding on the objections filed with the Division. I am accepting the Hearing Officer's report, and as noted in it, General Shale does not qualify for a Surface Mining Permit until the terms outlined in the report are met.

Once the Division of Mineral Mining makes its decision to issue or deny the permit, an appeal of that decision may be filed by way of a direct court appeal.

If you file an appeal of the decision you must give notice of your appeal to the Division of Mineral Mining in writing and in accordance with Rule 2A:2 of the Supreme Court within 33 days of receipt of notice that the Division of Mineral Mining has issued or denied the permit.

If you have any questions regarding this, please contact this office.

Sincerely,

A handwritten signature in black ink, appearing to read "C. T. Spangler III".

Conrad T. Spangler
Division Director

Enclosure

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF MINES, MINERALS AND ENERGY
DIVISION OF MINERAL MINING
ADMINISTRATIVE HEARING
GENERAL SHALE PRODUCTS, LLC
SURFACE MINING APPLICATION
ORANGE COUNTY, VIRGINIA**

On August 29, 2002, at 7 p.m., a public hearing was held at the General District Courtroom's temporary location in Orange, Virginia by the Commonwealth of Virginia, Department of Mines, Minerals and Energy's, Division of Mineral Mining. This hearing was held in accordance with Chapter 16, Title 45.1, Section 184.1 of the Code of Virginia (Code), and the Administrative Process Act, Section 2.2-4019. The hearing was held at the request of Mr. Fred L. Hayes, Mr. John J. Capelle, Ms. Annie R. Spencer, Mr. Bryan Wright, Ms. Clara Colby, Mr. & Mrs. John Burke, Mr. Walter L. Williams, Jr., Mr. Dennis Horton, Mr. William J. Waters, Jr., Mr. Norvall Fitzhugh, Ms. Laura M. Peterson, and Ms. Lucy Colby, who are property owners within 1000' (ft.) of the proposed shale mine that would be operated by General Shale Products, LLC. Hearing procedures and instructions were read into the record along with closing comments. The hearing was recorded.

STATEMENT OF ISSUES

General Shale Products, LLC (General Shale) applied to the Division of Mineral Mining (DMM) on January 28, 2002, for a permit to operate an open-pit shale mine located 1.04 miles east of Barboursville off State Route 738 in Orange County, Virginia. The permit application is for 75.79 acres.

Statements received from the public indicated that they oppose the issuance of the permit citing the following reasons:

- Property devaluation; incompatible land-use
- Noise, dust, visual impact, and public access to the site
- Additional truck traffic on Route 738; location of primary access road
- Adverse impacts on groundwater
- Degradation of streams and wetlands; wetlands not delineated accurately
- Creation of lowlands and stagnant ponds

- Permit application does not meet the standards of Chapter 16, Title 45.1 of the Code including: simultaneous reclamation practices; inaccurate and incomplete maps (property owners within 100' not shown, utilities within 500' not shown, permit boundaries not properly indicated, creeks within 500' not properly shown and labeled, initial stockpile area not properly designated); gas line relocation plans are not complete; drainage plan not definitive; post mining land-use plan deficient in content

General Shale's past performance of reclamation and revegetation at other permitted sites

Absence of an environmental impact assessment

Hazards associated with exposure to uranium

FINDINGS AND RECOMMENDATIONS

1. Property Devaluation; Incompatible Land-Use:

Concerns were expressed that the presence of a mine would: devalue property; have a negative impact on existing business and tourism; interfere with historic preservation; and disrupt the peace and quiet of the community. In addition, it was noted that the principal mine access road would be constructed in an area that has been zoned residential. Chapter 16, Title 45.1 of the Code does not grant DMM the authority to regulate land-use. Local government authorities are responsible for land-use decisions and zoning ordinances. The Orange County Board of Supervisors has granted a special use permit with thirteen conditions to General Shale. Based upon the finding that DMM has no regulatory authority over the stated issues that are associated with land-use decisions, no recommendation is forwarded in this matter.

2. Noise, Dust, Visual Impact, and Public Access to the Site:

Concerns were raised regarding noise, dust, visual impact, and access to the proposed mine site. In their operations plan, General Shale stated that dust would be controlled by wet suppression using a water truck and that noise suppression would conform to industry standards. Also stated was that tree lines and vegetated buffers would be maintained in accordance with county and state requirements to protect the viewshed (Sec. II, pg 2). General Shale also indicated that access to the site would be protected by a gate and sign placed at the landscaped entrance (Sec V, pg 3).

The Mine Safety and Health Administration (MSHA) and DMM regulate the exposure of mine workers to noise and dust by enforcing Threshold Limit Values

established by the American Conference of Governmental Industrial Hygienists. Noise levels from mining equipment are also controlled by Virginia regulation 4 VAC 25-40-360 requiring that all off-road equipment be maintained in accordance with the manufacturer's specifications. Regulation 4 VAC 25-30-390 requires screening of mining operations from public roads, public buildings and occupied dwellings. Regulation 4 VAC 25-30-300 requires that internal service roads and principal access roads be planned to minimize the impact of traffic and vehicle noise on developed areas outside of the mining site.

Based on information provided in the proposed operations plan, General Shale's evaluation of the potential for noise and dust impacts on adjacent landowners is insufficient to meet DMM regulatory requirements. Also, measures proposed by General Shale to lessen the impact of the visual appearance of the site are inadequate to meet the requirements. General Shale should revise their operations plan to include screening berms. The establishment of vegetation on these berms should be in accordance with regulation 4 VAC 25-30-110 and the Revegetation Guidelines, using criteria for noise abatement and site screening. A combination of tree plantings and the placement of berms should take into consideration line-of-sight elevations to adjacent property owners.

With respect to noise level control, General Shale should provide a site assessment that includes residences adjacent to the property line and those residences at the intersection of the primary access road with Route 738. The assessment should include actions, if any, to be taken in addition to buffers and screening berms to lessen the impact of noise levels on adjacent property owners. The combined actions taken should result in a noise level exposure attributable to the operation that does not exceed 70 dB over a 24-hour period at any point along the property boundary. The US Environmental Protection Agency (EPA) recommends this level as the 24-hour equivalent sound level exposure limit that protects against long-term hearing impairment.

With respect to dust control, General Shale should provide additional data that describes the prevailing wind direction, average wind speed, and predicted impacts, if any, of off-site accumulations of dust associated with ambient air movement. In addition to wet suppression and berms, consideration should be given to other methods of dust control including limiting the number of acres disturbed at any one time, temporary seeding, and the type of road surface. Any additional measures to control dust should be included with the submittal of this data.

General Shale stated in the permit application that the fence that currently surrounds the property would be maintained. This fence should be inspected, repaired where deficient, and hazard warnings posted on it prior to mining.

3. **Additional Truck Traffic:**

Stated concerns included the possible inadequacy of Route 738 to handle mine truck traffic together with other public traffic, including school buses. Property condemnation related to road widening was also a concern. Chapter 16, Title 45.1 of the Code does not grant DMM the authority to regulate roads outside of the mine permit boundary. Responsibility for the adequacy of Virginia roads is under authority granted to the Virginia Department of Transportation (VDOT) and local governing authorities. State and local law enforcement officials regulate traffic on public roads. Virginia regulation 4 VAC 25-30-300 requires that a copy of the Land Use Permit issued by VDOT for the commercial entrance to the mine be submitted to DMM as part of the mine permit application. The current application package does not meet this requirement. Therefore, it is recommended that General Shale provide this documentation.

4. **Adverse Impacts on Groundwater:**

Adjacent property owners raised concerns related to groundwater that include: (1) industrial-scale pumping to support the truck wash area and dust control measures might negatively impact groundwater resources for other users who depend upon private wells for residential use; (2) contaminants from the truck wash area and mine excavation areas will degrade groundwater resources; and (3) the mine excavations will cut through shallow aquifers causing disruption or permanent depletion of groundwater supplies to shallow (<100 ft. depth) well users.

In the current operations plan narrative, General Shale stated that a wash system would be used to remove any mud before trucks exit the property (Sec VI, pg 4), and that dust would be controlled as needed with a water truck (Sec IX, pg 5). Although General Shale has verbally indicated plans for a single new well to be constructed in the area of the truck wash, the operations plan narrative does not identify the sources of water for the stated purposes, the anticipated groundwater usage, the proximity of other users, and potential impacts of these withdrawals on other groundwater users. Similarly, General Shale stated that drainage control in the truck wash area would be served by a ditch and sediment trap along the principal access road (Sec VI, pg 4), but there is no indication in the narrative as to how oil and other petroleum contaminants contained within the truck wash discharge would be segregated and disposed of properly. Finally, General Shale stated that the mining depth may be 50' or in some cases greater (Sec III, pg 2), and that all mining would occur above the water table (Sec III, pg 3). However, the narrative does not indicate either the gradient or estimated elevation of the groundwater table beneath the areas to be mined, nor does it include an assessment of the potential impacts to other users if the water table is disturbed during mining. Based upon these facts, the current application does not meet the requirements specified under Virginia regulation 4 VAC 25-30-100, and Part C – *Alteration of Groundwater Patterns* of the Virginia Surface Mine Drainage Handbook.

In order to fully assess the potential for groundwater-related impacts to adjacent property owners, General Shale should address the information deficiencies described above. It is recommended that the following information be submitted to DMM:

- a. location of the proposed water well(s), shown on the permit map;
- b. well and pump specifications (well head elevation, well diameter, casing/screen size and length, estimated total depth, depth to water table, pump size and capacity, and pump test results when available);
- c. estimate of monthly groundwater withdrawal and pumping rate;
- d. an inventory of groundwater use within 1000 ft of the permit boundary (include owner, year drilled, total depth, type of use, and to the extent obtainable well head elevation, well diameter, cased depth, static water level, and estimated/reported well yield);
- e. a narrative description of the truck wash operation, any solvents or chemicals that may be used, the wash water containment system, and the separation and disposal method for any oil and petroleum products;
- f. provide cross-sections of the proposed mine area showing the static groundwater level in relation to the maximum depths of the proposed excavations;
- g. provide an assessment of the potential for the proposed operation to impact water quality and water supply of neighboring groundwater users using the information gathered for a. through f. above.

5. Degradation of Streams and Wetlands; Wetlands not Delineated Accurately:

Several commenters stated concerns about the possible destruction and/or damage to streams and wetlands either directly adjacent to or in close proximity to the proposed permit area. One commenter indicated that there were discrepancies in the locations of wetlands shown on the permit map submitted to DMM and maps submitted to the Virginia Marine Resources Commission (VMRC).

DMM staff has been in contact with VMRC and the U.S. Army Corps of Engineers who regulate physical encroachments on wetlands. General Shale has submitted a joint permit application to VMRC, which is currently in review. DMM laws and regulations require General Shale to provide accurate maps and adequate drainage controls to protect streams and wetlands. Road construction standards must be incorporated to provide additional protection. The current application proposes drainage controls and engineered designs for stream crossings that are generally sufficient to provide for streams and wetlands protection. However, additional detail should be provided by General Shale concerning the design of the "bottomless culvert" crossing at Blue Run that shows edge curbing and drainage controls to prevent sediment from entering the stream channel.

Due to apparent discrepancies between maps submitted for the joint permit and General Shale's mining permit application, General Shale should confirm that the location of wetlands as shown on the DMM permit application map is accurate, or submit a revised map.

6. Creation of Lowlands and Stagnant Ponds:

One commenter expressed concern, based on their visual inspection of other General Shale operations, that lowland areas and stagnant pond areas could be created which would be both aesthetically unsightly and create a potential for a mosquito breeding ground.

General Shale's permit application narrative is consistent with the requirements of regulation 4 VAC 25-30-340 that stipulates no lakes or ponds of water be created that are less than four feet deep unless wetlands are formed as part of the post mining land-use. Recommended additions to the reclamation plan, that are discussed below under item 7, would require maps and cross-sections be submitted that adequately show the re-graded mined area and the drainage patterns and controls that will be constructed during and after mining.

7. Permit Application Does Not Meet the Standards of Chapter 16:

Simultaneous Reclamation Practices:

Concerns were expressed, based upon visual inspections of other General Shale operations, that land would remain unreclaimed for extended periods of time. Other concerns that were raised about dust and potential water quality degradation are also closely tied to reclamation practices. Virginia regulation 4 VAC 25-30-340B requires that mining be conducted in a manner that facilitates grading and revegetation simultaneously with the extraction operation.

On the permit application map, General Shale has indicated that a total of 18.26 acres would be disturbed during the initial 12 months of operation; approximately 9.0 acres of this total in the excavation area, and the remaining 9.26 acres as roads and drainage controls. In the operations plan, it was stated that mine areas that were not yet ready for final reclamation, but for which no activity had taken place for 6 months, would be seeded as necessary within 6 months (Sec. VIII, pg 4). The operations plan does not include a simultaneous mining and reclamation schedule that meets the requirements of DMM regulations. General Shale should review their mining and operations plan and provide a sequential mining and reclamation schedule.

Mapping Accuracy/Incomplete Data:

Comments noted several deficiencies and some discrepancies related to property line locations shown on the proposed permit map when compared to maps provided by General Shale to the Orange County Board of Supervisors. Specific requirements for mining permit maps are described under Virginia regulation 4 VAC 25-30-210.

The permit map submitted with the application is presently deficient and should include: the names of property owners within 100' of the permit boundary; the names and locations of all utilities within 500' of the permit boundary; the names and locations of all streams, creeks, and bodies of water (named or unnamed) within 500' of the permit boundary; and the locations of screening berms as outlined in Item 2. In addition, the permit boundary should be clearly shown on the map as a closed polygon. All proposed areas to be disturbed should be properly located and labeled. General Shale should confirm that the location of property and permit boundaries as shown on the DMM permit application map are accurate, or submit a revised map.

In the field, the property line and permit boundary should be marked in a permanent manner to establish locations from which DMM can ensure compliance with state laws.

Post Mining Land-Use:

As stated in item 6 above, one commenter expressed concern, based on their visual inspection of other General Shale operations, that lowland areas and stagnant pond areas could be created which would be both aesthetically unsightly and create a potential for a mosquito breeding ground.

Chapter 16, Title 45.1-182.1 of the Code and regulation 4 VAC 25-30-170 require that post mining land-use be described in the permit application. General Shale has proposed an agricultural post mining land-use that would include hayland and pasture (Sec XI, pg 6). The submittal of additional information is warranted, however, to further describe the post mining surface configuration. It is recommended that a post mining land-use map be submitted showing the final surface configuration. The map should include contour lines at intervals sufficient to show detail of the re-graded surface and any site features that will remain as part of the landscape such as ponds, diversion ditches, sediment traps, principal access and internal service roads. Regrade cross-sections of the permit area should also be provided. Areas should be labeled as to their proposed post mining land-use (hayland/pasture, etc.). The map should be accompanied by additional narrative that further explains the reclamation plan and final abandonment.

Gas Line:

Comments were received regarding concerns for public safety with the mining operation operating in close proximity to an existing natural gas pipeline within the proposed permit area. One commenter questioned the specifics of how operations around the buried pipeline would be accomplished (i.e., would the line be moved, when and where, etc.).

The application currently states that the gas pipeline would be moved when mining comes within 100' of the surface markers. The application map indicates that the pipeline crosses an area that is proposed to be disturbed during the initial development of the mine. It is recommended that General Shale provide additional details describing how, when and where the gas pipeline will be re-routed. The proposed relocation plan should also be confirmed in a letter from the owner of the natural gas pipeline that should be submitted as part of the permit application. The relocation plan should also meet the pipeline safety requirements enforced by the Virginia State Corporation Commission. Also, the permit application map and the utility notification letter that was included in the application show different names for the gas company. This discrepancy should be clarified or corrected.

Principal Access Road:

Several comments were received from the public related to dust and potential tracking of material onto Route 738. Regulation 4 VAC 25-30-310 requires access roads to be designed to prevent tracking off-site. DMM's experience with operations such as that proposed by General Shale has shown that clay materials often cause tracking and dust problems at the intersections of public roads and mine access roads. Based on this experience, it is recommended that portions of the principal access road be paved with asphalt. At a minimum, this paving should include the segment of road between the proposed truck wash area shown on the permit map and the intersection of the mine access road with Route 738. Surface treatment from the end of the asphalt to the active loading point should, at a minimum, be crushed stone. Brickbats may be used as a base, if so desired, but not as surface treatment due to their non-durable nature. General Shale should include information in their operations plan that describes the equipment to be used and procedures for maintaining the truck wash and paved road sections to control tracking.

Drainage Control:

Comments were received regarding the lack of detail in the drainage control plan and map. One commenter noted that some of the diversion ditches are not properly located on the map and that they end prematurely before completing the direction of flow to sediment control structures.

Virginia regulation 4 VAC 25-30-410 requires all mining operations to have adequate drainage, erosion, and sediment control measures incorporated within the operation and reclamation plan. General Shale has provided for such control measures, but the plan is inadequate in its present state, lacking the details necessary to satisfy the requirements of Virginia regulations. The drainage plan should be revised to show more accurately the flow and control of storm water surface runoff. Supplemental narrative and a revised map of the proposed drainage control plan and structures should be submitted as clarification of how the drainage controls for this site will function.

8. **General Shale's Past Performance of Reclamation and Revegetation:**

Comments were received concerning the past performance of General Shale with regard to reclamation and revegetation at other mine sites. No information was provided that would prevent General Shale's permit application from being considered under Title 45.1-184 of the Code.

9. **Absence of an Environmental Impact Assessment:**

One commenter asked for and noted that an environmental impact assessment had not been completed for the proposed operation. An Environmental Impact Statement (EIS) is commonly required under the National Environmental Policy Act (NEPA) for major activities that involve federal action. An EIS is not a requirement under Chapter 16, Title 45.1. However, permit applicants must address environmental issues and potential impacts as part of the application process under Chapter 16 and the attendant regulations.

10. **Hazards Associated with Exposure to Uranium:**


Comments were received concerning the possibility that mining would release naturally occurring radionuclides in concentrations that would constitute a public safety and/or environmental hazard. Information that was presented at the public hearing included an analysis of published acroradiometric surveys, geochemical, and geologic data pertaining to the Barbourville Basin and surrounding region. Based upon the results of this analysis, it was asserted that uranium and other radionuclides are present in the mine area in concentrations that are in excess of what may be considered background concentrations for the region.

General Shale stated in the permit application that potential uranium deposits have been investigated in the Culpeper Basin to the north, but no similar occurrences are known in the Barbourville Basin or in the area of the proposed mine (Sec I, pg 1). Additional comments on this matter were received in a letter dated October 3, 2002 from the firm Payne & Hodous, LLP, attorney for General Shale, that states that General Shale's position is "there is, essentially, no risk that General Shale's operation will unleash radioactive contamination on the citizens of Barbourville".

Information presented during public comments and by General Shale is insufficient for the assessment of the potential for public safety hazards. It is recognized that prior to the enactment in 1982 of Chapter 21, Title 45.1 of the Code, that places limits on exploration for uranium ore, historic uranium exploration programs specifically targeted the geologic setting of the Barboursville area. Little information regarding concentrations of radionuclides in this area has been collected since that time. Therefore, to meet the requirements of Chapter 16, Title 45.1 of the Code, specifically §45.1-180.2.C, it is recommended that General Shale provide an assessment of the potential for the proposed mining operation to release radionuclides that might negatively impact public safety or the environment. This assessment should be supported by the results of a physical sampling plan that will be approved in advance by DMM. The assessment shall be sufficient to establish the baseline concentrations of uranium and thorium in both soil and rock that will be encountered during mining. In addition, the assessment shall be sufficient to establish the baseline concentrations of uranium, gross alpha, and gross beta emitters in water samples taken on the property. An analytical laboratory that has been certified by the Virginia Division of Consolidated Laboratory Services should perform the chemical analysis of water samples. Within the context of the proposed operating plan, the results of sampling should be used to assess the potential for release of hazardous levels of these contaminants in soil, rock, air, and water. Based upon the results of this assessment, additional follow-up sampling or periodic monitoring of radionuclide concentrations as part of the operating plan may be required.

CONCLUSION

After considering the testimony given at the public hearing in Orange, Virginia, and after reviewing all statements, documents, maps and plans submitted to the Division of Mineral Mining, my recommendation to the Director is that General Shale Products, LLC does not qualify for a Surface Mining Permit until the terms outlined in the "Findings and Recommendations" portion of this document are met.



Mr. Gary E. Barney, Hearing Officer
Division of Mineral Mining