


**COLORADO**Division of Reclamation,  
Mining and Safety

Department of Natural Resources

**MINERALS PROGRAM INSPECTION REPORT****PHONE: (303) 866-3567**

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

|                                                     |                                                                                                                    |                                                                                                      |                             |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>MINE NAME:</b><br>Byzantine Quarry               | <b>MINE/PROSPECTING ID#:</b><br>M-2007-014                                                                         | <b>MINERAL:</b><br>Limestone (general),<br>granite, granite gneiss and<br>(silica, stone, quartzite) | <b>COUNTY:</b><br>Fremont   |
| <b>INSPECTION TYPE:</b><br>Monitoring               | <b>INSPECTOR(S):</b><br>Timothy A. Cazier                                                                          | <b>INSP. DATE:</b><br>May 3, 2017                                                                    | <b>INSP. TIME:</b><br>07:25 |
| <b>OPERATOR:</b><br>Byzantine Quarry LLC            | <b>OPERATOR REPRESENTATIVE:</b><br>Daniel Tezak                                                                    | <b>TYPE OF OPERATION:</b><br>112c - Construction Regular Operation                                   |                             |
| <b>REASON FOR INSPECTION:</b><br>Normal I&E Program | <b>BOND CALCULATION TYPE:</b><br>Partial Bond                                                                      | <b>BOND AMOUNT:</b><br>\$90,052.00                                                                   |                             |
| <b>DATE OF COMPLAINT:</b><br>NA                     | <b>POST INSP. CONTACTS:</b><br>None                                                                                | <b>JOINT INSP. AGENCY:</b><br>None                                                                   |                             |
| <b>WEATHER:</b><br>Clear                            | <b>INSPECTOR'S SIGNATURE:</b><br> | <b>SIGNATURE DATE:</b><br>July 24, 2017                                                              |                             |

**The following inspection topics were identified as having Problems or Possible Violations. OPERATORS SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF THE PERMIT AND APPLICABLE RULES AND REGULATIONS. If a Possible Violation is indicated, you will be notified under separate cover as to when the Mined Land Reclamation Board will consider possible enforcement action.**

**INSPECTION TOPIC:** Stipulations

**PROBLEM/POSSIBLE VIOLATION:** Problem: During each year when development and/or production blasting occurs in the quarry, the Operator shall include a geotechnical section into the annual reclamation report providing updated geotechnical observations and measurements and associated recommendations for quarry development to provide a safe highwall during operations and a long term stable highwall at the time of reclamation. The geotechnical report submitted with the 2016 annual report had not been updated from the one submitted with the 2015 annual report.

**CORRECTIVE ACTIONS:** Submit an updated geotechnical report by the corrective action due date.

**CORRECTIVE ACTION DUE DATE:** 8/24/17

## **OBSERVATIONS**

This inspection was conducted as part of the regular monitoring program. The Permittee (Byzantine Quarry LLC) was represented by Mr. Daniel Tezak. The Byzantine Quarry access road is located approximately 2.5 miles north of Hwy 50 on Fremont Co Rd 69. This is a 112c mine producing primarily decorative stone for landscaping. It was not operating at the time of the inspection. However, evidence of recent activity was observed (e.g., drill rig, heavy equipment and recent stockpiles).

Availability of Records: Annual fees are paid through December 2016. The previous inspection was on March 14, 2013. The approved post-mine land use is rangeland. There are no open infractions. The permit was transferred to the current Permittee in 2013 (SO-01).

Backfilling and Grading: The approved permit does not require backfill on the highwall benches. However, the geotechnical section in the 2015 annual report stated "Any material not mined and removed from the second bench [as configured at the time of the Azurite, Inc. April 15, 2015 site visit] can likely be used to backfill any remaining vertical face at the western end of the first bench." The Division will continue to monitor this configuration and solution to long term stability of the highwall. Adjustments may need to be made to the financial warranty to address stabilization of the material above the 35-degree bedding dip as conditions warrant.

Complete Inspection: The entire permit area was inspected. No problems were observed during the inspection.

Excess Spoil and Dev. Waste: Mr. Tezak stated the mine has no overburden worth mentioning.

Explosives: Mr. Tezak indicated they blast about once per year. The Permittee does the drilling and blasting with explosives provided by Buckley Powder. The blasting plan and reports are kept in the main office on the west end of Canon City.

Financial Warranty: The \$90,052 bond held by the Division is adequate for the observed mine disturbance.

Fish and Wildlife: No impacts observed.

Hydrologic Balance: No standing water was observed in the pit and no exposed groundwater was observed.

Gen. Compliance with Mine Plan: The operation appeared to be in compliance with the approved mine plan. Google Earth was used to measure the disturbed area, which was estimated to be on the order of 15 acres (June 15, 2016 satellite imagery). High walls were estimated to be 40 feet in height (see **Photo 1**) and appeared to be sufficiently stable as the "clean up" progresses. Mr. Tezak pointed out the drill rig mast where blast holes were being drilled for an upcoming blast (see **Photo 2**).

Off-site Damage: The operation appeared to be well within the permit boundary, based on Google Earth review and permit boundary drawings. Mr. Tezak now believes the boundary markers observed during the previous inspection (as part of the SO process) mark subdivision boundaries and have nothing to do with the permit boundary. The Permittee has plans to survey the site and establish some permanent markers that should stand up to the cattle grazing the area.

Processing Waste: Two medium fines stockpiles were observed on the pit floor (see **Photo 3**).

Roads: Haul and access roads not a source of sediment that could be tracked offsite due to length and the 2.5 miles of FCR 69 also being a gravel road.

Reclamation Success: No reclamation has been initiated.

Revegetation: No noxious weeds were observed.

Sediment Control: No erosion problems were observed and no BMPs were needed at the time of the inspection.

Support Facilities On-site: A scale, bull dozer and loader were observed on site (see **Photos 4 and 5**).

Signs and Markers: The permit sign was properly posted (see **Photo 6**). Permanent boundary markers are planned, but not currently critical as mining activity is well within the permit boundary.

Permit Stipulations:

1. *During each year when development and/or production blasting occurs in the quarry, the Operator shall include a geotechnical section into the annual reclamation report providing updated geotechnical observations and measurements and associated recommendations for quarry development to provide a safe highwall during operations and a long term stable highwall at the time of reclamation. In particular, the geotechnical observations and measurements will include evaluation of the presence or absence of clay filling in geologic structures that dip out of the quarry face, and will evaluate any changes in orientation, spacing, and roughness of geologic structures observed relative to the observations documented in the initial report.*
2. *The Applicant must commit to preparing a blasting report for each shot. These reports must be retained by the Operator for at least three years and be available for inspection by the DRMS on demand. Please remember to prepare these reports and keep them on file for at least 3 years. The specific requirements for the blasting report were detailed in the Division's 2013 inspection report.*

Storm Water MGT Plan: No oil or fuel spills observed. Mr. Tezak stated the stormwater management plan is kept in the landscape office in Pueblo.

Topsoil: A small topsoil stockpile was observed on the north end of the highwall. A speculative discussion between this inspector and Mr. Tezak centered on whether or not the flatter area west of the truck scale was a topsoil repository, as it appeared it may have been disturbed several years ago. A post-inspection review using Google Earth historical imagery suggests it is not. No disturbance to this area was seen on Google Earth after when apparent mining disturbance began between March 26, 2006 and August 30, 2006. The Division recommends topsoil inventories and/or possible alternative sources be sought to allow sufficient topsoil for pit floor and haul road reclamation.

Please contact Tim Cazier (303)866-3567 ext. 8169 or email at [tim.cazier@state.co.us](mailto:tim.cazier@state.co.us) if you have any questions regarding this report.

## PHOTOGRAPHS



Photo 1. Approx. 40 feet Highwalls, south end (looking west).

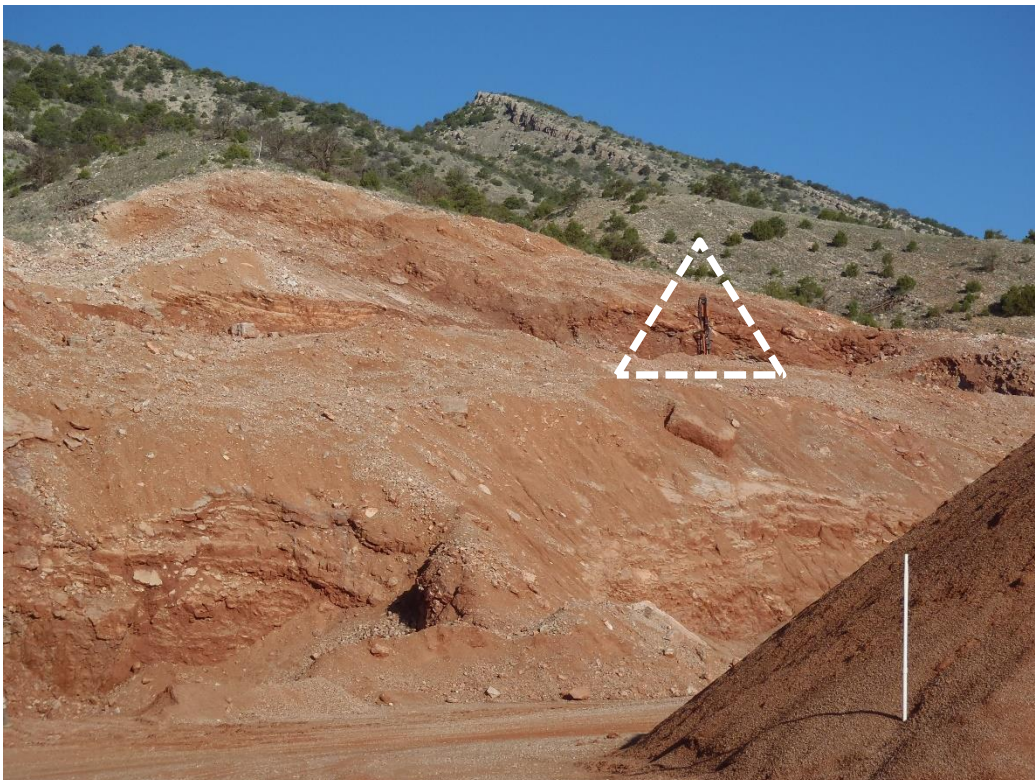


Photo 2. Drill rig mast where blast holes were being drilled south end (looking NW).

**PHOTOGRAPHS (cont.)**



Photo 3. Typical fines stockpile (south end).



Photo 4. Loader & scale (north end).

**PHOTOGRAPHS (cont.)**



Photo 5. Dozer and access ramp (west side, central area).



Photo 6. Permit sign, near Fremont County Road 69.

**GENERAL INSPECTION TOPICS**

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

|                                             |                                          |                                         |
|---------------------------------------------|------------------------------------------|-----------------------------------------|
| (AR) RECORDS----- <u>Y</u>                  | (FN) FINANCIAL WARRANTY----- <u>Y</u>    | (RD) ROADS----- <u>Y</u>                |
| (HB) HYDROLOGIC BALANCE----- <u>Y</u>       | (BG) BACKFILL & GRADING----- <u>Y</u>    | (EX) EXPLOSIVES----- <u>Y</u>           |
| (PW) PROCESSING WASTE/TAILING---- <u>Y</u>  | (SF) PROCESSING FACILITIES----- <u>Y</u> | (TS) TOPSOIL----- <u>Y</u>              |
| (MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>    | (FW) FISH & WILDLIFE----- <u>Y</u>       | (RV) REVEGETATION---- <u>Y</u>          |
| (SM) SIGNS AND MARKERS----- <u>Y</u>        | (SP) STORM WATER MGT PLAN---- <u>NA</u>  | (CI) COMPLETE INSP---- <u>Y</u>         |
| (ES) OVERBURDEN/DEV. WASTE----- <u>Y</u>    | (SC) EROSION/SEDIMENTATION--- <u>Y</u>   | (RS) RECL PLAN/COMP-- <u>Y</u>          |
| (AT) ACID OR TOXIC MATERIALS----- <u>NA</u> | (OD) OFF-SITE DAMAGE----- <u>Y</u>       | (ST) STIPULATIONS----- <b><u>PB</u></b> |

Y = Inspected and found in compliance / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

**Inspection Contact Address**

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ec: DRMS file