



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.

MINE NAME: Perdue	MINE/PROSPECTING ID#: M-2000-089	MINERAL: Sandstone (silica, stone, quartzite)	COUNTY: Boulder
INSPECTION TYPE: Monitoring	INSPECTOR(S): Amy Eschberger	INSP. DATE: September 6, 2018	INSP. TIME: 13:15
OPERATOR: Mary Vasquez	OPERATOR REPRESENTATIVE: Ignacio Vasquez	TYPE OF OPERATION: 110c - Construction Limited Impact	
REASON FOR INSPECTION: Normal I&E Program		BOND CALCULATION TYPE: None	BOND AMOUNT: \$12,500.00
DATE OF COMPLAINT: NA		POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: September 17, 2018	

GENERAL INSPECTION TOPICS

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. No problems or possible violations were noted during the inspection. The mine operation was found to be in full compliance with Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and/or for Hard Rock, Metal and Designated Mining Operations. Any person engaged in any mining operation shall notify the office of any failure or imminent failure, as soon as reasonably practicable after such person has knowledge of such condition or of any impoundment, embankment, or slope that poses a reasonable potential for danger to any persons or property or to the environment; or any environmental protection facility designed to contain or control chemicals or waste which are acid or toxic-forming, as identified in the permit.

(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>N</u>
(PW) PROCESSING WASTE/TAILING---- <u>Y</u>	(SF) PROCESSING FACILITIES----- <u>N</u>	(TS) TOPSOIL----- <u>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>N</u>	(RV) REVEGETATION---- <u>Y</u>
(SM) SIGNS AND MARKERS----- <u>Y</u>	(SP) STORM WATER MGT PLAN---- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>Y</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>N</u>	(OD) OFF-SITE DAMAGE----- <u>Y</u>	

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

OBSERVATIONS

This inspection of the Perdue site (Permit No. M-2000-089) was conducted by Amy Eschberger of the Division of Reclamation, Mining and Safety (Division) at the operator's request to assess remaining reclamation. The permittee was represented by Ignacio Vasquez during the inspection. The site is located approximately 3.5 miles northeast of Lyons, Colorado. Access to the site is from the east off Stone Canyon Drive. It should be noted, another permit also called Perdue previously existed at this site under Permit No. M-2012-046, and consisted of 1.7 acres of offsite disturbances around the periphery of the M-2000-089 permit area. The Division conducted a release inspection of Permit No. M-2012-046 during the same inspection, and approved its full release on September 14, 2018. Therefore, moving forward, only the M-2000-089 permit will exist at this site. **Photos 1-12** taken during the inspection are included with this report.

This is a 110c operation permitted for 9.7 acres to mine sandstone for landscaping/decorative use (see enclosed Google Earth image of site). The site is situated on the eastern slope of a sandstone ridge. The sandstone was extracted in strips/phases. Overburden from the first phase was used to create a flat area in the eastern portion of the site for storing mined sandstone. While the sandstone deposit generally outcrops at the surface in this area, any available overburden and topsoil will be salvaged and stored on site for use in reclamation. The approved reclamation plan calls for backfilling mined areas with overburden and/or waste rock to a 3H:1V or flatter slope gradient, replacing topsoil on disturbed land at a minimum depth of 3 inches, and revegetating the site for rangeland use. The existing driveway used to access the site from Stone Canyon Drive will remain after reclamation for use by the landowner.

The site has been in various stages of reclamation since 2014. During the last inspection conducted on April 6, 2017, the Division informed the operator that Rule 3.1.3 requires all reclamation be carried to completion with all reasonable diligence, and that each phase of reclamation be completed within 5 years from the date that such phase commenced. Although the site has not been excavated in some time, there is still some mined sandstone product left on site. As long as the operation continues to sale product from the site, it maintains its active status. However, Mr. Vasquez indicated the operator wishes to complete final reclamation and seek a full release of the permit.

Much of the site has already been reclaimed. The large overburden/waste rock stockpile that had been stored in the northwestern portion of the site was graded out to flatter than 3H:1V, retopsoiled, and seeded in 2012. Disturbed areas near the center and southern edge of the site were also graded to 3H:1V or flatter, retopsoiled, and seeded around the same time. The reclaimed areas blend well with surrounding topography. Native grasses, forbs, shrubs, and some pine trees have volunteered across the disturbed areas. The Division observed more weeds present on site than observed during the last inspection. Mr. Vasquez indicated the weeds have been more difficult to control this year due to the hot, dry conditions. The Division recommends the operator implement the weed control plan for the site as soon as possible. Fall-applied herbicides generally will provide better weed control than spring-applied treatments in dry years.

To complete final reclamation of the site, the operator will need to backfill the steep mine faces present at the southeastern and southwestern edges of the permit area. Plenty of waste rock and overburden material is available near these mine faces to be used as backfill material. Any large stones present in these areas could be placed at the base of the pits prior to backfilling. All disturbed slopes will need to be graded to 3H:1V or flatter. Any available topsoil should be spread across disturbed areas, then the areas seeded with the approved seed mixture. Mr. Vasquez intends to complete the required reclamation earthwork this year, and hopes to mulch and seed the areas next spring.

PHOTOGRAPHS



Photo 1. View looking west across pit located at southeastern edge of permit area, showing 3-4 foot high mine walls that will need to be backfilled for reclamation. Note the presence of waste rock/overburden material in this area which could be used as backfill material.



Photo 2. View looking west across pit located at southeastern edge of permit area, showing plenty of waste rock/overburden material available in this area for use in backfilling steep mine walls.



Photo 3. View looking west across southern edge of pit located at southeastern edge of permit area, showing 3-4 foot high mine walls that will need to be backfilled for reclamation. Note the presence of waste rock/overburden material in this area which could be used as backfill material.



Photo 4. View looking north across reclaimed central portion of site.



Photo 5. View looking east across reclaimed southern portion of site.



Photo 6. View looking west across pile of large stones adjacent to pit located at southwestern edge of permit area. These rocks could be placed on the pit floor prior to backfilling the pit with smaller waste rock/overburden material.



Photo 7. View looking northwest across pile of large stones and some stacked product adjacent to pit located at southwestern edge of permit area. After any remaining product is sold, large waste rocks could be placed on the pit floor prior to backfilling the pit with smaller waste rock/overburden material.



Photo 8. View looking west across pit located at southwestern edge of permit area, showing 3-4 foot high mine walls that will need to be backfilled for reclamation. Some waste rock/overburden material is available in this area for use as backfill material.



Photo 9. View looking west across southern edge of pit located at southwestern edge of permit area, showing 3-4 foot high mine walls that will need to be backfilled for reclamation.



Photo 10. View looking east across northwestern portion of permit area where large overburden/waste rock stockpile was removed and the area graded to flatter than 3H:1V.



Photo 11. View looking north across northwestern portion of permit area where large overburden/waste rock stockpile was removed and the area graded to flatter than 3H:1V.



Photo 12. View looking east across mine haul road covered with volunteer grasses, forbs, and shrubs.

Inspection Contact Address

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750 Crisman Dr., Apt 201A
Longmont, CO 80501

Enclosure: Google Earth image of site

M-2000-089 / Perdue / Mary Vasquez

Purple Outline = 9.7 acres = Approved Permit Area for M-2000-089

Red Outline = 1.7 acres = Approved Permit Area for M-2012-046 (Full Release Approved on 9/14/2018)

(Image data from 10/14/2017)

