




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: Rex Quarry - Sec 36	MINE/PROSPECTING ID#: M-1977-304	MINERAL: Limestone (general)	COUNTY: Larimer
INSPECTION TYPE: Monitoring	INSPECTOR(S): Jared L. Ebert	INSP. DATE: July 18, 2017	INSP. TIME: 11:00
OPERATOR: Pete Lien & Sons, Inc.	OPERATOR REPRESENTATIVE: Rob Kisner	TYPE OF OPERATION: 112c - Construction Regular Operation	
REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: Complete Bond	BOND AMOUNT: \$654,500.00	
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None	
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: July 25, 2017	

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>TBD</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>NA</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>NA</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----- <u>NA</u>

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

OBSERVATIONS

This was a monitoring inspection of the Rex Quarry, DRMS Permit No. M-1977-304 operated by Pete Lien & Sons, Inc. (PLS). I, Jared Ebert of the Colorado Division of Reclamation, Mining and Safety (Division) conducted the inspection. Mr. Rob Kisner with PLS accompanied me during the inspection.

This is a 400 acre 112c limestone quarry. The post mine land use approved for the site is limited Wildlife Habitat. The permit area for this mine is directly adjacent to the Owl Canyon Quarry (DRMS Permit No. M-1977-302) also operated by PLS. Overall, it appears the Operator mines these sites as one unit.

Backfilling and Grading:

Mining at the site appears to have advanced to the east and to the south through various stages. The highwall is near vertical on the east side of the affected area daylighting to the west. Waste-rock/spoil benches with an eastern aspect are west of the highwall. The Operator has backfilled, graded and revegetated portions of the affected area to the west. The reclaimed area slopes gently (4H:1V or less) to the east. There are waste-rock/spoil benches that run north and south west of the highwall with embankments with an eastern aspect. The slopes of these bench embankments are generally at the angle of repose.

Explosives:

Blasting operations were not occurring within the Rex Quarry area at the time of this inspection, however the Operator was preparing for a blast in the adjacent Owl Canyon Quarry to the south.

Financial Warranty:

The reclamation liability set for the site is currently \$654,000. The Division holds a bond in the amount of \$654,500 in the form of a letter of credit for the site. This amount was agreed to by the Division and PLS in December of 1997. It appears this was an interim bond calculation of \$6,000 per acre for 109 acres of disturbance. PLS then submitted Technical Revision No. 3 (TR03) in July of 1998 and clarified the reclamation plan and a review of the reclamation cost was included. TR03 was approved with the understanding that the \$654,000 would be adequate to reclaim the site. Since that time, it does not appear an updated reclamation cost estimate has been conducted at the site. In accordance with Rule 4.2.1(2), the Division may review the financial warranty for adequacy. The Division has begun this review but has found that additional information is needed to determine the reclamation liability at the site particularly when it comes to structure demolition. The Division will send PLS a separate letter requesting information needed to conduct a reclamation cost estimate.

Gen. Compliance With Mine Plan:

The mining plan calls for mining the site in three areas: Area A, C and D. Each of these areas are further subdivided into small blocks. As mining advances, previously mined areas are backfilled with spoil/waste-rock. The mining plan updated with Technical Revision No. 6 (TR06) shows the currently approved mining sequence and backfilling sequence. Overall, it appears that mining has been completed in Area A with the exception of a small portion of block A4 and A6 on the east side of the affected area. Mining has advanced into Area C in blocks C1, C2 and C3. The most recent excavation appears to have occurred in Area C3. Mining has temporarily ceased in this area, but according to Mr. Kisner, PLS will re-initiate mining in this area in August of this year.

Mining has created a long highwall along the eastern side of the affected area with a significant amount of waste-rock and spoil placed in benches behind the advancing highwall to the west. In the northern portion of the site, the highwall is about 35 feet in height and is generally vertical. On the southern end of the site the highwall is 50 to 60 feet in height. Waste-rock piles are shown in the Back Fill "BF" areas on the approved mining plan map approved with TR06. The waste benches are located in the BF-I and BF-II areas.

Reclamation Success:

Portions of the affected area on the west side of the site have been backfilled, graded and revegetated. These areas north and south of the main quarry access road were observed. These areas were stable and vegetated with native grasses and forbs; also a significant amount of mountain mahogany and rabbit brush shrubs have established in these areas.

Support Facilities On-site:

The site includes a plant site, mine office, equipment storage area and a shop area. No problems were noticed.

Signs and Markers:

The mine entrance sign was in place. Mining operations appear to be well within the permit area.

Topsoil:

A number of growth media piles are stored on the waste rock benches to be used for reclamation.

PHOTOGRAPHS



Figure 1. From the southeast end of mining Area C looking north.



Figure 2. From the north of the excavation in area C3 looking south.



Figure 3. From the reclaimed area north of the main quarry access road looking south.



Figure 4. View of the highwall from the top of the first bench at the east end of mining Area A5.



Figure 5. Reclaimed area north of main quarry access road looking south.

Inspection Contact Address

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Enclosure: None

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