




**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> Lyon King Quarry	<b>MINE/PROSPECTING ID#:</b> M-1999-064	<b>MINERAL:</b> Sandstone (silica, st quartzite)	<b>COUNTY:</b> Larimer
<b>INSPECTION TYPE:</b> Monitoring	<b>INSPECTOR(S):</b> Robert Zuber, P.E.	<b>INSP. DATE:</b> September 22, 2020	<b>INSP. TIME:</b> 08:00
<b>OPERATOR:</b> Luis M. Vasquez	<b>OPERATOR REPRESENTATIVE:</b> Raul Vasquez	<b>TYPE OF OPERATION:</b> 110c - Construction Limited Impact	

<b>REASON FOR INSPECTION:</b> Normal I&E Program	<b>BOND CALCULATION TYPE:</b> Complete Bond	<b>BOND AMOUNT:</b> \$8,400.00
<b>DATE OF COMPLAINT:</b> NA	<b>POST INSP. CONTACTS:</b> None	<b>JOINT INSP. AGENCY:</b> None
<b>WEATHER:</b> Clear	<b>INSPECTOR'S SIGNATURE:</b> 	<b>SIGNATURE DATE:</b> October 16, 2020

**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:** Signs & Markers

**PROBLEM/POSSIBLE VIOLATION:** Problem: The mine identification sign posted at the entrance of the mine site did not contain all necessary information. This is a problem for failure to post a mine identification sign as required by Section 3.1.12(1) of the rule. The Operator shall, at the entrance of the mine site post a sign, which shall be clearly visible from the access road, with a minimum size equaling one hundred and eighty-seven (187) square inches, such as eleven (11) inches in height and seventeen (17) inches in width, with appropriate font size, with the following: the name of the Operator, a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board; and the permit number.

**CORRECTIVE ACTIONS:** The operator shall, at the entrance of the mine site, post a sign which shall be clearly visible from the access road with the following: the name of the operator, a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board; and the permit number. The operator shall submit photo documentation that a proper sign has been posted by the corrective

action date.

**CORRECTIVE ACTION DUE DATE: 12/15/20**

### **OBSERVATIONS**

Rob Zuber of DRMS arrived at the Vasquez family's stone yard on Highway 66 (near the town of Lyons) and then followed Raul Vasquez to the site (in separate vehicles), approximately six miles from Lyons (distance along Stone Canyon Drive). The weather was clear and hot for September. The ground was dry from limited recent moisture.

#### **Backfilling and Grading:**

The remaining portion of the quarry, near the north end of the site, is approximately a circle with a diameter of 90 feet (0.15 acre) and an average depth of five feet. Backfilling this quarry (and spreading topsoil and seeding this area) is the only significant reclamation work to be done at the Lyon King Quarry. Some rubble piles exist near the eastern boundary, but are historical (per Mr. Vasquez). Older Google Earth photographs appear to confirm this (although the resolution of the imagery is poor).

The grading of the reclaimed area (south of the existing quarry) blends well with the surrounding topography.

#### **Financial Warranty:**

The Division has updated the Reclamation Cost Estimate for the Red Wolf Quarry and is including it with this inspection report as an enclosure. The new estimate is \$5,320. The Division currently holds a financial warranty in the amount of \$8,400. Therefore, the operation is eligible for a surety reduction. Pursuant to Rule 4.1.14, an Operator may request that the Office reduce the amount of the financial warranty required. Such request must be made in writing and shall include an estimate of the actual cost to reclaim the site based on what it would cost an independent contractor to complete reclamation. A copy of the surety reduction form has been enclosed with this report.

#### **Hydrologic Balance:**

No erosion or other hydrology problems were seen at the site.

#### **Off-site Damage:**

A previous inspection (June 2011) revealed that there has been off-site disturbance at the north side of the site. This area has healed fairly well in the subsequent nine years. Also, logs have been placed to discourage additional disturbance in this area.

At the top of the cliff to the west of the site, rubble exists, outside of the boundary. This is likely historical disturbance because most of the rock contains considerable lichen.

Revegetation:

Overall, the vegetation on the reclaimed area is successful. Some weeds were seen on site, including cheat grass, common mullein, and knapweed. Of these three, knapweed is considered the most problematic by DRMS and other weed specialist in Colorado. Mr. Vasquez indicated that he has been using weevils to control the knapweed. All of the knapweed that was observed was very dry, likely from the weevils, although the dryness of the summer of 2020 and lateness in the season could also be factors.

Small pine trees were seen in the reclaimed area. These are mostly volunteers, per Mr. Vasquez.

Signs and Markers:

The mine entrance sign was seen at the scale house, approximately 1,000 feet from the Lyon King Quarry boundary. It contained the quarry name and DRMS permit number. It did not list the name of the operator or mention DRMS. This information should be added to the sign.

Boundary markers were found at the corners of the site, and these were checked using GPS and by comparing to the boundary outline in the permit maps. These markers appeared to be accurate.

Topsoil:

Mr. Vasquez indicated that no topsoil has been salvaged and stockpiled for the remaining reclamation. He also indicated that naturally there is very little topsoil at any of the quarry sites in the vicinity of the Lyon King (on the Beech Hill ridge). The Division is not citing this as a problem.

## **PHOTOGRAPHS**



**Reclaimed area**



**Quarry to be reclaimed**





**Pre-law rubble**



**Area north of boundary where disturbance is healing  
(noted in 2011 DRMS inspection report)**

### **GENERAL INSPECTION TOPICS**

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

(AR) RECORDS----- <u>N</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>NA</u>
(PW) PROCESSING WASTE/TAILING---- <u>NA</u>	(SF) PROCESSING FACILITIES----- <u>NA</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>PB</u>	(SP) STORM WATER MGT PLAN---- <u>N</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>NA</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>NA</u>	(OD) OFF-SITE DAMAGE----- <u>Y</u>	

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

#### **Inspection Contact Address**

Raul Vasquez  
Luis M. Vasquez  
P.O. Box 122  
Lyons, CO 80540

Enclosure

CC:

## COST SUMMARY WORK

Task description: Cost Summary

Site: Lyon King Quarry

Permit Action: SI

Permit/Job#: M1999064

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 10/14/2020

County: Larimer

Filename: M064-000

User: RDZ

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	BACKFILL QUARRY	DOZER	1	2.95	\$767
002	REPLACE TOPSOIL	DOZER	1	0.11	\$30
003	REVEGETATE QUARRY AREA	REVEGE	1	0.00	\$169
004	MOBILIZATION/DEMOBILIZATION	MOBILIZE	1	4.88	\$3,515
<b><u>SUBTOTALS:</u></b>				<b>7.94</b>	<b>\$4,481</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02  
Performance bond: 1.05  
Job superintendent: 0.00  
Profit: 10.00

Total = \$91  
Total = \$47  
Total = \$0  
Total = \$448

TOTAL O & P = \$586

CONTRACT AMOUNT (direct + O & P) = \$5,067

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$0  
Engineering work and/or contract/bid preparation: 0.00  
Reclamation management and/or administration: 5.00

Total = \$0  
Total = \$0  
Total = \$253

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$839

**TOTAL BOND AMOUNT (direct + indirect) = \$5,320**

**BULLDOZER WORK**Task description: **BACKFILL QUARRY**Site: **Lyon King Quarry** Permit Action: **SI** Permit/Job#: **M1999064****PROJECT IDENTIFICATION**

Task #: **001** State: **Colorado** Abbreviation: **None**  
 Date: **10/14/2020** County: **Larimer** Filename: **M064-001**  
 User: **RDZ**

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine: **Cat D8T - 8SU**  
 Horsepower: **310**  
 Blade Type: **Semi-Universal**  
 Attachment: **3-shank ripper**  
 Shift Basis: **1 per day**  
 Data Source: **(CRG)**

**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$116.22	NA
Operating Cost/Hour:	\$89.77	100
Ripper own. Cost/Hour:	\$12.00	NA
Ripper op. Cost/Hour:	\$2.29	25
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$260.31**  
 Total Fleet Cost/Hour: **\$260.31**

**MATERIAL QUANTITIES**

Initial Volume: **1,178**  
 Swell factor: **1.215**  
 Loose volume: **1,431 LCY**

Source of estimated volume: **Division of Reclamation, Mining & Safety**  
 Source of estimated swell factor: **Cat Handbook**

**HOURLY PRODUCTION**

Average push distance: **50 feet**  
 Unadjusted hourly production: **1,400.0 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**  
 Average site altitude: **6,500 feet**

Material weight: **3,300 lbs/LCY**Weight description: **Decomposed rock - 75% Rock, 25% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)



Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3471

Adjusted unit production: 485.94 LCY/hr

Adjusted fleet production: **485.94** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.536/LCY

Total job time: **2.95** Hours

Total job cost: **\$767**

**BULLDOZER WORK**Task description: **REPLACE TOPSOIL**Site: **Lyon King Quarry** Permit Action: **SI** Permit/Job#: **M1999064****PROJECT IDENTIFICATION**

Task #: **002** State: **Colorado** Abbreviation: **None**  
 Date: **10/14/2020** County: **Larimer** Filename: **M064-002**  
 User: **RDZ**

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine: **Cat D8T - 8SU**  
 Horsepower: **310**  
 Blade Type: **Semi-Universal**  
 Attachment: **3-shank ripper**  
 Shift Basis: **1 per day**  
 Data Source: **(CRG)**

**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$116.22	NA
Operating Cost/Hour:	\$89.77	100
Ripper own. Cost/Hour:	\$12.00	NA
Ripper op. Cost/Hour:	\$2.29	25
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$260.31**  
 Total Fleet Cost/Hour: **\$260.31**

**MATERIAL QUANTITIES**

Initial Volume: **61**  
 Swell factor: **1.125**  
 Loose volume: **69 LCY**

Source of estimated volume: **Division of Reclamation, Mining & Safety**  
 Source of estimated swell factor: **Cat Handbook**

**HOURLY PRODUCTION**

Average push distance: **50 feet**  
 Unadjusted hourly production: **1,400.0 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**  
 Average site altitude: **6,500 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4323

Adjusted unit production: 605.22 LCY/hr

Adjusted fleet production: **605.22** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.430/LCY

Total job time: **0.11** Hours

Total job cost: **\$30**

**REVEGETATION WORK**Task description: **REVEGETATE QUARRY AREA**Site: **Lyon King Quarry**Permit Action: SIPermit/Job#: M1999064**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 10/14/2020County: LarimerFilename: M064-003User: RDZAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	40.00	pound	\$0.27	\$10.60
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$10.60</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$37.03
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$37.03</b>

**TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$107.16
<b>Total Tilling Cost/Acre</b>	<b>\$107.16</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Crested Wheatgrass - Fairway	1.50	6.89	\$6.04
Sideoats Grama - Vaughn	2.25	7.39	\$18.84
Pubescent Wheatgrass - Luna	4.25	8.78	\$14.45
Western Wheatgrass - Barton	4.00	10.10	\$28.00
<b>Totals Seed Mix</b>	<b>12.00</b>	<b>33.16</b>	<b>\$67.33</b>

**Application**

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00

<b>Total Seed Application Cost/Acre</b>	<b>\$232.00</b>
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**MULCHING and MISCELLANEOUS****Materials**

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$301.00	\$602.00
<b>Total Mulch Materials Cost/Acre</b>				<b>\$602.00</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Crimping, with tractor {DMG survey data}	\$70.17
<b>Total Mulch Application Cost/Acre</b>	<b>\$70.17</b>

**NURSERY STOCK PLANTING**

<b>Common Name</b>	<b>No / Acre</b>	<b>Type and Size</b>	<b>Planting Cost</b>	<b>Fertilizer Pellet Cost</b>	<b>Cost /Acre</b>
					\$
<b>Totals Nursery Stock Cost / Acre</b>					<b>\$0.00</b>

**JOB TIME AND COST**

No. of Acres:	0.15	Cost /Acre:	\$1,126.29
Estimated Failure Rate:	0%	Cost /Acre*:	\$1,126.29
*Selected Replanting Work Items:	FERTILIZING,TILLING,SEEDING,MULCHING		

Initial Job Cost:	<b>\$168.94</b>
Reseeding Job Cost:	<b>\$0.00</b>
Total Job Cost:	<b>\$169</b>
Job Hours:	<b>0.00</b>

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **MOBILIZATION/DEMOBILIZATION**Site: **Lyon King Quarry**Permit Action: SIPermit/Job#: M1999064**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 10/14/2020County: LarimerFilename: M064-004User: RDZAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,  
400 HP (2ND HALF, 2006)Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT  
TRAILER (25T, 50T, AND 100T)**Cost Breakdown:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
Ownership Cost/Hour:	\$17.20	\$29.63	\$38.69
Operating Cost/Hour:	\$26.56	\$47.02	\$55.69
Operator Cost/Hour:	\$23.63	\$23.63	\$23.63
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$67.39	\$123.81	\$141.54

**NON ROADABLE EQUIPMENT:**

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D8T - 8SU	53.08	\$128.22	\$141.54	1	\$269.76	\$141.54	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.72	\$67.39	2	\$148.22	\$134.78	\$500.00

Subtotals: **\$417.98** **\$276.32** **\$750.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$13.23	1	\$13.23	\$13.23
Fuel Tanker, 4x2, 170 HP	\$28.84	1	\$28.84	\$28.84
Lube Truck, 4x2, 190 HP	\$34.47	1	\$34.47	\$34.47

Subtotals: **\$76.54** **\$76.54**



**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>LONGMONT</u>	
Total one-way travel distance:	<u>10.00</u>	miles
Average Travel Speed:	<u>45.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$3,480.50</u>
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$34.02</u>
** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.22</u>	<u>0.22</u>
Return Time (Hours):	<u>0.22</u>	<u>0.22</u>
Loading Time (Hours):	<u>1.00</u>	<u>NA</u>
Unloading Time (Hours):	<u>1.00</u>	<u>NA</u>
Subtotals:	<u>2.44</u>	<u>0.44</u>

**JOB TIME AND COST**

Total job time:	<u>4.89</u>	Hours
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Total job cost:	<u>\$3,515</u>
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**COLORADO**

**Division of Reclamation,  
Mining and Safety**

Department of Natural Resources

1313 Sherman Street, Room 215  
Denver, CO 80203

**REQUEST FOR FULL OR PARTIAL RELEASE OF PERMIT AREA/SURETY REDUCTION**

Please indicate if you are requesting:

FULL/FINAL RELEASE OF ENTIRE PERMITTED AREA (per Rule 4.17)

\_\_\_\_\_

ACREAGE REDUCTION (PARTIAL RELEASE per Rule 4.17)

\_\_\_\_\_

I wish to release \_\_\_\_\_ acres at this time.

You will need to submit with this request: a map showing the acreage to be released from the current permit and updated mining and reclamation plan maps that will accurately depict the new permit boundary if the release is approved.

SURETY (Bond) REDUCTION (per Rule 4.14)

\_\_\_\_\_

If you are requesting a surety (bond) reduction you will need to include with this request a new estimate of the actual cost to reclaim the site based on what it would cost an independent contractor to complete reclamation, including unit costs for reclamation activities as appropriate to the operation to comply with the provisions of Rule 3.1 and the Permit's approved Reclamation Plan.

File No.: M \_\_\_\_\_

Site Name: \_\_\_\_\_

County: \_\_\_\_\_

Permittee: \_\_\_\_\_

Permittee Address: \_\_\_\_\_  
(Street Address)

\_\_\_\_\_  
(City)

\_\_\_\_\_  
(State)

\_\_\_\_\_  
(Zip)



Operator (If Other than Permittee): \_\_\_\_\_

Permittee Representative: \_\_\_\_\_

Certified Mail # \_\_\_\_\_

In accordance with Rule 4.17.1(2) the Operator shall include the names, addresses and phone numbers of all owners of record to the affected land. Please attach additional sheets for this information if required.

<u>Name</u>	<u>Address</u>	<u>Phone Number</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

In accordance with Rule 4.17.1(4), if requesting a partial acreage release the Operator or their agent MUST sign that they have complied with the following statement: “All applicable portions of the Reclamation Plan requirements have been satisfied in accordance with these Rules and all applicable requirements under the Act.”

\_\_\_\_\_  
Signature of Permittee, Operator or their authorized agent      Date

*Important: In accordance with Rules 4.14.2(a) and 4.17.1(3) This release request must be submitted to the Division via certified mail and separate from any other correspondence to the Division.*