




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: Red Wolf Quarry	MINE/PROSPECTING ID#: M-1999-063	MINERAL: Sandstone (silica, st quartzite)	COUNTY: Larimer
INSPECTION TYPE: Monitoring	INSPECTOR(S): Robert Zuber, P.E.	INSP. DATE: September 22, 2020	INSP. TIME: 10:05
OPERATOR: Luis M. Vasquez	OPERATOR REPRESENTATIVE: Raul Vasquez	TYPE OF OPERATION: 110c - Construction Limited Impact	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: Complete Bond	BOND AMOUNT: \$8,900.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: 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 at the entrance of the mine site did not contain all necessary information. This is a problem for failure to post an adequate 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 Division of Reclamation, Mining and Safety (DRMS); 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 DRMS; 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

INSPECTION TOPIC: Signs & Markers

PROBLEM/POSSIBLE VIOLATION: Problem: The affected area boundary markers are incorrectly placed. This is a problem for failure to maintain boundary markers around the affected area as required by Section 3.1.12(2) of the rule.

CORRECTIVE ACTIONS: The operator shall conduct a survey and replace the boundary markers in the correct location(s). The operator shall provide proof to the Division that this has been done 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). After the Lyon King Quarry was inspected, the Red Wolf Quarry was inspected.

The weather was clear and hot for September. The ground was dry from only limited recent moisture.

Backfilling and Grading:

The primary quarry to be reclaimed is approximately 0.4 acre, as measured with Google Earth after the inspection. This is in agreement with a field estimate (with a Rangefinder) of 175 feet by 120 feet, which is 0.48 acre. The average depth is approximately four feet.

Mr. Vasquez indicated that a smaller quarry near the northwest corner of the site will also be reclaimed, but it is pre-law disturbance. This smaller quarry is approximately 40 feet by 30 feet and two feet deep.

The roads at the site will remain as permanent features, and the stone stockpiles appear to be historical disturbance, as viewed in older photos in Google Earth.

Financial Warranty:

The Division has updated the Reclamation Cost Estimate (RCE) for the Red Wolf Quarry and is including it with this inspection report as an enclosure. The new estimate is \$9,604. The surety held for this site is \$8,900. The financial warranty is not adequate to reclaim the site in accordance with the approved reclamation plan. This is a failure to maintain the proper financial warranty amount to complete reclamation of the affected lands pursuant to C.R.S. 34-32.5-117(4)(b) of the Act.

Your company must submit additional financial warranty to match the RCE. (Alternatively, your company can provide justification to support a lower estimate of the cost by November 2, 2020.) The Division will be sending a separate surety increase notice to your company regarding the increase of the financial warranty. Your company will have 60 days from the date on the surety increase notice to post the additional financial warranty.

Hydrologic Balance:

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

Off-site Damage:

It did not appear that off-site damage is an issue, but (as noted elsewhere in this report) the boundaries are not clear, so it is difficult to definitively say there is no off-site damage.

Revegetation:

It appears that no reclamation has been performed on this site. No weed patches were seen. A weed-like plant was observed, but determined later to be giant blazing star (*Mentzelia laevicaulis*), which is not on the Colorado noxious weed list.

Signs and Markers:

The mine entrance sign was seen at the scale house, near the south end of the permit boundary. It contained the quarry name and DRMS permit number. It did not list the name of the operator or mention the permit with DRMS. This information should be added to the sign.

Permit 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. There appears to be one or more issues with the marking of the boundary. See the figures below. It appears that the markers on the ground indicate a narrow permit area in the east/west direction compared to the site plan. In particular, the corners at the south end are less than 300 feet apart (using Google Earth), but the site plan indicates that they should be 620 feet apart. The markers are important in determining where the Red Wolf Quarry permit ends and where other permits begin (Beech Hill, for example).

Also, the distance on the site plan to the south side of the Red Wolf Quarry (1,040 feet) may be wrong. DRMS estimates (using Google Earth) that the distance is closer to 630 feet, assuming that the property line is near the gate by the Indio Red Quarry Number 1 (as Mr. Vasquez indicated). [It should be noted that the County line (and possibly the property line) is approximately 400 feet south of said gate on some maps, including Google Earth.]

Topsoil:

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

PHOTOGRAPHS

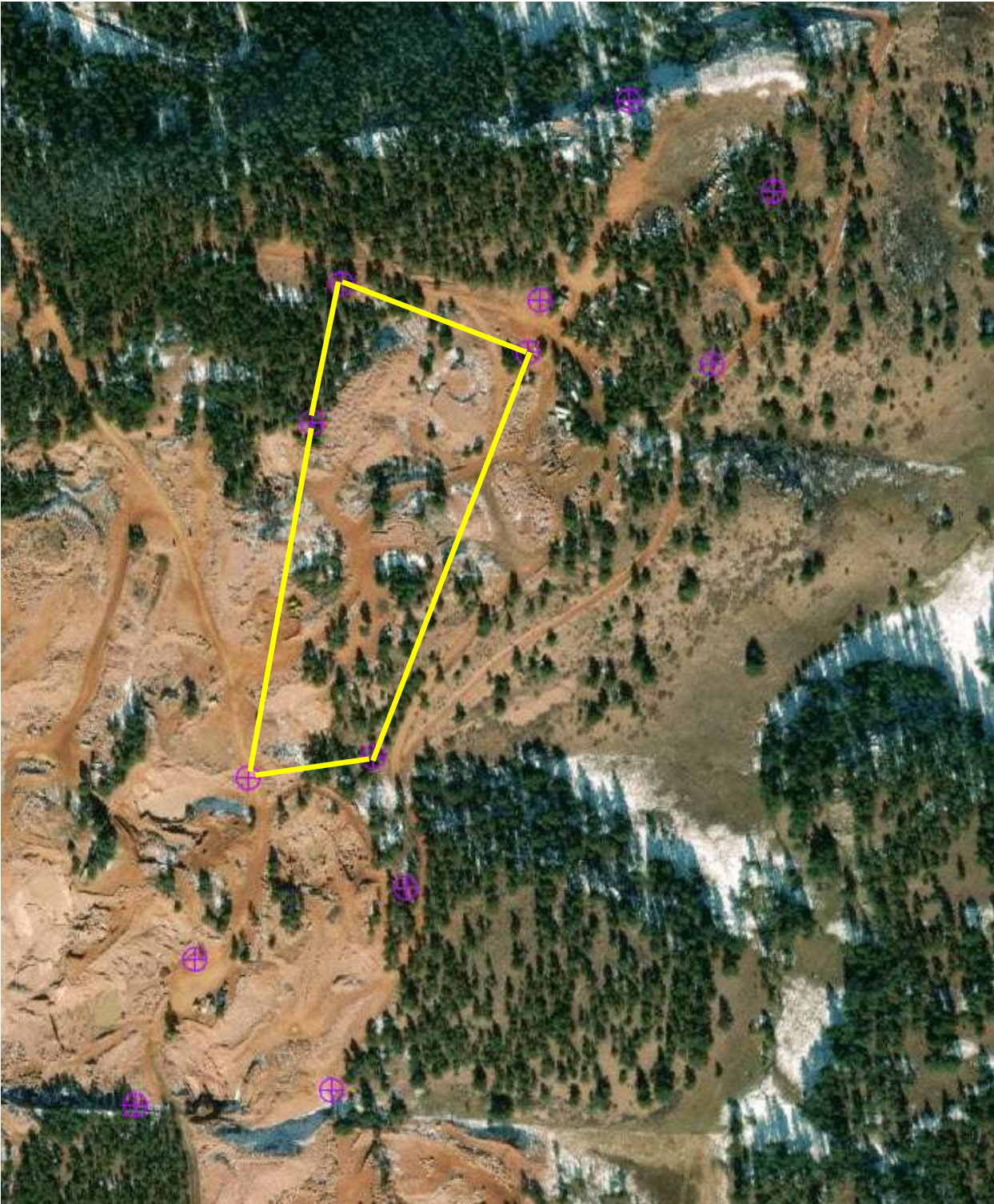


Figure 1. Boundary of Red Wolf Quarry per Markers on the Ground

Purple crosshair symbols are from DRMS GPS data collection at on-the-ground markers

(Indio Red Quarry Number 1 & 2 are also shown to the south and to the north)

Yellow lines are an estimate of the boundary from connecting the GPS points

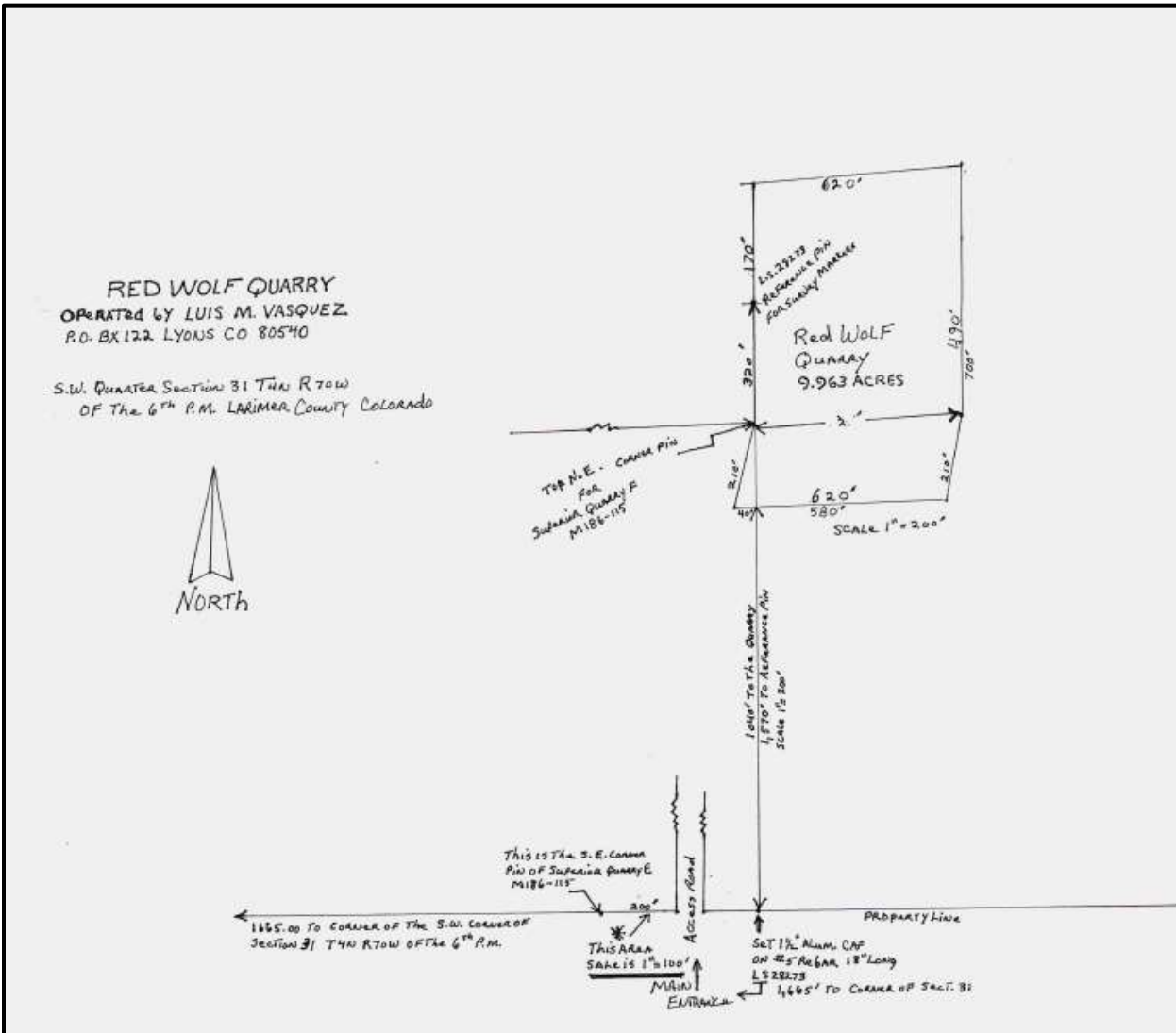


Figure 2. Permit Site Plan from Red Wolf Quarry Permit Application

PHOTOGRAPHS



Southwest corner of site (looking north) with boundary marker



Eastern edge of large quarry



Undisturbed area near north end of permit area



Entrance signs for Red Wolf Quarry and other mines

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>NA</u>	(RS) RECL PLAN/COMP-- <u>NA</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>NA</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(ST) STIPULATIONS----- <u>NA</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: Red Wolf Quarry

Permit Action: Surety Increase

Permit/Job#: M1999063

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 9/30/2020

County: Larimer

Filename: M063-000

User: RDZ

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Grading and Ripping of Disturbed Area	DOZER	1	14.35	\$3,768
002	Replace Topsoil on Affected Land	DOZER	1	0.85	\$220
003	Revegetate Disturbed Area	REVEGE	1	0.00	\$586
004	Mobilization/Demobilization	MOBILIZE	1	4.88	\$3,515
<u>SUBTOTALS:</u>				20.08	\$8,089

INDIRECT COSTS

OVERHEAD AND PROFIT:

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

Total = \$163

Total = \$85

Total = \$0

Total = \$809

TOTAL O & P = \$1,057

CONTRACT AMOUNT (direct + O & P) = \$9,146

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$0

Total = \$0

Engineering work and/or contract/bid preparation: 0.00

Total = \$0

Reclamation management and/or administration: 5.00

\$457

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$1,515

TOTAL BOND AMOUNT (direct + indirect) = \$9,604

BULLDOZER WORKTask description: **Grading and Ripping of Disturbed Area**Site: **Red Wolf Quarry** Permit Action: **Surety Increase** Permit/Job#: **M1999063****PROJECT IDENTIFICATION**

Task #: 001 State: Colorado Abbreviation: None
 Date: 9/30/2020 County: Larimer Filename: M063-001
 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:	<u>\$116.22</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$89.77</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$12.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$4.59</u>	<u>50</u>
Operator Cost/Hour:	<u>\$40.04</u>	<u>NA</u>

Total unit Cost/Hour: \$262.60
 Total Fleet Cost/Hour: **\$262.60**

MATERIAL QUANTITIES

Initial Volume: 2,600
 Swell factor: 1.215
 Loose volume: **3,159 LCY**

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

HOURLY PRODUCTION

Average push distance: 150 feet
 Unadjusted hourly production: 634.3 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

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

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

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

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: 220.17 LCY/hr

Adjusted fleet production: **220.17** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.193/LCY

Total job time: **14.35** Hours

Total job cost: **\$3,768**

BULLDOZER WORKTask description: **Replace Topsoil on Affected Land**Site: **Red Wolf Quarry** Permit Action: **Surety Increase** Permit/Job#: **M1999063****PROJECT IDENTIFICATION**

Task #: 002 State: Colorado Abbreviation: None
 Date: 9/30/2020 County: Larimer Filename: M063-002
 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:	<u>\$116.22</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$89.77</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$12.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$40.04</u>	<u>NA</u>

Total unit Cost/Hour: \$258.02
 Total Fleet Cost/Hour: **\$258.02**

MATERIAL QUANTITIES

Initial Volume: 161
 Swell factor: 1.125
 Loose volume: **181 LCY**

Source of estimated volume: Average 3" of topsoil
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 200 feet
 Unadjusted hourly production: 491.9 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

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

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

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

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: 212.65 LCY/hr

Adjusted fleet production: **212.65** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.213/LCY

Total job time: **0.85** Hours

Total job cost: **\$220**

REVEGETATION WORKTask description: Revegetate Disturbed AreaSite: Red Wolf QuarryPermit Action: Surety IncreasePermit/Job#: M1999063**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 9/30/2020County: LarimerFilename: M063-003User: 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
			Total Fertilizer Materials Cost/Acre	\$10.60

Application

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

TILLING

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

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
Totals Seed Mix	12.00	33.16	\$67.33

Application

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

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

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

Application

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

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	0.4	Cost /Acre:	\$1,126.29
Estimated Failure Rate:	30%	Cost /Acre*:	\$1,126.29
*Selected Replanting Work Items:	FERTILIZING,TILLING,SEEDING,MULCHING		

Initial Job Cost:	\$450.52
Reseeding Job Cost:	\$135.15
Total Job Cost:	\$586
Job Hours:	0.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: Mobilization/DemobilizationSite: Red Wolf QuarryPermit Action: Surety IncreasePermit/Job#: M1999063**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 9/30/2020County: LarimerFilename: M063-004User: 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:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
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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