




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: Mica White	MINE/PROSPECTING ID#: M-1992-058	MINERAL: Mica and silica (quar)	COUNTY: Fremont
INSPECTION TYPE: Monitoring	INSPECTOR(S): Timothy Cazier, P.E.	INSP. DATE: June 16, 2021	INSP. TIME: 12:00
OPERATOR: Colorado Quarries Inc	OPERATOR REPRESENTATIVE: Greg Cleeves	TYPE OF OPERATION: 112c - Construction Regular Operation	
REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: Partial Bond	BOND AMOUNT: \$184,720.00	
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: U.S.BLM	JOINT INSP. AGENCY: None	
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: January 14, 2022	

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>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>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>Y</u>
(AT) ACID OR TOXIC MATERIALS----- <u>PB</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

OBSERVATIONS

This inspection was conducted as part of the regular monitoring program. The Permittee (Colorado Quarries) was represented by Mr. Greg Cleeves during the inspection. The Mica White is accessed from Fremont Co Rd 45 off US 50, approximately six miles southeast of Howard. This is a 112c mica and silica (quartz) mine. It was operating at the time of the inspection.

Availability of Records: Annual fees are paid through August 2021. The previous inspection was on April 27, 2017. The approved post-mine land use is rangeland. There were no open infractions prior to the inspection. Both the surface and minerals are managed by the Bureau of Land Management (BLM).

Acid And Toxic Materials: Petroleum products stored on the pit area floor were contained in drums with secondary containment. No acid or toxic materials are stored at the staging area.

Backfilling and Grading: Sufficient backfill material appeared to be available in the way of fines at the pit area (see **Photo 1**) and the staging area (see **Photo 2**) is constructed with excess fines.

Excess Spoil and Dev. Waste: No overburden piles were observed. Most process fines are trucked to the staging area, but some remain at the pit as discussed above.

Financial Warranty: The \$184,720 bond held by the DRMS was last updated in 2012 with the conversion to a 112c permit. An updated reclamation cost estimate is attached. This unit cost update increases the estimated cost for reclamation to \$256,954. Please review it and contact me with questions or concerns. **The DRMS will issue a surety increase in two weeks.**

Fish and Wildlife: No impact to wildlife was 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. The maximum allowed disturbed area is 24.5 acres (20 at the pit and 4.5 at the stockpile area). Google Earth was used to measure the disturbed area, which was estimated to be approximately 9 acres (5.2 at the pit and 3.8 at the stockpile area), based on 2019 imagery. Highwalls were estimated to vary between 15 and 40 feet in height and appeared generally stable (see **Photos 3 - 6**). Mr. Cleeves stated they were cutting switchbacks in the highwall for access.

Off-site Damage: The operation appeared to be confined to the permit boundary, based on Google Earth review and site observations.

Processing Waste: Stockpiled crusher fines were observed in the stockpile area (see **Photo 7**), primarily, but also in the pit area (see **Photo 8**).

Roads: Haul and access roads did not appear to be a source of sediment that could be tracked offsite (see **Photo 9**)

Right of Entry: Colorado Quarries leases the site from the Bureau of Land Management.

Reclamation Success: Mr. Cleeves indicated about a third of the stockpile area (southwest face) had been

reclaimed (graded to 3H:1V, topsoiled and seeded (see **Photo 10**).

Revegetation: Vegetation was getting established on the reclaimed stockpile area. No noxious weeds were observed.

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

Support Facilities On-site: A screen plant, crusher, two loaders and an excavator were observed on site.

Signs and Markers: The permit sign was properly posted (see **Photo 11**) and boundary markers were observed in the stockpile area to delineate the affected area boundary (see **Photo 12**).

Permit Stipulations: There are no open permit stipulations.

Topsoil: Topsoil has been stripped and salvaged for the stockpile area. It is placed as needed for reclamation there. There is essentially no topsoil to salvage at the pit area.

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

PHOTOGRAPHS



Photo 1. Fines stockpiled at toe of north highwall (looking SE from switchback on west side of pit).

PHOTOGRAPHS (cont.)



Photo 2. Typical fines stockpiled at stockpile area.



Photo 3. Pit highwalls from access road switchback on west side of pit (looking SE).

PHOTOGRAPHS (cont.)



Photo 4. North highwall (looking NW from pit floor).



Photo 5. East highwall (looking NE from pit floor).

PHOTOGRAPHS (cont.)



Photo 6. South/Southeast highwall (looking SE from pit floor).



Photo 7. Crusher fines on NE side of stockpile area (looking NW from center area).

PHOTOGRAPHS (cont.)



Photo 8. Crusher fines on NW end of pit floor (looking NW).



Photo 9. Haul road (outside of permit area, looking west from pit floor).

PHOTOGRAPHS (cont.)

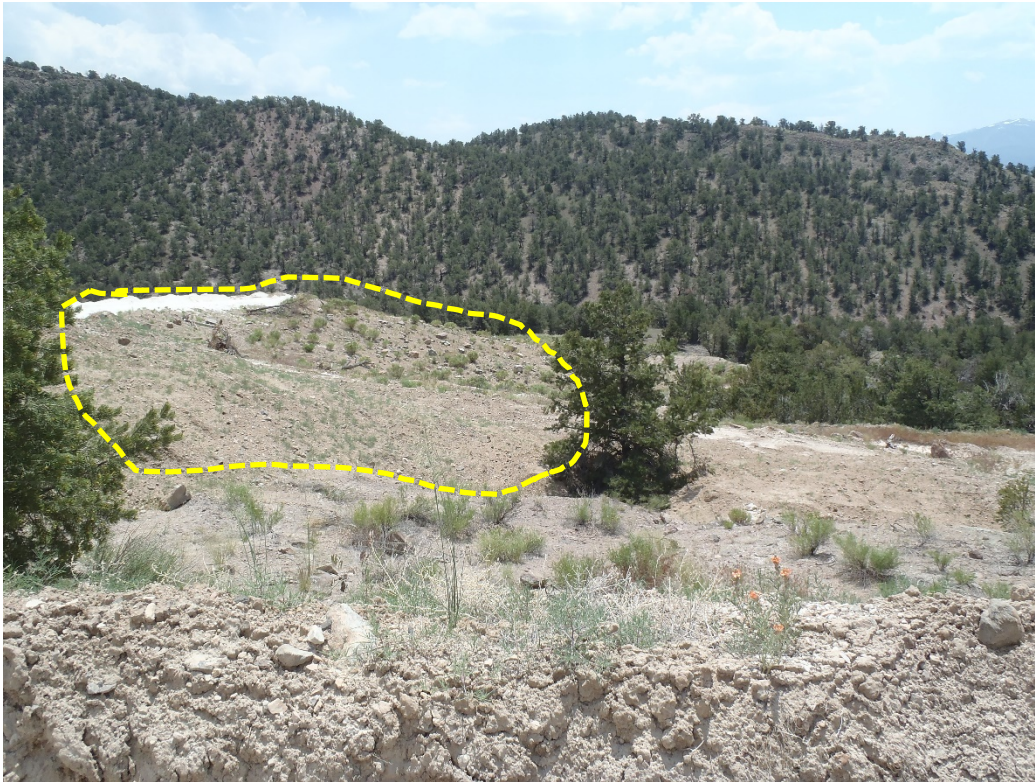


Photo 10. Reclaimed SW side of stockpile area (looking SE from access road).



Photo 11. Permit sign at road switchback near pit.

PHOTOGRAPHS (cont.)



Photo 12. Typical stockpile area affected area boundary marker.

Inspection Contact Address

Aaron Tezak
Colorado Quarries Inc
270 S. 15th St.
Canon City, CO 81212

Enclosure (updated bond estimate)

ec: Michael Cunningham, DRMS
DRMS file
Nicole Martin, Colorado Quarries
Aaron Tezak, Colorado Quarries
Stephanie Carter, BLM

COST SUMMARY WORK

Task description: Cost Summary

Site: Mica White

Permit Action: 2022 Update

Permit/Job#: M1992058

PROJECT IDENTIFICATION

Task #: 2C01

State: Colorado

Abbreviation: None

Date: 1/13/2022

County: Fremont

Filename: M058-2C01

User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
2M01	Place Black Schist for S. Benches; N&NE 2.5:1 Reclaim Slopes	TRUCK1	1	136.84	\$108,894
2M02	Grade & Rip South Benches ONLY & Pit Floor	DOZER	1	7.44	\$1,947
2M03	Grade North & NE Pit Slopes with to 2.5:1	DOZER	1	69.79	\$18,251
2M04	Revege South Benches ONLY & Pit Floor	REVEGE	1	10.00	\$10,322
2M05	Revege N & NE 2.5:1 Reclaimed Pit Faces	REVEGE	1	20.00	\$21,519
2S01	Grade 75,000 tons of waste process sand	DOZER	1	68.13	\$16,106
2S02	Grade 1ft Brown Schist Cover Over Stockpile Site	DOZER	1	16.61	\$3,926
2S03	Revege Stockpile Site	REVEGE	1	9.00	\$8,476
2T01	MOB/DEMOB	MOBILIZE	1	5.32	\$7,641
<u>SUBTOTALS:</u>				343.13	\$197,082

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$3,981

Performance bond: 1.05

Total = \$2,069

Job superintendent: 171.57

Total = \$12,358

Profit: 10.00

Total = \$19,708

TOTAL O & P = \$38,116

CONTRACT AMOUNT (direct + O & P) = \$235,198

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$0

Engineering work and/or contract/bid preparation: 4.25

Total = \$9,996

Reclamation management and/or administration: 5.00

\$11,760

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$59,872

TOTAL BOND AMOUNT (direct + indirect) = \$256,954

TRUCK/LOADER TEAM WORKTask description: **Place Black Schist for S. Benches; N&NE 2.5:1 Reclaim Slopes**Site: **Mica White**Permit Action: **2022 Update**Permit/Job#: **M1992058****PROJECT IDENTIFICATION**Task #: **2M01**State: **Colorado**Abbreviation: **None**Date: **1/13/2022**County: **Fremont**Filename: **M058-2M01**User: **TC1**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 966H
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	90	NA	NA	NA	NA
Ownership cost/hour:	\$76.13	\$59.72	NA	NA	NA	NA
Operating cost/hour:	\$52.75	\$49.68	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$32.54	\$40.71	NA	NA	NA	NA
Unit Subtotals:	\$161.42	\$150.11	NA	NA	NA	NA
Number of Units:	4	1	0	0	0	0
Group Subtotals:	Work: \$795.79		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$795.79****MATERIAL QUANTITIES**Initial volume: **52,356**

CCY

Swell factor: **1.000**Loose volume: **52,356**

LCY

Source of estimated volume: **PAR & Exh. F**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: **2,650** Pounds/LCYDescription: **Decomposed rock - 25% Rock, 75% Earth**Rated Payload: **62,000** PoundsPayload Capacity: **23.40** LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: 21.88 LCYLoading Tool CapacityBucket Size Class: NA

Rated Capacity:	5.000	LCY (heaped)
Bucket Fill Factor:	0.875	Loose material - 1" and over (85 - 90%) 0.875
Adjusted Capacity:	4.375	LCY

Job Condition Corrections:Site Altitude (ft.): 7550 feet

	Truck	Loader	Source
Altitude Adj:	0.900	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.747	0.830	

Loading Tool Cycle Time:Number of Loading Tool Passes Required to Fill
Truck: 5 passesExcavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA
 Track Loaders – Material Description: _____

Cycle Time Elements (min.):Load: NA Maneuver: NA Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 3/4" to 6" diameter 0.00	0.000	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high or less 0.01	0.010	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders - 0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.070	minutes
Adjusted Loader Cycle Time:		0.430	minutes
Net Load Time per Truck:		1.820	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.667	Minutes
Truck Load Time:	1.820	Minutes	Adjusted for site altitude:	1.820	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.111	Minutes

Truck Travel (Haul & Return) Time:Road Condition: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	400.00	5.00	8.00	13.00	565	0.726
2	1500.00	15.00	8.00	23.00	320	4.676
3	1500.00	0.00	8.00	8.00	902	1.708

Haul Time: **7.110** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-15.00	8.00	-7.00	3064	0.544
2	400.00	-5.00	8.00	3.00	2936	0.137

Return Time: **0.681** minutesTotal Truck Cycle Time: **11.389** minutes

Loading Tool unit

Production 527.82 LCY/Hour Adjusted for job efficiency: 438.09 LCY/Hour

Truck Unit Production 115.25 LCY/Hour Adjusted for job efficiency: 95.65 LCY/Hour

Optimal No. of Trucks: 5 Truck(s) Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 382.61 LCY/Hour
Adjusted single truck/loader team production: 382.61 LCY/Hour
Adjusted multiple truck/loader team production: **382.61** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **136.84** Hours

Unit cost: \$2.080 /LCY Total job cost: **\$108,894**

BULLDOZER WORKTask description: **Grade & Rip South Benches ONLY & Pit Floor**Site: **Mica White**Permit Action: **2022 Update**Permit/Job#: **M1992058****PROJECT IDENTIFICATION**Task #: **2M02**State: **Colorado**Abbreviation: **None**Date: **1/13/2022**County: **Fremont**Filename: **M058-2M02**User: **TC1**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:	\$97.46	NA
Operating Cost/Hour:	\$97.63	100
Ripper own. Cost/Hour:	\$15.19	NA
Ripper op. Cost/Hour:	\$9.94	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$261.52**Total Fleet Cost/Hour: **\$261.52****MATERIAL QUANTITIES**Initial Volume: **4,418**Swell factor: **1.000**Loose volume: **4,418 LCY**Source of estimated volume: **PAR response, Exh L**Source of estimated swell
factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **75 feet**Unadjusted hourly
production: **1,017.1 LCY/hr**Materials consistency description: **Loose stockpile 1.2**Average push
gradient: **0 %**Average site altitude: **7,550 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:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5836

Adjusted unit
production: 593.58 LCY/hr
Adjusted fleet
production: **593.58** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.441/LCY

Total job time: **7.44** Hours
Total job cost: **\$1,947**

BULLDOZER WORKTask description: **Grade North & NE Pit Slopes with to 2.5:1**Site: **Mica White**Permit Action: **2022 Update**Permit/Job#: **M1992058****PROJECT IDENTIFICATION**Task #: **2M03**State: **Colorado**Abbreviation: **None**Date: **1/13/2022**County: **Fremont**Filename: **M058-2M03**User: **TC1**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:	\$97.46	NA
Operating Cost/Hour:	\$97.63	100
Ripper own.	\$15.19	NA
Cost/Hour:		
Ripper op. Cost/Hour:	\$9.94	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$261.52**Total Fleet Cost/Hour: **\$261.52****MATERIAL QUANTITIES**Initial Volume: **51,963**Swell factor: **1.000**Loose volume: **51,963 LCY**Source of estimated volume: **PAR response, Exh L**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **140 feet**Unadjusted hourly production: **671.1 LCY/hr**Materials consistency description: **Loose stockpile 1.2**Average push gradient: **-20 %**Average site altitude: **7,550 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:	1.200	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.1095

Adjusted unit
production: 744.59 LCY/hr
Adjusted fleet
production: **744.59** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.351/LCY

Total job time: **69.79** Hours
Total job cost: **\$18,251**

REVEGETATION WORKTask description: Revege South Benches ONLY & Pit FloorSite: Mica WhitePermit Action: 2022 UpdatePermit/Job#: M1992058**PROJECT IDENTIFICATION**Task #: 2M04State: ColoradoAbbreviation: NoneDate: 1/14/2022County: FremontFilename: M058-2M04User: TC1Agency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Superphosphate, 0-20-0 with 12% S	5.00	pound	\$0.26	\$1.30
			Total Fertilizer Materials Cost/Acre	\$1.30

Application

Description	Cost /Acre
Hydro spreader (MEANS 32 01 90.13 0180)	\$188.18
Total Fertilizer Application Cost/Acre	\$188.18

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$96.50
Total Tilling Cost/Acre	\$96.50

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Big Bluestem - Native	1.80	5.37	\$21.27
Sideoats Grama - Vaughn	1.20	3.94	\$10.05
Western Wheatgrass - Arriba	3.20	8.08	\$20.80
Totals Seed Mix	6.20	17.39	\$52.12

Application

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Total Mulch Application Cost/Acre	\$71.57

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: 5.48 Cost /Acre: \$1,255.71
 Estimated Failure Rate: 50% Cost /Acre*: \$1,255.71
 *Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING,
MULCHING

Initial Job Cost: **\$6,881.29**
 Reseeding Job Cost: **\$3,440.65**
 Total Job Cost: **\$10,322**
 Job Hours: **10.00**

REVEGETATION WORKTask description: **Revege N & NE 2.5:1 Reclaimed Pit Faces**Site: **Mica White**Permit Action: **2022 Update**Permit/Job#: **M1992058****PROJECT IDENTIFICATION**Task #: **2M05**State: **Colorado**Abbreviation: **None**Date: **1/14/2022**County: **Fremont**Filename: **M058-2M05**User: **TC1**Agency or organization name: **DRMS****FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Superphosphate, 0-20-0 with 12% S	5.00	pound	\$0.26	\$1.30
			Total Fertilizer Materials Cost/Acre	\$1.30

Application

Description	Cost /Acre
NA-fertilizer application incl. with hydroseeding	\$201.68
Total Fertilizer Application Cost/Acre	\$201.68

TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Big Bluestem - Native	3.60	10.74	\$42.54
Sideoats Grama - Vaughn	2.40	7.88	\$20.10
Western Wheatgrass - Arriba	6.40	16.16	\$41.60
Totals Seed Mix	12.40	34.78	\$104.24

Application

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$965.73
Total Seed Application Cost/Acre	\$965.73

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
Total Mulch Materials Cost/Acre				\$0.00

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

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:	11.27	Cost /Acre:	\$1,272.95
Estimated Failure Rate:	50%	Cost /Acre*:	\$1,272.95
*Selected Replanting Work Items:	FERTILIZING,SEEDING		
Initial Job Cost:	\$14,346.15		
Reseeding Job Cost:	\$7,173.07		
Total Job Cost:	\$21,519		
Job Hours:	20.00		

BULLDOZER WORKTask description: **Grade 75,000 tons of waste process sand**Site: **Mica White**Permit Action: **2022 Update**Permit/Job#: **M1992058****PROJECT IDENTIFICATION**Task #: **2S01**State: **Colorado**Abbreviation: **None**Date: **1/14/2022**County: **Fremont**Filename: **M058-2S01**User: **TC1**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D8T - 8SU**Horsepower: **310**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$97.46	NA
Operating Cost/Hour:	\$97.63	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$236.39**Total Fleet Cost/Hour: **\$236.39****MATERIAL QUANTITIES**Initial Volume: **57,700**Swell factor: **1.000**Loose volume: **57,700 LCY**Source of estimated volume: **Exh E**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: **Loose stockpile 1.2**Average push
gradient: **-5 %**Average site altitude: **7,550 feet**Material weight: **2,850 lbs/LCY**Weight description: **Sand - Damp**

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.807	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6049

Adjusted unit
production: 846.86 LCY/hr

Adjusted fleet
production: **846.86** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.279/LCY

Total job time: **68.13** Hours

Total job cost: **\$16,106**

BULLDOZER WORKTask description: **Grade 1ft Brown Schist Cover Over Stockpile Site**Site: **Mica White**Permit Action: **2022 Update**Permit/Job#: **M1992058****PROJECT IDENTIFICATION**Task #: **2S02**State: **Colorado**Abbreviation: **None**Date: **1/14/2022**County: **Fremont**Filename: **M058-2S02**User: **TC1**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D8T - 8SU**Horsepower: **310**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$97.46	NA
Operating Cost/Hour:	\$97.63	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$236.39	
Total Fleet Cost/Hour:	\$236.39	

MATERIAL QUANTITIESInitial Volume: **7,260**Swell factor: **1.250**Loose volume: **9,075 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: **5 %**Average site altitude: **7,550 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:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3903

Adjusted unit
production: 546.42 LCY/hr

Adjusted fleet
production: **546.42** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.433/LCY

Total job time: **16.61** Hours

Total job cost: **\$3,926**

REVEGETATION WORKTask description: Revege Stockpile SiteSite: Mica WhitePermit Action: 2022 UpdatePermit/Job#: M1992058**PROJECT IDENTIFICATION**Task #: 2S03State: ColoradoAbbreviation: NoneDate: 1/14/2022County: FremontFilename: M058-2S03User: TC1Agency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Superphosphate, 0-20-0 with 12% S	5.00	pound	\$0.26	\$1.30
			Total Fertilizer Materials Cost/Acre	\$1.30

Application

Description	Cost /Acre
Hydro spreader (MEANS 32 01 90.13 0180)	\$188.18
Total Fertilizer Application Cost/Acre	\$188.18

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$96.50
Total Tilling Cost/Acre	\$96.50

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Big Bluestem - Native	1.80	5.37	\$21.27
Sideoats Grama - Vaughn	1.20	3.94	\$10.05
Western Wheatgrass - Arriba	3.20	8.08	\$20.80
Totals Seed Mix	6.20	17.39	\$52.12

Application

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Total Mulch Application Cost/Acre	\$71.57

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: 4.5 Cost /Acre: \$1,255.71
 Estimated Failure Rate: 50% Cost /Acre*: \$1,255.71
 *Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING,MU
LCHING

Initial Job Cost: **\$5,650.70**
 Reseeding Job Cost: **\$2,825.35**
 Total Job Cost: **\$8,476**
 Job Hours: **9.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **MOB/DEMOB**Site: **Mica White**Permit Action: **2022 Update**Permit/Job#: **M1992058****PROJECT IDENTIFICATION**Task #: **2T01**State: **Colorado**Abbreviation: **None**Date: **1/14/2022**County: **Fremont**Filename: **M058-2T01**User: **TC1**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck 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:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

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	47.71	\$97.46	\$132.49	1	\$229.95	\$132.49	\$500.00
CAT 966H	25.80	\$59.72	\$68.37	1	\$128.09	\$68.37	\$250.00
Cat 730	25.19	\$76.13	\$68.37	4	\$578.00	\$273.48	\$1,000.00

Subtotals: **\$936.04** **\$474.34** **\$1,750.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Drill/Broadcast Seeder with Tractor	\$16.28	1	\$16.28	\$16.28
Hydroseeder with Tractor	\$26.18	1	\$26.18	\$26.18

Subtotals: **\$42.46** **\$42.46**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: CAÑON CITY
 Total one-way travel distance: 45.00 miles
 Average Travel Speed: 45.00 mph

Total Non-Roadable Mob/Demob Cost * \$7,556.33
 ** two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$84.92
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.00	1.00
Return Time (Hours):	1.00	1.00
Loading Time (Hours):	0.33	NA
Unloading Time (Hours):	0.33	NA
Subtotals:	2.66	2.00

JOB TIME AND COST

Total job time: 5.32 Hours

Total job cost: \$7,641