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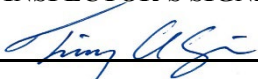
Division of Reclamation,
Mining and Safety

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: Cherokee Clay Mine	MINE/PROSPECTING ID#: M-1977-325	MINERAL: Clay (general)	COUNTY: Fremont
INSPECTION TYPE: Monitoring	INSPECTOR(S): Timothy Cazier, P.E.	INSP. DATE: September 8, 2022	INSP. TIME: 09:30
OPERATOR: The Summit Pressed Brick and Tile Company	OPERATOR REPRESENTATIVE: Julie Welte	TYPE OF OPERATION: 110c - Construction Limited Impact	
REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: Partial Bond	BOND AMOUNT: \$18,500.00	
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None	
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: March 20, 2023	

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>NA</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>N</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>Y</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 by Tim Cazier (DRMS) as part of the regular monitoring program to assess compliance with the approved mine reclamation permit. The Permittee (Summit Pressed Brick & Tile Company) was represented by Ms. Julie Welte during the inspection. The Cherokee Clay Mine is approximately five miles southwest of Florence and is accessed from Fremont Co Road 84. This is a 110c clay mine. The mine was not operating at the time of the inspection.

Availability of Records: Annual reports are current, having been filed through November 2022, stating the last mining activity was November 21, 2022 and 4.2 acres of disturbance. The previous inspection was on August 1, 2018. The approved post-mine land use is wildlife habitat. There are no open infractions. Both the surface and minerals are privately owned. Record maps delineate a pre-law mine trench on the north side of the current active area. Ms. Welte pointed it out (see **Photo 1**) during the inspection.

Acid And Toxic Materials: No acid or toxic materials are involved in this operation.

Backfilling and Grading: Ms. Welte stated Summit intends to use caprock for backfill when the current pit is mined out. The caprock is interbedded (see **Photo 2**) and stockpiled on the north crest (see **Photo 3**).

Excess Spoil and Dev. Waste: Overburden is not differentiated from topsoil at this site.

Financial Warranty: The \$18,500 bond held by the DRMS was last updated in 2003 and included 8.4 acres of reseeding. The DRMS performed an update to the 2003 bond estimate using updated unit costs and equipment. The revised estimate is \$27,628 (see **attached Cost Summary Work**). The \$18,500 amount is considered adequate for the reported 4.2 acres (exactly half the permitted affected area) of mine related disturbance.

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 8.4 acres. Google Earth was used to measure the disturbed area, which was approximately 3.5 acres, based on older 2019 imagery. Highwalls were estimated to be 30 feet in height and appeared stable at roughly 3H:1V (see **Photo 4**).

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

Processing Waste: No processing waste was observed.

Roads: The access road is graveled to reduce tracking sediment off site (see **Photo 5**).

Right of Entry: Ms. Welte indicated the lease extended to 2025.

Reclamation Success: No final reclamation has been initiated.

Revegetation: Ms. Welte pointed out the vegetation on the south side (see **Photo 6**) is temporary to help prevent erosion until that area is mined. No noxious weeds were observed.

Sediment Control: Some minor erosion was observed, with no offsite impact. No BMPs were needed at the time of the inspection.

Support Facilities On-site: No equipment was observed on site.

Signs and Markers: The permit sign was properly posted (see **Photo 7**) and boundary markers were observed

to delineate the permit boundary (see **Photo 8**).

Permit Stipulations: There are no permit stipulations.

Storm Water MGT Plan: No oil or fuel spills observed. Representatives stated the stormwater management plan is kept in their Pueblo office. The culvert outlet (see **Photo 9**) for the sediment pond in the NW corner was observed to be clear.

Topsoil: A topsoil stockpile was observed on the north side of the pit.

Structures: No new structures were observed from the previous inspection.

Post Inspection Meeting: The need to file for temporary cessation (TC) was discussed. Subsequent to the inspection, mining activities resumed. As such, the need to file for TC is no longer necessary. The Permittee is reminded that if mining activity ceases for more than 180 days, an application for TC must be submitted to the DRMS.

Please contact Tim Cazier (303)328-5229 or email at tim.cazier@state.co.us if you have any questions regarding this report.

PHOTOGRAPHS



Photo 1. Pre-law trench (looking west from north side of active pit).

PHOTOGRAPHS (cont.)



Photo 2. Interbedded caprock (north highwall, looking NE).



Photo 3. Typical stockpiled caprock on crest of north highwall (looking north).

PHOTOGRAPHS (cont.)



Photo 4. 3H:1V pit slopes (looking SW from NE crest of north highwall, clay stockpiles circled).



Photo 5. Gravelled access/entrance road (SW corner, looking west).

PHOTOGRAPHS (cont.)



Photo 6. Vegetated south highwall (looking south from pit floor).



Photo 7. Permit sign off County Road 84 (~100 feet north of access road).

PHOTOGRAPHS (cont.)



Photo 8. Typical T-post boundary marker (east side, non-corner).



Photo 9. Sedpond culvert (inlet clear).

Inspection Contact Address

Julie Welte
The Summit Pressed Brick and Tile Company
P.O. Box 533
Pueblo, CO 81002

Enclosure: Cost Summary Work

ec: DRMS file

COST SUMMARY WORK

Task description: Cost Summary

Site: Cherokee Clay Mine

Permit Action: 2023 Update

Permit/Job#: M1977325

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 3/17/2023

County: Fremont

Filename: M325-000

User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Grade entire disturbed area	DOZER	1	14.61	\$3,118
002	Replace 4" topsoil on 8.4 acres	SCRAPER1	1	8.25	\$3,513
003	Reseed disturbed areas	REVEGE	1	12.00	\$12,995
004	Mob/Demob equipment	MOBILIZE	1	1.93	\$1,916
<u>SUBTOTALS:</u>				36.79	\$21,542

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 12.39
Profit: 10.00

Total = \$435

Total = \$226

Total = \$931

Total = \$2,154

TOTAL O & P = \$3,746

CONTRACT AMOUNT (direct + O & P) = \$25,288

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$0

Engineering work and/or contract/bid preparation: 4.25

Total = \$1,075

Reclamation management and/or administration: 5.00

\$1,264

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$6,086

TOTAL BOND AMOUNT (direct + indirect) = \$27,628

BULLDOZER WORKTask description: **Grade entire disturbed area**Site: **Cherokee Clay Mine**Permit Action: **2023 Update**Permit/Job#: **M1977325****PROJECT IDENTIFICATION**Task #: **001**State: **Colorado**Abbreviation: **None**Date: **3/17/2023**County: **Fremont**Filename: **M325-001**User: **TC1**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D7R DS Series II LGP**Horsepower: **240**Blade Type: **Straight**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$92.78	NA
Operating Cost/Hour:	\$79.33	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: **\$213.41**Total Fleet Cost/Hour: **\$213.41****MATERIAL QUANTITIES**Initial Volume: **6,000**Swell factor: **1.000**Loose volume: **6,000 LCY**Source of estimated volume: **DRMS 2003/SI-2 calculation**Source of estimated swell
factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly
production: **496.4 LCY/hr**Materials consistency description: **Loose stockpile 1.2**Average push
gradient: **-15 %**Average site altitude: **5,900 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:	0.800	(FND-RF)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8272

Adjusted unit
production: 410.62 LCY/hr
Adjusted fleet
production: **410.62** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.520/LCY

Total job time: **14.61** Hours
Total job cost: **\$3,118**

SCRAPER TEAM WORKTask description: Replace 4" topsoil on 8.4 acresSite: Cherokee Clay MinePermit Action: 2023 UpdatePermit/Job#: M1977325**PROJECT IDENTIFICATION**Task #: 002State: ColoradoAbbreviation: NoneDate: 3/17/2023County: FremontFilename: M325-002User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 631G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$200.41	NA	NA	NA	NA	NA
Operating cost/hour:	\$194.76	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$426.07	NA	NA	NA	NA	NA
Number of Units:	1	0	0	0	0	0
Group Subtotals:	Work: \$426.07		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$426.07****MATERIAL QUANTITIES**Initial volume: 4,517

CCY

Swell factor: 1.215Loose volume: **5,488**

LCY

Source of estimated volume: 4" topsoil on 8.4 acresSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>34.00</u>	LCY
Rated Payload:	<u>81,600 pounds</u>	Average Volume:	<u>29.00</u>	LCY
Payload Capacity:	<u>51.00 LCY</u>	Adjusted Capacity:	<u>29.00</u>	LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 5900 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.830	NA	

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	350.00	-2.00	5.00	3.00	2227	0.36

Haul Time: 0.36 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	350.00	2.00	5.00	7.00	1771	0.31

Return Time: 0.31 minutesTotal Scraper team cycle time: 2.17 minutesAdjusted for job conditions: 665.53 LCY/HourSelected Number of Scrapers: 1 Scraper(s)Adjusted single scraper team (unit) hourly production: 665.53 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 665.53 LCY/HourUnadjusted unit production/hour: 801.84 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 8.25 HoursUnit cost: \$0.640 /LCYTotal job cost: \$3,513

REVEGETATION WORKTask description: Reseed disturbed areasSite: Cherokee Clay MinePermit Action: 2023 UpdatePermit/Job#: M1977325PROJECT IDENTIFICATIONTask #: 003State: ColoradoAbbreviation: NoneDate: 3/17/2023County: FremontFilename: M325-003User: TC1Agency or organization name: DRMSFERTILIZING**Materials**

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

Application

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

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$98.43
Total Tilling Cost/Acre	\$98.43

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	1.10	17.95	\$17.57
Western Wheatgrass - Arriba	6.50	16.41	\$42.25
Needlegrass, Green - Lodorm	1.80	7.48	\$21.20
Totals Seed Mix	9.40	41.85	\$81.02

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	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$842.72

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
Total Mulch Application Cost/Acre	\$214.57

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:	8.4	Cost /Acre:	\$1,468.74
Estimated Failure Rate:	25%	Cost /Acre*:	\$313.02
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$12,337.42
Reseeding Job Cost:	\$657.34
Total Job Cost:	\$12,995
Job Hours:	12.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob equipment**Site: **Cherokee Clay Mine**Permit Action: **2023 Update**Permit/Job#: **M1977325****PROJECT IDENTIFICATION**Task #: **004**State: **Colorado**Abbreviation: **None**Date: **3/17/2023**County: **Fremont**Filename: **M325-004**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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

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 D7R DS Series II LGP	34.57	\$92.78	\$101.82	1	\$194.60	\$101.82	\$250.00
Cat 631G	52.50	\$200.41	\$136.92	1	\$337.33	\$136.92	\$250.00

Subtotals: **\$531.93** **\$238.74** **\$500.00****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	\$13.99	1	\$13.99	\$13.99
Power Mulcher (Bowie LD-90)	\$37.56	1	\$37.56	\$37.56

Subtotals: **\$51.55** **\$51.55**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	CAÑON CITY	
Total one-way travel distance:	10.50	miles
Average Travel Speed:	45.00	mph

Total Non-Roadable Mob/Demob Cost *	\$1,891.58
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$24.06
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.23	0.23
Return Time (Hours):	0.23	0.23
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	0.97	0.47

JOB TIME AND COST

Total job time:	1.93	Hours
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Total job cost:	\$1,916
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