COLORADO
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: Four X Ranch Gravel Pit	**MINE/PROSPECTING ID#:** M-2014-033	**MINERAL:** Aggregate and gravel	**COUNTY:** Morgan
INSPECTION TYPE: Surety-Related Inspection	**INSPECTOR(S):** Brock Bowles	**INSP. DATE:** November 19, 2021	**INSP. TIME:** 11:00
OPERATOR: KS Land, LLC	**OPERATOR REPRESENTATIVE:** JC Kelley	**TYPE OF OPERATION:** 112c - Construction Regular Operation	

REASON FOR INSPECTION: Surety Related	**BOND CALCULATION TYPE:** Complete Bond	**BOND AMOUNT:** $122,100.00
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
WEATHER: Clear	**INSPECTOR'S SIGNATURE:** Brock Bowles	**SIGNATURE DATE:** December 1, 2021

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---------- N	**(FN) FINANCIAL WARRANTY-------- N**	**(RD) ROADS---------- N**
(HB) HYDROLOGIC BALANCE---------- N	**(BG) BACKFILL & GRADING---------- N**	**(EX) EXPLOSIVES--------- N**
(PW) PROCESSING WASTE/TAILING---- N	**(SF) PROCESSING FACILITIES------- N**	**(TS) TOPSOIL---------- N**
(MP) GENL MINE PLAN COMPLIANCE- N	**(FW) FISH & WILDLIFE---------- N**	**(RV) REVEGETATION---- N**
(SM) SIGNS AND MARKERS---------- N	**(SP) STORM WATER MGT PLAN---- N**	**(RS) RECL PLAN/COMP-- N**
(ES) OVERBURDEN/DEV. WASTE--------- N	**(SC) EROSION/SEDIMENTATION--- N**	**(ST) STIPULATIONS------- N**
(AT) ACID OR TOXIC MATERIALS------- N	**(OD) OFF-SITE DAMAGE----------N**	

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

OBSERVATIONS

This inspection was conducted by Brock Bowles of the Division of Reclamation, Mining and Safety (Division). J.C. Kelley and Russell Smith of KS Land, LLC (Operator) were present for the inspection. The pit is located about 10 miles north of Fort Morgan. The site is an active 112c operation with 33.2 acres permitted and the post-mining land use is rangeland. At the time of the inspection it was partly cloudy, cool, and the ground was dry.

This inspection was conducted as part of the SO1 application process. The operator changed from the Four X Ranch, Inc. to KS Land, LLC. The application was approved on November 16, 2021. This inspection looked at the site conditions for the purpose of evaluating the reclamation cost estimate as required by Rule 1.12.1(2).

The mine entrance sign was in place facing CR 21 (photo 1). The sign has the former operator listed but Mr. Kelley said that a new sign was already on order. The corner posts were in place (photo 2).

The current disturbed area is approximately 9 acres in size in the middle of the permitted area. There were multiple product piles (photo 3). The topsoil piles were in the southwest corner. No highwalls were noted. A piece of screening equipment and a loader was on site but mining was not taking place during the inspection (photo 4).

The pit area is on top of a hill. No drainage issues were noted and no ground water was exposed. No noxious weeds were noted.

The cost estimate for reclaiming the entire 33.2 acres was calculated as $116,472. The current disturbance is about 9 acres in size. The Division currently holds a bond for $122,100 which is adequate to cover reclamation costs. The cost estimate is attach to this report.

PHOTOGRAPHS

Photo 1 – Mine entrance sign facing CR 21

Photo 2 – Northeast corner post

Photo 3 – Product stockpiles

Photo 5 – Mining equipment

Inspection Contact Address

J.C. Kelley
KS Land, LLC
20758 CR 21.3
Fort Morgan, CO 80701

Enclosure: 2021 SO1 Cost Estimate

CC: Michael Cunningham, DRMS
Sara Stevenson-Benn, DRMS

COST SUMMARY WORK

Task description: **Reclamation- Site wide**

Site: **Four X Ranch Gravel Pit** Permit Action: SO1 Permit/Job#: M2014033

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 12/1/2021 County: Morgan Filename: M033-000
User: BFB

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Regrade pit area	DOZER	1	22.27	$5,266
002	Replace Topsoil/Overburden	SCRAPER1	1	85.56	$43,382
003	Reveg	REVEGE	1	10.00	$39,193
004	Mob/Demob	MOBILIZE	1	9.14	$5,580
		SUBTOTALS:		**126.97**	**$93,421**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$1,887
Performance bond:	1.05	Total =	$981
Job superintendent:	66.89	Total =	$4,818
Profit:	10.00	Total =	$9,342
		TOTAL O & P =	$17,028
		CONTRACT AMOUNT (direct + O & P) =	$110,449

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$500	Total =	$500
Engineering work and/or contract/bid preparation:	0.00	Total =	$0
Reclamation management and/or administration:	5.00		$5,522
CONTINGENCY:	0.00	Total =	$0
		TOTAL INDIRECT COST =	$23,051
		TOTAL BOND AMOUNT (direct + indirect) =	**$116,472**

BULLDOZER WORK

Task description: **Regrade pit area**

Site: **Four X Ranch Gravel Pit** Permit Action: SO1 Permit/Job#: M2014033

PROJECT IDENTIFICATION

Task #:	001	State:	Colorado	Abbreviation:	None
Date:	12/1/2021	County:	Morgan	Filename:	M033-001
User:	BFB				

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:

		Utilization %
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 QUANTITIES

Initial Volume:	9,000
Swell factor:	1.000
Loose volume:	**9,000** LCY

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

HOURLY PRODUCTION

Average push distance: 100 feet
Unadjusted hourly production: 852.6 LCY/hr

Materials consistency description: Loose stockpile 1.2

Average push gradient: 0 %
Average site altitude: 4,600 feet

Material weight: 2,900 lbs/LCY

Weight description: Sand and gravel - Dry

Job Condition Correction Factor		Source
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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4739

Adjusted unit production: 404.05 LCY/hr
Adjusted fleet production: **404.05** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.585/LCY

Total job time: **22.27** Hours
Total job cost: **$5,266**

SCRAPER TEAM WORK

Task description: **Replace Topsoil/Overburden**

Site: **Four X Ranch Gravel Pit** Permit Action: SO1 Permit/Job#: M2014033

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 12/1/2021 County: Morgan Filename: M033-002
User: BFB

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G
-Dozer:	Cat D8T - 8SU
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	30	NA	NA	NA	NA
Ownership cost/hour:	$154.27	$97.46	NA	NA	NA	NA
Operating cost/hour:	$153.83	$29.29	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	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:	$30.90	$41.30	NA	NA	NA	NA
Unit Subtotals:	$339.00	$168.05	NA	NA	NA	NA
Number of Units:	1	1	0	0	0	0
Group Subtotals:	Work:	$507.05	Support:	$0.00	Maint:	$0.00

Total work team cost/hour: **$507.05**

MATERIAL QUANTITIES

Initial volume: 47,592 CCY Swell factor: 1.000
Loose volume: **47,592** LCY

Source of estimated volume: Permittee Estimate
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Scraper Bowl (volume) Basis:

Material weight: 2,900 lbs/LCY
Material description: Sand and gravel - Dry
Rated Payload: 52,800 pounds
Payload Capacity: 18.21 LCY

Struck Volume: 15.70 LCY
Heaped Volume: 22.00 LCY
Average Volume: 18.85 LCY
Adjusted Capacity: **18.21** LCY

Cycle Time:

Scraper Loading Time: 0.50 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 4650 feet

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

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	350.00	3.00	4.00	7.00	1568	0.31

Haul Time: **0.31** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	350.00	-3.00	4.00	1.00	2913	0.22

Return Time: **0.22** minutes

Total Scraper team cycle time: **1.63** minutes
Adjusted for job conditions: 556.26 LCY/Hour
Selected Number of Scrapers: 1 Scraper(s)
Adjusted single scraper team (unit) hourly production: 556.26 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **556.26** LCY/Hour

Unadjusted unit production/hour: 670.19 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **85.56** Hours

Unit cost: $0.912 /LCY Total job cost: **$43,382**

REVEGETATION WORK

Task description: **Reveg**

Site: **Four X Ranch Gravel Pit** Permit Action: SO1 Permit/Job#: M2014033

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 12/1/2021 County: Morgan Filename: M033-003
User: BFB

Agency or organization name: DRMS

FERTILIZING

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}	$96.50
Total Tilling Cost/Acre	**$96.50**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Lovington	0.20	3.26	$3.20
Little Bluestem - Camper	0.50	2.98	$6.29
Sand Dropseed	0.30	35.81	$2.93
Sideoats Grama - Vaughn	0.70	2.30	$5.86
Red Clover - Medium	0.20	1.24	$2.67
Smooth Brome - Lincoln	0.30	1.00	$1.00
Thickspike Wheatgrass - Critana	0.80	2.83	$5.50
Western Wheatgrass - Arriba	1.60	4.04	$10.40
Prairie Sandreed - Goshen	0.40	2.51	$4.14

Totals Seed Mix	5.00	55.97	**$41.98**

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
Power mulcher (MEANS 32 91 13.16 0350)	$106.29
Total Mulch Application Cost/Acre	**$177.86**

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:	32.2	Cost /Acre:	$1,162.38
Estimated Failure Rate:	20%	Cost /Acre*:	$273.98
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	**$37,428.64**
Reseeding Job Cost:	**$1,764.43**
Total Job Cost:	**$39,193**
Job Hours:	**10.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mob/Demob**

Site: **Four X Ranch Gravel Pit** Permit Action: SO1 Permit/Job#: M2014033

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 12/1/2021 County: Morgan Filename: M033-004
User: BFB

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	$250.00
Cat 627G	41.80	$154.27	$132.49	1	$286.76	$132.49	$250.00
Subtotals:		**$516.71**			**$264.98**		**$500.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Subtotals:			**$0.00**	**$0.00**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	FT MORGAN	
Total one-way travel distance:	10.00	miles
Average Travel Speed:	35.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$5,580.36
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$0.00

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.29	0.29
Return Time (Hours):	0.29	0.29
Loading Time (Hours):	2.00	NA
Unloading Time (Hours):	2.00	NA
Subtotals:	4.57	0.57

JOB TIME AND COST

Total job time:	**9.14**	Hours
Total job cost:	**$5,580**	