




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: Leone Gravel Pit #2	MINE/PROSPECTING ID#: M-2006-085	MINERAL: Sand and gravel	COUNTY: Las Animas
INSPECTION TYPE: Surety-Related Inspection	WEATHER: Clear	INSP. DATE: September 6, 2023	INSP. TIME: 10:45
OPERATOR: Leone Sand & Gravel LLC	OPERATOR REPRESENTATIVE: Wayne Leone	TYPE OF OPERATION: 112c - Construction Regular Operation	

REASON FOR INSPECTION: Surety Release Requested	BOND CALCULATION TYPE: Complete Bond	BOND AMOUNT: \$157,399.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
INSPECTOR(S): Amber Michels Jared Ebert	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: September 26, 2023

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: Gen. Compliance With Mine Plan

PROBLEM: The current mine plan needs to be updated and clarified pursuant to C.R.S. 34-32.5-112 (1)(c)(VI). The Operator must provide sufficient information to describe or identify how the Operator intends to conduct the operation.

CORRECTIVE ACTIONS: The Operator shall submit a Technical Revision, with the required \$216 revision fee, to update and clarify the current approved mine plan to reflect existing and proposed activities by the corrective action date.

CORRECTIVE ACTION DUE DATE: 10/26/23

INSPECTION TOPIC: Signs & Markers

PROBLEM: The affected area boundary markers are missing. 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 photo and/or GPS proof to the Division that this has been done by the corrective action date.

CORRECTIVE ACTION DUE DATE: 10/26/23

OBSERVATIONS

The Leone Gravel Pit #2 was inspected by Amber Michels and Jared Ebert with the Division of Reclamation, Mining and Safety (Division/DRMS). The inspection was completed in response to the Operator's request for an acreage reduction (AR1) and surety reduction. Wayne Leone of Leone Sand & Gravel LLC, representing the Operator, accompanied us during the inspection.

This site is an active, 507.5 acre, 112c Regular Operations construction materials permit. The maximum disturbance allowed at any time is 60 acres. Of the 60 acres, 20 acres are attributed to active mining and processing, and 40 acres to partially reclaimed areas. The mining commodities for this site are sand and gravel, and the post-mine land use is rangeland. Mining activity was taking place in the southern portion, referred to as the Biber Parcel, at the time of the inspection. The weather was warm and the sky was clear.

Availability Of Records:

The annual report, map, and fee are current through April 25, 2024. The Biber Parcel (see Map 2) was amended into the permit area in 2015. This inspection was conducted in response to AR1. The Operators requested that all of the Howell Parcel portion of the permit, besides a 14.65 acre "Topsoil Area" and a 31.14 acre "Unmined Area", be released through AR1.

Right of Entry:

The lease between the Operator and the landowner for the Howell property is current. The lease between the Operator and the landowner for the Biber property is current through July 15, 2025, unless any other condition listed under Item #5 on the lease are met prior to that date. The Operator must provide the Division proof that a new lease agreement, or alternative legal right of entry, has been acquired prior to, or on, the current lease's expiration date to demonstrate the Operator's compliance with Rule 6.4.14.

Backfilling and Grading:

The slopes within the Howell Parcel have been reclaimed to a 3H:1V or shallower (Photos 11, 12, 14, 17, and 18: Map 1) in compliance with the approved reclamation plan. In the Biber Parcel, the areas that have been mined out have been, and are being, reclaimed concurrent with mining progression (Photo 31: Map 2). The approved mining plan states that areas will be backfilled and graded following each five acre area that has been mined out. From observations and conversation with the Operator during the inspection, it appears that this has been complied with.

Financial Warranty:

In addition to AR1, a surety reduction was requested to re-evaluate the Operator's current reclamation responsibility. The Division currently holds a financial warranty in the amount of \$157,399. The Operator requested that this amount be reduced to \$39,500 and submitted their cost estimate rational.

The rational submitted by Operator appears to account for the disturbance in the "Topsoil Area" within the Howell Parcel but does not appear to account for the remaining un-released affected area. In AM1, the reclamation costs were designed so that the Division would hold a 'floating bond' that accounts for a maximum disturbance of 60 acres throughout both parcels simultaneously. As discussed below, the approved mine plan limited the maximum disturbance allowed at the site at any one time to 60 acres. The Division estimates that the current disturbance onsite to be about 87 acres (see Figure 2), excluding the area that has been requested to be released. This area exceeds the maximum allowed 60 acres of disturbance approved in

the mining plan. This has been cited as a problem within the 'General Compliance with Mine Plan' section of this report.

The Division has estimated the reclamation liability at the site based on what is currently disturbed and found it to be \$282,872-- a difference of \$125,473 from the bond currently held. The Division's cost estimate is enclosed with this report. The Operator will have 14 days (October 10, 2023), from the issuance of this report to submit any questions on the cost estimate. If no questions are received, the Division may issue a surety increase notice for the difference. The Operator will have 60 days from the date of the notice to submit and obtain acceptance of the increase in financial warranty from the Division in accordance with Rule 4.2.1(2).

Due to the fact the current disturbance at the site exceeds what is approved at any one time, the reclamation liability is greater than the bond currently held. Therefore, the Operator is **not eligible** for a surety reduction.

Hydrologic Balance:

The Operator has done a great job evaluating water movement on-site and implementing anti-erosion measures during reclamation. Permanent berms have been placed on top of slopes that lead to check dams, encouraging water to flow along designated paths. Mud cracks were observed upslope of the first check dams (see Photo 24: Map 1) indicating that water was being slowed down before being descending down slope. No standing water was observed on-site at the time of the inspection.

Gen. Compliance With Mine Plan:

Active mining has been completed in the Howell Parcels, except in the Topsoil and stockpile area and the unmined area designated on the Operator's AR1 map. The Operator stated that they intend to mine the 'Unmined Area' at some point in the future, and wish to keep it within the permit boundary.

Active mining was occurring in the Biber Parcel at the time of the inspection. Material is being extracted in layers using dozers, trucks, and loaders. The highwall lengths are being kept under 1000' and the height is limited by the equipment height, allowing it to remain within the approved 15' limit. The approved mine plan states that a maximum of 60 acres will be disturbed at any one time. This accounts for 20 acres to include active mining and processing areas, and 40 acres to include partially reclaimed lands. Following the inspection, the Division used Google Earth Pro to estimate the current disturbance on-site (excluding the AR1 areas) and found the area to be approximately 86.65 acres in size (see Figure 2). A **problem has been cited** for exceeding the maximum allowed disturbance currently approved in the mining plan. The Division has conducted a cost estimate and may increase the financial warranty required to reflect the disturbance on-site (see discussion above). In addition to supplying the required surety, the Operator must either submit a revision to the mining plan that allows for an increased maximum allowed disturbance or cease all mining operations other than reclamation tasks until additional areas are eligible for an acreage reduction and/or surety reduction.

Roads:

The main haul roads are well maintained and are approved to remain after reclamation.

Reclamation Success:

As stated in this report's Backfilling and Grading, and Hydrologic Balance sections, the Operator is conducting concurrent reclamation. According to the 2023 annual report, as of April 2023 approximately 200 acres have been backfilled and graded throughout the life of the mine, with between 50-160 acres being top soiled and

seeded to some extent.

Revegetation:

The northern portion of the Howell Parcel, north of the gas line, was control-burned in 2018. The Operator drill-seeded the area in 2018 following the burn. The acres requested to be released south of the gas line were not part of the burn, and were seeded in 2016. A diverse vegetative cover has since become established in the reclaimed areas of the Howell Parcel. The observed vegetation consists of a variety of grasses, forbs and shrubs (see Photos 1-25, Map 1, and Figures 1A-1C below). Some native plants, as well as a few annual weeds, have also volunteered into the area. The Division is satisfied with the status of the vegetative cover of the acreage reduction area, and believes that the reclamation implemented at the site in the requested area meets the requirements of Rule 3.1. Through AR1, the Operator requested a release of 126.66 acres. This acreage is based on an updated land survey of the Howell Parcel that indicates that the parcel contains a total area of 178.45 acres. From the 178.45 acres, the Operator subtracted the acreage for the topsoil area (14.65 acres), the unmined area (31.14 acres), and the C.I.G. right of way for the gas line (6.19 acres), leading to a requested release of 126.66 acres. However, the Howell Parcel is currently approved for 180 acres. The Division will subtract the Topsoil Area and the Unmined area from 180, and assumes the Operator doesn't want to keep the gas line right of way in the permit area, thus releasing a total of 134.21 acres from the permit. The Division **will approve the AR1** application. The permitted acreage will be reduced from 507.5 acres to 373.29 acres.

During the inspection, an establishment of the state noxious weed Tamarisk was observed along a crevice within the Howell Parcel. Additionally, a single Russian Olive tree was growing adjacent to this area (see Photos 5 and 6: Map 1). This was addressed in the field as a problem, and the Operator stated that they'd have them removed over the weekend. The following week, the Operator sent the Division photo evidence that this has been addressed, thus the problem is considered abated.

The reclaimed areas in the Biber Parcel have not yet been seeded, but the topsoil has been replaced and the seedbed has been prepared for seeding this fall.

Sediment Control:

The vegetative cover established has stabilized the soil in the reclaimed areas of the Howell Parcel. The earthen berms and check dams mentioned under the Hydrologic Balance section of this report are functioning properly and are preventing erosion on-site. Berms and check dams have been implemented in the more recently reclaimed areas of the Biber Parcel as well (see Photo 31; Map 2). No signs of erosion or signs of instability were observed during the inspection.

Signs and Markers:

A mine sign posted in compliance with Rule 3.1.12(1) was posted near the entrance to the site.

The affected area boundaries are not marked. During the Inspection, the Operator stated that a fence line indicates the affected boundary on the west-side, but there are no monuments marking the affected land boundaries to the east. A **problem has been cited** for failure to maintain boundary markers around the affected area pursuant to Rule 3.1.12(2). The Operator shall provide photo and/or GPS evidence that markers have been installed by the corrective action date.

Topsoil:

A topsoil stockpile was observed in the Howell Parcel area denoted as 'Tospoil Area' on Map 1. The Operator has been using material from topsoil and overburden piles to conduct concurrent reclamation. The pile appears stable at this time.

Conclusion:

This concludes the Division's Inspection Report; a subset of photographs that were taken during the time of the inspection, and a few corresponding figures and maps are included below. If you need additional information or have any questions, please contact me by email at amber.michels@state.co.us or by telephone at (720) 836-0967.

Inspection Contact Address

Wayne Leone
Leone Sand & Gravel LLC
2400 E. Main St.
Trinidad, CO 81082

CC: Frank Leone, Leone Sand & Gravel LLC
Jared Ebert, DRMS

GENERAL INSPECTION TOPICS

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

(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>N</u>	(SF) PROCESSING FACILITIES----- <u>N</u>	(TS) TOPSOIL----- <u>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- PB	(FW) FISH & WILDLIFE----- <u>N</u>	(RV) REVEGETATION---- <u>Y</u>
(SM) SIGNS AND MARKERS----- PB	(SP) STORM WATER MGT PLAN---- <u>N</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>N</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	

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

Enclosures

Part 1:

AR-1/SL-1 Inspection Area

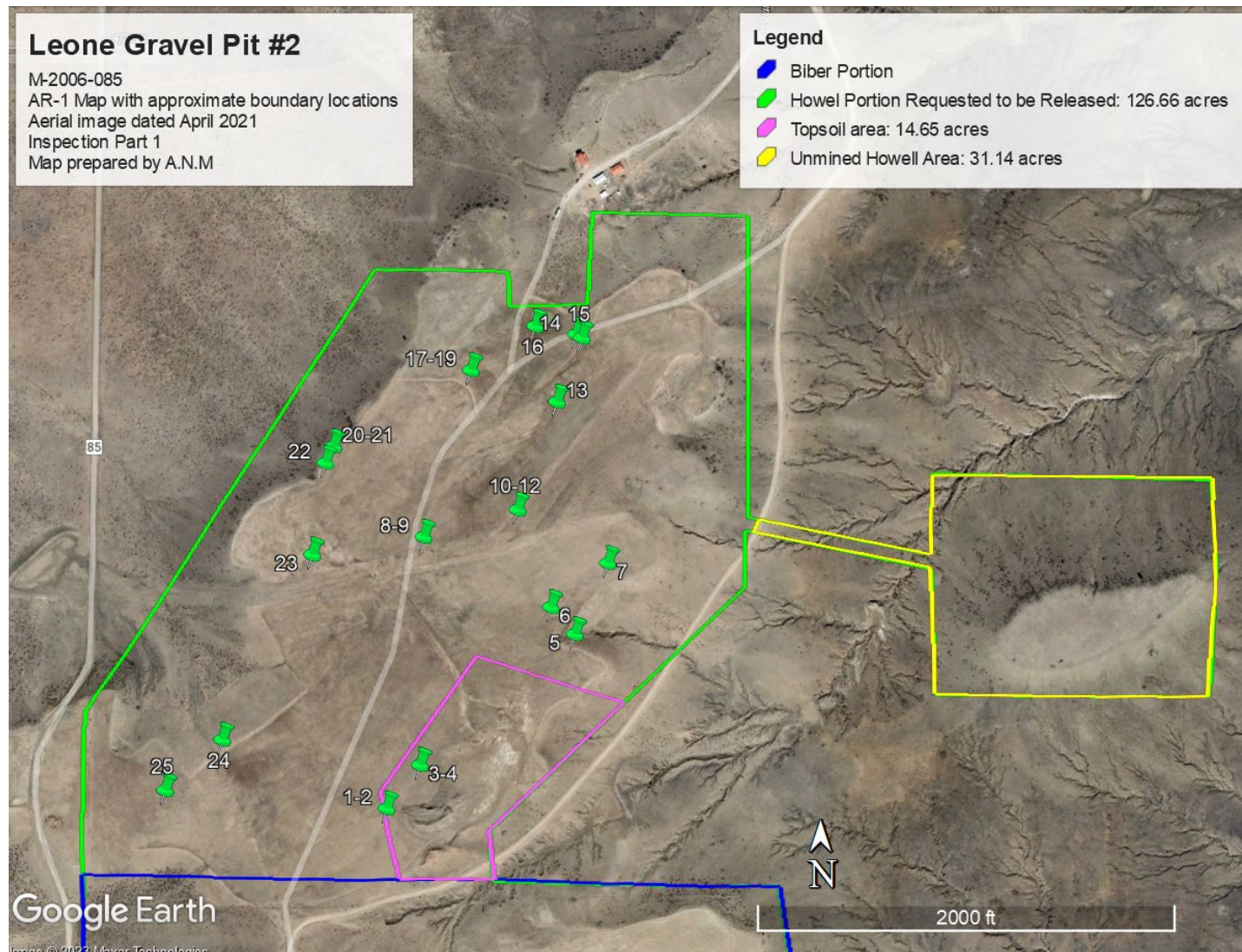
- Map 1: AR1/SL1 Inspection Area with Photo Locations pg. 7
- Photos 1-25: Inspection Photos of Howell Parcel..... pg. 8-14
- Figure 1A-1C: Revegetation Description..... pg. 15-17

Part 2:

Routine Monitoring Inspection Area

- Map 2: Biber Parcel Inspection Area with Photo Locations pg. 18
- Photos 26-31: Inspection Photos of Biber Parcel pg. 19-20
- Figure 2: Updated disturbance estimate for 2023 bond calculation..... pg. 21

2023 DRMS Reclamation Cost Estimate



Map 1: Map showing the approximate area to be released through AR1. The Operator wants to release all the acres in the Howell Parcel portion of the permit except the 'Topsoil Area' and the 'Unmined Area'. The Operator calculated the 'Unmined Area' to contain 31.14 acres and the 'Topsoil Area' to contain 14.65 acres. Through AR1s approval, the remaining acreage in the Howell parcel will be 45.79 acres. The total permitted acres will now be reduced to 373.29 acres from 507.50 acres.

PHOTOGRAPHS



Photo 1: Looking south at recently graded slopes in the Biber parcel area.

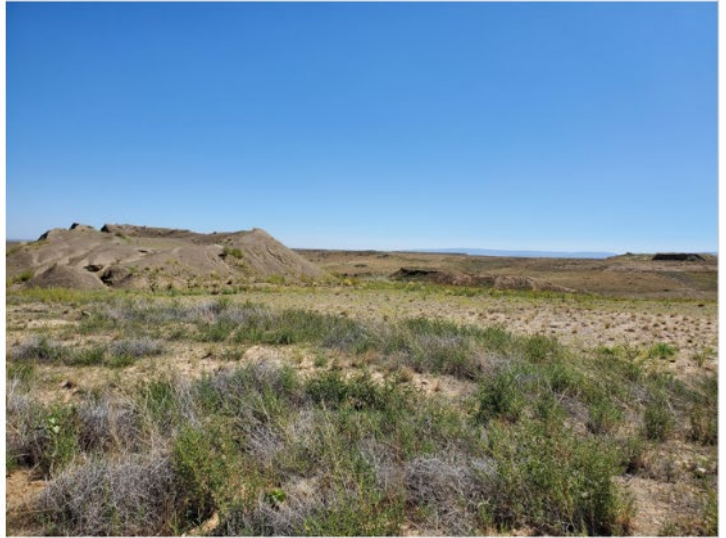


Photo 2: Looking south-east at the topsoil pile in the "Topsoil area" labeled on Map 1.



Photo 3: Looking south-east at some recently reclaimed areas.



Photo 4: Looking north-west from the edge of the topsoil area into the land to be released.



Photo 5: Looking east at Tamarisk trees established in a drainage way.



Photo 6: Looking south east at Tamarisk from Photo 5 in the background and an Russian Olive in the foreground.



Photo 7: Facing north. Arrows indicate the gas line easement.



Photo 8: Looking north along the gas line.



Photo 9: Looking south along the gas line.

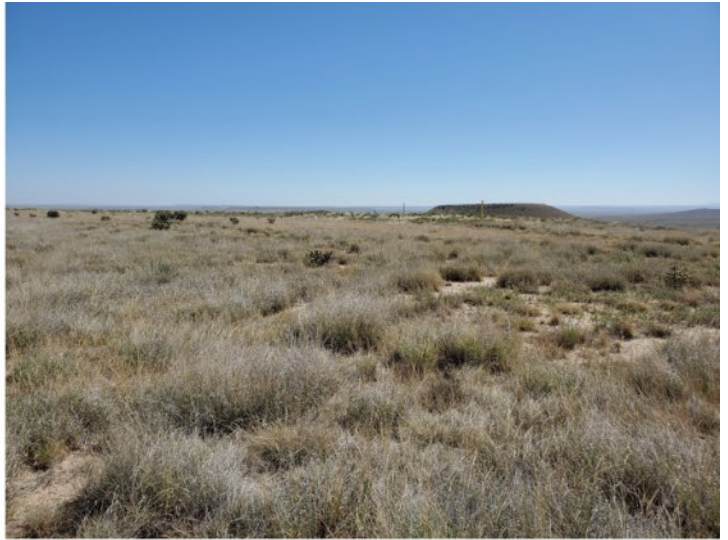


Photo 10: Looking south at gas line and topsoil area.



Photo 11: Looking west along the gas line in the northern portion of the Howell Parcel.



Photo 12: Looking north at a depression filled with vegetation in the northern portion of the Howell Parcel.



Photo 13: Bunch grasses established.



Photo 14: Looking east at a slope graded to a 3H:1V configuration.



Photo 15: Looking at more bunch grasses. Signs of standing water observed as mudcracks. The vegetation appears to be stabilizing the soil and preventing erosion due to water movement.



Photo 16: Water resistant vegetation growing in the basin areas.



Photo 17: Looking north at graded slopes along the site's northern boundary.



Photo 18: Looking south-east at graded slopes along the north side of the gas line easement.



Photo 19: Looking north. Mudcracks observed in areas with bunch grasses. Grasses are stabilizing sediment and preventing erosion.



Photo 20: Looking east along the berm placed on top of a slope.



Photo 21: Looking west along the berm at the top of a check dam installed by the Operator.



Photo 22: Looking east at a gentle reclaimed slope from a spot along the berm lining the north western disturbance boundary.



Photo 23: Looking north-east from the north-west disturbance boundary.

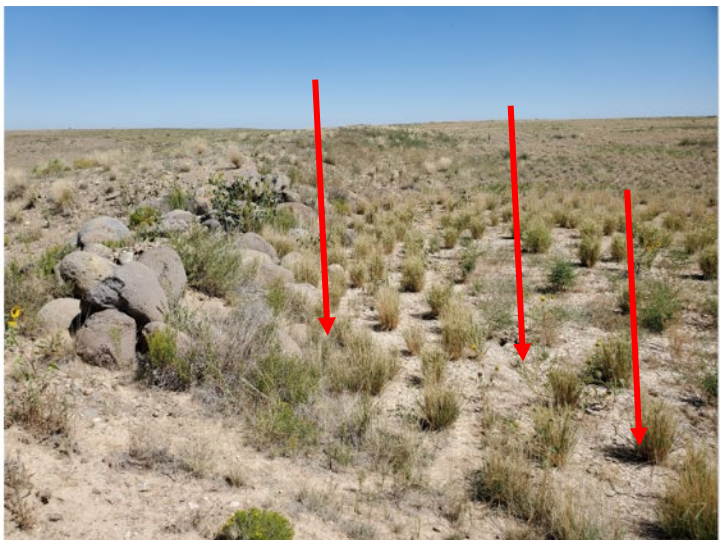


Photo 24: Mudcracks indicate that the combination of vegetation, berms, and check dams have slowed water movement enough to allow for brief periods of standing water.



Photo 25: Looking south-east from the western-most disturbance on-site.



Mine sign in compliance with Rule 3.1.12 posted at the entrance to the site.



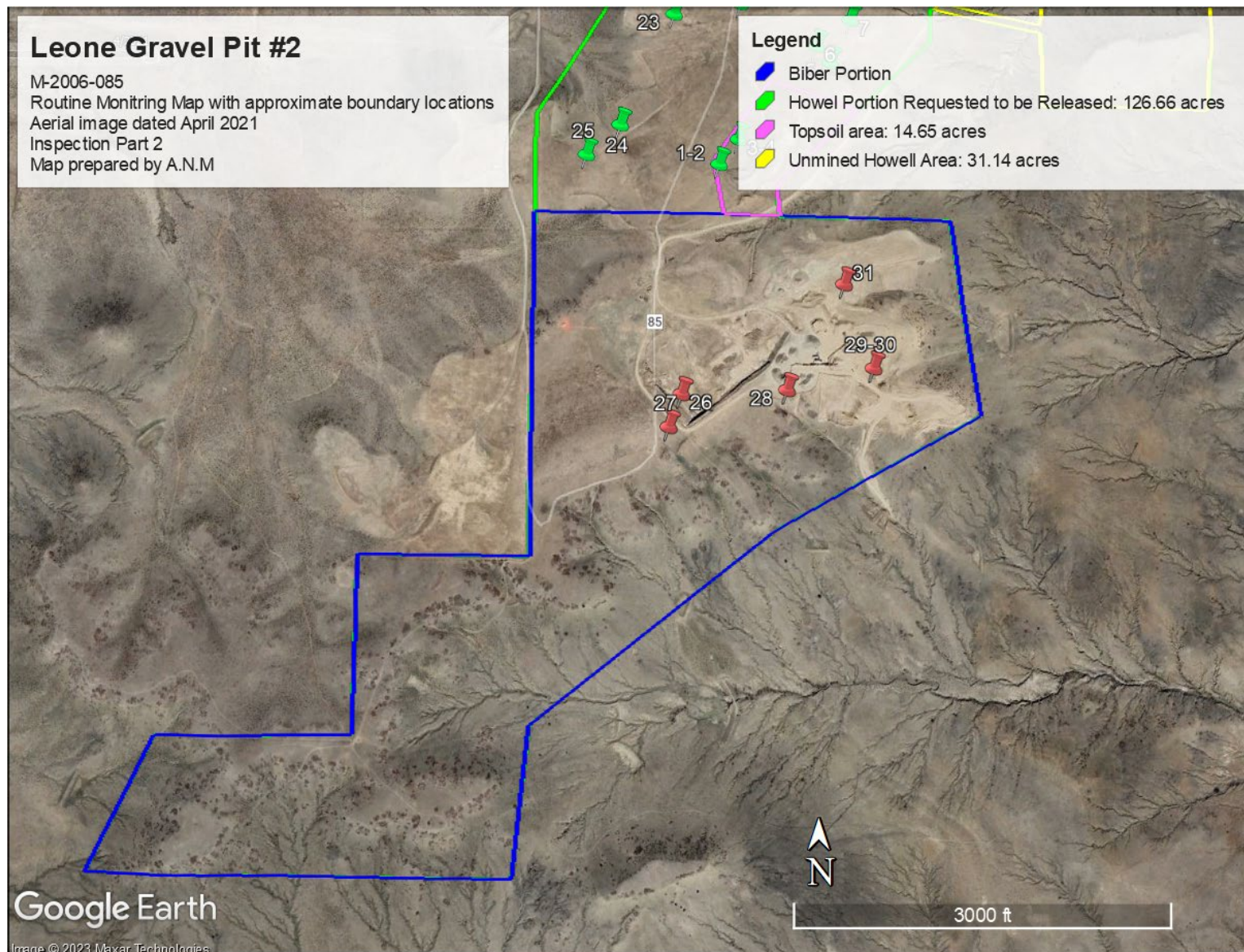
Figure 1A: Images in Figures 1A through 1C depict the variety of vegetation established on-site. The vegetation established due to reclamation efforts includes a variety of grasses, forbs, and shrubs, as well as an expected occurrence of annual weeds and native vegetation volunteering into the area. Some examples observed and identified on-site include Blue Grama, Crested Oats, Western Wheat Grass, Indian Rice Grass, Sage, native Dwarf Sunflowers, and Sweet Gum.



Figure 1B: Images in Figures 1A through 1C depict the variety of vegetation established on-site. The vegetation established due to reclamation efforts includes a variety of grasses, forbs, and shrubs, as well as an expected occurrence of annual weeds and native vegetation volunteering into the area. Some examples observed and identified on-site include Blue Grama, Crested Oats, Western Wheat Grass, Indian Rice Grass, Sage, native Dwarf Sunflowers, and Sweet Gum.



Figure 1C: Images in Figures 1A through 1C depict the variety of vegetation established on-site. The vegetation established due to reclamation efforts includes a variety of grasses, forbs, and shrubs, as well as an expected occurrence of annual weeds and native vegetation volunteering into the area. Some examples observed and identified on-site include Blue Gramma, Crested Oats, Western Wheat Grass, Indian Rice Grass, Sage, native Dwarf Sunflowers, and Sweet Gum.



Map 2: Map showing approximate areas currently mined within the Biber Parcel. This parcel was added to the permit area in 2015 via AM1 and contains a total of 327.5 acres. The permit boundary is also the affected land boundary for this site.



Photo 26: Looking north-east at the edge of the flat stockpile and processing area.



Photo 27: Looking east at a product stockpile with a conveyor and processing equipment in the background.



Photo 28: Looking south-west at the current mining highwall. Material is being extracted by pushing the material down-slope and loading it into a truck. The yellow arrow indicates the current direction of mining.



Photo 29: Looking west at a mined out area that has been partially reclaimed. The arrow correlates with the arrow in Photo 28. The current highwall is located on the other side of the berm photographed here.



Photo 30: Looking north at recently topsoiled and prepped acres.

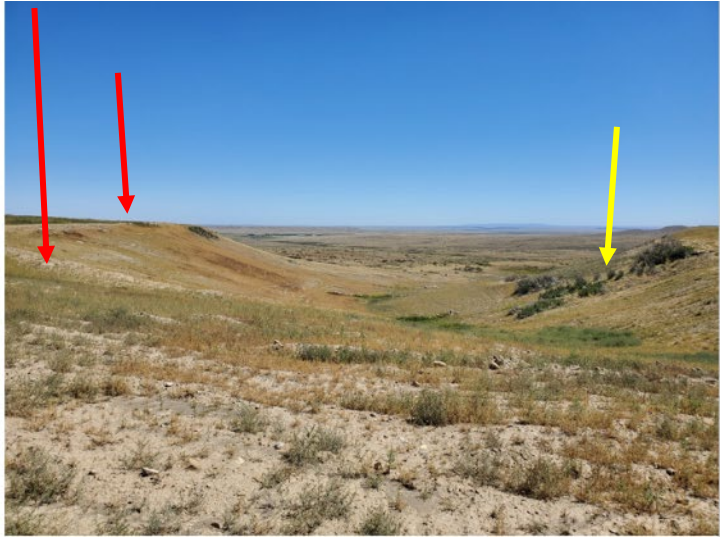


Photo 31: Looking east at a recently reclaimed area. The slopes have been backfilled, graded, and topsoiled. The Operator has installed berms (red arrows) surrounding the area that lead to check dams (yellow arrow) to encourage water to flow through controlled mechanisms.

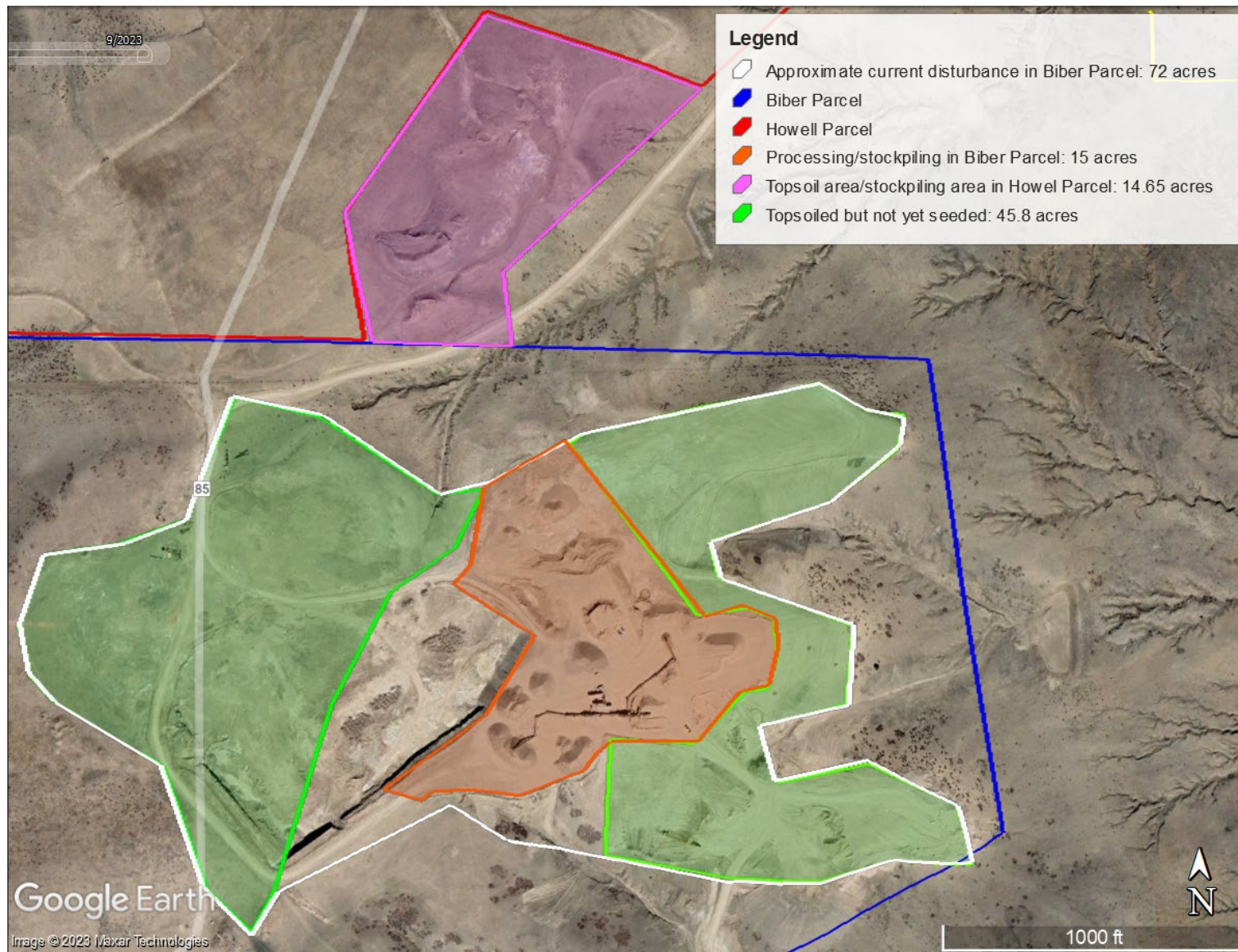


Figure 2: Approximation of the currently disturbed acres on-site. Total disturbance is estimated as 86.65 acres. These acres contain disturbed acres that have not been reclaimed and acres that have been partially reclaimed that need to be seeded and establish vegetative covers (green polygons).

COST SUMMARY WORK

Task description: **Reclamation Cost Estimate for the Leone Gravel Pit #2**

Site: Leone Gravel Pit #2 Permit Action: 2023 AR1/SR1
Inspection Permit/Job#: M2006085

PROJECT IDENTIFICATION

Task #:	000	State:	Colorado	Abbreviation:	None
Date:	9/25/2023	County:	Las Animas	Filename:	M085-000
User:	ANM				

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Cut/fill highwall from 0.5H:1V to 3H:1V slope	DOZER	1	6.12	\$2,696
002	Rip processing/stockpiling area, 29.65 ac	RIPPER	1	43.15	\$19,339
003	Replace topsoil on 40.85 ac, 6 in depth	SCRAPER1	1	24.47	\$43,180
004	Revegetate 86.65 acres to rangeland	REVEGE	1	86.00	\$147,969
005	Mobilization/Demobilization	MOBILIZE	1	4.58	\$10,675
<u>SUBTOTALS:</u>				164.32	\$223,859

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$4,522
Performance bond:	1.05	Total =	\$2,351
Job superintendent:	82.16	Total =	\$5,347
Profit:	10.00	Total =	\$22,386

TOTAL O & P = \$34,605

CONTRACT AMOUNT (direct + O & P) = \$258,464

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	4.25	Total =	\$10,985
Reclamation management and/or administration:	5.00		\$12,923

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$59,013

TOTAL BOND AMOUNT (direct + indirect) = \$282,872

BULLDOZER WORK

Task description: Cut/fill highwall from 0.5H:1V to 3H:1V slope

Site: Leone Gravel Pit #2

Permit Action: 2023 AR1/SR1
Inspection

Permit/Job#: M2006085

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 9/25/2023 County: Las Animas Filename: 001
User: ANM

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>\$241.38</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$143.92</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$14.11</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$440.71</u>	
Total Fleet Cost/Hour:	<u>\$440.71</u>	

MATERIAL QUANTITIES

Initial Volume: 2,912
Swell factor: 1.250
Loose volume: 3,640 LCY

Source of estimated volume: Operator: 15 ft H x 1,000 ft L
Source of estimated swell
factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 60 feet
Unadjusted hourly
production: 1,246.9 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push
gradient: -5 %
Average site altitude: 5,900 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

Job Condition Correction Factor

Operator Skill: 0.750 Source
(AVG.)

Material consistency:	0.900	(CAT HB))
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4772

Adjusted unit
production: 595.02 LCY/hr
Adjusted fleet
production: **595.02** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.741/LCY

Total job time: **6.12** Hours
Total job cost: **\$2,696**

BULLDOZER RIPPING WORK

Task description: Rip processing/stockpiling area, 29.65 ac

Site: Leone Gravel Pit #2 Permit Action: 2023 AR1/SR1 Inspection Permit/Job#: M2006085

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 9/25/2023 County: Las Animas Filename: 002
User: ANM

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$241.38</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$143.92</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$14.11</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$7.45</u>	<u>100</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$448.16</u>	
Total Fleet Cost/Hour:	<u>\$448.16</u>	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 29.65 acres Rip Depth (ft): 1.00 Volume: 47,835 BCY or CCY

Source of estimated quantity: Howell-Topsoil Pile from Ops est., Biber-Processing GE est.

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.56 feet/pass
Average Ripping Width: 7.08 feet/pass
Average Ripping Length: 600.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.828 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.828 Acres/hr
Site Altitude: 5,900 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier
Adjusted Hourly Unit Production: 0.69 Acres/hr
Adjusted Hourly Fleet Production: 0.69 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s)

Total job time: 43.15 Hours

Unit cost: \$652.251 Per acre

Total job cost: \$19,339

SCRAPER TEAM WORK

Task description: Replace topsoil on 40.85 ac, 6 in depth

Site: Leone Gravel Pit #2

Permit Action: 2023 AR1/SR1
Inspection

Permit/Job#: M2006085

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 9/25/2023 County: Las Animas Filename: 003
User: ANM

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 657G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

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	25	25
Ownership cost/hour:	\$379.25	NA	NA	NA	\$149.33	\$16.65
Operating cost/hour:	\$358.77	NA	NA	NA	\$23.20	\$9.40
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	NA	NA	\$28.56	\$0.00
Unit Subtotals:	\$768.92	NA	NA	NA	\$201.08	\$26.05
Number of Units:	2	0	0	0	1	1
Group Subtotals:	Work:	\$1,537.84	Support:	\$0.00	Maint:	\$227.13

Total work team cost/hour: \$1,764.97

MATERIAL QUANTITIES

Initial volume: 32,952 CCY Swell factor: 1.000
Loose volume: 32,952 LCY

Source of estimated volume: Disturbed unreclaimed TS Area and Biber Acres=40.85ac
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Scraper Bowl (volume) Basis:

Material weight: 1,600 lbs/LCY Struck Volume: 32.00 LCY
Material description: Top Soil Heaped Volume: 44.00 LCY
Rated Payload: 104,000 pounds Average Volume: 38.00 LCY

Payload Capacity: 65.00 LCYAdjusted Capacity: 38.00 LCYCycle Time:Scraper Loading Time: 1.10 MinutesManeuver and Spread Time: 0.60 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, 1" tire penetration 4.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	900.00	0.00	4.00	4.00	2725	0.61

Haul Time: 0.61 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	900.00	0.00	4.00	4.00	2920	0.50

Return Time: 0.50 minutesTotal Scraper team cycle time: 2.81 minutesAdjusted for job conditions: 1,346.90 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,346.90 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,346.90 LCY/HourUnadjusted unit production/hour: 1,622.78 LCY/HourOptimal Number of Scrapers per push
dozer: _____**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 24.47 HoursUnit cost: \$1.310 /LCYTotal job cost: \$43,180

REVEGETATION WORK

Task description: Revegetate 86.65 acres to rangeland

Site: Leone Gravel Pit #2 Permit Action: 2023 AR1/SR1 Permit/Job#: M2006085
Inspection

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 9/25/2023 County: Las Animas Filename: 004
User: ANM
Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	3.00	pound	\$0.62	\$1.87
Potassium nitrate, 13-46-0	200.00	pound	\$0.68	\$136.00
Superphosphate, 0-20-0 with 12% S	100.00	pound	\$0.69	\$69.00
			Total Fertilizer Materials Cost/Acre	\$206.87

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$41.82
Total Fertilizer Application Cost/Acre	\$41.82

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$112.82
Total Tilling Cost/Acre	\$112.82

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Lovington	0.30	4.90	\$4.79
Indian Ricegrass - Paloma	1.80	5.83	\$20.03
Little Bluestem - Pastura	1.10	6.57	\$14.83
Sideoats Grama - El Reno	1.80	5.91	\$15.08
Western Wheatgrass - Arriba	4.80	12.12	\$31.20
Needlegrass, Green - Lodorm	1.00	4.16	\$11.78
Totals Seed Mix	10.80	39.47	\$97.70

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	\$429.79	\$859.57
Total Mulch Materials Cost/Acre				\$859.57

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46
Total Mulch Application Cost/Acre	\$74.46

JOB TIME AND COST

No. of Acres:	86.65	Cost /Acre:	\$1,625.24
Estimated Failure Rate:	25%	Cost /Acre*:	\$329.70
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$140,827.05
Reseeding Job Cost:	\$7,142.13
Total Job Cost:	\$147,969
Job Hours:	86.00

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: Mobilization/Demobilization

Site: Leone Gravel Pit #2 Permit Action: 2023 AR1/SR1 Permit/Job#: M2006085
Inspection

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 9/25/2023 County: Las Animas Filename: M085-005
User: ANM

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:	\$20.26	\$36.04	\$47.05
Operating Cost/Hour:	\$39.51	\$76.08	\$82.85
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$82.29	\$158.17	\$175.95

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	53.08	\$255.49	\$175.95	1	\$431.44	\$175.95	\$250.00
Cat 657G w/push-pull	80.25	\$379.25	\$175.95	2	\$1,110.40	\$351.90	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.73	\$82.29	2	\$178.04	\$164.58	\$250.00
CAT 14M	23.57	\$149.33	\$82.29	1	\$231.62	\$82.29	\$250.00

Subtotals: **\$1,951.50** **\$774.72** **\$1,000.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 3,500 Gal.	\$54.25	1	\$54.25	\$54.25
Light Duty Pickup, 4x2, 1/2 T.	\$87.62	1	\$87.62	\$87.62
Lube Truck, 4x2, 190 HP	\$62.94	1	\$62.94	\$62.94
Fuel Tanker, 4x2, 170 HP	\$55.39	1	\$55.39	\$55.39

Subtotals: **\$260.20** **\$260.20**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	TRINIDAD	
Total one-way travel distance:	8.00	miles
Average Travel Speed:	55.00	mph

Total Non-Roadable Mob/Demob Cost *	\$10,599.08
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$75.69
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.15	0.15
Return Time (Hours):	0.15	0.15
Loading Time (Hours):	1.00	NA
Unloading Time (Hours):	1.00	NA
Subtotals:	2.29	0.29

JOB TIME AND COST

Total job time:	4.58	Hours
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Total job cost:	\$10,675
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