COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

February 19, 2025

Matthew Mueller
Siloam Stone, Inc.
315 N. 7th St
Canon City, CO 81212

RE: Bedrock Mine #1, Permit No. M-1997-086; Technical Revision Application (TR-4), Revise Reclamation Plan, Preliminary Adequacy Review

Dear Mr. Mueller,

On February 3, 2025, the Division of Reclamation, Mining, and Safety (the Division/DRMS) received the technical revision application (TR-4) revising the reclamation plan to reduce the amount of growth medium to be replaced from 12 inches to 6 inches and remove the use of mulch. There are several items that were identified during the Division's review of the TR-4 application that require further clarification. Please provide a response and any supplemental items necessary to address the following items.

Rule 6.2 General Requirements of Exhibits

1. The map submitted does not meet the complete requirements of Rule 6.2.1(2). Please resubmit the map to include the following information:

    a. The name and signature of the qualified person that prepared the map, per Rule 6.2.1(2)(b).

    b. The complete permitted area in accordance with Rule 6.2.1(2)(d).

Rule 3.1.10 Revegetation

2. An invoice from Ark Valley Weed for weed control services. The invoice date is October 14, 2024, and the invoice number is 520P. The same invoice was submitted with the Technical Revision (TR-4) application for the Bedrock Mine #1, Permit No. M-1997-086. Information about how the amount of the weed control services is allocated to the different permit areas is not provided. The costs cannot be attributed to the recalculation of the reclamation costs without a breakdown of how those costs are attributed to each permit. Additionally, to justify a prescribed cost for weed control tasks, a minimum of three estimates for this service should be provided to the Division.

Rule 6.4.12 Exhibit L – Reclamation Costs

3. The Division's estimated reclamation cost have been recalculated, and an updated reclamation cost estimate (RCE) is attached with this report. The following table provides details of how the total acreage used for each task was calculated. The areas and the acreage values used were sourced from the "Current Reclamation Tasks Needed" table submitted in the TR-4 application. According to this information, the required financial warranty calculated by the Division for the permit is $131,339.00; this is an increase of $22,719.94 of the currently held financial warranty of $108,619.06. Provide any comments or additional supplemental items to the Division about the attached RCE.

Areas (acres)	*Grading*	*Tilling*	*Topsoiling*	*Seeding*
Slab Stone Area	9.65	0.00	9.65	9.65
Partially reclaimed (not TSSA)	0.00	12.67	0.00	12.67
Temporary Slab Stone Area (TSSA)	0.00	25.75	0.00	25.75
Stone Yard	0.00	0.00	0.00	0.00
Topsoil stockpiles – in partially reclaimed areas	1.39	0.00	0.00	1.39
Total	**11.04**	**39.80**	**9.65**	**49.46**

This concludes the Division's preliminary adequacy review of the TR-4 application. The decision date for this revision is **March 5, 2025**. Please reply to this letter at least 5 days prior to the decision date, ***February 28, 2025***, to allow for the Division to review your response. If more time is needed to address these issues, an extension request must be submitted to the Division in writing prior to the decision date.

If you have any questions or concerns, please reach out to me at Jocelyn.carter@state.co.us or (720) 666-1065.

Sincerely,

Jocelyn Carter
Environmental Protection Specialist

Ec: Amy Eschberger, DRMS
Steve O'Brien, Environment, Inc.

Enclosures: Reclamation Cost Estimate (RCE)

COST SUMMARY WORK

Task description: **Cost Summary**

Site: **Bedrock Mine #1** Permit Action: 2025 TR4 Permit/Job#: M1997086

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 2/19/2025 County: Pueblo Filename: M086-000
User: JLC

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfilling Slab Stone Area	DOZER	2	2.25	$1,525
002a	Grading 11.04 acres	GRADER	2	1.64	$505
003	Tilling 39.80 acres	REVEGE	1	20.00	$4,681
004	Spreading Topsoil, 6", 9.65 acres	SCRAPER1	1	17.83	$36,614
006	Revegetation of 49.46 acres	REVEGE	1	64.30	$40,866
007	Mob/Demob	MOBILIZE	1	6.81	$15,354
	SUBTOTALS:			**112.83**	**$99,545**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$2,011
Performance bond:	1.05	Total =	$1,045
Job superintendent:	56.41	Total =	$4,472
Profit:	10.00	Total =	$9,954
		TOTAL O & P =	$17,482
		CONTRACT AMOUNT (direct + O & P) =	$117,027

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$500	Total =	$500
Engineering work and/or contract/bid preparation:	4.25	Total =	$4,974
Reclamation management and/or administration:	5.00		$5,851
CONTINGENCY:	3.00	Total =	$2,986
		TOTAL INDIRECT COST =	$31,794
		TOTAL BOND AMOUNT (direct + indirect) =	**$131,339**

BULLDOZER WORK

Task description: **Backfilling Slab Stone Area**

Site: **Bedrock Mine #1** Permit Action: 2025 TR4 Permit/Job#: M1997086

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 2/18/2025 County: Pueblo Filename: 001
User: JLC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU
Horsepower: 310
Blade Type: Semi-Universal
Attachment: 1-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$173.32	NA
Operating Cost/Hour:	$109.71	100
Ripper own. Cost/Hour:	$13.69	NA
Ripper op. Cost/Hour:	$2.31	25
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $339.07
Total Fleet Cost/Hour: **$678.13**

MATERIAL QUANTITIES

Initial Volume: 4,000
Swell factor: 1.250
Loose volume: **5,000** 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: -10 %
Average site altitude: 5,800 feet

Material weight: 2,650 lbs/LCY

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

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(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:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7943

Adjusted unit production: 1,112.02 LCY/hr
Adjusted fleet production: **2224.04** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: $0.305/LCY

Total job time: **2.25** Hours
Total job cost: **$1,525**

MOTOR GRADER WORK

Task description: **Grading 11.04 acres**

Site: **Bedrock Mine #1** Permit Action: 2025 TR4 Permit/Job#: M1997086

PROJECT IDENTIFICATION

Task #: 002A State: Colorado Abbreviation: None
Date: 2/19/2025 County: Pueblo Filename: M086-002a
User: JLC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 120M Horsepower: 138
Ripper Attachment: Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$52.82	NA
Operating Cost/Hour:	$43.76	100
Ripper Ownership Cost/Hour:	$0.00	NA
Ripper Operating Cost/Hour:	$0.00	
Operator Cost/Hour:	$56.70	NA
Total Unit Cost/Hour:	$153.28	
Total Fleet Cost/Hour:	**$306.56**	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 11.04 acres

Source of estimated acreage: TR4 Current Reclamation Tasks Needed

HOURLY PRODUCTION

Average Grader Speed: 3.25 mph
Selected Application: Heavy blading (0-6 mph) - 3.25
Selected Blade Angle: 0 degrees
Effective Blade Length: 12.00 feet
Width of blade overlap per pass: 2.00 feet
Net grading or ripping width per pass: 10.00 feet
Unadjusted Hourly Unit Production: 3.9394 acres/hour

Job Condition Correction Factors Site Altitude: 5800 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.85	(2sh/d, fav.)
Net Correction:	0.8500	multiplier

Adjusted Hourly Unit Production: 3.3485 acres/Hour
Adjusted Hourly Fleet Production: **6.6970** acres/Hour

JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: **1.65** Hours

Unit cost: $45.78 per acre Total job cost: **$505**

REVEGETATION WORK

Task description: **Tilling 39.80 acres**

Site: **Bedrock Mine #1** Permit Action: 2025 TR4 Permit/Job#: M1997086

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 2/18/2025 County: Pueblo Filename: M086-003
User: JLC

Agency or organization name: DRMS

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	$117.61
Total Tilling Cost/Acre	**$117.61**

JOB TIME AND COST

No. of Acres: 39.8 Cost /Acre: $117.61
Estimated Failure Rate: 0% Cost /Acre*: $117.61
*Selected Replanting Work Items: TILLING

Initial Job Cost: **$4,680.88**
Reseeding Job Cost: **$0.00**
Total Job Cost: **$4,681**
Job Hours: **20.00**

SCRAPER TEAMWORK

Task description: **Spreading Topsoil, 6", 9.65 acres**

Site: **Bedrock Mine #1** Permit Action: 2025 TR4 Permit/Job#: M1997086

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 2/19/2025 County: Pueblo Filename: M086-004
User: JLC

Agency or organization name: DRMS

HOURLY EQUIPMENT

COST Shift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance –Motor Grader:	CAT 120M
-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	100	NA	NA	50	NA
Ownership cost/hour:	$234.09	$173.32	NA	NA	$52.82	NA
Operating cost/hour:	$265.71	$109.71	NA	NA	$21.88	NA
%Utilization-ripper:	NA	15	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$13.69	NA	NA	$0.00	NA
Ripper op. cost/hour:	NA	$1.39	NA	NA	$0.00	NA
Operator cost/hour:	$57.52	$40.04	NA	NA	$56.70	NA
Unit Subtotals:	$557.32	$338.14	NA	NA	$131.40	NA
Number of Units:	2	2	0	0	2	0
Group Subtotals:	Work:	$1,790.92	Support:	$0.00	Maint:	$262.80

Total work team cost/hour: **$2,053.72**

MATERIAL QUANTITIES

Initial volume: 7,784 CCY Swell factor: 1.250
Loose volume: **9,730** LCY

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

HOURLY PRODUCTION

Material weight: 2,650 lbs/LCY
Material description: Decomposed rock - 25% Rock, 75% Earth
Rated Payload: 52,800 pounds
Payload Capacity: 19.92 LCY

Scraper Bowl (volume) Basis:

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

Cycle Time:

Scraper Loading Time: 0.90 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 5800 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: Hard, smooth, stabilized, surfaced, watered, maintained 2.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1025.00	0.00	2.00	2.00	2868	0.55
2	850.00	0.00	2.00	2.00	2868	0.30
3	500.00	0.00	2.00	2.00	2868	0.17

Haul Time: **1.02** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	2.00	2.00	2905	0.28
2	850.00	0.00	2.00	2.00	2905	0.29
3	1025.00	0.00	2.00	2.00	2905	0.35

Return Time: **0.92** minutes

Total Scraper team cycle time: **3.44** minutes
Adjusted for job conditions: 545.77 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 545.77 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **545.77** LCY/Hour

Unadjusted unit production/hour: 657.56 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **17.83** Hours

Unit cost: $3.763 /LCY Total job cost: **$36,614**

REVEGETATION WORK

Task description: **Revegetation of 49.46 acres**

Site: **Bedrock Mine #1** Permit Action: 2025 TR4 Permit/Job#: M1997086

PROJECT IDENTIFICATION

Task #: 006 State: Colorado Abbreviation: None
Date: 2/19/2025 County: Pueblo Filename: M086-006
User: JLC

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
Weed control spraying (MEANS 31 31 16.13 3100)	$338.80
Total Tilling Cost/Acre	**$338.80**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Orchardgrass - Paiute	1.00	12.40	$4.59
Rye, Perennial Tetraploid - Tetra-Plus	1.00	5.67	$2.28
Crested Wheatgrass - Hy-Crest	1.00	4.59	$5.05
Russian Wildrye - Bozoisky	2.00	8.03	$22.15
Smooth Brome - Lincoln	2.00	6.66	$9.71
Intermediate Wheatgrass - Oahe	2.00	4.27	$9.29
Slender Wheatgrass - Native	1.00	3.65	$7.06
Totals Seed Mix	10.00	45.27	**$60.13**

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	$236.64
Total Seed Application Cost/Acre	**$236.64**

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: 49.46
Estimated Failure Rate: 30%
*Selected Replanting Work Items: TILLING, SEEDING

Cost /Acre: $635.57
Cost /Acre*: $635.57

Initial Job Cost: **$31,435.29**
Reseeding Job Cost: **$9,430.59**
Total Job Cost: **$40,866**
Job Hours: **64.30**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mob/Demob**

Site: **Bedrock Mine #1** Permit Action: 2025 TR4 Permit/Job#: M1997086

PROJECT IDENTIFICATION

Task #: 007 State: Colorado Abbreviation: None
Date: 2/19/2025 County: Pueblo Filename: M086-007
User: JLC

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:	$10.44	$22.18	$23.94
Operating Cost/Hour:	$26.48	$54.55	$55.65
Operator Cost/Hour:	$22.52	$22.52	$22.52
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	$59.44	$122.78	$125.64

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	52.21	$187.01	$125.64	2	$625.30	$251.28	$500.00
Cat 627G w/push-pull	43.48	$234.09	$122.78	2	$713.74	$245.56	$500.00
Drill/Broadcast Seeder with Tractor	25.00	$41.02	$59.44	2	$200.92	$118.88	$500.00
CAT 120M	15.53	$52.82	$59.44	2	$224.52	$118.88	$500.00
Subtotals:					**$1,764.48**	**$734.60**	**$2,000.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	$108.47	1	$108.47	$108.47
Subtotals:			**$108.47**	**$108.47**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	PUEBLO	
Total one-way travel distance:	20.00	miles
Average Travel Speed:	55.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$15,275.13
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$78.89

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.36	0.36
Return Time (Hours):	0.36	0.36
Loading Time (Hours):	1.34	NA
Unloading Time (Hours):	1.34	NA
Subtotals:	3.41	0.73

JOB TIME AND COST

Total job time:	**6.81**	Hours
Total job cost:	**$15,354**	