



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

April 29, 2024

Matthew Sprague
Sprague Stone LLC
P O Box 294
Masonville, CO 80541

RE: Division's Financial Warranty Cost Estimate for Sprague Stone (M2015-006)

Dear Mr. Sprague,

On August 22, 2023 the Division performed a routine monitoring inspection of the Sprague Stone, permit no. M-2015-006. As part of the inspection the financial warranty for the site was calculated. The Division used observations made during the inspection, and permit file information during the cost estimate calculations.

A copy of the mine's reclamation cost estimate is attached for your review. The Division will allow 14 days or until **May 13, 2024** to review and comment on the reclamation cost estimate prior to issuing a surety increase notice for Sprague Stone. Once the surety increase is issued by the Division, the Operator will have 60 days to provide the additional financial warranty.

If you need additional information or have any questions, please contact me by email at patrick.lennberg@state.co.us.

Sincerely,

Patrick Lennberg
Environmental Protection Specialist

Attachment: Reclamation Cost Estimate

cc: Jared Ebert, DRMS

ec: Amanda Sprague, Sprague Stone LLC, spraguestone@gmail.com
Michael Lang, Ridge Top Eng., mlang@ridgetopeng.com



Attachments

COST SUMMARY WORK

Task description: Cost Summary

Site: Sprague Stone

Permit Action: 2024 Cost Est

Permit/Job#: M2015006

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 3/1/2024

County: Larimer

Filename: M006-000

User: JPL

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Rip Storage Areas	RIPPER	2	8.27	\$7,748
002	Backfill 4" Overburden Over Work Decks	DOZER	2	26.57	\$24,414
003	Backfilling 2' of Waste Rock into Working Decks	DOZER	2	70.58	\$64,854
004	Spread Topsoil	SCRAPER1	1	16.63	\$51,543
005	Revegetating Disturbed Areas	REVEGE	1	40.00	\$44,365
006	Equipment Mobilization/Demobilization	MOBILIZE	1	2.60	\$12,417
<u>SUBTOTALS:</u>				164.65	\$205,341

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$4,148

Performance bond: 1.05

Total = \$2,156

Job superintendent: 82.32

Total = \$5,357

Profit: 10.00

Total = \$20,534

TOTAL O & P = \$32,195

CONTRACT AMOUNT (direct + O & P) = \$237,536

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500

Total = \$500

Engineering work and/or contract/bid preparation: 7.22

Total = \$17,150

Reclamation management and/or administration: 5.00

\$11,877

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$61,722

TOTAL BOND AMOUNT (direct + indirect) = \$267,063

BULLDOZER RIPPING WORK

Task description: Rip Storage Areas

Site: Sprague Stone

Permit Action: 2024 Cost Est

Permit/Job#: M2015006

PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 3/1/2024

County: Larimer

Filename: 001

User: JPL

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper Ownership Cost/Hour:	\$18.32	NA
Ripper Operating Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$40.04	NA
Total Unit Cost/Hour:	\$468.39	
Total Fleet Cost/Hour:	\$936.77	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY NA

Area: 11.50 acres

Rip Depth (ft): 1.00

Volume: 18,553

BCY or CCY

Source of estimated quantity: 2023 Annual Report Map

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	2.63	feet/pass
Average Ripping Width:	7.67	feet/pass
Average Ripping Length:	200.00	feet/pass
Average Dozer Speed:	88.00	feet/minute
Average Maneuver Time:	0.25	minutes/pass
Production per unit area:	0.838	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.838 Acres/hr

Site Altitude: 5,500 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.70 Acres/hr

Adjusted Hourly Fleet Production: **1.39** Acres/hr

JOB TIME AND COST

Fleet size: 2

Grader(s)

Total job time: **8.27**

Hours

Unit cost: \$673.769

Per acre

Total job cost: **\$7,748**

BULLDOZER WORKTask description: **Backfill 4" Overburden Over Work Decks**Site: **Sprague Stone**Permit Action: **2024 Cost Est**Permit/Job#: **M2015006****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **3/1/2024**County: **Larimer**Filename: **002**User: **JPL**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own. Cost/Hour:	\$18.32	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$459.41**Total Fleet Cost/Hour: **\$918.81****MATERIAL QUANTITIES**Initial Volume: **9,141**Swell factor: **1.000**Loose volume: **9,141 LCY**Source of estimated volume: **17 acres at 4 inches per acre**Source of estimated swell
factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly
production: **2,110.5 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push
gradient: **30 %**Average site altitude: **5,500 feet**Material weight: **3,300 lbs/LCY**Weight description: **Decomposed rock - 75% Rock, 25% Earth**Job Condition Correction FactorOperator Skill: **0.750**Source**(AVG.)**

Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	0.298	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.0815

Adjusted unit
production: 172.01 LCY/hr

Adjusted fleet
production: **344.02** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$2.671/LCY

Total job time: **26.57** Hours

Total job cost: **\$24,414**

BULLDOZER WORKTask description: **Backfilling 2' of Waste Rock into Working Decks**Site: **Sprague Stone**Permit Action: **2024 Cost Est**Permit/Job#: **M2015006****PROJECT IDENTIFICATION**Task #: **003**State: **Colorado**Abbreviation: **None**Date: **3/1/2024**County: **Larimer**Filename: **003**User: **JPL**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own. Cost/Hour:	\$18.32	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$459.41**Total Fleet Cost/Hour: **\$918.81****MATERIAL QUANTITIES**Initial Volume: **54,850**Swell factor: **1.000**Loose volume: **54,850 LCY**Source of estimated volume: **An ave 2 foot layer of waste rock across working deck**Source of estimated swell
factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly
production: **2,110.5 LCY/hr**Materials consistency description: **Partly consolidated stockpile 1.1**Average push
gradient: **30 %**Average site altitude: **5,500 feet**Material weight: **2,550 lbs/LCY**Weight description: **Sandstone****Job Condition Correction Factor**Operator Skill: **0.750****Source****(AVG.)**

Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	0.298	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.1841

Adjusted unit production: 388.54 LCY/hr

Adjusted fleet production: **777.08** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$1.182/LCY

Total job time: **70.58** Hours

Total job cost: **\$64,854**

SCRAPER TEAM WORKTask description: Spread TopsoilSite: Sprague StonePermit Action: 2024 Cost EstPermit/Job#: M2015006**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 4/29/2024County: LarimerFilename: M006-004User: JPLAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D9T - 9SU
-Dump Area:	CAT 16M
Road Maintenance -Motor Grader:	NA
-Water Truck:	Water Tanker, 5,000 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	50	60	NA	25
Ownership cost/hour:	\$255.23	NA	\$238.76	\$212.21	NA	\$57.13
Operating cost/hour:	\$280.59	NA	\$81.15	\$74.93	NA	\$16.62
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	NA	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	NA	\$0.00
Operator cost/hour:	\$47.07	NA	\$40.04	\$46.87	NA	\$0.00
Unit Subtotals:	\$582.89	NA	\$359.94	\$334.01	NA	\$73.75
Number of Units:	4	0	1	1	0	1
Group Subtotals:	Work:	\$2,331.56	Support:	\$693.95	Maint:	\$73.75

Total work team cost/hour: \$3,099.26**MATERIAL QUANTITIES**Initial volume: 15,555

CCY

Swell factor: 1.125Loose volume: 17,499

LCY

Source of estimated volume: 26 acres requiring 5 inchesSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,650 lbs/LCY
 Material description: Decomposed rock - 25% Rock, 75% Earth
 Rated Payload: 81,600 pounds
 Payload Capacity: 30.79 LCY

Struck Volume: 24.00 LCY
 Heaped Volume: 34.00 LCY
 Average Volume: 29.00 LCY
 Adjusted Capacity: 29.00 LCY

Cycle Time:Scraper Loading Time: 1.00 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 5500 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: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	21.00	3.00	24.00	346	2.89

Haul Time: 2.89 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-21.00	3.00	-18.00	1201	1.00

Return Time: 1.00 minutesTotal Scraper team cycle time: 5.49 minutesAdjusted for job conditions: 526.12 LCY/HourSelected Number of Scrapers: 4 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,052.24 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,052.24 LCY/HourUnadjusted unit production/hour: 633.88 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 16.63 HoursUnit cost: \$2.945 /LCYTotal job cost: \$51,543

REVEGETATION WORKTask description: Revegetating Disturbed AreasSite: Sprague StonePermit Action: 2024 Cost EstPermit/Job#: M2015006PROJECT IDENTIFICATIONTask #: 005State: ColoradoAbbreviation: NoneDate: 4/29/2024County: LarimerFilename: M006-005User: JPLAgency or organization name: DRMSFERTILIZING**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
8-32-16, 16-20-0	200.00	pound	\$0.90	\$179.34
			Total Fertilizer Materials Cost/Acre	\$179.34

Application

Description	Cost /Acre
Truck whirlwind spreader (MEANS 32 01 90.13 0140)	\$17.42
Total Fertilizer Application Cost/Acre	\$17.42

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indiangrass - Cheyenne	0.50	1.52	\$5.65
Switchgrass - Blackwell	0.50	4.47	\$5.75
Big Bluestem - Native	0.40	1.19	\$4.73
Priarie Dropseed	0.30	3.32	\$41.85
Blue Grama - Native	1.00	16.32	\$13.73
Indian Ricegrass - Native	0.80	2.59	\$5.20
Buffalograss - Native/Plains	1.00	0.96	\$12.07
Sand Dropseed	0.10	11.94	\$0.98
Little Bluestem - Native	1.00	5.97	\$13.57
Sideoats Grama - Vaughn	1.40	4.60	\$11.73

Slender Wheatgrass - San Luis	1.00	3.65	\$4.25
Western Wheatgrass - Native	1.50	3.79	\$9.00
Needlegrass, Green - Lodorm	0.50	2.08	\$5.89
Totals Seed Mix	10.00	62.39	\$134.37

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
Power mulcher (MEANS 32 91 13.16 0350)	\$147.67
Total Mulch Application Cost/Acre	\$147.67

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Juniper, Rocky Mountain	6	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.50	\$0.00	\$15.00
Pine, Ponderosa	6	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.50	\$0.00	\$15.00
Oak, Gambel's	6	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.40	\$0.00	\$14.40
Totals Nursery Stock Cost / Acre					\$44.40

JOB TIME AND COST

No. of Acres:	26	Cost /Acre:	\$1,614.77
Estimated Failure Rate:	25%	Cost /Acre*:	\$366.37
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$41,984.02
Reseeding Job Cost:	\$2,381.41
Total Job Cost:	\$44,365
Job Hours:	40.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: Equipment Mobilization/DemobilizationSite: Sprague StonePermit Action: 2024 Cost EstPermit/Job#: M2015006**PROJECT IDENTIFICATION**Task #: 006State: ColoradoAbbreviation: NoneDate: 4/29/2024County: LarimerFilename: M006-006User: JPLAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck 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 D9T - 9SU	60.01	\$238.76	\$175.95	2	\$829.42	\$351.90	\$250.00
Cat 637G w/push-pull	59.59	\$255.23	\$175.95	4	\$1,724.72	\$703.80	\$1,000.00
CAT 16M	28.73	\$212.21	\$158.17	1	\$370.38	\$158.17	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.73	\$82.29	2	\$178.04	\$164.58	\$500.00
Water Tanker, 5,000 Gal.	15.00	\$57.13	\$82.29	1	\$139.42	\$82.29	\$250.00

Subtotals: **\$3,241.98** **\$1,460.74** **\$2,250.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Power Mulcher (Bowie LD-90)	\$57.02	1	\$57.02	\$57.02
Light Duty Pickup, 4x4, 3/4 T.	\$15.83	1	\$15.83	\$15.83

Subtotals: **\$72.85** **\$72.85**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	LOVELAND	
Total one-way travel distance:	6.00	miles
Average Travel Speed:	40.00	mph

Total Non-Roadable Mob/Demob Cost *	\$12,394.78
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* two round trips with haul rig:

Total Roadable Mob/Demob Cost **	\$21.86
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** 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):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.30	0.30

JOB TIME AND COST

Total job time:	2.60	Hours
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Total job cost:	\$12,417
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