



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

January 4, 2024

Bridget Wade
Bureau of Land Management
Tres Rios Field Office
161 Burnett Drive, Unit 4
Durango, CO
81301

**Re: Slick Rock, File No. P-2023-018, Notice of Intent to Conduct Prospecting Operations (NOI),
Request for Concurrence**

Dear Ms. Wade,

On October 30, 2023, the Division of Reclamation, Mining and Safety received the above listed application for the Slick Rock Notice of Intent to Conduct Prospecting Operations (NOI) located on Bureau of Land Management Lands (BLM) within San Miguel County. During the Division's technical Adequacy Review period a Reclamation Cost Estimate was performed. Based on the details of the project, Division Staff has estimated the total Reclamation Cost to ensure reclamation of all affected lands at \$25,406.00. The Reclamation Cost Estimate Worksheets are enclosed. Per the Memorandum of Understanding, please review these calculations and provide documentation of concurrence for the Financial Warranty amount.

Upon receiving concurrence, the calculation will be provided to the applicant so they may submit the appropriate Financial Warranty for the site. If you have any questions please feel free to contact me at the Division's Grand Junction Field Office, by phone at 303-866-3567 Ext. 8187 or by email at lucas.west@state.co.us.

Sincerely,

Lucas West
Environmental Protection Specialist
Division of Reclamation, Mining and Safety

Encl: Reclamation Cost Estimate Worksheets

Cc: Travis Marshall, DRMS
Ec: Mallory Pottorff, Highbury Resources, Inc.
Scott Pottorff, Highbury Resources, Inc.
Bridget Wade, BLM



COST SUMMARY WORK

Task description: Cost Summary

Site: Slick Rock

Permit Action: New App

Permit/Job#: P2023018

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 1/4/2024

County: San Miguel

Filename: P018-000

User: LJW

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	P & A one hole at a time	BOREHOLE	1	8.00	\$8,691
002	Backfill sumps and replace Topsoil @ 20 pads	DOZER	1	6.18	\$1,770
003	Rip Compacted Areas of pads and 1/2 overland travel areas	RIPPER	1	1.67	\$485
004	Revegetate Affected Areas	REVEGE	1	8.00	\$4,917
005	Secondary Seeding, 1/2 Affected Area	REVEGE	1	8.00	\$2,490
006	Mobilization to and from site	MOBILIZE	1	4.13	\$3,046
<u>SUBTOTALS:</u>				35.98	\$21,399

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$432

Performance bond: 1.05

Total = \$225

Job superintendent: 0.00

Total = \$0

Profit: 10.00

Total = \$2,140

TOTAL O & P = \$2,797

CONTRACT AMOUNT (direct + O & P) = \$24,196

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$0

Engineering work and/or contract/bid preparation: 0.00

Total = \$0

Reclamation management and/or administration: 5.00

\$1,210

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$4,007

TOTAL BOND AMOUNT (direct + indirect) = \$25,406

BOREHOLE SEALING WORK

Task description: P & A one hole at a time

Site: Slick Rock

Permit Action: New App

Permit/Job#: P2023018

PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 1/4/2024

County: San Miguel

Filename: P018-001

User: LJW

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Exploration Hole	Bentonite seal - 6 in. (labor, equip, materials)	6	1200	1,200.00	LF	\$7.24	\$8,691.00

Job Hours: 8.00

Total Cost: \$8,691.00

BULLDOZER WORKTask description: **Backfill sumps and replace Topsoil @ 20 pads**Site: **Slick Rock**Permit Action: **New App**Permit/Job#: **P2023018****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **1/4/2024**County: **San Miguel**Filename: **P018-002**User: **LJW**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D6T XL**Horsepower: **185**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$147.22	NA
Operating Cost/Hour:	\$92.18	100
Ripper own.		
Cost/Hour:	\$5.59	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$286.29	
Total Fleet Cost/Hour:	\$286.29	

MATERIAL QUANTITIESInitial Volume: **1,140**Swell factor: **1.000**Loose volume: **1,140 LCY**Source of estimated volume: **37CY topsoil, 20CY sump backfill x 20 pads**Source of estimated swell factor: **Deficiency Response****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **444.6 LCY/hr**Materials consistency description: **Loose stockpile 1.2**Average push gradient: **0 %**Average site altitude: **5,700 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**Operator Skill: **0.750**Source
(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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4147

Adjusted unit production: 184.38 LCY/hr

Adjusted fleet production: **184.38** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.553/LCY

Total job time: **6.18** Hours

Total job cost: **\$1,770**

BULLDOZER RIPPING WORK

Task description: Rip Compacted Areas of pads and 1/2 overland travel areas

Site: Slick Rock

Permit Action: New App

Permit/Job#: P2023018

PROJECT IDENTIFICATION

Task #: 003

State: Colorado

Abbreviation: None

Date: 1/4/2024

County: San Miguel

Filename: P018-003

User: LJW

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D6T XL

Horsepower: 185

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$147.22	NA
Operating Cost/Hour:	\$92.18	100
Ripper Ownership Cost/Hour:	\$5.59	NA
Ripper Operating Cost/Hour:	\$3.39	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$289.68	
Total Fleet Cost/Hour:	\$289.68	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY NA

Area: 0.77 acres

Rip Depth (ft): 1.00

Volume: 1,242

BCY or CCY

Source of estimated quantity: Notice of Deficiency Responses

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	<u>1.64</u>	feet/pass
Average Ripping Width:	<u>6.58</u>	feet/pass
Average Ripping Length:	<u>50.00</u>	feet/pass
Average Dozer Speed:	<u>88.00</u>	feet/minute
Average Maneuver Time:	<u>0.25</u>	minutes/pass
Production per unit area:	<u>0.554</u>	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.554 Acres/hr

Site Altitude: 5,700 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.46 Acres/hr

Adjusted Hourly Fleet Production: 0.46 Acres/hr

JOB TIME AND COST

Fleet size: 1

Grader(s)

Total job time: 1.67 Hours

Unit cost: \$630.131

Per acre

Total job cost: \$485

REVEGETATION WORKTask description: Revegetate Affected AreasSite: Slick RockPermit Action: New AppPermit/Job#: P2023018PROJECT IDENTIFICATIONTask #: 004State: ColoradoAbbreviation: NoneDate: 1/4/2024County: San MiguelFilename: P018-004User: LJWAgency 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
Hand raking (MEANS 32 91 13.23 0250)	\$1,655.28
Total Tilling Cost/Acre	\$1,655.28

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.40	6.53	\$5.49
Indian Ricegrass - Native	14.80	47.91	\$96.20
Bottlebrush Squirreltail	1.80	7.93	\$29.21
Muttongrass	0.30	6.20	\$10.32
Needle and Thread	3.00	7.92	\$125.55
Totals Seed Mix	20.30	76.49	\$266.77

Application

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Description	Cost /Acre
Push spreader (MEANS 32 92 19.14 0020)	\$2,069.10
Total Seed Application Cost/Acre	\$2,069.10

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: 0.77 Cost /Acre: \$3,991.15
 Estimated Failure Rate: 60% Cost /Acre*: \$3,991.15
 *Selected Replanting Work Items: TILLING,SEEDING

Initial Job Cost: **\$3,073.19**
 Reseeding Job Cost: **\$1,843.91**
 Total Job Cost: **\$4,917**
 Job Hours: **8.00**

REVEGETATION WORKTask description: Secondary Seeding, 1/2 Affected AreaSite: Slick RockPermit Action: New AppPermit/Job#: P2023018PROJECT IDENTIFICATIONTask #: 005State: ColoradoAbbreviation: NoneDate: 1/4/2024County: San MiguelFilename: P018-005User: LJWAgency 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
Hand raking (MEANS 32 91 13.23 0250)	\$1,655.28
Total Tilling Cost/Acre	\$1,655.28

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.40	6.53	\$5.49
Indian Ricegrass - Native	14.80	47.91	\$96.20
Bottlebrush Squirreltail	1.80	7.93	\$29.21
Muttongrass	0.30	6.20	\$10.32
Needle and Thread	3.00	7.92	\$125.55
Totals Seed Mix	20.30	76.49	\$266.77

Application

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Description	Cost /Acre
Push spreader (MEANS 32 92 19.14 0020)	\$2,069.10
Total Seed Application Cost/Acre	\$2,069.10

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: 0.39 Cost /Acre: \$3,991.15
 Estimated Failure Rate: 60% Cost /Acre*: \$3,991.15
 *Selected Replanting Work Items: TILLING,SEEDING

Initial Job Cost: **\$1,556.55**
 Reseeding Job Cost: **\$933.93**
 Total Job Cost: **\$2,490**
 Job Hours: **8.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilization to and from site**Site: **Slick Rock**Permit Action: **New App**Permit/Job#: **P2023018****PROJECT IDENTIFICATION**Task #: **006**State: **Colorado**Abbreviation: **None**Date: **1/4/2024**County: **San Miguel**Filename: **P018-006**User: **LJW**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 D6T XL	25.01	\$152.81	\$82.29	1	\$235.10	\$82.29	\$250.00
ATLAS COPCO ROC L6,6.0 in.	0.00	\$287.07	\$82.29	1	\$369.36	\$82.29	\$250.00

Subtotals: **\$604.46** **\$164.58** **\$500.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$15.83	1	\$15.83	\$15.83

Subtotals: **\$15.83** **\$15.83**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: DOVE CREEK
 Total one-way travel distance: 24.00 miles
 Average Travel Speed: 45.00 mph

Total Non-Roadable Mob/Demob Cost * \$3,029.23
 ** two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$16.89
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.53</u>	<u>0.53</u>
Return Time (Hours):	<u>0.53</u>	<u>0.53</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>2.07</u>	<u>1.07</u>

JOB TIME AND COST

Total job time: 4.13 Hours

Total job cost: \$3,046