



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

May 24, 2022

James Blair  
Bureau of Land Management  
Tres Rios Field Office  
29211 HWY 184  
Dolores, CO 81323

**Re: Klondike Basin Exploratory Drilling Project, File No. P-2022-005, Notice of Intent to Conduct Prospecting Operations (NOI), Request for Concurrence**

Dear Mr. Blair,

On April 28, 2022 the Division of Reclamation, Mining and Safety received the above listed application for the Klondike Basin Exploratory Drilling Project 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 \$19,060.00. 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. Please note the application will not be granted the final Authorization to Proceed from our office until all necessary permits are also obtained from the BLM and copies are provided to the Division. 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](mailto:lucas.west@state.co.us).

Sincerely,

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

Encl: Reclamation Cost Estimate Worksheets

Ec: Gabriel Sweet, Big Rock Exploration LLC.



## COST SUMMARY WORK

Task description: Cost Summary

Site: Klondike Basin Exploratory  
Drilling Project

Permit Action: New App

Permit/Job#: P2022005

### PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None  
Date: 5/24/2022 County: San Miguel Filename: P005-000  
User: LJW

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	P & A Dill Hole (Holes Reclaimed before next is drilled)	BOREHOLE	1	8.00	\$3,952
002	Regrade 14 Drill Pads	DOZER	1	0.83	\$153
003	Reclaim 5700 LN FT of New Roads	DOZER	1	13.03	\$2,387
004	Rip Regraded Areas	RIPPER	1	3.26	\$617
005	Revegetate Affected Lands	REVEGE	1	8.00	\$3,693
006	Secondary seeding	REVEGE	1	6.00	\$1,770
007	Mobilization	MOBILIZE	1	7.42	\$2,000
<b><u>SUBTOTALS:</u></b>				<b>46.54</b>	<b>\$14,572</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$294
Performance bond:	1.05	Total =	\$153
Job superintendent:	23.27	Total =	\$1,676
Profit:	10.00	Total =	\$1,457

TOTAL O & P = \$3,581

CONTRACT AMOUNT (direct + O & P) = \$18,153

#### 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		\$908

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$4,488

**TOTAL BOND AMOUNT (direct + indirect) = \$19,060**

## BOREHOLE SEALING WORK

Task description: P & A Dill Hole (Holes Reclaimed before next is drilled)

Site: Klondike Basin Exploratory Permit Action: New App Permit/Job#: P2022005  
Drilling Project

### PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None  
Date: 5/24/2022 County: San Miguel Filename: P005-001  
User: LJW

Agency or organization name: DRMS

### UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bentonite Seal	Bentonite seal - 4 in. (labor, equip, materials)	3.75	670	670.00	LF	\$5.65	\$3,785.50
Concrete Seal (top 30')	Portland cement grout - 4 in. (labor, equip, materials)	3.75	30	30.00	LF	\$5.55	\$166.50

Job Hours: 8.00

Total Cost: \$3,952.00

**BULLDOZER WORK**Task description: **Regrade 14 Drill Pads**Site: **Klondike Basin Exploratory  
Drilling Project**

Permit Action:

**New App**Permit/Job#: **P2022005****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **5/24/2022**County: **San Miguel**Filename: **P005-002**User: **LJW**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D6T LGP**Horsepower: **200**Blade Type: **Straight**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$66.27	NA
Operating Cost/Hour:	\$66.34	100
Ripper own. Cost/Hour:	\$9.32	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$183.23	
Total Fleet Cost/Hour:	<b>\$183.23</b>	

**MATERIAL QUANTITIES**Initial Volume: **135**Swell factor: **1.000**Loose volume: **135 LCY**Source of estimated volume: **14 60x60 pads, 1ft deep/27=133**Source of estimated swell  
factor: **Cat Handbook****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: **6,800 feet**Material weight: **3,300 lbs/LCY**Weight description: **Decomposed rock - 75% Rock, 25% Earth****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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3645

Adjusted unit  
production: 162.06 LCY/hr  
Adjusted fleet  
production: **162.06** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$1.131/LCY

Total job time: **0.83** Hours  
Total job cost: **\$153**

**BULLDOZER WORK**Task description: **Reclaim 5700 LN FT of New Roads**Site: **Klondike Basin Exploratory  
Drilling Project**Permit Action: **New App**Permit/Job#: **P2022005****PROJECT IDENTIFICATION**Task #: **003**State: **Colorado**Abbreviation: **None**Date: **5/24/2022**County: **San Miguel**Filename: **P005-003**User: **LJW**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D6T LGP**Horsepower: **200**Blade Type: **Straight**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$66.27	NA
Operating Cost/Hour:	\$66.34	100
Ripper own. Cost/Hour:	\$9.32	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$183.23	
Total Fleet Cost/Hour:	<b>\$183.23</b>	

**MATERIAL QUANTITIES**Initial Volume: **2,111**Swell factor: **1.000**Loose volume: **2,111 LCY**Source of estimated volume: **5700 Ft of Road, 1 ft deep, 10ft W/ 27**Source of estimated swell  
factor: **Cat Handbook****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: **6,800 feet**Material weight: **3,300 lbs/LCY**Weight description: **Decomposed rock - 75% Rock, 25% Earth****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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3645

Adjusted unit  
production: 162.06 LCY/hr  
Adjusted fleet  
production: **162.06** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$1.131/LCY

Total job time: **13.03** Hours  
Total job cost: **\$2,387**

## BULLDOZER RIPPING WORK

Task description: Rip Regraded Areas

Site: Klondike Basin Exploratory  
Drilling Project

Permit Action: New App

Permit/Job#: P2022005

### PROJECT IDENTIFICATION

Task #: 004  
Date: 5/24/2022  
User: LJW

State: Colorado  
County: San Miguel

Abbreviation: None  
Filename: P005-004

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D6T LGP  
Ripper Attachment: 3-Shank Ripper

Horsepower: 200  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$66.27	NA
Operating Cost/Hour:	\$66.34	100
Ripper Ownership Cost/Hour:	\$9.32	NA
Ripper Operating Cost/Hour:	\$5.93	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$189.16	
Total Fleet Cost/Hour:	<b>\$189.16</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 1.50 acres Rip Depth (ft): 0.50 Volume: 1,210 BCY or CCY

Source of estimated quantity: Ripping as needed, assumed 1/2 disturbed area

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

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

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.554 Acres/hr  
Site Altitude: 6,800 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: **3.26** Hours



Unit cost:           \$411.473           Per acre

Total job cost:                   **\$617**

**REVEGETATION WORK**Task description: Revegetate Affected Lands

Site: Klondike Basin Exploratory Drilling Project Permit Action: New App Permit/Job#: P2022005

**PROJECT IDENTIFICATION**

Task #: 005 State: Colorado Abbreviation: None  
 Date: 5/24/2022 County: San Miguel Filename: P005-005  
 User: LJW

Agency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$0.00</b>

**Application**

Description	Cost /Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

**TILLING**

Description	Cost /Acre
	\$
<b>Total Tilling Cost/Acre</b>	<b>\$0.00</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.96	15.67	\$13.18
Indian Ricegrass - Native	7.42	24.02	\$48.23
Galleta	4.94	18.03	\$110.41
Western Wheatgrass - Arriba	5.00	12.63	\$32.50
Needle and Thread	5.20	13.73	\$217.62
Saltbush, Four Wing	0.50	0.69	\$6.25
Winter Fat	0.50	1.27	\$10.25
Basin Wildrye - Trailhead	2.06	8.37	\$31.74

<b>Totals Seed Mix</b>	26.58	94.41	<b>\$470.18</b>
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**Application**

<b>Description</b>	<b>Cost /Acre</b>
Broadcast seeding [DMG]	\$267.22
<b>Total Seed Application Cost/Acre</b>	<b>\$267.22</b>

**MULCHING and MISCELLANEOUS****Materials**

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
			\$	\$
<b>Total Mulch Materials Cost/Acre</b>				<b>\$0.00</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
	\$
<b>Total Mulch Application Cost/Acre</b>	<b>\$0.00</b>

**NURSERY STOCK PLANTING**

<b>Common Name</b>	<b>No / Acre</b>	<b>Type and Size</b>	<b>Planting Cost</b>	<b>Fertilizer Pellet Cost</b>	<b>Cost /Acre</b>
					\$
<b>Totals Nursery Stock Cost / Acre</b>					<b>\$0.00</b>

**JOB TIME AND COST**

No. of Acres:	3.13	Cost /Acre:	\$737.40
Estimated Failure Rate:	60%	Cost /Acre*:	\$737.40
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	<b>\$2,308.06</b>		
Reseeding Job Cost:	<b>\$1,384.84</b>		
Total Job Cost:	<b>\$3,693</b>		
Job Hours:	<b>8.00</b>		

**REVEGETATION WORK**Task description: Secondary seedingSite: Klondike Basin Exploratory  
Drilling ProjectPermit Action: New AppPermit/Job#: P2022005**PROJECT IDENTIFICATION**Task #: 006  
Date: 5/24/2022  
User: LJWState: Colorado  
County: San MiguelAbbreviation: None  
Filename: P005-006Agency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$0.00</b>

**Application**

Description	Cost /Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

**TILLING**

Description	Cost /Acre
	\$
<b>Total Tilling Cost/Acre</b>	<b>\$0.00</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.96	15.67	\$13.18
Indian Ricegrass - Native	7.42	24.02	\$48.23
Galleta	4.94	18.03	\$110.41
Western Wheatgrass - Arriba	5.00	12.63	\$32.50
Needle and Thread	5.20	13.73	\$217.62
Saltbush, Four Wing	0.50	0.69	\$6.25
Winter Fat	0.50	1.27	\$10.25
Basin Wildrye - Trailhead	2.06	8.37	\$31.74

<b>Totals Seed Mix</b>	26.58	94.41	<b>\$470.18</b>
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**Application**

Description	Cost /Acre
Broadcast seeding [DMG]	\$267.22
<b>Total Seed Application Cost/Acre</b>	<b>\$267.22</b>

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
<b>Total Mulch Materials Cost/Acre</b>				<b>\$0.00</b>

**Application**

Description	Cost /Acre
	\$
<b>Total Mulch Application Cost/Acre</b>	<b>\$0.00</b>

**NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
<b>Totals Nursery Stock Cost / Acre</b>					<b>\$0.00</b>

**JOB TIME AND COST**

No. of Acres: 1.5                      Cost /Acre: \$737.40  
 Estimated Failure Rate: 60%                      Cost /Acre\*: \$737.40  
 \*Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$1,106.10**  
 Reseeding Job Cost: **\$663.66**  
 Total Job Cost: **\$1,770**  
 Job Hours: **6.00**

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilization**Site: **Klondike Basin Exploratory  
Drilling Project**Permit Action: **New App**Permit/Job#: **P2022005****PROJECT IDENTIFICATION**

Task #: 007 State: Colorado Abbreviation: None  
 Date: 5/24/2022 County: San Miguel Filename: P005-007  
 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:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
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 D6T LGP	28.63	\$75.59	\$132.49	1	\$208.08	\$132.49	\$250.00
Subtotals:					<b>\$208.08</b>	<b>\$132.49</b>	<b>\$250.00</b>

**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.	\$12.93	1	\$12.93	\$12.93
Subtotals:			<b>\$12.93</b>	<b>\$12.93</b>

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	NATURITA	
Total one-way travel distance:	16.00	miles
Average Travel Speed:	45.00	mph

Total Non-Roadable Mob/Demob Cost *	\$1,990.66
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$9.19
** one round trip, no haul rig:	

**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):	1.50	NA
Unloading Time (Hours):	1.50	NA
Subtotals:	3.71	0.71

**JOB TIME AND COST**

Total job time:	7.42	Hours
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Total job cost:	\$2,000
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