



COLORADO

Division of Reclamation,
Mining and Safety

Department of Natural Resources
1313 Sherman Street, Room 215
Denver, Colorado 80203

April 17, 2019

Jim Reed
2nd Generation Mining, LLC
14454 Cottage Grove
Baxter, MN 56425

**RE: Revised Reclamation Cost Estimate, 110(1) Hardrock Application
JJ Collecting Project #1, File No. M-2018-064**

Dear Mr. Reed,

The Division of Reclamation, Mining, and Safety (Division) has reviewed the content of your 110(1) Limited Impact Operation Reclamation Permit Application and subsequent adequacy review responses for the JJ Collecting Project #1, File No. M-2018-064.

On March 11, 2019, the Division provided you with a draft reclamation cost estimate for the required financial warranty of the proposed project. After input from the U.S. Forest Service and an internal review by the Division, the Division is providing you with a revised reclamation cost estimate. The Division has now calculated the total required financial warranty for the site to be \$6,500.00. A copy of the revised reclamation cost summary is attached for the Applicant's review. At this time, upon approval of the application, the required financial warranty for the site will be set at \$6,500.00; please contact me prior to the decision date to discuss any questions regarding the cost estimate or if you identify any errors with this calculation. **The Division is required to make a decision on the application no later than April 22, 2019; therefore, a response to the revised reclamation cost estimate should be submitted to the Division as soon as possible.**

If you need additional information or have any questions, please contact me at Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, CO 80203, by telephone at **303-866-3567 x8132**, or by email at elliott.russell@state.co.us.

Sincerely,

Elliott R. Russell
Environmental Protection Specialist

Attachment: Revised Reclamation Cost Estimate M2018064

ec: Jim Reed, mac.reed@icloud.com
Jeff Schimel, jschimel@ualberta.ca
Michael Cunningham with DRMS



COST SUMMARY WORK

Task description: _____

Site: JJ Collecting Project #1

Permit Action: Revised 2019

Permit/Job#: M2018064

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 3/22/2019

County: Teller

Filename: M064-000

User: ERR

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill 500 CY of Material	DOZER	1	3.24	\$470
002	Re-contour Site and Access Trails	DOZER	1	6.11	\$897
003	Revegetate the Site	REVEGE	1	5.00	\$1,584
004	Mob/Demob of Reclamation Equipment	MOBILIZE	1	6.00	\$2,502
<u>SUBTOTALS:</u>				20.35	\$5,453

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$110

Performance bond: 1.05

Total = \$57

Job superintendent: 0.00

Total = \$0

Profit: 10.00

Total = \$545

TOTAL O & P = \$713

CONTRACT AMOUNT (direct + O & P) = \$6,166

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

\$308

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$1,021

TOTAL AMOUNT (direct + indirect) = \$6,474

TOTAL BOND AMOUNT (rounded) = \$6,500

BULLDOZER WORKTask description: **Backfill 500 CY of Material**Site: **JJ Collecting Project #1**Permit Action: **Revised 2019**Permit/Job#: **M2018064****PROJECT IDENTIFICATION**Task #: **001**State: **Colorado**Abbreviation: **None**Date: **3/22/2019**County: **Teller**Filename: **M064-001**User: **ERR**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:	\$52.66	NA
Operating Cost/Hour:	\$46.34	100
Ripper own. Cost/Hour:	\$3.84	NA
Ripper op. Cost/Hour:	\$0.63	25
Operator Cost/Hour:	\$41.52	NA

Total unit Cost/Hour: **\$145.00**
 Total Fleet Cost/Hour: **\$145.00**

MATERIAL QUANTITIES

Initial Volume: **500**
 Swell factor: **1.000**
 Loose volume: **500 LCY**

Source of estimated volume: **Application**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **444.6 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**
 Average site altitude: **8,600 feet**

Material weight: **3,300 lbs/LCY**Weight description: **Decomposed rock - 75% Rock, 25% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)

Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3471

Adjusted unit production: 154.32 LCY/hr

Adjusted fleet production: **154.32** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.940/LCY

Total job time: **3.24** Hours

Total job cost: **\$470**

BULLDOZER WORKTask description: **Re-contour Site and Access Trails**Site: **JJ Collecting Project #1**Permit Action: **Revised 2019**Permit/Job#: **M2018064****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **3/22/2019**County: **Teller**Filename: **M064-002**User: **ERR**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:	\$52.66	NA
Operating Cost/Hour:	\$46.34	100
Ripper own. Cost/Hour:	\$3.84	NA
Ripper op. Cost/Hour:	\$2.54	100
Operator Cost/Hour:	\$41.52	NA

Total unit Cost/Hour: **\$146.90**
 Total Fleet Cost/Hour: **\$146.90**

MATERIAL QUANTITIES

Initial Volume: **698**
 Swell factor: **1.215**
 Loose volume: **848 LCY**

Source of estimated volume: **DRMS: Avg 6" across 0.6 acres + 0.266 acres**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **444.6 LCY/hr**

Materials consistency description: **Compacted fill or embankment 0.9**

Average push gradient: **0 %**
 Average site altitude: **8,600 feet**

Material weight: **3,300 lbs/LCY**Weight description: **Decomposed rock - 75% Rock, 25% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3124

Adjusted unit production: 138.89 LCY/hr

Adjusted fleet production: **138.89** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.058/LCY

Total job time: **6.11** Hours

Total job cost: **\$897**

REVEGETATION WORKTask description: Revegetate the SiteSite: JJ Collecting Project #1Permit Action: Revised 2019Permit/Job#: M2018064**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 3/22/2019County: TellerFilename: M064-003User: ERRAgency 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
Chisel plowing {DMG}	\$92.77
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$106.29
Total Tilling Cost/Acre	\$199.06

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	4.00	65.29	\$66.64
Canby Bluegrass - Canbar	2.00	42.52	\$19.46
Mountain Brome - Bromar	8.00	12.86	\$35.60
Great Basin Wildrye - Magnar	4.00	16.25	\$46.20
Strawberry Clover (coated)	0.80	5.42	\$5.14
Sheep Fescue - Covar	6.00	93.66	\$32.16
Thickspike Wheatgrass - Critana	9.20	32.53	\$54.00
Prairie Junegrass	6.00	318.93	\$186.36

Totals Seed Mix	40.00	587.45	\$445.57
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Application

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

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:	1.39	Cost /Acre:	\$911.85
Estimated Failure Rate:	25%	Cost /Acre*:	\$911.85
*Selected Replanting Work Items:	TILLING,SEEDING		

Initial Job Cost:	\$1,267.47
Reseeding Job Cost:	\$316.87
Total Job Cost:	\$1,584
Job Hours:	5.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob of Reclamation Equipment**Site: **JJ Collecting Project #1**Permit Action: Revised 2019Permit/Job#: M2018064**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 3/22/2019County: TellerFilename: M064-004User: ERRAgency 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:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

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	\$56.50	\$88.67	1	\$145.17	\$88.67	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$15.54	\$88.67	1	\$104.21	\$88.67	\$250.00

Subtotals: **\$249.38** **\$177.34** **\$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, 1 T. Crew	\$74.99	1	\$74.99	\$74.99

Subtotals: **\$74.99** **\$74.99**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>COLORADO SPRINGS</u>	
Total one-way travel distance:	<u>55.00</u>	miles
Average Travel Speed:	<u>55.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$2,352.20</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$149.98</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>1.00</u>	<u>1.00</u>
Return Time (Hours):	<u>1.00</u>	<u>1.00</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>3.00</u>	<u>2.00</u>

JOB TIME AND COST

Total job time:	<u>6.00</u>	Hours
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Total job cost:	<u>\$2,502</u>
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