STATE OF COLORADO

Russell - DNR, Elliott <elliott.russell@state.co.us>

Reclamation Cost Estimate M2023031

Elliott Russell (DNR-DRMS) <elliott.russell@state.co.us> Mon, Apr 8, 2024 at 5:22 PM
To: gizzmike@yahoo.com
Cc: ART BRAUN <braunenv@msn.com>

Mike,

As discussed, attached for your review is the Reclamation Cost Estimate for the State's liability regarding the "worse-case" scenario with the proposed mining plan to reclaim the site as outlined in the proposed reclamation plan. Please review this estimate and let me know if you have any questions or find any errors. The Division will proceed with approving your permit once you respond to this email. Once you submit the $8,500 financial warranty and the Division accepts it, the permit will be issued.

As you requested, here is the Letter of Credit financial warranty form (https://drive.google.com/file/d/1ot7LtgxbF91qzrJ3WTZb5BPazI2xXTP7/view) as well as the Corporate Surety financial warranty form (https://drive.google.com/file/d/1jO7vBOc37zgRVy-y35PJmJmxd_7DDNj8/view). In addition to the bonding instrument and the associated form, you will also need to submit a Performance Warranty (https://drive.google.com/file/d/1AOVhjNxpJrTXrT1Uk18Reg8bZ9bOaQsk/view) and Affidavit of Authority (https://drive.google.com/file/d/1sQ6O5L8MDSAeS_fhqGqNodEj3LujkH5q/view). For specific questions on financial warranties, please contact the Division's Financial Assurance Specialist, Sara Stevenson-Benn (303-866-3567x8148).

Please let me know if you have any questions.

Elliott Russell
Environmental Protection Specialist
Minerals Regulatory Program

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

I am working remotely and can be reached at 303.903.4456

*****Please note the Division's mailing address has changed*****

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Reclamation Cost Estimate M2023031.pdf
465K

COST SUMMARY WORK

Task description: **Cost Summary of Reclamation Tasks**

Site: **Wild Cat Claim** Permit Action: New Application Permit/Job#: M2023031

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 4/8/2024 County: Teller Filename: M031-000
User: ERR

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Shape 3H:1V Sloped Areas	LOADER	1	5.12	$665
002	Finish 3H:1V Sloped Areas	GRADER	1	1.89	$300
003	Replace Topsoil on 3H:1V Sloped Areas	LOADER	1	5.33	$692
004	Finish Leveled Pad Area	GRADER	1	4.77	$759
005	Revegetate Sloped Areas	REVEGE	1	2.00	$1,110
006	Mob/Demob Reclamation Equipment	MOBILIZE	1	3.80	$2,770
	SUBTOTALS:			**22.91**	**$6,296**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$127
Performance bond:	1.05	Total =	$66
Job superintendent:	11.45	Total =	$745
Profit:	10.00	Total =	$630
		TOTAL O & P =	$1,568
		CONTRACT AMOUNT (direct + O & P) =	$7,864

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		$393
CONTINGENCY:	3.00	Total =	$189
		TOTAL INDIRECT COST =	$2,150
		TOTAL (direct + indirect) =	$8,446
		TOTAL BOND AMOUNT (rounded) =	**$8,500**

WHEEL LOADER – LOAD AND CARRY WORK

Task description: **Shape 3H:1V Sloped Areas**

Site: **Wild Cat Claim** Permit Action: New Application Permit/Job#: M2023031

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 4/5/2024 County: Teller Filename: M031-001
User: ERR

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 950H Horsepower: 197
Attachment 1: ROPS Cab Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$49.32	NA
Operating Cost/Hour:	$39.80	100
Operator Cost/Hour:	$40.71	NA
Total Unit Cost/Hour:	$129.83	

Total Fleet Cost/Hour: $129.83

MATERIAL QUANTITIES

Initial volume: 1,614 CCY Swell factor: 1.430
Loose volume: **2,308** LCY

Source of estimated volume: DRMS: 6” avg on 1.9 acres
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8” to 3/4” diameter -0.02	-0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
	Net Cycle Time Adjustment:	-0.060	minutes
	Adjusted Basic Cycle Time:	0.440	minutes

Rolling Resistance – Road Conditions

Haul: Rutted dirt, little maintenance, no water, 1” tire penetration 4.0
Return: Rutted dirt, little maintenance, no water, 1” tire penetration 4.0

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	50	0.00	4.00	4.00	0.0430	(Cat HB)
Return Route:	50	0.00	4.00	4.00	0.0397	(Cat HB)

Total Travel Time:	0.0826	minutes
Total Cycle Time:	**0.5226**	minutes

Load Bucket Capacity

Rated Capacity:	4.30	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	**4.73**	LCY

Job Condition Correction Factors
Site Altitude: 9960 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier

Unadjusted Hourly Unit Production:	543.02	LCY/Hour
Adjusted Hourly Unit Production:	450.71	LCY/Hour
Adjusted Hourly Fleet Production:	**450.71**	LCY/Hour

JOB TIME AND COST

Fleet size:	1	Loader(s)	Total job time:	**5.12**	Hours
Unit cost:	$0.288	/LCY	Total job cost:	**$665**	

MOTOR GRADER WORK

Task description: **Finish 3H:1V Sloped Areas**

Site: **Wild Cat Claim** Permit Action: New Application Permit/Job#: M2023031

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 4/5/2024 County: Teller Filename: M031-002
User: ERR

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 12M Horsepower: 158
Ripper Attachment: Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$74.98	NA
Operating Cost/Hour:	$55.26	100
Ripper Ownership Cost/Hour:	$0.00	NA
Ripper Operating Cost/Hour:	$0.00	
Operator Cost/Hour:	$28.56	NA
Total Unit Cost/Hour:	$158.80	
Total Fleet Cost/Hour:	**$158.80**	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 1.90 acres

Source of estimated acreage: Application

HOURLY PRODUCTION

Average Grader Speed: 1.50 mph
Selected Application: Finish grading (0-2.5 mph) - 1.5
Selected Blade Angle: 45 degrees
Effective Blade Length: 8.50 feet
Width of blade overlap per pass: 2.00 feet
Net grading or ripping width per pass: 6.50 feet
Unadjusted Hourly Unit Production: 1.1818 acres/hour

Job Condition Correction Factors Site Altitude: 9960 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.85	(1sh/d, mod.)
Net Correction:	0.8500	multiplier

Adjusted Hourly Unit Production: 1.0045 acres/Hour
Adjusted Hourly Fleet Production: **1.0045** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **1.89** Hours

Unit cost: $158.08 per acre Total job cost: **$300**

WHEEL LOADER – LOAD AND CARRY WORK

Task description: **Replace Topsoil on 3H:1V Sloped Areas**

Site: **Wild Cat Claim** Permit Action: New Application Permit/Job#: M2023031

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 4/5/2024 County: Teller Filename: M031-003
User: ERR

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 950H Horsepower: 197
Attachment 1: ROPS Cab Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$49.32	NA
Operating Cost/Hour:	$39.80	100
Operator Cost/Hour:	$40.71	NA
Total Unit Cost/Hour:	$129.83	

Total Fleet Cost/Hour: $129.83

MATERIAL QUANTITIES

Initial volume: 1,614 CCY Swell factor: 1.250
Loose volume: **2,018** LCY

Source of estimated volume: Application: 6” on 2 acres
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8” to 3/4” diameter -0.02	-0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
	Net Cycle Time Adjustment:	-0.060	minutes
	Adjusted Basic Cycle Time:	0.440	minutes

Rolling Resistance – Road Conditions

Haul: Rutted dirt, little maintenance, no water, 1” tire penetration 4.0
Return: Rutted dirt, little maintenance, no water, 1” tire penetration 4.0

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	100	-5.00	4.00	-1.00	0.0719	(Cat HB)
Return Route:	100	5.00	4.00	9.00	0.1105	(Cat HB)

Total Travel Time:	0.1823	minutes
Total Cycle Time:	**0.6223**	minutes

Load Bucket Capacity

Rated Capacity:	4.30	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	**4.73**	LCY

Job Condition Correction Factors
Site Altitude: 9960 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier

Unadjusted Hourly Unit Production:	456.02	LCY/Hour
Adjusted Hourly Unit Production:	378.50	LCY/Hour
Adjusted Hourly Fleet Production:	**378.50**	LCY/Hour

JOB TIME AND COST

Fleet size:	1	Loader(s)	Total job time:	**5.33**	Hours
Unit cost:	$0.343	/LCY	Total job cost:	**$692**	

MOTOR GRADER WORK

Task description: **Finish Leveled Pad Area**

Site: **Wild Cat Claim** Permit Action: New Application Permit/Job#: M2023031

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 4/5/2024 County: Teller Filename: M031-004
User: ERR

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 12M Horsepower: 158
Ripper Attachment: Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$74.98	NA
Operating Cost/Hour:	$55.26	100
Ripper Ownership Cost/Hour:	$0.00	NA
Ripper Operating Cost/Hour:	$0.00	
Operator Cost/Hour:	$28.56	NA
Total Unit Cost/Hour:	$158.80	

Total Fleet Cost/Hour: **$158.80**

MATERIAL QUANTITIES

Total Area to be graded or ripped: 4.80 acres

Source of estimated acreage: Application

HOURLY PRODUCTION

Average Grader Speed: 1.50 mph
Selected Application: Finish grading (0-2.5 mph) - 1.5
Selected Blade Angle: 45 degrees
Effective Blade Length: 8.50 feet
Width of blade overlap per pass: 2.00 feet
Net grading or ripping width per pass: 6.50 feet
Unadjusted Hourly Unit Production: 1.1818 acres/hour

Job Condition Correction Factors Site Altitude: 9960 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.85	(1sh/d, mod.)
Net Correction:	0.8500	multiplier

Adjusted Hourly Unit Production: 1.0045 acres/Hour
Adjusted Hourly Fleet Production: **1.0045** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **4.78** Hours

Unit cost: $158.08 per acre Total job cost: **$759**

REVEGETATION WORK

Task description: **Revegetate Sloped Areas**

Site: **Wild Cat Claim** Permit Action: New Application Permit/Job#: M2023031

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 4/5/2024 County: Teller Filename: M031-005
User: ERR

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
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	$112.82
Total Tilling Cost/Acre	**$112.82**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Orchardgrass - Elsie	3.00	37.19	$9.30
Rye, Perennial Tetraploid - Tetra-Plus	3.00	17.01	$5.40
Ryegrass, Perennial, - BG-34	4.00	22.68	$7.20
Smooth Brome - Lincoln	4.00	13.31	$13.30
Intermediate Wheatgrass - Tegmar	2.00	4.27	$6.00
Streambank Wheatgrass - Sodar	1.00	3.26	$5.70
Siberian Wheatgrass	3.00	7.58	$17.18
Totals Seed Mix	20.00	105.30	**$64.08**

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: 2
Estimated Failure Rate: 25%
*Selected Replanting Work Items: TILLING,SEEDING

Cost /Acre: $444.12
Cost /Acre*: $444.12

Initial Job Cost: **$888.24**
Reseeding Job Cost: **$222.06**
Total Job Cost: **$1,110**
Job Hours: **2.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mob/Demob Reclamation Equipment**

Site: **Wild Cat Claim** Permit Action: New Application Permit/Job#: M2023031

PROJECT IDENTIFICATION

Task #: 006 State: Colorado Abbreviation: None
Date: 4/5/2024 County: Teller Filename: M031-006
User: ERR

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 950H	20.13	$49.32	$82.29	1	$131.61	$82.29	$250.00
CAT 12M	16.01	$74.98	$82.29	1	$157.27	$82.29	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$6.73	$82.29	1	$89.02	$82.29	$250.00
Subtotals:					**$377.90**	**$246.87**	**$750.00**

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	$27.44	1	$27.44	$27.44
Subtotals:			**$27.44**	**$27.44**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	COLORADO SPRINGS	
Total one-way travel distance:	48.00	miles
Average Travel Speed:	60.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$2,726.37	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$43.90	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.80	0.80
Return Time (Hours):	0.80	0.80
Loading Time (Hours):	0.15	NA
Unloading Time (Hours):	0.15	NA
Subtotals:	1.90	1.60

JOB TIME AND COST

Total job time:	**3.80**	Hours
Total job cost:	**$2,770**	