



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

January 17, 2020

David Harvey
CBRG
P.O. Box 430
Harstel, CO 80449

**RE: Reclamation Cost Estimate, 110(1) Hardrock Application
Blue Bee Diggins, File No. M-2019-038**

Dear Mr. Harvey,

On January 14, 2020, the Division of Reclamation, Mining, and Safety (Division) received your Adequacy Review Response #2 for the 110(1) Reclamation Permit Application known as the Blue Bee Diggins, File Mo. M-2019-038. The Division has reviewed your responses to the Division's December 26, 2019 Adequacy Review #2 letter and has determined you have addressed all adequacy items.

The Division has calculated the total required financial warranty for the site to be \$4,458.00. A copy of the reclamation cost summary is attached for the Applicant's review. 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.

At this time, upon approval of the application, the required financial warranty for the site will be set at \$4,458.00. Based on paperwork you have submitted, it appears the BLM has required you to post a \$1,816 to cover the cost of reclamation associated with your approved plan of operations, therefore, one of the following three options is available for you:

1. Submit the remaining difference of the required financial warranty (\$2,642.00) to the Division;
2. Submit the entire required financial warranty (\$4,458.00) to the Division and request a release of the bond held by the BLM. Please contact the BLM to determine if a token bond is required; or
3. Submit the remaining difference of the required financial warranty (\$2,642.00) to the BLM and submit a token \$100.00 bond to the Division.

The decision date for this application is January 25, 2020. The Division will approve this application no later than January 25, 2020.

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

ec: Jason Musick with DRMS, jason.musick@state.co.us
Stephanie Carter with BLM, sscarter@blm.gov



COST SUMMARY WORK

Task description: Cost Summary of Reclamation Tasks

Site: Blue Bee Diggins

Permit Action: 2020 New Permit

Permit/Job#: M2019038

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 1/17/2020

County: Park

Filename: M038-000

User: ERR

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Cut/Fill 4' Highwall	DOZER	1	0.61	\$97
002	Minor Grading and Topsoil Replacement	DOZER	1	5.83	\$918
003	Revegetate 2.5 Acre Disturbance	REVEGE	1	5.00	\$1,691
004	Mob/Demob of Reclamation Equipment	MOBILIZE	1	4.09	\$1,049
<u>SUBTOTALS:</u>				15.53	\$3,755

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 0.00
Profit: 10.00

Total = \$76

Total = \$39

Total = \$0

Total = \$376

TOTAL O & P = \$491

CONTRACT AMOUNT (direct + O & P) = \$4,246

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$0
Engineering work and/or contract/bid preparation: 0.00
Reclamation management and/or administration: 5.00

Total = \$0

Total = \$0

\$212

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$703

TOTAL BOND AMOUNT (direct + indirect) = \$4,458

BULLDOZER WORKTask description: Cut/Fill 4' HighwallSite: Blue Bee DigginsPermit Action: 2020 New PermitPermit/Job#: M2019038**PROJECT IDENTIFICATION**Task #: 001State: ColoradoAbbreviation: NoneDate: 1/17/2020County: ParkFilename: M038-001User: ERRAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D6T XLHorsepower: 185Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$58.87	NA
Operating Cost/Hour:	\$52.34	100
Ripper own. Cost/Hour:	\$4.34	NA
Ripper op. Cost/Hour:	\$0.77	25
Operator Cost/Hour:	\$41.24	NA

Total unit Cost/Hour: \$157.55Total Fleet Cost/Hour: \$157.55**MATERIAL QUANTITIES**Initial Volume: 73Swell factor: 1.330Loose volume: 97 LCYSource of estimated volume: Application: 4' highwall x 330' longSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 444.6 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 9,180 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% 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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 158.01 LCY/hr

Adjusted fleet production: **158.01** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.997/LCY

Total job time: **0.61** Hours

Total job cost: **\$97**

BULLDOZER WORKTask description: **Minor Grading and Topsoil Replacement**Site: **Blue Bee Diggins** Permit Action: **2020 New Permit** Permit/Job#: **M2019038****PROJECT IDENTIFICATION**

Task #: **002** State: **Colorado** Abbreviation: **None**
 Date: **1/17/2020** County: **Park** Filename: **M038-002**
 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:	\$58.87	NA
Operating Cost/Hour:	\$52.34	100
Ripper own. Cost/Hour:	\$4.34	NA
Ripper op. Cost/Hour:	\$0.77	25
Operator Cost/Hour:	\$41.24	NA

Total unit Cost/Hour: **\$157.55**
 Total Fleet Cost/Hour: **\$157.55**

MATERIAL QUANTITIES

Initial Volume: **1,344**
 Swell factor: **1.000**
 Loose volume: **1,344 LCY**

Source of estimated volume: **Application: 4" over 2.5 Acre Disturbance**
 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: **9,180 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5187

Adjusted unit production: 230.61 LCY/hr

Adjusted fleet production: **230.61** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.683/LCY

Total job time: **5.83** Hours

Total job cost: **\$918**

REVEGETATION WORKTask description: Revegetate 2.5 Acre DisturbanceSite: Blue Bee DigginsPermit Action: 2020 New PermitPermit/Job#: M2019038**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 1/17/2020County: ParkFilename: M038-003User: 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
Subsoiling, light {(DMG)}	\$175.31
Total Tilling Cost/Acre	\$175.31

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Mountain Brome - Bromar	3.86	6.20	\$14.67
Sandberg Bluegrass - VNS	0.74	15.71	\$6.22
Idaho Fescue	1.58	19.95	\$14.97
Prairie Junegrass	0.30	15.95	\$7.80
Yarrow, Western	0.50	30.40	\$20.90
Bluebunch Wheatgrass - Goldar	7.42	23.85	\$34.13
Totals Seed Mix	14.40	112.06	\$98.69

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: 2.5 Cost /Acre: \$541.22
 Estimated Failure Rate: 25% Cost /Acre*: \$541.22
 *Selected Replanting Work Items: TILLING,SEEDING

Initial Job Cost: **\$1,353.05**
 Reseeding Job Cost: **\$338.26**
 Total Job Cost: **\$1,691**
 Job Hours: **5.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob of Reclamation Equipment**Site: **Blue Bee Diggins**Permit Action: 2020 New PermitPermit/Job#: M2019038**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 1/17/2020County: ParkFilename: M038-004User: 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:	\$17.20	\$29.63	\$38.69
Operating Cost/Hour:	\$26.56	\$47.02	\$55.69
Operator Cost/Hour:	\$23.63	\$23.63	\$23.63
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$67.39	\$123.81	\$141.54

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	23.25	\$58.87	\$67.39	1	\$126.26	\$67.39	\$250.00
Subtotals:					\$126.26	\$67.39	\$250.00

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	\$76.23	1	\$76.23	\$76.23
Subtotals:			\$76.23	\$76.23

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>CAÑON CITY</u>	
Total one-way travel distance:	<u>60.00</u>	miles
Average Travel Speed:	<u>65.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$908.01</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$140.73</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.92	0.92
Return Time (Hours):	0.92	0.92
Loading Time (Hours):	0.10	NA
Unloading Time (Hours):	0.10	NA
Subtotals:	2.05	1.85

JOB TIME AND COST

Total job time:	<u>4.09</u>	Hours
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Total job cost:	<u>\$1,049</u>
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