

COST SUMMARY WORK

Task description: Reclamation Cost Estimate

Site: Boullion King Mine
Reclamation Project

Permit Action:

2019-04-03

Permit/Job#: M2019011

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 4/3/2019

County: Gunnison

Filename: M011-000

User: DMC

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Seal discharge pipe	BOREHOLE	1	1.00	\$27
02a	Grade Waste Rock Pile	DOZER	1	24.60	\$3,302
03a	Spread topsoil	DOZER	1	2.39	\$321
04a	Revegetate waste rock pile / pond area	REVEGE	1	2.00	\$1,712
05a	Mobilize Reclamation Crew/Equipment	MOBILIZE	1	6.57	\$2,706
<u>SUBTOTALS:</u>				36.56	\$8,068

INDIRECT COSTS

OVERHEAD AND PROFIT:

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

Total = \$163

Total = \$85

Total = \$0

Total = \$807

TOTAL O & P = \$1,054

CONTRACT AMOUNT (direct + O & P) = \$9,122

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

\$456

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$1,511

TOTAL BOND AMOUNT (direct + indirect) = \$9,579

BULLDOZER WORKTask description: **Grade Waste Rock Pile**

Site: **Boullion King Mine** Permit Action: **Reclamation Project** 2019-04-03 Permit/Job#: M2019011

PROJECT IDENTIFICATION

Task #: 02A State: Colorado Abbreviation: None
 Date: 4/3/2019 County: Gunnison Filename: M011-02a
 User: DMC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D6T LGP
 Horsepower: 200
 Blade Type: Straight
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$50.71	NA
Operating Cost/Hour:	\$42.03	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.52	NA
Total unit Cost/Hour:	\$134.26	
Total Fleet Cost/Hour:	\$134.26	

MATERIAL QUANTITIES

Initial Volume: 2,667
 Swell factor: 1.000
 Loose volume: **2,667 LCY**

Source of estimated volume: HW (60H x 80L), 1.5H to 3.5H/1V
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 100 feet
 Unadjusted hourly production: 303.3 LCY/hr

Materials consistency description: Rock, avg. ripped or blasted 0.7

Average push gradient: -15 %
 Average site altitude: 10,300 feet

Material weight: 2,800 lbs/LCY

Weight description: Granite - Broken

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.700	(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:	1.329	(CAT HB)
Altitude:	0.940	(CAT HB)
Material Weight:	0.821	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3575

Adjusted unit
production: 108.43 LCY/hr
Adjusted fleet
production: **108.43** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$1.238/LCY

Total job time: **24.60** Hours
Total job cost: **\$3,302**

BULLDOZER WORKTask description: Spread topsoil

Site: Boullion King Mine Permit Action: 2019-04-03 Permit/Job#: M2019011
Reclamation Project

PROJECT IDENTIFICATION

Task #: 03A State: Colorado Abbreviation: None
 Date: 4/3/2019 County: Gunnison Filename: M011-03a
 User: DMC

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D6T LGP
 Horsepower: 200
 Blade Type: Straight
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$50.71</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$42.03</u>	<u>100</u>
Ripper own.	<u>\$0.00</u>	<u>NA</u>
Cost/Hour:		
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$41.52</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$134.26</u>	
Total Fleet Cost/Hour:	<u>\$134.26</u>	

MATERIAL QUANTITIES

Initial Volume: 537
 Swell factor: 1.000
 Loose volume: **537** LCY

Source of estimated volume: 1 ac. @ 4"
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 100 feet
 Unadjusted hourly production: 303.3 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 0 %
 Average site altitude: 10,300 feet

Material weight: 1,600 lbs/LCYWeight description: Top Soil

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(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:	0.940	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7405

Adjusted unit
production: 224.59 LCY/hr
Adjusted fleet
production: **224.59** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.598/LCY

Total job time: **2.39** Hours
Total job cost: **\$321**

REVEGETATION WORKTask description: Revegetate waste rock pile / pond areaSite: Boullion King Mine
Reclamation ProjectPermit Action: 2019-04-03Permit/Job#: M2019011**PROJECT IDENTIFICATION**

Task #: 04A State: Colorado Abbreviation: None
 Date: 4/3/2019 County: Gunnison Filename: M011-04a
 User: DMC

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
Chisel plowing {DMG}	\$92.77
Weed control spraying (MEANS 31 31 16.13 3100)	\$193.60
Total Tilling Cost/Acre	\$286.37

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Switchgrass - Blackwell	2.00	17.86	\$19.62
Little Bluestem - Native	4.00	23.88	\$64.52
Intermediate Wheatgrass - Oahe	6.00	12.81	\$23.58
Thickspike Wheatgrass - Critana	4.00	14.14	\$23.48
Western Wheatgrass - Native	4.00	10.10	\$28.68
Tufted Hairgrass	1.00	57.39	\$10.96
Totals Seed Mix	21.00	136.18	\$170.84

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
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$68.78
Total Mulch Application Cost/Acre	\$68.78

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 Cost /Acre: \$1,369.21
 Estimated Failure Rate: 25% Cost /Acre*: \$1,369.21
 *Selected Replanting Work Items: TILLING, SEEDING, MULCHING

Initial Job Cost: **\$1,369.21**
 Reseeding Job Cost: **\$342.30**
 Total Job Cost: **\$1,712**
 Job Hours: **2.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize Reclamation Crew/Equipment**Site: **Boullion King Mine
Reclamation Project**Permit Action: **2019-04-03**Permit/Job#: **M2019011****PROJECT IDENTIFICATION**

Task #: **05A** State: **Colorado** Abbreviation: **None**
 Date: **4/3/2019** County: **Gunnison** Filename: **M011-05a**
 User: **DMC**

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:	\$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 LGP	26.87	\$50.71	\$117.55	1	\$168.26	\$117.55	\$250.00
CAT 450E	9.80	\$24.67	\$88.67	1	\$113.34	\$88.67	\$250.00

Subtotals: **\$281.60** **\$206.22** **\$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.	\$12.23	1	\$12.23	\$12.23

Subtotals: **\$12.23** **\$12.23**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>GUNNISON</u>	
Total one-way travel distance:	<u>40.00</u>	miles
Average Travel Speed:	<u>35.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$2,678.22</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$27.95</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>1.14</u>	<u>1.14</u>
Return Time (Hours):	<u>1.14</u>	<u>1.14</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>3.29</u>	<u>2.29</u>

JOB TIME AND COST

Total job time:	<u>6.57</u>	Hours
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Total job cost:	<u>\$2,706</u>
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