

COST SUMMARY WORK

Task description: Cost Summary

Site: Bonanza Land Permit Action: 2017 Bond Calculation Permit/Job#: P2017006

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
 Date: 6/5/2017 County: Clear Creek Filename: P006-000
 User: MAC

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001A	Grading Drill Pad/Backfilling Mud Pits	LOADER	1	0.49	\$42.00
001B	Regrade Roads	LOADER	1	0.24	\$21.00
002	Capping drill holes	BOREHOLE	1	0.00	\$270.70
003	Revegetating affected areas	REVEGE	1	8.00	\$375.00
004	Equipment Mobilization	MOBILIZE	1	4.50	\$1,887.00
<u>SUBTOTALS:</u>				13.23	\$2,596

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$52.44
Performance bond:	1.05	Total =	\$27.26
Job superintendent:	0.00	Total =	\$0.00
Profit:	10.00	Total =	\$259.60
		TOTAL O & P =	\$339.30
		CONTRACT AMOUNT (direct + O & P) =	\$2,935.30

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	0.00	Total =	0.00
Engineering work and/or contract/bid preparation:	0.00	Total =	\$0.00
Reclamation management and/or administration:	5.00		\$146.77
CONTINGENCY: 0.00		Total =	\$0.00

TOTAL INDIRECT COST = \$486.07

TOTAL BOND AMOUNT (direct + indirect) = \$3,082.07

TOTAL BOND AMOUNT (rounded up) = \$3,100.00

WHEEL LOADER – LOAD AND CARRY WORK

Task description: Grading Drill Pad/Backfilling Mud Pits

Site: Bonanza Land Permit Action: 2017 Bond Calculation Permit/Job#: P2017006

PROJECT IDENTIFICATION

Task #: 001A State: Colorado Abbreviation: None
 Date: 6/5/2017 County: Clear Creek Filename: P17006
 User: MAC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 450E Horsepower: 101
 Attachment 1: ROPS Cab Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$20.08	NA
Operating Cost/Hour:	\$24.04	100
Operator Cost/Hour:	\$41.20	NA
Total Unit Cost/Hour:	\$85.32	
Total Fleet Cost/Hour:	\$85.32	

MATERIAL QUANTITIES

Initial volume: 60 CCY Swell factor: 1.000
 Loose volume: 60 LCY

Source of estimated volume: Division of Reclamation, Mining & Safety
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.475 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Independently owned trucks 0.04	0.040	(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:	0.000	minutes
	Adjusted Basic Cycle Time:	0.475	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	0.00	4.00	4.00	0.0635	(Cat HB)
Return Route:	100	0.00	4.00	4.00	0.0635	(Cat HB)

Total Travel Time: 0.1269 minutes
 Total Cycle Time: 0.6019 minutes

Load Bucket Capacity

Rated Capacity: 1.50 LCY (heaped)
 Bucket Fill Factor: 1.025 Rock - Earth Mixture (100%-105%) 1.025
 Adjusted Capacity: 1.54 LCY

Job Condition Correction Factors

Site Altitude: 9500 feet

		Source
Altitude Adj:	<u>0.95</u>	(CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.79</u>	multiplier

Unadjusted Hourly Unit Production: 153.25 LCY/Hour
 Adjusted Hourly Unit Production: 120.84 LCY/Hour
 Adjusted Hourly Fleet Production: 120.84 LCY/Hour

JOB TIME AND COST

Fleet size: 1 Loader(s) Total job time: 0.50 Hours
 Unit cost: \$0.706 /LCY Total job cost: \$42

WHEEL LOADER – LOAD AND CARRY WORKTask description: Regrade RoadsSite: Bonanza Land Permit Action: 2017 Bond Calculation Permit/Job#: P2017006**PROJECT IDENTIFICATION**

Task #: 001B State: Colorado Abbreviation: None
 Date: 6/5/2017 County: Clear Creek Filename: P006-001B
 User: MAC

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

Basic Machine: CAT 450E Horsepower: 101
 Attachment 1: ROPS Cab Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$20.08	NA
Operating Cost/Hour:	\$24.04	100
Operator Cost/Hour:	\$41.20	NA
Total Unit Cost/Hour:	\$85.32	
Total Fleet Cost/Hour:	\$85.32	

MATERIAL QUANTITIES

Initial volume: 30 CCY Swell factor: 1.000
 Loose volume: 30 LCY

Source of estimated volume: Division of Reclamation, Mining & Safety
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTIONLoader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.475 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Independently owned trucks 0.04	0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
	Net Cycle Time Adjustment:	0.000	minutes
	Adjusted Basic Cycle Time:	0.475	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	0.00	4.00	4.00	0.0635	(Cat HB)
Return Route:	100	0.00	4.00	4.00	0.0635	(Cat HB)

Total Travel Time: 0.1269 minutes
 Total Cycle Time: 0.6019 minutes

Load Bucket Capacity

Rated Capacity: 1.50 LCY (heaped)
 Bucket Fill Factor: 1.025 Rock - Earth Mixture (100%-105%) 1.025
 Adjusted Capacity: 1.54 LCY

Job Condition Correction Factors

Site Altitude: 9500 feet

		Source
Altitude Adj:	<u>0.95</u>	(CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.79</u>	multiplier

Unadjusted Hourly Unit Production: 153.25 LCY/Hour
 Adjusted Hourly Unit Production: 120.84 LCY/Hour
 Adjusted Hourly Fleet Production: 120.84 LCY/Hour

JOB TIME AND COST

Fleet size: 1 Loader(s) Total job time: 0.25 Hours
 Unit cost: \$0.706 /LCY Total job cost: \$21

BOREHOLE SEALING WORK

Task description: Capping drill holes

Site: Bonanza Land

Permit Action: 2017 Bond Calculation

Permit/Job#: P2017006

PROJECT IDENTIFICATION

Task #: 002

State: Colorado

Abbreviation: None

Date: 6/5/2017

County: Clear Creek

Filename: P006-002

User: MAC

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Capping drill holes	PVC plug - 6 in. diameter borehole	6	300	5.00	EA	\$54.14	\$270.70

Job Hours: 0.00

Total Cost: \$271.00

REVEGETATION WORKTask description: Revegetating affected areasSite: Bonanza LandPermit Action: 2017 Bond CalculationPermit/Job#: P2017006**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 6/5/2017County: Clear CreekFilename: P006-003User: MACAgency 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
	\$
Total Tilling Cost/Acre	
	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alsike Clover	1.00	15.61	\$3.83
Rye, Perennial Tetraploid - Aubisque	4.00	22.68	\$6.72
Mountain Brome - Bromar	3.00	4.82	\$13.05
Rye, Winter - VNS	4.00	1.65	\$1.44
Tall Fescue - Fawn E.F.	3.00	15.63	\$4.56
Timothy - Climax	2.00	57.39	\$3.14
Totals Seed Mix		17.00	117.79
			\$32.74

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:	<u>1</u>	Cost /Acre:	<u>\$299.96</u>
Estimated Failure Rate:	<u>25%</u>	Cost /Acre*:	<u>\$299.96</u>
*Selected Replanting Work Items:	<u>SEEDING</u>		
Initial Job Cost:	<u>\$299.96</u>		
Reseeding Job Cost:	<u>\$74.99</u>		
Total Job Cost:	<u>\$375</u>		
Job Hours:	<u>8.00</u>		

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: Equipment Mobilization

Site: Bonanza Land Permit Action: 2017 Bond Calculation Permit/Job#: P2017006

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 6/5/2017 County: Clear Creek Filename: P006-004
User: MAC

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 450E	9.80	\$20.08	\$88.67	1	\$108.75	\$88.67	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$12.22	\$88.67	1	\$100.89	\$88.67	\$250.00

Subtotals: **\$209.64** **\$177.34** **\$500.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet

Subtotals: **\$0.00** **\$0.00**

EQUIPMENT HAUL DISTANCE and Time

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

Total Non-Roadable Mob/Demob Cost *	<u>\$1,886.86</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$0.00</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.88</u>	<u>0.88</u>
Return Time (Hours):	<u>0.88</u>	<u>0.88</u>
Loading Time (Hours):	<u>0.25</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.25</u>	<u>NA</u>
Subtotals:	<u>2.25</u>	<u>1.75</u>

JOB TIME AND COST

Total job time: 4.50 Hours

Total job cost: \$1,887