

COST SUMMARY WORK

Task description: Cost Summary

Site: Mitchell Pit #2

Permit Action: 2019 Inspection

Permit/Job#: M1990131

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 4/23/2019

County: Adams

Filename: M131-000

User: JLE

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill and grade highwall	DOZER	1	0.58	\$125
002	Spread Topsoil	DOZER	1	5.59	\$1,208
003	revegetation of 4 acres	REVEGE	1	2.00	\$2,060
004	Mobilization/demobilization	MOBILIZE	1	0.97	\$1,302
<u>SUBTOTALS:</u>				9.14	\$4,695

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 4.57
Profit: 10.00

Total = \$95
Total = \$49
Total = \$334
Total = \$470

TOTAL O & P = \$947

CONTRACT AMOUNT (direct + O & P) = \$5,642

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$0
Engineering work and/or contract/bid preparation: 4.25
Reclamation management and/or administration: 5.00

Total = \$0
Total = \$240
Total = \$282

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$1,469

TOTAL BOND AMOUNT (direct + indirect) = \$6,164

BULLDOZER WORK

Task description: Backfill and grade highwall

Site: Mitchell Pit #2

Permit Action: 2019 Inspection

Permit/Job#: M1990131

PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 4/22/2019

County: Adams

Filename: M131-001

User: JLE

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU

Horsepower: 310

Blade Type: Semi-Universal

Attachment: 3-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$93.62	NA
Operating Cost/Hour:	\$73.35	100
Ripper own. Cost/Hour:	\$8.93	NA
Ripper op. Cost/Hour:	\$1.17	15
Operator Cost/Hour:	\$40.23	NA
Total unit Cost/Hour:	\$217.30	
Total Fleet Cost/Hour:	\$217.30	

MATERIAL QUANTITIES

Initial Volume: 642

Swell factor: 1.230

Loose volume: 790 LCY

Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell
factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 50 feet

Unadjusted hourly
production: 1,400.0 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push
gradient: -15 %

Average site altitude: 5,500 feet

Material weight: 2,100 lbs/LCY

Weight description: Earth - Loam

Job Condition Correction Factor

Source

Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9784

Adjusted unit
production: 1,369.76 LCY/hr

Adjusted fleet
production: **1369.76** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.159/LCY

Total job time: **0.58** Hours

Total job cost: **\$125**

BULLDOZER WORK

Task description: Spread Topsoil

Site: Mitchell Pit #2

Permit Action: 2019 Inspection

Permit/Job#: M1990131

PROJECT IDENTIFICATION

Task #: 002

State: Colorado

Abbreviation: None

Date: 4/22/2019

County: Adams

Filename: M131-002

User: JLE

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU

Horsepower: 310

Blade Type: Semi-Universal

Attachment: 3-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$93.62	NA
Operating Cost/Hour:	\$73.35	100
Ripper own. Cost/Hour:	\$8.93	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.23	NA
Total unit Cost/Hour:	\$216.13	
Total Fleet Cost/Hour:	\$216.13	

MATERIAL QUANTITIES

Initial Volume: 3,428

Swell factor: 1.000

Loose volume: 3,428 LCY

Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell
factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 150 feet

Unadjusted hourly
production: 634.3 LCY/hr

Materials consistency
description: Compacted fill or embankment 0.9

Average push
gradient: 0 %

Average site altitude: 5,500 feet

Material weight: 1,600 lbs/LCY

Weight description: Top Soil

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9668

Adjusted unit
production: 613.24 LCY/hr

Adjusted fleet
production: **613.24** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.352/LCY

Total job time: **5.59** Hours

Total job cost: **\$1,208**

REVEGETATION WORK

Task description: Revegetation of 4 acres

Site: Mitchell Pit #2

Permit Action: 2019 Inspection

Permit/Job#: M1990131

PROJECT IDENTIFICATION

Task #: 003

State: Colorado

Abbreviation: None

Date: 4/23/2019

County: Adams

Filename: M131-003

User: JLE

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)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Lovington	0.75	12.24	\$12.48
Sideoats Grama - Vaughn	2.25	7.39	\$23.04
Sorghum, Hybr. Frg. - Dairy Master	7.50	4.30	\$5.55
Western Wheatgrass - Arriba	4.50	11.36	\$37.26
Needlegrass, Green - Lodorm	1.00	4.16	\$4.98
Totals Seed Mix	16.00	39.45	\$83.31

Application

Description	Cost /Acre
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Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Application Cost/Acre	\$232.00

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:	4.25	Cost /Acre:	\$421.60
Estimated Failure Rate:	20%	Cost /Acre*:	\$315.31
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$1,791.80
Reseeding Job Cost:	\$268.01
Total Job Cost:	\$2,060
Job Hours:	2.00

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: Mobilization/demobilization

Site: Mitchell Pit #2

Permit Action: 2019 Inspection

Permit/Job#: M1990131

PROJECT IDENTIFICATION

Task #: 004

State: Colorado

Abbreviation: None

Date: 4/23/2019

County: Adams

Filename: M131-004

User: JLE

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 D8T - 8SU	47.71	\$93.62	\$117.55	1	\$211.17	\$117.55	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$15.54	\$88.67	1	\$104.21	\$88.67	\$250.00

Subtotals: **\$315.38** **\$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.	\$40.58	1	\$40.58	\$40.58

Subtotals: **\$40.58** **\$40.58**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>BENNETT</u>	
Total one-way travel distance:	<u>2.00</u>	miles
Average Travel Speed:	<u>45.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$1,298.67</u>
* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$3.61</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.04</u>	<u>0.04</u>
Return Time (Hours):	<u>0.04</u>	<u>0.04</u>
Loading Time (Hours):	<u>0.20</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.20</u>	<u>NA</u>
Subtotals:	<u>0.49</u>	<u>0.09</u>

JOB TIME AND COST

Total job time:	<u>0.98</u>	Hours
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Total job cost:	<u>\$1,302</u>
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