

COST SUMMARY WORK

Task description: Post inspection update 3-20-18

Site: Bradbury Pit

Permit Action: 2018-03

Permit/Job#: M1978357

PROJECT IDENTIFICATION

Task #: ACY

State: Colorado

Abbreviation: None

Date: 3/23/2018

County: Mesa

Filename: M357-acy

User: ACY

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Establishing final grade	DOZER	1	10.55	\$2,010.00
02a	Rip compacted areas	RIPPER	1	40.24	\$8,261.00
03a	Transport topsoil material	TRUCK1	1	54.01	\$10,907.00
04a	Place/grade topsoil	DOZER	1	44.96	\$8,566.00
05a	Reveg	REVEGE	1	60.00	\$32,255.00
06a	Initial mobilization	MOBILIZE	1	2.80	\$3,495.00
06b	Secondary mobilization	MOBILIZE	1	2.80	\$1,562.00
<u>SUBTOTALS:</u>				215.36	\$67,056

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$1,354.53

Performance bond: 1.05

Total = \$704.09

Job superintendent: 107.68

Total = \$7,866.02

Profit: 10.00

Total = \$6,705.60

TOTAL O & P = \$16,630.24

CONTRACT AMOUNT (direct + O & P) = \$83,686.24

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 500.00

Total = 500.00

Engineering work and/or contract/bid preparation: 0.00

Total = \$0.00

Reclamation management and/or administration: 5.00

\$4,184.31

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$21,314.55

TOTAL BOND AMOUNT (direct + indirect) = \$88,370.55

Current bond is \$101,453.12, no increase needed

BULLDOZER WORKTask description: **Establishing final grade**Site: **Bradbury Pit** Permit Action: 2018-03 Permit/Job#: M1978357**PROJECT IDENTIFICATION**

Task #: 01A State: Colorado Abbreviation: None
 Date: 3/23/2018 County: Mesa Filename: M357-01a
 User: ACY

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

Basic Machine: Cat D8T - 8SU
 Horsepower: 310
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$83.81</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$66.17</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$40.52</u>	<u>NA</u>

Total unit Cost/Hour: \$190.50
 Total Fleet Cost/Hour: **\$190.50**

MATERIAL QUANTITIES

Initial Volume: 6,667
 Swell factor: 1.165
 Loose volume: **7,767 LCY**

Source of estimated volume: 500 lft of highwall and smooth piles
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 60 feet
 Unadjusted hourly production: 1,246.9 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: -15 %
 Average site altitude: 5,000 feet

Material weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5904

Adjusted unit production: 736.17 LCY/hr

Adjusted fleet production: **736.17** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.259/LCY

Total job time: **10.55** Hours

Total job cost: **\$2,010**

BULLDOZER RIPPING WORK

Task description: Rip compacted areas

Site: Bradbury Pit Permit Action: 2018-03 Permit/Job#: M1978357

PROJECT IDENTIFICATION

Task #: 02A State: Colorado Abbreviation: None
Date: 3/23/2018 County: Mesa Filename: M357-02a
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$83.81	NA
Operating Cost/Hour:	\$66.17	100
Ripper Ownership Cost/Hour:	\$7.55	NA
Ripper Operating Cost/Hour:	\$7.21	100
Operator Cost/Hour:	\$40.52	NA
Total Unit Cost/Hour:	\$205.26	
Total Fleet Cost/Hour:	\$205.26	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 25.00 acres Rip Depth (ft): 2.00 Volume: 80,667 BCY or CCY

Source of estimated quantity: Pit floor and stockpile area

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.56 mph
Average Ripping Width: 7.08 degrees
Average Ripping Length: 150.00 feet
Average Dozer Speed: 88.00 feet
Average Maneuver Time: 0.25 feet
Production per unit area: 0.748 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.748 Acres/hr
Site Altitude: 5,000 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.62 Acres/hr
Adjusted Hourly Fleet Production: **0.62** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **40.25** Hours

Unit cost: \$330.434 Per acre Total job cost: **\$8,261**

BULLDOZER RIPPING WORK

Task description: Rip compacted areas

Site: Bradbury Pit Permit Action: 2018-03 Permit/Job#: M1978357

PROJECT IDENTIFICATION

Task #: 02A State: Colorado Abbreviation: None
Date: 3/23/2018 County: Mesa Filename: M357-02a
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$83.81	NA
Operating Cost/Hour:	\$66.17	100
Ripper Ownership Cost/Hour:	\$7.55	NA
Ripper Operating Cost/Hour:	\$7.21	100
Operator Cost/Hour:	\$40.52	NA
Total Unit Cost/Hour:	\$205.26	
Total Fleet Cost/Hour:	\$205.26	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 25.00 acres Rip Depth (ft): 2.00 Volume: 80,667 BCY or CCY

Source of estimated quantity: Pit floor and stockpile area

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.56 mph
Average Ripping Width: 7.08 degrees
Average Ripping Length: 150.00 feet
Average Dozer Speed: 88.00 feet
Average Maneuver Time: 0.25 feet
Production per unit area: 0.748 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.748 Acres/hr
Site Altitude: 5,000 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.62 Acres/hr
Adjusted Hourly Fleet Production: **0.62** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **40.25** Hours

Unit cost: \$330.434 Per acre Total job cost: **\$8,261**

BULLDOZER WORKTask description: Place/grade topsoilSite: Bradbury Pit Permit Action: 2018-03 Permit/Job#: M1978357**PROJECT IDENTIFICATION**

Task #: 04A State: Colorado Abbreviation: None
 Date: 3/23/2018 County: Mesa Filename: M357-04a
 User: ACY

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

Basic Machine: Cat D8T - 8SU
 Horsepower: 310
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$83.81</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$66.17</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$40.52</u>	<u>NA</u>

Total unit Cost/Hour: \$190.50
 Total Fleet Cost/Hour: **\$190.50**

MATERIAL QUANTITIES

Initial Volume: 26,620
 Swell factor: 1.000
 Loose volume: **26,620 LCY**

Source of estimated volume: 6" over 33 acres
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 120 feet
 Unadjusted hourly production: 751.6 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 0 %
 Average site altitude: 5,000 feet

Material weight: 1,600 lbs/LCYWeight description: Top Soil**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.100</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7877

Adjusted unit production: 592.04 LCY/hr

Adjusted fleet production: **592.04** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.322/LCY

Total job time: **44.96** Hours

Total job cost: **\$8,566**

REVEGETATION WORKTask description: RevegSite: Bradbury PitPermit Action: 2018-03Permit/Job#: M1978357**PROJECT IDENTIFICATION**Task #: 05AState: ColoradoAbbreviation: NoneDate: 3/23/2018County: MesaFilename: M357-05aUser: ACYAgency 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
Indian Ricegrass - Paloma	2.00	6.47	\$19.50
Blue Grama - Native	0.75	12.24	\$10.88
Sand Dropseed	0.20	23.88	\$2.17
Galleta	2.00	7.30	\$49.40
Totals Seed Mix	4.95	49.89	\$81.94

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
Herbicide - Plateau @ 1.0 pt/ac	2.00	ACRE	\$10.11	\$20.22
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	BALE	\$10.44	\$20.88
Total Mulch Materials Cost/Acre				\$41.10

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$66.02
Power mulcher (MEANS 32 91 13.16 0350)	\$99.32
Weed spray, truck, non-aquatic area, nox. [DMG]	\$71.50
Total Mulch Application Cost/Acre	\$236.84

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: 33 Cost /Acre: \$698.17
 Estimated Failure Rate: 40% Cost /Acre*: \$698.17
 *Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: \$23,039.61
 Reseeding Job Cost: \$9,215.84
 Total Job Cost: \$32,255
 Job Hours: 60.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Initial mobilization**Site: **Bradbury Pit**Permit Action: **2018-03**Permit/Job#: **M1978357****PROJECT IDENTIFICATION**Task #: **06A**State: **Colorado**Abbreviation: **None**Date: **3/23/2018**County: **Mesa**Filename: **M357-06a**User: **ACY**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 928Hz	13.91	\$19.17	\$88.67	1	\$107.84	\$88.67	\$250.00
Cat D8T - 8SU	53.08	\$91.36	\$125.45	1	\$216.81	\$125.45	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$12.22	\$88.67	1	\$100.89	\$88.67	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$7.03	\$88.67	1	\$95.70	\$88.67	\$250.00
Subtotals:					\$521.24	\$391.46	\$1,000.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 8-10 cy, 6x4	\$85.25	2	\$170.50	\$170.50
Light Duty Pickup, 4x4, 1 T. Crew	\$47.96	1	\$47.96	\$47.96
Subtotals:			\$218.46	\$218.46

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GRAND JUNCTION, CO	
Total one-way travel distance:	10.00	miles
Average Travel Speed:	50.00	mph
Total Non-Roadable Mob/Demob Cost *	\$3,407.56	
'* two round trips with haul rig:		
Total Roadable Mob/Demob Cost **	\$87.38	
** one round trip, no haul rig:		

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.20	0.20
Return Time (Hours):	0.20	0.20
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.40	0.40

JOB TIME AND COST

Total job time:	2.80	Hours
Total job cost:	\$3,495	

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: Secondary mobilizationSite: Bradbury PitPermit Action: 2018-03Permit/Job#: M1978357**PROJECT IDENTIFICATION**Task #: 06BState: ColoradoAbbreviation: NoneDate: 3/23/2018County: MesaFilename: M357-06bUser: ACYAgency 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:	\$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
Drill/Broadcast Seeder with Tractor	25.00	\$12.22	\$88.67	1	\$100.89	\$88.67	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$7.03	\$88.67	1	\$95.70	\$88.67	\$250.00
Subtotals:					\$196.59	\$177.34	\$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, 1 T. Crew	\$47.96	1	\$47.96	\$47.96
Subtotals:			\$47.96	\$47.96

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GRAND JUNCTION, CO	
Total one-way travel distance:	10.00	miles
Average Travel Speed:	50.00	mph
Total Non-Roadable Mob/Demob Cost *	\$1,542.75	
'* two round trips with haul rig:		
Total Roadable Mob/Demob Cost **	\$19.18	
** one round trip, no haul rig:		

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.20	0.20
Return Time (Hours):	0.20	0.20
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.40	0.40

JOB TIME AND COST

Total job time:	2.80	Hours
Total job cost:	\$1,562	