

COST SUMMARY WORK

Task description: Recalc post inspection 03-20-2018

Site: Gunnison River Gravel Pits

Permit Action: 2018-03

Permit/Job#: M2009048

PROJECT IDENTIFICATION

Task #: ACY

State: Colorado

Abbreviation: None

Date: 3/23/2018

County: Mesa

Filename: M048-acy

User: ACY

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
000	Substitute Water Supply Cost	NA	1	1.00	\$18,394.84
02a	Rip stockpile area of Pit 5	RIPPER	1	11.98	\$2,461.00
03a	Replace topsoil in Pit 5	DOZER	1	57.04	\$10,866.00
04a	Reveg Pit 5	REVEGE	1	16.00	\$17,046.00
05a	Initial Mobilization	MOBILIZE	1	3.06	\$2,734.00
06a	Secondary Mobilization	MOBILIZE	1	3.06	\$1,618.00
<u>SUBTOTALS:</u>				92.14	\$53,120

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$1,073.02
Performance bond:	1.05	Total =	\$557.76
Job superintendent:	40.08	Total =	\$2,927.84
Profit:	10.00	Total =	\$5,312.00
		TOTAL O & P =	\$9,870.62
		CONTRACT AMOUNT (direct + O & P) =	\$62,990.62

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		\$3,149.53
CONTINGENCY:		Total =	\$0.00

TOTAL INDIRECT COST = \$13,520.15

TOTAL BOND AMOUNT (direct + indirect) = \$66,640.15

No Increase issued. Current bond held \$88,767. Current disturbance significantly under max threshold.

BULLDOZER RIPPING WORK

Task description: Rip stockpile area of Pit 5

Site: Gunnison River Gravel Pits Permit Action: 2018-03 Permit/Job#: M2009048

PROJECT IDENTIFICATION

Task #: 02A State: Colorado Abbreviation: None
Date: 3/23/2018 County: Mesa Filename: M048-02a
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:	<u>\$83.81</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$66.17</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$7.55</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$7.21</u>	<u>100</u>
Operator Cost/Hour:	<u>\$40.52</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$205.26</u>	
Total Fleet Cost/Hour:	<u>\$205.26</u>	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 7.00 acres Rip Depth (ft): 2.00 Volume: 22,587 BCY or CCY

Source of estimated quantity: Annual Rpt map and staff estimates

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.56 mph
Average Ripping Width: 7.08 degrees
Average Ripping Length: 100.00 feet
Average Dozer Speed: 88.00 feet
Average Maneuver Time: 0.25 feet
Production per unit area: 0.703 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.703 Acres/hr
Site Altitude: 4,670 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.58 Acres/hr
Adjusted Hourly Fleet Production: 0.58 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 11.99 Hours

Unit cost: \$351.566 Per acre Total job cost: \$2,461

BULLDOZER WORKTask description: **Replace topsoil in Pit 5**Site: **Gunnison River Gravel Pits**Permit Action: **2018-03**Permit/Job#: **M2009048****PROJECT IDENTIFICATION**Task #: **03A**State: **Colorado**Abbreviation: **None**Date: **3/23/2018**County: **Mesa**Filename: **M048-03a**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:	\$83.81	NA
Operating Cost/Hour:	\$66.17	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.52	NA

Total unit Cost/Hour: **\$190.50**Total Fleet Cost/Hour: **\$190.50****MATERIAL QUANTITIES**Initial Volume: **8,470**Swell factor: **1.215**Loose volume: **10,291 LCY**Source of estimated volume: **Annual Rpt affected lands**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **300 feet**Unadjusted hourly production: **291.4 LCY/hr**Materials consistency description: **Partly consolidated stockpile 1.1**Average push gradient: **10 %**Average site altitude: **4,670 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:	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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6192

Adjusted unit production: 180.43 LCY/hr

Adjusted fleet production: **180.43 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.056/LCY

Total job time: **57.04 Hours**

Total job cost: **\$10,866**

REVEGETATION WORKTask description: Reveg Pit 5Site: Gunnison River Gravel PitsPermit Action: 2018-03Permit/Job#: M2009048PROJECT IDENTIFICATIONTask #: 04A
Date: 3/23/2018
User: ACYState: Colorado
County: MesaAbbreviation: None
Filename: M048-04aAgency or organization name: DRMSFERTILIZING**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
Alkali Sacaton	1.00	39.03	\$28.32
Alkaligrass, Fult's	0.50	13.77	\$1.70
Crested Wheatgrass - Hy-Crest	3.00	13.77	\$13.26
Tall Fescue - Maxim Blend (Dwarf)	3.00	15.63	\$6.96
Saltbush, Four Wing	1.00	1.38	\$12.50
Totals Seed Mix	8.50	83.59	\$62.74

Application

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Description	Cost /Acre
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 - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.74	\$2.74
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$524.74

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, aquatic area, nox. [DMG]	\$68.50
Total Mulch Application Cost/Acre	\$233.84

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: 10.5 Cost /Acre: \$1,159.61
 Estimated Failure Rate: 40% Cost /Acre*: \$1,159.61
 *Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **\$12,175.91**
 Reseeding Job Cost: **\$4,870.36**
 Total Job Cost: **\$17,046**
 Job Hours: **16.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Initial Mobilization**Site: **Gunnison River Gravel Pits**Permit Action: **2018-03**Permit/Job#: **M2009048****PROJECT IDENTIFICATION**Task #: **05A**
Date: **3/23/2018**
User: **ACY**State: **Colorado**
County: **Mesa**Abbreviation: **None**
Filename: **M048-05a**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	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: **\$413.40** **\$302.79** **\$750.00****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:	12.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost *	\$2,708.77	
'* two round trips with haul rig:		
Total Roadable Mob/Demob Cost **	\$25.58	
** one round trip, no haul rig:		

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.27	0.27
Return Time (Hours):	0.27	0.27
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.53	0.53

JOB TIME AND COST

Total job time:	3.07	Hours
Total job cost:	\$2,734	

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Secondary Mobilization**Site: **Gunnison River Gravel Pits**Permit Action: **2018-03**Permit/Job#: **M2009048****PROJECT IDENTIFICATION**Task #: **06A**State: **Colorado**Abbreviation: **None**Date: **3/23/2018**County: **Mesa**Filename: **M048-06a**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
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:	12.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost *	\$1,592.61	
** two round trips with haul rig:		
Total Roadable Mob/Demob Cost **	\$25.58	
** one round trip, no haul rig:		

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.27	0.27
Return Time (Hours):	0.27	0.27
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.53	0.53

JOB TIME AND COST

Total job time:	3.07	Hours
Total job cost:	\$1,618	