

COST SUMMARY WORK

Task description: Post inpection update

Site: Una Pit

Permit Action: 2021-04

Permit/Job#: M1980080

PROJECT IDENTIFICATION

Task #: ACY

State: Colorado

Abbreviation: None

Date: 4/13/2021

County: Garfield

Filename: M080-ACY

User: ACY

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Demo scales	DEMOLISH	1	4.00	\$65
02a	Higwall reduction/site grading	DOZER	2	43.73	\$21,626
03	Rip compacted plant and stockpile area, and roads.	RIPPER	2	16.36	\$8,785
04a	Distribute topsoil over areas requiring seeding	LOADER	2	171.00	\$50,533
04b	Spread topsoil	DOZER	2	23.12	\$11,435
05a	Revegetate disturbed areas (except for 62 ac. lake)	REVEGE	1	40.00	\$53,562
06a	Mobilize reclamation crew and equipment	MOBILIZE	1	4.28	\$7,073
06b	Secondary Mobilization	MOBILIZE	1	4.28	\$1,690
<u>SUBTOTALS:</u>				306.77	\$154,769

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$3,126

Performance bond: 1.05

Total = \$1,625

Job superintendent: 153.39

Total = \$10,668

Profit: 10.00

Total = \$15,477

TOTAL O & P = \$30,896

CONTRACT AMOUNT (direct + O & P) = \$185,665

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500

Total = \$500

Engineering work and/or contract/bid preparation: 0.00

Total = \$0

Reclamation management and/or administration: 5.00

\$9,283

CONTINGENCY: 3.00

Total = \$4,643

TOTAL INDIRECT COST = \$45,323

TOTAL BOND AMOUNT (direct + indirect) = \$200,092

DEMOLITION WORK

Task description: Demo scales

Site: Una Pit

Permit Action: 2021-04

Permit/Job#: M1980080

PROJECT IDENTIFICATION

Task #: 01A

State: Colorado

Abbreviation: None

Date: 4/13/2021

County: Garfield

Filename: M0808-01a

User: ACY

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 102.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Scales (1)	Approx. 12'W x 40'L x 2'H	Push demolished materials/rubble/debris into pit - Max. 200 ft. push	36.00	CY	\$1.77	\$63.58

Job Hours: 4.00

Subtotal
(unadjusted): \$63.58

Total Cost
(adjusted for location): \$64.98

BULLDOZER WORKTask description: Higwall reduction/site gradingSite: Una Pit Permit Action: 2021-04 Permit/Job#: M1980080**PROJECT IDENTIFICATION**

Task #: 02A State: Colorado Abbreviation: None
 Date: 4/13/2021 County: Garfield Filename: M080-02a
 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:	\$116.22	NA
Operating Cost/Hour:	\$89.77	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$247.28
 Total Fleet Cost/Hour: \$494.57

MATERIAL QUANTITIES

Initial Volume: 25,000
 Swell factor: 1.060
 Loose volume: 26,500 LCY

Source of estimated volume: Staff estimates
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 100 feet
 Unadjusted hourly production: 852.6 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

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

Material weight: 2,900 lbs/LCYWeight description: Sand and gravel - Dry

<u>Job Condition Correction Factor</u>	<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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 303.01 LCY/hr

Adjusted fleet production: **606.02** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.816/LCY

Total job time: **43.73** Hours

Total job cost: **\$21,626**

BULLDOZER RIPPING WORK

Task description: Rip compacted plant and stockpile area, and roads.

Site: Una Pit Permit Action: 2021-04 Permit/Job#: M1980080

PROJECT IDENTIFICATION

Task #: 03 State: Colorado Abbreviation: None
Date: 4/13/2021 County: Garfield Filename: M080-03a
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:	\$116.22	NA
Operating Cost/Hour:	\$89.77	100
Ripper Ownership Cost/Hour:	\$12.00	NA
Ripper Operating Cost/Hour:	\$9.18	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$268.46	
Total Fleet Cost/Hour:	\$536.91	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 21.00 acres Rip Depth (ft): 1.00 Volume: 33,880 BCY or CCY

Source of estimated quantity: TR1 Mine plan map and site observations

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.56 feet/pass
Average Ripping Width: 7.08 feet/pass
Average Ripping Length: 200.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.773 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.773 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: 0.64 Acres/hr
Adjusted Hourly Fleet Production: 1.28 Acres/hr

JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: 16.36 Hours

Unit cost: \$418.355 Per acre Total job cost: \$8,785

WHEEL LOADER – LOAD AND CARRY WORKTask description: Distribute topsoil over areas requiring seedingSite: Una Pit Permit Action: 2021-04 Permit/Job#: M1980080**PROJECT IDENTIFICATION**

Task #: 04A State: Colorado Abbreviation: None
 Date: 4/13/2021 County: Garfield Filename: M080-04a
 User: ACY

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

Basic Machine: CAT 972H Horsepower: 287
 Attachment 1: ROPS Cab Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$48.09	NA
Operating Cost/Hour:	\$58.95	100
Operator Cost/Hour:	\$40.71	NA
Total Unit Cost/Hour:	\$147.75	
Total Fleet Cost/Hour:	\$295.50	

MATERIAL QUANTITIES

Initial volume: 33,880 CCY Swell factor: 1.215
 Loose volume: 41,164 LCY

Source of estimated volume: 21 ac. @ 12" depth
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTIONLoader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.525 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(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:		-0.020	minutes
Adjusted Basic Cycle Time:		0.505	minutes

Rolling Resistance – Road Conditions

Haul: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0
 Return: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	1000	0.00	5.00	5.00	0.9222	(Cat HB)
Return Route:	1000	0.00	5.00	5.00	0.8320	(Cat HB)

Total Travel Time: 1.7542 minutes
 Total Cycle Time: 2.2592 minutes

Load Bucket Capacity

Rated Capacity: 5.60 LCY (heaped)
 Bucket Fill Factor: 0.975 Loose material - uniform aggregates to 1/8" (95-100%) 0.975
 Adjusted Capacity: 5.46 LCY

Job Condition Correction Factors

Site Altitude: 5000 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.83</u>	multiplier

Unadjusted Hourly Unit Production: 145.01 LCY/Hour
 Adjusted Hourly Unit Production: 120.36 LCY/Hour
 Adjusted Hourly Fleet Production: 240.72 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Loader(s) Total job time: 171.01 Hours
 Unit cost: \$1.228 /LCY Total job cost: \$50,533

BULLDOZER WORKTask description: Spread topsoilSite: Una Pit Permit Action: 2021-04 Permit/Job#: M1980080**PROJECT IDENTIFICATION**

Task #: 04B State: Colorado Abbreviation: None
 Date: 4/13/2021 County: Garfield Filename: M080-04b
 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:	\$116.22	NA
Operating Cost/Hour:	\$89.77	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$247.28
 Total Fleet Cost/Hour: \$494.57

MATERIAL QUANTITIES

Initial Volume: 33,880
 Swell factor: 1.000
 Loose volume: 33,880 LCY

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

HOURLY PRODUCTION

Average push distance: 100 feet
 Unadjusted hourly production: 852.6 LCY/hr

Materials consistency description: Loose stockpile 1.2

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:	0.750	(AVG.)
Material consistency:	1.200	(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:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8593

Adjusted unit production: 732.64 LCY/hr

Adjusted fleet production: **1465.28** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.338/LCY

Total job time: **23.12** Hours

Total job cost: **\$11,435**

REVEGETATION WORKTask description: Revegetate disturbed areas (except for 62 ac. lake)Site: Una PitPermit Action: 2021-04Permit/Job#: M1980080**PROJECT IDENTIFICATION**Task #: 05AState: ColoradoAbbreviation: NoneDate: 4/13/2021County: GarfieldFilename: M080-05aUser: ACYAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	250.00	pound	\$0.34	\$85.00
			Total Fertilizer Materials Cost/Acre	\$85.00

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$37.03
Total Fertilizer Application Cost/Acre	\$37.03

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$107.16
Weed control spraying (MEANS 31 31 16.13 3100)	\$193.60
Total Tilling Cost/Acre	\$300.76

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	1.00	3.24	\$11.13
Slender Wheatgrass - San Luis	2.20	8.03	\$9.35
Tall Wheatgrass - Jose	5.50	9.97	\$18.56
Saltgrass, Inland	1.00	13.86	\$42.80
Totals Seed Mix	9.70	35.10	\$81.84

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 - Curtail @ 4.0 pt/ac	1.00	ACRE	\$7.63	\$7.63
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$301.00	\$602.00
Total Mulch Materials Cost/Acre				\$609.63

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$70.17
Power mulcher (MEANS 32 91 13.16 0350)	\$101.93
Weed spray, truck, aquatic area, nox. [DMG]	\$62.72
Total Mulch Application Cost/Acre	\$234.82

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Cottonwood, Narrowleaf	30	Tubling, 10 cu. in. container {(MEANS)}	\$4.43	\$2.40	\$132.90
Totals Nursery Stock Cost / Acre					\$132.90

JOB TIME AND COST

No. of Acres: 25 Cost /Acre: \$1,713.98
 Estimated Failure Rate: 25% Cost /Acre*: \$1,713.98
 *Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING,NU
RSERY,MULCHING

Initial Job Cost: \$42,849.50
 Reseeding Job Cost: \$10,712.38
 Total Job Cost: \$53,562
 Job Hours: 40.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize reclamation crew and equipment**Site: **Una Pit** Permit Action: **2021-04** Permit/Job#: **M1980080****PROJECT IDENTIFICATION**

Task #: **06A** State: **Colorado** Abbreviation: **None**
 Date: **4/13/2021** County: **Garfield** Filename: **M080-06a**
 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:	\$17.20	\$29.63	\$38.69
Operating Cost/Hour:	\$26.56	\$47.02	\$55.69
Operator Cost/Hour:	\$23.63	\$23.63	\$23.63
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$67.39	\$123.81	\$141.54

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	\$128.22	\$141.54	2	\$539.52	\$283.08	\$500.00
CAT 972H	28.00	\$48.09	\$123.81	2	\$343.80	\$247.62	\$500.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.72	\$67.39	1	\$74.11	\$67.39	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$11.19	\$67.39	1	\$78.58	\$67.39	\$250.00
Subtotals:					\$1,036.01	\$665.48	\$1,500.00

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	\$49.16	1	\$49.16	\$49.16
Subtotals:			\$49.16	\$49.16

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: RIFLE
 Total one-way travel distance: 20.00 miles
 Average Travel Speed: 35.00 mph

Total Non-Roadable Mob/Demob Cost * \$7,016.58
 * two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$56.18
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.57</u>	<u>0.57</u>
Return Time (Hours):	<u>0.57</u>	<u>0.57</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>2.14</u>	<u>1.14</u>

JOB TIME AND COST

Total job time: 4.29 Hours

Total job cost: \$7,073

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Secondary Mobilization**Site: **Una Pit** Permit Action: **2021-04** Permit/Job#: **M1980080****PROJECT IDENTIFICATION**

Task #: **06B** State: **Colorado** Abbreviation: **None**
 Date: **4/13/2021** County: **Garfield** Filename: **M080-06b**
 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:	\$17.20	\$29.63	\$38.69
Operating Cost/Hour:	\$26.56	\$47.02	\$55.69
Operator Cost/Hour:	\$23.63	\$23.63	\$23.63
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$67.39	\$123.81	\$141.54

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	\$6.72	\$67.39	1	\$74.11	\$67.39	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$11.19	\$67.39	1	\$78.58	\$67.39	\$250.00
Subtotals:					\$152.69	\$134.78	\$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	\$49.16	1	\$49.16	\$49.16
Subtotals:			\$49.16	\$49.16

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: RIFLE
 Total one-way travel distance: 20.00 miles
 Average Travel Speed: 35.00 mph

Total Non-Roadable Mob/Demob Cost * \$1,633.92
 * two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$56.18
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.57	0.57
Return Time (Hours):	0.57	0.57
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.14	1.14

JOB TIME AND COST

Total job time: 4.29 Hours

Total job cost: \$1,690