

## COST SUMMARY WORK

Task description: Cost Summary of Reclamation Tasks

Site: Ensminger Pit #2

Permit Action: 2019 AM01

Permit/Job#: M2010036

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 3/15/2019

County: Phillips

Filename: M036-000

User: ERR

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfilling and Grading	DOZER	1	95.00	\$20,840
002	Replace Topsoil	DOZER	1	50.44	\$11,064
003	Revegetate the Site	REVEGE	1	20.00	\$15,591
004	Mobilization/Demobilization	MOBILIZE	1	4.11	\$2,158
<b><u>SUBTOTALS:</u></b>				<b>169.55</b>	<b>\$49,653</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02  
Performance bond: 1.05  
Job superintendent: 0.00  
Profit: 10.00

Total = \$1,003

Total = \$521

Total = \$0

Total = \$4,965

TOTAL O & P = \$6,490

CONTRACT AMOUNT (direct + O & P) = \$56,143

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$0

Total = \$0

Engineering work and/or contract/bid preparation: 0.00

Total = \$0

Reclamation management and/or administration: 5.00

\$2,807

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$9,297

TOTAL BOND AMOUNT (direct + indirect) = \$58,950

**TOTAL BOND AMOUNT (rounded) = \$59,000**

**BULLDOZER WORK**Task description: **Backfilling and Grading**Site: **Ensminger Pit #2** Permit Action: **2019 AM01** Permit/Job#: **M2010036****PROJECT IDENTIFICATION**

Task #: **001** State: **Colorado** Abbreviation: **None**  
 Date: **3/15/2019** County: **Phillips** Filename: **00**  
 User: **ERR**

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:	\$1.95	25
Operator Cost/Hour:	\$41.52	NA

Total unit Cost/Hour: **\$219.36**  
 Total Fleet Cost/Hour: **\$219.36**

**MATERIAL QUANTITIES**

Initial Volume: **17,020**  
 Swell factor: **1.330**  
 Loose volume: **22,637 LCY**

Source of estimated volume: **Application (6" Overburden on 21.1 acres)**  
 Source of estimated swell factor: **Cat Handbook**

**HOURLY PRODUCTION**

Average push distance: **200 feet**  
 Unadjusted hourly production: **491.9 LCY/hr**

Materials consistency description: **Partly consolidated stockpile 1.1**

Average push gradient: **-5 %**  
 Average site altitude: **4,069 feet**

Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****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:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4844

Adjusted unit production: 238.28 LCY/hr

Adjusted fleet production: **238.28** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.921/LCY

Total job time: **95.00** Hours

Total job cost: **\$20,840**

**BULLDOZER WORK**Task description: **Replace Topsoil**Site: **Ensminger Pit #2**Permit Action: 2019 AM01Permit/Job#: M2010036**PROJECT IDENTIFICATION**Task #: 002State: ColoradoAbbreviation: NoneDate: 3/15/2019County: PhillipsFilename: 00User: ERRAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData 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:	\$1.95	25
Operator Cost/Hour:	\$41.52	NA

Total unit Cost/Hour: \$219.36Total Fleet Cost/Hour: **\$219.36****MATERIAL QUANTITIES**Initial Volume: 13,490Swell factor: 1.230Loose volume: **16,593 LCY**Source of estimated volume: Application (5" on 18.4 acres) -1 acre for creekbedSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 491.9 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: -5 %Average site altitude: 4,069 feetMaterial weight: 2,100 lbs/LCYWeight description: Earth - Loam**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:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6688

Adjusted unit production: 328.98 LCY/hr

Adjusted fleet production: **328.98** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.667/LCY

Total job time: **50.44** Hours

Total job cost: **\$11,064**

**REVEGETATION WORK**Task description: **Revegetate the Site**Site: **Hansel Pit #1**Permit Action: 2019 AM01Permit/Job#: M2010036**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 3/15/2019County: PhillipsFilename: M036-003User: ERRAgency or organization name: DRMS**FERTILIZING****Materials**

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
Ammonium nitrate, 33-0-0	121.20	pound	\$0.34	\$41.21
Triple superphosphate, 0-46-0	86.90	pound	\$0.44	\$38.24
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$79.44</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$34.72
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$34.72</b>

**TILLING**

<b>Description</b>	<b>Cost /Acre</b>
Weed control spraying (MEANS 31 31 16.13 3100)	\$193.60
<b>Total Tilling Cost/Acre</b>	<b>\$193.60</b>

**SEEDING**

<b>Seed Mix</b>	<b>Rate – PLS LBS / Acre</b>	<b>Seeds per SQ. FT</b>	<b>Cost /Acre</b>
Big Bluestem - Kaw	2.20	6.57	\$25.72
Indiangrass - Cheyenne	1.00	3.05	\$17.61
Switchgrass - Nebraska 28	2.00	17.86	\$22.02
Alfalfa - Ladak (inoculated)	0.80	3.86	\$2.19
Western Wheatgrass - Arriba	1.60	4.04	\$13.25
<b>Totals Seed Mix</b>	<b>7.60</b>	<b>35.37</b>	<b>\$80.79</b>

**Application**

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

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
<b>Total Mulch Materials Cost/Acre</b>				<b>\$0.00</b>

**Application**

Description	Cost /Acre
	\$
<b>Total Mulch Application Cost/Acre</b>	<b>\$0.00</b>

**NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
<b>Totals Nursery Stock Cost / Acre</b>					<b>\$0.00</b>

**JOB TIME AND COST**

No. of Acres: 20.1 Cost /Acre: \$620.55  
 Estimated Failure Rate: 25% Cost /Acre\*: \$620.55  
 \*Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING

Initial Job Cost: **\$12,473.06**  
 Reseeding Job Cost: **\$3,118.26**  
 Total Job Cost: **\$15,591**  
 Job Hours: **20.00**

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: Mobilization/DemobilizationSite: Ensminger Pit #2Permit Action: 2019 AM01Permit/Job#: M2010036**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 3/15/2019County: PhillipsFilename: M036-004User: ERRAgency 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:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
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	\$102.55	\$125.45	1	\$228.00	\$125.45	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$15.54	\$88.67	1	\$104.21	\$88.67	\$250.00
Subtotals:					<b>\$332.21</b>	<b>\$214.12</b>	<b>\$500.00</b>

**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	\$74.99	1	\$74.99	\$74.99
Subtotals:			<b>\$74.99</b>	<b>\$74.99</b>



**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: YUMA  
 Total one-way travel distance: 35.00 miles  
 Average Travel Speed: 45.00 mph

Total Non-Roadable Mob/Demob Cost \* \$2,182.06  
 \*\* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$116.65  
 \*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.78	0.78
Return Time (Hours):	0.78	0.78
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	2.06	1.56

**JOB TIME AND COST**

Total job time: 4.11 Hours

Total job cost: \$2,299