

## COST SUMMARY WORK

Task description: Cost Summary

Site: Skoglund Pit

Permit Action: 2016 Update

Permit/Job#: M1996089

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 8/18/2016

County: Saguache

Filename: M089-000

User: LJW

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Highwall reduction to 4:1	DOZER	1	2.66	\$556.00
002	Rough Grade toe of slope	DOZER	1	1.50	\$312.00
003	Rough grade and rip pit floor and road	DOZER	1	8.96	\$1,909.00
004	Spread Topsoil on floor, and road appx 5 acres	DOZER	1	8.72	\$1,818.00
005	Reveg disturbed area, appx 5 acres	REVEGE	1	16.00	\$5,778.00
006	Haul reclamation equipment to and from site	MOBILIZE	1	6.00	\$2,769.00
<b><u>SUBTOTALS:</u></b>				<b>43.84</b>	<b>\$13,142</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$265.47

Performance bond: 1.05

Total = \$137.99

Job superintendent: 17.44

Total = \$1,298.93

Profit: 10.00

Total = \$1,314.20

TOTAL O & P = \$3,016.59

CONTRACT AMOUNT (direct + O & P) = \$16,158.59

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 0.00

Total = 0.00

Engineering work and/or contract/bid preparation: 0.00

Total = \$0.00

Reclamation management and/or administration: 7.10

\$1,147.26

CONTINGENCY: 3.00

Total = \$394.26

TOTAL INDIRECT COST = \$4,558.11

**TOTAL BOND AMOUNT (direct + indirect) = \$17,700.11**

**BULLDOZER WORK**Task description: **Highwall reduction to 4:1**Site: **Skoglund Pit**Permit Action: **2016 Update**Permit/Job#: **M1996089****PROJECT IDENTIFICATION**Task #: **001**State: **Colorado**Abbreviation: **None**Date: **8/18/2016**County: **Saguache**Filename: **M089-001**User: **LJW**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:	\$82.01	NA
Operating Cost/Hour:	\$79.23	100
Ripper own.		
Cost/Hour:	\$8.40	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: **\$208.53**Total Fleet Cost/Hour: **\$208.53****MATERIAL QUANTITIES**Initial Volume: **1,100**Swell factor: **1.430**Loose volume: **1,573 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: **0 %**Average site altitude: **7,740 feet**Material weight: **3,300 lbs/LCY**Weight description: **Decomposed rock - 75% Rock, 25% Earth****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:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4217

Adjusted unit  
production: 590.38 LCY/hr  
Adjusted fleet  
production: **590.38** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.353/LCY

Total job time: **2.66** Hours  
Total job cost: **\$556**

**BULLDOZER WORK**Task description: **Rough Grade toe of slope**Site: **Skoglund Pit**Permit Action: 2016 UpdatePermit/Job#: M1996089**PROJECT IDENTIFICATION**Task #: 002State: ColoradoAbbreviation: NoneDate: 8/18/2016County: SaguacheFilename: M089-002User: LJWAgency 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:	\$82.01	NA
Operating Cost/Hour:	\$79.23	100
Ripper own.		
Cost/Hour:	\$8.40	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: \$208.53Total Fleet Cost/Hour: **\$208.53****MATERIAL QUANTITIES**Initial Volume: 800Swell factor: 1.000Loose volume: **800 LCY**Source of estimated volume: .5 acre area x 6" avg depthSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 1,400.0 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 0 %Average site altitude: 7,740 feetMaterial weight: 3,300 lbs/LCYWeight description: Decomposed rock - 75% Rock, 25% EarthJob Condition Correction FactorSource

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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3818

Adjusted unit  
production: 534.52 LCY/hr  
Adjusted fleet  
production: **534.52** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.390/LCY

Total job time: **1.50** Hours  
Total job cost: **\$312**

**BULLDOZER WORK**Task description: **Rough grade and rip pit floor and road**Site: **Skoglund Pit**Permit Action: 2016 UpdatePermit/Job#: M1996089**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 8/18/2016County: SaguacheFilename: M089-003User: LJWAgency 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:	\$82.01	NA
Operating Cost/Hour:	\$79.23	100
Ripper own. Cost/Hour:	\$8.40	NA
Ripper op. Cost/Hour:	\$4.50	80
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: \$213.03Total Fleet Cost/Hour: **\$213.03****MATERIAL QUANTITIES**Initial Volume: 3,226Swell factor: 1.215Loose volume: **3,920 LCY**Source of estimated volume: 2016 Inspection, 4 acres, 6" deepSource of estimated swell  
factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly  
production: 1,400.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push  
gradient: 0 %Average site altitude: 7,740 feetMaterial weight: 3,300 lbs/LCYWeight description: Decomposed rock - 75% Rock, 25% Earth**Job Condition Correction Factor****Source**

Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(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:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3124

Adjusted unit  
production: 437.36 LCY/hr  
Adjusted fleet  
production: **437.36** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.487/LCY

Total job time: **8.96** Hours  
Total job cost: **\$1,909**

**BULLDOZER WORK**Task description: Spread Topsoil on floor, and road appx 5 acresSite: Skoglund PitPermit Action: 2016 UpdatePermit/Job#: M1996089**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 8/18/2016County: SaguacheFilename: M089-004User: LJWAgency 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:	\$82.01	NA
Operating Cost/Hour:	\$79.23	100
Ripper own.		
Cost/Hour:	\$8.40	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: \$208.53Total Fleet Cost/Hour: **\$208.53****MATERIAL QUANTITIES**Initial Volume: 4,033Swell factor: 1.215Loose volume: **4,900 LCY**Source of estimated volume: 5 acres, 6" depth, from Reclamation PlanSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 150 feetUnadjusted hourly production: 634.3 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 0 %Average site altitude: 7,740 feetMaterial weight: 1,600 lbs/LCYWeight description: Top SoilJob Condition Correction FactorSource



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:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8862

Adjusted unit production: 562.12 LCY/hr

Adjusted fleet production: **562.12** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.371/LCY

Total job time: **8.72** Hours

Total job cost: **\$1,818**

**REVEGETATION WORK**Task description: Reveg disturbed area, appx 5 acresSite: Skoglund PitPermit Action: 2016 UpdatePermit/Job#: M1996089**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 8/18/2016County: SaguacheFilename: M089-005User: LJWAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.37	\$37.00
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$37.00</b>

**Application**

Description	Cost /Acre
Truck whirlwind spreader (MEANS 32 01 90.13 0140)	\$13.93
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$13.93</b>

**TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$107.59
<b>Total Tilling Cost/Acre</b>	<b>\$107.59</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	0.80	13.06	\$8.54
Indian Ricegrass - Nespar	4.05	13.11	\$28.71
Sand Dropseed	0.10	11.94	\$0.70
Western Wheatgrass - Arriba	2.80	7.07	\$10.33
Needle and Thread	2.30	6.07	\$108.28
<b>Totals Seed Mix</b>	<b>10.05</b>	<b>51.25</b>	<b>\$156.57</b>

**Application**

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
Straw, delivered {MEANS 31 25 14.16 1200}	1.00	TON	\$246.00	\$246.00
<b>Total Mulch Materials Cost/Acre</b>				<b>\$246.00</b>

## Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$66.02
Power mulcher (MEANS 32 91 13.16 0350)	\$97.14
<b>Total Mulch Application Cost/Acre</b>	<b>\$163.16</b>

## 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:	<u>5</u>	Cost /Acre:	<u>\$956.25</u>
Estimated Failure Rate:	<u>25%</u>	Cost /Acre*:	<u>\$797.73</u>
*Selected Replanting Work Items:	<u>SEEDING,MULCHING</u>		
Initial Job Cost:	<u><b>\$4,781.25</b></u>		
Reseeding Job Cost:	<u><b>\$997.16</b></u>		
Total Job Cost:	<u><b>\$5,778</b></u>		
Job Hours:	<b>16.00</b>		

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Haul reclamation equipment to and from site**Site: **Skoglund Pit**Permit Action: 2016 UpdatePermit/Job#: M1996089**PROJECT IDENTIFICATION**Task #: 006State: ColoradoAbbreviation: NoneDate: 8/18/2016County: SaguacheFilename: M089-006User: LJWAgency 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	\$90.41	\$125.45	1	\$215.86	\$125.45	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$30.65	\$88.67	1	\$119.32	\$88.67	\$250.00
Subtotals:					<b>\$335.18</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
Subtotals:			<b>\$0.00</b>	<b>\$0.00</b>

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: ALAMOSA  
 Total one-way travel distance: 50.00 miles  
 Average Travel Speed: 50.00 mph

Total Non-Roadable Mob/Demob Cost \* \$2,768.96  
 \* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$0.00  
 \*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.00	1.00
Return Time (Hours):	1.00	1.00
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	3.00	2.00

**JOB TIME AND COST**

Total job time: 6.00 Hours

Total job cost: \$2,769