

## COST SUMMARY WORK

Task description: New Permit

Site: Animas Glacier Gravel  
(AGG)

Permit Action: New Permit

Permit/Job#: M2011028

### PROJECT IDENTIFICATION

Task #: 000  
Date: 8/30/2012  
User: KAP

State: Colorado  
County: La Plata

Abbreviation: None  
Filename: M028-000

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Reduce Highwalls	DOZER	2	65.87	\$35,110.98
002	Fill pond	DOZER	2	3.72	\$1,929.49
003	Spread Topsoil	DOZER	2	6.13	\$3,181.08
004	Rip Compacted Areas	RIPPER	2	13.52	\$7,212.00
005	Revegetation	REVEGE	1	25.00	\$14,280.75
006	Mobilize	MOBILIZE	1	4.04	\$2,113.75
<b><u>SUBTOTALS:</u></b>				<b>118.28</b>	<b>\$ \$63,828.05</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 0.00  
Performance bond: 0.00  
Job superintendent: 59.14  
Profit: 10.00

Total = \$0.00  
Total = \$0.00  
Total = \$3,507.00  
Total = \$6,382.81

TOTAL O & P = \$9,889.81

CONTRACT AMOUNT (direct + O & P) = \$73,717.86

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 500.00  
Engineering work and/or contract/bid preparation: 0.00  
Reclamation management and/or administration: 6.20

Total = 500.00  
Total = \$0.00  
Total = \$4,570.51

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$14,960.32

**TOTAL BOND AMOUNT (direct + indirect) = \$78,788.37**

BULLDOZER WORKTask description: Reduce HighwallsSite: Animas Glacier Gravel  
(AGG)Permit Action: New PermitPermit/Job#: M2011028PROJECT IDENTIFICATIONTask #: 001  
Date: 8/30/2012  
User: KAPState: Colorado  
County: La PlataAbbreviation: None  
Filename: M028-001Agency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: Cat D9T - 9SU  
Horsepower: 405  
Blade Type: Semi-Universal  
Attachment: 3-shank ripper  
Shift Basis: 1 per day  
Data Source: (CRG)Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$80.19</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$140.68</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$7.17</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.49</u>	<u>NA</u>

Total unit Cost/Hour: \$266.52  
Total Fleet Cost/Hour: \$533.05MATERIAL QUANTITIESInitial Volume: 88,889  
Swell factor: 1.165  
Loose volume: 103,556 LCYSource of estimated volume: Division of Reclamation, Mining & Safety  
Source of estimated swell factor: Cat HandbookHOURLY PRODUCTIONAverage push distance: 100 feet  
Unadjusted hourly production: 1,243.2 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: -30 %  
Average site altitude: 6,650 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>

Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6323

Adjusted unit production: 786.08 LCY/hr

Adjusted fleet production: 1572.16 LCY/hr

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)  
Unit cost: \$0.339/LCY

Total job time: 65.87 Hours  
Total job cost: \$35,110.98

BULLDOZER WORKTask description: Fill pondSite: Animas Glacier Gravel  
(AGG)Permit Action: New PermitPermit/Job#: M2011028PROJECT IDENTIFICATIONTask #: 002  
Date: 8/30/2012  
User: KAPState: Colorado  
County: La PlataAbbreviation: None  
Filename: M028-002Agency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: Cat D9T - 9SU  
Horsepower: 405  
Blade Type: Semi-Universal  
Attachment: 3-shank ripper  
Shift Basis: 1 per day  
Data Source: (CRG)Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$80.19</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$140.68</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.49</u>	<u>NA</u>

Total unit Cost/Hour: \$259.35  
Total Fleet Cost/Hour: \$518.71MATERIAL QUANTITIESInitial Volume: 5,000  
Swell factor: 1.165  
Loose volume: 5,825 LCYSource of estimated volume: Division of Reclamation, Mining & Safety  
Source of estimated swell factor: Cat HandbookHOURLY PRODUCTIONAverage push distance: 100 feet  
Unadjusted hourly production: 1,243.2 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: -15 %  
Average site altitude: 6,650 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% EarthJob Condition Correction Factor

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>

Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6298

Adjusted unit production: 782.97 LCY/hr

Adjusted fleet production: **1565.94 LCY/hr**

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)  
 Unit cost: \$0.331/LCY

Total job time: **3.72 Hours**  
 Total job cost: **\$1,929.49**

BULLDOZER WORKTask description: Spread TopsoilSite: Animas Glacier Gravel  
(AGG)Permit Action: New PermitPermit/Job#: M2011028PROJECT IDENTIFICATIONTask #: 003  
Date: 8/30/2012  
User: KAPState: Colorado  
County: La PlataAbbreviation: None  
Filename: M028-003Agency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: Cat D9T - 9SU  
Horsepower: 405  
Blade Type: Semi-Universal  
Attachment: 3-shank ripper  
Shift Basis: 1 per day  
Data Source: (CRG)Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$80.19</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$140.68</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.49</u>	<u>NA</u>

Total unit Cost/Hour: \$259.35  
Total Fleet Cost/Hour: \$518.71MATERIAL QUANTITIESInitial Volume: 8,000  
Swell factor: 1.125  
Loose volume: 9,000 LCYSource of estimated volume: Division of Reclamation, Mining & Safety  
Source of estimated swell factor: Cat HandbookHOURLY PRODUCTIONAverage push distance: 150 feet  
Unadjusted hourly production: 910.5 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: -15 %  
Average site altitude: 6,650 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packedJob Condition Correction Factor

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>

Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8059

Adjusted unit production: 733.77 LCY/hr

Adjusted fleet production: 1467.54 LCY/hr

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)  
Unit cost: \$0.353/LCY

Total job time: 6.13 Hours  
Total job cost: \$3,181.08

## BULLDOZER RIPPING WORK

Task description: Rip Compacted Areas

Animas Glacier Gravel      Permit Action: \_\_\_\_\_  
Site: (AGG)      New Permit      Permit/Job#: M2011028

### PROJECT IDENTIFICATION

Task #: 004      State: Colorado      Abbreviation: None  
Date: 8/30/2012      County: La Plata      Filename: M028-004  
User: KAP

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU      Horsepower: 405  
Ripper Attachment: 3-Shank Ripper      Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$80.19</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$140.68</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$7.17</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.49</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$266.52</u>	
Total Fleet Cost/Hour:	<u>\$533.05</u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA      Bank Volume: NA      BCY      NA  
Area: 20.00 acres      Rip Depth (ft): 1.00      Volume: 32,267      BCY or CCY

Source of estimated quantity: Reclamation Plan

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth:	<u>2.63</u>	<u>mph</u>
Average Ripping Width:	<u>7.67</u>	<u>degrees</u>
Average Ripping Length:	<u>500.00</u>	<u>feet</u>
Average Dozer Speed:	<u>88.00</u>	<u>feet</u>
Average Maneuver Time:	<u>0.25</u>	<u>feet</u>
Production per unit area:	<u>0.891</u>	<u>acres/hour</u>

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production:	<u>0.891</u>	<u>Acres/hr</u>
Site Altitude:	<u>6,650</u>	<u>feet</u>
Altitude Adj:	<u>1.00</u>	<u>(CAT HB)</u>
Job Efficiency:	<u>0.83</u>	<u>(1 shift/day)</u>
Net Correction:	<u>0.83</u>	<u>multiplier</u>
Adjusted Hourly Unit Production:	<u>0.74</u>	<u>Acres/hr</u>
Adjusted Hourly Fleet Production:	<u>1.48</u>	<u>Acres/hr</u>

### JOB TIME AND COST

Fleet size: 2 Grader(s)      Total job time: 13.53 Hours  
Unit cost: \$360.588 Per acre      Total job cost: \$7,212.00



REVEGETATION WORKTask description: RevegetationSite: Animas Glacier Gravel  
(AGG)Permit Action: New PermitPermit/Job#: M2011028PROJECT IDENTIFICATIONTask #: 005  
Date: 8/30/2012  
User: KAPState: Colorado  
County: La PlataAbbreviation: None  
Filename: M028-005Agency or organization name: DRMSFERTILIZINGMaterials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	\$0.32	\$64.00
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$64.00</b>

Application

Description	Cost /Acre
Truck whirlwind spreader (MEANS 32 01 90.13 0140)	\$20.91
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$20.91</b>

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$92.35
Weed control spraying (MEANS 31 31 16.13 3100)	\$145.20
<b>Total Tilling Cost/Acre</b>	<b>\$237.55</b>

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alfalfa - Common	0.25	1.21	\$0.63
Indian Ricegrass - Nespar	3.00	9.71	\$20.79
Canby Bluegrass - Canbar	0.50	10.63	\$4.10
Bottlebrush Squirreltail	1.00	4.41	\$24.33
Galleta	2.00	7.30	\$49.34
Slender Wheatgrass - Native	3.00	10.95	\$6.60
Western Wheatgrass - Native	3.00	7.58	\$8.94
Prairie Junegrass	0.50	26.58	\$16.84
Flax, Lewis Blue	0.50	3.32	\$8.09
Penstemon, Rocky Mountain	0.25	3.92	\$8.25

Bluebunch Wheatgrass - Goldar	2.00	6.43	\$10.76
<b>Totals Seed Mix</b>	16.00	92.02	<b>\$158.66</b>

**Application**

Description	Cost /Acre
Drill seeding {DMG}	\$90.11
<b>Total Seed Application Cost/Acre</b>	<b>\$90.11</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 Cost /Acre: \$571.23  
 Estimated Failure Rate: 25% Cost /Acre\*: \$571.23  
 \*Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING

Initial Job Cost: \$11,424.60  
 Reseeding Job Cost: \$2,856.15  
 Total Job Cost: \$14,280.75  
 Job Hours: 25.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: MobilizeSite: Animas Glacier Gravel  
(AGG)Permit Action: New PermitPermit/Job#: M2011028PROJECT IDENTIFICATIONTask #: 006  
Date: 8/30/2012  
User: KAPState: Colorado  
County: La PlataAbbreviation: None  
Filename: M028-006Agency or organization name: DRMSEQUIPMENT TRANSPORT RIG COSTShift basis: 1 per day  
Cost 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
Cat D9T - 9SU	60.01	\$72.40	\$125.45	2	\$395.69	\$250.90	\$0.00
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88.67	1	\$128.26	\$88.67	\$0.00

Subtotals: **\$523.95** **\$339.57** **\$0.00**ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$34.08	1	\$34.08	\$34.08

Subtotals: **\$34.08** **\$34.08**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>DURANGO</u>	
Total one-way travel distance:	<u>3.00</u>	miles
Average Travel Speed:	<u>300.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$2,113.07</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$0.68</u>
** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.01</u>	<u>0.01</u>
Return Time (Hours):	<u>0.01</u>	<u>0.01</u>
Loading Time (Hours):	<u>1.00</u>	<u>NA</u>
Unloading Time (Hours):	<u>1.00</u>	<u>NA</u>
Subtotals:	<u>2.02</u>	<u>0.02</u>

**JOB TIME AND COST**

Total job time:	<u>4.04</u>	Hours
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Total job cost:	<u>\$2,113.75</u>
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