

COST SUMMARY WORK

Task description: Summary of reclamation tasks and associated costs

Site: Bridalveil Pit Permit Action: Routine bond update Permit/Job#: M2001054

PROJECT IDENTIFICATION

Task #: 009 State: Colorado Abbreviation: None
Date: 9/12/2012 County: Ouray Filename: M054-009
User: WHE

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Maintain stormwater channel	DOZER	1	4.59	\$916.53
002	Maintain stormwater sediment basin	EXCAVATE	1	16.06	\$1,317.00
003	Maintain riprap lining for basin inlets and outlets	EXCAVATE	1	2.20	\$180.00
004	Grade slopes and benches	DOZER	1	18.10	\$3,617.46
005	Replace growth medium 0.5' depth over 2 acres area	DOZER	1	4.76	\$951.37
006	Revegetate 2 acres affected land	REVEGE	1	0.00	\$1,171.28
007	Haul reclamation equipment to and from job site	MOBILIZE	1	5.11	\$2,439.25
008	Remove misc debris 10'Lx5'Wx5'H @ \$0.50/cu.ft.	NA	1	4.00	\$125.00
<u>SUBTOTALS:</u>				54.82	\$ \$10,717.89

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$216.50
Performance bond:	1.05	Total =	\$112.54
Job superintendent:	27.41	Total =	\$1,625.41
Profit:	10.00	Total =	\$1,071.79
		TOTAL O & P =	\$3,026.24
		CONTRACT AMOUNT (direct + O & P) =	\$13,744.13

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	0.00	Total =	0.00
Engineering work and/or contract/bid preparation:	4.25	Total =	\$584.13
Reclamation management and/or administration:	5.00		\$687.21

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$4,297.57

TOTAL BOND AMOUNT (direct + indirect) = \$15,015.46

BULLDOZER WORKTask description: Maintain stormwater channelSite: Bridalveil PitPermit Action: Routine bond updatePermit/Job#: M2001054**PROJECT IDENTIFICATION**Task #: 001State: ColoradoAbbreviation: NoneDate: 9/11/2012County: OurayFilename: M054-001User: WHEAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$58.56	NA
Operating Cost/Hour:	\$102.81	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.49	NA

Total unit Cost/Hour: \$199.86Total Fleet Cost/Hour: \$199.86**MATERIAL QUANTITIES**Initial Volume: 1,051Swell factor: 1.000Loose volume: 1,051 LCYSource of estimated volume: (258'L x 110 sq.ft.) / 27 = 1,051 cySource of estimated swell factor: NA**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 1,400.0 LCY/hrMaterials consistency description: Dry, non-cohesive 0.8Average push gradient: 10 %Average site altitude: 7,665 feetMaterial weight: 3,300 lbs/LCYWeight description: Decomposed rock - 75% Rock, 25% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.800	(CAT HB)
Dozing method:	1.000	(GEN.)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.600	(FND-SF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.1637

Adjusted unit production: 229.18 LCY/hr

Adjusted fleet production: 229.18 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.872/LCY

Total job time: 4.59 Hours

Total job cost: \$916.53

HYDRAULIC EXCAVATOR WORK

Task description: Maintain stormwater sediment basin

Site: Bridalveil Pit

Permit Action: Routine bond update

Permit/Job#: M2001054

PROJECT IDENTIFICATION

Task #: 002

State: Colorado

Abbreviation: None

Date: 9/11/2012

County: Ouray

Filename: M054-002

User: WHE

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 311D LRR 8'-6" Stick
Attachment 1: ROPS Cab

Horsepower: 80
Weight (MT): 12.74
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$17.58</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$25.70</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.67</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$81.96</u>	
Total Fleet Cost/Hour:	<u>\$81.96</u>	

MATERIAL QUANTITIES

Initial volume: 778 CCY Swell factor: 1.000
Loose volume: 778 LCY

Source of estimated volume: (50'W x 35'L x 12'D) / 27 = 777.78 cy
Source of estimated swell factor: NA

HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: SEVERE
Secondary Job Condition within Basic Description: SEVERE
Cycle Time Value: 0.325 minutes

Load Bucket Capacity

Rated Capacity: 0.39 LCY (heaped)
Bucket Fill Factor: 0.900 Other - soil, boulders, roots (80 -100%) 0.900
Adjusted Capacity: 0.35 LCY

Bucket Size Class: Small

Job Condition Correction Factors

Site Altitude: 7665 feet

Altitude Adj:	<u>0.90</u>	Source
Job Efficiency:	<u>0.83</u>	(CAT HB)
Net Correction:	<u>0.75</u>	(1 shift/day)
		multiplier

Unadjusted Hourly Unit Production: 64.80 LCY/Hour
Adjusted Hourly Unit Production: 48.41 LCY/Hour
Adjusted Hourly Fleet Production: 48.41 LCY/Hour

JOB TIME AND COST

Fleet size: 1 Excavator Total job time: 16.07 Hours
Unit cost: \$1.693 /LCY Total job cost: \$1,317.00

HYDRAULIC EXCAVATOR WORK

Task description: Maintain riprap lining for basin inlets and outlets

Site: Bridalveil Pit Permit Action: Routine bond update Permit/Job#: M2001054

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 9/11/2012 County: Ouray Filename: M054-003
User: WHE

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 311D LRR 8'-6" Stick Horsepower: 80
Attachment 1: ROPS Cab Weight (MT): 12.74
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$17.58</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$25.70</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.67</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$81.96</u>	
Total Fleet Cost/Hour:	<u>\$81.96</u>	

MATERIAL QUANTITIES

Initial volume: 53 CCY Swell factor: 1.000
Loose volume: 53 LCY

Source of estimated volume: ((20'L x 12'W x 2'D) x 3) / 27 = 53.3 cy
Source of estimated swell factor: NA

HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: SEVERE
Secondary Job Condition within Basic Description: SEVERE
Cycle Time Value: 0.325 minutes

Load Bucket Capacity

Rated Capacity: 0.39 LCY (heaped) Bucket Size Class: Small
Bucket Fill Factor: 0.450 Rock - Poorly blasted (40% - 50%) 0.450
Adjusted Capacity: 0.18 LCY

Job Condition Correction Factors

Site Altitude: 7665 feet

Altitude Adj: 0.90 Source
Job Efficiency: 0.83 (CAT HB)
Net Correction: 0.75 (1 shift/day)
multiplier

Unadjusted Hourly Unit Production: 32.40 LCY/Hour
Adjusted Hourly Unit Production: 24.20 LCY/Hour
Adjusted Hourly Fleet Production: 24.20 LCY/Hour

JOB TIME AND COST

Fleet size: 1 Excavator Total job time: 2.20 Hours
Unit cost: \$3.386 /LCY Total job cost: \$180.00

BULLDOZER WORKTask description: Grade slopes and benchesSite: Bridalveil PitPermit Action: Routine bond updatePermit/Job#: M2001054PROJECT IDENTIFICATIONTask #: 004State: ColoradoAbbreviation: NoneDate: 9/11/2012County: OurayFilename: M054-004User: WHEAgency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$58.56	NA
Operating Cost/Hour:	\$102.81	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.49	NA

Total unit Cost/Hour: \$199.86Total Fleet Cost/Hour: \$199.86MATERIAL QUANTITIESInitial Volume: 4,840Swell factor: 1.000Loose volume: 4,840 LCYSource of estimated volume: (2ac)(43560sf/ac)(1.5'D) / 27 = 4840 cySource of estimated swell factor: Cat HandbookHOURLY PRODUCTIONAverage push distance: 50 feetUnadjusted hourly production: 1,400.0 LCY/hrMaterials consistency description: Dry, non-cohesive 0.8Average push gradient: 10 %Average site altitude: 7,665 feetMaterial weight: 3,300 lbs/LCYWeight description: Decomposed rock - 75% Rock, 25% EarthJob Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.800	(CAT HB)
Dozing method:	1.000	(GEN.)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.1910

Adjusted unit production: 267.40 LCY/hr
Adjusted fleet production: 267.4 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.747/LCY

Total job time: 18.10 Hours
Total job cost: \$3,617.46

BULLDOZER WORKTask description: Replace growth medium 0.5' depth over 2 acres areaSite: Bridalveil PitPermit Action: Routine bond updatePermit/Job#: M2001054**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 9/11/2012County: OurayFilename: M054-005User: WHEAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$58.56</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$102.81</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: \$199.86Total Fleet Cost/Hour: \$199.86**MATERIAL QUANTITIES**Initial Volume: 1,613Swell factor: 1.000Loose volume: 1,613 LCYSource of estimated volume: (2ac)(43560sf/ac)(0.5'D) / 27 = 1,613.33 cySource of estimated swell factor: NA**HOURLY PRODUCTION**Average push distance: 60 feetUnadjusted hourly production: 1,246.9 LCY/hrMaterials consistency description: Dry, non-cohesive 0.8Average push gradient: 10 %Average site altitude: 7,665 feetMaterial weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>0.800</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>

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:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2718

Adjusted unit production: 338.91 LCY/hr

Adjusted fleet production: 338.91 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.590/LCY

Total job time: 4.76 Hours

Total job cost: \$951.37

REVEGETATION WORKTask description: Revegetate 2 acres affected landSite: Bridalveil PitPermit Action: Routine bond updatePermit/Job#: M2001054PROJECT IDENTIFICATIONTask #: 006State: ColoradoAbbreviation: NoneDate: 9/11/2012County: OurayFilename: M054-006User: WHEAgency or organization name: DRMSFERTILIZINGMaterials

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
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alpine Bluegrass	0.54	12.40	\$8.10
White Dutch Clover - VNS	0.56	10.93	\$2.01
Sheep Fescue - Azay	0.64	9.99	\$1.74
Meadow Foxtail - Garrison	0.46	6.12	\$3.11
Red Top	0.12	13.75	\$0.72
Tufted Hairgrass	0.50	28.70	\$5.40
Totals Seed Mix	2.82	81.88	\$21.08

Application

Description	Cost /Acre
Broadcast seeding [DMG]	\$255.76
Total Seed Application Cost/Acre	\$255.76

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$15.90	\$15.90
Total Mulch Materials Cost/Acre				\$15.90

Application

Description	Cost /Acre
Weed spray, hand, non-aquatic area, nox. [DMG]	\$175.77
Total Mulch Application Cost/Acre	\$175.77

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: 2 Cost /Acre: \$468.51
 Estimated Failure Rate: 25% Cost /Acre*: \$468.51
 *Selected Replanting Work Items: SEEDING,MULCHING
 Initial Job Cost: \$937.02
 Reseeding Job Cost: \$234.26
 Total Job Cost: \$1,171.28
 Job Hours: 0.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: Haul reclamation equipment to and from job siteSite: Bridalveil PitPermit Action: Routine bond updatePermit/Job#: M2001054**PROJECT IDENTIFICATION**Task #: 007State: ColoradoAbbreviation: NoneDate: 9/11/2012County: OurayFilename: M054-007User: WHEAgency 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:**

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	47.71	\$58.56	\$117.55	1	\$176.11	\$117.55	\$250.00
Cat 311D LRR 8'- 6"Stick	14.01	\$17.58	\$88.67	1	\$106.25	\$88.67	\$250.00

Subtotals: **\$282.36** **\$206.22** **\$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, 3/4 T.	\$73.62	1	\$73.62	\$73.62

Subtotals: **\$73.62** **\$73.62**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>MONTROSE</u>	
Total one-way travel distance:	<u>35.00</u>	miles
Average Travel Speed:	<u>45.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$2,324.73</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$114.52</u>
** 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):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.56	1.56

JOB TIME AND COST

Total job time:	<u>5.11</u>	Hours
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Total job cost:	<u>\$2,439.25</u>
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