COST SUMMARY WORK

Task description: **Cost Summary**

Site: **Spor Pit** Permit Action: 2018 Update Permit/Job#: M1995038

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 4/2/2018 County: San Miguel Filename: M038-000
User: LJW

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Reduce Highwalls to 3:1	DOZER	1	15.08	$3,730.00
002	Rip Compaction on Pit Floor	RIPPER	1	2.78	$688.00
003	Spread Topsoil on all Graded Areas	DOZER	1	4.77	$1,149.00
004	Revegetate affected lands	REVEGE	1	16.00	$6,086.00
005	Haul reclamation equipment to and from site	MOBILIZE	1	4.20	$3,191.00
		SUBTOTALS:		**42.83**	**$14,844**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$299.85
Performance bond:	1.05	Total =	$155.86
Job superintendent:	21.41	Total =	$1,564.00
Profit:	10.00	Total =	$1,484.40
		TOTAL O & P =	$3,504.11
		CONTRACT AMOUNT (direct + O & P) =	$18,348.11

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	500.00	Total =	500.00
Engineering work and/or contract/bid preparation:	0.00	Total =	$0.00
Reclamation management and/or administration:	5.00		$917.41
CONTINGENCY:	0.00	Total =	$0.00
		TOTAL INDIRECT COST =	$4,921.52
		TOTAL BOND AMOUNT (direct + indirect) =	**$19,765.52**

BULLDOZER WORK

Task description: **Reduce Highwalls to 3:1**

Site: **Spor Pit** Permit Action: 2018 Update Permit/Job#: M1995038

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 4/2/2018 County: San Miguel Filename: M1995038
User: LJW

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$100.59	NA
Operating Cost/Hour:	$87.23	100
Ripper own. Cost/Hour:	$10.94	NA
Ripper op. Cost/Hour:	$6.82	100
Operator Cost/Hour:	$41.85	NA

Total unit Cost/Hour: $247.43
Total Fleet Cost/Hour: **$247.43**

MATERIAL QUANTITIES

Initial Volume: 6,277
Swell factor: 1.430
Loose volume: **8,976** 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: 2,110.5 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 5 %
Average site altitude: 7,350 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:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2821

Adjusted unit production: 595.37 LCY/hr

Adjusted fleet production: **595.37** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.416/LCY

Total job time: **15.08** Hours
Total job cost: **$3,730**

BULLDOZER RIPPING WORK

Task description: **Rip Compaction on Pit Floor**

Site: **Spor Pit** Permit Action: 2018 Update Permit/Job#: M1995038

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 4/2/2018 County: San Miguel Filename: M038-002
User: LJW

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:	$100.59	NA
Operating Cost/Hour:	$87.23	100
Ripper Ownership Cost/Hour:	$10.94	NA
Ripper Operating Cost/Hour:	$6.82	100
Operator Cost/Hour:	$41.85	NA
Total Unit Cost/Hour:	$247.43	
Total Fleet Cost/Hour:	**$247.43**	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 2.00 acres Rip Depth (ft): 1.50 Volume: 4,840 BCY or CCY

Source of estimated quantity: Inspection

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	2.63	mph
Average Ripping Width:	7.67	degrees
Average Ripping Length:	300.00	feet
Average Dozer Speed:	88.00	feet
Average Maneuver Time:	0.25	feet
Production per unit area:	0.866	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production:	0.866	Acres/hr
Site Altitude:	7,350	feet
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier
Adjusted Hourly Unit Production:	0.72	Acres/hr
Adjusted Hourly Fleet Production:	**0.72**	Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **2.78** Hours

Unit cost: $344.166 Per acre Total job cost: **$688**

BULLDOZER WORK

Task description: **Spread Topsoil on all Graded Areas**

Site: **Spor Pit** Permit Action: 2018 Update Permit/Job#: M1995038

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 4/2/2018 County: San Miguel Filename: M038-003
User: LJW

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$100.59	NA
Operating Cost/Hour:	$87.23	100
Ripper own. Cost/Hour:	$10.94	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$41.85	NA

Total unit Cost/Hour: $240.61
Total Fleet Cost/Hour: **$240.61**

MATERIAL QUANTITIES

Initial Volume: 3,226
Swell factor: 1.000
Loose volume: **3,226** LCY

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

HOURLY PRODUCTION

Average push distance: 75 feet
Unadjusted hourly production: 1,514.3 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 5 %
Average site altitude: 7,350 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

Job Condition Correction Factor Source

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	(SSD-AC)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4462

Adjusted unit production: 675.68 LCY/hr

Adjusted fleet production: **675.68** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.356/LCY

Total job time: **4.77** Hours
Total job cost: **$1,149**

REVEGETATION WORK

Task description: **Revegetate affected lands**

Site: **Spor Pit** Permit Action: 2018 Update Permit/Job#: M1995038

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 4/2/2018 County: San Miguel Filename: M038-004
User: LJW

Agency or organization name: DRMS

FERTILIZING

Materials

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
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	$106.29
Total Tilling Cost/Acre	**$106.29**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Native	3.75	12.14	$26.25
Streambank Wheatgrass - Sodar	3.30	10.76	$20.10
Western Wheatgrass - Native	4.80	12.12	$33.60
Totals Seed Mix	11.85	35.02	**$79.95**

Application

Description	Cost /Acre
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
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	$261.00	$522.00
Total Mulch Materials Cost/Acre				**$522.00**

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	$66.02
Power mulcher (MEANS 32 91 13.16 0350)	$99.32
Weed spray, hand, non-aquatic area, nox. [DMG]	$180.00
Total Mulch Application Cost/Acre	**$345.34**

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: 4
Estimated Failure Rate: 20%
*Selected Replanting Work Items: SEEDING,MULCHING

Cost /Acre: $1,285.58
Cost /Acre*: $1,179.29

Initial Job Cost: **$5,142.32**
Reseeding Job Cost: **$943.43**
Total Job Cost: **$6,086**
Job Hours: **16.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Haul reclamation equipment to and from site**

Site: **Spor Pit** Permit Action: 2018 Update Permit/Job#: M1995038

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 4/2/2018 County: San Miguel Filename: M038-005
User: LJW

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:	$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/uni t	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	66.13	$111.53	$125.45	1	$236.98	$125.45	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$12.22	$88.67	1	$100.89	$88.67	$250.00
Power Mulcher (Bowie LD-90)	6.00	$7.03	$88.67	1	$95.70	$88.67	$250.00
Subtotals:					**$433.57**	**$302.79**	**$750.00**

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.	$12.26	1	$12.26	$12.26
Subtotals:			**$12.26**	**$12.26**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	NATURITA	
Total one-way travel distance:	22.00	miles
Average Travel Speed:	40.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$3,177.14
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$13.49

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.55	0.55
Return Time (Hours):	0.55	0.55
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.10	1.10

JOB TIME AND COST

Total job time:	**4.20**	Hours
Total job cost:	**$3,191**	