COST SUMMARY WORK

Task description:		Reclaim the Her	nderson Mine				
Site:	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jol	o#: <u>M1977342</u>
<u>P</u>]	ROJECT	IDENTIFIC	CATION				
	Task #:	000	State:	Colorado		Abbreviation:	None
	Date:	12/17/2019	County:	Clear Creek		Filename:	M342-000
	User:	ZTT					
	Age	ency or organiz	zation name:	RMS			

TASK LIST (DIRECT COSTS)

Tarl		Form	Fleet	Task	
Task	Description	Used	Size	Hours	Cost
A01	Demo Mine Site	DEMOLISH	1	160.00	\$504,411
A02	Demo Mill Site	DEMOLISH	1	200.00	\$10,058,279
A03	Rip Mine Site Asphalt	RIPPER	1	22.91	\$5,640
A04	Rip Mill Site Asphalt	RIPPER	1	50.40	\$12,409
B01	Hydroseed Vent Shaft	REVEGE	1	0.50	\$2,419
B02	Maintenance	REVEGE	1	0.50	\$70
C01	Backfill and Grade Pond 1	TRUCK1	1	22.29	\$14,494
C02	Backfill and Grade Pond 1.1	TRUCK1	1	7.93	\$5,157
C03	Backfill and Grade Pond 1.2	TRUCK1	1	27.86	\$18,113
C04	Haul and Spread Cap on Pond 1.2	TRUCK1	1	12.42	\$8,071
C05	Rip Roads at Mine	RIPPER	1	38.18	\$9,400
C06	Finish Grade Mine Site	GRADER	1	72.75	\$7,010
C07	Mix Sludge and Chips	DOZER	1	497.10	\$113,022
C08	Drill Seed Mine Site	REVEGE	1	30.00	\$53,229
C09	Hydroseed Mine Site	REVEGE	1	22.00	\$106,414
C10	Shrub/Tree Plant Mine Site	REVEGE	1	50.00	\$41,500
C11	Maintenance Fertilization	REVEGE	1	50.00	\$6,965
C12	Clear Creek Culvert Removal	DEMOLISH	1	8.00	\$73,467
C13	Excavate Clear Creek Channel	TRUCK1	1	488.05	\$284,888
C14	Place Hazard Signs at Glory Hole	SITEMAINT	1	1.00	\$36
		ENANCE			
C15	Plug Vent Shafts #1, 3, and 4	MINESEAL	1	120.00	\$450,000
D01	Rip Portal Area	DOZER	1	598.98	\$142,429
D02	Backfill and Regrade Portal Area	DOZER	1	83.48	\$18,981
D03	Reestablish Williams Fork Drainage	GRADER	1	941.40	\$90,704
D04	Drill Seed Portal Area	REVEGE	1	10.50	\$18,630
D05	Shrub/Tree Plant Portal Area	REVEGE	1	10.50	\$8,715
D06	Maintenance Fertilization	REVEGE	1	12.50	\$1,741
E01	Surface Railroad	DOZER	1	662.48	\$150,623
E02	Reestablish Williams Fork Drainage	GRADER	1	66.93	\$6,449
E03	Seed Mix - Drill Seeding	REVEGE	1	18.00	\$31,937
E04	Shrub/Tree Plant Conveyor Access Road	REVEGE	1	18.00	\$14,940
E05	Maintenance Fertilization	REVEGE	1	12.50	\$1,741
F01	Backfill and Grade Mill Site	DOZER	1	1,250.91	\$284,409
F02	Reclaim Mill Access Road	DOZER	1	230.46	\$52,397
F03	Drill Seed Mill Yard and Access Road	REVEGE	1	61.50	\$109,119
F04	Shrub/Tree Plant Mill Yard and Access Road	REVEGE	1	61.50	\$51,045
F05	Maintenance Fertilization	REVEGE	1	61.50	\$8,567
G01	Excavate/Haul Sediment from EB Reservoir	TRUCK1	1	54.28	\$22,949

2	Drill Seed Foot Print and Access Roads to UB HS UC Reservoir	REVEGE	1	2.00	\$3,637
3	Shrub/Tree Plant EB HS UC Res. and Access Roads	REVEGE	1	2.00	\$1,701
4	Maintenance Fertilization	REVEGE	1	2.50	\$348
1	Cover Soil - Bone Yard to Dams	TRUCK1	1	11,513.70	\$11,832,973
2	Spread Cover on Dams and Dry Beach	DOZER	1	6,353.44	\$1,444,532
3	Cover Soil - $N + E$ Stockpiles to Pond and Dry	TRUCK1	1	4,953.24	\$5,090,593
	Beach			,	
4	Spread Cover on Pond, Wet Beach	DOZER	1	6,155.41	\$1,399,507
5	Haul Rock Armor from West Portal	TRUCK1	1	1,469.66	\$1,510,412
6	Spread Rock Armor	DOZER	1	2,256.00	\$512,928
7	Finish Grade Soil Borrow Area	GRADER	1	145.50	\$14,019
3	Grade Ultimate Canal	DOZER	1	385.78	\$87,712
)	Rip Haul Roads	DOZER	1	514.48	\$122,337
	Hydroseed TDA	REVEGE	1	637.00	\$3,081,179
	Hydroseed Spillway	REVEGE	1	17.00	\$82,229
	Shrub/Tree Planting	REVEGE	1	1.00	\$830
	Reshape and Fill Buttress 1 and 2	DOZER	1	1,038.15	\$278,813
	Wet Beach Cover Support	SITEMAINT	1	100.00	\$11,148,940
		ENANCE			
	TDA Diversion	POSTMININ	1	7,887.98	\$2,864,223
		G			
	Spillway to Ranger Gulch	DOZER	1	12,931.86	\$3,473,073
	Armor Spillway to Ranger Gulch	SITEMAINT ENANCE	1	2,699.00	\$1,230,848
	Haul Sacrificial Fill in Former Pond	TRUCK1	1	2,284.86	\$2,348,220
	Spillway Inlet, Barge Relocation, Embankment	SITEMAINT	1	320.00	\$5,615,000
	Cover and Bench	ENANCE	1	520.00	\$5,015,000
	Gravel Pit Regrade	DOZER	1	431.68	\$98,148
	Topsoil to Gravel Pit	TRUCK1	1	49.99	\$32,498
	Drill Seed Gravel Pit	REVEGE	1	17.50	\$31,050
	Shrub/Tree Plant Gravel Pit	REVEGE	1	17.50	\$14,525
	Maintenance Fertilization Gravel Pit	REVEGE	1	20.00	\$2,786
	Regrade Rectifier 6 Laydown Yard	DOZER	1	205.56	\$46,736
	Drill Seed Rectifier 6 Laydown Yard	REVEGE	1	2.50	\$4,436
	Shrub/Tree Planting Rectifier 6 Laydown Yard	REVEGE	1	2.50	\$2,075
	Maintenance Fertilization Rectifier 6 Laydown	REVEGE	1	2.50	\$348
	Yard	KE V EGE	1	2.30	\$ 5 +0
	Regrade Willians Form Pumphouse	DOZER	1	33.30	\$7,570
	Drill Seed Williams Fork Pump House	REVEGE	1	0.50	\$887
	Maintenance Fertilization Williams Fork Pump House	REVEGE	1	4.00	\$557
	Regrade Tailings Line and Power Lines	DOZER	1	422.73	\$96,112
	Drill Seed Tailings and Power Line	REVEGE	1	5.00	\$8,871
	Shrub/Tree Planting Talings and Power Line	REVEGE	1	5.00	\$4,150
	Maintenance Fertilization Talings and Power Line	REVEGE	1	24.50	\$3,413
	Regrade Pond Shop and Road Area	DOZER	1	394.54	\$89,705
	Drill Seed Talings Facility Area	REVEGE	1	7.00	\$12,420
	Shrub/Tree Plant Talings Facility Area	REVEGE	1	7.00	\$5,810
	Maintenance Fertilization Talings Facility Area	REVEGE	1	7.00	\$975
		DOZER	1	140.67	\$31,982
	Regrade Mill Water Return Pipe Line	DULLIN			
	Regrade Mill Water Return Pipe Line Rip Mill Water Return Pipe Line Access Road		1	241.91	\$57.522
	Rip Mill Water Return Pipe Line Access Road	DOZER	4.	241.91 8.50	\$57,522 \$15.081
			1 1 1 1	241.91 8.50 8.50	\$57,522 \$15,081 \$7,055

O01	Rip Topsoil Roads and Area	DOZER	1	1,209.51	\$287,607
O02	Drill Seed Topsoil Roads and Area	REVEGE	1	25.00	\$44,357
O03	Shrub/Tree Plant Topsoil Roads and Area	REVEGE	1	25.00	\$20,750
O04	Maintenance Fertilization Topsoil Roads and Area	REVEGE] 1	25.00	\$3,483
P01	Cover Soil - Bone Yard to Dams	TRUCK1] 1	2.36	\$905
P02	Hydroseed PC3 Conveyor Area	REVEGE] 1	26.50	\$128,181
P03	Shrub/Tree Plant PC3 Conveyor Area	REVEGE] 1	31.00	\$25,730
Q01	Water Treatment Capex O&M (10 yr)	NA] 1	0.00	\$76,215,765
R01	Mobilization Year 1	MOBILIZE] 1	24.30	\$225,348
R02	Mobilization Year 2	MOBILIZE] 1	24.30	\$225,348
R03	Mobilization Year 3	MOBILIZE	1	24.30	\$225,348
		<u>SUBTO</u>	TALS:	71200.52	\$142,914,117

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$2,886,865
Performance bond:	1.05	Total =	\$1,500,598
Job superintendent:	35,600.26	Total =	\$2,470,302
Profit:	10.00	Total =	\$14,291,412
		TOTAL O & P =	\$21,149,177
		CONTRACT AMOUNT (direct + O & P) = $($	\$164,063,294

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): Engineering work and/or contract/bid preparation: Reclamation management and/or administration:	\$500 2.00 1.91	Total = Total =	\$500 \$3,281,266 \$3,133,609
CONTINGENCY:	0.00	Total =	\$0
	TOTA	L INDIRECT COST =	\$27,564,552
TOTAL BO	ND AMOUN	T (direct + indirect) =	\$170,478,669

DEMOLITION WORK

Task desc	cription:	Demo Mine S	lite				
Henderso	on Mine	Pe	ermit Action:	2019 RCE	P	ermit/Job#:	M1977342
PROJEC	T IDENTIFI	CATION					
Task #:	A01	State:	Colorado		Abbreviation:	None	
Date: User:	12/18/2019 ZTT	County:	Clear Creek	ζ	Filename:	M342-A01	
	Henderse PROJEC Task #: Date:	Task A01 #: Date: 12/18/2019	Henderson Mine Pe PROJECT IDENTIFICATION Task Task A01 State: #:	Henderson Mine Permit Action: PROJECT IDENTIFICATION Providential of the second se	Henderson Mine Permit Action: 2019 RCE PROJECT IDENTIFICATION Task A01 State: Colorado #:	Henderson Mine Permit Action: 2019 RCE P PROJECT IDENTIFICATION Task A01 State: Colorado Abbreviation: #:	Henderson Mine Permit Action: 2019 RCE Permit/Job#: PROJECT IDENTIFICATION Task A01 State: Colorado Abbreviation: None #:

<u>UNIT COSTS</u> 90.00 %

Location adjustment:

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Compressor Buildings	160,835 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	160,835.00	CF	\$0.35	\$56,292.25
- Floor Demo	8,465 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	8,465.00	SF	\$1.21	\$10,235.03
Plant Services Buildings	59,625 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	59,625.00	CF	\$0.35	\$20,868.75
- Floor Demo	3,975 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	3,975.00	SF	\$1.21	\$4,806.17
#1-Shaft	500,526 cf	Demo. only, large urban projects (multi-story bldgs.) - Steel structures	500,526.00	CF	\$0.19	\$94,599.41
- Floor Demo	5,382 sf	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 50 ft. push	5,382.00	SF	\$1.15	\$6,210.83
#1-Shaft Hoist House	290,070 cf	Bldg. (MN) demo./off-site disposal in approved landfill - Max. 15 mile haul	290,070.00	CF	\$0.37	\$107,848.03
- Floor Demo	9,669	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	9,669.00	SF	\$1.21	\$11,690.79
#3-Shaft	500,526 cf	Demo. only, large urban projects	500,526.00	CF	\$0.19	\$94,599.41

		(multi-story bldgs.) - Steel structures				
- Floor Demo	5,382 sf	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 50 ft. push	5,382.00	SF	\$1.15	\$6,210.83
#3-Shaft Heater Building	217,440 cf	Bldg. (MN) demo./off-site disposal in approved landfill - Max. 15 mile haul	217,440.00	CF	\$0.37	\$80,844.19
- Floor Demo	7,248 sf	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 50 ft. push	7,248.00	SF	\$1.15	\$8,364.19
Aggregate Stacking Building	27,825 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	27,825.00	CF	\$0.35	\$9,738.75
- Floor Demo	1,855 sf	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 50 ft. push	1,855.00	SF	\$1.15	\$2,140.67
Building Adjacent Stacking Building	2,600 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	2,600.00	CF	\$0.35	\$910.00
- Floor Demo	200 sf	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 50 ft. push	200.00	SF	\$1.15	\$230.80
Batch Plant	21,870 cf	Plant (1S) demo./off-site disposal in approved landfill - Max. 15 mile haul	21,870.00	CF	\$0.64	\$14,066.78
- Floor Demo	1,458 sf	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 50 ft. push	1,458.00	SF	\$1.15	\$1,682.53
Bulk Oil Storage Building	18,000 cf	Bldg. (MN) demo./off-site disposal in approved landfill - Max. 15 mile haul	18,000.00	CF	\$0.37	\$6,692.40
- Floor Demo	1,200 sf	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 50 ft. push	1,200.00	SF	\$1.15	\$1,384.80
Building Adjacent to Used Oil Tank	1,260 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	1,260.00	CF	\$0.35	\$441.00
- Floor Demo	126 sf	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 50 ft. push	126.00	SF	\$1.15	\$145.40

Fan	38,064 cf	Bldg. (MN)	38,064.00	CF	\$0.37	\$14,152.20
Control/Switch		demo./off-site				
Gear Building		disposal in approved				
		landfill - Max. 15				
		mile haul				
- Floor Demo	2,928 sf	Demo. and on-site	2,928.00	SF	\$1.15	\$3,378.91
		disposal in existing				
		pit, 8 in. thick -				
		Max. 50 ft. push				
Propane Building	6,280 cf	Bldg. (SN)	6,280.00	CF	\$0.35	\$2,198.00
		demo./off-site				
		disposal in approved				
		landfill - Max. 15				
		mile haul				
- Floor Demo	628 sf	Demo. and on-site	628.00	SF	\$1.15	\$724.71
		disposal in existing				
		pit, 8 in. thick -				
		Max. 50 ft. push				

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	160.00	(unadjusted):	\$560,456.83	location):	\$504,411.15

DEMOLITION WORK

Task descr te: Henderson		Demo Mill Sit	rmit Action: 2019 RCI	E P	ermit/Job#: <u>M1977342</u>
PROJECT	<u>IDENTIFI</u>	CATION			
Task #:	A02	State:	Colorado	Abbreviation:	None
Date:	12/18/2019	County:	Clear Creek	Filename:	M342-A02

<u>UNIT COSTS</u> 90.00 %

Location adjustment:

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
PC2/PC3 Transfer Building	899,640 cf	Bldg. (MN) demo./off-site disposal in approved landfill - Max. 15 mile haul	899,640.00	CF	\$0.37	\$334,486.15
- Floor Demo	82,840 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	42,840.00	SF	\$1.21	\$51,797.84
PC3/SC1 Transfer Building	463,382 cf	Bldg. (MN) demo./off-site disposal in approved landfill - Max. 15 mile haul	463,382.00	CF	\$0.37	\$172,285.43
- Floor Demo	16,953 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	16,953.00	SF	\$1.21	\$20,497.87
Conveyor Maintenance Shop	1,483,488 cf	Bldg. (MN) demo./off-site disposal in approved landfill - Max. 15 mile haul	1,483,488.00	CF	\$0.37	\$551,560.84
- Floor Demo	43,632 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	43,632.00	SF	\$1.21	\$52,755.45

Tailing &Transportation Shop	115,900 cf	Bldg. (MN) demo./off-site disposal in approved landfill - Max. 15 mile haul	115,900.00	CF	\$0.37	\$43,091.62
- Floor Demo	6,100 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	6,100.00	SF	\$1.21	\$7,375.51
Mill Building	9,532,900	Plant (3S) demo./off-site disposal in approved landfill - Max. 15 mile haul	9,532,900.00	CF	\$0.64	\$6,083,896.78
- Floor Demo	242,640 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	242,640.00	SF	\$1.21	\$293,376.02
Ore Storage & Conv. Terminus	541,600 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	541,600.00	CF	\$0.35	\$189,560.00
- Floor Demo	30,910 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	30,910.00	SF	\$1.21	\$37,373.28
- Footer Demo	640 lf	Demo. and on-site disposal in excavated pit, 1.0 ft. x 2 ft Max. 200 ft. push	640.00	LF	\$3.74	\$2,390.72
Concentrate Thickener	345,576 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	345,576.00	CF	\$0.35	\$120,951.60
- Floor Demo	31,416 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	30,910.00	SF	\$1.21	\$37,373.28

Mobile Equipment	220,128 cf	Bldg. (MN)	220,128.00	CF	\$0.37	\$81,843.59
Shop		demo./off-site disposal in approved landfill - Max. 15 mile haul				
- Floor Demo	6,879 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	6,879.00	SF	\$1.21	\$8,317.40
Nokes Storage Building	163,494 cf	Bldg. (MN) demo./off-site disposal in approved landfill - Max. 15 mile haul	163,494.00	CF	\$0.37	\$60,787.07
- Floor Demo	5,274 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	5,274.00	SF	\$1.21	\$6,376.79
Hazard Waste/Flammable Building	24,922 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	24,922.00	CF	\$0.35	\$8,722.70
- Floor Demo	1,466 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	1,466.00	SF	\$1.21	\$1,772.54
Bulk Storage Whse	95,200 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	95,200.00	CF	\$0.35	\$33,320.00
- Floor Demo	5,600 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	5,600.00	SF	\$1.21	\$6,770.96
Truck Scale Building	28,158 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	28,158.00	CF	\$0.35	\$9,855.30
- Floor Demo	1,482 sf	Demo. and on-site	1,482.00	SF	\$1.21	\$1,791.89

		disposal in excavated pit, 8 in. thick - Max. 50 ft. push				
Electric Switch Gear Building	24,480 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	24,480.00	CF	\$0.35	\$8,568.00
- Floor Demo	1,530 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	1,530.00	SF	\$1.21	\$1,849.92
Sewage Treatment Building	500 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	500.00	CF	\$0.35	\$175.00
- Floor Demo	500 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	500.00	SF	\$1.21	\$604.55
Potable WaterTanks	214,560 cf	Bldg. (MN) demo./off-site disposal in approved landfill - Max. 15 mile haul	214,560.00	CF	\$0.37	\$79,773.41
- Floor Demo	6,705 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	6,705.00	SF	\$1.21	\$8,107.02
Topsoil Shop	187,200 cf	Bldg. (MN) demo./off-site disposal in approved landfill - Max. 15 mile haul	187,200.00	CF	\$0.37	\$69,600.96
- Floor Demo	380 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	380.00	SF	\$1.21	\$459.46
Tailings Operations/Maintenance Shop	66,400 cf	Bldg. (SN) demo./off-site disposal in	66,400.00	CF	\$0.35	\$23,240.00

- Floor Demo Ute Park Pump Station	3,320 sf 81,216 cf	approved landfill - Max. 15 mile haul Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push Bldg. (SN)	3,320.00	SF	\$1.21	\$4,014.21
		demo./off-site disposal in approved landfill - Max. 15 mile haul				
- Floor Demo	5,076 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	5,076.00	SF	\$1.21	\$6,137.39
East Branch Pump Station	83,754 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	83,754.00	CF	\$0.35	\$29,313.90
- Floor Demo	4,653 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	4,653.00	SF	\$1.21	\$5,625.94
West Portal Building	25,752 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	25,752.00	CF	\$0.35	\$9,013.20
- Floor Demo	1,133 sf	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 50 ft. push	1,133.00	SF	\$1.21	\$1,369.91
Rectifier Station 5	75,4112 cf	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	75,411.00	CF	\$0.35	\$26,393.85
- Floor Demo	3,969 sf	Demo. and on-site disposal in excavated pit, 8 in. thick -	3,969.00	SF	\$1.21	\$4,798.92

		Max. 50 ft.				
Grave Pit Spur Power Line	3 @ 200' spacing	push Disposal of utility pole and hardware surplus material	600.00	LF	\$0.02	\$12.00
- Power Poles	3	Utility Poles, Wood 35' - 45' high (each pole)	3.00	EA	\$265.00	\$795.00
- Cross Arm	3	Utility Pole Cross Arm	3.00	EA	\$96.00	\$288.00
Pond Shop Spur Power Line	11 @ 200' spacing	Disposal of utility pole and hardware surplus material	2,200.00	LF	\$0.02	\$44.00
- Power Poles	11	Utility Poles, Wood 35' - 45' high (each pole)	11.00	EA	\$265.00	\$2,915.00
- Cross Arm	11	Utility Pole Cross Arm	11.00	EA	\$96.00	\$1,056.00
Pond Shop Spur Power Line	67 @ 200' spacing	Disposal of utility pole and hardware surplus material	13,400.00	LF	\$0.02	\$268.00
- Power Poles	67	Utility Poles, Wood 35' - 45' high (each pole)	67.00	EA	\$265.00	\$17,755.00
- Cross Arm	67	Utility Pole Cross Arm	67.00	EA	\$96.00	\$6,432.00
Williams Fork Bridge Removal	1,600 sf	Bridge Demolition - Steel	1,600.00	SF	\$9.12	\$14,592.00
S. Branch Williams Fork Bridge	1,600 sf	Bridge Demolition - Steel	1,600.00	SF	\$9.12	\$14,592.00
Tailings Distribution System	18,300 lf	Pipe, reinforced concrete (RCP) - 36 in. diameter pipe	18,300.00	LF	\$34.19	\$625,680.66
Overland Conveyor	431,060 sf @ 8' H	Conveyor, demolition, off-site disposal in approved landfill, 15 mile haul	3,448,480.00	CF	\$0.57	\$1,965,633.60

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	200.00	(unadjusted):	\$11,175,865.13	location):	\$10,058,278.62

BULLDOZER RIPPING WORK

Task description:	Rip Mine Site Asphalt				
Site: Henderson Mi	ne Permit Actio	on: 2019 RCE	I	Permit/Job#:	M1977342
PROJECT IDEN	NTIFICATION				
Task #: _ A03		0	Abbre	viation: No	ne
	18/2019 County: Clear County:	reek	Fil	ename: M3	342-A03
User: ZTT					
Agency o	r organization name: DRMS				
HOURLY EQU	IPMENT COST				
Basic M	Iachine: Cat D8T - 8SU		Horsepower:	310	
Ripper Atta	chment: 3-Shank Ripper		Shift Basis:	1 per da	
			Data Source:	(CRG))
Cost Breakdown:		1			
	Ownership Cost/Hour:	\$103.86	Utilization % NA		
	Operating Cost/Hour:	\$82.26	100		
	Ownership Cost/Hour:	\$10.43	NA		
Rippe	r Operating Cost/Hour:	\$8.38	100		
	Operator Cost/Hour:	\$41.24	NA		
	Total Unit Cost/Hour:	\$246.17			
	Total Fleet Cost/Hour: \$2	246.17			
MATERIAL QU	JANTITIES Se	elected estimating	method: Area		
Alternate Methods:		sected estimating			
		NT 4	D CU		* 4
mic: <u>NA</u> area: 15.00	Bank Volum acres Rip Depth (ft	-	BCY Volume:	N 24,200	A BCY or C
		·		24,200	DC1 01 C
	Source of estimated quantity:2019	Henderson RCE	@ 72,600 sq yd		
HOURLY PRO	DUCTION				
Seismic:					
	Seismic Velocity:	NA	feet/seco	nd	
Area:					
	Average Ripping Depth:	1.00	feet/pass		
	Average Ripping Width:	7.08	feet/pass		
	Average Ripping Length:	250.00 88.00	feet/pass feet/minu	ito	
	Average Dozer Speed: Average Maneuver Time:	0.25	ninutes/		
	Production per unit area:	0.789	acres/hou		
Job Condition Corr	·				
	justed Hourly Unit Production:	0.789	Acres/hr		
Chuc					
	Site Altitude: Altitude Adj:	10,000	feet (CAT HI	3)	
	Job Efficiency:	0.83	(1 shift/d		
	Net Correction:	0.83	(1 shift/d multiplie	-	
	Adjusted Hourly Unit Production		Acres/hr		
	Adjusted Hourly Fleet Production		Acres/hr		
JOB TIME ANI) COST		—		
		Tradeal is had		01	Harris
Fleet size:	1 Grader(s)	Total job time	e: 22	.91	Hours

Unit cost: \$376.016 Per acre Total job cost: \$5,640	
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BULLDOZER RIPPING WORK

Task description:	Rip Mill Site Asphalt				
Site: Henderson Mi	ne Permit Actio	on: 2019 RCE	P	ermit/Job#: M1977	7342
PROJECT IDEN	NTIFICATION				
Task #: _ A04		lo	Abbrev		
	18/2019 County: Clear C	reek	File	ename: M342-A04	1
User: ZT					
Agency o	r organization name: DRMS				
HOURLY EQU	IPMENT COST				
Basic M	Iachine: Cat D8T - 8SU		Horsepower:	310	
Ripper Atta	chment: <u>3-Shank Ripper</u>		Shift Basis:	1 per day	
			Data Source:	(CRG)	
Cost Breakdown:		1			
	Ownership Cost/Hour:	\$103.86	Utilization % NA		
	Operating Cost/Hour:	\$82.26	100		
	Ownership Cost/Hour:	\$10.43	NA		
Rippe	r Operating Cost/Hour:	\$8.38	100		
	Operator Cost/Hour:	\$41.24	NA		
	Total Unit Cost/Hour:	\$246.17			
	Total Fleet Cost/Hour: \$2	246.17			
MATERIAL QU	JANTITIES Se	elected estimating	method: Area		
Alternate Methods:		cleeted estimating			
			D CIV		
mic: <u>NA</u> rea: <u>33.00</u>	Bank Volum acres Rip Depth (fi		BCY Volume:	NA 53,240	BCY or C
				55,240	
:	Source of estimated quantity:2019	Henderson RCE	@ 159,976 sq yd		
HOURLY PRO	DUCTION				
Seismic:					
	Seismic Velocity:	NA	feet/secon	ıd	
Area:					
	Average Ripping Depth:	1.00	feet/pass		
	Average Ripping Width:	7.08	feet/pass		
	Average Ripping Length:	250.00	feet/pass	ta	
	Average Dozer Speed: Average Maneuver Time:	<u>88.00</u> 0.25	feet/minut minutes/p		
	Production per unit area:	0.23	acres/hour		
Job Condition Corr					
	ljusted Hourly Unit Production:	0.789	Acres/hr		
Unac					
	Site Altitude:	10,000	feet	`	
	Altitude Adj: Job Efficiency:	<u>1.00</u> 0.83	(CAT HB) (1 shift/da		
	Net Correction:	0.83	(1 sint/da multiplier	-	
			Acres/hr		
	Adjusted Hourly Unit Production Adjusted Hourly Fleet Production		Acres/hr		
JOB TIME ANI					
				41 **	
Fleet size:	1 Grader(s)	Total job time	e: 50.	41 Hour	rs

Unit cost:	\$376.016	Per acre	Total job cost:	\$12,409
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REVEGETATION WORK

Т	ask descrip	otion:	Hydroseed Vent	Shaft			
Site:	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jol	b#: M1977342
<u>P</u>]		IDENTIFIC	<u>CATION</u>				
	Task #:	B01	State:	Colorado		Abbreviation:	None
	Date:	12/19/2019	County:	Clear Creek		Filename:	M342-B01
	User:	ZTT					
	Age	ency or organi	zation name: DF	RMS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
			Total Fertilizer Materials Cost/Acre	\$26.50

Application

Description	Cost /Acre
NA-fertilizer application incl. with hydroseeding	\$0.00
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	0.22	5.05	\$3.14
Arizona Fescue - Redondo	0.90	10.33	\$8.33
Mountain Brome - Bromar	3.40	5.46	\$12.92
Kentucky Bluegrass - Lato	0.18	8.88	\$0.60
Rocky Mountain Fescue	0.34	5.46	\$2.47
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	3.48	2.04	\$243.51
Slender Wheatgrass - Native	1.36	4.96	\$6.29
Vetch, American	2.66	1.20	\$265.80
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.90	5.97	\$14.85
Timothy, Alpine - Native	0.50	14.92	\$12.13
Tufted Hairgrass	0.34	19.51	\$3.75

Penstemon, Rocky Mountain	0.54	8.46	\$15.93
Yarrow, Western	0.10	6.08	\$4.18
Totals Seed Mix	15.12	101.51	\$603.76

Application

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$947.43
Total Seed Application Cost/Acre	\$947.43

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hydromulch tackifier, >15 ac. {Materials Only}	1.00	ACRE	\$453.02	\$453.02
Total Mulch Materials Cost/Acre				\$453.02

Application

Description		Cost /Acre
NA-mulch application incl. with hydroseeding	9	\$0.00
Total Mu	Ilch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals	Nursery Stoc	k Cost / Acre	\$0.00

JOB TIME AND COST

No. of Acres:	1	Cost /Acre:	\$2,030.71
Estimated Failure Rate:	25%	Cost /Acre*:	\$1,551.19
*Selected Replanting Work Items:	SEEDING		
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$2,030.71
Reseeding Job Cost:	\$387.80
Total Job Cost:	\$2,419
Job Hours:	0.50

REVEGETATION WORK

e: Henders	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PROJECT	IDENTIFIC	CATION				
Task #:	B02	State:	Colorado		Abbreviation:	None
Date:	12/19/2019	County:	Clear Creel	ζ.	Filename:	M342-B02
User:	ZTT					

FERTILIZING

Materials

 uter runs				
Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33 50
			Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling Cos	st/Acre \$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

	\$
cation Cost/Acre	\$0.00
i	cation Cost/Acre

MULCHING and MISCELLANEOUS

Materials

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

Application

Description		Cost /Acre
		\$
	Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 2	Nursery Stoc	ek Cost / Acre	\$0.00

JOB TIME AND COST

	No. of Acres:	1	Cost /Acre	: \$69.65	
Estimate	ed Failure Rate:	0%	Cost /Acre*	: \$69.65	
*Selected Replanti	ng Work Items:	FERTILIZING			
Initial Job Cost:	\$69.65				
Reseeding Job Cost:	\$0.00				
Total Job Cost:	\$70				
Job Hours:	0.50				

TRUCK/LOADER TEAM WORK

Task description:	Backfill	and Grade Pon	d 1				
Site: Henderson M	ine	Permit Act	tion: 2019 RCE	/	Permit/Job	#: <u>M1977342</u>	
PROJECT IDE	NTIFICATION						
Task #: C0	1	State: Colora	ado	Abb	previation:	None	
		County: Clear	Creek		Filename:	M342-C01	
User: <u>ZT</u>	Т						
Agency	or organization nam	ne: DRMS					
HOURLY EQU	IPMENT COST	-		Shift ba	sis: <u>1 per day</u>	<u>.</u>	
]	Equipment Descr	iption			
Truck Loader Team -Truck: Cat 740							
-Loader: CAT 938H							
Support Equipment -Load Area: NA							
Dead	-Du Maintenance –Moto		D8T - 8SU				
Koau r		ter Truck: NA					
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
Cost Breakdown:	Truck/Loa	der Team	Support	Equipment	Main	tenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck	
%Utilization-machine:	100	100	NA	100	N	IA NA	
Ownership cost/hour:	\$68.27	\$26.49	NA	\$103.86	N	IA NA	
Operating cost/hour:	\$59.78	\$33.66	NA	\$82.26	N	IA NA	
%Utilization-riper:		0	NA	NA	N	IA NA	
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	N	IA NA	
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	N	IA NA	
Operator cost/hour:	\$32.93	\$40.65	NA	\$41.24	N	IA NA	
Unit Subtotals:	\$160.98	\$100.79	NA	\$227.36	N	IA NA	
Number of Units:	2	1	0	1		0 0	
Group Subtotals:	Work:	\$422.75	Support:	\$227.36	Maiı	nt: \$0.00	

Total work team cost/hour: \$650.11

MATERIAL QUANTITIES

Initial volume:	7,650	CCY	Swell factor:	1.250	
Loose volume:	9,563	LCY			
Sourc	e of estimated volume:	Division o	f Reclamation, Min	ing & Safety	
Source of	estimated swell factor:	Cat Handb	ook		
Ν	Material Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

HOURLY PRODUCTION

Truck Capacity:						
Truck Payload (weight) Bas						
Material weight:	2,550	1	Pounds/LCY			
Description: Rated Payload:	Earth - Dry pa 87,000		Pounds			
Payload Capacity:	34.12		LCY			
Tayload Capacity.	.12		Lei			
Truck Bed (volume) Basis:						
Struck Volume:	24.20	LCY				
Heaped Volume:	31.40	LCY				
Average Volume:	27.80	LCY				
Adjusted Volume:	31.40	LCY				
Final	Truck Volume	Based on Num	ber of Loader Passe	es:	30.03	LCY
Loading Tool Capacity						
Poted Conscitut	2 000	I CV (h-		ucket Size	Class: NA	A
Rated Capacity: Bucket Fill Factor:	3.900 1.100	LCY (he		(100-120%)) 1 100	
Adjusted Capacity:	4.290	LCY	ock/ulit illixtures	(100-120%)) 1.100	
Tajastea Sapartoji						
Job Condition Corrections	<u>s:</u>		Site Altitude (f	t.): <u>10000</u> f	eet	
	Truck	Loade	r Soui	rce		
Altitude Adj:	0.820	1.000				
Job Efficiency:	0.830	0.830	(CAT	HB)		
Net Correction:	0.681	0.830				
Loading Tool Cycle Time	: 1	Number of Loa	ding Tool Passes R	equired to I	Fill	7 passes
Excavators and Front Shove	_		6	Tru		7
Machine Cycle Time		n Rating: N	A			
2	within this Basi	· ·			_	
Track Loaders -	- Material Descr	iption:				
Cycle Time Elements (min.)):					
Load: NA	M	laneuver: N	Α	Dum	p: 0.100	
Wheel and Trac	ck Loaders - Una	adjusted Basic	Loader Cycle Time	(load, dum maneuve		483 minutes
Cycle Time Factors	3			Facto	or (min.)	Source
Material		rial 0.02		0	.020	(Cat HB)
Stockpile				0	.020	(Cat HB)
Truck Ownership:	Common ow 0.04	nership of true	cks and loaders -	-().040	(Cat HB)
Operation		eration -0.04		-().040	(Cat HB)
Dump Target:			applicable 0.00	0	.000	(Cat HB)
			le Time Adjustmen).040	minutes
			Loader Cycle Time		.443	minutes
		Net L	oad Time per Truck	. 2	.755	minutes

	Truc	ck Excha	ange Time:	0.60	Minutes	Adju	sted for site al	titude:	0.732	Minutes
		Truck I	Load Time:	2.755	Minutes	Adju	sted for site al	titude:	2.755	Minutes
	Truck M	aneuver	and Dump Time:	1.00	Minutes	Adju	sted for site al	titude:	1.220	Minutes
	Truck Trav maintained Haul Route Seg #	<u>2.0</u> :	& Return) T	ime: Grade (%)	Road Condit	ion: <u>Hard, smoo</u>	th, stabilized, s	surfaced, wa	tered,	
	50g #	(Ft)	listance		(%)	(%)	(fpm)	Time (min)		
	1	2000.0	00	1.00	2.00	3.00	3005	1.458		
						Haul Time:	1.458	minu	ites	
	Return Rou Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	٦	
	5Cg #	(Ft)	rstance	Grade (70)	(%)	(%)	(fpm)	Time (min)		
	1	2000.0	00	-1.00	2.00	1.00	3706	0.744		
						Return Time:	0.744	min	utes	
					Total Tru	uck Cycle Time:	6.908	min	utes	
	oading Too Produ	ction _	516.76	LCY/Hour		Adjusted for jo	ob efficiency:	428.91	LCY	/Hour
Truck	Unit Produ	ction _	260.82	LCY/Hour		Adjusted for jo	ob efficiency:	216.48	LCY	//Hour
Optim	al No. of Tr	ucks:	2	Truck(s)		Selected Numb	er of Trucks:	2	Truc	k(s)
				Adjusted single	e truck/loade	k team productio r team productio r team productio	on: 428.	91 LC	CY/Hour CY/Hour CY/Hour	
	JOB TIM	ΈΔΝΓ		- •		-				
			1	$\mathbf{T}_{aam}(\mathbf{s})$	7	Fotal ich time:	22.29) 1	Jours	
	Fleet s	size:	1	Team(s)	J	Fotal job time:	22.23	<u> </u>	Hours	
	Unit c	cost:	\$1.516	/LCY	,	Total job cost: _	\$14,49	94		

TRUCK/LOADER TEAM WORK

Task description:	Backfill	and Grade Pon	d 1.1							
Site: _Henderson Mi	ne	Permit Act	tion: 2019 RCE		Permit/Job#	: M1977342				
PROJECT IDEN	NTIFICATION									
Task #: C02		State: Colora	ado	Abb	previation:	None				
		County: Clear	Creek		Filename:	M342-C02				
User: ZTT										
Agency o	r organization nan	ne: DRMS								
HOURLY EQUIPMENT COST Shift basis: <u>1 per day</u>										
Equipment Description										
Truck Loader Team -Truck: Cat 740										
-Loader: CAT 938H										
Support Equipment -Load Area: NA										
-Dump Area: Cat D8T - 8SU Road Maintenance – Motor Grader: NA										
Koau IV.		ter Truck: NA								
Cost Breakdown:	Truck/Loa	der Team	Support	Equipment	Maint	enance Equipment				
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck				
%Utilization-machine:	100	100	NA	100	N	A NA				
Ownership cost/hour:	\$68.27	\$26.49	NA	\$103.86	N	A NA				
Operating cost/hour:	\$59.78	\$33.66	NA	\$82.26	N	A NA				
%Utilization-riper:	NA	0	NA	NA	N	A NA				
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	N	A NA				
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	N	A NA				
Operator cost/hour:	\$32.93	\$40.65	NA	\$41.24	N	A NA				
Unit Subtotals:	\$160.98	\$100.79	NA	\$227.36	N	A NA				
Number of Units:	2	1	0	1		0 0				
Group Subtotals:	Work:	\$422.75	Support:	\$227.36	Main	t: \$0.00				

Total work team cost/hour: \$650.11

MATERIAL QUANTITIES

Initial volume:	2,722	CCY	Swell factor:	1.250	
Loose volume:	3,403	LCY			
Sourc	e of estimated volume:	Division of	f Reclamation, Min	ing & Safety	
Source of	estimated swell factor:	Cat Handb	ook		
Ν	Aaterial Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

HOURLY PRODUCTION

Truck Capacity:					
Truck Payload (weight) Bas	<u>18:</u> 2,550	Dee	unds/LCY		
Material weight: Description:	Earth - Dry packed		linds/LC I		
Rated Payload:			unds		,
Payload Capacity:	34.12	100			
Tayload Capacity.		IC	1		
Truck Bed (volume) Basis:					
Struck Volume:	24.20	LCY			
Heaped Volume:	31.40	LCY			
Average Volume:	27.80	LCY			
Adjusted Volume:	31.40	LCY			
Final	Truck Volume	Based on Number	of Loader Passes:	30.03	LCY
Loading Tool Capacity					
Rated Capacity:	3.900	LCY (heaped		ket Size Class: <u>N</u>	4
Bucket Fill Factor:	1.100			00-120%) 1.100	
Adjusted Capacity:	4.290	LCY			
Job Condition Corrections	<u>::</u>		Site Altitude (ft.):	<u>10000</u> feet	
	Truck	Loader	Source	<u>!</u>	
Altitude Adj:	0.820	1.000	(CAT HI		
Job Efficiency:	0.830	0.830	(CAT HI		
Net Correction:	0.681	0.830			
				1 (1711	
Loading Tool Cycle Time	<u> </u>	Number of Loadin	g Tool Passes Requ	Truck:	7 passes
Excavators and Front Shove	<u>els:</u>			Писк.	
Machine Cycle Time Selected Value	vs. Job Condition within this Basi				
Track Loaders -	- Material Descr	intion.			
Cycle Time Elements (min.)					
Load: NA		laneuver: NA		Dump: 0.100	
Wheel and Trac	ck Loaders - Una	adjusted Basic Loa	ader Cycle Time (le	oad, dump, 0 maneuver): 0	483 minutes
Cycle Time Factors				Factor (min.)	Source
Material:		rial 0.02		0.020	(Cat HB)
Stockpile:				0.020	(Cat HB)
Truck Ownership:		nership of trucks	and loaders -	-0.040	(Cat HB)
Operation:		eration -0.04		-0.040	(Cat HB)
Dump Target:		ent - factor not app	olicable 0.00	0.000	(Cat HB)
		**	ime Adjustment:	-0.040	minutes
			ader Cycle Time:	0.443	minutes
		Net Load	Time per Truck:	2.755	minutes
		Adjusted Loa	ader Cycle Time:		-

	True	ck Excha	nge Time:	0.60	Minutes	Adju	sted for site al	titude:	0.732	Minutes
		Truck L	oad Time:	2.755	Minutes	Adju	sted for site al	titude:	2.755	Minutes
	Truck M	aneuver	and Dump Time:	1.00	Minutes	Adju	sted for site al	titude:	1.220	Minutes
	maintained Haul Route	<u>2.0</u> ::	& Return) T			ion: <u>Hard, smoo</u>			<u>tered</u> ,	
	Seg #	Haul D (Ft)	vistance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	2000.0	0	1.00	2.00	3.00	3005	1.458		
						Haul Time:	1.458	minu	ites	
	Return Rou Seg #		istance	Grade (%)	Roll. Res	Total Res	Velocity	Travel		
	Seg #	(Ft)	istance	Grade (70)	(%)	(%)	(fpm)	Time (min)		
	1	2000.0	0	-1.00	2.00	1.00	3706	0.744		
						Return Time:			nutes	
					Total Tru	uck Cycle Time:	6.908	mir	nutes	
	oading Too. Produ Unit Produ	ction	516.76	LCY/Hour	r	Adjusted for j	ob efficiency:	428.91		Y/Hour
Truck	Cont Produ		260.82	LCY/Hour	r	Adjusted for j	ob efficiency:	216.48	3 LC	Y/Hour
Optim	al No. of Tr	ucks:	2	Truck(s)		Selected Numb	er of Trucks:	2	Tru	ck(s)
						k team productio			CY/Hour CY/Hour	
						r team productio r team productio			CY/Hour	
				-JI-		· · · · · · · · · · · · · · · · · · ·		<u> </u>	/	
	JOB TIM	E AND	COST							
	Fleet	size:	1	Team(s)	7	Fotal job time:	7.93	·	Hours	
	Unit o	cost:	\$1.516	/LCY	-	Total job cost:	\$5,15	7		

TRUCK/LOADER TEAM WORK

Task description:	Backfill	and Grade Pon	d 1.2							
Site: Henderson Mine	e	Permit Act	tion: 2019 RCE		Permit/Job#:M1977342					
PROJECT IDEN	FIFICATION									
Task #: C03		State: Colora	ado	Abb	Abbreviation: None		e			
	/2019	County: Clear	Creek		Filename:	M34	2-C03			
User: <u>ZTT</u>										
Agency or	organization nan	ne: DRMS								
HOURLY EQUIP	MENT COST	_		Shift ba	sis: <u>1 per da</u>	У				
]	Equipment Descr	iption						
Truck Loader Team -Truck: Cat 740										
-Loader: CAT 938H										
Support Equipment -Load Area: NA										
-Dump Area: Cat D8T - 8SU Road Maintenance –Motor Grader: NA										
Koad Ma		or Grader: NA ter Truck: NA								
	- ••• a	ICI IIUCK. INA								
Cost Breakdown:	Truck/Loa	der Team	Support	Equipment	Mai	ntenar	ce Equipment			
<u></u>	Truck	Loader	Load Area	Dump Area	Motor Grader		Water Truck			
%Utilization-machine:	100	100	NA	100	1	NA	NA			
Ownership cost/hour:	\$68.27	\$26.49	NA	\$103.86	1	NA	NA			
Operating cost/hour:	\$59.78	\$33.66	NA	\$82.26	1	NA	NA			
%Utilization-riper:	NA	0	NA	NA	1	NA	NA			
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	1	NA	NA			
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	1	NA	NA			
Operator cost/hour:	\$32.93	\$40.65	NA	\$41.24	1	NA	NA			
Unit Subtotals:	\$160.98	\$100.79	NA	\$227.36	1	NA	NA			
Number of Units:	2	1	0	1		0	0			
Group Subtotals:	Work:	\$422.75	Support:	\$227.36	Mai	int:	\$0.00			

Total work team cost/hour: \$650.11

MATERIAL QUANTITIES

9,560	CCY	Swell factor:	1.250	
11,950	LCY			-
e of estimated volume:	Division of	Reclamation, Min	ing & Safety	
estimated swell factor:	Cat Handb	ook		
Iaterial Purchase Cost:	\$0.00			
Total Cost:	\$0.00			
	11,950 e of estimated volume: estimated swell factor: faterial Purchase Cost:	11,950LCYe of estimated volume: estimated swell factor:Division of Cat Handbe \$0.00Iaterial Purchase Cost:\$0.00	11,950LCYe of estimated volume: estimated swell factor: Iaterial Purchase Cost:Division of Reclamation, Min Cat Handbook \$0.00	11,950 LCY e of estimated volume: Division of Reclamation, Mining & Safety estimated swell factor: Cat Handbook faterial Purchase Cost: \$0.00

HOURLY PRODUCTION

Truck Capacity:								
Truck Payload (weight) Bas			D 1.0	AX /				
Material weight:	2,550	1 J	Pounds/L	CΥ				
Description: Rated Payload:	Earth - Dry pa 87,000	ackeu	Pounds					
Payload Capacity:	34.12		LCY					
Tayload Capacity.	57.12		LCI					
Truck Bed (volume) Basis:								
Struck Volume:	24.20	LCY						
Heaped Volume:	31.40	LCY						
Average Volume:	27.80	LCY						
Adjusted Volume:	31.40	LCY						
Final	Truck Volume	Based on Nun	nber of Loa	der Passes:	30.0	3	LCY	
Loading Tool Capacity								
Rated Capacity:	3.900	LCY (he	aned)	Buck	et Size Class	: NA		_
Bucket Fill Factor:	1.100		rock/dirt m	xtures (100)-120%) 1.10	00		_
Adjusted Capacity:	4.290	LCY		(_
Job Condition Corrections	<u>;</u>		Site A	ltitude (ft.):	<u>10000</u> feet			
	Truck	Loade	۲	Source				
Altitude Adj:	0.820	1.000		(CAT HB)			
Job Efficiency:	0.830	0.830		(CAT HB				
Net Correction:	0.681	0.830)					
Loading Tool Cycle Time	• •	Number of Lo	ading Tool	Passes Requ	ired to Fill			passes
Excavators and Front Shove	_			r usses requ	Truck:		7	pubbeb
			• •					
Machine Cycle Time Selected Value	within this Basic		JA JA					
Track Loaders -	- Material Descr	iption:						
Cycle Time Elements (min.)):							
Load: NA	M	laneuver: N	NA		Dump:	0.100		
Wheel and Trac	ck Loaders - Una	adjusted Basic	c Loader C		ad, dump, naneuver):	0.48	3 mir	nutes
Cycle Time Factors	;				Factor (m	in.)	Source	
Material	Mixed mater				0.020	- Í	(Cat HB)	
Stockpile					0.020		(Cat HB)	
Truck Ownership:	Common ow 0.04	nership of tru	icks and loa	aders -	-0.040)	(Cat HB)	
Operation		eration -0.04			-0.040)	(Cat HB)	
Dump Target:		ent - factor not			0.000		(Cat HB)	
			cle Time A		-0.040		minutes	
			l Loader C		0.443		minutes	
		Net I	Load Time	per Truck:	2.755		minutes	

	Truc	ck Excha	nge Time:	0.60	Minutes	Adju	sted for site al	titude:	0.732	Minutes
		Truck L	oad Time:	2.755	Minutes	Adju	sted for site al	titude:	2.755	Minutes
	Truck M	aneuver	and Dump Time:	1.00	Minutes	Adju	sted for site al	titude:	1.220	Minutes
	Truck Trav maintained Haul Route Seg #	<u>2.0</u> :	& Return) T	ime: Grade (%)	Road Condit	ion: <u>Hard, smoo</u> Total Res	th, stabilized, the stabilized of the stabilized	surfaced, wa	tered,	
	50g m	(Ft)	istance		(%)	(%)	(fpm)	Time (min)		
	1	2000.0	0	1.00	2.00	3.00	3005	1.458		
						Haul Time:	1.458	minu	ites	
	Return Rou Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	٦	
	Scg π	(Ft)	istance	Grade (70)	(%)	(%)	(fpm)	Time (min)		
	1	2000.0	0	-1.00	2.00	1.00	3706	0.744		
						Return Time:	0.744	min	utes	
					Total Tru	uck Cycle Time:	6.908	min	utes	
	oading Too Produ	ction	516.76	LCY/Hour		Adjusted for jo	ob efficiency:	428.91	LCY	//Hour
Truck	Unit Produ	ction _	260.82	LCY/Hour		Adjusted for jo	ob efficiency:	216.48		//Hour
Optim	al No. of Tr	ucks:	2	Truck(s)		Selected Numb	er of Trucks:	2	True	ck(s)
						k team productio			Y/Hour	
						r team productio			Y/Hour	
			Ac	ijusted multiple	e truck/loade	r team productio	on: 428.	91 LC	Y/Hour	
	JOB TIM	E AND	COST							
	Fleet s	size:	1	Team(s)]	Fotal job time:	27.80	<u>6 </u>	Hours	
	Unit c	cost:	\$1.516	/LCY	r	Total job cost:	\$18,1 1	13		

TRUCK/LOADER TEAM WORK

Task description:	Haul an	d Spread Cap o	n Pond 1.2							
Site: Henderson Min	e	Permit Act	ion: 2019 RCE]	Permit/Job	#: <u>M19</u>	977342			
PROJECT IDEN	TIFICATION									
Task #: C04		State: Colora	ado	Abł	Abbreviation: Nor		ne			
	8/2019 C	County: Clear	Creek		Filename:	M342-C	204			
User: ZTT										
Agency or organization name: DRMS										
HOURLY EQUIPMENT COST Shift basis: <u>1 per day</u>										
Equipment Description										
Truck Loader Team -Truck: Cat 740										
-Loader: CAT 938H										
Support Equipment -Load Area: NA										
-Dump Area: Cat D8T - 8SU Road Maintenance – Motor Grader: NA										
Road Ma		or Grader: NA er Truck: NA								
	- ••• at									
Cost Breakdown:	Truck/Loa	der Team	Support	Equipment	Mair	itenance	Equipment			
<u>Cost Di cundo (m</u> .	Truck	Loader	Load Area	Dump Area	Motor Grader		ater Truck			
%Utilization-machine:	100	100	NA	100	Ν	NA	NA			
Ownership cost/hour:	\$68.27	\$26.49	NA	\$103.86	Ν	NA	NA			
Operating cost/hour:	\$59.78	\$33.66	NA	\$82.26	Ν	NA	NA			
%Utilization-riper:	NA	0	NA	NA	١	NA	NA			
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	١	NA	NA			
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	Ν	NA	NA			
Operator cost/hour:	\$32.93	\$40.65	NA	\$41.24	N	NA	NA			
Unit Subtotals:	\$160.98	\$100.79	NA	\$227.36	Ν	NA	NA			
Number of Units:	2	1	0	1		0	0			
Group Subtotals:	Work:	\$422.75	Support:	\$227.36	Mai	nt: \$0	.00			

Total work team cost/hour: \$650.11

MATERIAL QUANTITIES

CCY	Swell factor:	1.250	
LCY			-
e: Division of	of Reclamation, Min	ing & Safety	
or: Cat Hand	book		
st: \$0.00			
st: \$0.00			
	LCY ne: Division of cor: Cat Handl st: \$0.00	LCY ne: Division of Reclamation, Min or: Cat Handbook st: \$0.00	LCY ne: Division of Reclamation, Mining & Safety Cat Handbook st: \$0.00

HOURLY PRODUCTION

Truck Capacity:					
Truck Payload (weight) Bas					
Material weight:	2,550		Pounds/LCY		
Description: Rated Payload:	Earth - Dry pa 87,000		Pounds		
Payload Capacity:	34.12		LCY		
Tayload Capacity.	.12				
Truck Bed (volume) Basis:					
Struck Volume:	24.20	LCY			
Heaped Volume:	31.40	LCY			
Average Volume:	27.80	LCY			
Adjusted Volume:	31.40	LCY			
Final	Truck Volume	Based on Num	ber of Loader Passes	:	LCY
Loading Tool Capacity					
Rated Capacity:	3.900	LCY (hea		cket Size Class:	NA
Bucket Fill Factor:	1.100			00-120%) 1.100	
Adjusted Capacity:	4.290	LCY	(
Job Condition Correction	5 <u>:</u>		Site Altitude (ft.): <u>10000</u> feet	
	Truck	Loader	- Sourc	•	
Altitude Adj:	0.820	1.000	(CAT H		
Job Efficiency:	0.830	0.830	(CAT H		
Net Correction:	0.681	0.830			
Leading Teel Cuele Time		Jh	din e Te el Dessee De	nuine d to Fill	
Loading Tool Cycle Time	_	number of Loa	ding Tool Passes Red	Truck:	7 passes
Excavators and Front Shov	els:				
Machine Cycle Time Selected Value	vs. Job Condition within this Basic	U			
	- Material Descr	<u> </u>			
Cycle Time Elements (min.					
Load: NA		laneuver: N	A	Dump: 0.1	00
Wheel and Tra	ck Loaders - Una	adjusted Basic	Loader Cycle Time ((load, dump, maneuver):	0.483 minutes
Cycle Time Factors	5			Factor (min.)	Source
Material		rial 0.02		0.020	(Cat HB)
Stockpile				0.020	(Cat HB)
Truck Ownership	Common ow 0.04	nership of truc	cks and loaders -	-0.040	(Cat HB)
Operation		eration -0.04		-0.040	(Cat HB)
Dump Target	No adjustme		applicable 0.00	0.000	(Cat HB)
			le Time Adjustment:	-0.040	minutes
			Loader Cycle Time:	0.443	minutes
		Net Lo	oad Time per Truck:	2.755	minutes

	Truc	ck Excha	nge Time:	0.60	Minutes	Adju	sted for site al	titude:	0.732	Minutes
		Truck L	oad Time:	2.755	Minutes	Adju	sted for site al	titude:	2.755	Minutes
	Truck M	aneuver	and Dump Time:	1.00	Minutes	Adju	sted for site al	titude:	1.220	Minutes
	Truck Trav maintained Haul Route Seg #	<u>2.0</u>	& Return) T	ime: Grade (%)	Road Condit	ion: <u>Hard, smoo</u> Total Res	th, stabilized,	surfaced, wa	tered,	
	565 "	(Ft)	istunee		(%)	(%)	(fpm)	Time (min)		
	1	2000.0	0	1.00	2.00	3.00	3005	1.458		
	D . D					Haul Time:	1.458	minu	tes	
	Return Rou Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	7	
	Seg #	(Ft)	Istance	Glade (70)	(%)	(%)	(fpm)	Time (min)		
	1	2000.0	0	-1.00	2.00	1.00	3706	0.744		
						Return Time:	0.744	min	utes	
					Total Tru	uck Cycle Time:	6.908	min	utes	
	oading Too Produ	ction	516.76	LCY/Hour		Adjusted for jo	ob efficiency:	428.91	LCY	//Hour
Truck	Unit Produ	ction _	260.82	LCY/Hour		Adjusted for jo	ob efficiency:	216.48	LCY	//Hour
Optim	al No. of Tr	ucks:	2	Truck(s)		Selected Numb	per of Trucks:	2	Truc	k(s)
						k team productio r team productio			Y/Hour Y/Hour	
						r team productio			Y/Hour	
	JOB TIM	E AND	COST							
	Fleet s	size:	1	Team(s)	7	Fotal job time:	12.42	21	Hours	
	Unit c	cost:	\$1.516	/LCY	r	Total job cost:	\$8,07	1		

BULLDOZER RIPPING WORK

	Task description:	Rip Roads at M	line						
Site	: Henderson Mir	ne Pe	ermit Action:	2019 RCE		Permit/Jo	b#: <u>M19773</u>	42	
]	PROJECT IDEN	TIFICATION							
	Task #: C05	State:	Colorado		Abbre	viation:	None		
		8/2019 County:	Clear Creel	ζ		lename:	M342-C05		
	User: ZTT			X.		ienume.	113 12 005		
	Agency or	r organization name: D	RMS						
J	HOURLY EQUI	PMENT COST							
-	Basic M		ſ		Horsepower:		310		
	Ripper Attac				Shift Basis:		ber day		
		F			Data Source:		CRG)		
<u>(</u>	Cost Breakdown:			1	_				
				¢102.96	Utilization %				
		Ownership Cost/Hour:		\$103.86	NA				
	Dianan	Operating Cost/Hour:		\$82.26	100 NA				
		Ownership Cost/Hour: Operating Cost/Hour:		\$10.43	<u>NA</u>				
	Ripper	Operator Cost/Hour:		\$8.38 \$41.24	100 NA				
		Total Unit Cost/Hour:		\$246.17	INA				
		—		· · · · · · · · · · · · · · · · · · ·					
		Total Fleet Cost/Hour:	\$246	.17					
<u>l</u>	MATERIAL QU	ANTITIES	Selec	ted estimating	g method: Area				
4	Alternate Methods:								
Seismic:	NA	Ва	ank Volume:	NA	BCY		NA		
Area:	25.00	acres Ri	p Depth (ft):	1.00	Volume:	40,333		BCY or CC	
	S	Source of estimated quanti	tv· 2019 H	enderson RCF	Ŧ.				
I	Source of estimated quantity: 2019 Henderson RCE HOURLY PRODUCTION								
-	Seismic:								
<u> </u>	<u>Seisinic.</u>	Seismic Velo	ocity:	NA	feet/seco	nd			
4	<u>Area:</u>	Average Ripping D	onthe	1.00	feet/pass				
		Average Ripping W		7.08	feet/pass				
		Average Ripping Le		250.00	feet/pass				
		Average Dozer S		88.00	feet/min				
		Average Maneuver T		0.25	minutes/				
		Production per unit		0.789	acres/ho	-			
]	Job Condition Correction Factors								
		justed Hourly Unit Produc	ction:	0.789	Acres/hr				
	J	Site Alti		10,000	feet				
		Altitude		1.00	(CAT H	B)			
		Job Efficie		0.83	(1 shift/c				
		Net Correc		0.83	multiplie	•			
		Adjusted Hourly Unit	Production:	0.65	Acres/hr				
		Adjusted Hourly Fleet		0.65	Acres/hr				
	JOB TIME AND	COST							
-	Fleet size:	1 Grader(s)		Total job tim	ne. 39	8.19	Hours		
	1 1000 0120.			10m j00 m	50	·· • ·	110415		

Unit cost:	\$376.016	Per acre	Total job cost:	\$9,400
Unit cost:	\$376.016	Per acre	Total job cost:	\$9,400

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MOTOR GRADER WORK

e: Henderson Mine	Pe	rmit Action:	2019 RCE	I	Permit/Job#: <u>M1977342</u>
PROJECT IDENTIFI	CATION				
Task #: C06	State:	Colorado		Abbre	viation: None
Date: 12/18/2019		Clear Cree	k		ename: M342-C06
User: ZTT					
Agency or organ	ization name: DF	RMS			
HOURLY EQUIPMEN	NT COST				
Basic Machine	: CAT 12M			Horsepower:	158
Ripper Attachment	:		_	Shift Basis:	1 per day
				Data Source:	(CRG)
Cost Breakdown:					
0	ahin Cast/Haum		¢22.62	Utilization %	
	ship Cost/Hour:		\$33.62 \$34.22	NA 100	
	ting Cost/Hour:		\$34.22	 NA	
	ting Cost/Hour:		\$0.00	INA	
	ator Cost/Hour:		\$28.52	NA	
1	Unit Cost/Hour:		\$96.35	141	
			<u> </u>		
Total H	Fleet Cost/Hour:	\$96.	35		
MATERIAL QUANTI Total Area to	o be graded or rippe	d: <u>100.00</u>			acres
Source	of estimated acreag	e: <u>2019 H</u>	enderson RCE]	
	ION				
HUUKLI PKUDUUI	IUN				
HOURLY PRODUCT		eed:	1.50	mph	
<u>HOUKLI PRODUCI</u>	Average Grader Sp Selected Applicat			mph grading (0-2.5 mpl	h) - 1.5
	Average Grader Sp Selected Applicat Selected Blade Ar	tion: ngle:	Finish g 30		h) - 1.5
	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len	tion: ngle: ngth:	Finish g 30 10.40	grading (0-2.5 mp) degrees feet	h) - 1.5
Width of	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p	tion: ngle: ngth: pass:	Finish g 30 10.40 2.00	grading (0-2.5 mp) degrees feet feet	h) - 1.5
Width of Net grading of	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p r ripping width per p	tion: ngle: ngth: pass: pass:	Finish g 30 10.40 2.00 8.40	grading (0-2.5 mp) degrees feet feet feet feet	
Width of Net grading of	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p	tion: ngle: ngth: pass: pass:	Finish g 30 10.40 2.00	grading (0-2.5 mp) degrees feet feet	
Width of Net grading of	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p r ripping width per p Hourly Unit Product	tion: ngle: ngth: pass: pass:	Finish <u>8</u> 30 10.40 2.00 8.40 1.5273	grading (0-2.5 mp) degrees feet feet feet feet	ır
Width of Net grading of Unadjusted I Job Condition Correction I	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p r ripping width per p Hourly Unit Product Factors	tion: ngle: pass: bass: tion: Source	Finish <u>8</u> 30 10.40 2.00 8.40 1.5273 S	grading (0-2.5 mp) degrees feet feet feet acres/hou	ır
Width of Net grading of Unadjusted I Job Condition Correction I Altitude Adj: _	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p r ripping width per p Hourly Unit Product Factors 1.00	tion: ngle: pass: pass: tion: Source (CAT HB	Finish <u>8</u> 30 10.40 2.00 8.40 1.5273 S	grading (0-2.5 mp) degrees feet feet feet acres/hou	ır
Width of Net grading of Unadjusted I Job Condition Correction I Altitude Adj: Job Efficiency:	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p r ripping width per p Hourly Unit Product Factors 1.00 0.90	tion: ngle: pass: pass: tion: Source (CAT HB (1sh/d, fav	Finish <u>8</u> 30 10.40 2.00 8.40 1.5273 S	grading (0-2.5 mp) degrees feet feet feet acres/hou	ır
Width of Net grading of Unadjusted I Job Condition Correction I Altitude Adj: _	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p r ripping width per p Hourly Unit Product Factors 1.00	tion: ngle: pass: pass: tion: Source (CAT HB	Finish <u>8</u> 30 10.40 2.00 8.40 1.5273 S	grading (0-2.5 mp) degrees feet feet feet acres/hou	ır
Width of Net grading of Unadjusted I Job Condition Correction I Altitude Adj: Job Efficiency: Net Correction: Ad	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p r ripping width per p Hourly Unit Product Factors 1.00 0.90 0.9000 justed Hourly Unit 1	tion: ngle: pass: pass: tion: (CAT HB (1sh/d, fav multiplier Production:	Finish <u>8</u> 30 10.40 2.00 8.40 1.5273 S	grading (0-2.5 mp) degrees feet feet feet acres/hou	ır
Width of Net grading of Unadjusted I Job Condition Correction I Altitude Adj: Job Efficiency: Net Correction: Ad	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p r ripping width per p Hourly Unit Product Factors 1.00 0.90 0.9000	tion: ngle: pass: pass: tion: (CAT HB (1sh/d, fav multiplier Production:	Finish <u>8</u> 30 10.40 2.00 8.40 1.5273 S	grading (0-2.5 mp) degrees feet feet feet acres/hou ite Altitude: <u>1000</u>	ır
Width of Net grading of Unadjusted I Job Condition Correction I Altitude Adj: Job Efficiency: Net Correction: Ad Adj	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p r ripping width per p Hourly Unit Product Factors 1.00 0.90 0.9000 justed Hourly Unit I justed Hourly Fleet 1	tion: ngle: pass: pass: tion: (CAT HB (1sh/d, fav multiplier Production:	Finish <u>8</u> 30 10.40 2.00 8.40 1.5273 S) .) 1.3745	grading (0-2.5 mp) degrees feet feet feet acres/hou ite Altitude: <u>1000</u>	ır
Width of Net grading of Unadjusted I Job Condition Correction I Altitude Adj: Job Efficiency: Net Correction: Ad Adj JOB TIME AND COS	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p r ripping width per p Hourly Unit Product Factors 1.00 0.90 0.9000 justed Hourly Unit 1 justed Hourly Fleet 1 T	tion:	Finish <u>8</u> 30 10.40 2.00 8.40 1.5273 S) <u>1.3745</u> 1.3745	grading (0-2.5 mp) degrees feet feet feet acres/hour acres/Hour	ır <u>)</u> feet
Width of Net grading of Unadjusted I Job Condition Correction I Altitude Adj: Job Efficiency: Net Correction: Ad Adj	Average Grader Sp Selected Applicat Selected Blade Ar Effective Blade Len f blade overlap per p r ripping width per p Hourly Unit Product Factors 1.00 0.90 0.9000 justed Hourly Unit I justed Hourly Fleet 1	tion:	Finish <u>8</u> 30 10.40 2.00 8.40 1.5273 S) .) 1.3745	grading (0-2.5 mp) degrees feet feet feet acres/hour acres/Hour	ır

BULLDOZER WORK

Task description:	Mix Sludge and	Chips				
ite: Henderson Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>	
PROJECT IDENTIFI	CATION					
Task #: C07	State:	Colorado		Abbreviation:	None	
Date: 12/18/2019		Clear Creek		Filename:	M342-C07	
User: ZTT						
Agency or organ	ization name: DF	RMS				
HOURLY EQUIPME	NT COST					
Basic Machine: Cat	D8T - 8SU					
Horsepower: 310						
Blade Type: Sen	ni-Universal					
Attachment: NA						
	er day					
Data Source: (CR	RG)					
Cost Breakdown:		i				
			Utilization %			
Ownership Cost/Hour:		\$103.86	NA			
Operating Cost/Hour:		\$82.26	100			
Ripper own. Cost/Hour:		\$0.00	NA			
Ripper op. Cost/Hour:		\$0.00	0			
Operator Cost/Hour:		\$41.24	NA			
	\$207.2 <i>C</i>	I				
Total unit Cost/Hour: Total Fleet Cost/Hour:	\$227.36 \$227.36					
	φ221.50					
MATERIAL QUANTI	ITIES					
Initial Volume: 322,	667					
Swell factor: 1.000						
	667 LCY	_				
Source of estimated volu			on, Mining & Safety			
Source of estimated swel factor:	ll Cat Hand	DOOK				
lactor.						
HOURLY PRODUCT	ION					
Average push distance:	250 feet					
Unadjusted hourly	377.8 LCY	'nr				
production:						
Matariala consistance	Locas	tooknila 1.0				
Materials consistency	Loose	stockpile 1.2				
description:						
Average push	0 %					
gradient:	~ /v					
Average site altitude:	10,000 feet					
Material weight:	1,000 lbs/LCY					
Job Condition Correction Factor		Source				
---------------------------------	-------	---------------				
Operator Skill:	0.750	(AVG.)				
Material consistency:	1.200	(CAT HB)				
Dozing method:	1.000	(GEN.)				
Visibility:	1.000	(AVG.)				
Job efficiency:	0.830	(1 SHIFT/DAY)				
Spoil pile:	1.000	(DOZ-OC)				
Push gradient:	1.000	(CAT HB)				
Altitude:	1.000	(CAT HB)				
Material Weight:	2.300	(CAT HB)				
Blade type:	1.000	(PAT)				

Net correction: 1.7181

Adjusted unit production:	649.10 LCY/hr
Adjusted fleet	649.1 LCY/hr
production:	049.1 LC 1/III

Fleet size:	1 Dozer(s)	
Unit cost:	\$0.350/LCY	_

Total job time:	497.10 Hours
Total job cost:	\$113,022

Т	Task descrij	ption:	Drill Seed Mine	Site				
Site:	Henders	on Mine	Pe	ermit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>	
<u>P</u>]	ROJECT Task #:	IDENTIFIC	CATION State:	Colorado		Abbreviation:	None	
	Date: User:	12/19/2019 ZTT		Clear Creek		Filename:	M342-C08	_
	Age	ency or organi	zation name: D	RMS				

FERTILIZING

Materials

_					
	Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
	6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
				Total Fertilizer Materials Cost/Acre	\$26.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

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	0.11	2.53	\$1.57
Arizona Fescue - Redondo	0.45	5.17	\$4.16
Mountain Brome - Bromar	1.70	2.73	\$6.46
Kentucky Bluegrass - Lato	0.09	4.44	\$0.30
Rocky Mountain Fescue	0.17	2.73	\$1.23
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	1.74	1.02	\$121.76
Slender Wheatgrass - Native	0.68	2.48	\$3.15
Vetch, American	1.33	0.60	\$132.90
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.45	2.99	\$7.43
Timothy, Alpine - Native	0.25	7.46	\$6.06
Tufted Hairgrass	0.17	9.76	\$1.87

Penstemon, Rocky Mountain	0.27	4.23	\$7.97
Yarrow, Western	0.05	3.04	\$2.09
Totals Seed Mix	7.66	52.34	\$306.81

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
EcoFlex (mulch tackifier)	100.00	Pound	\$0.81	\$80.81
Total Mulch Materials Cost/Acre				\$80.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals	Nursery Stoc	k Cost / Acre	\$0.00

No. of Acres:	60	Cost /Acre:	\$752.44
Estimated Failure Rate:	25%	Cost /Acre*:	\$538.81
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$45,146.40
Reseeding Job Cost:	\$8,082.15
Total Job Cost:	\$53,229
Job Hours:	30.00

Task	descriptio	on:	Hydros	eed Mine	e Site				
Site: He	enderson	Mine		Per	rmit Action:	2019 RCE	Permit/J	ob#:	M1977342
		D <mark>ENTIFIC</mark>	CATION	State:	Colorado		Abbreviation:	N	one
	Date: 1	2/19/2019 2/TT		County:	Clear Creek	ζ	Filename:		342-C09
	Agenc	y or organi	zation nar	ne: <u>DR</u>	RMS				

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
			Total Fertilizer Materials Cost/Acre	\$26.50

Application

Description	Cost /Acre
NA-fertilizer application incl. with hydroseeding	\$0.00
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	0.22	5.05	\$3.14
Arizona Fescue - Redondo	0.90	10.33	\$8.33
Mountain Brome - Bromar	3.40	5.46	\$12.92
Kentucky Bluegrass - Lato	0.18	8.88	\$0.60
Rocky Mountain Fescue	0.34	5.46	\$2.47
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	3.48	2.04	\$243.51
Slender Wheatgrass - Native	1.36	4.96	\$6.29
Vetch, American	2.66	1.20	\$265.80
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.90	5.97	\$14.85
Timothy, Alpine - Native	0.50	14.92	\$12.13
Tufted Hairgrass	0.34	19.51	\$3.75

Penstemon, Rocky Mountain	0.54	8.46	\$15.93
Yarrow, Western	0.10	6.08	\$4.18
Totals Seed Mix	15.12	101.51	\$603.76

Application

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$947.43
	Total Seed Application Cost/Acre	\$947.43

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hydromulch tackifier, >15 ac. {Materials Only}	1.00	ACRE	\$453.02	\$453.02
Total Mulch Materials Cost/Acre				\$453.02

Application

Description	Cost /Acre
NA-mulch application incl. with hydroseeding	\$0.00
Total Mulch Application	Cost/Acre \$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals	Nursery Stoc	k Cost / Acre	\$0.00

No. of Acres:	44	Cost /Acre:	\$2,030.71
Estimated Failure Rate:	25%	Cost /Acre*:	\$1,551.19
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost: \$89.351.24			

Initial Job Cost.	\$89,331.24
Reseeding Job Cost:	\$17,063.09
Total Job Cost:	\$106,414
Job Hours:	22.00

			Mine Site		
ite: Henders	son Mine	Pern	nit Action: 2019 RCE	Permit/Job	#: M1977342
PROJECT	<u>IDENTIFIC</u>	ATION			
Task #:	C10	State:	Colorado	Abbreviation:	None
Date:	12/18/2019	County:	Clear Creek	Filename:	M342-C10
User:	ZTT				

FERTILIZING

Materials Units / Acre Unit Cost / Unit Cost /Acre Image: I

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
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

\$	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Aspen	50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
Pine, Lodgepole	50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
Serviceberry	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Snowberry, Western	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
			N		¢222.00
		Totals	Nursery Stoc	ck Cost / Acre	\$332.00

No. of Acres:	100	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$33,200.00
Reseeding Job Cost:	\$8,300.00
Total Job Cost:	\$41,500
Job Hours:	50.00

Т	ask descrip	otion:	Maintenance Fe	rtilization			
Site:	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
<u>P</u> 1	ROJECT	IDENTIFIC	ATION				
	Task #:	C11	State:	Colorado		Abbreviation:	None
	Date:	12/19/2019	County:	Clear Creek	ζ.	Filename:	M342-C11
	User:	ZTT					
	Age	ency or organiz	zation name:	RMS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling Cos	st/Acre \$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 1	Nursery Stoc	k Cost / Acre	\$0.00

N	o. of Acres:	100	Cost /Ac	re: \$69.65
Estimated F	ailure Rate:	0%	Cost /Acre	e*: \$69.65
*Selected Replanting V	Vork Items:	FERTILIZING		
Initial Job Cost: \$6	,965.00			
Reseeding Job Cost: \$0	.00			
Total Job Cost: \$6	,965			
Job Hours: 50	.00			

DEMOLITION WORK

Task des	cription:	Clear C	Creek Culvert Remo	oval				
Henderson Mine			Permit Action:	2019 RCE		Permit/J	lob#: <u>M1977342</u>	
PROJEC	T IDENT	TIFICATION						
Task #:	C12	S	State: Colorado	P	Abbreviat	ion: Non	e	
Date: User:	12/19/20 ZTT	19 Con	County: Clear Creek		Filename: M		[342-C12	
I	Agency or o	organization nan	ne: DRMS					
<u>JNIT CO</u> 0.00 <u>%</u>	<u>STS</u>	organization nan				Locat	ion adjustment:	
<u>JNIT CO</u> 0.00 % Struc		Dimensions	ne: <u>DRMS</u> Demolition Mer Selection	nu Quantity	Unit	Locat Unit Cost	ion adjustment: Total Cost	
<u>UNIT CO</u> 00.00 % Struc	<u>STS</u> ture or scription		Demolition Mer	Quantity 2,000.00	Unit LF	Unit		

TRUCK/LOADER TEAM WORK

Та	ask description:	Excava	te Clear Cr	eek (Channel				
Site:	Henderson Min	e	Permi	it Act	tion: 2019 RCE]	Permit/Jol	b#: _	M1977342
<u>PR</u>	OJECT IDEN	TIFICATION							
	User: ZTT		County: C		ado Creek		previation: Filename:	Nor M34	ne 42-C13
HC	Agency or DURLY EQUII	organization nan					usis: <u>1 per da</u>	<u>ıy</u>	
	т	mal. Landau Tao			Equipment Descr	iption			
	1	ruck Loader Tea	- Loader:		740 T 938H				
	Supp	ort Equipment -L		NA	1 930П				
	Supp	1 1	imp Area:	NA					
	Road Ma	aintenance – Moto		NA					
			ter Truck:	NA					
			I						
Cos	st Breakdown:	Truck/Loa	der Team		Support	Equipment	Mai	ntena	nce Equipment
		Truck	Loader		Load Area	Dump Area	Motor Grader		Water Truck
%Utiliz	zation-machine:	100		100	NA	NA		NA	NA
Owner	rship cost/hour:	\$68.27	\$26	5.49	NA	NA		NA	NA
Opera	ating cost/hour:	\$59.78	\$33	8.66	NA	NA		NA	NA
%U	tilization-riper:	NA		0	NA	NA		NA	NA
	Ripper own. cost/hour:	NA	\$0	0.00	NA	NA		NA	NA
Rippe	er op. cost/hour:	NA	\$0	00.0	NA	NA		NA	NA
Ope	erator cost/hour:	\$32.93	\$40).65	NA	NA	-	NA	NA
	Unit Subtotals:	\$160.98	\$100).79	NA	NA		NA	NA
Nu	umber of Units:	3		1	0	0		0	0

Total work team cost/hour: <u>\$583.73</u>

Work:

\$583.73

MATERIAL QUANTITIES

Group Subtotals:

Initial volume:	183,488	CCY	Swell factor:	1.120	
Loose volume:	205,507	LCY			-
Source	e of estimated volume:	Division of	f Reclamation, Min	ing & Safety	
Source of	estimated swell factor:	Cat Handb	ook		
Ν	Material Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

Support:

\$0.00

\$0.00

Maint:

HOURLY PRODUCTION

	<u>_</u>				
<u>Truck Capacity:</u> Truck Daviaged (weight) Davi	i.				
Truck Payload (weight) Bas Material weight:	3,400	Pounds	/I CV		
Description:		1/4""-2""diam.)			
Rated Payload:	87,000	Pounds			
Payload Capacity:	25.59	LCY			
i ayidad Capacity.	23.39				
Truck Bed (volume) Basis:					
Struck Volume:	24.20	LCY			
Heaped Volume:		LCY			
Average Volume:		LCY			
Adjusted Volume:		LCY			
Final	Truck Volumo B	ased on Number of L	onder Desses	25.74	LCY
	THER VOIUNE D		odder i asses.	23.14	
Loading Tool Capacity					
		1	Bucke	et Size Class: N	IA
Rated Capacity:	3.900	LCY (heaped)			
Bucket Fill Factor:	1.100	Other - rock/dirt	mixtures (100	0-120%) 1.100	
Adjusted Capacity:	4.290	LCY			
		C' (10000 6	
Job Condition Correction		Site	Altitude (ft.):	<u>10000</u> feet	
	Truck	Loader	Source		
Altitude Adj:	0.820	1.000	(CAT HB)		
Job Efficiency:	0.830	0.830	(CAT HB))	
	0 (01	0.020			
Net Correction:	0.681	0.830			
Loading Tool Cycle Time	: N	umber of Loading To	ol Passes Requi	ired to Fill	passes
	_	and a bit Louding 10		Truck:	6 pusses
Excavators and Front Shov	<u>els:</u>				
Machine Cycle Time	vs. Job Condition	Rating: NA			
Selected Value	within this Basic	Rating: NA			
Track Loaders -	- Material Descri	ption:			
ycle Time Elements (min.					
Load: <u>NA</u>	Ma	aneuver: NA		Dump: 0.100	0
				·	
Load: NA		aneuver: NA djusted Basic Loader	•	ad, dump,	minutes
Load: NA			•	ad dump	
Load: NA	ck Loaders - Una		•	ad, dump,	minutes
Load: NA Wheel and Tra Cycle Time Factors Material	ck Loaders - Unad s : Mixed materi	djusted Basic Loader	•	ad, dump, aaneuver):0 Factor (min.) 0.020	0.483 minutes Source (Cat HB)
Load: NA Wheel and Tra Cycle Time Factors Material Stockpile	ck Loaders - Unad s : Mixed materi : Dumped by tr	djusted Basic Loader al 0.02 ruck 0.02		ad, dump, 0 aneuver): 0 Factor (min.)	0.483 minutes
Load: NA Wheel and Tra Cycle Time Factors Material	ck Loaders - Una Mixed materi Dumped by tr Common own	djusted Basic Loader		ad, dump, aneuver):0 Factor (min.) 0.020 0.020	Source (Cat HB) (Cat HB)
Load: NA Wheel and Tra Cycle Time Factors Material Stockpile Truck Ownership	ck Loaders - Una Mixed materi Dumped by tr Common own 0.04	djusted Basic Loader al 0.02 ruck 0.02 nership of trucks and		ad, dump, 0 aaneuver): 0 Factor (min.) 0.020 0.020 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Load: NA Wheel and Tra Cycle Time Factors Material Stockpile Truck Ownership Operation	ck Loaders - Unav Mixed materi Dumped by tr Common own 0.04 Constant oper	djusted Basic Loader al 0.02 ruck 0.02 nership of trucks and 1 ration -0.04	m loaders -	ad, dump, aaneuver):0 Factor (min.) 0.020 0.020 -0.040 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Load: NA Wheel and Tra Cycle Time Factors Material Stockpile Truck Ownership	ck Loaders - Unav Mixed materi Dumped by tr Common own 0.04 Constant oper	djusted Basic Loader al 0.02 ruck 0.02 nership of trucks and ration -0.04 nt - factor not applicat	m loaders -	ad, dump, aneuver):0 Factor (min.) 0.020 0.020 -0.040 -0.040 0.000	Source (Cat HB)
Load: NA Wheel and Tra Cycle Time Factors Material Stockpile Truck Ownership Operation	ck Loaders - Unav Mixed materi Dumped by tr Common own 0.04 Constant oper	djusted Basic Loader al 0.02 ruck 0.02 nership of trucks and 1 ration -0.04 nt - factor not applicat Net Cycle Time	m loaders -	ad, dump, aneuver):0 Factor (min.) 0.020 0.020 -0.040 -0.040 0.000 -0.040	Source (Cat HB) minutes
Load: NA Wheel and Tra Cycle Time Factors Material Stockpile Truck Ownership Operation	ck Loaders - Unav Mixed materi Dumped by tr Common own 0.04 Constant oper	djusted Basic Loader al 0.02 ruck 0.02 nership of trucks and ration -0.04 nt - factor not applicat	m loaders - ble 0.00 Adjustment: _ Cycle Time: _	ad, dump, aneuver):0 Factor (min.) 0.020 0.020 -0.040 -0.040 0.000	Source (Cat HB)

	Tru	ick Exch	ange Time:	0.60	Minutes	Adju	sted for site al	titude:	0.732	Minutes
		Truck I	Load Time:	2.313	Minutes	Adju	sted for site al	titude:	2.313	Minutes
	Truck M	laneuver	and Dump Time:	1.00	Minutes	Adju	sted for site al	titude:	1.220	Minutes
	Truck Trav maintained Haul Route	12.0	& Return) T	<u>`ime:</u>	Road Condition	on: <u>Hard, smoo</u>	th, stabilized,	surfaced, wat	ered,	
	Seg #	Haul I (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	5000.0	00	2.00	2.00	4.00	2421	2.691		
						Haul Time:	2.691	minu	tes	
	Return Ro			1	1				-	
	Seg #	Haul I (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	5000.0	00	-2.00	2.00	0.00	3706	1.527		
					Total True	Return Time: ck Cycle Time:				
	oading Too. Produ Unit Produ	uction	507.32	LCY/Hou	r	Adjusted for jo	ob efficiency:	421.08	LCY	/Hour
TTUCK	Cint i rodi	-	182.09	LCY/Hou	r	Adjusted for jo	ob efficiency:	151.13	LCY	/Hour
Optim	al No. of T	rucks:	3	Truck(s)		Selected Numb	er of Trucks:	3	Truc	k(s)
			A	Adjusted singl	le truck/loader	team productio team productio team productio	on: 421.	08 LC	Y/Hour Y/Hour Y/Hour	
	JOB TIM	<u>1E ANI</u>	O COST							
	Fleet	size:	1	Team(s)	Т	otal job time:	488.0	5 I	Hours	

Total job cost: \$284,888

Unit cost: \$1.386 /LCY

SITE MAINTENANCE

Task description:	Place Ha	azard Signs at Glory H	ole			
Henderson Mine		Permit Action: 201	9 RCE		Permi	t/Job#: <u>M1977342</u>
PROJECT IDEN	TIFICATION					
Task C14 #:	S	tate: Colorado	A	Abbreviat	ion: No	one
Date: 12/19/20 User: ZTT	019 Cou	Inty: Clear Creek		Filena	ame: M3	342-C14
Agency or	organization nam	ne: DRMS				
<u>UNIT COSTS</u>						
Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Safety Signs	0.00	USER PROVIDED	3.00	EA	\$11.84	\$35.52
		ITEM				
Job Hours:	1.00	ITEM		Tot	tal Cost:	\$35.52
Job Hours:	1.00	ITEM		Tot	tal Cost:	\$35.52
Job Hours:						\$35.52
Job Hours:		ITEM	GROUND			\$35.52
Job Hours:	SAFEGU			OPENI		
	SAFEGU	JARDING UNDER		OPENI	NGS	
Task description: Henderson Mine	SAFEGU Plug Ve	JARDING UNDER(nt Shafts #1, 3, and 4		OPENI	NGS	
Task description:	SAFEGU Plug Ve	JARDING UNDER(nt Shafts #1, 3, and 4		OPENI	NGS	
Task description: Henderson Mine PROJECT IDEN [*] Task C15	<u>SAFEGU</u> _Plug Ve TIFICATION	JARDING UNDER(nt Shafts #1, 3, and 4	9 RCE	OPENI	NGS Permit	t/Job#: <u>M1977342</u>
Task description: Henderson Mine PROJECT IDEN' Task C15 #: Date: 12/19/20	<u>SAFEGU</u> Plug Ve TIFICATION S	JARDING UNDER(nt Shafts #1, 3, and 4 Permit Action: _201	9 RCE	<u>OPENI</u>	NGS Permit	t/Job#: <u>M1977342</u>
Task description: Henderson Mine PROJECT IDEN ⁷ Task C15 #:	<u>SAFEGU</u> Plug Ve TIFICATION S	JARDING UNDER(nt Shafts #1, 3, and 4 Permit Action: _201 tate:	9 RCE	OPENII	NGS Permit	t/Job#: <u>M1977342</u>
Task description: Henderson Mine PROJECT IDEN' Task C15 #: Date: 12/19/20 User: ZTT	<u>SAFEGU</u> Plug Ve TIFICATION S	JARDING UNDER(nt Shafts #1, 3, and 4 Permit Action: _201 tate: Colorado unty:Clear Creek	9 RCE	OPENII	NGS Permit	t/Job#: <u>M1977342</u>
Task description: Henderson Mine PROJECT IDEN' Task C15 #: Date: 12/19/20 User: ZTT	SAFEGU Plug Ve TIFICATION S 019 Cou	JARDING UNDER(nt Shafts #1, 3, and 4 Permit Action: _201 tate: Colorado unty:Clear Creek	9 RCE	OPENII	NGS Permit	t/Job#: <u>M1977342</u>

Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Plug Vent Shafts and Remove Collar	N/A	USER PROVIDED ITEM	3.00	EA	\$150,000.00	\$450,000.00

 Job Hours:
 120.00
 Total Cost:
 \$450,000.00

BULLDOZER WORK

	Rip Portal Area				
: Henderson Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PROJECT IDENTIFI	CATION				
Task #: D01 Date: 12/19/2019 User: ZTT	State: County:	Colorado Clear Creek		Abbreviation: Filename:	None M342-D01
Agency or organ	nization name: DF	RMS			
HOURLY EQUIPME	NT COST				
	: D8T - 8SU				
Horsepower: 310					
• • • • • • • • • • • • • • • • • • • •	ni-Universal				
	hank ripper				
	er day				
Data Source: (CR	RG)				
Cost Breakdown:		1			
Ownership Cost/Hour:		\$103.86	<u>Utilization %</u> NA		
Operating Cost/Hour:		\$82.26	100		
Ripper own.			100		
Cost/Hour:		\$10.43	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.24	NA		
MATERIAL QUANTI	ITIES				
Initial Volume: 101,	640				
Swell factor: 1.12					
	345 LCY				
Course of action of a large	Districtor		Mining & Cafata		
Source of estimated volu Source of estimated swell factor:			on, Mining & Safety		
HOURLY PRODUCT	<u>'ION</u>				
Average push distance:	250 feet				
Unadjusted hourly	377.8 LCY	/hr			
production:					
*					
•	Commo	atad fill on am	hankmant 0.0		
Materials consistency description:	Compa	cted fill or em	nbankment 0.9		
Materials consistency description: Average push	Compa 0 %	icted fill or em	ıbankment 0.9		
Materials consistency description:		icted fill or em	ıbankment 0.9		
Materials consistency description: Average push gradient:	0 %	icted fill or em	ibankment 0.9		

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:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5053

Adjusted unit production:	190.90 LCY/hr
Adjusted fleet	190.9 LCY/hr
production:	190.9 LC 1/11

Fleet size:	1 Dozer(s)	
Unit cost:	\$1.246/LCY	

Total job time:	598.98 Hours
Total job cost:	\$142,429

BULLDOZER WORK

Task description:	Backfill and Re	grade Portal .	Area		
: Henderson Mine	Pe	rmit Action:	2019 RCE	Permit/Job	o#: <u>M1977342</u>
PROJECT IDENTIF	ICATION				
Task #: D02 Date: 12/19/202 User: ZTT	State:	Colorado Clear Creek		Abbreviation: Filename:	None M342-D02
	nization name:	RMS			
HOURLY EQUIPMI	ENT COST				
	at D8T - 8SU				
Horsepower: 31					
Blade Type: Se Attachment: N	emi-Universal				
	per day				
	CRG)				
Cost Breakdown:		1	Utilization %		
Ownership Cost/Hour:		\$103.86	NA		
Operating Cost/Hour:		\$82.26	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.24	NA		
MATERIAL QUANT Initial Volume: 33, Swell factor: 1.0	880				
Loose volume: 33 ,	880 LCY	_			
Source of estimated vo Source of estimated sw factor:			n, Mining & Safety		
HOURLY PRODUC	<u>TION</u>				
Average push distance:	250 feet				
Unadjusted hourly production:	377.8 LCY	/hr			
Materials consistency description:	Loose	stockpile 1.2			
Average push gradient:	0 %				
Average site altitude:	10,000 feet				
Material weight:	1,600 lbs/LCY				
Weight description:	Top Soil				

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.0742

Adjusted unit production:	405.83 LCY/hr
Adjusted fleet production:	405.83 LCY/hr

Fleet size:	1 Dozer(s)	
Unit cost:	\$0.560/LCY	

Total job time:	83.48 Hours
Total job cost:	\$18,981

MOTOR GRADER WORK

Task description:	Reestablish Will	iams Fork I	Drainage			
te: Henderson Mine	Per	rmit Action:	2019 RCE	Pe	rmit/Job#:	M1977342
PROJECT IDENTI	FICATION					
Task #: D03	State:	Colorado		Abbrevi	ation: N	one
Date: 12/19/20	019 County:	Clear Cree	k	File	name: M	342-D03
User: ZTT						
Agency or org	ganization name: DR	RMS				
HOURLY EQUIPM	IENT COST					
Basic Mach	ine: CAT 12M			Horsepower:	158	
Ripper Attachme				Shift Basis:	1 per d	
				Data Source:	(CRG	i)
Cost Breakdown:						
Own	norshin Cost/Hour		\$22.62	Utilization %		
	nership Cost/Hour: erating Cost/Hour:		\$33.62 \$34.22	<u>NA</u> 100		
	nership Cost/Hour:		\$0.00	 NA		
	erating Cost/Hour:		\$0.00	1111		
	perator Cost/Hour:		\$28.52	NA		
	tal Unit Cost/Hour:		\$96.35			
Tot	al Fleet Cost/Hour:	\$96	.35			
MATERIAL QUAN	<u>TITIES</u>					
Total Are	a to be graded or ripped	d: <u>1,294.0</u>	00		ac	res
Sou	rce of estimated acreage	e: <u>2019 H</u>	enderson RCE	2		
HOURLY PRODUC	<u>CTION</u>					
	Average Grader Sp		1.50	mph		
	Selected Applicat			grading (0-2.5 mph)	- 1.5	
	Selected Blade An	-	30	degrees		
XX7: 141	Effective Blade Len	·	10.40	feet		
	n of blade overlap per p g or ripping width per p		2.00 8.40	feet		
	ed Hourly Unit Product		1.5273	feet acres/hour		
Job Condition Correction	2	10II		ite Altitude: <u>10000</u>		
500 Condition Concern		Carrier	5	ne / minude. <u>10000</u>	1001	
Altitude Adj:	1.00	Source (CAT HE	3)			
Job Efficiency:		(1sh/d, fav				
Net Correction:		multiplier	<u>.</u>			
	Adjusted Hourly Unit I	Production:	1.3745	acres/Hour		
	Adjusted Hourly Fleet I		1.3745	acres/Hour		
JOB TIME AND CO	OST					
Fleet size:	1 Grader(s)		Total job time	: 941.40	\mathbf{H}_{t}	ours
			-			
Unit cost: \$	per acre		Total job cost	\$90,704		

Т	ask descrip	otion:	Drill Seed	Porta	l Area				
Site:	Henderso	on Mine		Per	mit Action:	2019 RCE	Permit	/Job#:	M1977342
<u>P</u>]	ROJECT Task #:	IDENTIFIC D04		State:	Colorado		Abbreviatio		lone
	Date:	12/19/2019		unty:	Clear Creek	<u> </u>	Filenam		1342-D04
	User:	ZTT							
	Age	ency or organi	zation name:	DR	MS				

FERTILIZING

Materials

_							
	Description	Units / Acre	Unit	Cost / Unit	Cost /Acre		
	6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50		
				Total Fertilizer Materials Cost/Acre	\$26.50		

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

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	0.11	2.53	\$1.57
Arizona Fescue - Redondo	0.45	5.17	\$4.16
Mountain Brome - Bromar	1.70	2.73	\$6.46
Kentucky Bluegrass - Lato	0.09	4.44	\$0.30
Rocky Mountain Fescue	0.17	2.73	\$1.23
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	1.74	1.02	\$121.76
Slender Wheatgrass - Native	0.68	2.48	\$3.15
Vetch, American	1.33	0.60	\$132.90
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.45	2.99	\$7.43
Timothy, Alpine - Native	0.25	7.46	\$6.06
Tufted Hairgrass	0.17	9.76	\$1.87

Penstemon, Rocky Mountain	0.27	4.23	\$7.97
Yarrow, Western	0.05	3.04	\$2.09
Totals Seed Mix	7.66	52.34	\$306.81

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
EcoFlex (mulch tackifier)	100.00	Pound	\$0.81	\$80.81
Total Mulch Materials Cost/Acre				\$80.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals	Nursery Stoc	k Cost / Acre	\$0.00

No. of Acres:	21	Cost /Acre:	\$752.44
Estimated Failure Rate:	25%	Cost /Acre*:	\$538.81
*Selected Replanting Work Items:	SEEDING		

\$15,801.24
\$2,828.75
\$18,630
10.50

te: Henderson Mine		Henderson Mine		rmit Action: 2019 RCE	Permit/Job	#: <u>M1977342</u>
PI	ROJECT	IDENTIFICA	ATION			
	Task #:	D05	State:	Colorado	Abbreviation:	None
	Date:	12/19/2019	County:	Clear Creek	Filename:	M342-D05

FERTILIZING

Materials Units / Acre Unit Cost / Unit Cost /Acre Image: I

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
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

\$	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Aspen	50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
Pine, Lodgepole	50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
Serviceberry	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Snowberry, Western	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
		Total	s Nursery Stoc	ck Cost / Acre	\$332.00

No. of Acres:	21	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$6,972.00
Reseeding Job Cost:	\$1,743.00
Total Job Cost:	\$8,715
Job Hours:	10.50

Т	ask descrip	otion:	Maintenance Fe	rtilization			
Site:	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
<u>P</u>]	<u>ROJECT</u>	IDENTIFIC	ATION				
	Task #:	D06	State:	Colorado		Abbreviation:	None
	Date:	12/19/2019	County:	Clear Creek	ζ.	Filename:	M342-D06
	User:	ZTT					
	Age	ency or organiz	zation name:	RMS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling Cos	st/Acre \$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 1	Nursery Stoc	k Cost / Acre	\$0.00

	No. of Acres:	25	Cost /Acr	e: \$69.65
Estimate	ed Failure Rate:	0%	Cost /Acre	*: \$69.65
*Selected Replanti	ng Work Items:	FERTILIZING		
Initial Job Cost:	\$1,741.25			
Reseeding Job Cost:	\$0.00			
Total Job Cost:	\$1,741			
Job Hours:	12.50			

BULLDOZER WORK

Task description:	Surface Railroa	d			
: Henderson Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PROJECT IDENTIF	ICATION				
Task #: E01 Date: 12/19/201 User: ZTT	9 State: County:	Colorado Clear Creek	<u>.</u>	Abbreviation: Filename:	None M342-E01
Agency or orga	nization name: DI	RMS			
HOURLY EQUIPME	ENT COST				
Horsepower: 31 Blade Type: Se Attachment: N. Shift Basis: 1	emi-Universal				
Cost Breakdown:					
Ownership Cost/Hour:		\$103.86	<u>Utilization %</u> NA		
Operating Cost/Hour:		\$82.26	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.24	NA		
Swell factor: 1.2	5,160				
	,		Mining 8 Subst		
Source of estimated vol Source of estimated sw factor:			on, Mining & Safety		
HOURLY PRODUC	<u>FION</u>				
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY	/hr			
Materials consistency description:	Compa	cted fill or en	nbankment 0.9		
Average push gradient:	0 %				
Average site altitude:	10,000 feet				
Material weight:	1,600 lbs/LCY			_	
Weight description:	Top Soil				

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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5639

Adjusted unit production:	213.04 LCY/hr
Adjusted fleet production:	213.04 LCY/hr

Fleet size:	1 Dozer(s)	
Unit cost:	\$1.067/LCY	_

Total job time:	662.48 Hours
Total job cost:	\$150,623

MOTOR GRADER WORK

Task description:	Reestablish Williams Fo	ork Drainage		
te: Henderson Mine	Permit Act	tion: 2019 RCE	Per	mit/Job#: <u>M1977342</u>
PROJECT IDENTIF	ICATION			
Task #: E02	State: Color	ado	Abbreviat	tion: None
Date: 12/19/201	9 County: Clear	Creek	Filena	ame: M342-E02
User: ZTT				
Agency or orga	nization name: DRMS			
HOURLY EQUIPME	ENT COST			
Basic Machin	e: CAT 12M		Horsepower:	158
Ripper Attachmer			Shift Basis:	1 per day
			Data Source:	(CRG)
Cost Breakdown:				
			Utilization %	
	ership Cost/Hour:	\$33.62	NA	
1	rating Cost/Hour:	\$34.22	100	
	ership Cost/Hour:	\$0.00	NA	
	rating Cost/Hour: erator Cost/Hour:	\$0.00 \$28.52	NA	
-	l Unit Cost/Hour:	\$96.35		
100		\$70.35		
Total	Fleet Cost/Hour:	\$96.35		
MATERIAL QUANT				
Total Area	to be graded or ripped: 92	.00		acres
Sourc	e of estimated acreage: _20	19 Henderson RCI	3	
HOURLY PRODUCT	<u> </u>			
	Average Grader Speed:	1.50	mph	
	Selected Application:		grading (0-2.5 mph) -	1.5
	Selected Blade Angle:	30	degrees	
Width	Effective Blade Length:	10.40	feet	
	of blade overlap per pass: or ripping width per pass:	2.00 8.40	feet feet	
	Hourly Unit Production:	1.5273	acres/hour	
Job Condition Correction			Site Altitude: <u>10000</u> fe	et
		urce	ne minude. <u>10000</u> ie	
Altitude Adj:		Г НВ)		
Job Efficiency:		d, fav.)		
Net Correction:	0.9000 multi			
А	djusted Hourly Unit Producti	ion: 1.3745	acres/Hour	
	djusted Hourly Fleet Producti		acres/Hour	
JOB TIME AND COS	<u>ST</u>			
Fleet size:	1 Grader(s)	Total job time	66.93	Hours
Unit cost: \$7	0.10 per acre	Total job cos	t: \$6,449	
ϕT	per uere	1000 003		

Т	ask descrip	otion:	Seed Mix - Drill	Seeding				
Site:	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: M1977342	
<u>P</u>]	ROJECT	IDENTIFIC	ATION					
	Task #:	E03	State:	Colorado		Abbreviation:	None	
	Date:	12/19/2019	County:	Clear Creel	ζ.	Filename:	M342-E03	-
	User:	ZTT						
	Age	ency or organiz	zation name:	RMS				

FERTILIZING

Materials

_					
	Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
	6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
				Total Fertilizer Materials Cost/Acre	\$26.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

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	0.11	2.53	\$1.57
Arizona Fescue - Redondo	0.45	5.17	\$4.16
Mountain Brome - Bromar	1.70	2.73	\$6.46
Kentucky Bluegrass - Lato	0.09	4.44	\$0.30
Rocky Mountain Fescue	0.17	2.73	\$1.23
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	1.74	1.02	\$121.76
Slender Wheatgrass - Native	0.68	2.48	\$3.15
Vetch, American	1.33	0.60	\$132.90
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.45	2.99	\$7.43
Timothy, Alpine - Native	0.25	7.46	\$6.06
Tufted Hairgrass	0.17	9.76	\$1.87

Penstemon, Rocky Mountain	0.27	4.23	\$7.97
Yarrow, Western	0.05	3.04	\$2.09
Totals Seed Mix	7.66	52.34	\$306.81

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
EcoFlex (mulch tackifier)	100.00	Pound	\$0.81	\$80.81
Total Mulch Materials Cost/Acre				\$80.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

No. of Acres:	36	Cost /Acre:	\$752.44
Estimated Failure Rate:	25%	Cost /Acre*:	\$538.81
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$27,087.84
Reseeding Job Cost:	\$4,849.29
Total Job Cost:	\$31,937
Job Hours:	18.00

-	Henderso	on Mine	Per	mit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PI	ROJECT	IDENTIFICA	TION				
	Task #:	E04	State:	Colorado		Abbreviation:	None
	D.	12/19/2019	County:	Clear Creel	C C	Filename:	M342-E04
	Date:	12/17/2017					

FERTILIZING

terials Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			Total Fertilizer Materials	
			Cost/Acre	\$0.00

Application

Description		Cost /Acre
		\$
	Total Fartilizar Application Cost/Acro	40.00
	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
				\$
	Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

\$	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Aspen	50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
Pine, Lodgepole	50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
Serviceberry	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Snowberry, Western	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
					\$332.00
	Totals Nursery Stock Cost / Acre				

No. of Acres:	36	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$11,952.00
Reseeding Job Cost:	\$2,988.00
Total Job Cost:	\$14,940
Job Hours:	18.00

Т	ask descrip	otion:	Maintenance Fe	rtilization				
Site:	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>	
<u>Pl</u>	ROJECT	IDENTIFIC	ATION					
	Task #:	E05	State:	Colorado		Abbreviation:	None	
	Date:	12/19/2019	County:	Clear Creek	X	Filename:	M342-E05	
	User:	ZTT						
	Age	ency or organiz	zation name:	RMS				

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling Cos	st/Acre \$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 2	Nursery Stoc	k Cost / Acre	\$0.00

	No. of Acres:	25	Cost /A	cre: \$6	9.65
Estimate	ed Failure Rate:	0%	Cost /Act	re*: \$6	9.65
*Selected Replanti	ng Work Items:	FERTILIZING			
Initial Job Cost:	\$1,741.25				
Reseeding Job Cost:	\$0.00				
Total Job Cost:	\$1,741				
Job Hours:	12.50				

BULLDOZER WORK

Task description:	Backfill and Gra	de Mill Site			
ite: Henderson Mine	Per	mit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PROJECT IDENTIF	ICATION				
Task #: F01 Date: 12/19/201 User: ZTT	9 County:	Colorado Clear Creek		Abbreviation: Filename:	None M342-F01
Agency or orga	nization name: <u>DR</u>	MS			
HOURLY EQUIPME	ENT COST				
Horsepower: 31 Blade Type: Se Attachment: NA	mi-Universal				
Data Source: (C Cost Breakdown:	RG)				
Ownership Cost/Hour:		\$103.86	Utilization % NA		
Operating Cost/Hour: Ripper own.		\$82.26 \$0.00	100 NA		
Cost/Hour: Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.24	NA		
Swell factor: 1.12	2,021	-			
Source of estimated vol Source of estimated swe factor:			n, Mining & Safety		
HOURLY PRODUCT	<u>FION</u>				
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY/I	hr			
Materials consistency description:	Compac	eted fill or em	bankment 0.9		
Average push gradient:	-10 %				
Average site altitude:	10,000 feet				
Material weight:	2,550 lbs/LCY				
Weight description:	Earth - Dry packed	l			

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:	0.700	(FND-MF)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4333

Adjusted unit production:	163.70 LCY/hr
Adjusted fleet	163.7 LCY/hr
production:	103.7 LC 1/10

Fleet size:	1 Dozer(s)	
Unit cost:	\$1.389/LCY	

Total job time:	1,250.91 Hours
Total job cost:	\$284,409
BULLDOZER WORK

Task description:	Reclaim Mill	Access Road			
Site: Henderson Mine		Permit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PROJECT IDENT	IFICATION				
Task #: F02	State	e: Colorado		Abbreviation:	None
Date: 12/19/2 User: ZTT	County County	Clear Creek	X	Filename:	M342-F02
Agency or or	ganization name:	DRMS			
HOURLY EQUIPM	MENT COST				
	Cat D8T - 8SU		_		
	310		-		
• 1	Semi-Universal		-		
	NA		-		
	1 per day		-		
Data Source:	(CRG)		-		
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hou		\$103.86	NA		
Operating Cost/Hou		\$82.26	100		
Ripper ow Cost/Hou		\$0.00	NA		
Ripper op. Cost/Hou		\$0.00	0		
Operator Cost/Hou		\$41.24	NA		
Total Fleet Cost/Hou MATERIAL QUAN	NTITIES				
Swell factor: 1	0,080 .215 2,997 LCY				
Source of estimated y	Divisi		Mining & Cofeta		
Source of estimated s Source of estimated s factor:		andbook	on, Mining & Safety		
HOURLY PRODU	<u>CTION</u>				
Average push distand Unadjusted hourly production:	250 feet 377.8 L0	CY/hr			
Materials consistency description:	y Loo	se stockpile 1.2			
Average push gradient:	-5 %				
Average site altitude:	10,000 feet				
Material weight:	1,600 lbs/LCY				
Weight description:	Top Soil				

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(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:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8384

Adjusted unit production:	316.75 LCY/hr
Adjusted fleet production:	316.75 LCY/hr

Fleet size:	1 Dozer(s)	
Unit cost:	\$0.718/LCY	-

Total job time:	230.46 Hours
Total job cost:	\$52,397

REVEGETATION WORK

Т	ask descrip	otion:	Drill Seed Mill	Yard and Ac	cess Road		
Site:	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: M1977342
<u>P</u>]	ROJECT Task #:	IDENTIFIC	CATION State:	Colorado		Abbreviation:	None
	Date: User:	12/19/2019 ZTT	County:	Clear Creel	k	Filename:	M342-F03
	Age	ency or organiz	zation name: DI	RMS			

FERTILIZING

Materials

_					
	Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
	6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
				Total Fertilizer Materials Cost/Acre	\$26.50

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$36.15
Total Fertilizer Application	on Cost/Acre \$36.15

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	0.11	2.53	\$1.57
Arizona Fescue - Redondo	0.45	5.17	\$4.16
Mountain Brome - Bromar	1.70	2.73	\$6.46
Kentucky Bluegrass - Lato	0.09	4.44	\$0.30
Rocky Mountain Fescue	0.17	2.73	\$1.23
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	1.74	1.02	\$121.76
Slender Wheatgrass - Native	0.68	2.48	\$3.15
Vetch, American	1.33	0.60	\$132.90
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.45	2.99	\$7.43
Timothy, Alpine - Native	0.25	7.46	\$6.06
Tufted Hairgrass	0.17	9.76	\$1.87

Penstemon, Rocky Mountain	0.27	4.23	\$7.97
Yarrow, Western	0.05	3.04	\$2.09
Totals Seed Mix	7.66	52.34	\$306.81

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
EcoFlex (mulch tackifier)	100.00	Pound	\$0.81	\$80.81
Total Mulch Materials Cost/Acre				\$80.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals	Nursery Stoc	k Cost / Acre	\$0.00

No. of Acres:	123	Cost /Acre:	\$752.44
Estimated Failure Rate:	25%	Cost /Acre*:	\$538.81
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$92,550.12
Reseeding Job Cost:	\$16,568.41
Total Job Cost:	\$109,119
Job Hours:	61.50

REVEGETATION WORK

Т	Task description: Shrub/Tree Plant Mill Yard and Access Road						
Site:	Site: Henderson Mine		Pe	Permit Action: 2019 RCE		Permit/Job#: M1977342	
PI	ROJECT	<u>IDENTIFIC</u>	CATION				
	Task #: Date:	F04 12/19/2019	State: County:	Colorado Clear Creel	k	Abbreviation: Filename:	None M342-F04
	User:	ZTT			<u>~</u>	Thename.	MIJ42-104
	Age E RTILIZ		zation name: DF	RMS			

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			Total Fertilizer Materials	
			Cost/Acre	\$0.00

Application

Description	Cost /Acre
	\$
Total Fartilizar Application Cost/Acro	* • • •
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
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Aspen	50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
Pine, Lodgepole	50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
Serviceberry	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Snowberry, Western	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Totals Nursery Stock Cost / Acre					\$332.00

No. of Acres:	123	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$40,836.00
Reseeding Job Cost:	\$10,209.00
Total Job Cost:	\$51,045
Job Hours:	61.50

REVEGETATION WORK

Т	ask descrip	otion:	Maintenance Fe	rtilization			
Site:	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
<u>PI</u>	ROJECT	IDENTIFIC	ATION				
	Task #:	F05	State:	Colorado		Abbreviation:	None
	Date:	12/19/2019	County:	Clear Creek	C C	Filename:	M342-F05
	User:	ZTT				-	
	Age	ency or organiz	zation name:	RMS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling Cos	st/Acre \$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

	Cost /Acre
	\$
Total Seed Application Cost/Acre	\$0.00
•	Fotal Seed Application Cost/Acre

MULCHING and MISCELLANEOUS

Materials

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

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

No. of Acres:	123	Cost /Acr	re: \$69.65
ed Failure Rate:	0%	Cost /Acre	*: \$69.65
ng Work Items:	FERTILIZING		
\$8,566.95			
\$0.00			
\$8,567			
61.50			
	ed Failure Rate: ng Work Items: \$8,566.95 \$0.00 \$8,567	ng Work Items: FERTILIZING \$8,566.95 \$0.00 \$8,567	ed Failure Rate: 0% Cost /Acre ng Work Items: FERTILIZING \$8,566.95 \$0.00 \$8,567 \$67

TRUCK/LOADER TEAM WORK

Task description:	Excava	te/Haul Sedimen	t from EB Reser	rvoir			
Site: Henderson Mi	ne	Permit Act	ion: 2019 RCE		Permit/Job	#: <u>M</u>	1977342
PROJECT IDEN							
Task #: <u>G01</u>		State: Colora			previation:	None	
		County: Clear	Creek		Filename:	M342	-G01
User: ZTT							
Agency o	r organization nan	ne: DRMS					
HOURLY EQUI	PMENT COST	2		Shift ba	sis: <u>1 per da</u>	<u>y</u>	
		I	Equipment Descr	iption			
	Fruck Loader Tea			•			
			Г 938Н				
Supp	ort Equipment -L						
		Imp Area: NA					
Road M	laintenance – Moto						
	-Wa	ter Truck: NA					
Cost Breakdown:	Truck/Loa			Equipment			e Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader		Water Truck
%Utilization-machine:	100	100	NA	NA	1	NA	NA
Ownership cost/hour:	\$68.27	\$26.49	NA	NA	1	NA	NA
Operating cost/hour:	\$59.78	\$33.66	NA	NA	1	NA	NA
%Utilization-riper:	NA	0	NA	NA	1	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	1	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	١	NA	NA
Operator cost/hour:	\$32.93	\$40.65	NA	NA	1	NA	NA
Unit Subtotals:	\$160.98	\$100.79	NA	NA	1	NA	NA
Number of Units:	2	1	0	0		0	0

Total work team cost/hour: <u>\$422.75</u>

Work:

\$422.75

MATERIAL QUANTITIES

Group Subtotals:

Initial volume:	18,796	CCY	Swell factor:	1.000	
Loose volume:	18,796	LCY			
Sourc	e of estimated volume:	Division of	f Reclamation, Min	ing & Safety	
Source of	estimated swell factor:	Cat Handb	ook		
Ν	Aaterial Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

Support:

\$0.00

\$0.00

Maint:

HOURLY PRODUCTION

Truck Capacity:								
Truck Payload (weight) Basi								
Material weight:	2,700		Pounds/I	LCY				
Description:	Earth - Wet	excavated						
Rated Payload:	87,000		Pounds					
Payload Capacity:	32.22		LCY					
Truck Bed (volume) Basis:								
Struck Volume:	24.20	LCY						
Heaped Volume:	31.40	LCY						
Average Volume:	27.80	LCY						
Adjusted Volume:	31.40	LCY						
Final	Truck Volume	Based on Nu	mber of Lo	ader Passes:		30.03	LCY	
Loading Tool Capacity								
• • •				Buc	ket Siz	e Class: NA	A	
Rated Capacity:	3.900	LCY (h	eaped)					
Bucket Fill Factor:	1.100	Other -	rock/dirt n	nixtures (10	00-120	%) 1.100		
Adjusted Capacity:	4.290	LCY						
Job Condition Corrections	<u>:</u>		Site	Altitude (ft.)	: <u>10000</u>	<u>)</u> feet		
	Truck	Load	er	Source	ρ]		
Altitude Adj:	0.820	1.00		(CAT H				
Job Efficiency:	0.830	0.83		(CAT H				
				(0	_/			
Net Correction:	0.681	0.83	0					
Loading Tool Cycle Time:		Number of Lo	oading Too	l Passes Req			7	passes
Excavators and Front Shove	<u>ls:</u>				T	ruck:	,	
Machine Cycle Time v Selected Value			NA NA					
Track Loaders –								
Cycle Time Elements (min.)	:							
Load: NA]	Maneuver:	NA		Du	mp: 0.100		
Wheel and Trac	k Loaders - U	nadjusted Basi	c Loader C	•	load, du maneu	- U.	483	minutes
Cycle Time Factors						ctor (min.)	Source	2
Material:	Mixed mat	erial 0.02			1.4	0.020	(Cat HI	
Stockpile:		/ truck 0.02				0.020	(Cat HI	
Truck Ownership:		wnership of tr	ucks and lo	oaders -				
	0.04	•				-0.040	(Cat HI	·
Operation:		peration -0.04			-	-0.040	(Cat HI	
Dump Target:	No adjustn	nent - factor no	<u> </u>			0.000	(Cat HI	
				Adjustment:		-0.040	minute	
				Cycle Time:		0.443	minute	
		Net	Load Time	e per Truck:		2.755	minute	S

	Tru	ck Exch	nange Time:	0.60	Minutes	Adju	sted for site al	titude:	0.732	Minutes
		Truck	Load Time:	2.755	Minutes	Adjusted for site altitude:			2.755	Minutes
	Truck M	laneuve	r and Dump Time:	1.00	Minutes	Adjusted for site altitude:			1.220	Minutes
	Truck Trav maintained Haul Route	2.0	ıl & Return) T	<u>`ime:</u>	Road Conditi	on: <u>Hard, smoo</u>	th, stabilized,	surfaced, wat	ered,	
	Seg #		Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	5000.	.00	-5.00	2.00	-3.00	3005	1.715		
						Haul Time:	1.715	minut	es	
	Return Rou		D !			— 1 —	** 1 •	TT 1	1	
	Seg #	Haul (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	5000.	.00	5.00	2.00	7.00	2470	2.217		
					Total Tru	Return Time: ck Cycle Time:				
		iction	516.76	LCY/Hou	r	Adjusted for j	ob efficiency:	428.91	LCY	/Hour
TTUCK	Truck Unit Production208.58		208.58	LCY/Hou	r	Adjusted for j	ob efficiency:	173.13	LCY	//Hour
Optim	al No. of Ti	ucks:	2	Truck(s)		Selected Numb	per of Trucks:	2	Truc	k(s)
			A	Adjusted singl	le truck/loader	team production team production team production	on: 346.	25 LC	Y/Hour Y/Hour Y/Hour	
	JOB TIM	IE AN	D COST							
	Fleet	size: _	1	Team(s)	Т	otal job time:	54.2	<u>8</u> H	lours	

 Unit cost:
 \$1.221
 /LCY
 Total job cost:
 \$22,949

REVEGETATION WORK

Task description: Drill Sector			cess Roads to U	B HS UC Reservoir	
Site: Henderson Mine		Permit Action: 2019 RCE			b#: <u>M1977342</u>
IDENTIFIC G02	CATION State:	Colorado		Abbreviation:	None
12/19/2019 ZTT	County:	Clear Creel	k	Filename:	M342-G02
	on Mine IDENTIFIC G02 12/19/2019	on Mine Pe IDENTIFICATION G02 State: 12/19/2019 County:	on Mine Permit Action: IDENTIFICATION	Mine Permit Action: 2019 RCE IDENTIFICATION G02 State: Colorado 12/19/2019 County: Clear Creek	On Mine Permit Action: 2019 RCE Permit/Jo IDENTIFICATION G02 State: Colorado Abbreviation: 12/19/2019 County: Clear Creek Filename:

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
			Total Fertilizer Materials Cost/Acre	\$26.50

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$36.15
Total Fertilizer Application Cost/Ac	cre \$36.15

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	0.11	2.53	\$1.57
Arizona Fescue - Redondo	0.45	5.17	\$4.16
Mountain Brome - Bromar	1.70	2.73	\$6.46
Kentucky Bluegrass - Lato	0.09	4.44	\$0.30
Rocky Mountain Fescue	0.17	2.73	\$1.23
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	1.74	1.02	\$121.76
Slender Wheatgrass - Native	0.68	2.48	\$3.15
Vetch, American	1.33	0.60	\$132.90
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.45	2.99	\$7.43
Timothy, Alpine - Native	0.25	7.46	\$6.06
Tufted Hairgrass	0.17	9.76	\$1.87

Penstemon, Rocky Mountain	0.27	4.23	\$7.97
Yarrow, Western	0.05	3.04	\$2.09
Totals Seed Mix	7.66	52.34	\$306.81

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
EcoFlex (mulch tackifier)	100.00	Pound	\$0.81	\$80.81
Total Mulch Materials Cost/Acre				\$80.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 2	Nursery Stoc	k Cost / Acre	\$0.00

No. of Acres:	4.1	Cost /Acre:	\$752.44
Estimated Failure Rate:	25%	Cost /Acre*:	\$538.81
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$3,085.00
Reseeding Job Cost:	\$552.28
Total Job Cost:	\$3,637
Job Hours:	2.00

REVEGETATION WORK

on: <u>2019 RCE</u> Permit/J	ob#: <u>M1977342</u>
do Abbreviation:	None
Creek Filename:	M342-G03
	do Abbreviation: Creek Filename:

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			Total Fertilizer	
			Materials Cost/Acre	\$0.00

Application

Description		Cost /Acre
		\$
	Total Fastilizar Application Cost/Acro	
	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
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

\$	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Totala Nunsony Stool: Cost / Aono				
	Acre 50 50 100	AcreType and Size50Tubling, 3 cu. in. container (MEANS)50Tubling, 3 cu. in. container (MEANS)100Tubling, 3 cu. in. container (MEANS)100Tubling, 3 cu. in. container (MEANS)100Tubling, 3 cu. in. container (MEANS)	AcreType and SizeCost50Tubling, 3 cu. in. container (MEANS)\$1.0950Tubling, 3 cu. in. container (MEANS)\$1.19100Tubling, 3 cu. in. container (MEANS)\$1.09100Tubling, 3 cu. in. container (MEANS)\$1.09100Tubling, 3 cu. in. container (MEANS)\$1.09	AcreType and SizeCostPellet Cost50Tubling, 3 cu. in. container (MEANS)\$1.09\$0.0050Tubling, 3 cu. in. container (MEANS)\$1.19\$0.00100Tubling, 3 cu. in. container (MEANS)\$1.09\$0.00100Tubling, 3 cu. in. container (MEANS)\$1.09\$0.00100Tubling, 3 cu. in. container (MEANS)\$1.09\$0.00

No. of Acres:	4.1	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$1,361.20
Reseeding Job Cost:	\$340.30
Total Job Cost:	\$1,701
Job Hours:	2.00

REVEGETATION WORK

Т	ask descrip	otion:	Maintenance Fe	rtilization				
Site:	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	o#: <u>M1977342</u>	
<u>P</u> 1	ROJECT	IDENTIFIC	ATION					
	Task #:	G04	State:	Colorado		Abbreviation:	None	
	Date:	12/19/2019	County:	Clear Creel	ζ.	Filename:	M342-G04	_
	User:	ZTT						
	Age	ency or organiz	zation name:	MS				

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling Cos	st/Acre \$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 2	Nursery Stoc	k Cost / Acre	\$0.00

	No. of Acres:	5	Cost /Acre	e: \$69.65
Estimate	ed Failure Rate:	0%	Cost /Acre ³	*: \$69.65
*Selected Replanti	ng Work Items:	FERTILIZING		
Initial Job Cost:	\$348.25			
Reseeding Job Cost:	\$0.00			
Total Job Cost:	\$348			
Job Hours:	2.50			

TRUCK/LOADER TEAM WORK

Task description	on:	Cover S	oil - Bone	e Yard t	o Dams			
Site: Henderson	Site: Henderson Mine Perm			mit Actio	on: _2019 RCE		Permit/Job#:	: M1977342
<u>PROJECT II</u>	DENT	IFICATION						
Task #:	H01		State:	Colorad	lo	Abl	previation: N	None
	12/19/2	2019 C	County:	Clear C	reek		Filename: N	И342-Н01
User: 2	ZTT	<u> </u>						
Agenc	cy or o	rganization nam	ne: DRM	MS				
HOURLY EQ	QUIPN	MENT COST				Shift ba	sis: <u>1 per day</u>	
				E	quipment Descr	iption		
	Tru	ick Loader Tear	n -Truck:	Cat 7		•		
			-Loader:		938H			
S	Support	t Equipment -Lo		NA				
			mp Area:	NA				
Roa	ad Mair	ntenance – Moto		CAT		<u></u>		
		-Wat	er Truck:	Wate	r Tanker, 5,000	Gal.		
Cost Breakdow	vn:	Truck/Loa	der Team		Support	Equipment	Mainte	enance Equipment
<u></u>		Truck	Loader		Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machi	ne:	100		100	NA	NA	10	0 20
Ownership cost/ho	our:	\$68.27	\$2	26.49	NA	NA	\$33.62	2 \$27.40
Operating cost/ho	our:	\$59.78	\$.	33.66	NA	NA	\$3.42	2 \$8.00
%Utilization-rip	per:	NA		0	NA	NA	NA	A NA
Ripper ov cost/ho		NA		\$0.00	NA	NA	\$0.00	0 \$0.00
Ripper op. cost/ho	our:	NA	2	\$0.00	NA	NA	\$0.00	0 \$0.00
Operator cost/ho	our:	\$32.93	\$4	40.65	NA	NA	\$28.52	2 \$21.09
Unit Subtota	als:	\$160.98	\$1	00.79	NA	NA	\$65.5	5 \$56.49
Number of Un	its:	5		1	0	0	-	1 1
Group Subtota	als:	Work:	\$905.69		Support:	\$0.00	Maint	: \$122.04

Total work team cost/hour: **\$1,027.73**

MATERIAL QUANTITIES

Initial volume:	2,210,934	CCY	Swell factor:	1.215	
Loose volume:	2,686,285	LCY			
Sourc	e of estimated volume:	Division of	f Reclamation, Min	ing & Safety	
Source of estimated swell factor:		Cat Handb	ook		
Ν	Aaterial Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

HOURLY PRODUCTION

Truck Capacity: Truck Payload (weight) Bas					
Material weight:	1,600	Pounds	ЛСХ		
Description:	Top Soil	I Ounds			
Rated Payload:	87,000	Pounds			
Payload Capacity:	54.38	LCY			
r ujioud Euplehiji		Eer			
Truck Bed (volume) Basis:					
Struck Volume:	24.20	LCY			
Heaped Volume:		LCY			
Average Volume:		LCY			
Adjusted Volume:	31.40	LCY			
Final	Truck Volume B	ased on Number of L	oader Passes:	30.03	LCY
Loading Tool Capacity					
Rated Capacity:	2 000	LCY (heaped)	Buck	et Size Class: NA	A
Bucket Fill Factor:	3.900	Other - rock/dirt	mixtures (10)	0-120%) 1.100	
Adjusted Capacity:	4.290	LCY	Inixtures (100	0-120/0) 1.100	
				10000	
Job Condition Corrections			e Altitude (ft.):	<u>10000</u> feet	
Altituda Adia	Truck	Loader	Source		
Altitude Adj:	0.820	<u>1.000</u> 0.830	(CAT HB (CAT HB		
Job Efficiency:	0.830	0.830	(САТ ПВ)	
Net Correction:	0.681	0.830			
Loading Tool Cycle Time	<u>:</u> N	umber of Loading To	ol Passes Requ	ired to Fill	7 passes
Excavators and Front Shov	els:			Truck:	1
Machine Cycle Time Selected Value	vs. Job Condition within this Basic				
	- Material Descrip	<u> </u>			
Cycle Time Elements (min.)	-				
Load: NA		aneuver: NA		Dump: 0.100	
Wheel and Trac	ck Loaders - Unac	ljusted Basic Loader	•	pad, dump, 0	483 minutes
Cycle Time Factors	3			Factor (min.)	Source
Material		al 0.02		0.020	(Cat HB)
Stockpile				0.020	(Cat HB)
Truck Ownership	Common owr 0.04	nership of trucks and	loaders -	-0.040	(Cat HB)
Operation		cation -0.04		-0.040	(Cat HB)
Dump Target		t - factor not applical	ble 0.00	0.000	(Cat HB)
		Net Cycle Time		-0.040	minutes
		Adjusted Loader		0.443	minutes
		Net Load Tim	ne per Truck:	2.755	minutes

Truc	k Exch	ange Time:	0.60	Minutes	Adju	isted for site al	titude:	0.732	Minut
Truck Load Time:		2.755	Minutes	Adju	isted for site al	titude:	2.755	Minu	
Truck Ma	aneuver	and Dump Time:	1.00	Minutes	Adju	isted for site al	titude:	1.220	Minu
		l & Return) 7	<u>`ime:</u>	Road Conditi	ion: <u>Firm, smoo</u>	oth, rolling, dir	t/lt. surface	ed, watered,	
maintained Haul Route:									
Seg #		Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
1	22700	0.00	1.00	3.00	4.00	2421	10.002		
2	14300	0.00	-2.00	3.00	1.00	3005	4.789		
					Haul Time:	14.791	mi	inutes	
Return Rout		<u> </u>			T 1 D	X Y 1 •.	Tassa 1		
Seg #	Haul I (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
1	14300		2.00	3.00	5.00	3005	4.998		
2	22700	0.00	-1.00	3.00	2.00	3005	7.554		
				Total Tru	Return Time: ick Cycle Time:			ninutes ninutes	
Loading Tool		516 76			A 11 / 1.C	1 66 .	120	01 1 (7)	7 /11 1
Produc uck Unit Produc	-	516.76	LCY/Hou	ır	Adjusted for j	ob efficiency:	428.	<u>.91</u> LC1	/Hour
	-	56.22	LCY/Hou	ır	Adjusted for j	ob efficiency:	46.0	66 LCY	/Hour
timal No. of Tru	icks:	9	Truck(s)		Selected Numl	ber of Trucks:	5	Truc	ck(s)
		А	Adjusted sing	le truck/loader	t team production r team production r team production	on: 233.	31	LCY/Hour LCY/Hour LCY/Hour	
JOB TIM	E ANI								
Fleet s	ize:	1	Team(s)	Т	Total job time:	11,513	.70	Hours	
Unit c	ost:	\$4.405	/LCY	ŋ	Fotal job cost:	\$11,832	,973	-	
			<u>]</u>	BULLDOZE	<u>R WORK</u>				
Task descr	ription:	Sp	read Cover o	n Dams and I	Dry Beach				
Site: Hender	son Mi	ne	Pe	rmit Action:	2019 RCE		Permit/Jo	b#: <u>M1977</u>	342
PROJECT	F IDE	NTIFICAT	ION						
Task #: Date:	12/	2 19/2019	State: County:	Colorado Clear Creek			eviation: ïlename:	None M342-H02	
User:	ZT	Г	_						
	-	Г or organizatio	n name: DF	RMS					

HOURLY EQUIPMENT COST

Basic Machine:	Cat D8T - 8SU
Horsepower:	310
Blade Type:	Semi-Universal
Attachment:	NA
Shift Basis:	1 per day
Data Source:	(CRG)

Cost Breakdown:

Cost Breakdown:		
		Utilization %
Ownership Cost/Hour:	\$103.86	NA
Operating Cost/Hour:	\$82.26	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.24	NA
Total unit Cost/Hour:	\$227.36	
Total Fleet Cost/Hour:	\$227.36	

MATERIAL QUANTITIES

Initial Volume:	2,210,934		
Swell factor: _ Loose volume:	1.000 2,210,934 I	CY	
=			n Mining & Cofety
Source of estimated Source of estimated factor:		Division of Reclamatio Cat Handbook	
HOURLY PROD	UCTION		
Average push dista	nce:	250 feet	
Unadjusted hourly production:		377.8 LCY/hr	
Materials consisten description:	су	Loose stockpile 1.2	
Average push gradient:	-10 9	%	
Average site altitud	le: 10,0	00 feet	
Material weight:	1,60	0 lbs/LCY	
Weight description	:Тор	Soil	
Job Condition Correc	ction Factor		Source
	rator Skill:	0.750	(AVG.)
Material co		1.200	(CAT HB)
	ig method:	1.000	(GEN.)
	Visibility:	1.000	(AVG.)
Job	efficiency:	0.830	(1 SHIFT/DAY)
	Spoil pile:	0.700	(FND-MF)
Push gradient:		1.225	(CAT HB)
	Altitude:	1.000	(CAT HB)
Materi	al Weight:	1.438	(CAT HB)
	Blade type:	1.000	(PAT)
	correction:	0.9211	

347.99 LCY/hr

Adjusted unit production: Adjusted fleet production:

347.99 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.653/LCY

Total job time:	6,353.44 Hours
Total job cost:	\$1,444,532

TRUCK/LOADER TEAM WORK

Task description:	Cover S	oil - N + E Stock	xpiles to Pond a	nd Dry Beach		
Site: Henderson Mine Permit Action			ion: 2019 RCE		Permit/Job#	: <u>M1977342</u>
PROJECT IDEN	TIFICATION					
Task #: H03		State: Colora	ado	Abb	previation: 1	None
	0/2019	County: Clear	Creek		Filename: 1	И342-Н03
User: <u>ZTT</u>						
Agency or	organization nan	ne: DRMS				
HOURLY EQUIE	PMENT COST	-		Shift ba	sis: <u>1 per day</u>	
		I	Equipment Descr	iption		
T	ruck Loader Tea					
			Г 938Н			
Suppo	ort Equipment -L					
Pood Ma	-Du Dintenance –Moto	mp Area: NA	Г 12М			
Koau Ma			ter Tanker, 5,000	Gal		
	vv a	ter Truck. Wat	er ranker, 5,000	Gui.		
Cost Breakdown:	Truck/Loa	der Team	Support	Equipment	Maint	enance Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	1	0 20
Ownership cost/hour:	\$68.27	\$26.49	NA	NA	\$33.6	2 \$27.40
Operating cost/hour:	\$59.78	\$33.66	NA	NA	\$3.4	2 \$8.00
%Utilization-riper:	NA	0	NA	NA	NA	A NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$0.0	0 \$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.0	0 \$0.00
Operator cost/hour:	\$32.93	\$40.65	NA	NA	\$28.5	2 \$21.09
Unit Subtotals:	\$160.98	\$100.79	NA	NA	\$65.5	5 \$56.49
Number of Units:	5	1	0	0		1 1
Group Subtotals:	Work:	\$905.69	Support:	\$0.00	Main	: \$122.04

Total work team cost/hour: <u>\$1,027.73</u>

MATERIAL QUANTITIES

Initial volume:	1,748,567	CCY	Swell factor:	1.215	
Loose volume:	2,124,509	LCY			
Sourc	e of estimated volume:	Division of	f Reclamation, Min	ing & Safety	
Source of	estimated swell factor:	Cat Handb	ook		
Ν	Aaterial Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

HOURLY PRODUCTION

Truck Capacity: Truck Payload (weight) Bas	vic.				
Material weight:	1,600	Pounds	/I CY		
Description:	Top Soil	1 Ounds			
Rated Payload:	87,000	Pounds			
Payload Capacity:	54.38	LCY			
i aj ioad Supacity.		201			
Truck Bed (volume) Basis:					
Struck Volume:	24.20	LCY			
Heaped Volume:	31.40	LCY			
Average Volume:		LCY			
Adjusted Volume:	31.40	LCY			
Final	Truck Volume B	ased on Number of I	Loader Passes:	30.03	LCY
Loading Tool Capacity					
	2 000		Buck	et Size Class: <u>N</u>	A
Rated Capacity: Bucket Fill Factor:	3.900	LCY (heaped)		0 1200/) 1 100	
	<u> </u>	Other - rock/dirt LCY	mixtures (10	0-120%) 1.100	
Adjusted Capacity:	4.290				
Job Condition Correction	<u>s:</u>	Site	e Altitude (ft.):	<u>10000</u> feet	
	Truck	Loader	Source		
Altitude Adj:	0.820	1.000	(CAT HE	8)	
Job Efficiency:	0.830	0.830	(CAT HE	3)	
Net Correction:	0.681	0.830			
Loading Tool Cycle Time	<u>:</u> N	umber of Loading To	ool Passes Requ	uired to Fill	7 passes
Excavators and Front Shov	els:			Truck:	1
Machine Cycle Time Selected Value	vs. Job Condition within this Basic				
	- Material Descri	<u> </u>			
Cycle Time Elements (min.	-				
Load: NA		aneuver: NA		Dump: 0.100	
Wheel and Tra	ck Loaders - Una	ljusted Basic Loader	•	oad, dump, 0 naneuver):	483 minutes
Cycle Time Factors	S			Factor (min.)	Source
Material		al 0.02		0.020	(Cat HB)
Stockpile				0.020	(Cat HB)
Truck Ownership	Common own	nership of trucks and	loaders -	-0.040	(Cat HB)
Operation		cation -0.04		-0.040	(Cat HB)
Dump Target		it - factor not applical	ble 0.00	0.000	(Cat HB)
r ~~8		Net Cycle Time		-0.040	minutes
		Adjusted Loader		0.443	minutes
		Net Load Tin	ne per Truck:	2.755	minutes

	True	ck Excha	nge Time:	0.60	Minutes	Adju	sted for site al	titude:	0.732	Minutes
		Truck L	oad Time:	2.755	Minutes	Adju	sted for site al	titude:	2.755	Minutes
	Truck M	aneuver	and Dump Time:	1.00	Minutes	Adju	sted for site al	titude:	1.220	Minutes
	maintained Haul Route	<u>3.0</u>	& Return) T			ion: <u>Firm, smoo</u>			watered,	
	Seg #	Haul D (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	6000.0	0	1.00	3.00	4.00	2421	3.104		
	Determ Der					Haul Time:	3.104	minu	tes	
	Return Rou Seg #		Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	6000.0	0	-1.00	3.00	2.00	3005	2.142		
					Total Tr	Return Time: uck Cycle Time:				
	oading Too. Produ Unit Produ	ction	516.76	LCY/Hour		Adjusted for jo	ob efficiency:	428.91	LCY	/Hour
Truck	C int i fouu	-	181.05	LCY/Hour		Adjusted for jo	ob efficiency:	150.27	LCY	/Hour
Optim	al No. of Tr	ucks:	3	Truck(s)		Selected Numb	per of Trucks:	5	Truc	k(s)
				Adjusted single	e truck/loade	k team productio r team productio r team productio	on: 428.	91 LC	Y/Hour Y/Hour Y/Hour	
	JOB TIM	E AND	<u>COST</u>							
	Fleet	size:	1	Team(s)]	Fotal job time:	4,953.	24 H	Hours	
	Unit c	cost:	\$2.396	/LCY	,	Total job cost:	\$5,090,	593		

BULLDOZER WORK

Task description:	Spread Cover o	n Pond, Wet	Beach		
Henderson Mine	Pe	ermit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PROJECT IDENTIF	ICATION				
Task #: H04	State:	Colorado		Abbreviation:	None
Date: $12/31/202$		Clear Creek		Filename:	M342-H04
User: ZTT					
Agency or orga	anization name: D	RMS			
HOURLY EQUIPMI	ENT COST				
	at D8T - 8SU				
Horsepower: 31					
Blade Type: Se Attachment: N	emi-Universal				
	per day				
	CRG)				
Cost Breakdown:		1			
		\$102.0 5	<u>Utilization %</u>		
Ownership Cost/Hour:		\$103.86	<u>NA</u>		
Operating Cost/Hour: Ripper own		\$82.26	100		
Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hours		\$41.24	NA		
MATERIAL QUAN	<u>FITIES</u>				
	48,567				
Swell factor: 1.0					
Loose volume: 1,7	48,567 LCY				
Source of estimated vo Source of estimated sw factor:			n, Mining & Safety		
HOURLY PRODUC	<u>TION</u>				
Average push distance:	250 feet				
Unadjusted hourly production:	377.8 LCY	/hr			
Materials consistency description:	Loose	stockpile 1.2			
Average push gradient:	0 %				
Average site altitude:	10,000 feet				
Material weight:	1,600 lbs/LCY				
Weight description:	Top Soil				
U 1	A				

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7519

Adjusted unit production:	284.07 LCY/hr				
Adjusted fleet	284.07 LCY/hr				
production:	284:07 LC 1/III				

Fleet size:	1 Dozer(s)	
Unit cost:	\$0.800/LCY	

Total job time:	6,155.41 Hours
Total job cost:	\$1,399,507

TRUCK/LOADER TEAM WORK

Task description	n: Haul R	ock Armor from	West Portal				
Site: Henderson M	Iine	Permit Act	ion: _2019 RCE	,	Permit/Job#:	M1977342	
PROJECT IDI	ENTIFICATION						
Task #:H05State:ColoradoAbbreviation:NoneDate:12/31/2019County:Clear CreekFilename:M342-H05User:ZTT							
Agency	or organization nam	ne: DRMS					
HOURLY EQ	UIPMENT COST	[Shift ba	sis: <u>1 per day</u>		
Equipment Description Truck Loader Team -Truck: Cat 740 -Loader: CAT 938H							
Su	pport Equipment -L -Du		1 93811				
Road	Maintenance – Moto - Wa		Г 12M ter Tanker, 5,000	Gal.			
Cost Breakdown	: Truck/Loa	ider Team	Support	Equipment	Mainten	ance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck	
%Utilization-machine	e: 100	100	NA	NA	10	20	
Ownership cost/hou	r: \$68.27	\$26.49	NA	NA	\$33.62	\$27.40	
Operating cost/hour	r: \$59.78	\$33.66	NA	NA	\$3.42	\$8.00	
%Utilization-ripe	r: NA	0	NA	NA	NA	NA	
Ripper own cost/hou	NA	\$0.00	NA	NA	\$0.00	\$0.00	
Ripper op. cost/hou	r: NA	\$0.00	NA	NA	\$0.00	\$0.00	
Operator cost/hou	r: \$32.93	\$40.65	NA	NA	\$28.52	\$21.09	
Unit Subtotals	s: \$160.98	\$100.79	NA	NA	\$65.55	\$56.49	
Number of Units	s: 5	1	0	0	1	1	
Group Subtotals	s: Work:	\$905.69	Support:	\$0.00	Maint:	\$122.04	

Total work team cost/hour: <u>\$1,027.73</u>

MATERIAL QUANTITIES

Initial volume:	342,889	CCY	Swell factor:	1.000	
Loose volume:	342,889	LCY			-
Sourc	e of estimated volume:	Division o	f Reclamation, Min	ing & Safety	
Source of	estimated swell factor:	Cat Handb	ook		
Ν	Interial Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

HOURLY PRODUCTION

Truck Capacity: Truck Payload (weight) Bas	sis.					
Material weight:	2,700	Pounds	Pounds/LCY			
Description:	Stone - crushe					
Rated Payload:	87,000	Pounds				
Payload Capacity:	32.22	LCY				
Truck Bed (volume) Basis:						
Struck Volume:		LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume:	31.40	LCY				
Fina Loading Tool Capacity	Truck Volume E	Based on Number of L	oader Passes:	30.03	LCY	
<u>Lowening roor cupuenty</u>			Dual	tet Size Class: NA	٨	
	2 000	ICV (Issues 1)	BUCK	tet Size Class: <u>N</u>	<i>-</i> 1	
Rated Capacity: Bucket Fill Factor:	3.900	LCY (heaped) Other - rock/dirt	mintumo (10	0-120%) 1.100		
Adjusted Capacity:	<u> </u>	LCY	mixtures (10	0-120%) 1.100		
Aujusieu Capacity.	4.290					
Job Condition Correction	<u>s:</u>	Site	e Altitude (ft.):	<u>10000</u> feet		
	Truck	Loader	Source			
Altitude Adj:	0.820	1.000	(CAT HE	,		
Job Efficiency:	0.830	0.830	(CAT HE	B)		
Net Correction:	0.681	0.830				
Loading Tool Cycle Time	_	umber of Loading To	ol Passes Requ	uired to Fill Truck:	7 passes	
Excavators and Front Shov	els:					
Machine Cycle Time Selected Value	vs. Job Condition within this Basic					
Track Loaders	- Material Descri	ption:				
Cycle Time Elements (min.):					
Load: NA	M	aneuver: NA		Dump: 0.100		
Wheel and Tra	ck Loaders - Una	djusted Basic Loader	•	oad, dump, 0.4 naneuver):	483 minutes	
Cycle Time Factor				Factor (min.)	Source	
Material				0.020	(Cat HB)	
Stockpile				0.020	(Cat HB)	
Truck Ownership	0.04	nership of trucks and	loaders -	-0.040	(Cat HB)	
Operation	^			-0.040	(Cat HB)	
Dump Target	: No adjustmer	nt - factor not applical		0.000	(Cat HB)	
		Net Cycle Time		-0.040	minutes	
		Adjusted Loader		0.443	minutes	
		Net Load Tin	ne per Truck:	2.755	minutes	

Truck Cycle Time:

	Truck Cyc	le 1 line	<u>.</u>							
	True	ck Exch	ange Time:	0.60	Minutes	Adju	sted for site al	ltitude:	0.732	Minu
	Truck Load Time:		2.755	Minutes	Adju	sted for site al	titude:	2.755	Minu	
	Truck M	aneuver	and Dump Time:	1.00	Minutes	Adju	sted for site al	ltitude:	1.220	Minu
	<u>Truck Trav</u> maintained		& Return) T	<u>'ime:</u>	Road Conditi	ion: <u>Firm, smoot</u>	th, rolling, dir	t/lt. surfaced.	watered,	
	Haul Route	:								
	Seg #	Haul I (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	22700	.00	1.00	3.00	4.00	2421	10.002	_	
	2	14300		-2.00	3.00	1.00	3005	4.789		
	Return Rou	ite:				Haul Time:	14.791	minu	ites	
	Seg #		Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	14300		2.00	3.00	5.00	3005	4.998		
	2	22700	.00	-1.00	3.00	2.00	3005	7.554		
						Return Time:	12.55	2 min	utes	
					Total Tru	ick Cycle Time:	32.04	9 min	utes	
	oading Too Produ Unit Produ	ction	516.76	LCY/Hou	ır	Adjusted for jo	ob efficiency:	428.91		Y/Hour
UCK	Unit Flouu	-	56.22	LCY/Hou	ır	Adjusted for jo	ob efficiency:	46.66		Y/Hour
otima	al No. of Tr	ucks:	9	Truck(s)		Selected Numb	er of Trucks:	5	Tru	ck(s)
				Adjusted sing	le truck/loader	team productio team productio team productio	n: 233.	31 LC	CY/Hour CY/Hour CY/Hour	
	JOB TIM	E ANI	O COST							
	Fleet s	size:	1	Team(s)	Т	otal job time:	1,469.	66	Hours	
	Unit cost:]					

BULLDOZER WORK

Fask description:	Permit Action:	2019 RCE	Permit/Jo	b#: M19773
PROJECT IDENTIFICA				
Task #: <u>H06</u>	State: Colorado		Abbreviation:	None
Date: 12/31/2019	County: Clear Creek		Filename:	M342-H06
User: ZTT				
Agency or organiza	tion name: DRMS			
HOURLY EQUIPMENT	<u>COST</u>			
Basic Machine: Cat Da	8T - 8SU			
Horsepower: 310				
Blade Type: Semi-	Universal			
Attachment: NA				
Shift Basis: 1 per c	lay			
Data Source: (CRG)				
Cost Breakdown:	1			
		<u>Utilization %</u>		
Ownership Cost/Hour:	\$103.86	NA		
Operating Cost/Hour:	\$82.26	100		
Ripper own.	\$0.00	NA		
Cost/Hour:				
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.24	NA		
	2007.24			
	5227.36			
Total Fleet Cost/Hour:	6227.36			
MATERIAL QUANTIT	IFS			
Initial Volume: 342,889)			
Swell factor: 1.000				
Loose volume: 342,88	J LCY			
Source of estimated volume	e: Division of Reclamation	n. Mining & Safety		
Source of estimated swell	Cat Handbook	, 8,		
factor:				
HOURLY PRODUCTIO	N			
Average push distance:	250 feet			
Unadjusted hourly	377.8 LCY/hr			
production:				
Matariala and it	T			
Materials consistency	Loose stockpile 1.2			
description:				
Average nuch	5 %			
01	70			
gradient: Average site altitude:	10,000 feet			
Material weight:	2,700 lbs/LCY			

Weight description: S	tone - crushed	
Job Condition Correction Fac	tor	Source
Operator Skil	11: 0.750	(AVG.)
Material consistency	y: 1.200	(CAT HB)
Dozing metho	d: 1.000	(GEN.)
Visibilit	y:1.000	(AVG.)
Job efficienc	y: 0.830	(1 SHIFT/DAY)
Spoil pil	e: 0.700	(FND-MF)
Push gradien	nt: 0.903	(CAT HB)
Altitud	e: 1.000	(CAT HB)
Material Weigh	it: 0.852	(CAT HB)
Blade typ	e: 1.000	(PAT)
Net correction	n: <u>0.4023</u>	
Adjusted unit production:	151.99 LCY/hr	
Adjusted fleet production:	151.99 LCY/hr	

Fleet size:	1 Dozer(s)	
Unit cost:	\$1.496/LCY	_

Total job time:	2,256.00 Hours
Total job cost:	\$512,928

MOTOR GRADER WORK

PROJECT IDENTIFICATION Task # H07 State: Colorado Abbreviation: Mone Duer: 12/31/2019 County: Clear Creek Filename: M342:H07 User: ZTT Agency or organization name: DRMS IDURLY EQUIPMENT COST Basic Machine: CAT 12M Horsepower: 158 Ripper Attachment: Shift Basis: 1 per day Data Source: (CRG) Ownership Cost/Hour: \$33.62 NA Operating Cost/Hour: \$30.00 NA Operating Cost/Hour: \$00.00 NA Operator Cost/Hour: \$00.00 NA Operator Cost/Hour: \$00.00 NA Total Unit Cost/Hour: \$96.35 Total Unit Cost/Hour: \$96.35 MATERIAL OLANTITIES Materia Grader Speed: 1.50 mph Selected Aplication: Finish grading (0-2.5 mph) - 1.5 Selected Aplication: Selected Aplication: Selected Aplication: Tisis grading (0-2.5 mph) - 1.5 Selected Aplication: Site Abitude: 10000 feet Moter Eduado vertap per pass: 2.	PROJECT IDENTIFIC Task #: H07 Date: 12/31/2019 User: ZTT	CATION	2019 RCE	Perr	mit/Job#: <u>M1977342</u>
Task #: H07 State: Colorado Abbreviation: None Date: 12/31/2019 County: Clear Creek Filename: M342-H07 User: ZTT	Task #: H07 Date: 12/31/2019 User: ZTT				
Date: 12/31/2019 County: Clear Creek Filename: M342-H07 User: ZTT Agency or organization name: DRMS HOURLY EOUIPMENT COST Basic Machine: CAT 12M Horsepower: 158 Ripper Attachment:	Date: 12/31/2019 User: ZTT				
User: ZTT Agency or organization name: DRMS HOURLY EQUIPMENT COST Basic Machine: CAT 12M Basic Machine: CAT 12M Horsepower: 158 Ripper Attachment: Shift Basis: 1 per day Data Source: (CRG) Cost Breakdown: Utilization % Ownership Cost/Hour: \$33.4.22 NA Operating Cost/Hour: \$30.00 NA Ripper Ownership Cost/Hour: \$90.00 NA Operator Cost/Hour: \$90.35 State 100 Total Unit Cost/Hour: \$96.35 acres Source of estimated acreage: 2019 Henderson RCE acres HOURLY PRODUCTION Average Grader Speed: 1.50 mph Selected Application: Finish grading (0-2.5 mph) - 1.5 selected flade Angle: 30 degrees Effective Blade Length: 10.40 feet width of blade overlap per pass: 2.00 feet Width of blade overlap per pass: 2.00 feet feet feet Unadjusted Hourly Unit Production: 1.5273 acres/hour Jobb Efficiency: 0.900(l	User: ZTT	State: Colorado		Abbreviat	ion: None
HOURLY EQUIPMENT COST Basic Machime: CAT 12M Horsepower: 158 Ripper Attachment: Data Source: (CRG) Cost Breakdown: Ovnership Cost/Hour: \$33.62 NA Operating Cost/Hour: \$33.62 NA Operating Cost/Hour: \$34.22 100 Ripper Ownership Cost/Hour: \$28.52 NA Operating Cost/Hour: \$96.35 Total Unit Cost/Hour: \$96.35 Total Cost/Hour: \$96.35 MATERIAL QUANTITIES Total Area to be graded or ripped: 200.00 Source of estimated acreage: 2019 Henderson RCE HOURLY PRODUCTION Selected Application: Selected Application: Finish grading (0-2.5 mph) - 1.5 Selected Blade Angle: 30 degrees Effective Blade Length: 10.40 feet Width of blade overlap per pass: 8.40 feet Variagues defoury (CAT HB) 1.527.3 acres/hour Job Efficiency: 0.900 (List)d, fav.) Net Correction: 0.9000 multiplier Ad		County: Clear Cree	k	Filena	me: M342-H07
Basic Machine: CAT 12M Horsepower: 158 Ripper Attachment: Shift Basis: 1 per day Cost Breakdown: Utilization % Ownership Cost/Hour: \$33.62 NA Operating Cost/Hour: \$33.62 NA Operating Cost/Hour: \$33.62 NA Operating Cost/Hour: \$33.62 NA Operating Cost/Hour: \$33.62 NA Ripper Operating Cost/Hour: \$30.00 NA Ripper Operating Cost/Hour: \$96.35 Stat Total Unit Cost/Hour: \$96.35 acres Source of estimated acreage: 2019 Henderson RCE acres HOURLY PRODUCTION Selected Application: Finish grading (0-2.5 mph) - 1.5 Selected Application: Finish grading (0-2.5 mph) - 1.5 Selected Blade Angle: 30 degrees 6et 1.50 mph Ket grading or ripping width per pass: 0.40 feet 1.573 acres/hour Job Condition Correction Factors Sturce Sturce Sturce Sturce Adjusted Hourly Unit Production: 1.3745 acres/Hour Job Eff	Agency or organ	ization name: DRMS			
Ripper Attachment:	HOURLY EQUIPMEN	NT COST			
Ripper Attachment:	Basic Machine	: CAT 12M		Horsepower:	158
Cost Breakdown: Utilization % Ownership Cost/Hour: \$33.62 NA Operating Cost/Hour: \$33.62 NA Ripper Ownership Cost/Hour: \$0.00 NA Ripper Operating Cost/Hour: \$0.00 NA Ripper Operating Cost/Hour: \$0.00 NA Ripper Operating Cost/Hour: \$96.35 Total Unit Cost/Hour: \$96.35 Total Fleet Cost/Hour: \$96.35 MATERIAL QUANTITIES acres Source of estimated acreage: 2019 Henderson RCE HOURLY PRODUCTION Average Grader Speed: mph Selected Application: Finish grading (0-2.5 mph) - 1.5 Selected Application: 1.50 mph Selected Application: 1.00 degrees Effective Blade Length: 10.40 feet Width of blade overlap per pass: 2.00 feet Net grading or ripping width per pass: 2.00 feet Net grading or ipping width per pass: 8.40 feet Unadjusted Hourly Unit Production: 1.573 acres/hour Job Efficiency: 0.90 (1sh'd, fav).)					
Willization % Utilization % Operating Cost/Hour: \$33.62 NA Operating Cost/Hour: \$34.22 100 Ripper Operating Cost/Hour: \$0.00 NA Ripper Operator Cost/Hour: \$0.00 NA Operator Cost/Hour: \$96.35 Total Unit Cost/Hour: \$96.35 MATERIAL QUANTITIES acres Source of estimated acreage: 2019 Henderson RCE HOURLY PRODUCTION Average Grader Speed: 1.50 mph Selected Application: Finish grading (0-2.5 mph) - 1.5 selected Application: 6errees Effective Blade Length: 10.40 feet feet Width of blade overlap per pass: 2.00 feet feet Vidtu of blade vorlap per pass: 8.40 feet feet Unadjusted Hourly Unit Production: 1.5273 acres/hour Job Efficiency: 0.900 (Lish/d, fav.) feet Job Efficiency: 0.900 multiplier acres/Hour Adjusted Hourly Unit Production: 1.3745 acres/Hour Job Efficiency 0.9000 multiplier				Data Source:	(CRG)
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Operating Cost/Hour: \$34.22 100 Ripper Ownership Cost/Hour: \$0.00 NA Ripper Operator Cost/Hour: \$28.52 NA Operator Cost/Hour: \$28.52 NA Total Unit Cost/Hour: \$96.35 Total Fleet Cost/Hour: \$96.35 MATERIAL QUANTITIES Total Area to be graded or ripped: 200.00				Utilization %	
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Ripper Operating Cost/Hour: \$0.00 Operator Cost/Hour: \$28.52 NA Total Unit Cost/Hour: \$96.35 Total Fleet Cost/Hour: \$96.35 MATERIAL QUANTITIES Total Area to be graded or ripped: 200.00 acres Source of estimated acreage: 2019 Henderson RCE acres HOURLY PRODUCTION Average Grader Speed: 1.50 mph Selected Blade Angle: 30 degrees degrees Effective Blade Length: 10.40 feet genes Width of blade overlap per pass: 2.00 feet genes/hour Job Condition Correction Factors Site Altitude: 10000 feet Source Altitude Adj: 1.00 (CAT HB) job Efficiency: 0.900 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour acres/Hour JOB TIME AND COST JOB TIME AND COST 1.3745 acres/Hour	1				
Operator Cost/Hour: \$28.52 NA Total Unit Cost/Hour: \$96.35 Total Fleet Cost/Hour: \$96.35 MATERIAL QUANTITIES Total Area to be graded or ripped: 200.00 acres Source of estimated acreage: 2019 Henderson RCE acres HOURLY PRODUCTION Average Grader Speed: 1.50 mph Selected Application: Finish grading (0-2.5 mph) - 1.5 selected Application: Selected Blade Angle: 30 degrees Effective Blade Length: 10.40 feet Width of blade overlap per pass: 2.00 feet Net grading or ripping width per pass: 8.40 feet Unadjusted Hourly Unit Production: 1.5273 acres/hour Job Condition Correction Factors Surce Surce Net Correction: 0.900 (Ish/d, fav.) net Source Job Efficiency: 0.90 (Ish/d, fav.) acres/Hour Adjusted Hourly Fleet Production: 1.3745 acres/Hour JOB TIME AND COST JOB TIME AND COST 1.3745 acres/Hour				NA	
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MATERIAL QUANTITIES Total Area to be graded or ripped: 200.00 acres Source of estimated acreage: 2019 Henderson RCE HOURLY PRODUCTION Average Grader Speed: 1.50 mph Selected Application: Finish grading (0-2.5 mph) - 1.5 selected Application: Selected Blade Angle: 30 degrees Effective Blade Length: 10.40 feet Width of blade overlap per pass: 2.00 feet Net grading or ripping width per pass: 8.40 feet Unadjusted Hourly Unit Production: 1.5273 acres/hour Job Condition Correction Factors Site Altitude: 10000 feet Source Source Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.900 (Ish/d, fav.) Net Correction: 0.9000 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour Adjusted Hourly Fleet Production: 1.3745 acres/Hour	Total		\$70.55		
Total Area to be graded or ripped: 200.00 acres Source of estimated acreage: 2019 Henderson RCE HOURLY PRODUCTION Average Grader Speed: 1.50 mph Selected Application: Finish grading (0-2.5 mph) - 1.5 selected Blade Angle: 30 degrees Effective Blade Length: 10.40 feet feet selected Hourly Unit Production: 1.5273 acres/hour Job Condition Correction Factors Site Altitude: 10000 feet Source Altitude Adj: 1.00 (CAT HB) job Efficiency: 0.900 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour acres/Hour Job Efficiency: 0.900 multiplier acres/Hour Adjusted Hourly Unit Production: 1.3745 acres/Hour JOB TIME AND COST Acres/Hour acres/Hour	Total H	Fleet Cost/Hour: \$96.	.35		
Source of estimated acreage: 2019 Henderson RCE HOURLY PRODUCTION Average Grader Speed: 1.50 mph Selected Application: Finish grading (0-2.5 mph) - 1.5 selected Blade Angle: 30 degrees Effective Blade Length: 10.40 feet feet Width of blade overlap per pass: 2.00 feet Unadjusted Hourly Unit Production: 1.5273 acres/hour Job Condition Correction Factors Site Altitude: 10000 feet Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.900 (1sh/d, fav.) Net Correction: 0.9000 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour Adjusted Hourly Fleet Production: 1.3745 acres/Hour JOB TIME AND COST JOB TIME AND COST JOB TIME AND COST	MATERIAL QUANTI	TIES			
HOURLY PRODUCTION Average Grader Speed: 1.50 mph Selected Application: Finish grading (0-2.5 mph) - 1.5 Selected Blade Angle: 30 degrees Selected Blade Angle: 30 degrees Effective Blade Length: 10.40 feet Width of blade overlap per pass: 2.00 feet Width of blade overlap per pass: 8.40 feet Unadjusted Hourly Unit Production: 1.5273 acres/hour Source Job Condition Correction Factors Net Correction: 0.900 (1sh/d, fav.) Net Correction: 0.9000 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour Adjusted Hourly Fleet Production: 1.3745 acres/Hour JOB TIME AND COST	Total Area to	b be graded or ripped: 200.00			acres
Average Grader Speed: 1.50 mph Selected Application: Finish grading (0-2.5 mph) - 1.5 Selected Blade Angle: 30 degrees Effective Blade Length: 10.40 feet Width of blade overlap per pass: 2.00 feet Net grading or ripping width per pass: 8.40 feet Unadjusted Hourly Unit Production: 1.5273 acres/hour Job Condition Correction Factors Site Altitude: 10000 feet Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.900 (1sh/d, fav.) Net Correction: 0.9000 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour JOB TIME AND COST JOB TIME AND COST 1.3745	Source	of estimated acreage: 2019 H	enderson RCE	2	
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Selected Blade Angle: 30 degrees Effective Blade Length: 10.40 feet Width of blade overlap per pass: 2.00 feet Net grading or ripping width per pass: 8.40 feet Unadjusted Hourly Unit Production: 1.5273 acres/hour Job Condition Correction Factors Site Altitude: 10000 feet Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.90 (1sh/d, fav.) Net Correction: 0.9000 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour JOB TIME AND COST JOB TIME AND COST 1.3745					
Effective Blade Length: 10.40 feet Width of blade overlap per pass: 2.00 feet Net grading or ripping width per pass: 8.40 feet Unadjusted Hourly Unit Production: 1.5273 acres/hour Job Condition Correction Factors Site Altitude: 10000 Job Edificiency: 0.90 (CAT HB) Job Efficiency: 0.900 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour JOB TIME AND COST JOB TIME AND COST 1.3745 acres/Hour					1.5
Width of blade overlap per pass: 2.00 feet Net grading or ripping width per pass: 8.40 feet Unadjusted Hourly Unit Production: 1.5273 acres/hour Job Condition Correction Factors Site Altitude: 10000 Job Efficiency: 0.90 (CAT HB) Job Efficiency: 0.90 (1sh/d, fav.) Net Correction: 0.9000 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour JOB TIME AND COST JOB TIME AND COST JOB TIME AND COST					
Net grading or ripping width per pass: 8.40 feet Unadjusted Hourly Unit Production: 1.5273 acres/hour Job Condition Correction Factors Site Altitude: 10000 feet Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.90 (1sh/d, fav.) Net Correction: 0.9000 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour JOB TIME AND COST JOB TIME AND COST					
Unadjusted Hourly Unit Production: 1.5273 acres/hour Job Condition Correction Factors Site Altitude: 10000 Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.90 (1sh/d, fav.) Net Correction: 0.9000 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour JOB TIME AND COST JOB TIME AND COST JOB TIME AND COST					
Job Condition Correction Factors Site Altitude: 10000 feet Source Source Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.90 (1sh/d, fav.) Net Correction: 0.9000 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour Adjusted Hourly Fleet Production: 1.3745 acres/Hour JOB TIME AND COST JOB TIME AND COST JOB TIME AND COST					
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Altitude Adj: 1.00 (CAT HB) Job Efficiency: 0.90 (1sh/d, fav.) Net Correction: 0.9000 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour Adjusted Hourly Fleet Production: 1.3745 acres/Hour JOB TIME AND COST JOB TIME AND COST JOB TIME AND COST		Source			
Net Correction: 0.9000 multiplier Adjusted Hourly Unit Production: 1.3745 acres/Hour Adjusted Hourly Fleet Production: 1.3745 acres/Hour JOB TIME AND COST Image: Cost of the second sec			3)		
Adjusted Hourly Unit Production: 1.3745 acres/Hour Adjusted Hourly Fleet Production: 1.3745 acres/Hour JOB TIME AND COST Adjusted Hourly Fleet Production: 1.3745			7.)		
Adjusted Hourly Fleet Production: 1.3745 acres/Hour JOB TIME AND COST	Net Correction:	0.9000 multiplier			
Adjusted Hourly Fleet Production: 1.3745 acres/Hour JOB TIME AND COST	Ad	justed Hourly Unit Production:	1.3745	acres/Hour	
JOB TIME AND COST					
		•			
Float size: 1 Crader(s) Total ich time: 145.50 Hours	JOB TIME AND COS	<u>T</u>			
$\Gamma(\mathcal{C}(S), \mathcal{C}(S)) = \Gamma(\mathcal{C}(S)) = \Gamma(\mathcal{C}(S), \mathcal{C}(S)) = \Gamma(\mathcal{C}(S)) = \Gamma(\mathcal{C}(S)) = \Gamma(\mathcal{C}(S)) = \Gamma(\mathcal{C}(S)) =$		Grader(s)	Total job time	: 145.50	Hours

 Unit cost:
 \$70.10
 per acre
 Total job cost:
 \$14,019

BULLDOZER WORK

: Henderson Mine		Action: 201	9 RCE	Permit/Jo	b#: <u>M1977342</u>
PROJECT IDENTIFICTask #:H08Date:12/31/2019User:ZTT	State: Co	lorado ar Creek		Abbreviation: Filename:	None M342-H08
Agency or organ	ization name: DRMS				
HOURLY EQUIPME	NT COST				
Horsepower: 310 Blade Type: Sen Attachment: NA	ni-Universal er day				
Cost Breakdown:			<u>Utilization %</u>		
Ownership Cost/Hour:	\$1	03.86	NA		
Operating Cost/Hour:	\$	32.26	100		
Ripper own. Cost/Hour:	:	\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:	\$	41.24	NA		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 55,0 Swell factor: 1.25 Loose volume: 68,7 Source of estimated volu	00 0 50 LCY	clamation M	ining & Safety		
Source of estimated well factor:					
HOURLY PRODUCT					
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY/hr				
Materials consistency description:	Loose stock	pile 1.2			
Average push gradient:	0 %				
Average site altitude:	10,000 feet				

Earth - Dry	packed	
actor		Source
cill:	0.750	(AVG.)
icy:	1.200	(CAT HB)
od:	1.000	(GEN.)
ity:	1.000	(AVG.)
icy:	0.830	(1 SHIFT/DAY)
ile:	0.700	(FND-MF)
ent:	1.000	(CAT HB)
ıde:	1.000	(CAT HB)
ght:	0.902	(CAT HB)
pe:	1.000	(PAT)
on: 0.471	7	
178.21 L0	CY/hr	
178.21 L	CY/hr	
	actor cill: cy: od: ity: ity: ile: ent: ght: ope: on: 0.471 178.21 L0	xill: 0.750 xcy: 1.200 od: 1.000 ity: 1.000 xcy: 0.830 ile: 0.700 ent: 1.000 de: 1.000 ght: 0.902 rpe: 1.000

Fleet size:	1 Dozer(s)	
Unit cost:	\$1.276/LCY	-

Total job time:	385.78 Hours
Total job cost:	\$87,712
BULLDOZER WORK

Henderson Mine	Permit Action:	2019 RCE	Permit/Jo	b#: <u>M197734</u>
PROJECT IDENTIFICA'Task #:H09Date:12/31/2019User:ZTT	<u>IION</u> State: <u>Colorado</u> County: <u>Clear Creek</u>		Abbreviation: Filename:	None M342-H09
Agency or organizati	on name: DRMS			
HOURLY EQUIPMENT	<u>COST</u>			
Basic Machine:Cat D8'Horsepower:310Blade Type:Semi-UAttachment:3-shankShift Basis:1 per daData Source:(CRG)	niversal ripper			
Cost Breakdown:	I	Utilization %		
Ownership Cost/Hour:	\$103.86	NA		
Operating Cost/Hour:	\$82.26	100		
Ripper own. Cost/Hour:	\$10.43	NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.24	NA		
Total Fleet Cost/Hour:\$2MATERIAL QUANTITIIInitial Volume:Swell factor:Loose volume:68,750 L	СҮ			
Source of estimated volume: Source of estimated swell factor:	Division of Reclamation Cat Handbook	n, Mining & Safety —		
HOURLY PRODUCTION	<u>N</u>			
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY/hr			
Materials consistency description:	Compacted fill or em	bankment 0.9		
Average push0gradient:	% 0,000 feet			
·				
Material weight: 2,	550 lbs/LCY			

Weight description:	Earth - Dry packed	
Job Condition Correction Fac	ctor	Source
Operator Ski	ill: 0.750	(AVG.)
Material consistence	cy: 0.900	(CAT HB))
Dozing metho	od: 1.000	(GEN.)
Visibili	ty:1.000	(AVG.)
Job efficience	cy: 0.830	(1 SHIFT/DAY)
Spoil pi	le: 0.700	(FND-MF)
Push gradier	nt: 1.000	(CAT HB)
Altitud	le: 1.000	(CAT HB)
Material Weight	ht: 0.902	(CAT HB)
Blade typ	be: 1.000	(PAT)
Net correction	on: 0.3537	
Adjusted unit production:	133.63 LCY/hr	
Adjusted fleet production:	133.63 LCY/hr	

Fleet size:	1 Dozer(s)	
Unit cost:	\$1.779/LCY	_

Total job time:	514.48 Hours
Total job cost:	\$122,337

Permit Action: 2019 RCE	Permit/Job	#: M1977342
State: Colorado County: Clear Creek	Abbreviation: Filename:	None M342-H10
	ION State: Colorado	ION State: Colorado County: Clear Creek Filename:

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
			Total Fertilizer Materials Cost/Acre	\$26.50

Application

Description		Cost /Acre
NA-fertilizer application incl. with hydroseeding		\$0.00
	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	0.22	5.05	\$3.14
Arizona Fescue - Redondo	0.90	10.33	\$8.33
Mountain Brome - Bromar	3.40	5.46	\$12.92
Kentucky Bluegrass - Lato	0.18	8.88	\$0.60
Rocky Mountain Fescue	0.34	5.46	\$2.47
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	3.48	2.04	\$243.51
Slender Wheatgrass - Native	1.36	4.96	\$6.29
Vetch, American	2.66	1.20	\$265.80
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.90	5.97	\$14.85

Timothy, Alpine - Native	0.50	14.92	\$12.13
Tufted Hairgrass	0.34	19.51	\$3.75
Penstemon, Rocky Mountain	0.54	8.46	\$15.93
Yarrow, Western	0.10	6.08	\$4.18
Totals Seed Mix	15.12	101.51	\$603.76

Application

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$947.43
	Total Seed Application Cost/Acre	\$947.43

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hydromulch tackifier, >15 ac. {Materials Only}	1.00	ACRE	\$453.02	\$453.02
Total Mulch Materials Cost/Acre				\$453.02

Application

Description	Cost /Acre
NA-mulch application incl. with hydroseeding	\$0.00
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

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

No. of Acres	s: 1274	Cost /Acre:	\$2,030.71
Estimated Failure Rate	25%	Cost /Acre*:	\$1,551.19
*Selected Replanting Work Items	SEEDING		
Initial Job Cost: \$2,587,124.5	4		
Reseeding Job Cost: \$494,054.02			
Total Job Cost: \$3,081,179			
Job Hours: 637.00			

Г	Task descrip	otion:	Hydroseed Spil	lway				
Site:	Henderso	on Mine	Pe	ermit Action:	2019 RCE	Permit/Job	o#: <u>M1977342</u>	
<u>P1</u>	Task #: Date: User:	12/31/2019 ZTT	State: County:	Colorado Clear Cree	k	Abbreviation: Filename:	None M342-H11	
	Age	ency or organiz	zation name: D	RMS				

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
			Total Fertilizer	
			Materials	
			Cost/Acre	\$26.50

Application

Description		Cost /Acre
NA-fertilizer application incl. with hydroseeding		\$0.00
	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	0.22	5.05	\$3.14
Arizona Fescue - Redondo	0.90	10.33	\$8.33
Mountain Brome - Bromar	3.40	5.46	\$12.92
Kentucky Bluegrass - Lato	0.18	8.88	\$0.60
Rocky Mountain Fescue	0.34	5.46	\$2.47
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	3.48	2.04	\$243.51
Slender Wheatgrass - Native	1.36	4.96	\$6.29
Vetch, American	2.66	1.20	\$265.80
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.90	5.97	\$14.85

Timothy, Alpine - Native	0.50	14.92	\$12.13
Tufted Hairgrass	0.34	19.51	\$3.75
Penstemon, Rocky Mountain	0.54	8.46	\$15.93
Yarrow, Western	0.10	6.08	\$4.18
Totals Seed Mix	15.12	101.51	\$603.76

Application

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$947.43
	Total Seed Application Cost/Acre	\$947.43

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hydromulch tackifier, >15 ac. {Materials Only}	1.00	ACRE	\$453.02	\$453.02
Total Mulch Materials Cost/Acre				\$453.02

Application

Description	Cost /Acre
NA-mulch application incl. with hydroseeding	\$0.00
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

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

No. of Acres:	34	Cost /Acre:	\$2,030.71
Estimated Failure Rate:	25%	Cost /Acre*:	\$1,551.19
*Selected Replanting Work Items:	SEEDING		· · · · · · · · · · · · · · · · · · ·
Initial Job Cost: \$69,044.14			
Reseeding Job Cost: \$13,185.12		_	
Total Job Cost: \$82,229		_	
Job Hours: 17.00		_	

Task des	scription:	Shrub/Tree Planting			
Site: Hend	erson Mine	Permit Action:	2019 RCE	Permit/Jol	o#: M1977342
PROJE Task	CT IDENTIFIC #: H12	ATION State: Colorado		Abbreviation:	None
Dat Use		County: Clear Creek	ζ	Filename:	M342-H12
	Agency or organiz	zation 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
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description	Cost /Acre
	\$
	÷

MULCHING and MISCELLANEOUS

Materials

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

Application

Description		Cost /Acre
		\$
Tot	al Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Aspen	50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
Pine, Lodgepole	50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
Serviceberry	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Snowberry, Western	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Totals Nursery Stock Cost / Acre					\$332.00

No. of Acres:	2	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		
Initial Job Coat: \$664.00			

\$664.00
\$166.00
\$830
1.00

BULLDOZER WORK

Henderson Mine	Permit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PROJECT IDENTIFI				
Task #: <u>H13</u> Date: <u>12/31/2019</u>	State: Colorado County: Clear Creek		Abbreviation: Filename:	None M342-H13
User: ZTT	County: Clear Creek	<u> </u>	Fliename.	M342-H13
Agency or organi	zation name: DRMS			
HOURLY EQUIPMEN	<u>NT COST</u>			
Basic Machine: Cat	D9T - 9SU			
Horsepower: 405				
<i>•</i> • • • • • • • • • • • • • • • • • •	i-Universal			
Attachment: NA				
Shift Basis: 1 pe Data Source: (CR	r day G)			
Cost Breakdown:	<u></u>			
		Utilization %		
Ownership Cost/Hour:	\$121.49	NA		
Operating Cost/Hour:	\$105.84	100		
Ripper own.	\$0.00	NA		
Cost/Hour: Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.24	NA		
	ψ+1.2+	INA		
Total unit Cost/Hour:	\$268.57			
Total Fleet Cost/Hour:	\$268.57			
MATERIAL QUANTI	TIFS			
Initial Volume: 338,8				
Swell factor: 1.125 Loose volume: 381,2	250 LCY			
Source of estimated volu		on, Mining & Safety		
Source of estimated swell factor:	l Cat Handbook			
lactor.				
HOURLY PRODUCT	ION			
	250 feet			
Average push distance: Unadjusted hourly	546.0 LCY/hr			
production:	540.0 LC 1/m			
Materials consistency	Loose stockpile 1.2			
description:				
Average push	-20 %			
gradient:	20 /0			
Average site altitude:	10,000 feet			
Material weight:	2,550 lbs/LCY			

Earth	n - Dry packed	
actor		Source
cill:	0.750	(AVG.)
cy:	1.200	(CAT HB)
od:	1.000	(GEN.)
ity:	1.000	(AVG.)
cy:	0.830	(1 SHIFT/DAY)
ile:	0.700	(FND-MF)
Push gradient:		(CAT HB)
de:	1.000	(CAT HB)
Material Weight:		(CAT HB)
Blade type:		(PAT)
on:	0.6726	
36	7.24 LCY/hr	
36	7.24 LCY/hr	
	ctor ill: cy: od: ity: cy: ile: ent: de: tht: pe: on: 36	iill: 0.750 cy: 1.200 od: 1.000 ity: 1.000 cy: 0.830 ille: 0.700 ent: 1.426 de: 1.000 ght: 0.902 pe: 1.000

Fleet size:	1 Dozer(s)	
Unit cost:	\$0.731/LCY	-

Total job time:	1,038.15 Hours
Total job cost:	\$278,813

SITE MAINTENANCE

Task descri	iption:	Wet Bea	ach C	over Support				
Henderson	n Mine		Pe	rmit Action: 2	019 RCE		Permit/	Job#: <u>M1977342</u>
PROJECT	IDENTIF	ICATION						
Task #:	H14	S	tate:	Colorado	А	bbreviatio	on: Nor	ne
Date:	12/31/2019 ZTT	Cou	inty:	Clear Creek		Filenan	ne: M3	42-H14
	gency or orga	nization nam	ne:	DRMS				
C								
UNIT COST								
Mainten Iten	, <u>н</u>	ours per ear	Μ	enu Selection	Quantity	Unit	Unit Cost	Total Cost
Geogrid		00.00	USE ITE	ER PROVIDED M	2,623,280.00	sy	\$4.25	\$11,148,940.00
Job Hours	s: 100.(00				Tota	l Cost:	\$11,148,940.00
JOD 11001	5. <u>100.</u>					100		\$11,1 4 0,7 4 0.00
: <u>Henders</u> PROJECT		ICATION		Permit Action:	2017 RCL			nit/Job#: <u>M19773</u> 4
Task #:	H15		State				Abbreviati	
Date: User:	<u>12/31/201</u> ZTT	<u>.9</u> C	County	: Clear Creek			Filenai	me: <u>M342-H15</u>
Ag	ency or orga	nization nam	ne:	DRMS				
01 1		1	I	XX7' 1.1	0.1	XX7° 1.1	- F	
Channel	Length (ft)	Dept (ft)		Width (bottom) (ft)	Side Slopes (XH:1V)	Width (top) (ft)	Excava Vol./I (CY	LF Vol.) (total)
Perimeter Diversion	37711111	3.00)	10.00	2.00	22.00	1.777	(CY) 78 56,889
Totals:								56,889
Riprap	Riprap Thicknes (2xD50)	ss (ft)		Area for Geotextile (excl. anchor	Riprap V (CY)	ol.		
	(2AD30) (ft)	/		trenches) (sf)				
TT 1	1.50	23.4	2	749,325	41,629			
Totals:	.			749,325	41,629			

Materials Needed:

Geotextile (SY incl. 15%	95,747
wastage):	93,747
Riprap (CY):	41,629
Excavation (CY):	56,889

Costs:

Material Costs:	Geotextile (SY):	\$1.77	Riprap (CY):	\$31.50	Excavation (CY):	\$0.00
Labor Cost:		\$0.27		\$12.70		\$2.46
Equipment Cost:		\$0.00		\$14.65		\$1.39
Means Reference	31 32 1916		31 37 1310		31 23 1642 0310	
	1510		0100			
Totals:						
Geotextile (SY):	\$195,324.06					
Riprap (CY):	\$2,449,876.63	-				
Excavation (CY):	\$219,022.22	-				
Hours:						
Geotextile (SY): 87.50 SY/HR	1,094.25					
Riprap (CY): 7.75 CY/HR	5,371.51	-				
Excavation (CY): 40.00 CY/HR	1,422.22	_				
Total Post-Mining Char	nel Reconstructior	hours:	7,887.98	Hour	S	
Total Post-Mining Cha	nnel Reconstructio	on Cost:	\$2,864,223			

BULLDOZER WORK

Henderson Mine	Permit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PROJECT IDENTIFICA				
Task #: H16 Date: 12/31/2019	State: Colorado County: Clear Creek		Abbreviation: Filename:	None M342-H16
User: ZTT			Phename.	WI342-1110
Agency or organizat	ion name: DRMS			
HOURLY EQUIPMENT	<u>COST</u>			
Basic Machine: Cat D9	T - 9SU			
Horsepower: 405				
VI	Iniversal			
Attachment: NA				
Shift Basis: 1 per d	ay			
Data Source: (CRG)				
Cost Breakdown:		<u>Utilization %</u>		
Ownership Cost/Hour:	\$121.49	NA		
Operating Cost/Hour:	\$105.84	100		
Ripper own.				
Cost/Hour:	\$0.00	NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.24	NA		
Total unit Cost/Hour: \$2	268.57			
	268.57 268.57			
MATERIAL QUANTITI	ES			
Initial Volume: 2,664,48				
Swell factor: 1.250				
Loose volume: 3,330,60	0 LCY			
Source of estimated volume		n, Mining & Safety		
Source of estimated swell factor:	Cat Handbook			
lactor.				
HOURLY PRODUCTIO	N			
Average push distance:	250 feet			
Unadjusted hourly production:	546.0 LCY/hr			
Materials consistency description:	Loose stockpile 1.2			
Average push 0 gradient:	%			
	0,000 feet			
Motorial waisht	550 lbs/I CV			
Material weight: 2,	,550 lbs/LCY			

Weight description: Eart	h - Dry packed	
Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.4717	
Adjusted unit 2: production: 2:	57.55 LCY/hr	
Adjusted fleet	57.55 LCY/hr	

JOB TIME AND COST

production:

Fleet size:	1 Dozer(s)
Unit cost:	\$1.043/LCY

Total job time:	12,931.86 Hours
Total job cost:	\$3,473,073

SITE MAINTENANCE

Henderson Mine		Permit Action: 2019 RCE		Permit/Job#: <u>M1977342</u>	
<u>PROJEC</u>	T IDENTIFI	CATION			
Task #:	H17	State: Colorado		Abbreviation:	None
Date: User:	12/31/2019 ZTT	County: Clear Creek	ζ	Filename:	M342-H17

<u>UNIT COSTS</u>

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Armor Spillway	2699.00	USER PROVIDED	1,230,848.00	1	\$1.00	\$1,230,848.00
(31 37 1310		ITEM				
0100)						

Job Hours: 2,699.00

Total Cost: \$1,230,848.00

TRUCK/LOADER TEAM WORK

ite: Henderson Mir		Permit A		Permit/Job#: M1977342		
fielder son win	le	Fernit A	ction: 2019 RCE	·	r ci i i i i i i i i i i i i i i i i i i	W11977342
PROJECT IDEN	TIFICATION					
Task #: H18		State: Colo	rado	Abb	previation: N	lone
		County: Clear	r Creek		Filename: N	1342-H18
User: ZTT						
Agency or	organization nar	ne: DRMS				
HOURLY EQUI	PMENT COST	<u>-</u>		Shift ba	sis: <u>1 per day</u>	
			Equipment Descr	iption		
1	Truck Loader Tea		it 740			
			AT 938H			
Supp	ort Equipment -L	oad Area: NA Imp Area: NA				
Road M	aintenance – Moto	1	AT 12M			
10000112			ater Tanker, 5,000	Gal.		
Cost Breakdown:	Truck/Loa			Equipment		nance Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
Utilization-machine:	100	100	NA	NA	10	20
Ownership cost/hour:	\$68.27	\$26.49	NA	NA	\$33.62	\$27.40
Operating cost/hour:	\$59.78	\$33.66	NA	NA	\$3.42	\$8.00
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$32.93	\$40.65	NA	NA	\$28.52	\$21.09
	\$160.98	\$100.79	NA	NA	\$65.55	\$56.49
Unit Subtotals:		1		0	1	1
Unit Subtotals: Number of Units:	5	1	0	0	1	1

MATERIAL QUANTITIES

Initial volume: Loose volume:	800,000 800,000	CCY Swell factor: 1.000				
Loose volume.	000,000					
Source of estimated volume:		Division of Reclamation, Mining & Safety				
Source of	estimated swell factor:	Cat Handbook				
Material Purchase Cost:		\$0.00				
	Total Cost:	\$0.00				
	-					

HOURLY PRODUCTION

Truck Capacity: Truck Payload (we

Truck Payload (weight) Basis	5:
Material weight:	2,550

Material weight:	2,550	Pounds/LCY
Description:	Earth - Dry packed	
Rated Payload:	87,000	Pounds

Payload Capacity:	34.12	LCY				
Truck Bed (volume) Basis:						
Struck Volume:	24.20	LCY				
Heaped Volume:	31.40	LCY				
Average Volume:	27.80	LCY				
Adjusted Volume:	31.40	LCY				
· _						
Final	Fruck Volume	Based on Number of I	Loader Passes:	30.03	LCY	
Loading Tool Capacity						
			Buck	et Size Class: N	А	
Rated Capacity:	3.900	LCY (heaped)				_
Bucket Fill Factor:	1.100	Other - rock/dirt	mixtures (10	0-120%) 1.100		-
Adjusted Capacity:	4.290	LCY		,		-
Job Condition Corrections:		Site	e Altitude (ft.):	10000 feet		
Altitude Adj:	Truck 0.820	Loader 1.000	Source (CAT HE			
Job Efficiency:	0.820	0.830	(CAT HI (CAT HI			
Job Efficiency.	0.050	0.050	(C/IIIII)		
Net Correction:	0.681	0.830				
Loading Tool Cycle Time:	N	Number of Loading To	ol Dassas Dag	urad to Fill		206606
		Number of Loading To	of Fasses Requ	Truck:	7	passes
Excavators and Front Shove	<u>ls:</u>					
Machine Cycle Time v Selected Value v						
Track Loaders –	Material Descr	iption:				
Cycle Time Elements (min.):						
Load: NA	M	laneuver: NA		Dump: 0.100)	
Wheel and Track	k Loaders - Una	adjusted Basic Loader	•	Dad, dump, 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.	.483 min	utes
Cycle Time Factors				Factor (min.)	Source	
Material:	Mixed mater	rial 0.02		0.020	(Cat HB)	_
Stockpile:	No adjustme	nt - factor not applica	ble 0.00	0.000	(Cat HB)	
Truck Ownership:	Common ow 0.04	vnership of trucks and	loaders -	-0.040	(Cat HB)	
Operation:	Constant ope	eration -0.04		-0.040	(Cat HB)	
Dump Target:	No adjustme	nt - factor not applica	ble 0.00	0.000	(Cat HB)	_
		Net Cycle Time	Adjustment:	-0.060	minutes	
		Adjusted Loader	Cycle Time:	0.423	minutes	
		Net Load Tin	ne per Truck:	2.635	minutes	
Truck Cycle Time:						
Truck Exchange Time	e: 0.60	Minutes	Adjusted	for site altitude:	0.732	Minutes
Truck Load Time	2.635	Minutes	Adjusted	for site altitude:	2.635	Minutes
Truck Maneuver and Dum		Minutes	Ū.	for site altitude:	1.220	Minutes
Time	L		2 Injubicu	site unitedut.		

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Ha	ul Route:								
S	eg #	Haul I	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	Time (min)	
1		20000	.00	2.00	3.00	5.00	1845	11.169	
Dot	turn Rout	to:				Haul Time:	11.169	minut	es
	eg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
5	Cg π	(Ft)	Jistanee	Grade (70)	(%)	(%)	(fpm)	Time	
		(11)			(70)	(70)	(ipiii)	(min)	
1		20000	.00	-2.00	3.00	1.00	3706	5.601	
						Return Time:	5.601	minu	tes
					Total Tru	ick Cycle Time:			
т		•,				J			
Load	ling Tool Produc		535.18	LCY/Hour		A divisted for i	ah afficianary	444.20	LCY/Hour
Truck Ur			555.18			Adjusted for jo	bb efficiency:	444.20	
TTUCK OI	int i rouuv	cuon	84.37	LCY/Hour		Adjusted for jo	ob efficiency:	70.03	LCY/Hour
		-	01107			1105000 101 5			
Optimal N	lo. of Tru	icks:	6	Truck(s)		Selected Numb	er of Trucks:	5	Truck(s)
				Adjusted	hourly truck	team productio	n: 350.	13 LCY	//Hour
					•	team productio			//Hour
						team productio		13 LCY	//Hour
						-			
<u>JO</u>	B TIM	E ANI) COST						
	Fleet si	ize:	1	Team(s)	Т	otal job time:	2,284.	86 H	ours
	Unit c	ost.	\$2.935	/LCY	л	Total job cost:	\$2,348,	220	
	Cint C		φ2.755	/			φ#90709		

SITE MAINTENANCE

Task description: Spillway Inlet, Barge Relocation, Embankment Cover and Bench							
: Henderson Mine		Pe	ermit Action:	2019 RCE	Permit/Job#:		M1977342
PROJEC	T IDENTIFI	<u>CATION</u>					
Task #:	H19	State:	Colorado		Abbreviation:	None	
Date: User:	1/2/2020 ZTT	County:	Clear Creek		Filename:	M342-H19)
	Henderse PROJEC Task #: Date:	Henderson Mine PROJECT IDENTIFI Task H19 #: Date: 1/2/2020	Henderson Mine Pe PROJECT IDENTIFICATION Task H19 State: #: Date: 1/2/2020	Henderson Mine Permit Action: PROJECT IDENTIFICATION State: Colorado #:	Henderson Mine Permit Action: 2019 RCE PROJECT IDENTIFICATION Task H19 State: Colorado #:	Henderson Mine Permit Action: 2019 RCE F PROJECT IDENTIFICATION Task H19 State: Colorado Abbreviation: #:	Henderson Mine Permit Action: 2019 RCE Permit/Job#: PROJECT IDENTIFICATION Task H19 State: Colorado Abbreviation: None #:

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Construct	80.00	USER	1.00	EA	\$100,000.00	\$100,000.00
Spillway Inlet		PROVIDED ITEM				
Structure						
Barge	80.00	USER	2.00	EA	\$500,000.00	\$1,000,000.00
Relocation		PROVIDED ITEM				
Enbankment	80.00	USER	10.00	EA	\$352,000.00	\$3,520,000.00
Rock Cover		PROVIDED ITEM				
Bench Channels	80.00	USER	1.00	EA	\$995,000.00	\$995,000.00
		PROVIDED ITEM				

Job Hours: 320.00

Total Cost: \$5,615,000.00

BULLDOZER WORK

Task description:	Gravel Pit Reg	rade			
e: Henderson Mine	P	ermit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PROJECT IDENTIF	ICATION				
Task #: I01 Date: 1/2/2020 User: ZTT	State: County:	Colorado Clear Creel	Δ	Abbreviation: Filename:	None M342-I01
Agency or orga	nization name:	RMS			
HOURLY EQUIPME	ENT COST				
	at D8T - 8SU				
Horsepower: 31					
Blade Type: Se Attachment: NA	mi-Universal				
	per day				
	RG)				
Cost Breakdown:					
Cost Bleakdown.			Utilization %		
Ownership Cost/Hour:		\$103.86	NA		
Operating Cost/Hour:		\$82.26	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.24	NA		
MATERIAL QUANT Initial Volume: 63, Swell factor: 1.12 Loose volume: 71,	524				
Source of estimated vol Source of estimated swe factor:			on, Mining & Safety		
HOURLY PRODUCT	<u>FION</u>				
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY	//hr			
Materials consistency description:	Consc	olidated stockp	ile 1.0		
Average push gradient:	-5 %				
Average site altitude:	10,000 feet				
Material weight:	2,550 lbs/LCY				
Weight description:	Earth - Dry pack	ed			

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(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:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.4382	

Adjusted unit production:	165.55 LCY/hr
Adjusted fleet production:	165.55 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$1.373/LCY
Total job time:	431.68 Hours

Total job time:	431.68 Hours	
Total job cost:	\$98,148	

TRUCK/LOADER TEAM WORK

Task descrip	otion:	Topsoil	to Grave	el Pit					
Site: Henderson Mine Per		mit Act	tion: 2019 RCE]	Permit/Jol	b#: _	M1977342		
PROJECT]	IDENT	TIFICATION							
Task #:	I02		State:	Colora	ado	Abl	previation:	Nor	ne
Date:	1/2/20	020 0	County:	Clear	Creek		Filename:	M34	42-I02
User:	ZTT								
Age	ncy or o	organization nan	ne: DR	MS					
HOURLY E	EQUIP	MENT COST	-			Shift ba	sis: <u>1 per da</u>	<u>y</u>	
]	Equipment Descr	iption			
	Tr	uck Loader Tear	n -Truck:		740				
	~		-Loader:		T 938H				
	Suppor	rt Equipment -L			D8T - 8SU				
D	ood Mo	-Du intenance –Moto	mp Area:						
K			ter Truck:						
		vi di	ter Truck.	1111					
Cost Breakdo	own:	Truck/Loa	der Team	l	Support	Equipment	Mai	ntena	nce Equipment
		Truck	Loader		Load Area	Dump Area	Motor		Water Truck
						-	Grader		
%Utilization-mac	hine:	100		100	100	NA		NA	NA
Ownership cost/l	hour:	\$68.27	\$	526.49	\$103.86	NA		NA	NA
Operating cost/l	hour:	\$59.78	\$	633.66	\$82.26	NA		NA	NA
%Utilization-r	riper:	NA		0	NA	NA		NA	NA
Ripper cost/l		NA		\$0.00	\$0.00	NA		NA	NA
Ripper op. cost/l	hour:	NA		\$0.00	\$0.00	NA		NA	NA
Operator cost/l	hour:	\$32.93	\$	640.65	\$41.24	NA		NA	NA
Unit Subto		\$160.98	\$1	00.79	\$227.36	NA		NA	NA
Number of U	Inits:	2		1	1	0		0	0

Total work team cost/hour: \$650.11

MATERIAL QUANTITIES

Group Subtotals:

15,740	CCY	Swell factor:	1.215	
19,124	LCY			-
e of estimated volume:	Division of	FReclamation, Min	ing & Safety	
estimated swell factor:	Cat Handb	ook		
Iaterial Purchase Cost:	\$0.00			
Total Cost:	\$0.00			
	e of estimated volume: estimated swell factor: faterial Purchase Cost:	19,124LCYe of estimated volume: estimated swell factor:Division of Cat Handbe \$0.00faterial Purchase Cost:\$0.00	19,124LCYe of estimated volume: estimated swell factor: faterial Purchase Cost:Division of Reclamation, Min Cat Handbook \$0.00	19,124 UCY 19,124 LCY e of estimated volume: Division of Reclamation, Mining & Safety estimated swell factor: Cat Handbook faterial Purchase Cost: \$0.00

Support:

\$227.36

\$0.00

Maint:

\$422.75

Work:

HOURLY PRODUCTION

Truck Capacity:					
Truck Payload (weight) Basi		Pounds	ЛСV		
Material weight: Description:	1,600 Top Soil	Pounds	LUI		
Rated Payload:	87,000	Pounds			
Payload Capacity:	54.38	LCY			
Tayload Capacity.	54.50	LC1			
Truck Bed (volume) Basis:					
Struck Volume:	24.20	LCY			
Heaped Volume:	31.40	LCY			
Average Volume:		LCY			
Adjusted Volume:	31.40	LCY			
Final	Truck Volume I	Based on Number of L	oader Passes:	30.03	LCY
Loading Tool Capacity					
	• • • • •		Buck	et Size Class: <u>NA</u>	A
Rated Capacity:	3.900	LCY (heaped)		0.1000() 1.100	
Bucket Fill Factor:	1.100	Other - rock/dirt	mixtures (100	0-120%) 1.100	
Adjusted Capacity:	4.290	LCY			
Job Condition Corrections	<u>:</u>	Site	Altitude (ft.):	<u>10000</u> feet	
	Truck	Loader	Source		
Altitude Adj:	0.820	1.000	(CAT HB	5)	
Job Efficiency:	0.830	0.830	(CAT HB	5)	
Net Correction:	0.681	0.830			
Loading Tool Cycle Time:	Ν	Number of Loading To	ol Passes Requ	ired to Fill	7 passes
Excavators and Front Shove	els:			Truck:	1
Machine Cycle Time v Selected Value					
Track Loaders –		<u> </u>			
Cycle Time Elements (min.)					
Load: NA		aneuver: NA		Dump: 0.100	
			<u> </u>		
wheel and 1 rac	k Loaders - Una	djusted Basic Loader	•	haneuver):	483 minutes
Cycle Time Factors				Factor (min.)	Source
Material:	Mixed mater			0.020	(Cat HB)
Stockpile:	Dumped by			0.020	(Cat HB)
Truck Ownership:	Common ow 0.04	nership of trucks and	loaders -	-0.040	(Cat HB)
Operation:	Constant ope	eration -0.04		-0.040	(Cat HB)
Dump Target:	No adjustme	nt - factor not applicat		0.000	(Cat HB)
		Net Cycle Time		-0.040	minutes
		Adjusted Loader		0.443	minutes
		Net Load Tim	e per Truck:	2.755	minutes

	Tru	ck Exch	ange Time:	0.60	Minutes	Adju	sted for site al	titude:	0.732	Minutes
		Truck	Load Time:	2.755	Minutes	Adju	sted for site al	titude:	2.755	Minutes
	Truck M	laneuve	r and Dump Time:	1.00	Minutes	Adju	sted for site al	titude:	1.220	Minutes
	Truck Trav maintained Haul Route	2.0	l & Return) T	<u>'ime:</u>	Road Conditi	on: <u>Hard, smoo</u>	th, stabilized,	surfaced, wate	ered,	
	Seg #		Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	4000.	00	-2.00	2.00	0.00	3005	1.584		
						Haul Time:	1.584	minut	es	
	Return Rou Seg #		Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	4000.	00	2.00	2.00	4.00	3005	1.528		
					Total Tru	Return Time: ick Cycle Time:				
	oading Too. Produ Unit Produ	uction	516.76	LCY/Hou	r	Adjusted for jo	ob efficiency:	428.91	LCY	r/Hour
Truer	comeriou.		230.46	LCY/Hou	r	Adjusted for jo	ob efficiency:	191.28		Y/Hour
Optim	al No. of Ti	ucks:	2	Truck(s)		Selected Numb	er of Trucks:	2	True	ck(s)
				Adjusted sing	le truck/loader	team productio team productio team productio	on: 382.	57 LCY	Y/Hour Y/Hour Y/Hour	
	JOB TIM	IE AN	D COST							
	Fleet	size: _	1	Team(s)	Т	otal job time:	49.9	• Н	ours	

Total job cost: \$32,498

Unit cost: \$1.699 /LCY

Task description: Dr		Drill Seed Grave	el Pit					
Site:	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>	
P	ROJECT	IDENTIFIC	ATION					
	Task #: Date: User:	I03 1/2/2020 ZTT	State: County:	Colorado Clear Creel	X	Abbreviation: Filename:	None M342-I03	-
	Age	ency or organiz	zation name: DR	RMS				

FERTILIZING

Materials

_					
	Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
	6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
				Total Fertilizer Materials Cost/Acre	\$26.50

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$36.15
Total Fertilizer Application Cost/Acr	e \$36.15

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	0.11	2.53	\$1.57
Arizona Fescue - Redondo	0.45	5.17	\$4.16
Mountain Brome - Bromar	1.70	2.73	\$6.46
Kentucky Bluegrass - Lato	0.09	4.44	\$0.30
Rocky Mountain Fescue	0.17	2.73	\$1.23
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	1.74	1.02	\$121.76
Slender Wheatgrass - Native	0.68	2.48	\$3.15
Vetch, American	1.33	0.60	\$132.90
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.45	2.99	\$7.43
Timothy, Alpine - Native	0.25	7.46	\$6.06
Tufted Hairgrass	0.17	9.76	\$1.87

Penstemon, Rocky Mountain	0.27	4.23	\$7.97
Yarrow, Western	0.05	3.04	\$2.09
Totals Seed Mix	7.66	52.34	\$306.81

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
EcoFlex (mulch tackifier)	100.00	Pound	\$0.81	\$80.81
Total Mulch Materials Cost/Acre				\$80.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
Totals Nursery Stock Cost / Acre \$0.0				\$0.00	

No. of Acres:	35	Cost /Acre:	\$752.44
Estimated Failure Rate:	25%	Cost /Acre*:	\$538.81
*Selected Replanting Work Items:	SEEDING	_	

\$26,335.40
\$4,714.59
\$31,050
17.50

Task descrip	otion:	Shrub/Tree Plant Gravel Pit		
e: Henderso	on Mine	Permit Action: 2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PROJECT :	<u>IDENTIFI</u>	CATION		
Task #: Date: User:	I04 1/2/2020 ZTT	State: Colorado County: Clear Creek	Abbreviation: Filename:	None M342-I04

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
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

\$	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Aspen	50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
Pine, Lodgepole	50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
Serviceberry	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Snowberry, Western	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
		Total	s Nursery Stoc	k Cost / Acre	\$332.00

No. of Acres:	35	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$11,620.00
Reseeding Job Cost:	\$2,905.00
Total Job Cost:	\$14,525
Job Hours:	17.50

Т	Task descrij	otion:	Maintenance Fe	rtilization G	ravel Pit		
Site:	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
<u>P</u> I	ROJECT	<u>IDENTIFIC</u>	CATION				
	Task #:	105	State:	Colorado		Abbreviation:	None
	Date:	1/2/2020	County:	Clear Creel	K	Filename:	M342-I05
	User:	ZTT				_	
	Age	ency or organiz	zation name:	RMS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

	Cost /Acre
	\$
Total Seed Application Cost/Acre	\$0.00
	Total Seed Application Cost/Acre

MULCHING and MISCELLANEOUS

Materials

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

Application

Description		Cost /Acre
		\$
	Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 1	Nursery Stoc	k Cost / Acre	\$0.00

N	No. of Acres:	40	Cost /Acres	\$69.65
Estimated H	Failure Rate:	0%	Cost /Acre*:	\$69.65
*Selected Replanting	Work Items:	FERTILIZING		
Initial Job Cost: \$2	2,786.00			
Reseeding Job Cost: \$0	0.00			
Total Job Cost: \$2	2,786			
Job Hours: 20	0.00			

BULLDOZER WORK

Task description:	Regrade Rectifier	r 6 Laydowr	n Yard		
e: Henderson Mine	Peri	mit Action:	2019 RCE	Permit/Job	o#: <u>M1977342</u>
PROJECT IDENTIF	ICATION				
Task #: J01 Date: 1/2/2020 User: ZTT	State: County:	Colorado Clear Creek		Abbreviation: Filename:	None M342-J01
Agency or orga	nization name: DRM	MS			
HOURLY EQUIPME	ENT COST				
Horsepower: 31 Blade Type: Se Attachment: NA Shift Basis: 1 p	mi-Universal				
Cost Breakdown:		1	Utilization %		
Ownership Cost/Hour:		\$103.86	<u>Utilization %</u> NA		
Operating Cost/Hour:		\$82.26	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.24	NA		
MATERIAL QUANTInitial Volume:27,2Swell factor:1.12Loose volume:30,0	225	-			
Source of estimated vol Source of estimated swe factor:			n, Mining & Safety		
HOURLY PRODUCT	<u>rion</u>				
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY/h	ır			
Materials consistency description:	Compac	ted fill or em	bankment 0.9		
Average push gradient:	-5 %				
Average site altitude:	10,000 feet	_			
Material weight:	2,550 lbs/LCY				
Weight description:	Earth - Dry packed				

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:	0.700	(FND-MF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3944

Adjusted unit production:	149.00 LCY/hr		
Adjusted fleet	149 LCY/hr		
production:			

Fleet size:	1 Dozer(s)
Unit cost:	\$1.526/LCY

Total job time:	205.56 Hours
Total job cost:	\$46,736

Task description: D		Drill Seed Recti	Drill Seed Rectifier 6 Laydown Yard						
Site: Henderson Mine		Pe	Permit Action: 2019 RCE		Permit/Job#: M1977342				
<u>P</u> I	ROJECT	IDENTIFIC	ATION						
	Task #:	J02	State:	Colorado		Abbreviation:	None		
	Date:	1/2/2020	County:	Clear Creek	2	Filename:	M342-J02		
	User:	ZTT							
	Age	ency or organiz	zation name: DF	RMS					

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
			Total Fertilizer Materials	\$27.50
			Cost/Acre	\$26.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

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	0.11	2.53	\$1.57
Arizona Fescue - Redondo	0.45	5.17	\$4.16
Mountain Brome - Bromar	1.70	2.73	\$6.46
Kentucky Bluegrass - Lato	0.09	4.44	\$0.30
Rocky Mountain Fescue	0.17	2.73	\$1.23
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	1.74	1.02	\$121.76
Slender Wheatgrass - Native	0.68	2.48	\$3.15
Vetch, American	1.33	0.60	\$132.90
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.45	2.99	\$7.43
Timothy, Alpine - Native	0.25	7.46	\$6.06
Tufted Hairgrass	0.17	9.76	\$1.87

Penstemon, Rocky Mountain	0.27	4.23	\$7.97
Yarrow, Western	0.05	3.04	\$2.09
Totals Seed Mix	7.66	52.34	\$306.81

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
EcoFlex (mulch tackifier)	100.00	Pound	\$0.81	\$80.81
Total Mulch Materials Cost/Acre				\$80.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals	Nursery Stoc	k Cost / Acre	\$0.00

No. of Acres:	5	Cost /Acre:	\$752.44
Estimated Failure Rate:	25%	Cost /Acre*:	\$538.81
*Selected Replanting Work Items:	SEEDING		

\$3,762.20
\$673.51
\$4,436
2.50

·		Site: _		rmit Action:	er 6 Laydown Yard 2019 RCE	Permit/Jo	b#: <u>M1977342</u>
<u>P</u>]	ROJECT	<u>IDENTIFI</u>	CATION				
	Task #:	J03	State:	Colorado		Abbreviation:	None
	Date:	1/2/2020	County:	Clear Creel	k	Filename:	M342-J03
	User:	ZTT					

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			Total Fertilizer Materials	
			Cost/Acre	\$0.00

Application

Description	Cost /Acre
	\$
Total Fartilizar Application Cost/Acro	* • • •
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
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

\$	Cost /Acre
	\$
Total Mulch Application Cost/Acre \$0.	50.00

NURSERY STOCK PLANTING

No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
	Total	s Nursary Stag	ek Cost / Acro	\$332.00
	Acre 50 50 100	AcreType and Size50Tubling, 3 cu. in. container (MEANS)50Tubling, 3 cu. in. container (MEANS)100Tubling, 3 cu. in. container (MEANS)100Tubling, 3 cu. in. container (MEANS)100Tubling, 3 cu. in. container (MEANS)	AcreType and SizeCost50Tubling, 3 cu. in. container (MEANS)\$1.0950Tubling, 3 cu. in. container (MEANS)\$1.19100Tubling, 3 cu. in. container (MEANS)\$1.09100Tubling, 3 cu. in. container (MEANS)\$1.09100Tubling, 3 cu. in. container (MEANS)\$1.09	AcreType and SizeCostPellet Cost50Tubling, 3 cu. in. container (MEANS)\$1.09\$0.0050Tubling, 3 cu. in. container (MEANS)\$1.19\$0.00100Tubling, 3 cu. in. container (MEANS)\$1.09\$0.00100Tubling, 3 cu. in. container (MEANS)\$1.09\$0.00100Tubling, 3 cu. in. container (MEANS)\$1.09\$0.00

No. of Acres:	5	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$1,660.00				
Reseeding Job Cost:	\$415.00				
Total Job Cost:	\$2,075				
Job Hours:	2.50				
ption:	Maintenance Fertilization Rectifier 6 Laydown Yard				
--------------------	--	--	--	---	--
te: Henderson Mine		Permit Action: 2019 RCE		Permit/Jo	b#: <u>M1977342</u>
		Colorado		Abbreviation	None
1/2/2020 ZTT	County:		ζ	Filename:	M342-J04
	IDENTIFI J04 1/2/2020	IDENTIFICATION J04 State: 1/2/2020 County:	IDENTIFICATION Permit Action: J04 State: Colorado 1/2/2020 County: Clear Creel	IDENTIFICATION Permit Action: 2019 RCE J04 State: Colorado 1/2/2020 County: Clear Creek	On Mine Permit Action: 2019 RCE Permit/Jo IDENTIFICATION

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling	Cost/Acre \$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

	Cost /Acre
	\$
Total Seed Application Cost/Acre	\$0.00
	Total Seed Application Cost/Acre

Materials

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

Application

Description		Cost /Acre
		\$
	Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 1	Nursery Stoc	k Cost / Acre	\$0.00

No. of Acres:	5	Cost /Acre:	\$69.65
Estimated Failure Rate:		Cost /Acre*:	\$69.65
ng Work Items:	FERTILIZING		
\$348.25			
\$0.00			
\$348			
2.50			
	ed Failure Rate: ng Work Items: \$348.25 \$0.00 \$348	ng Work Items: FERTILIZING \$348.25 \$0.00 \$348	ed Failure Rate: 0% Cost /Acre*: ng Work Items: FERTILIZING \$348.25 \$0.00 \$348

BULLDOZER WORK

Task description:	Regrade Willian	ns Form Pun	nphouse		
e: Henderson Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PROJECT IDENTIF	ICATION				
Task #: K01 Date: 1/2/2020 User: ZTT	State: County:	Colorado Clear Creek		Abbreviation: Filename:	None M342-K01
Agency or orga	nization name: <u>DR</u>	RMS			
HOURLY EQUIPME	<u>ENT COST</u>				
Horsepower: 31 Blade Type: Se Attachment: NA Shift Basis: 1 p	mi-Universal				
Data Source: <u>(C</u> Cost Breakdown:	<u>KU)</u>		Utilization %		
Ownership Cost/Hour: Operating Cost/Hour:		\$103.86 \$82.26	NA 100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour: Operator Cost/Hour:		\$0.00 \$41.24	0 NA		
MATERIAL QUANT Initial Volume: 5,65 Swell factor: 1.12	50	_			
	56 LCY	_			
Source of estimated vol Source of estimated swe factor:			on, Mining & Safety		
HOURLY PRODUCT	<u> TION</u>				
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY/	′hr			
Materials consistency description:	Compa	cted fill or en	bankment 0.9		
Average push gradient:	0 %				
Average site altitude:	10,000 feet				
Material weight:	2,550 lbs/LCY				
Weight description:	Earth - Dry packet	d			

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:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5053

Adjusted unit production:	190.90 LCY/hr
Adjusted fleet	190.9 LCY/hr
production:	190.9 LC 1/III

Fleet size:	1 Dozer(s)
Unit cost:	\$1.191/LCY

Total job time:	33.30 Hours
Total job cost:	\$7,570

Т	ask descrip	tion:	Drill Seed Willia	ams Fork Pu	mp House			
Site:	Henderso	on Mine	Per	rmit Action:	2019 RCE	Permit/Jol	o#: M1977342	
<u>P</u> F	Task #:	IDENTIFIC	State:	Colorado		Abbreviation:	None	
	Date: User: Age	1/2/2020 ZTT ncy or organiz	County: zation name: DR	Clear Creel	<u> </u>	Filename:	M342-K02	

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
			Total Fertilizer Materials Cost/Acre	\$26.50

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$36.15
Total Fertilizer Application Cost/Acr	e \$36.15

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	0.11	2.53	\$1.57
Arizona Fescue - Redondo	0.45	5.17	\$4.16
Mountain Brome - Bromar	1.70	2.73	\$6.46
Kentucky Bluegrass - Lato	0.09	4.44	\$0.30
Rocky Mountain Fescue	0.17	2.73	\$1.23
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	1.74	1.02	\$121.76
Slender Wheatgrass - Native	0.68	2.48	\$3.15
Vetch, American	1.33	0.60	\$132.90
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.45	2.99	\$7.43
Timothy, Alpine - Native	0.25	7.46	\$6.06
Tufted Hairgrass	0.17	9.76	\$1.87

Penstemon, Rocky Mountain	0.27	4.23	\$7.97
Yarrow, Western	0.05	3.04	\$2.09
Totals Seed Mix	7.66	52.34	\$306.81

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
EcoFlex (mulch tackifier)	100.00	Pound	\$0.81	\$80.81
Total Mulch Materials Cost/Acre				\$80.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 2	Nursery Stoc	k Cost / Acre	\$0.00

No. of Acres:	1	Cost /Acre:	\$752.44
Estimated Failure Rate:	25%	Cost /Acre*:	\$538.81
*Selected Replanting Work Items:	SEEDING		

\$752.44
\$134.70
\$887
0.50

Task descri	ption:	Maintenance Fe	ertilization W	illiams Fork Pun	np House	
e: Henders	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: M1977342
PROJECT	IDENTIFI					N
Task #:	K03	State:	Colorado		Abbreviation:	None

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

Materials

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

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

No. of Acres:	8	Cost /Acre	: \$69.65	
ed Failure Rate:	0%	Cost /Acre*	: \$69.65	
ng Work Items:	FERTILIZING			
\$557.20				
\$0.00				
\$557				
4.00				
	ed Failure Rate: ng Work Items: \$557.20 \$0.00 \$557	ng Work Items: FERTILIZING \$557.20 \$0.00 \$557	ed Failure Rate: 0% Cost /Acre* ng Work Items: FERTILIZING \$557.20 \$0.00 \$557	ed Failure Rate: 0% Cost /Acre*: \$69.65 ng Work Items: FERTILIZING \$557.20 \$69.65 \$557 \$557

BULLDOZER WORK

Task description:	Regrade Tailing	s Line and Po	ower Lines		
e: Henderson Mine	Pe	rmit Action:	2019 RCE	Permit/Job	#: <u>M1977342</u>
PROJECT IDENTIF	ICATION				
Task #: L01 Date: 1/2/2020 User: ZTT	State: County:	Colorado Clear Creek		Abbreviation: _ Filename: _	None M342-L01
Agency or organ	nization name: DR	RMS			
HOURLY EQUIPME	<u>ENT COST</u>				
Horsepower: 31 Blade Type: Ser Attachment: NA Shift Basis: 1 p	mi-Universal A per day				
Data Source: <u>(C</u> Cost Breakdown:	RG)				
Ownership Cost/Hour: Operating Cost/Hour:		\$103.86 \$82.26	Utilization % NA 100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.24	NA		
MATERIAL QUANT Initial Volume: <u>56,3</u> Swell factor: <u>1.12</u>	386	_			
Loose volume: 63, 4	134 LCY				
Source of estimated vol Source of estimated swe factor:			n, Mining & Safety		
HOURLY PRODUCT	<u>rion</u>				
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY/	′hr			
Materials consistency description:	Compa	cted fill or em	bankment 0.9		
Average push gradient:	10 %				
Average site altitude:	10,000 feet				
Material weight:	2,550 lbs/LCY				
Weight description:	Earth - Dry packe	d			

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:	1.000	(DOZ-OC)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3972

Adjusted unit production:	150.06 LCY/hr
Adjusted fleet	150.06 LCY/hr
production:	130.00 LC 1/III

Fleet size:	1 Dozer(s)	
Unit cost:	\$1.515/LCY	

Total job time:	422.73 Hours
Total job cost:	\$96,112

Task des	cription:	Drill Seed Tailir	igs and Powe	er Line		
Site: Hende	erson Mine	Pe	rmit Action:	2019 RCE	Permit/Jol	b#: M1977342
PROJEC	CT IDENTIFIC	CATION State:	Colorado		Abbreviation:	None
Dat	e: 1/2/2020	County:	Clear Creek	2	Filename:	M342-L02
Use	r: <u>ZTT</u> Agency or organiz	zation name:	RMS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
			Total Fertilizer Materials	\$26.50
			Cost/Acre	\$26.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

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	0.11	2.53	\$1.57
Arizona Fescue - Redondo	0.45	5.17	\$4.16
Mountain Brome - Bromar	1.70	2.73	\$6.46
Kentucky Bluegrass - Lato	0.09	4.44	\$0.30
Rocky Mountain Fescue	0.17	2.73	\$1.23
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	1.74	1.02	\$121.76
Slender Wheatgrass - Native	0.68	2.48	\$3.15
Vetch, American	1.33	0.60	\$132.90
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.45	2.99	\$7.43
Timothy, Alpine - Native	0.25	7.46	\$6.06
Tufted Hairgrass	0.17	9.76	\$1.87

Penstemon, Rocky Mountain	0.27	4.23	\$7.97
Yarrow, Western	0.05	3.04	\$2.09
Totals Seed Mix	7.66	52.34	\$306.81

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
EcoFlex (mulch tackifier)	100.00	Pound	\$0.81	\$80.81
Total Mulch Materials Cost/Acre				\$80.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

No. of Acres:	10	Cost /Acre:	\$752.44
Estimated Failure Rate:	25%	Cost /Acre*:	\$538.81
*Selected Replanting Work Items:	SEEDING		

Reseeding Job Cost: \$1,347.03	
Total Job Cost: \$8,871	
Job Hours: 5.00	

:	Henderso	on Mine	Pe	rmit Action: 2	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PI	ROJECT	IDENTIFI	CATION				
	Task #:	L03	State:	Colorado		Abbreviation:	None
	Date:	1/2/2020	County:	Clear Creek		Filename:	M342-L03
	User:	ZTT					

FERTILIZING

aterials		I		
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
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

Materials

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

Application

Description	Cost /Acre
	\$
Total Mulo	h Application Cost/Acre \$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Aspen	50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
Pine, Lodgepole	50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
Serviceberry	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Snowberry, Western	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
		Total	s Nursery Stoc	ek Cost / Acre	\$332.00

No. of Acres:	10	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$3,320.00
Reseeding Job Cost:	\$830.00
Total Job Cost:	\$4,150
Job Hours:	5.00

iption:	Maintenance Fe	rtilization Talings and Power	Line	
son Mine	Pe	rmit Action: 2019 RCE	Permit/Jo	b#: <u>M1977342</u>
-				None M342-L04
	County:	Cital Citer	Filename:	W1342-L04
	L04 1/2/2020	son MinePe CIDENTIFICATION L04L041/2/2020County:	Son Mine Permit Action: 2019 RCE C IDENTIFICATION L04 State: Colorado 1/2/2020 County: Clear Creek	son Mine Permit Action: 2019 RCE Permit/Jo C IDENTIFICATION End Abbreviation: Abbreviation: 1/2/2020 County: Clear Creek Filename:

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling Cos	st/Acre \$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

Materials

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

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 1	Nursery Stoc	k Cost / Acre	\$0.00

	No. of Acres:	49	Cost /Acre	: \$69.65	
Estimate	ed Failure Rate:	0%	Cost /Acre*	: \$69.65	
*Selected Replanti	ng Work Items:	FERTILIZING			
Initial Job Cost:	\$3,412.85				
Reseeding Job Cost:	\$0.00				
Total Job Cost:	\$3,413				
Job Hours:	24.50				

BULLDOZER WORK

Task description:	Regrade Pond S	Shop and Roa	d Area		
: Henderson Mine	Pe	rmit Action:	2019 RCE	Permit/Job	o#: <u>M1977342</u>
PROJECT IDENTIF	ICATION				
Task #: M01 Date: 1/2/2020 User: ZTT	State: County:	Colorado Clear Creek		Abbreviation: Filename:	None M342-M01
Agency or orga	nization name: DI	RMS			
HOURLY EQUIPME	ENT COST				
Horsepower: 31 Blade Type: Se Attachment: NA Shift Basis: 1	mi-Universal				
Cost Breakdown:					
Ownership Cost/Hour:		\$103.86	<u>Utilization %</u> NA		
Operating Cost/Hour:		\$82.26	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.24	NA		
MATERIAL QUANT Initial Volume: 52, Swell factor: 1.12	527 25				
Loose volume: 59,2	205 LCY				
Source of estimated vol Source of estimated swe factor:			on, Mining & Safety		
HOURLY PRODUC	<u> TION</u>				
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY	/hr			
Materials consistency description:	Compa	icted fill or en	nbankment 0.9		
Average push gradient:	10 %				
Average site altitude:	10,000 feet				
Material weight:	2,550 lbs/LCY			_	
Weight description:	Earth - Dry packe	d			

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:	1.000	(DOZ-OC)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3972

Adjusted unit production:	150.06 LCY/hr
Adjusted fleet	150.06 LCY/hr
production:	150.00 LC 1/11

Fleet size:	1 Dozer(s)	
Unit cost:	\$1.515/LCY	

Total job time:	394.54 Hours
Total job cost:	\$89,705

Т	ask descrip	otion:	Drill Seed Talin	gs Facility A	rea		
Site:	Site: Henderson Mine		Pe	Permit Action: 2019 RCE		Permit/Jol	o#: <u>M1977342</u>
<u>PI</u>	ROJECT	IDENTIFIC	CATION				
	Task #:	M02	State:	Colorado		Abbreviation:	None
	Date:	1/2/2020	County:	Clear Creek	K	Filename:	M342-M02
	User:	ZTT					
	Age	ency or organi	zation name: DR	RMS			

FERTILIZING

Materials

	1415				
D	escription	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-	-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
				Total Fertilizer Materials Cost/Acre	\$26.50

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$36.15
Total Fertilizer Application Cost/Ac	cre \$36.15

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	0.11	2.53	\$1.57
Arizona Fescue - Redondo	0.45	5.17	\$4.16
Mountain Brome - Bromar	1.70	2.73	\$6.46
Kentucky Bluegrass - Lato	0.09	4.44	\$0.30
Rocky Mountain Fescue	0.17	2.73	\$1.23
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	1.74	1.02	\$121.76
Slender Wheatgrass - Native	0.68	2.48	\$3.15
Vetch, American	1.33	0.60	\$132.90
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.45	2.99	\$7.43
Timothy, Alpine - Native	0.25	7.46	\$6.06
Tufted Hairgrass	0.17	9.76	\$1.87

Penstemon, Rocky Mountain	0.27	4.23	\$7.97
Yarrow, Western	0.05	3.04	\$2.09
Totals Seed Mix	7.66	52.34	\$306.81

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
EcoFlex (mulch tackifier)	100.00	Pound	\$0.81	\$80.81
Total Mulch Materials Cost/Acre				\$80.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

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

No. of Acres:	14	Cost /Acre:	\$752.44
Estimated Failure Rate:	25%	Cost /Acre*:	\$538.81
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$10,534.16
Reseeding Job Cost:	\$1,885.84
Total Job Cost:	\$12,420
Job Hours:	7.00

-	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
PI	ROJECT	IDENTIFI	CATION				
	Task #:	M03	State:	Colorado		Abbreviation:	None
	I usk n.						
	Date:	1/2/2020	County:	Clear Creel	C C	Filename:	M342-M03

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			Total Fertilizer Materials	
			Cost/Acre	\$0.00

Application

Description	Cost /Acre
	\$
Total Fautilizar Application Cost/Acro	
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
				\$
	Totals Seed Mix	0.00	0.00	\$0.00

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

Materials

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

Application

\$	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Totals Nurseny Steel: Cost / Aero				
	Acre 50 50 100	AcreType and Size50Tubling, 3 cu. in. container (MEANS)50Tubling, 3 cu. in. container (MEANS)100Tubling, 3 cu. in. container (MEANS)100Tubling, 3 cu. in. container (MEANS)100Tubling, 3 cu. in. container (MEANS)	AcreType and SizeCost50Tubling, 3 cu. in. container (MEANS)\$1.0950Tubling, 3 cu. in. container (MEANS)\$1.19100Tubling, 3 cu. in. container (MEANS)\$1.09100Tubling, 3 cu. in. container (MEANS)\$1.09100Tubling, 3 cu. in. container (MEANS)\$1.09	AcreType and SizeCostPellet Cost50Tubling, 3 cu. in. container (MEANS)\$1.09\$0.0050Tubling, 3 cu. in. container (MEANS)\$1.19\$0.00100Tubling, 3 cu. in. container (MEANS)\$1.09\$0.00100Tubling, 3 cu. in. container (MEANS)\$1.09\$0.00100Tubling, 3 cu. in. container (MEANS)\$1.09\$0.00

No. of Acres:	14	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$4,648.00
Reseeding Job Cost:	\$1,162.00
Total Job Cost:	\$5,810
Job Hours:	7.00

Task d	lescription:	Maintenance Fertilization Talings Facility Area		
Site: Her	derson Mine	Permit Action: 2019 RCE	Permit/Jo	b#: <u>M1977342</u>
Tas	ECT IDENTIFI	State: Colorado	Abbreviation:	None
	Date: 1/2/2020 Jser: ZTT Agency or organ	County: <u>Clear Creek</u>	Filename:	M342-M04

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

	\$
cation Cost/Acre	\$0.00
i	cation Cost/Acre

Materials

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

Application

Description		Cost /Acre
		\$
	Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 1	Nursery Stoc	k Cost / Acre	\$0.00

No. of Acres:	14	Cost /Acre	: \$69.65
ed Failure Rate:	0%	Cost /Acre*	: \$69.65
ng Work Items:	FERTILIZING		
\$975.10			
\$0.00			
\$975			
7.00			
	ed Failure Rate: ng Work Items: \$975.10 \$0.00 \$975	ag Work Items: FERTILIZING \$975.10 \$0.00 \$975 \$975	ed Failure Rate: 0% Cost /Acre* ng Work Items: FERTILIZING \$975.10 \$975

BULLDOZER WORK

Task description:	Regrade Mill W	ater Return	Pipe Line		
e: Henderson Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	o#: <u>M1977342</u>
PROJECT IDENTIF	ICATION				
Task #: N01 Date: 1/2/2020 User: ZTT	State: County:	Colorado Clear Creek	<u>(</u>	Abbreviation: Filename:	None M342-N01
Agency or orga	nization name: DR	RMS			
HOURLY EQUIPME	<u>ENT COST</u>				
Horsepower: 31 Blade Type: Se Attachment: NA Shift Basis: 1 p	mi-Universal				
Cost Breakdown:		l	Utilization %		
Ownership Cost/Hour:		\$103.86	NA		
Operating Cost/Hour: Ripper own.		\$82.26	100 NA		
Cost/Hour: Ripper op. Cost/Hour:		\$0.00	0 NA		
Operator Cost/Hour:		\$0.00	NA		
MATERIAL QUANT Initial Volume: 18,7 Swell factor: 1.12	763 25	_			
	108 LCY	_			
Source of estimated vol Source of estimated swe factor:			on, Mining & Safety		
HOURLY PRODUCT	<u> TION</u>				
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY/	′hr			
Materials consistency description:	Compa	cted fill or en	nbankment 0.9		
Average push gradient:	10 %				
Average site altitude:	10,000 feet				
Material weight:	2,550 lbs/LCY				
Weight description:	Earth - Dry packed	d			

	Source
0.750	(AVG.)
0.900	(CAT HB))
1.000	(GEN.)
1.000	(AVG.)
0.830	(1 SHIFT/DAY)
1.000	(DOZ-OC)
0.786	(CAT HB)
1.000	(CAT HB)
0.902	(CAT HB)
1.000	(PAT)
	0.900 1.000 1.000 0.830 1.000 0.786 1.000 0.902

Net correction: 0.3972

Adjusted unit production:	150.06 LCY/hr
Adjusted fleet	150.06 LCY/hr
production:	130.00 LC 1/III

Fleet size:	1 Dozer(s)	
Unit cost:	\$1.515/LCY	

Total job time:	140.67 Hours
Total job cost:	\$31,982

BULLDOZER WORK

Task description:	Rip Mill Water	Return Pipe	Line Access Road		
e: Henderson Mine	Pe	rmit Action:	2019 RCE	Permit/Job	#: <u>M1977342</u>
PROJECT IDENTIF	TCATION				
Task #: N02	State:	Colorado		Abbreviation:	None
Date: $1/2/2020$	County:	Clear Creek		Filename:	M342-N02
User: ZTT				_	
Agency or orga	anization name: DF	RMS			
HOURLY EQUIPM	ENT COST				
	at D8T - 8SU				
Horsepower: 31					
• 1	emi-Universal shank ripper				
	per day				
	CRG)				
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hours		\$103.86	NA		
Operating Cost/Hour		\$82.26	100		
Ripper own Cost/Hour		\$10.43	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:	:	\$41.24	NA		
MATERIAL QUAN	<u>FITIES</u>				
	,267				
Swell factor: <u>1.1</u>		_			
Loose volume: 36,	,300 LCY	_			
Source of estimated vo	lume: Division	of Reclamatio	on, Mining & Safety		
Source of estimated sw	cat Hand	book			
factor:					
HOURLY PRODUC	TION				
Average push distance Unadjusted hourly	: <u>250 feet</u> 377.8 LCY	/br			
production:	577.0 LC 17	111			
-					
Materials consistency description:	Compa	cted fill or en	ıbankment 0.9		
Average push gradient:	10 %				
Average site altitude:	10,000 feet				
Material weight:	2,550 lbs/LCY				
Weight description:	Earth - Dry packe	d			
- 1	· · · · ·				

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:	1.000	(DOZ-OC)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3972

Adjusted unit production:	150.06 LCY/hr
Adjusted fleet	150.06 LCY/hr
production:	150.00 LC 1/11

Fleet size:	1 Dozer(s)	
Unit cost:	\$1.585/LCY	-

Total job time:	241.91 Hours
Total job cost:	\$57,522

Та	ask descrip	otion:	Drill Seed Mill V	Water Return	n Pipe Line			
Site:	Henderso	on Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: M1977342	
<u>PR</u>	COJECT Task #: Date: User:	IDENTIFIC N03 1/2/2020 ZTT	ATION State: County:	Colorado Clear Creek	ζ	Abbreviation: Filename:	None M342-N03	
	Age	ncy or organiz	zation name: DR	RMS				

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
			Total Fertilizer Materials	\$26 50
			Cost/Acre	\$26.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

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	0.11	2.53	\$1.57
Arizona Fescue - Redondo	0.45	5.17	\$4.16
Mountain Brome - Bromar	1.70	2.73	\$6.46
Kentucky Bluegrass - Lato	0.09	4.44	\$0.30
Rocky Mountain Fescue	0.17	2.73	\$1.23
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	1.74	1.02	\$121.76
Slender Wheatgrass - Native	0.68	2.48	\$3.15
Vetch, American	1.33	0.60	\$132.90
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.45	2.99	\$7.43
Timothy, Alpine - Native	0.25	7.46	\$6.06
Tufted Hairgrass	0.17	9.76	\$1.87

Penstemon, Rocky Mountain	0.27	4.23	\$7.97
Yarrow, Western	0.05	3.04	\$2.09
Totals Seed Mix	7.66	52.34	\$306.81

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
EcoFlex (mulch tackifier)	100.00	Pound	\$0.81	\$80.81
Total Mulch Materials Cost/Acre				\$80.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

No. of Acres:	17	Cost /Acre:	\$752.44
Estimated Failure Rate:	25%	Cost /Acre*:	\$538.81
*Selected Replanting Work Items:	SEEDING	_	

Initial Job Cost:	\$12,791.48
Reseeding Job Cost:	\$2,289.94
Total Job Cost:	\$15,081
Job Hours:	8.50

Task desc Site: Hende r	ription: :son Mine	-	nt Mill Water Return Line rmit Action: 2019 RCE		b#: M1977342
	Γ IDENTIFI		<u></u>		
Task # Date User	N04 1/2/2020	State: County:	Colorado Clear Creek	Abbreviation: Filename:	None M342-N04
А	gency or orgar	nization name: DF	RMS		

FERTILIZING

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			Total Fertilizer Materials	
			Cost/Acre	\$0.00

Application

Description		Cost /Acre
		\$
	Total Fastilizar Application Cost/Acro	
	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
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

Materials

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

Application

\$	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Aspen	50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
Pine, Lodgepole	50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
Serviceberry	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Snowberry, Western	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
		Total	s Nursery Stor	ek Cost / Acre	\$332.00

No. of Acres:	17	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$5,644.00
Reseeding Job Cost:	\$1,411.00
Total Job Cost:	\$7,055
Job Hours:	8.50

Т	ask descrip	otion:	Maintenance Fe	rtilization				
Site:	Henderso	on Mine	Per	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>	
<u>P</u> 1	ROJECT	IDENTIFIC	ATION					
	Task #: Date: User:	N05 1/2/2020 ZTT	County:	Colorado Clear Creel	5	Abbreviation: Filename:	None M342-N05	_
	Age	ency or organiz	ation name: DR	RMS				

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling Cos	st/Acre \$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

Materials

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

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

	No. of Acres:	31	Cost /Ac	cre: \$69.65	
Estimate	ed Failure Rate:	0%	Cost /Acr	re*: \$69.65	
*Selected Replanti	ng Work Items:	FERTILIZING			
Initial Job Cost:	\$2,159.15				
Reseeding Job Cost:	\$0.00				
Total Job Cost:	\$2,159				
Job Hours:	15.50				
	-				

BULLDOZER WORK

Task description:	Rip Topsoil Roa	ids and Area			
Henderson Mine	Pe	rmit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
ROJECT IDENTIF	CATION				
Task #: O01 Date: 1/2/2020 User: ZTT	State: County:	Colorado Clear Creek		Abbreviation: Filename:	None M342-O01
Agency or organ	nization name:	RMS			
OURLY EQUIPME	NT COST				
	t D8T - 8SU				
Horsepower: 31					
<i>•</i> 1	mi-Universal				
	ber day				
	RG)				
ost Breakdown:					
		¢102.0¢	<u>Utilization %</u>		
Ownership Cost/Hour: Operating Cost/Hour:		\$103.86 \$82.26	<u>NA</u> 100		
Ripper own.					
Cost/Hour:		\$10.43	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.24	NA		
IATERIAL QUANT	ITIES				
Initial Volume: 161	,333				
Swell factor: 1.12					
Loose volume: 181	,500 LCY				
Source of estimated vol	ume: Division	of Reclamatio	on, Mining & Safety		
Source of estimated swe factor:					
IOURLY PRODUCT	<u>TION</u>				
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY	/hr			
Materials consistency description:	Compa	cted fill or en	bankment 0.9		
Average push gradient:	10 %				
Average site altitude:	10,000 feet	_			
Material weight:	2,550 lbs/LCY				

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:	1.000	(DOZ-OC)	
Push gradient:	0.786	(CAT HB)	
Altitude:	1.000	(CAT HB)	
Material Weight:	0.902	(CAT HB)	
Blade type:	1.000	(PAT)	

Net correction: 0.3972

Adjusted unit production:	150.06 LCY/hr
Adjusted fleet	150.06 LCY/hr
production:	130.00 LC 1/III

Fleet size:	1 Dozer(s)	
Unit cost:	\$1.585/LCY	

Total job time:	1,209.51 Hours						
Total job cost:	\$287,607						
Т	ask descrip	otion:	Drill Seed Tops	oil Roads and	l Area		
-------	----------------------	-----------------	-----------------	-------------------------	--------	-----------------------	----------
Site:	Site: Henderson Mine		Pe	Permit Action: 2019 RCE		Permit/Job#: M1977342	
PI		IDENTIFIC					
	Task #:	O02	State:	Colorado		Abbreviation:	None
	Date:	1/2/2020	County:	Clear Creek	K	Filename:	M342-O02
	User:	ZTT					
	Age	ency or organiz	zation name: DF	RMS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
			Total Fertilizer Materials Cost/Acre	\$26.50

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$36.15
Total Fertilizer Application Cost/Acr	re \$36.15

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	0.11	2.53	\$1.57
Arizona Fescue - Redondo	0.45	5.17	\$4.16
Mountain Brome - Bromar	1.70	2.73	\$6.46
Kentucky Bluegrass - Lato	0.09	4.44	\$0.30
Rocky Mountain Fescue	0.17	2.73	\$1.23
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	1.74	1.02	\$121.76
Slender Wheatgrass - Native	0.68	2.48	\$3.15
Vetch, American	1.33	0.60	\$132.90
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.45	2.99	\$7.43
Timothy, Alpine - Native	0.25	7.46	\$6.06
Tufted Hairgrass	0.17	9.76	\$1.87

Penstemon, Rocky Mountain	0.27	4.23	\$7.97
Yarrow, Western	0.05	3.04	\$2.09
Totals Seed Mix	7.66	52.34	\$306.81

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
EcoFlex (mulch tackifier)	100.00	Pound	\$0.81	\$80.81
Total Mulch Materials Cost/Acre				\$80.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals	Nursery Stoc	k Cost / Acre	\$0.00

No. of Acres:	50	Cost /Acre:	\$752.44
Estimated Failure Rate:	25%	Cost /Acre*:	\$538.81
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$37,622.00
Reseeding Job Cost:	\$6,735.13
Total Job Cost:	\$44,357
Job Hours:	25.00

H	Henderso	on Mine		Permit Acti	ion:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
RC	DJECT	IDENTIFI	<u>CATION</u>					
_	Task #:	O03	S	tate: Colora	ıdo		Abbreviation:	None
]	I dok II.						_	
]	Date:	1/2/2020	Cou	inty: Clear C	Creek	- -	Filename:	M342-O03

FERTILIZING

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			Total Fertilizer Materials	
			Cost/Acre	\$0.00

Application

Description	Cost /Acre
	\$
Total Fautilizar Application Cost/App	
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
				\$
	Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

\$	ost /Acre
Total Mulch Application Cost/Acre \$0.	00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Aspen	50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
Pine, Lodgepole	50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
Serviceberry	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Snowberry, Western	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
	\$332.00				

No. of Acres:	50	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$16,600.00
Reseeding Job Cost:	\$4,150.00
Total Job Cost:	\$20,750
Job Hours:	25.00

Task description:		Maintenance Fertilization Topsoil Roads and Area					
Site:	Site: Henderson Mine		Pe	Permit Action: 2019 RCE		Permit/Jo	b#: <u>M1977342</u>
<u>P</u>]	ROJECT Task #:	IDENTIFI	CATION State:	Colorado		Abbreviation:	None
	Date: User:	1/2/2020 ZTT	County:	Clear Creek	K	Filename:	M342-O04
	Age	ency or organ	ization name: DR	RMS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	100.00	pound	\$0.34	\$33.50
			Total Fertilizer Materials Cost/Acre	\$33.50

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$36.15
	Total Fertilizer Application Cost/Acre	\$36.15

TILLING

Description	Cost /Acre
	\$
Total Tilling Cos	st/Acre \$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description		Cost /Acre
		\$
	Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

	No. of Acres:	50	Cost /Acr	e: \$69.65	
Estimate	ed Failure Rate:	0%	Cost /Acre	*: \$69.65	
*Selected Replanting	ng Work Items:	FERTILIZING			
Initial Job Cost:	\$3,482.50				
Reseeding Job Cost:	\$0.00				
Total Job Cost:	\$3,483				
Job Hours:	25.00				

TRUCK/LOADER TEAM WORK

Task description	on:	Cover S	oil - Bone	Yard 1	to Dams			
Site: Henderson	Mine		Perr	nit Acti	on: _2019 RCE		Permit/Job#:	M1977342
<u>PROJECT ID</u>	ENTIF	ICATION						
Task #: F	P 01		State:	Colora	do	Abb	previation: N	Vone
	/2/2020	C	County:	Clear (Creek		Filename: N	A342-P01
User: Z	ZTT							
Agenc	y or orga	nization nam	ne: DRM	MS				
HOURLY EQ	UIPMI	ENT COST				Shift ba	sis: <u>1 per day</u>	
				E	Equipment Descr	iption		
	Truck	Loader Tear	n -Truck:	Cat				
-Loader: CAT 938H								
Support Equipment -Load Area: NA								
	1373		mp Area:	NA				
Road	d Mainte	nance – Moto			<u>12M</u>	0.1		
		-wat	er Truck:	wate	er Tanker, 5,000	Gal.		
Cost Breakdow	·n•	Truck/Loa	der Team		Support	Equipment	Mainte	enance Equipment
COSt DICARGOW	<u>11</u> .	Truck	Loader		Load Area	Dump Area	Motor	Water Truck
		ITUOR	Louder		Louis Filou	Dump Theu	Grader	
%Utilization-machin	ne:	100		100	NA	NA	10	0 20
Ownership cost/hor	ur:	\$68.27	\$2	26.49	NA	NA	\$33.62	2 \$27.40
Operating cost/hor	ur:	\$59.78	\$3	33.66	NA	NA	\$3.42	2 \$8.00
%Utilization-rip	er:	NA		0	NA	NA	NA	A NA
Ripper ow cost/hor		NA	S	\$0.00	NA	NA	\$0.00	0 \$0.00
Ripper op. cost/hor	ur:	NA	5	\$0.00	NA	NA	\$0.00	0.00
Operator cost/hor	ur:	\$32.93	\$4	40.65	NA	NA	\$28.52	2 \$21.09
Unit Subtota	ls:	\$160.98	\$10	00.79	NA	NA	\$65.55	5 \$56.49
Number of Uni	ts:	1		1	0	0	1	1 1
Group Subtota	ls:	Work:	\$261.77		Support:	\$0.00	Maint	

Total work team cost/hour: \$383.81

MATERIAL QUANTITIES

Initial volume:	110	CCY	Swell factor:	1.000	
Loose volume:	110	LCY			
Sourc	e of estimated volume:	Division of F	Reclamation, Min	ing & Safety	
Source of	estimated swell factor:	Cat Handboo	ok		
Ν	Aaterial Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			
	-				

HOURLY PRODUCTION

Truck Capacity:

<u>Truck Capacity:</u>								
Truck Payload (weight) Bas								
Material weight:	2,700		Pounds/I	LCY				
Description:	Stone - crus	hed	D 1.					
Rated Payload:	87,000		Pounds LCY					
Payload Capacity:	32.22		LUY					
Truck Bed (volume) Basis:								
Struck Volume:	24.20	LCY						
Heaped Volume:	31.40	LCY						
Average Volume:	27.80	LCY						
Adjusted Volume:	31.40	LCY						
Final	Truck Volume	Based on Nu	mber of Lo	ader Passes	30.0	3	LCY	
	Truck Volume	Dased on Ivan		auer 1 asses.		5	_ LC1	
Loading Tool Capacity				Duale	at Siza Class	. NIA		
Rated Capacity:	3.900	LCY (h	eaned)	BUCK	et Size Class	: <u>N</u> A	1	
Bucket Fill Factor:	1.100		rock/dirt n	nixtures (100	0-120%) 1.10	0		
Adjusted Capacity:	4.290	LCY		lixtures (100	5 12070) 1.10			
J								
Job Condition Corrections	<u>:</u>		Site	Altitude (ft.):	<u>10000</u> feet			
	Truck	Load	er	Source				
Altitude Adj:	0.820	1.00	0	(CAT HB)			
Job Efficiency:	0.830	0.83	0	(CAT HB)			
Net Correction:	0.681	0.83	0					
Loading Tool Cycle Time	<u>.</u>	Number of Lo	ading Too	l Passes Requ	ired to Fill		7	passes
Excavators and Front Shove	<u>els:</u>		-	-	Truck:		7	
Machine Cycle Time y			NA NA					
Selected Value			NA					
Track Loaders -		ription:						
Cycle Time Elements (min.)	:							
Load: NA]	Maneuver:	NA		Dump:	0.100		
Wheel and Trac	ck Loaders - Ui	nadjusted Basi	c Loader C	Cycle Time (lo	ad, dump,	0.4	183	minutes
				n	naneuver):	0.1		
Cycle Time Factors					Factor (m	in.)	Source	
Material:					0.020		(Cat HI	
Stockpile:			1 11		0.020		(Cat HI	3)
Truck Ownership:	Common o 0.04	wnership of tr	ucks and lo	baders -	-0.040		(Cat HI	3)
Operation:		peration -0.04			-0.040		(Cat HI	3)
Dump Target:		ent - factor no	t applicabl	e 0.00	0.000		(Cat HI	
				Adjustment:	-0.040		minute	s
				Cycle Time:	0.443		minute	
		Net	Load Time	per Truck:	2.755		minute	S

	Truc	k Excha	ange Time:	0.60	Minutes	Adju	sted for site al	titude:	0.732	Minutes
		Truck I	load Time:	2.755	Minutes	Adju	sted for site al	titude:	2.755	Minutes
	Truck Ma	aneuver	and Dump Time:	1.00	Minutes	Adju	sted for site al	ltitude:	1.220	Minutes
	Truck Trave maintained Haul Route	3.0	<u>& Return) T</u>	<u>'ime:</u>	Road Condition	on: <u>Firm, smoo</u>	th, rolling, dir	t/lt. surfaced,	watered,	
	Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	7	
	U	(Ft)			(%)	(%)	(fpm)	Time (min)		
	1	22700	.00	1.00	3.00	4.00	2421	10.002		
	2	14300		-2.00	3.00	1.00	3005	4.789		
						Haul Time:	14.791	minu	tes	
	Return Rou					T 1 D	X X 1	T	٦	
	Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel Time		
		(Ft)			(%)	(%)	(fpm)	(min)		
	1	14300		2.00	3.00	5.00	3005	4.998		
	2	22700	.00	-1.00	3.00	2.00	3005	7.554		
						Return Time:				
					Total Tru	ck Cycle Time:	32.04	9 minu	ites	
	oading Tool Produ	ction _	516.76	LCY/Hour		Adjusted for j	ob efficiency:	428.91	LCY	//Hour
Truck	Unit Produ	ction _	56.22	LCY/Hour		Adjusted for j	ob efficiency:	46.66	LCY	//Hour
Optima	al No. of Tr	ucks:	9	Truck(s)		Selected Numb	per of Trucks:	1	Truc	ck(s)
				Adjusted	l hourly truck	team production	on: 46.0	56 LC	Y/Hour	
						team production			Y/Hour	
			A	djusted multiple	e truck/loader	team production	on: 46.	<u>66</u> LC	Y/Hour	
	JOB TIM	E AND	COST							
			1	Team(s)	Т	otal job time:	2.36	i I	Iours	
	Unit cost: \$8.225		/LCY	Т	otal job cost:	\$90	5			

Task descri	ption:	Hydroseed PC3	Conveyor Area				
e: Henders	on Mine	Pe	rmit Action: 2019 RC	E Permit/Jo	Permit/Job#: M1977342		
PROJECT Task #:	IDENTIFIC	CATION State:	Colorado	Abbreviation:	None		
Date: User:	1/2/2020 ZTT	County:	Clear Creek	Filename:	M342-P02		

FERTILIZING

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
5-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.27	\$26.50
			Total Fertilizer Materials	
			Cost/Acre	\$26.50

Application

Description		Cost /Acre
NA-fertilizer application incl. with hydroseeding		\$0.00
	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	0.22	5.05	\$3.14
Arizona Fescue - Redondo	0.90	10.33	\$8.33
Mountain Brome - Bromar	3.40	5.46	\$12.92
Kentucky Bluegrass - Lato	0.18	8.88	\$0.60
Rocky Mountain Fescue	0.34	5.46	\$2.47
Elderberry, Red	0.16	1.05	\$9.08
Lupine, Silver	3.48	2.04	\$243.51
Slender Wheatgrass - Native	1.36	4.96	\$6.29
Vetch, American	2.66	1.20	\$265.80
Sagebrush, Mountain or Big	0.04	2.11	\$0.79
Flax, Lewis Blue	0.90	5.97	\$14.85
Timothy, Alpine - Native	0.50	14.92	\$12.13

Tufted Hairgrass	0.34	19.51	\$3.75
Penstemon, Rocky Mountain	0.54	8.46	\$15.93
Yarrow, Western	0.10	6.08	\$4.18
Totals Seed Mix	15.12	101.51	\$603.76

Application

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$947.43
	Total Seed Application Cost/Acre	\$947.43

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hydromulch tackifier, >15 ac. {Materials Only}	1.00	ACRE	\$453.02	\$453.02
Total Mulch Materials Cost/Acre				\$453.02

Application

Description		Cost /Acre
NA-mulch application incl. with hydroseeding		\$0.00
	Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals	Nursery Stoc	k Cost / Acre	\$0.00

No. of Acres:	53	Cost /Acre: \$2,030.71
Estimated Failure Rate:	25%	Cost /Acre*: \$1,551.19
*Selected Replanting Work Items:	SEEDING	
Initial Job Cost: \$107,627.63 Reseeding Job Cost: \$20,553.27		

Researing Job Cost:	\$20,55 <i>3.21</i>	
Total Job Cost:	\$128,181	
Job Hours:	26.50	

Task dese	cription:	Shrub/Tree Plant PC3 Conv	eyor Area		
ite: Hende	erson Mine	Permit Action:	2019 RCE	Permit/Jo	b#: <u>M1977342</u>
<u>PROJEC</u>	CT IDENTIFIC	CATION			
Task #	#: P03	State: Colorado		Abbreviation:	None
Date	e: 1/6/2020	County: Clear Creel	κ.	Filename:	M342-P03
Use	r: ZTT				

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
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description	Cost /Acre

	\$
Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Aspen	50	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$54.50
Pine, Lodgepole	50	Tubling, 3 cu. in. container (MEANS)	\$1.19	\$0.00	\$59.50
Serviceberry	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
Snowberry, Western	100	Tubling, 3 cu. in. container (MEANS)	\$1.09	\$0.00	\$109.00
		Tot:	als Nursery Stoc	ek Cost / Acre	\$332.00

No. of Acres:	62	Cost /Acre:	\$332.00
Estimated Failure Rate:	25%	Cost /Acre*:	\$332.00
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$20,584.00
Reseeding Job Cost:	\$5,146.00
Total Job Cost:	\$25,730
Job Hours:	31.00

Task Q - Water Treatment Capex O&M (10 yr)*						
Task	Work Type	Area	Cost			
WTP Construction	CAPEX	Mill	\$ 20,061,845.00			
WTP Operation	0&M	Mill	\$ 20,116,720.00			
WTP Operation	0&M	Urad	\$ 14,679,800.00			
Underground Pumping System Construction	CAPEX	Mine	\$ 3,011,000.00			
Pumping from Underground Workings	0&M	Mine	\$ 4,778,400.00			
Bulkhead Construction	CAPEX	Underground	\$ 13,568,000.00			
Total Costs	\$ 76,215,765.00					
*Costs based on the Reclamation Cost Estimate provided by Henderson						

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Т	ask description:	Iobilization Year	:1			
Site:	Henderson Mine	Perm	nit Action: 201	9 RCE	Permit/Jo	b#: <u>M1977342</u>
<u>PI</u>	ROJECT IDENTIFICA	<u>FION</u>				
	Task #: R01 Date: 1/3/2020 User: ZTT		Colorado Clear Creek		Abbreviation: Filename:	None M342-R01
	Agency or organizat	on name: DRM	1S			
<u>E(</u>	QUIPMENT TRANSPO	<u>RT RIG COST</u>		Cost D		1 per day CRG Data
	Truck Tractor De	scription: GEN	ERIC ON-HIGH		RACTOR, 6X4, 1 HALF, 2006)	DIESEL POWERED,
	Truck Trailer De	scription:	GENERIC FOL	DING GOOSENI	ECK, DROP DEC 50T, AND 100T)	
<u>Cc</u>	ost Breakdown:					
Ā	Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Ton	s	
	Ownership Cost/Hours		\$29.63	\$38.69	_	
	Operating Cost/Hours	\$26.56	\$47.02	\$55.69		
	Operator Cost/Hour:	\$23.63	\$23.63	\$23.63		

\$23.53

\$123.81

\$23.53

\$141.54

NON ROADABLE EQUIPMENT:

Total Unit Cost/Hour:

Helper Cost/Hour:

\$0.00

\$67.39

Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/unit	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
Ĩ	(TONS)				fleet		
Cat 740	36.49	\$68.27	\$123.81	15	\$2,881.20	\$1,857.15	\$3,750.00
Cat D6T XL	23.25	\$58.87	\$67.39	3	\$378.78	\$202.17	\$750.00
Cat D7R DS	34.57	\$75.47	\$123.81	5	\$996.40	\$619.05	\$750.00
Series II LGP							
Cat D8T - 8SU	47.71	\$103.86	\$123.81	4	\$910.68	\$495.24	\$1,000.00
Cat D9T - 9SU	66.13	\$135.43	\$141.54	4	\$1,107.88	\$566.16	\$1,000.00
CAT 938H	16.34	\$26.49	\$67.39	3	\$281.64	\$202.17	\$750.00
CAT 12M	16.01	\$33.62	\$67.39	3	\$303.03	\$202.17	\$750.00
Drill/Broadcast	25.00	\$18.15	\$67.39	4	\$342.16	\$269.56	\$1,000.00
Seeder with							
Tractor							
Hydroseeder with	28.00	\$23.59	\$123.81	4	\$589.60	\$495.24	\$1,000.00
Tractor							
Power Mulcher	6.00	\$9.74	\$67.39	2	\$154.26	\$134.78	\$500.00
(Bowie LD-90)							
Water Tanker,	41.10	\$68.95	\$123.81	1	\$192.76	\$123.81	\$250.00
10,000 Gal.							
Submersible pump	0.30	\$5.07	\$67.39	1	\$72.46	\$67.39	\$250.00
- 230v, 4 in.							
Broderson IC-250-	14.38	\$21.98	\$67.39	3	\$268.11	\$202.17	\$750.00
3B, 61', 16.3MT							

Subtotals: \$8,478.96 \$5,437.06 \$12,500.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 5,000 Gal.	\$67.39	2	\$134.78	\$134.78
Light Duty Pickup, 4x4, 3/4 T.	\$12.96	5	\$64.80	\$64.80
Fuel Tanker, 6x4, 210 HP	\$42.46	4	\$169.84	\$169.84

Subtotals: \$369.42 \$369.42

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	DENVER	
Total one-way travel distance:	70.00	miles
Average Travel Speed:	65.00	mph
Total Non-Roadable Mob/Demob Cost *	\$224,552.17 \$795.67	

Transportation Cycle Time:

	Non- Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	1.08	1.08
Return Time (Hours):	1.08	1.08
Loading Time (Hours):	5.00	NA
Unloading Time (Hours):	5.00	NA
Subtotals:	12.15	2.15

JOB TIME AND COST

Total job time:	24.31	Hours

Total job cost: \$225,348

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: M	obilization Year 2	2		
Site: Henderson Mine	Permi	t Action: 2019 R	CE Per	mit/Job#: <u>M1977342</u>
PROJECT IDENTIFICAT	ION			
Task #: R02	State: C	olorado	Abbrevia	tion: None
Date: 1/3/2020 User: ZTT	County: C	lear Creek	Filen	ame: M342-R02
Agency or organization		5		
			Shift basis: Cost Data Source:	
Truck Tractor Des	cription: GENE	ERIC ON-HIGHW	AY TRUCK TRACTOR, 400 HP (2ND HALF, 20	6X4, DIESEL POWERED,
Truck Trailer Des	mintion:		GOOSENECK, DROI	,
Truck Trailer Des	cription. C		AILER (25T, 50T, AND	-
Cost Breakdown:				
Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons	
Ownership Cost/Hour:	\$17.20	\$29.63	\$38.69	
Operating Cost/Hour:	\$26.56	\$47.02	\$55.69	
Operator Cost/Hour:	\$23.63	\$23.63	\$23.63	
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53	
Total Unit Cost/Hour:	\$67.39	\$123.81	\$141.54	

NON ROADABLE EQUIPMENT:

Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/unit	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
-	(TONS)				fleet		
Cat 740	36.49	\$68.27	\$123.81	15	\$2,881.20	\$1,857.15	\$3,750.00
Cat D6T XL	23.25	\$58.87	\$67.39	3	\$378.78	\$202.17	\$750.00
Cat D7R DS	34.57	\$75.47	\$123.81	5	\$996.40	\$619.05	\$750.00
Series II LGP							
Cat D8T - 8SU	47.71	\$103.86	\$123.81	4	\$910.68	\$495.24	\$1,000.00
Cat D9T - 9SU	66.13	\$135.43	\$141.54	4	\$1,107.88	\$566.16	\$1,000.00
CAT 938H	16.34	\$26.49	\$67.39	3	\$281.64	\$202.17	\$750.00
CAT 12M	16.01	\$33.62	\$67.39	3	\$303.03	\$202.17	\$750.00
Drill/Broadcast	25.00	\$18.15	\$67.39	4	\$342.16	\$269.56	\$1,000.00
Seeder with							
Tractor							
Hydroseeder with	28.00	\$23.59	\$123.81	4	\$589.60	\$495.24	\$1,000.00
Tractor							
Power Mulcher	6.00	\$9.74	\$67.39	2	\$154.26	\$134.78	\$500.00
(Bowie LD-90)							
Water Tanker,	41.10	\$68.95	\$123.81	1	\$192.76	\$123.81	\$250.00
10,000 Gal.							
Submersible pump	0.30	\$5.07	\$67.39	1	\$72.46	\$67.39	\$250.00
- 230v, 4 in.							
Broderson IC-250-	14.38	\$21.98	\$67.39	3	\$268.11	\$202.17	\$750.00
3B, 61', 16.3MT							

Subtotals: \$8,478.96 \$5,437.06 \$12,500.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 5,000 Gal.	\$67.39	2	\$134.78	\$134.78
Light Duty Pickup, 4x4, 3/4 T.	\$12.96	5	\$64.80	\$64.80
Fuel Tanker, 6x4, 210 HP	\$42.46	4	\$169.84	\$169.84
		Subtotals:	\$369.42	\$369.42

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: Total one-way travel distance: Average Travel Speed:	DENVER 70.00 65.00	miles mph
Total Non-Roadable Mob/Demob Cost *	\$224,552.17	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$795.67	_
	\$795.67	_

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	1.08	1.08
Return Time (Hours):	1.08	1.08
Loading Time (Hours):	5.00	NA
Unloading Time (Hours):	5.00	NA
Subtotals:	12.15	2.15

JOB TIME AND COST

Total job time:	24.31	Hours
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Total job cost: \$225,348

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Т	ask description: N	Iobilization Year	3			
Site:	Henderson Mine	Perm	it Action: 2019 I	RCE	Permit/Jol	o#: <u>M1977342</u>
<u>PI</u>	ROJECT IDENTIFICA	<u>FION</u>				
	Task #: R03 Date: 1/3/2020 User: ZTT		Colorado Clear Creek	Ab	breviation: Filename:	None M342-R03
	Agency or organizati	on name: DRM	S			
<u>E(</u>	QUIPMENT TRANSPO	<u>RT RIG COST</u>		Shift Cost Data S		Per day RG Data
	Truck Tractor De	scription: GEN	ERIC ON-HIGHW	AY TRUCK TRAC 400 HP (2ND HAL	, ,	DIESEL POWERED,
	Truck Trailer De	scription:		NG GOOSENECK, RAILER (25T, 50T,	DROP DEC	K EQUIPMENT
<u>Cc</u>	ost Breakdown:					
Ā	Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons		
	Ownership Cost/Hour:		\$29.63	\$38.69		
	Operating Cost/Hour:	\$26.56	\$47.02	\$55.69		
	Operator Cost/Hour:	\$23.63	\$23.63	\$23.63		

\$23.53

\$123.81

\$23.53

\$141.54

NON ROADABLE EQUIPMENT:

Total Unit Cost/Hour:

Helper Cost/Hour:

\$0.00

\$67.39

Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/unit	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
	(TONS)				fleet		
Cat 740	36.49	\$68.27	\$123.81	15	\$2,881.20	\$1,857.15	\$3,750.00
Cat D6T XL	23.25	\$58.87	\$67.39	3	\$378.78	\$202.17	\$750.00
Cat D7R DS	34.57	\$75.47	\$123.81	5	\$996.40	\$619.05	\$750.00
Series II LGP							
Cat D8T - 8SU	47.71	\$103.86	\$123.81	4	\$910.68	\$495.24	\$1,000.00
Cat D9T - 9SU	66.13	\$135.43	\$141.54	4	\$1,107.88	\$566.16	\$1,000.00
CAT 938H	16.34	\$26.49	\$67.39	3	\$281.64	\$202.17	\$750.00
CAT 12M	16.01	\$33.62	\$67.39	3	\$303.03	\$202.17	\$750.00
Drill/Broadcast	25.00	\$18.15	\$67.39	4	\$342.16	\$269.56	\$1,000.00
Seeder with							
Tractor							
Hydroseeder with	28.00	\$23.59	\$123.81	4	\$589.60	\$495.24	\$1,000.00
Tractor							
Power Mulcher	6.00	\$9.74	\$67.39	2	\$154.26	\$134.78	\$500.00
(Bowie LD-90)							
Water Tanker,	41.10	\$68.95	\$123.81	1	\$192.76	\$123.81	\$250.00
10,000 Gal.							
Submersible pump	0.30	\$5.07	\$67.39	1	\$72.46	\$67.39	\$250.00
- 230v, 4 in.							
Broderson IC-250-	14.38	\$21.98	\$67.39	3	\$268.11	\$202.17	\$750.00
3B, 61', 16.3MT							

Subtotals: \$8,478.96 \$5,437.06 \$12,500.00

ROADABLE EQUIPMENT:

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EQUIPMENT HAUL DISTANCE and Time

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	able Mob/Demob Cost ** ne round trip, no haul rig:	\$795.67	
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	Non- Roadable Equipment	Roadable Equipment
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JOB TIME AND COST

Total job time:	24.31	Hours

Total job cost: \$225,348