# COST SUMMARY WORK

Task descrip	otion:	Cost Summary					
Site: Climax M	Iine	Pe	rmit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>	
<b>PROJECT</b>	IDENTIFIC	CATION					
Task #: Date: User:	000 3/25/2019 JLE	State: County:	Colorado Summit		Abbreviation: Filename:	None M493-000	

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
A01	Storke Complex - Load and haul biosolids to 10 acre area.	TRUCK1	1	13.21	\$13,524
A02	Storke Complex, Spread biosolids	DOZER	1	40.33	\$5,667
A03	Storke Complex, Grading at Storke disturbed areas	GRADER	1	6.11	\$550
B01	Open Pit, Grade west open pit periphery	DOZER	2	115.44	\$51,095
B02	Open Pit, load and haul topsoil	TRUCK1	1	65.14	\$66,685
B03	Open Pit, Spread biosolids	DOZER	2	128.43	\$34,487
B04	Install Signs	NA	1	25.97	\$4,629
C01	Mine Mill Comp. Grade 1' cut/fill across 243 acres	DOZER	4	634.47	\$669,964
C02	Mine Mill Comp. Finish grade Mine/Mill Complex	GRADER	2	78.15	\$14,072
C03	Mine Mill Comp. Load/Haul Topsoil/Biosolids, 1' Cover	TRUCK1	1	970.25	\$844,809
C04	Mine Mill Comp. Spread Topsoil and Biosolids	DOZER	3	424.61	\$218,548
D01	N40_OSF, Regrade top to drain, slopes 2h:1v	DOZER	4	503.04	\$498,383
D02a	North 40 OSF. Load/Haul Biosolids, 6" Cover	TRUCK1	1	158.27	\$162,026
D02b	North 40 OSF. Load/Haul Topsoil, 6" Cover	TRUCK1	1	171.58	\$123,139
D03	North 40 OSF, Spread Biosolids and Topsoil	DOZER	4	83.09	\$52,231
D04	N40 OSF, Construct Post-Mining Channels	NA	1	3,338.00	\$1,110,661
E01	McNulty OSF, Regrade slopes 2:1,	DOZER	4	1,312.52	\$1,365,268
E02a	McNulty OSF. Load/Haul Topsoil, 6" Cover	TRUCK1	1	785.89	\$564,000
E02b	McNulty OSF. Load/Haul Biosolids, 6" Cover	TRUCK1	1	709.62	\$835,093
E03	North 40 OSF, Spread Biosolids and Topsoil	DOZER	4	372.56	\$234,188
E04	McNulty OSF, Construct Post-Mine Channels	NA	1	7,877.29	\$3,204,164
F01	Tenmile TSF, geogrid on wet cover area 113.5 acres	NA	1	0.00	\$2,609,365
F02	Tenmile TSF, Load and Haul Subsoil for Wet Cover Area	TRUCK1	1	1,194.69	\$1,405,924
F02a	Tenmile TSF, Load and Haul Topsoil for Wet Cover Area	TRUCK1	1	238.94	\$281,186
F03	Tenmile TSF, Spread Subsoil	DOZER	4	530.90	\$442,756
F03a	Tenmile TSF, Spread Biosolids and Topsoil	DOZER	4	64.09	\$53,451
F04	Tenmile TSF, Load and Haul Subsoil for Dry Cover Area	TRUCK1	1	673.62	\$792,720
F04a	Tenmile TSF, Load and Haul Topsoil/BioS. for Dry Cover Area	TRUCK1	1	673.62	\$792,720
F05	Tenmile TSF, Spread Subsoil, Dry Cover	DOZER	4	318.54	\$265,654
F05a	Tenmile TSF, Spread Topsoil/Subsoil, Dry Cover	DOZER	4	192.28	\$160,353
G01	Tenmile Tunnel, Bulkhead Closure	MINESEAL	1	0.00	\$694,824
G02	Tenmile Tunnel; Dredge and Pump Sludge to Tunnel	PUMPING	1	388.25	\$87,098

G03	Tenmile Tunnel, Install Checkdams	MINESEAL	1	0.00	\$40,000
H01a	3 Dam, Load and Haul Topsoil to 3 Dam Rise		1	19.10	\$19,558
H01b	3 Dam, Load and Haul Biosolids to 3 Dam Rise	TRUCK1	1	18.19	\$21,405
H02	3 Dam, Spread Topsoil and Biosolids over 3 Dam Rise	DOZER	1	53.09	\$9,109
I01	Pond Shop, Grading	DOZER	1	10.80	\$2,390
I02	Pond Shop, Load and Haul topsoil to Pond Shop	TRUCK1	1	1.61	\$1,156
I03	Pond Shop, Spread topsoil		1	2.62	\$471
J01a	Mayflower TSF, Load and Haul Subsoil to TSF	TRUCK1	1	479.09	\$563,801
J01b	Mayflower TSF, Load and Haul Topsoil to TSF	TRUCK1	1	479.09	\$563,801
J02a	Mayflower TSF, Spread Subsoil	DOZER	2	456.93	\$190,534
J02b	Mayflower TSF, Spread Topsoil		2	275.81	\$115,011
J03	Mayflower TSF, Finish Grade the Top Surface		2	71.40	\$12,856
K01	East Side Channel Construction	i i i i i i i i i i i i i i i i i i i	1	12,878.45	\$2,974,669
K02	East Side Channel, Install East Side Pipeline		1	489.41	\$1,842,048
L01	Mayflower Acid, Grade Site		2	100.81	\$44,227
L02a	Mayflower Acid, Load and Haul Subsoil to site		1	1.48	\$1,292
L02b	Mayflower Acid, Load and Haul Topsoil		1	1.48	\$1,292
L03a	Mayflower Acid, Spread Subsoil		1	5.06	\$869
L03b	Mayflower Acid, Spread Topsoil		1	3.06	\$524
M01	Robinson TSF, Load and Haul Topsoil		1	296.32	\$212,656
M02	Robinson TSF, Spread Topsoil/Biosolids		2	291.27	\$78,213
N01	1 Dam, Load and Haul Topsoil/Biosolids		1	85.68	\$74,602
N02	1 Dam, Spread Topsoil/Biosolids		2	101.76	\$27,325
O01	Roads; rip switchback access roads from McNulty OSF to LBM		2	44.94	\$28,829
O02	Roads; rip other site roads	RIPPER	2	12.17	\$5,483
O03	Roads, Load and Haul Topsoil/Biosolids		1	266.72	\$232,234
O04	Roads, Spread Topsoil/Biosolids	DOZER	3	211.18	\$85,061
P01	Robinson Lake, sediment removal	NA	1	0.00	\$2,333,570
Q01a	5 Dam, Load and Haul Subsoil to site	TRUCK1	1	53.41	\$62,859
Q01b	5 Dam, Load and haul topsoil to site	TRUCK1	1	53.41	\$62,859
Q02a	5 Dam, Spread Subsoil	DOZER	2	55.57	\$23,173
Q02b	5 Dam, Spread Topsoil	DOZER	2	33.54	\$13,988
R01	Revegetation, Seeding Standard Mixture	REVEGE	1	1,466.00	\$2,137,286
R02	Revegetation, Seeding Standard Mixture - Steep Slope	REVEGE	1	263.00	\$778,690
R03	Revegetation, Seeding Alpine	REVEGE	1	227.00	\$271,233
R04	Revegetation, Seeding Alpine - Steep Slope	REVEGE	1	475.00	\$1,156,493
R05	Revegetation, Seeding - Wetland	REVEGE	1	25.00	\$22,637
S01	Seal Underground Mine Opening	MINESEAL	1	30.00	\$1,805
T01	Mobilization - Year 1	MOBILIZE	1	37.41	\$336,565
T02	Mobilization - Year 2	MOBILIZE	1	37.41	\$336,565
T03	Mobilization - Year 3	MOBILIZE	1	37.41	\$336,565
V01	Hydrologic Protection		1	0.00	\$33,129,000
W01	Maintenance and Environmental Control	SITEMAINT ENANCE	1	0.00	\$521,177
X01	Demolition 1 - Former Mine		1	0.00	\$4,180,197
X02	Demolition 2 - Various demolition (continued from Demo 1)		1	0.00	\$23,486
X03	Demolition 3- New Structures	DEMOLISH	1	0.00	\$3,801,386
Y01	Disposal of Reagents		1	0.00	\$162,201
		<u>SUBTOT</u>	ALS:	41540.58	\$74,500,385

### **INDIRECT COSTS**

#### OVERHEAD AND PROFIT:

Liability insurance:	2.02		Total =	\$1,504,908			
Performance bond:	1.05		Total =	\$782,254			
Job superintendent:	20,770.29		Total =	\$1,517,270			
Profit:	10.00		Total =	\$7,450,038			
			TOTAL O & P =	\$11,254,470			
	CONT	RACT AMOUNT	(direct + O & P) =	\$85,754,855			
LEGAL - ENGINEERING - PROJECT MANAGEMENT:							
Financial warranty processi	ing (legal/related costs):	\$500	Total =	\$500			
Engineering work and/or c	2.00	Total =	\$1,715,097				

Engineering work and/or contract/bid preparation: Reclamation management and/or administration:	2.00 5.00	Total =	\$1,715,097 \$4,287,743	
CONTINGENCY:	0.00	Total =	\$0	
	TOTAL	NDIRECT COST =	\$17,257,810	

TOTAL BOND AMOUNT (direct + indirect) = \_\_\_\_\$91,758,195

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### TRUCK/LOADER TEAM WORK

Task description:	Storke (	Complex - Lo	oad	and haul biosoli	ds to 10 acre are	ea.		
Site: Climax Mine		Permit	Acti	ion: March 201	9	Permit/Jo	b#: _	M1977493
PROJECT IDEN	TIFICATION							
Task #: A01			olora			previation:	Nor	
Date: 3/12/	2019 0	County: Su	Imm	it		Filename:	NA	
User: JLE								
Agency or	organization nam	ne: DRMS						
HOURLY EQUI	PMENT COST				Shift ba	sis: <u>1 per da</u>	<u>ıy</u>	
			E	Equipment Descri	iption			
Т	ruck Loader Tear		Cat '					
			-	Г 950H				
Suppo	ort Equipment -Lo			D6T XL				
Dood Ma	-Du aintenance –Moto		NA	T 12M				
Koau Ma				er Tanker, 5,000	Gal			
	· · · · ·	of fluck.	" at	er Taliker, 5,000	Oui.			
Cost Breakdown:	Truck/Loa	der Team		Support	Equipment	Mai	ntena	nce Equipment
<u></u>	Truck	Loader		Load Area	Dump Area	Motor Grader		Water Truck
%Utilization-machine:	100	1	00	100	NA		100	100
Ownership cost/hour:	\$66.13	\$26.	14	\$52.66	NA	\$30	).73	\$25.30
Operating cost/hour:	\$55.75	\$30.	84	\$46.34	NA	\$30	0.60	\$36.60
%Utilization-riper:	NA		0	NA	NA		NA	NA
Ripper own. cost/hour:	NA	\$0.0	00	\$0.00	NA	\$0	0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.	00	\$0.00	NA	\$0	0.00	\$0.00
Operator cost/hour:	\$31.17	\$40.	90	\$41.52	NA	\$28	8.69	\$21.23
Unit Subtotals:	\$153.05	\$97.	89	\$140.52	NA	\$90	0.02	\$83.13
Number of Units:	4		1	1	0		1	1
Group Subtotals:	Work:	\$710.09		Support:	\$140.52	Ma	int:	\$173.15

Total work team cost/hour: \$1,023.76

### **MATERIAL QUANTITIES**

Initial volume:	5,323	CCY	Swell factor:	1.000	
Loose volume:	5,323	LCY			
Sourc	e of estimated volume:	4" Over 10	Acres per Climax	Estimate	
Source of	estimated swell factor:	Cat Handbo	ook		
Material Purchase Cost:		\$0.00			
	Total Cost:	\$0.00			

# **HOURLY PRODUCTION**

Truck Capacity:					
Truck Payload (weight) Bas Material weight:	1,600	Pounds	ICV		
Description:	Top Soil	r ounus/			
Rated Payload:	87,000	Pounds			
Payload Capacity:	54.38	LCY			
r uyloud Capacity.	- 51.50				
Truck Bed (volume) Basis:					
Struck Volume:	24.20	LCY			
Heaped Volume:		LCY			
Average Volume:		LCY			
Adjusted Volume:	31.40	LCY			
Final	Truck Volume E	Based on Number of L	oader Passes:	31.61	_ LCY
Loading Tool Capacity					
<b>_</b>	,		Bucke	et Size Class: <u>NA</u>	<u>A</u>
Rated Capacity:	4.300	LCY (heaped)	/100 -	100() 1 050	
Bucket Fill Factor:	1.050	Other - moist loa	m (100-1	10%) 1.050	
Adjusted Capacity:	4.515	LCY			
Job Condition Corrections	<u>s:</u>	Site	Altitude (ft.): <u>1</u>	<u>2000</u> feet	
	Truck	Loader	Source		
Altitude Adj:	0.600	1.000	(CAT HB)	)	
Job Efficiency:	0.830	0.830	(CAT HB)	)	
Net Correction:	0.498	0.830			
Loading Tool Cycle Time	: N	umber of Loading To	ol Passes Requi	red to Fill	– passes
Excavators and Front Shov	_	C	Ĩ	Truck:	7 pusses
Machine Cycle Time Selected Value	vs. Job Condition within this Basic				
		U			
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	•	ad, dump, 0.5 aneuver):	500 minutes
Cycle Time Factors				Factor (min.)	Source
Material				0.020	(Cat HB)
Stockpile	· ·			0.020	(Cat HB)
Truck Ownership	0.04	nership of trucks and I	loaders -	-0.040	(Cat HB)
Operation				-0.040	(Cat HB)
Dump Target	Nominal targ			0.000	(Cat HB)
		Net Cycle Time		-0.040	minutes
		Adjusted Loader		0.460	minutes
		Net Load Tim	e per Truck:	2.860	minutes

	Tru	ck Exch	ange Time:	0.60	Minutes	Adju	sted for site al	titude:	1.000	Minutes
		Truck	Load Time:	2.860	Minutes	Adju	sted for site al	titude:	2.860	Minutes
	Truck M	aneuver	and Dump Time:	1.00	Minutes	Adju	sted for site al	titude:	1.667	Minutes
	maintained Haul Route	<u>3.0</u>	1 & Return) T			ion: <u>Firm, smoo</u>	-	t/lt. surfaced	l, watered,	
	Seg #	(Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Time (min)		
	1	13728	3.00	0.00	3.00	3.00	3005	5.361		
	Determ Dee	- <b>4</b>				Haul Time:	5.361	min	utes	
	Return Rou Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel		
	505 "	(Ft)			(%)	(%)	(fpm)	Time (min)		
	1	13728	3.00	0.00	3.00	3.00	3005	4.736		
					Total Tr	Return Time: uck Cycle Time:			nutes nutes	
		uction	491.27	LCY/Hour	r	Adjusted for j	ob efficiency:	407.7	5 LCY	/Hour
Iruck	Unit Produ	iction _	121.37	LCY/Hour	[	Adjusted for j	ob efficiency:	100.7	4 LCY	/Hour
Optim	al No. of Tr	ucks:	4	Truck(s)		Selected Numb	per of Trucks:	4	Truc	k(s)
				Adjusted single	e truck/loade	k team productio r team productio r team productio	on: 402.	96 L	CY/Hour CY/Hour CY/Hour	
	JOB TIM	IE ANI	D COST							
	Fleet	size:	1	Team(s)	r	Fotal job time:	13.2	1	Hours	
	Unit o	cost:	\$2.541	/LCY		Total job cost:	\$13,5	24		

Task description:	Storke Complex	, Spread bio	solids		
e: Climax Mine	Pe	rmit Action:	March 2019	Permit/Job	#: <u>M1977493</u>
PROJECT IDENTIFI	CATION				
Task #:     A02       Date:     3/12/2019       User:     JLE	State: County:	Colorado Summit		Abbreviation: Filename:	None NA
Agency or organ	nization name:	RMS			
HOURLY EQUIPME	NT COST				
Horsepower: 183 Blade Type: Sen Attachment: NA Shift Basis: 1 p	ni-Universal				
Cost Breakdown:			TT-'1' /' 0/		
Ownership Cost/Hour:		\$52.66	<u>Utilization %</u> NA		
Operating Cost/Hour:		\$46.34	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
Total Fleet Cost/Hour:         MATERIAL QUANT         Initial Volume:       5,32         Swell factor:       1.00         Loose volume:       5,32	23				
Source of estimated volu Source of estimated swe factor:			on, Mining & Safety		
HOURLY PRODUCT	TION				
Average push distance: Unadjusted hourly production:	200 feet 153.6 LCY	/hr			
Materials consistency description:	Loose	stockpile 1.2			
Average push gradient: Average site altitude:	0 %				
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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8593

Adjusted unit production:	131.99 LCY/hr
Adjusted fleet production:	131.99 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$1.065/LCY

Total job time:	<b>40.33</b> Hours
Total job cost:	\$5,667

### MOTOR GRADER WORK

Task description:	Storke Complex	, Grading a	t Storke distu	rbed areas		
te: Climax Mine	Per	rmit Action:	March 2019		Permit/Job#:	M1977493
PROJECT IDENTIFI	CATION					
Task #:         A03           Date:         3/12/2019           User:         JLE	State: County:	Colorado Summit				lone IA
Agency or organ	ization name: DR	RMS				
HOURLY EQUIPME	NT COST					
Basic Machine	e: CAT 12M			Horsepower:	158	3
Ripper Attachment	t:			Shift Basis:	1 per	
				Data Source:	(CRO	3)
Cost Breakdown:						
_				Utilization %		
	rship Cost/Hour:		\$30.73	NA	_	
	ating Cost/Hour: rship Cost/Hour:		\$30.60 \$0.00	100 NA	_	
	ating Cost/Hour:		\$0.00	INA	_	
	erator Cost/Hour:		\$28.69	NA	_	
-	Unit Cost/Hour:		\$90.02		_	
Total	Fleet Cost/Hour:	\$90	.02			
MATERIAL QUANT	ITIFS					
Total Area	to be graded or ripped	d: 10.00			a	cres
Source	e of estimated acreage	e: <u>Climax</u>	x Mine			
HOURLY PRODUCT	<u>'ION</u>					
	Average Grader Spe	eed:	1.50	mph		
	Selected Applicat		Finish ;	grading (0-2.5 m	nph) - 1.5	
	Selected Blade An		0	degrees	8	
XX7' 1/1	Effective Blade Len	-	12.00	feet		
	of blade overlap per p or ripping width per p		2.00 10.00	feet feet		
• •	Hourly Unit Product		1.8182	acres/h	our	
Job Condition Correction	-			ite Altitude: <u>120</u>		
		Source				
Altitude Adj:	1.00	(CAT HI				
Job Efficiency:	0.90	(1sh/d, fa				
Net Correction:	0.9000	multiplier				
	djusted Hourly Unit F		1.6364	acres/Hour		
Ad	ljusted Hourly Fleet F	roduction:	1.6364	acres/Hour	•	
JOB TIME AND COS	<u>5T</u>					
Fleet size:	I Grader(s)		Total job time	: <u>6.1</u>	<u>1</u> H	lours
Unit cost: \$55	5.01 per acre		Total job cost	: \$55	0	
φυσ	Per uero			φυυ	~	

Task description:	Open Pit, G	rade west open p	oit periphery		
e: Climax Mine		Permit Action:	March 2019	Permit/Jol	o#: <u>M1977493</u>
PROJECT IDENT	IFICATION				
Task #:         B01           Date:         3/12/20           User:         JLE	Sta			Abbreviation: Filename:	None NA
Agency or o	rganization name:	DRMS			
HOURLY EQUIP	MENT COST				
Basic Machine:	Cat D8T - 8SU		-		
Horsepower:	310		-		
Blade Type:	Semi-Universal		-		
Attachment:	3-shank ripper		-		
Shift Basis:	1 per day		-		
—	(CRG)		-		
Cost Breakdown:					
			Utilization %		
Ownership Cost/Ho		\$93.62	NA		
Operating Cost/Ho		\$73.35	100		
Ripper ov Cost/Ho		\$8.93	NA		
Ripper op. Cost/Ho		\$3.89	50		
Operator Cost/Ho		\$41.52	NA		
MATERIAL QUA	<u>NTITIES</u> 26,560				
	1.000 <b>26,560</b> LCY				
Source of estimated	,	ay Mina Estimata			
Source of estimated		ax Mine Estimate Iandbook	2		
factor:					
HOURLY PRODU	UCTION				
Average push distan					
Unadjusted hourly production:	377.8 I	.CY/hr			
Materials consistenc description:	y Ro	ck, poorly ripped	or blasted 0.6		
Average push gradient:	-15 %				
Average site altitude	2: 12,000 feet				
Material weight:	3,300 lbs/LC	Y			
Weight description:	Decomposed	rock - 75% Rock	, 25% Earth		

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.600	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3045

Adjusted unit production:	115.04 LCY/hr
Adjusted fleet production:	230.08 LCY/hr

Fleet size:	2 Dozer(s)	
Unit cost:	\$1.924/LCY	

Total job time:	115.44 Hours
Total job cost:	\$51,095

# TRUCK/LOADER TEAM WORK

Task descripti	ion:	Open Pi	it, load aı	nd haul	topsoil			
Site: Climax Mine Perm				mit Acti	on: <u>March 201</u>	19	Permit/Job#	: <u>M1977493</u>
PROJECT II	DENI	TIFICATION						
Task #:	B02		State:	Colora	do	Abb	previation: 1	None
	3/12/2	019 0	County:	Summi	t		Filename: 1	NA
User:	JLE							
Agen	cy or c	organization nam	ne: DR	MS				
HOURLY E	QUIP	MENT COST	-			Shift ba	sis: <u>1 per day</u>	
				E	quipment Descr	iption		
	Tr	uck Loader Tear	n -Truck:			•		
			-Loader:		950H			
	Suppor	t Equipment -Lo			D6T XL			
D	. 1		mp Area:		12M			
Roa	ad Mai	ntenance – Moto	er Grader:	_	12M er Tanker, 5,000	Cal		
		- •• at	ci iluck.	vv au	1 Talikel, 5,000	Uai.		
Cost Breakdov	wn•	Truck/Loa	der Team		Support	Equipment	Maint	enance Equipment
Cost Di Cardo	<u>, , , , , , , , , , , , , , , , , , , </u>	Truck	Loader		Load Area	Dump Area	Motor	Water Truck
						F	Grader	
%Utilization-machi	ine:	100		100	100	NA	10	0 100
Ownership cost/ho	our:	\$66.13	\$	26.14	\$52.66	NA	\$30.7	3 \$25.30
Operating cost/ho	our:	\$55.75	\$	30.84	\$46.34	NA	\$30.6	0 \$36.60
%Utilization-rij	per:	NA		0	NA	NA	NA	A NA
Ripper o cost/ho		NA		\$0.00	\$0.00	NA	\$0.0	0 \$0.00
Ripper op. cost/ho	our:	NA		\$0.00	\$0.00	NA	\$0.0	0 \$0.00
Operator cost/ho	our:	\$31.17	\$	640.90	\$41.52	NA	\$28.6	9 \$21.23
Unit Subtot	tals:	\$153.05	\$	97.89	\$140.52	NA	\$90.0	2 \$83.13
Number of Un	nits:	4		1	1	0		1 1
Group Subtot	tals:	Work:	\$710.09	)	Support:	\$140.52	Main	t: \$173.15

Total work team cost/hour: **§1,023.76** 

### **MATERIAL QUANTITIES**

Initial volume:	26,560	CCY	Swell factor:	1.000	
Loose volume:	26,560	LCY			
Source	e of estimated volume:	Climax Mine			
Source of	estimated swell factor:	Cat Handbook	-		
Ν	Material Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

# **HOURLY PRODUCTION**

Truck Capacity:					
Truck Payload (weight) Bas Material weight:	<u>1,600 1,600</u>	Pounds	/I CV		
Description:	Top Soil	Founds/			
Rated Payload:	87,000	Pounds			
Payload Capacity:		LCY			
Tujioud Cupucity.		Der			
Truck Bed (volume) Basis:					
Struck Volume:	24.20	LCY			
Heaped Volume:		LCY			
Average Volume:		LCY			
Adjusted Volume:	31.40	LCY			
Fina	l Truck Volume I	Based on Number of L	oader Passes:	31.61	_ LCY
Loading Tool Capacity					
			Bucke	et Size Class: NA	A
Rated Capacity:	4.300	LCY (heaped)	(100	100() 1.070	
Bucket Fill Factor:	1.050	Other - moist loa	m (100-1	10%) 1.050	
Adjusted Capacity:	4.515	LCY			
Job Condition Correction	<u>s:</u>	Site	e Altitude (ft.): <u>1</u>	1 <u>2000</u> feet	
	Truck	Loader	Source		
Altitude Adj:	0.600	1.000	(CAT HB)	)	
Job Efficiency:	0.830	0.830	(CAT HB)	)	
Net Correction:	0.498	0.830			
Loading Tool Cycle Time	:: N	Number of Loading To	ol Passes Requi	red to Fill	– passes
Excavators and Front Show	_	6	1	Truck:	7 pusses
		Detines NA			
Machine Cycle Time Selected Value	within this Basic	·			
Track Loaders	– Material Descri	ption:			
Cycle Time Elements (min.		•			
Load: NA		aneuver: NA		Dump: 0.100	
Wheel and Tra	ck Loaders - Una	djusted Basic Loader	•	ad, dump, 0.5 aneuver):	500 minutes
Cycle Time Factor	s			Factor (min.)	Source
Cycle Time Factor Material		ial 0.02		0.020	(Cat HB)
Stockpile				0.020	(Cat HB)
Truck Ownership	· ·	nership of trucks and	loaders -		,
	0.04	•		-0.040	(Cat HB)
Operation				-0.040	(Cat HB)
Dump Target	: Nominal targ			0.000	(Cat HB)
		Net Cycle Time		-0.040	minutes
		Adjusted Loader		0.460	minutes
		Net Load Tim	he per Truck:	2.860	minutes

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes
Truck Travel (Heul & Deturn) 7	Timo:	Pood Conditi	on: Firm smooth rolling dirt/lt surfa	and watered	

maintained 3.0

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Seg #	Haul Di	istance	Grade (%)	Roll. Res	Total Res	Velocity	Travel		
	(Ft)			(%)	(%)	(fpm)	Time (min)		
1	2373.00	)	6.00	3.00	9.00	983	2.505		
2	3382.20	)	-12.00	3.00	-9.00	1507	2.367		
					Haul Time:	4.872	m	inutes	
Return Ro									
Seg #	Haul Di	istance	Grade (%)	Roll. Res	Total Res	Velocity	Travel		
	(Ft)			(%)	(%)	(fpm)	Time (min)		
1	3382.20		12.00	3.00	15.00	1139	3.010		
2	2373.00	)	-6.00	3.00	-3.00	3706	0.677		
					Return Time:	3.687	'n	ninutes	
				Total True	ck Cycle Time:	14.080	5 r	ninutes	
				rotai ma	ek Cycle Tille.	14.000	<b>J</b> 1.	mates	
Loading To	ol unit			10001110	ek Cycle Thile.		<u> </u>	mates	
	luction	491.27	LCY/Hour	Total Tra	Adjusted for jo		407		LCY/Hour
	luction	491.27 134.63	LCY/Hour LCY/Hour			b efficiency:	407	.75	-
Prod	luction luction				Adjusted for jo	bb efficiency: bb efficiency:	407	.75	-
Prod uck Unit Prod	luction luction	134.63	LCY/Hour Truck(s)		Adjusted for jo	bb efficiency: bb efficiency: er of Trucks:	407 111	.75	_ LCY/Hour _ Truck(s)
Prod uck Unit Prod	luction luction	<u>134.63</u> 4	LCY/Hour Truck(s) Adjusted single	hourly truck truck/loader	Adjusted for jo Adjusted for jo Selected Numb team productio team productio	ob efficiency: ob efficiency: er of Trucks: n: 446. n: 407.	<u>407</u> <u>111</u> <u>4</u> 96	.75 .74	our
Prod uck Unit Prod	luction luction	<u>134.63</u> 4	LCY/Hour Truck(s) Adjusted	hourly truck truck/loader	Adjusted for jo Adjusted for jo Selected Numb team productio team productio	ob efficiency: ob efficiency: er of Trucks: n: 446. n: 407.	<u>407</u> <u>111</u> <u>4</u> <u>96</u> 75	2.75 .74 4 LCY/H	_ LCY/Hour _ Truck(s) our our
Prod uck Unit Prod timal No. of T	luction luction	134.63 4 A	LCY/Hour Truck(s) Adjusted single	hourly truck truck/loader	Adjusted for jo Adjusted for jo Selected Numb team productio team productio	ob efficiency: ob efficiency: er of Trucks: n: 446. n: 407.	<u>407</u> <u>111</u> <u>4</u> <u>96</u> 75	2.75 .74 4 LCY/H LCY/H	_ LCY/Hour _ Truck(s) our our
Prod uck Unit Prod timal No. of T JOB TIM	luction luction Trucks:	134.63 4 A	LCY/Hour Truck(s) Adjusted single	hourly truck truck/loader truck/loader	Adjusted for jo Adjusted for jo Selected Numb team productio team productio	ob efficiency: ob efficiency: er of Trucks: n: 446. n: 407.	<u>407</u> <u>111</u> <u>4</u> <u>96</u> <u>75</u> <b>75</b>	2.75 .74 4 LCY/H LCY/H	_ LCY/Hour _ Truck(s) our our

Date:       3/12/2019       County:       Summit       Filename:       N         User:       JLE       Agency or organization name:       DRMS       DRMS         HOURLY EQUIPMENT COST       Basic Machine:       Cat D6T LGP       Horsepower:       200         Blade Type:       Straight       Attachment:       NA	: <u>M1977493</u> None NA
Task #:       B03       State:       Colorado       Abbreviation:       N         Date:       3/12/2019       County:       Summit       Filename:       N         User:       JLE       Agency or organization name:       DRMS       DRMS         HOURLY EQUIPMENT COST       Basic Machine:       Cat D6T LGP       Horsepower:       200       Blade Type:       Straight         Attachment:       NA	
Task #:       B03       State:       Colorado       Abbreviation:       N         Date:       3/12/2019       County:       Summit       Filename:       N         User:       JLE       Agency or organization name:       DRMS       DRMS         HOURLY EQUIPMENT COST       Basic Machine:       Cat D6T LGP       Horsepower:       200         Blade Type:       Straight       Attachment:       NA	
HOURLY EQUIPMENT COST         Basic Machine:       Cat D6T LGP         Horsepower:       200         Blade Type:       Straight         Attachment:       NA	
Basic Machine:Cat D6T LGPHorsepower:200Blade Type:StraightAttachment:NA	
Horsepower:200Blade Type:StraightAttachment:NA	
Blade Type:StraightAttachment:NA	
Attachment: NA	
Shift Basis: <u>1 per day</u>	
Data Source: (CRG)	
Cost Breakdown: Utilization %	
Ownership Cost/Hour: \$50.71 NA	
Operating Cost/Hour: \$42.03 100	
Ripper own.\$0.00NACost/Hour:\$0.00NA	
Ripper op. Cost/Hour:         \$0.00         0	
Operator Cost/Hour: \$41.52 NA	
MATERIAL QUANTITIES         Initial Volume:       26,560         Swell factor:       1.000	
Loose volume: <b>26,560</b> LCY	
Source of estimated volume:Division of Reclamation, Mining & SafetySource of estimated swellCat Handbookfactor:	
HOURLY PRODUCTION	
Average push distance: 200 feet	
Unadjusted hourly 153.6 LCY/hr production:	
Unadjusted hourly 153.6 LCY/hr	
Unadjusted hourly     153.6 LCY/hr       production:     153.6 LCY/hr       Materials consistency     Consolidated stockpile 1.0       description:     0 %       gradient:     0 %	
Unadjusted hourly     153.6 LCY/hr       production:	
Unadjusted hourly     153.6 LCY/hr       production:     153.6 LCY/hr       Materials consistency     Consolidated stockpile 1.0       description:     0 %       gradient:     0 %	

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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	0.940	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6732

Adjusted unit production:	103.40 LCY/hr	
Adjusted fleet	<b>206.8</b> LCY/hr	
production:	200:8 LC 1/III	

Fleet size:	2 Dozer(s)	
Unit cost:	\$1.298/LCY	

Total job time:	<b>128.43</b> Hours
Total job cost:	\$34,487

Permit		Permit			
No:	M-1977-493	Action:	Mar-19	User:	JLE
Site					
Name:	Climax Mine	Date:	3/12/2019	<b>Division</b> :	DRMS
Task No.	B04				
	Install				
Task Description					

Guide and Directional Sign, 12" x 18", ReflectorizedRS Means, 10 14 53.20 0600Steel Posts, galvanized, 10'-0", Upright boltedRS Means, 10 14 53.20 1500

	Labor Hours	Unit	2016 Bare Cost	Number	Total Hours	Total Cost
Signs	0.457	EA	\$70.25	41	18.737	\$2 <i>,</i> 880.25
Post	0.16	EA	\$42.66	41	6.56	\$1,749.06

TOTAL 25.297 \$4,6
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Task description:	Mine Mill Com	p. Grade 1' c	ut/fill across 243 acre	es	
e: Climax Mine	Pe	ermit Action:	March 2019	Permit/Job	#: <u>M1977493</u>
PROJECT IDENTI	FICATION				
Task #: <u>C01</u> Date: <u>3/12/20</u> User: JLE	State:	Colorado Summit		Abbreviation: _ Filename: _	None NA
	ganization name: D	RMS			
HOURLY EQUIPM	<u>IENT COST</u>				
	Cat D9T - 9SU		_		
	405		-		
<i>•</i> • • • •	Semi-Universal		-		
	3-shank ripper		_		
	1 per day		_		
Data Source:	(CRG)		-		
Cost Breakdown:		1			
		¢110.70	<u>Utilization %</u>		
Ownership Cost/Hou		\$110.70 \$95.46	<u>NA</u> 100		
Operating Cost/Hou Ripper ow		\$93.40	100		
Cost/Hou	ır:	\$12.36	NA		
Ripper op. Cost/Hou	ır:	\$3.94	50		
Operator Cost/Hou	ır:	\$41.52	NA		
	NTITIES 91,879 .215				
	.215 <b>76,133</b> LCY				
Source of estimated v Source of estimated s factor:		Estimate (Rev. lbook	. Feb 2019)		
HOURLY PRODU	<u>CTION</u>				
Average push distanc	e: 250 feet				
Unadjusted hourly production:	546.0 LCY	/hr			
Materials consistency description:	Compa	acted fill or en	nbankment 0.9		
Average push gradient:	0 %				
Average site altitude:	11,300 feet				
Material weight:	3,300 lbs/LCY				
Weight description:	Decomposed rock	k - 75% Rock,	25% Earth		

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3436

Adjusted unit production:	187.61 LCY/hr
Adjusted fleet production:	750.44 LCY/hr

Fleet size:	4 Dozer(s)	
Unit cost:	\$1.407/LCY	_

Total job time:	634.47 Hours
Total job cost:	\$669,964

### MOTOR GRADER WORK

te: <u>Climax Mine</u> Permit Action: <u>N</u> PROJECT IDENTIFICATION	March 2019		
		Perm	nit/Job#: <u>M1977493</u>
Task #: C02 State: Colorado		Abbreviati	on: None
Date:3/12/2019County:SummitUser:JLE		Filenar	ne: NA
Agency or organization name: DRMS			<u>.</u>
HOURLY EQUIPMENT COST			
Basic Machine: CAT 12M		Horsepower:	158
Ripper Attachment:		Shift Basis:	1 per day
		Data Source:	(CRG)
Cost Breakdown:			
		Utilization %	
Ownership Cost/Hour:	\$30.73	NA	
Operating Cost/Hour: Ripper Ownership Cost/Hour:	\$30.60 \$0.00	100 NA	
Ripper Operating Cost/Hour:	\$0.00		
Operator Cost/Hour:	\$28.69	NA	
Total Unit Cost/Hour:	\$90.02		
Total Fleet Cost/Hour: \$180.04	ļ		
MATERIAL QUANTITIES			
Total Area to be graded or ripped: 243.00			acres
		E 1 2010)	
Source of estimated acreage: <u>Climax Es</u>	timate (Re	v. Feb 2019)	
HOURLY PRODUCTION			
Average Grader Speed:	1.50	mph	
Selected Application:		grading (0-2.5 mph) -	1.5
Selected Blade Angle:	0	degrees	
Effective Blade Length: Width of blade overlap per pass:	12.00 2.00	feet feet	
Net grading or ripping width per pass:	10.00	feet	
	1.8182	acres/hour	
Unadjusted Hourly Unit Production:			
Unadjusted Hourly Unit Production:	S	Site Altitude: <u>11300</u> fee	et
Job Condition Correction Factors	S	Site Altitude: <u>11300</u> fee	et
· · ·	S	site Altitude: <u>11300</u> fee	et
Job Condition Correction Factors     Source       Altitude Adj:     0.95     (CAT HB)       Job Efficiency:     0.90     (1sh/d, fav.)	S	oite Altitude: <u>11300</u> fee	ot
Job Condition Correction Factors       Source         Altitude Adj:       0.95	S	site Altitude: <u>11300</u> fee	rt
Job Condition Correction FactorsSourceAltitude Adj:0.95(CAT HB)Job Efficiency:0.90(1sh/d, fav.)Net Correction:0.8550multiplier	  1.5545	oite Altitude: <u>11300</u> fee acres/Hour	et
Job Condition Correction FactorsSourceAltitude Adj:0.95(CAT HB)Job Efficiency:0.90(1sh/d, fav.)			¢t
Job Condition Correction Factors         Source         Altitude Adj:       0.95       (CAT HB)         Job Efficiency:       0.90       (1sh/d, fav.)         Net Correction:       0.8550       multiplier         Adjusted Hourly Unit Production:	1.5545	acres/Hour	et
Job Condition Correction Factors         Source         Altitude Adj:       0.95       (CAT HB)         Job Efficiency:       0.90       (1sh/d, fav.)         Net Correction:       0.8550       multiplier         Adjusted Hourly Unit Production:	1.5545	acres/Hour	et
Job Condition Correction Factors         Source         Altitude Adj:       0.95       (CAT HB)         Job Efficiency:       0.90       (1sh/d, fav.)         Net Correction:       0.8550       multiplier         Adjusted Hourly Unit Production:	1.5545	acres/Hour acres/Hour	et Hours

# TRUCK/LOADER TEAM WORK

Mine Mill Comp. Load/Haul Topsoil/Biosolids, 1' Cover							
Site: Climax Mine		Permit Act	ion: March 201	9	Permit/Job#:	M1977493	
PROJECT IDEN	TIFICATION						
Task #: C03		State: Colora	ado	Abb	Abbreviation: None		
	/2019 0	County: Summ	it		Filename: N	IA	
User: JLE							
Agency or	organization nam	ne: DRMS					
HOURLY EQUI	PMENT COST	-		Shift ba	sis: <u>1 per day</u>		
		H	Equipment Descr	iption			
Т	ruck Loader Tear						
			Г 950Н				
Supp	ort Equipment -Lo		D6T XL				
Pond M	-Du aintenance –Moto	mp Area: NA	Г 12М				
Koau Ivi			er Tanker, 5,000	Gal			
	, , , , , , , , , , , , , , , , , , ,	ter fruent. Wat	, 5,000	Sui.			
Cost Breakdown:	Truck/Loa	der Team	Support	Equipment	Mainte	nance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck	
%Utilization-machine:	100	100	100	NA	100	) 100	
Ownership cost/hour:	\$66.13	\$26.14	\$52.66	NA	\$30.73	3 \$25.30	
Operating cost/hour:	\$55.75	\$30.84	\$46.34	NA	\$30.60	\$36.60	
%Utilization-riper:	NA	0	NA	NA	NA	NA NA	
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00	
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00	
Operator cost/hour:	\$31.17	\$40.90	\$41.52	NA	\$28.69	\$21.23	
Unit Subtotals:	\$153.05	\$97.89	\$140.52	NA	\$90.02	2 \$83.13	
Number of Units:	3	1	1	0	]	1	
Group Subtotals:	Work:	\$557.04	Support:	\$140.52	Maint	: \$173.15	

Total work team cost/hour: **<u>\$870.71</u>** 

### **MATERIAL QUANTITIES**

Initial volume:	391,879	CCY	Swell factor:	1.000	
Loose volume:	391,879	LCY			
Sourc	e of estimated volume:	1 Foot ove	r 243-acre Mine M	ill Complex	
Source of estimated swell factor:		Cat Handb	ook		
Material Purchase Cost:		\$0.00			
	Total Cost:	\$0.00			

# **HOURLY PRODUCTION**

Truck Capacity: Truck Payload (weight) Basi								
Material weight:	1,600		Pounds/	I CY				
Description:	Top Soil	<u> </u>	I Oullus/1					
Rated Payload:	87,000		Pounds					
Payload Capacity:	54.38		LCY					
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 Num	nber of Lo	oader Passes:	31.61	L	LCY	
Loading Tool Capacity								
		1	-	Buck	et Size Class:	NA		_
Rated Capacity:	4.300	LCY (he		(100	1100/ \ 1.050			=
Bucket Fill Factor:	1.050		noist loar	n (100-	110%) 1.050			-
Adjusted Capacity:	4.515	LCY						
Job Condition Corrections	<u>:</u>		Site	Altitude (ft.):	<u>11300</u> feet			
	Truck	Loade		Source				
Altitude Adj:	0.600	1.000		(CAT HE				
Job Efficiency:	0.830	0.830	)	(CAT HE	3)			
Net Correction:	0.498	0.830	)					
Loading Tool Cycle Time:	N	umber of Loa	ading Too	ol Passes Requ			7	passes
Excavators and Front Shove	els:				Truck:			
Machine Cycle Time v Selected Value	vs. Job Condition within this Basic		IA IA					
Track Loaders –	Material Descri	ption:						
Cycle Time Elements (min.)	:							
Load: NA	Ma	aneuver: N	JA		Dump:	0.100		
Wheel and Trac	k Loaders - Una	djusted Basic	Loader C	•	oad, dump, naneuver):	0.50	0 <sup>min</sup>	utes
Cycle Time Factors					Factor (mi	n.)	Source	
Material:	Mixed materi	al 0.02			0.020	.,	(Cat HB)	_
Stockpile:	Conveyor or 0.00		0 ft. high	and up	0.000		(Cat HB)	_
Truck Ownership:		nership of tru	cks and l	oaders -	-0.040		(Cat HB)	_
Operation:	Constant ope	ration -0.04			-0.040		(Cat HB)	_
Dump Target:					0.000		(Cat HB)	_
		•		Adjustment:	-0.060		minutes	
				Cycle Time:	0.440	<u> </u>	minutes	
		Net L	Load Time	e per Truck:	2.740		minutes	

#### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.740	Minutes	Adjusted for site altitude:	2.740	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

Truck Travel (Haul & Return) Time: maintained 3.0

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

1	Haul Route	:							
	Seg #	Haul Dista	nce	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	Time (min)	
_	1	8000.00		0.00	3.00	3.00	3005	3.455	
						Haul Time:	3.455	minute	s
I	Return Rou	ite:							
	Seg #	Haul Dista	nce	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	Time (min)	
	1	8000.00		0.00	3.00	3.00	3005	2.829	
						Return Time:	2.829	minut	es
					Total Tru	ck Cycle Time:	11.69	1 minut	es
Lo	oading Too	l unit							
	Produ	iction	507.03	LCY/Hour		Adjusted for jo	ob efficiency:	420.84	LCY/Hour
Truck	Unit Produ		162.21	LCY/Hour		Adjusted for jo	ob efficiency:	134.63	LCY/Hour
Optima	l No. of Tr	ucks:	3	Truck(s)		Selected Numb	er of Trucks:	3	Truck(s)
				Adjusted	hourly truck	team productio	n: 403.	89 LCY	/Hour
				Adjusted single	truck/loader	team productio	n: 403.	89 LCY	/Hour
			A	djusted multiple	e truck/loader	team productio	n: 403.	89 LCY	/Hour
<u>•</u>	JOB 11M	E AND CO	<u>JST</u>						
	Fleet	size:	1	Team(s)	Т	otal job time:	970.2	<b>25</b> Ho	ours
	Unit o	cost: \$	2.156	/LCY	Т	Total job cost:	\$844,8	809	

Task description:	Mine Mill Com	p. Spread To	psoil and Biosolids		
: Climax Mine	Pe	rmit Action:	March 2019	Permit/Jol	b#: <u>M1977493</u>
PROJECT IDENTIFI	CATION				
Task #: C04	State:	Colorado		Abbreviation:	None
Date: $3/12/2019$	County:	Summit		Filename:	NA
User: JLE					
Agency or organ	nization name:	RMS			
HOURLY EQUIPME	NT COST				
	D7R DS Series II L	.GP			
Horsepower: 240 Blade Type: Stra	) aight				
Attachment: NA					
	er day				
Data Source: (CH	RG)				
Cost Breakdown:		1	Utilization %		
Ownership Cost/Hour:		\$66.14	NA		
Operating Cost/Hour:		\$63.91	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
MATERIAL QUANT Initial Volume: <u>391,</u> Swell factor: 1.00	.879				
Loose volume: <b>391</b> ,	<b>879</b> LCY				
Source of estimated volu	ume: 1' over 2	43 acres.			
Source of estimated swe	ll Cat Hand	lbook			
factor:					
HOURLY PRODUCT	ION				
Average push distance:	200 feet				
Unadjusted hourly production:	289.3 LCY	/hr			
Materials consistency description:	Loose	stockpile 1.2			
Average push gradient:	0 %				
Average site altitude:	11,300 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:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.0634

Adjusted unit production:	307.64 LCY/hr
Adjusted fleet production:	922.92 LCY/hr

Fleet size:	3 Dozer(s)	
Unit cost:	\$0.558/LCY	

Total job time:	<b>424.61</b> Hours
Total job cost:	\$218,548

Task description:	N40_OSF, Regr	ade top to dı	ain, slopes 2h:1v		
E Climax Mine	Pe	rmit Action:	March 2019	Permit/Job	t: <u>M1977493</u>
PROJECT IDENTIF	ICATION				
Task #:	State:	Colorado Summit			None NA
User: JLE Agency or organ	nization name: DF	RMS			
HOURLY EQUIPME					
	t D9T - 9SU				
Horsepower: 40			-		
• • • •	mi-Universal				
Attachment: NA					
	er day				
Data Source: (C	RG)				
Cost Breakdown:		1			
		<b>.</b>	<u>Utilization %</u>		
Ownership Cost/Hour:		\$110.70	NA		
Operating Cost/Hour:		\$95.46	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
	,708				
Swell factor: <u>1.00</u> Loose volume: <b>351</b>	00 <b>,708</b> LCY	_			
Source of estimated vol Source of estimated swe factor:			n, Rev. Feb 2019		
HOURLY PRODUCT	<u>rion</u>				
Average push distance:	200 feet				
Unadjusted hourly production:	700.0 LCY	/hr			
Materials consistency description:	Compa	cted fill or er	nbankment 0.9		
Average push gradient:	15 %				
Average site altitude:	11,500 feet				
Material weight:	3,300 lbs/LCY			_	
Weight description:	Decomposed rock	- 75% Rock,	25% Earth		

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2497

Adjusted unit production:	174.79 LCY/hr
Adjusted fleet	<b>699.16</b> LCY/hr
production:	<b>033.10</b> LC 1/III

Fleet size:	4 Dozer(s)	
Unit cost:	\$1.417/LCY	-

Total job time:	<b>503.04</b> Hours
Total job cost:	\$498,383

### TRUCK/LOADER TEAM WORK

Task description:	North 4	0 OSF. Load/Ha	ul Topsoil, 6" C	over		
Site:       Climax Mine       Permit Action:       March 2019       Permit/Job#:       M1977493						M1977493
PROJECT IDEN	TIFICATION					
Task #:		State: Colora			previation: No	
Date: $3/14/$ User: JLE	2019 0	County: Summ	it		Filename: NA	L
Agency or	organization nan	ne: DRMS				
HOURLY EQUI	PMENT COST			Shift ba	sis: <u>1 per day</u>	
		I	Equipment Descr	iption		
Т	ruck Loader Tear			-		
			Г 950Н			
Suppo	ort Equipment -L		D6T XL			
Road Ma	aintenance – Moto		Г 12М			
Koad Ma			er Tanker, 5,000	Gal.		
		I	, ,			
Cost Breakdown:	Truck/Loa	der Team		Equipment		ance Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	NA	100	100
Ownership cost/hour:	\$66.13	\$26.14	\$52.66	NA	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$30.84	\$46.34	NA	\$30.60	\$36.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.17	\$40.90	\$41.52	NA	\$28.69	\$21.23
Unit Subtotals:	\$153.05	\$97.89	\$140.52	NA	\$90.02	\$83.13
Number of Units:	2	1	1	0	1	1
Group Subtotals:	Work:	\$403.99	Support:	\$140.52	Maint:	\$173.15

Total work team cost/hour: \$717.66

#### **MATERIAL QUANTITIES**

Initial volume:	64,533	CCY Swell factor: 1.000	
Loose volume:	64,533	LCY	
Source	e of estimated volume:	12" of Cover over 80 acres, 50% Biosolids and 50	% Topsoil
Source of	estimated swell factor:	Cat Handbook	
Ν	Material Purchase Cost:	\$0.00	
	Total Cost:	\$0.00	

### **HOURLY PRODUCTION**

### Truck Capacity:

Truck Payload (weight) Basis:	
Material weight:	1,600

Material weight:	1,600	Pounds/LCY
Description:	Top Soil	
Rated Payload:	87,000	Pounds

Payload Capacity: 54.38 LCY

Truck Bed (volume) Basis:						
Struck Volume:	24.20 L	.CY				
Heaped Volume:	31.40 L	.CY				
Average Volume:	27.80 L	.CY				
Adjusted Volume:	31.40 L	LCY				
	ruck Volume Ba	ased on Number o	of Loader Passes:	31.61	LCY	
Loading Tool Capacity			Bucl	ket Size Class:	NA	
Rated Capacity:	4.300	LCY (heaped)		-		
Bucket Fill Factor:	1.050	Other - moist		-110%) 1.050		
Adjusted Capacity:	4.515	LCY	(			_
Ich Condition Connectional			Site Altitude (ft).	11200 fast		
Job Condition Corrections:			Site Altitude (ft.):			
	Truck	Loader	Source			
Altitude Adj:	0.600	1.000	(CAT HI	,		
Job Efficiency:	0.830	0.830	(CAT HI	3)		
Net Correction:	0.498	0.830				
Loading Tool Cycle Time:	Νι	umber of Loading	Tool Passes Requ	uired to Fill	-	passes
Excavators and Front Shovels		C	1	Truck:	7	1
Machine Cycle Time vs. Selected Value w	Job Condition					
Track Loaders – N						
Cycle Time Elements (min.):	interin Desemp					
•	Ма	nouriem NA		Duma: 0.1	00	
Load: NA		neuver: NA		Dump: 0.1	.00	
Wheel and Track	Loaders - Unad	justed Basic Load	•	oad, dump, naneuver):	0.500 min	nutes
Cycle Time Factors				Factor (min.)	Source	
Material:	Mixed materia	al 0.02		0.020	(Cat HB)	_
Stockpile:	Dumped by tr			0.020	(Cat HB)	
Truck Ownership:	Common own	ership of trucks a	nd loaders -	-0.040	(Cat HB)	
Operation:	0.04 Constant oper	ation 0.04		-0.040	. ,	
Dump Target:	Nominal targe			0.000	(Cat HB) (Cat HB)	
Dump Target.	Nominal targe		me Adjustment:	-0.040	minutes	
			der Cycle Time:	0.460	minutes	
			Fime per Truck:	2.860	minutes	
			I			
<u>Truck Cycle Time:</u>						
Truck Exchange Time:		Minutes	Ū.	for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted	for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:		Minutes	Adjusted	for site altitude:	1.667	Minutes
	-	-				_

<u>Truck Travel (Haul & Return) Time:</u> <u>maintained 3.0</u>

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

Haul Route							
Seg #	Haul Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)		(%)	(%)	(fpm)	Time (min)	
1	2830.00	0.00	3.00	3.00	3005	1.734	
				Haul Time:	1.734	minutes	
Return Rou	ite:						
Seg #	Haul Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)		(%)	(%)	(fpm)	Time (min)	
1	2830.00	0.00	3.00	3.00	3005	1.109	
				Return Time:	1.109	minutes	
			Total Tru	ck Cycle Time:	8.370	minutes	
Loading Too	l unit						
Produ	iction 491.27	LCY/Hour		Adjusted for jo	ob efficiency:	407.75	LCY/Hour
Fruck Unit Produ					1 66 1	100.05	
	226.57	LCY/Hour		Adjusted for jo	ob efficiency:	188.05	LCY/Hour
Pptimal No. of Tr	ucks: 2	Truck(s)		Selected Numb	er of Trucks:	2	Truck(s)
		Adjusted	hourly truck	team productio	n: 376.	10 LCY/H	Iour
		Adjusted single					
		Adjusted multiple	truck/loader	team productio	n: <b>376.</b>	10 LCY/H	Iour
JOB TIM	E AND COST						
Fleet		Team(s)	Т	otal job time:	171.5	8 Hou	rs
Unit o	cost: \$1.908	/LCY	Т	Total job cost:	\$123,1	39	

Climax Mine	Permit Action:	March 2019	Permit/Job#: <u>M1977493</u>	
PROJECT IDENTIFI	CATION State: Colorado		Abbreviation:	None
Date: 3/14/2019 User: JLE	County: <u>Summit</u>		Filename:	NA
Agency or organ	ization name: DRMS			
HOURLY EQUIPME	NT COST			
Basic Machine: Cat	D7R DS XR Series II			
Horsepower: 240	)	_		
Blade Type: Sen	ni-Universal	_		
Attachment: NA		_		
	er day	_		
Data Source: (CF	RG)	_		
Cost Breakdown:				
Cost Drouted with		Utilization %		
Ownership Cost/Hour:	\$61.41	NA		
Operating Cost/Hour:	\$54.22	100		
Ripper own.				
Cost/Hour:	\$0.00	NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.52	NA		
	067 0 <b>067</b> LCY			
Source of estimated volu Source of estimated swe factor:				
HOURLY PRODUCT	ION			
Average push distance: Unadjusted hourly production:	200 feet 410.8 LCY/hr			
Materials consistency description:	Loose stockpile 1.2			
Average push gradient: Average site altitude:	0 % 			
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:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9453

Adjusted unit production:	388.33 LCY/hr	
Adjusted fleet production:	1553.32 LCY/hr	

Fleet size:	4 Dozer(s)
Unit cost:	\$0.405/LCY

Total job time:	83.09 Hours
Total job cost:	\$52,231

Climax Mine	Pe	ermit Action:	March 2019	Permit/Job#: <u>M1977493</u>	
PROJECT IDENTIFI	<u>CATION</u>				
Task #: D03	State:	Colorado		Abbreviation:	None
Date: <u>3/14/2019</u>	County:	Summit		Filename:	NA
User: JLE					
Agency or organ	ization name: DI	RMS			
HOURLY EQUIPME	NT COST				
Basic Machine: Cat	D7R DS XR Series	II			
Horsepower: 240					
	ni-Universal				
Attachment: NA					
	er day				
Data Source: (CR	RG)				
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hour:		\$61.41	NA		
Operating Cost/Hour:		\$54.22	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
MATERIAL QUANTI Initial Volume: 129, Swell factor: 1.000 Loose volume: 129,	067	_			
Source of estimated volu					
Source of estimated swel factor:	ll Cat Hand	IDOOK			
1001.					
HOURLY PRODUCT	ION				
Average push distance:	200 feet				
Unadjusted hourly	410.8 LCY	/hr			
production:	.10.0 201	,			
Materials consistency	Loose	stockpile 1.2			
description:					
	0.0/				
Average push	0 %				
gradient: Average site altitude:	11,500 feet				
Average site attitude:	11,500 1001				
Material weight:	1,600 lbs/LCY				
-	Top Soil				
Weight description:	Top Call				
Job Condition Correction Factor		Source			
---------------------------------	-------	---------------			
Operator Skill:	0.750	(AVG.)			
Material consistency:	1.200	(CAT HB)			
Dozing method:	1.100	(50% SL)			
Visibility:	1.000	(AVG.)			
Job efficiency:	0.830	(1 SHIFT/DAY)			
Spoil pile:	0.800	(FND-RF)			
Push gradient:	1.000	(CAT HB)			
Altitude:	1.000	(CAT HB)			
Material Weight:	1.438	(CAT HB)			
Blade type:	1.000	(PAT)			

Adjusted unit production:	388.33 LCY/hr
Adjusted fleet production:	1553.32 LCY/hr

Fleet size:	4 Dozer(s)
Unit cost:	\$0.405/LCY

Total job time:	83.09 Hours
Total job cost:	\$52,231

lConstructio	on			Task No.	D04					
								#	Variable	
21-Mar-19	Permit	M1977493	Site:	Climax Mir	ne			#	Formula	
JLE			State : Colorado			County:	Lake/Summit			
orado Divisio	on of Rec	lamation, Mining	g and Safety							
Mar-19				Task Desc	ription: N40 (	OSF Constru	ct Post-Mining Ch	annels		
Length	Depth	Width (bottom)	Side Slopes	Width (Top)	Excavated Vol./LF	Excavated Vol. (total)	Riprap Thickness (2xD50)	Perimeter, P	Area for Geotextile (excl. anchor trenches)	Riprap Vol.
										(CY)
13,300	3.0	10.0	3.0				**Climax			**Climax
										0
									1	0
10.000				0.0	0.0000			0.00	1	0
13,300						28,078			0	0
	**Geote	extile (SY incl.):	29,542		**Riprap (CY):		19,695		Excavation (CY):	28,078
		Geotextile (SY):	\$ 0.94		***	 Riprap (CY):	\$ 32.08	Exca	vation (CY):	\$ -
			\$ 0.26				***			\$ 2.40
			\$ -				***			\$ 1.39
	33 3	32 1916 1500			31 37 1310 01	00		31 23 16	42 0310	
	Geotexti	ile (\$):	\$ 35,450.40		Riprap (\$):		\$ 631,815.60	Excavation (	CY):	\$ 106,414.78
	Geotexti	ile (Hrs):	94.5		Riprap (Hrs	):	2,541.3	Excavation ()	Hrs):	701.94
					CY/HR	7.750		CY/HR	40.00	
<b>\$ per Unit</b> \$ 14.50	<b>SF</b> 23240	Total Cost           \$ 336,980.00								
0			3,337.77							
ng Channel	Reconstr	uction Cost:	\$ 1,110,660.78							
	21-Mar-19 JLE prado Divisio Mar-19 Length (ft) 13,300 13,300 13,300	Length       Depth         (ft)       (ft)         13,300       3.0         13,300       3.0         13,300       3.0         333       333         Geotexti       333         SY/HR       Sy/HR         \$ per Unit       SF         \$ 14.50       23240         ag Channel Reconstructure       345	21-Mar-19PermitM1977493JLEImage: matrix of the second secon	21-Mar-19PermitM1977493Site: State : ColoradoJLE $\begin{tabular}{lllllllllllllllllllllllllllllllllll$	21-Mar-19PermitM1977493Site:Climax MinJLEState : ColoradoState : Coloradoorado Division of Reclamation, Mining and SafetyTask DescMar-19Task DescMar-19Task Desc(h)<	21-Mar-19         Permit         M1977493         Site:         Climax Mine           JLE         State : Colorado         Task Description: N40 (0)           mar-19         Task Description: N40 (0)         Task Description: N40 (0)           Mar-19         Width         Side Slopes         Width         Excavated           Length         Depth         (bottom)         Side Slopes         C(max Mine         Vol /LF           (ft)         (ft)         (ft)         (ft)         (CY)         28.0         2.1111           0         0.0         0.00         0.0         0.0000         0.0000           13,300         3.0         10.0         3.0         28.0         2.1111           0         0         0.0         0.0000         0.0000         0.0000           13,300         -         -         -         -         -           **Geotextile (SY incl.):         29,542         **Riprap (CY):         ****           S         0.26         -         -         -         -           Geotextile (SY):         \$ 0.94         ****         \$ 13 13 1310 01         -           Geotextile (SY:         \$ 0.94         \$ 13 137 1310 01         -         -	21-Mar-19       Permit       M1977493       Site:       Climax Mine       County:         JLE       State : Colorado       State : Colorado       County:       County:         Mar-19       Task Description: N40 OSF Construction       Task Description: N40 OSF Construction       Karated         Mar-19       Width       Side Slopes       Width       Excavated       Excavated         (ft)       (ft)       (ft)       (ft)       (ft)       (Ctrip)       Z8.00       2.1111       28.078         3.00       3.0       10.0       3.0       28.00       2.1111       28.078         interm       interm       interm       interm       interm       28.078       28.078         interm       interm       interm       interm       interm       28.078       28.078         interm       interm       interm       interm       interm       interm       28.078         interm       interm       interm       interm       interm       interm       28.078         interm       interm       interm       interm       interm       interm       28.078         interm       interm       interm       interm       interm       28.078 <tr< td=""><td><math display="block">\begin{array}{c c c c c c c c c c c c c c c c c c c </math></td><td>21-Mar-19       Permit       M1977493       Site:       Climax Mine       #         JLE       State : Colorado       County:       Lake/Summit       #         Mar-19       Task Description: N40 OSF Construct Post-Mining Channels       Perimeter,         Mar-19       Task Description: N40 OSF Construct Post-Mining Channels       Perimeter,         (ft)       (ft)       (ft)       (ft)       (ft)       (ft)         (ft)       (ft)       (ft)       (XH:1V)       (ft)       (CY)       (CY)         (ft)       (ft)       (ft)       (CY)       (ft)       (ft)       (ft)       (ft)         13,300       30       10.0       3.0       28,0       2,1111       28,078       **Cimax       28,97         **Geotextile (SY incl.):       29,542       (CY):       -       28,078       0.0       0.00       <t< td=""><td><math display="block">\begin{array}{ c c c c c c c c c c c c c c c c c c c</math></td></t<></td></tr<>	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	21-Mar-19       Permit       M1977493       Site:       Climax Mine       #         JLE       State : Colorado       County:       Lake/Summit       #         Mar-19       Task Description: N40 OSF Construct Post-Mining Channels       Perimeter,         Mar-19       Task Description: N40 OSF Construct Post-Mining Channels       Perimeter,         (ft)       (ft)       (ft)       (ft)       (ft)       (ft)         (ft)       (ft)       (ft)       (XH:1V)       (ft)       (CY)       (CY)         (ft)       (ft)       (ft)       (CY)       (ft)       (ft)       (ft)       (ft)         13,300       30       10.0       3.0       28,0       2,1111       28,078       **Cimax       28,97         **Geotextile (SY incl.):       29,542       (CY):       -       28,078       0.0       0.00 <t< td=""><td><math display="block">\begin{array}{ c c c c c c c c c c c c c c c c c c c</math></td></t<>	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$

## BULLDOZER WORK

Climax Mine		Permit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
ROJECT IDENTI	FICATION				
Task #: E01	Stat	e: Colorado		Abbreviation:	None
Date: 3/14/201				Filename:	M493-E01
User: JLE					
Agency or org	anization name:	DRMS			
OURLY EQUIPM	ENT COST				
Basic Machine: C	Cat D9T - 9SU				
	05		-		
<b>71</b>	emi-Universal		-		
	-shank ripper		-		
	per day				
	CRG)		-		
ost Breakdown:			Utilization %		
Ownership Cost/Hour	··	\$110.70	NA		
Operating Cost/Hour		\$95.46	100		
Ripper own Cost/Hour		\$12.36	NA		
Ripper op. Cost/Hour	-	\$0.00	0		
Operator Cost/Hour		\$41.52	NA		
Total Fleet Cost/Hour:	\$1,040.18				
IATERIAL QUAN Initial Volume: 2,2 Swell factor: 1.0	TITIES 205,777 000				
IATERIAL QUAN Initial Volume: 2,2 Swell factor: 1.0	<b>TITIES</b> 205,777				
Initial Volume:       2,2         Swell factor:       1.0         Loose volume:       2,2         Source of estimated volume:       2,2	TITIES 205,777 000 205,777 LCY olume: <u>Clima</u>	ux Rev. Feb 2019 andbook	Estimate, 2023 Mine	<u>Plan</u>	
IATERIAL QUAN         Initial Volume:       2,2         Swell factor:       1.0         Loose volume:       2,2         Source of estimated vo       Source of estimated sw         Source of estimated sw       factor:	TITIES         205,777         000         205,777 LCY         olume:       Clima         vell       Cat H		Estimate, 2023 Mine	<u>Plan</u>	
Initial Volume:       2,2         Swell factor:       1.0         Loose volume:       2,2         Source of estimated volume:       2,2         Source of estimatestranter <td>TITIES         205,777         000         205,777 LCY         olume:       Clima         well       Cat H        </td> <td>andbook</td> <td>Estimate, 2023 Mine</td> <td>Plan</td> <td></td>	TITIES         205,777         000         205,777 LCY         olume:       Clima         well       Cat H	andbook	Estimate, 2023 Mine	Plan	
IATERIAL QUAN         Initial Volume:       2,2         Swell factor:       1.0         Loose volume:       2,2         Source of estimated vo       Source of estimated sw         Source of estimated sw       factor:	TITIES         205,777         000         205,777 LCY         olume:       Clima         well       Cat H	andbook	Estimate, 2023 Mine	<u>Plan</u>	
IATERIAL QUAN'         Initial Volume:       2,2         Swell factor:       1.0         Loose volume:       2,2         Source of estimated volume:       2,2         Source of estimated volume:       2,2         Source of estimated switcher       3         Gource of estimated switcher       4         Average push distance       4         Unadjusted hourly       4	TITIES         205,777         000         205,777 LCY         olume:       Clima         well       Cat H         CTION         e:       200 feet         700.0 L	andbook		<u>Plan</u>	
IATERIAL QUAN'         Initial Volume:       2,2         Swell factor:       1.0         Loose volume:       2,2         Source of estimated volume:       2,2         Source of estimated volume:       2,2         Source of estimated sw       factor:         IOURLY PRODUC       Average push distance         Unadjusted hourly       production:         Materials consistency       Materials consistency	TITIES         205,777         000         205,777 LCY         olume:       Clima         well       Cat H         CTION         e:       200 feet         700.0 L	andbook CY/hr		Plan	
IATERIAL QUAN'         Initial Volume:       2,2         Swell factor:       1.0         Loose volume:       2,2         Source of estimated volume:       2,2         Materials consistence       1000000000000000000000000000000000000	TITIES         205,777         000         205,777 LCY         olume:       Clima         well       Cat H	andbook CY/hr		<u>Plan</u>	
IATERIAL QUANT         Initial Volume:       2,2         Swell factor:       1.0         Loose volume:       2,2         Source of estimated volume:       3,2         GOURLY PRODUCC       Average push distance         Unadjusted hourly       production:         Materials consistency       description:         Average push       gradient:	TITIES         205,777         000         205,777 LCY         olume:       Clima         well       Cat H	andbook CY/hr k, well ripped or		<u>Plan</u>	

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.800	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Adjusted unit production:	420.14 LCY/hr			
Adjusted fleet production:	1680.56 LCY/hr			

Fleet size:	4 Dozer(s)
Unit cost:	\$0.619/LCY

Total job time:	1,312.52 Hours
Total job cost:	\$1,365,268

Climax Mine, M-1977-493

## TRUCK/LOADER TEAM WORK

	MCNuit	y OSF. Load/H	aul Topsoil, 6" C	over			
Site: Climax Mine		Permit Action: March 2019		9	Permit/Job#: M197		
PROJECT IDENT	<b>TIFICATION</b>						
Task #: E02A		State: Color			previation: No		
Date: $3/14/2$	2019 0	County: Sum	nit		Filename: NA		
User: JLE							
Agency or o	organization nan	ne: DRMS					
HOURLY EQUIP	MENT COST	_		Shift ba	sis: <u>1 per day</u>		
			Equipment Descr	iption			
Tr	uck Loader Tear		t 740	•			
<u> </u>	The lange of T		AT 950H				
Suppor	rt Equipment -L	Load Area: Cat D6T XL Jump Area: NA					
Road Mai	intenance – Moto						
	-Wat	ter Truck: Wa	ater Tanker, 5,000	Gal.			
Cost Breakdown:	Truck/Loa	der Team	Support	Equipment	Mainten	ance Equipment	
<u>Cost Dicakdown</u> .	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck	
%Utilization-machine:	100	100	100	NA	100	100	
Ownership cost/hour:	\$66.13	\$26.14	\$52.66	NA	\$30.73	\$25.30	
Operating cost/hour:	\$55.75	\$30.84	\$46.34	NA	\$30.60	\$36.60	
%Utilization-riper:	NA	0	NA	NA	NA	NA	
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00	
	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00	
Ripper op. cost/hour:	1111		<b>* · · · ~ *</b>	NA	\$28.69	\$21.23	
Ripper op. cost/hour: Operator cost/hour:	\$31.17	\$40.90	\$41.52	INA	\$28.09	\$21.23	
		\$40.90 \$97.89	\$41.52 \$140.52	NA	\$28.09	\$83.13	
Operator cost/hour:	\$31.17						

CCY     Swell factor: 1.000       LCY
12" of Cover over 359 acres, 50% Biosolids and 50 % Topsoil
Cat Handbook
\$0.00
\$0.00

## **HOURLY PRODUCTION**

Truck Capacity:							
Truck Payload (weight) Basi			D 1/7				
Material weight:	1,600		Pounds/L	CY			
Description:	Top Soil		D 1.				_
Rated Payload:	87,000		Pounds				
Payload Capacity:	54.38		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					
Aujusted Volume.	51.40	LUI					
Final 7	Truck Volume	Based on Nu	mber of Loa	der Passes:	31.61	LCY	
Loading Tool Capacity							
Data d Canadita	4 200			Buck	et Size Class:	NA	
Rated Capacity:	4.300	LCY (h		(100	1100/) 1.050		_
Bucket Fill Factor:	1.050		moist loam	(100-	110%) 1.050		
Adjusted Capacity:	4.515	LCY					
Job Condition Corrections	<u>.</u>		Site A	ltitude (ft.):	<u>11500</u> feet		
	Truck	Load		Source			
Altitude Adj:	0.600	1.00		(CAT HB			
Job Efficiency:	0.830	0.83	0	(CAT HB	)		
Net Correction:	0.498	0.83	0				
Loading Tool Cycle Time:	1	Number of Lo	ading Tool	Passes Requ	ired to Fill	7	passes
Excavators and Front Shove	<u>ls:</u>				Truck:	/	
Machine Cycle Time v Selected Value			NA NA				
Track Loaders –		<u> </u>					
Cycle Time Elements (min.):		I					
Load: NA	N	laneuver:	NA		Dump: 0.10	00	
Wheel and Trac	k Loaders - Un	adjusted Basi	c Loader Cy		ad, dump, naneuver):	0.500 <sup>mi</sup>	nutes
Cycle Time Factors					Factor (min.)	Source	
Material:	Mixed mater	rial 0.02			0.020	(Cat HB)	
Stockpile:	Dumped by				0.020	(Cat HB)	
Truck Ownership:		vnership of tr	ucks and loa	aders -	-0.040	(Cat HB)	
Operation:		eration -0.04			-0.040	(Cat HB)	
Dump Target:	Nominal tar				0.000	(Cat HB)	
	i tommar tar		cle Time A	diustment	-0.040	minutes	
			d Loader C		0.460	minutes	
			Load Time		2.860	minutes	

#### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

Truck Travel (Haul & Return) Time: maintained 3.0

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

Haul Route

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3100.00	0.00	3.00	3.00	3005	1.824

				Haul Time:	1.824	minutes
Return Ro	ute:					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3100.00	0.00	3.00	3.00	3005	1.199

Return Time:	1.199	minutes
Total Truck Cycle Time:	8.550	minutes

Loading Tool unit Production Truck Unit Production	491.27	_ LCY/Hour	Adjusted for job e	fficiency:	407.75	_ LCY/Hour
	221.80	LCY/Hour	Adjusted for job et	fficiency:	184.09	LCY/Hour
Optimal No. of Trucks:	2	Truck(s)	Selected Number o	f Trucks:	2	Truck(s)
		Adjusted hour	ly truck team production:	368.18	LCY/H	Iour
	А	djusted single truck	/loader team production:	368.18	LCY/H	Iour
	Adj	usted multiple truck	/loader team production:	368.18	LCY/H	Iour
JOB TIME ANI	<u>D COST</u>					

# Fleet size: 1 Team(s) Total job time: **785.89** Hours Unit cost: \$1.949 /LCY Total job cost: \$564,000

Climax Mine, M-1977-493

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## TRUCK/LOADER TEAM WORK

Task description:	McNult	y OSF. Lo	ad/Ha	ul Biosolids, 6"	Cover			
Site: Climax Mine		Perm	nit Act	ion: March 201	19	Permit/Jo	b#:	M1977493
PROJECT IDEN	<b><u><b>TIFICATION</b></u></b>							
Task #: E02B	ł	State:	Colora	ado	Abb	previation:	No	ne
Date: 3/14/2	2019 <b>C</b>	County:	Summ	it		Filename:	NA	
User: JLE								
Agency or	organization nan	ne: DRM	1S					
HOURLY EQUIE	PMENT COST	-			Shift ba	sis: <u>1 per da</u>	<u>ıy</u>	
			I	Equipment Descr	iption			
T	ruck Loader Tear	m -Truck:	Cat	740	1			
		-Loader:		Г 950Н				
Suppo	ort Equipment -L			D6T XL				
Poad Ma	-Du untenance –Moto	mp Area:	NA CA	Г 12М				
Road Wia		ter Truck:		ter Tanker, 5,000	Gal.			
				, .,				
Cost Breakdown:	Truck/Loa	der Team		Support	Equipment	Mai	intena	ance Equipment
	Truck	Loader		Load Area	Dump Area	Motor Grader		Water Truck
%Utilization-machine:	100		100	100	NA		100	100
Ownership cost/hour:	\$66.13	\$2	6.14	\$52.66	NA	\$30	).73	\$25.30
Operating cost/hour:	\$55.75	\$3	0.84	\$46.34	NA	\$30	).60	\$36.60
%Utilization-riper:	NA		0	NA	NA		NA	NA
Ripper own. cost/hour:	NA	\$	0.00	\$0.00	NA	\$0	0.00	\$0.00
Ripper op. cost/hour:	NA	\$	0.00	\$0.00	NA	\$0	0.00	\$0.00
Operator cost/hour:	\$31.17	\$4	0.90	\$41.52	NA	\$28	8.69	\$21.23
Unit Subtotals:	\$153.05	\$9	7.89	\$140.52	NA	\$90	0.02	\$83.13
Number of Units:	5		1	1	0		1	1
Group Subtotals:	Work:	\$863.14		Support:	\$140.52	Ma	int:	\$173.15
Total work team cost	t/hour: <b>\$1,176.8</b>	1		·				

## **MATERIAL QUANTITIES**

Initial volume: Loose volume:	289,352 289,352	CCY LCY	Swell factor:	1.000
		12" of Cover of Cover of Cat Handbook	,	50% Biosolids and 50% Topsoil
	Aterial Purchase Cost:	\$0.00	·	
	Total Cost:	\$0.00		

## **HOURLY PRODUCTION**

Truck Capacity:							
Truck Payload (weight) Basi			D 1.7	<b>A 1</b>			
Material weight:	1,600		Pounds/L	CY			
Description:	Top Soil		D 1				
Rated Payload:	87,000		Pounds				
Payload Capacity:	54.38		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					
Einel	Truck Volume	Deced on Nu	mbar of Loo	dan Dagaag	21 (1	LCY	
Loading Tool Capacity		Dased oli INU		uel Fasses.	31.61		
Loading 1001 Capacity				Ruck	et Size Class:	NA	
Rated Capacity:	4.300	LCY (h	eaned)	DUCK			
Bucket Fill Factor:	1.050		moist loam	(100-	110%) 1.050		
Adjusted Capacity:	4.515	LCY	moist ioum	(100	110/0/ 1.050		
rujustou Cupuony.	7,010						
Job Condition Corrections	<u>:</u>		Site A	ltitude (ft.):	<u>11500</u> feet		
	Truck	Load		Source			
Altitude Adj:	0.600	1.00		(CAT HB			
Job Efficiency:	0.830	0.83	0	(CAT HB	5)		
Net Correction:	0.498	0.83	0				
Loading Tool Cycle Time:	1	Number of Lo	bading Tool	Passes Requ	ired to Fill	7	passes
Excavators and Front Shove	<u>ls:</u>				Truck:	1	_
Machine Cycle Time v Selected Value			NA NA				
			NA				
Track Loaders –		1ption:					
Cycle Time Elements (min.): Load: NA		Ianeuver:	NA		Dump: 0.10	00	
	IV.				Dump. 0.10		
Wheel and Trac	k Loaders - Una	adjusted Basi	c Loader Cy		ad, dump,	0.500	minutes
Cycle Time Factors					Factor (min.)	Source	
Material:	Mixed mater	rial 0.02			0.020	(Cat HI	3)
Stockpile:	Dumped by	truck 0.02			0.020	(Cat HI	3)
Truck Ownership:	Common ov 0.04	vnership of tr	ucks and loa	aders -	-0.040	(Cat HI	3)
Operation:		eration -0.04			-0.040	(Cat HI	3)
Dump Target:	Nominal tar				0.000	(Cat HI	
1 U			cle Time A	djustment:	-0.040	minute	<u> </u>
			d Loader C		0.460	minute	
			Load Time		2.860	minute	S

#### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

Truck Travel (Haul & Return) Time: maintained 3.0 Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	17700.00	0.00	3.00	3.00	3005	6.683

Return Ro	ute:			Haul Time:	6.683	minutes
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	17700.00	0.00	3.00	3.00	3005	6.057

Return Time:	6.057	minutes
Total Truck Cycle Time:	18.267	minutes

Loading Tool unit Production Truck Unit Production	491.27	LCY/Hour	Adjusted for job ef	ficiency:	407.75	_ LCY/Hour
_	103.81	LCY/Hour	Adjusted for job ef	ficiency:	86.16	LCY/Hour
Optimal No. of Trucks:	5	Truck(s)	Selected Number of	f Trucks:	5	Truck(s)
		Adjusted hour	ly truck team production:	430.82	LCY/H	Iour
	1	Adjusted single truck	/loader team production:	407.75	LCY/H	Iour
	Ad	justed multiple truck	/loader team production:	407.75	LCY/H	Iour
JOB TIME AND	OCOST					

Fleet size:	1	Team(s)	Total job time:	709.62	Hours
Unit cost:	\$2.886	/LCY	Total job cost:	\$835,093	

## BULLDOZER WORK

Climax Mine	Per	mit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
<u>PROJECT IDENTIFI</u>	<b>CATION</b>				
Task #: E03	State:	Colorado		Abbreviation:	None
Date: 3/14/2019	County:	Summit		Filename:	NA
User: JLE					
Agency or organ	ization name: DR	MS			
HOURLY EQUIPME	NT COST				
Basic Machine: Cat	D7R DS XR Series	II			
Horsepower: 240	)				
<b>•</b> 1	ni-Universal				
Attachment: NA					
	er day				
Data Source: (CF	RG)				
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hour:		\$61.41	NA		
Operating Cost/Hour:		\$54.22	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
MATERIAL QUANT Initial Volume: 578, Swell factor: 1.00 Loose volume: 578,	703	_			
		_			
Source of estimated volu	-				
Source of estimated swe	ll Cat Hand	book			
factor:					
HOURLY PRODUCT	ION				
Average push distance:	200 feet				
Unadjusted hourly	410.8 LCY/	hr			
production:	.10.0 2017				
•					
Materials consistency	Loose s	tockpile 1.2			
description:					
	0.04				
A 1	0 %				
Average push					
gradient:	11 500 fact				
	11,500 feet				
gradient: Average site altitude:					
gradient:	11,500 feet 1,600 lbs/LCY			_	
gradient: Average site altitude:					

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Adjusted unit production:	388.33 LCY/hr
Adjusted fleet production:	1553.32 LCY/hr

Fleet size:	4 Dozer(s)
Unit cost:	\$0.405/LCY

Total job time:	372.56 Hours
Total job cost:	\$234,188

Postmining Channe	l Constructi	on			Task No.	E04					
									#	Variable	
Date :	21-Mar-19	Permit	M1977493	Site:	Climax Mir	ne			#	Formula	
User:	JLE			State : Colorado			County:	Lake/Summit			
Agency Name: Colo			, Mining and Safe	ty							
Permit Action:	Mar-19				Task Desc	ription: McN	lulty OSF, Co	nstruct Post-Mini	ng Channels		
Channel ID	Length	Depth	Width (bottom)	Side Slopes	Width (Top)	Excavated Vol./LF	Excavated Vol. (total)	Riprap Thickness (2xD50)	Perimeter, P	Area for Geotextile (excl. anchor trenches)	Riprap Vol.
	(ft)	(ft)	(ft)	(XH:1V)	(ft)	(CY)	(CY)	(ft)	(ft)	(sf)	(CY)
Lined diversion											
channels	30,400	3.0	10.0	3.0	28.0	2.1111	64,178	**Climax	28.97	**Climax	<b>#VALUE!</b>
Down Drain											
Channel	4,800	3.0	10.0	3.0	28.0	2.1111	10,133	**Climax	28.97	**Climax	<b>#VALUE!</b>
					0.0	0.0000	0		0.00	0	0
					0.0	0.0000	0		0.00	0	0
Totals	35,200						74,311			0	#VALUE!
Materials Needed:		**Geotextile (SY):		67,467		**Riprap (CY):	44,978			Excavation (CY):	74,31
Material Costs:		Geotextile (SY):			***Riprap	(CY):		\$ 32.08	Excavation (	CY):	\$ -
Labor Cost:				\$ 0.26				***			\$ 2.40
Equipment Cost:				\$ -				***			\$ 1.39
Means Reference		33 32 1916 1500		3	1 37 1310 01	.00			31 23 1642 031	0	
Totals:		Geotextile (\$):		\$ 80,960.40		Riprap (\$):		\$ 1,442,894.24	Excavation (	CY):	\$ 281,639.11
Hours:		Geotextile (Hrs):		215.9		Riprap (Hrs	).	5 803 6	Excavation (	Hre).	1,857.73
mours.		SY/HR	312.5	213.9		CY/HR	7.750	3,803.0	CY/HR	40.00	1,037.70
	φ	QIE.	T-4-1 C 4								
ACB	<b>\$ per Unit</b> <b>\$</b> 14.50	SF 96460	Total Cost           \$ 1,398,670.00								
ACD	φ 14.30	90400	φ 1,396,070.00								
Total Post-Mining (		onstruction hours	s:	7,877.29							
Total Post-Mining (				\$ 3,204,163.75							
** Quantity of Geot *** Rip-Rap Purcha											

Т	ask descrip	otion:	Tenmile TSF, P	lace geogrid	on wet cover area	, 113.5 acres	
Site:	Climax M	line	Pe	ermit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
<u>P</u> ]		IDENTIFIC F01 3/14/2019 JLE	CATION State: County:	Colorado Summit		Abbreviation: Filename:	None NA

Agency or organization name: DRMS

Area (acres)	Area (yd^2)	Unit	Cost (\$/yd^2)	Total Cost
				\$
113.5	549340	\$	4.75	2,609,365.00

## TRUCK/LOADER TEAM WORK

Task description:	Tenmile	e TSF, Load and	Haul Subsoil fo	or Wet Cover Ar	ea	
Site: Climax Mine		Permit Act	ion: March 20	19	Permit/Job#:	M1977493
PROJECT IDENT	<b>IFICATION</b>					
Task #: F02		State: Colora	ado	Abb	previation: No	one
Date: $3/14/2$	019 C	County: Summ			Filename: N	
User: JLE						
Agency or o	rganization nam	ne: DRMS				
HOURLY EQUIP	MENT COST			Shift ba	sis: <u>1 per day</u>	
		]	Equipment Descr	ription		
Tru	ick Loader Tear			1		
			Г 950Н			
Suppor	t Equipment -Lo		D6T XL			
Dood Mai	-Du ntenance –Moto	mp Area: NA	Г 12М			
Koad Mai			ter Tanker, 5,000	Gal		
	vv at	er rruek. Wa	er Tanker, 5,000	Gui.		
Cost Breakdown:	Truck/Loa	der Team	Support	Equipment	Mainter	ance Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	NA	100	100
Ownership cost/hour:	\$66.13	\$26.14	\$52.66	NA	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$30.84	\$46.34	NA	\$30.60	\$36.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.17	\$40.90	\$41.52	NA	\$28.69	\$21.23
Unit Subtotals:	\$153.05	\$97.89	\$140.52	NA	\$90.02	\$83.13
Number of Units:	5	1	1	0	1	1
Group Subtotals:	Work:	\$863.14	Support:	\$140.52	Maint:	\$173.15
Total work team cost/		1	·			
Initial volume:	457.783	CCY	Swell	factor: 1.000		
Loose volume:	457,78			1.000		
	ce of estimated		of cover over 113	5 acres		
	f estimated swel		Handbook	acres		
	Material Purcha					
		tal Cost: \$0.00				

## **HOURLY PRODUCTION**

Truck Canadity					
Truck Capacity:					
Truck Payload (weight) Basi	<u>s:</u>				
Material weight:	2,650	Pounds/			
Description:	· · · · ·	rock - 25% Rock, 75%	b Earth		
Rated Payload:	87,000	Pounds			
Payload Capacity:	32.83	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 H	Based on Number of L	oader Passes:	31.61	LCY
Loading Tool Capacity					
			Buck	et Size Class: N	Α
Rated Capacity:	4.300	LCY (heaped)			
Bucket Fill Factor:	1.050	Other - moist loan	m (100-	110%) 1.050	
Adjusted Capacity:	4.515	LCY			
Job Condition Corrections	<u>:</u>	Site	Altitude (ft.):	<u>11000</u> feet	
	Truck	Loader	Source		
Altitude Adj:	0.600	1.000	(CAT HE	8)	
Altitude Adj: Job Efficiency:	0.600 0.830	1.000 0.830	(CAT HE (CAT HE		
Job Efficiency:	0.830	0.830			
÷					
Job Efficiency: Net Correction:	0.830 0.498	0.830	(CAT HE	ired to Fill	7 passes
Job Efficiency: Net Correction: Loading Tool Cycle Time:	0.830 0.498	0.830 0.830	(CAT HE		7 passes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v	0.830 <b>0.498</b> N <u>ls:</u> s. Job Condition	0.830 0.830 Number of Loading Too n Rating: <u>NA</u>	(CAT HE	ired to Fill	7 passes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v	0.830 0.498 N ls: s. Job Condition within this Basic	0.830 0.830 Jumber of Loading Tor n Rating: <u>NA</u> c Rating: <u>NA</u>	(CAT HE	ired to Fill	7 passes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v	0.830 0.498 N ls: s. Job Condition within this Basic	0.830 0.830 Jumber of Loading Tor n Rating: <u>NA</u> c Rating: <u>NA</u>	(CAT HE	ired to Fill	7 passes
Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shove         Machine Cycle Time v.         Selected Value v.         Track Loaders –	0.830 0.498 N Is: s. Job Condition within this Basic Material Descri	0.830 0.830 Jumber of Loading Tor n Rating: <u>NA</u> c Rating: <u>NA</u>	(CAT HE	ired to Fill	7 passes
Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shove         Machine Cycle Time v         Selected Value v	0.830 0.498 N Is: s. Job Condition within this Basic Material Descri	0.830 0.830 Jumber of Loading Tor n Rating: <u>NA</u> c Rating: <u>NA</u>	(CAT HE	ired to Fill	
Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shove         Machine Cycle Time v.         Selected Value v.         Track Loaders –         Cycle Time Elements (min.):         Load:       NA	0.830 0.498 N ls: s. Job Condition within this Basic Material Descri	0.830 0.830 Number of Loading Toch n Rating: NA c Rating: NA ption: NA faneuver: NA	(CAT HE ol Passes Requ	ired to Fill Truck: Dump:0.100	,
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v. Selected Value v. Track Loaders – Cycle Time Elements (min.): Load: NA	0.830 0.498 N ls: s. Job Condition within this Basic Material Descri	0.830 0.830 Number of Loading To a Rating: <u>NA</u> c Rating: <u>NA</u> iption:	(CAT HE ol Passes Requ 	b) Dump: 0.100	
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v. Selected Value v. Track Loaders – Cycle Time Elements (min.): Load: NA	0.830 0.498 N ls: s. Job Condition within this Basic Material Descri	0.830 0.830 Number of Loading Toch n Rating: NA c Rating: NA ption: NA faneuver: NA	(CAT HE ol Passes Requ 	bired to Fill Truck: Dump:0.100 Dad, dump,0	,
Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shove         Machine Cycle Time v.         Selected Value v.         Track Loaders –         Cycle Time Elements (min.):         Load:       NA         Wheel and Track	0.830 0.498 N ls: s. Job Condition within this Basic Material Descri	0.830 0.830 Jumber of Loading Toch n Rating: NA c Rating: NA ption: NA faneuver: NA djusted Basic Loader of	(CAT HE ol Passes Requ 	Dump: 0.100	500 minutes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v. Selected Value v. Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors	0.830 0.498 N Is: s. Job Condition within this Basic Material Descri Material Descri M k Loaders - Una	0.830 0.830 Number of Loading Toch a Rating: NA c Rating: NA ption: NA faneuver: NA djusted Basic Loader of ial 0.02	(CAT HE ol Passes Requ 	Dump: 0.100 Dump: 0.100 Dad, dump, 0. Factor (min.)	500 minutes Source
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v. Selected Value v. Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors Material:	0.830 0.498 N ls: s. Job Condition within this Basic Material Descri Material Descri Material Descri Mixed mater Dumped by t Common ow	0.830 0.830 Number of Loading Toch a Rating: NA c Rating: NA ption: NA faneuver: NA djusted Basic Loader of ial 0.02	(CAT HE ol Passes Requ  Cycle Time (lo	Dump: 0.100 Dump: 0.100 bad, dump, 0. Factor (min.) 0.020	500 minutes Source (Cat HB)
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v. Selected Value v. Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors Material: Stockpile: Truck Ownership:	0.830 0.498 N ls: s. Job Condition within this Basic Material Descri Material Descri Mixed mater Dumped by t Common ow 0.04	0.830 0.830 0.830 Jumber of Loading Too n Rating: NA c Rating: NA iption: NA djusted Basic Loader of ial 0.02 iruck 0.02 mership of trucks and I	(CAT HE ol Passes Requ  Cycle Time (lo	b) iired to Fill Truck: Dump: 0.100 pad, dump, pad, dump, 0.20 0.020 0.020 -0.040	500 minutes 500 [Cat HB] (Cat HB) (Cat HB)
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	0.830 0.498 N ls: s. Job Condition within this Basic Material Descri M k Loaders - Una Mixed mater Dumped by t Common ow 0.04 Constant ope	0.830 0.830 0.830 Jumber of Loading Too n Rating: NA c Rating: NA aption: NA faneuver: NA djusted Basic Loader of ial 0.02 fruck 0.02 mership of trucks and I pration -0.04	(CAT HE ol Passes Requ  Cycle Time (lo	bired to Fill Truck: Dump:0.100 pad, dump, naneuver):0. Factor (min.) 0.020 0.020 -0.040 -0.040	500 minutes 500 [Cat HB] (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shove         Machine Cycle Time v.         Selected Value v.         Track Loaders –         Cycle Time Elements (min.):         Load:       NA         Wheel and Track         Cycle Time Factors         Material:         Stockpile:         Truck Ownership:	0.830 0.498 N ls: s. Job Condition within this Basic Material Descri Material Descri Mixed mater Dumped by t Common ow 0.04	0.830         0.830         Jumber of Loading Too         n Rating:       NA         c Rating:       NA         c ption:	(CAT HE ol Passes Requ Cycle Time (lo r	ired to Fill         Truck:         Dump:       0.100         bad, dump,       0.         naneuver):       0.         Factor (min.)       0.020         0.020       -0.040         -0.040       0.000	500 minutes 500 [Cat HB] (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	0.830 0.498 N ls: s. Job Condition within this Basic Material Descri M k Loaders - Una Mixed mater Dumped by t Common ow 0.04 Constant ope	0.830 0.830 0.830 Jumber of Loading Too n Rating: NA c Rating: NA aption: NA faneuver: NA djusted Basic Loader of ial 0.02 fruck 0.02 mership of trucks and I pration -0.04	(CAT HE ol Passes Requ Cycle Time (lo r loaders -	bired to Fill Truck: Dump:0.100 pad, dump, naneuver):0. Factor (min.) 0.020 0.020 -0.040 -0.040	500 minutes 500 [Cat HB] (Cat HB) (Cat HB) (Cat HB) (Cat HB)

#### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

maintained 3.0

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	7656.00	8.00	3.00	11.00	857	9.027
2	4593.60	-5.00	3.00	-2.00	3005	1.576

Return Route:

Haul Time: 10.603 minutes

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4593.60	5.00	3.00	8.00	2155	2.278
2	7656.00	-8.00	3.00	-5.00	3706	2.130

Return Time:	4.408	minutes
Total Truck Cycle Time:	20.538	minutes

Loading Tool unit Production Truck Unit Production	491.27	LCY/Hour	Adjusted for job e	fficiency:	407.75	LCY/Hour
	92.33	LCY/Hour	Adjusted for job e	fficiency:	76.64	LCY/Hour
Optimal No. of Trucks:	5	Truck(s)	Selected Number of	of Trucks:	5	Truck(s)
		Adjusted single truc	ly truck team production: k/loader team production: k/loader team production:	383.18 383.18 <b>383.18</b>	LCY/H LCY/H LCY/H	our

Fleet size:	1	Team(s)	Total job time:	1,194.69	Hours
Unit cost:	\$3.071	/LCY	Total job cost:	\$1,405,924	

Climax Mine, M-1977-493

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## TRUCK/LOADER TEAM WORK

ite: Climax Mine		Permit Action: March 2019			9	Permit/Job	o#: <u>M</u>	1977493
PROJECT IDENT	<b>IFICATION</b>							
Task #: F02A		State: C	Colora	ldo		previation:	None	
Date: 3/14/20	019 0	County: S	Summ	it		Filename:	NA	
User: JLE								
Agency or or	rganization nam	ne: DRM	S					
		_						
HOURLY EQUIPM	MENT COST	-			Shift ba	sis: <u>1 per da</u>	Y	
				Equipment Descri	ption			
Tru	ick Loader Tear	-	Cat					
Suppor	t Equipment -Lo	-Loader:		Г 950Н D6T XL				
Suppor				DUIAL				
	-Du	mp Area:	NA					
Road Main	-Du ntenance –Moto	mp Area: or Grader:	NA CAT	Г 12М				
Road Main	ntenance – Moto		CAT	Г 12M er Tanker, 5,000	Gal.			
	ntenance –Moto -Wat	or Grader: ter Truck:	CAT	er Tanker, 5,000		Mair	ntanana	
Road Main <u>Cost Breakdown</u> :	ntenance –Moto -Wat Truck/Loa	or Grader: ter Truck: der Team	CAT	er Tanker, 5,000 Support 1	Equipment			e Equipment Water Truck
	ntenance –Moto -Wat	or Grader: ter Truck:	CAT	er Tanker, 5,000		Main Motor Grader		
	ntenance –Moto -Wat Truck/Loa	or Grader: ter Truck: der Team Loader	CAT	er Tanker, 5,000 Support 1	Equipment	Motor Grader		
Cost Breakdown: Utilization-machine:	ntenance –Moto -Wat Truck/Loa Truck	or Grader: ter Truck: der Team Loader	CAT Wat	er Tanker, 5,000 Support Load Area	Equipment Dump Area	Motor Grader	100 V	Water Truck
Cost Breakdown: Utilization-machine: Ownership cost/hour:	ntenance –Moto -Wat <u>Truck/Loa</u> Truck 100	or Grader: ter Truck: der Team Loader \$26	CAT Wat	er Tanker, 5,000 Support Load Area 100	Equipment Dump Area NA	Motor Grader 1	100 .73	Water Truck
<u>Cost Breakdown</u> :	ntenance –Moto -Wat Truck/Loa Truck 100 \$66.13	or Grader: ter Truck: der Team Loader \$26	CA7 Wat 100 5.14	er Tanker, 5,000 Support Load Area 100 \$52.66	Equipment Dump Area NA NA	Motor Grader 1 \$30. \$30.	100 .73	Water Truck 100 \$25.30
Cost Breakdown: Utilization-machine: Ownership cost/hour: Operating cost/hour:	ntenance –Moto -Wat Truck/Loa Truck 100 \$66.13 \$55.75	or Grader: ter Truck: der Team Loader \$26 \$30	CA7 Wat 100 5.14 ).84	er Tanker, 5,000 Support 1 Load Area 100 \$52.66 \$46.34	Equipment Dump Area NA NA NA	Motor Grader 1 \$30. \$30. N	.60	Water Truck 100 \$25.30 \$36.60
Cost Breakdown:         Utilization-machine:         Ownership cost/hour:         Operating cost/hour:         %Utilization-riper:         Ripper own.         cost/hour:	ntenance –Moto -Wat Truck/Loa Truck 100 \$66.13 \$55.75 NA	or Grader: ter Truck: der Team Loader \$26 \$30 \$30	CAT Wat 100 5.14 0.84 0	er Tanker, 5,000 Support Load Area 100 \$52.66 \$46.34 NA	Equipment Dump Area NA NA NA NA	Motor Grader 1 \$30. \$30. \$30. \$30. \$0.	100 .73 .60 NA	Water Truck 100 \$25.30 \$36.60 NA
Cost Breakdown:         Utilization-machine:         Ownership cost/hour:         Operating cost/hour:         %Utilization-riper:         Ripper own.         cost/hour:	ntenance –Moto -Wat Truck/Loa Truck 100 \$66.13 \$55.75 NA NA	or Grader: ter Truck: der Team Loader \$26 \$30 \$0 \$0 \$0	CAT Wat 100 5.14 0.84 0 0.00	er Tanker, 5,000 Support Load Area 100 \$52.66 \$46.34 NA \$0.00	Equipment Dump Area NA NA NA NA NA	Motor Grader 1 \$30. \$30. \$30. \$30. \$0.	100 .73 .60 NA .00 .00	Water Truck 100 \$25.30 \$36.60 NA \$0.00 \$0.00
Cost Breakdown: Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour:	ntenance –Moto -Wat Truck/Loa Truck 100 \$66.13 \$55.75 NA NA NA	or Grader: ter Truck: der Team Loader \$26 \$30 \$0 \$0 \$0 \$40	CAT Wat 100 5.14 0.84 0 0.00	er Tanker, 5,000 Support Load Area 100 \$52.66 \$46.34 NA \$0.00 \$0.00	Equipment Dump Area NA NA NA NA NA NA	Motor Grader 1 \$30. \$30. \$30. \$30. \$30. \$30. \$30. \$30.	000 73 .60 NA .00 .00 .69	Vater Truck 100 \$25.30 \$36.60 NA \$0.00 \$0.00 \$21.23
Cost Breakdown:         Utilization-machine:         Ownership cost/hour:         Operating cost/hour:         %Utilization-riper:         Ripper own.         cost/hour:         Ripper op. cost/hour:         Operator cost/hour:	ntenance – Moto -Wat Truck/Loa Truck 100 \$66.13 \$55.75 NA NA NA NA \$31.17	or Grader: ter Truck: der Team Loader \$26 \$30 \$0 \$0 \$0 \$40	CAT Wat 100 5.14 0.84 0 0.00 0.00 0.00 0.90	er Tanker, 5,000 Support Load Area 100 \$52.66 \$46.34 NA \$0.00 \$0.00 \$41.52	Equipment Dump Area NA NA NA NA NA NA NA	Motor Grader 1 \$30. \$30. \$30. \$30. \$30. \$30. \$30. \$30.	000 73 .60 NA .00 .00 .69	Vater Truck 100 \$25.30 \$36.60 NA \$0.00

MATERIAL QUANTITIES

Initial volume:	91,557	CCY	Swell factor:	1.000	
Loose volume:	91,557	LCY			
Sourc	e of estimated volume:	6" of cover	over 113.5 acres		
Source of	estimated swell factor:	Cat Handbo	ook		
Ν	Aaterial Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

## **HOURLY PRODUCTION**

Truck Capacity:							
Truck Payload (weight) Basi			D 1/I	QV			
Material weight:	1,600		Pounds/L	CY			
Description:	Top Soil		D 1.				
Rated Payload:	87,000		Pounds				
Payload Capacity:	54.38		_ 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					
Adjusted Volume	51.40	LCI					
Final	Truck Volume	Based on Nu	mber of Loa	ader Passes:	31.61	LCY	
Loading Tool Capacity							
	4 200		1)	Buck	et Size Class:	NA	
Rated Capacity:	4.300		neaped)	(100	1100/ \ 1.050		
Bucket Fill Factor:	1.050		moist loam	(100-	110%) 1.050		
Adjusted Capacity:	4.515	LCY					
Job Condition Corrections	<u>:</u>		Site A	Altitude (ft.):	<u>11000</u> feet		
	Truck	Load	ler	Source			
Altitude Adj:	0.600	1.00		(CAT HB			
Job Efficiency:	0.830	0.83	30	(CAT HB	3)		
Net Correction:	0.498	0.83	30				
Loading Tool Cycle Time:		Number of L	oading Tool	Passes Requ	ired to Fill	7	passes
Excavators and Front Shove	els:				Truck:	7	_
Machine Cycle Time v Selected Value			NA NA				
Track Loaders –							
Cycle Time Elements (min.)		<u> </u>					
Load: NA	N	laneuver:	NA		Dump: 0.1	00	
Wheel and Trac	k Loaders - Un	adjusted Bas	ic Loader C	•	oad, dump, naneuver):	0.500 <sup>n</sup>	ninutes
Cycle Time Factors					Factor (min.)	Source	
Material:	Mixed mate	rial 0.02			0.020	(Cat HB	
Stockpile:					0.020	(Cat HB	
Truck Ownership:		vnership of ti	rucks and lo	aders -			
ricer o mership.	0.04				-0.040	(Cat HB	)
Operation:		eration -0.04			-0.040	(Cat HB	)
Dump Target:					0.000	(Cat HB	
1 Ø***			ycle Time A	djustment:	-0.040	minutes	
			, ed Loader C		0.460	minutes	
			Load Time		2.860	minutes	\$

#### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

maintained 3.0

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	7656.00	8.00	3.00	11.00	857	9.027
2	4593.60	-5.00	3.00	-2.00	3005	1.576

Haul Time: 10.603 minutes

Return Rou	ite:					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4593.60	5.00	3.00	8.00	2155	2.278
2	7656.00	-8.00	3.00	-5.00	3706	2.130

Return Time:	4.408	minutes
Total Truck Cycle Time:	20.538	minutes

Loading Tool unit Production Truck Unit Production	491.27	LCY/Hour	Adjusted for job e	fficiency:	407.75	_ LCY/Hour
	92.33	LCY/Hour	Adjusted for job e	fficiency:	76.64	LCY/Hour
Optimal No. of Trucks:	5	Truck(s)	Selected Number of	of Trucks:	5	Truck(s)
		Adjusted single truck	ly truck team production: k/loader team production: k/loader team production:	383.18 383.18 <b>383.18</b>	LCY/F LCY/F LCY/F	Iour

Fleet size:	1	Team(s)	Total job time:	238.94	Hours
Unit cost:	\$3.071	/LCY	Total job cost:	\$281,186	

## BULLDOZER WORK

Climax Mine Permit Action:			March 2019	Permit/Jo	b#: <u>M1977493</u>
ROJECT IDENTIFI	CATION				
Task #:F03	State:	Colorado		Abbreviation:	None
Date: 3/14/2019 User: JLE	County:	Summit		Filename:	NA
Agency or organ	ization name:	RMS			
IOURLY EQUIPME	NT COST				
Basic Machine: Cat	D8T - 8SU				
Horsepower: 310					
• 1	ni-Universal				
Attachment: NA					
Shift Basis: <u>1 pe</u> Data Source: (CR	er day RG)				
Cost Breakdown:	(0)				
			Utilization %		
Ownership Cost/Hour:		\$93.62	NA		
Operating Cost/Hour:		\$73.35	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
Initial Volume:       457,         Swell factor:       1.00         Loose volume:       457,	783				
Source of estimated volu Source of estimated swell factor:		r 113.5 acres dbook			
Source of estimated swel	ll Cat Han				
Source of estimated swell factor:	ll Cat Han	dbook			
Source of estimated swel factor: HOURLY PRODUCT Average push distance: Unadjusted hourly	Il     Cat Han       TION	dbook			
Source of estimated swel factor: <b>HOURLY PRODUCT</b> Average push distance: Unadjusted hourly production: Materials consistency description: Average push gradient:	11 Cat Han 	dbook //hr			
Source of estimated swelfactor: <b>HOURLY PRODUCT</b> Average push distance: Unadjusted hourly production: Materials consistency description: Average push	11 Cat Han	dbook //hr			
Source of estimated swel factor: <b>HOURLY PRODUCT</b> Average push distance: Unadjusted hourly production: Materials consistency description: Average push gradient:	11 Cat Han 	dbook //hr			

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Adjusted unit production:	215.57 LCY/hr
Adjusted fleet production:	862.28 LCY/hr

Fleet size:	4 Dozer(s)
Unit cost:	\$0.967/LCY

Total job time:	530.90 Hours
Total job cost:	\$442,756

## BULLDOZER WORK

Climax Mine Permit Action:		March 2019	Permit/Jo	b#: <u>M1977493</u>	
ROJECT IDENTIFITask #:F03ADate:3/15/2019User:JLE	CATION State: County:	Colorado Summit		Abbreviation: Filename:	None NA
Agency or organ	ization name: DI	RMS			
OURLY EQUIPME	NT COST				
Basic Machine: Cat	D8T - 8SU				
Horsepower: 310					
• •	ni-Universal				
Attachment: NA					
Shift Basis: <u>1 pe</u> Data Source: (CF	er day				
	(0)				
ost Breakdown: Ownership Cost/Hour:		\$93.62	<u>Utilization %</u> NA		
Operating Cost/Hour:		\$73.35	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
IATERIAL QUANT         Initial Volume:       91,5         Swell factor:       1.00         Loose volume:       91,5	57				
Source of estimated volu Source of estimated swe factor:		113.5 acres lbook			
OURLY PRODUCT	ION				
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY	/hr			
Materials consistency description:	Loose	stockpile 1.2			
Average push gradient:	0 %				
Average site altitude:	11,000 feet				
Material weight:	1,600 lbs/LCY				
Material weight: Weight description:	1,600 lbs/LCY Top Soil				

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Adjusted unit production:	357.13 LCY/hr
Adjusted fleet production:	1428.52 LCY/hr

Fleet size:	4 Dozer(s)
Unit cost:	\$0.584/LCY

Total job time:	64.09 Hours
Total job cost:	\$53,451

Climax Mine, M-1977-493

March 2019, DRMS Cost Estimate

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## TRUCK/LOADER TEAM WORK

ite: Climax Mine		Permit Ac	ction: March 201	19	Permit/Job#:	M1977493
PROJECT IDEN	<b><u><b>FIFICATION</b></u></b>					
Task #: $F04$ Date: $3/14/2$	2010	State: <u>Color</u> County: Sumr			oreviation: <u>No</u> Filename: NA	
User: JLE	2019 (	County: Sumr	IIIt		ritename: <u>NA</u>	1
Agency or o	organization nan	ne: DRMS				
HOURLY EQUIP	PMENT COST	- -		Shift ba	sis: <u>1 per day</u>	
			Equipment Descr	iption		
Tr	ruck Loader Tear		t 740 AT 950H			
Suppo	ort Equipment -L	oad Area: Ca	t D6T XL			
Road Ma	-Du intenance –Moto	mp Area: NA or Grader: CA	AT 12M			
	-Wat	ter Truck: Wa	ater Tanker, 5,000	Gal.		
Cost Breakdown:	Truck/Loa	der Team		Equipment	Maintena	ance Equipment
<u>Cost Breakdown</u> :	Truck/Loa Truck	der Team Loader	Support Load Area	Equipment Dump Area	Maintena Motor Grader	ance Equipment Water Truck
Utilization-machine:	Truck	Loader 100	Load Area 100	Dump Area NA	Motor Grader 100	Water Truck
Utilization-machine: Dwnership cost/hour:	Truck 100 \$66.13	Loader 100 \$26.14	Load Area	Dump Area NA NA	Motor Grader 100 \$30.73	Water Truck
Utilization-machine: Ownership cost/hour: Operating cost/hour:	Truck 100 \$66.13 \$55.75	Loader 100 \$26.14 \$30.84	Load Area 100 \$52.66 \$46.34	Dump Area NA NA NA	Motor Grader 100 \$30.73 \$30.60	Water Truck 100 \$25.30 \$36.60
Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper:	Truck 100 \$66.13	Loader 100 \$26.14	Load Area 100 \$52.66	Dump Area NA NA	Motor Grader 100 \$30.73	Water Truck 100 \$25.30
Utilization-machine: Ownership cost/hour: Operating cost/hour:	Truck 100 \$66.13 \$55.75	Loader 100 \$26.14 \$30.84	Load Area 100 \$52.66 \$46.34	Dump Area NA NA NA	Motor Grader 100 \$30.73 \$30.60	Water Truck 100 \$25.30 \$36.60
Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own.	Truck 100 \$66.13 \$55.75 NA	Loader 100 \$26.14 \$30.84 0	Load Area 100 \$52.66 \$46.34 NA	Dump Area NA NA NA NA	Motor Grader 100 \$30.73 \$30.60 NA	Water Truck 100 \$25.30 \$36.60 NA
Utilization-machine: Dwnership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour:	Truck 100 \$66.13 \$55.75 NA NA	Loader 100 \$26.14 \$30.84 0 \$0.00	Load Area 100 \$52.66 \$46.34 NA \$0.00	Dump Area NA NA NA NA	Motor Grader 100 \$30.73 \$30.60 NA \$0.00	Water Truck 100 \$25.30 \$36.60 NA \$0.00
Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour:	Truck 100 \$66.13 \$55.75 NA NA NA	Loader 100 \$26.14 \$30.84 0 \$0.00 \$0.00	Load Area 100 \$52.66 \$46.34 NA \$0.00 \$0.00	Dump Area NA NA NA NA NA	Motor Grader 100 \$30.73 \$30.60 NA \$0.00 \$0.00	Water Truck 100 \$25.30 \$36.60 NA \$0.00 \$0.00
Utilization-machine: Dwnership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour: Operator cost/hour:	Truck 100 \$66.13 \$55.75 NA NA NA \$31.17	Loader 100 \$26.14 \$30.84 0 \$0.00 \$0.00 \$0.00 \$40.90	Load Area 100 \$52.66 \$46.34 NA \$0.00 \$0.00 \$41.52	Dump Area NA NA NA NA NA NA NA NA	Motor Grader 100 \$30.73 \$30.60 NA \$0.00 \$0.00 \$28.69	Water Truck 100 \$25.30 \$36.60 NA \$0.00 \$0.00 \$21.23

Initial volume:	274,670	CCY	Swell factor:	1.000	
Loose volume:	274,670	LCY			
Source	e of estimated volume:	6" over 34	0.5 acres		
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) Basis	<u>s:</u>				
Material weight:	2,650	Pounds	/LCY		
Description:	Decomposed	rock - 25% Rock, 75%	6 Earth		
Rated Payload:	87,000	Pounds			
Payload Capacity:	32.83	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			
			1 5	• • • •	
Final	Truck Volume	Based on Number of L	Loader Passes:	31.61	LCY
<u>oading Tool Capacity</u>					
			Buck	et Size Class: N	IA
Rated Capacity:	4.300	LCY (heaped)			
Bucket Fill Factor:	1.050	Other - moist loa	m (100-	-110%) 1.050	
Adjusted Capacity:	4.515	LCY	(100	110/0/ 1.050	
Augusted Capacity.	4.515				
ob Condition Corrections:				11000 feat	
on containon corrections.		Site	Altituda (ft.)		
	_	Site	e Altitude (ft.):	<u>11000</u> leet	
	Truck	Site Loader	Source		
Altitude Adj:					
	Truck	Loader	Source	3)	
Altitude Adj: Job Efficiency:	Truck           0.600           0.830	Loader 1.000 0.830	Source (CAT HE	3)	
Altitude Adj:	<b>Truck</b> 0.600	<b>Loader</b> 1.000	Source (CAT HE	3)	
Altitude Adj:       Job Efficiency:       Net Correction:	Truck           0.600           0.830           0.498	Loader 1.000 0.830 0.830	Source (CAT HE (CAT HE	3) 3)	
Altitude Adj:       Job Efficiency:       Net Correction:	Truck           0.600           0.830           0.498	Loader 1.000 0.830	Source (CAT HE (CAT HE	3) 3) aired to Fill	7 passes
Altitude Adj: Job Efficiency: Net Correction: Loading Tool Cycle Time:	Truck           0.600           0.830           0.498	Loader 1.000 0.830 0.830	Source (CAT HE (CAT HE	3) 3)	7 passes
Altitude Adj: Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove	Truck           0.600           0.830           0.498           N	Loader 1.000 0.830 0.830 Number of Loading To	Source (CAT HE (CAT HE	3) 3) aired to Fill	7 passes
Altitude Adj: Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shovel Machine Cycle Time ve	Truck 0.600 0.830 0.498 1s: 5. Job Condition	Loader           1.000           0.830           0.830           Number of Loading To           n Rating:         NA	Source (CAT HE (CAT HE	3) 3) aired to Fill	7 passes
Altitude Adj: Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shovel Machine Cycle Time ve Selected Value v	Truck           0.600           0.830           0.498           Is:           s. Job Condition vithin this Basic	Loader 1.000 0.830 0.830 Number of Loading To n Rating: NA c Rating: NA	Source (CAT HE (CAT HE	3) 3) aired to Fill	7 passes
Altitude Adj: Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shovel Machine Cycle Time ve	Truck           0.600           0.830           0.498           Is:           s. Job Condition vithin this Basic	Loader 1.000 0.830 0.830 Number of Loading To n Rating: NA c Rating: NA	Source (CAT HE (CAT HE	3) 3) aired to Fill	7 passes
Altitude Adj:         Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shovel         Machine Cycle Time vs         Selected Value v         Track Loaders –	Truck 0.600 0.830 0.498	Loader 1.000 0.830 0.830 Number of Loading To n Rating: NA c Rating: NA	Source (CAT HE (CAT HE	3) 3) aired to Fill	7 passes
Altitude Adj:         Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shovel         Machine Cycle Time vs         Selected Value v         Track Loaders –         Cycle Time Elements (min.):	Truck 0.600 0.830 0.498 N ls: s. Job Condition within this Basic Material Descr	Loader           1.000           0.830           0.830           Number of Loading To           n Rating:         NA           c Rating:         NA           iption:	Source (CAT HE (CAT HE	3) 3) iired to Fill Truck:	/
Altitude Adj: Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shovel Machine Cycle Time vs Selected Value v	Truck 0.600 0.830 0.498 N ls: s. Job Condition within this Basic Material Descr	Loader 1.000 0.830 0.830 Number of Loading To n Rating: NA c Rating: NA	Source (CAT HE (CAT HE	3) 3) aired to Fill	/
Altitude Adj:         Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shovel         Machine Cycle Time vs         Selected Value v         Track Loaders –         Cycle Time Elements (min.):         Load:       NA	Truck 0.600 0.830 0.498  Is: S. Job Condition vithin this Basic Material Descr	Loader         1.000         0.830         0.830         Number of Loading To         n Rating:       NA         c Rating:       NA         iption:	Source (CAT HE (CAT HE ool Passes Requ	3)         3)         3)         3)         aired to Fill         Truck:	)
Altitude Adj:         Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shovel         Machine Cycle Time vs         Selected Value v         Track Loaders –         Cycle Time Elements (min.):         Load:       NA	Truck 0.600 0.830 0.498  Is: S. Job Condition vithin this Basic Material Descr	Loader           1.000           0.830           0.830           Number of Loading To           n Rating:         NA           c Rating:         NA           iption:	Source (CAT HE (CAT HE ) ool Passes Requ		/
Altitude Adj: Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shovel Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA	Truck 0.600 0.830 0.498  Is: S. Job Condition vithin this Basic Material Descr	Loader         1.000         0.830         0.830         Number of Loading To         n Rating:       NA         c Rating:       NA         iption:	Source (CAT HE (CAT HE ) ool Passes Requ		)
Altitude Adj:         Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shovel         Machine Cycle Time vs         Selected Value v         Track Loaders –         Cycle Time Elements (min.):         Load:       NA         Wheel and Track	Truck 0.600 0.830 0.498  Is: S. Job Condition vithin this Basic Material Descr	Loader         1.000         0.830         0.830         Number of Loading To         n Rating:       NA         c Rating:       NA         iption:	Source (CAT HE (CAT HE ) ool Passes Requ	3)         3)	) .500 minutes
Altitude Adj: Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shovel Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA	Truck 0.600 0.830 0.498  Is: S. Job Condition vithin this Basic Material Descr	Loader         1.000         0.830         0.830         Number of Loading To         n Rating:       NA         c Rating:       NA         iption:	Source (CAT HE (CAT HE ) ool Passes Requ		) .500 minutes Source
Altitude Adj: Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors Material:	Truck 0.600 0.830 0.498	Loader         1.000         0.830         0.830         Number of Loading To         n Rating:       NA         c Rating:       NA         iption:	Source (CAT HE (CAT HE ) ool Passes Requ	Dump: 0.1000 0.10000 0.1000 0.1000	) .500 minutes Source (Cat HB)
Altitude Adj: Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time vs Selected Value v Track Loaders – Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track	Truck 0.600 0.830 0.498	Loader         1.000         0.830         0.830         Number of Loading To         n Rating:       NA         c Rating:       NA         iption:	Source (CAT HE (CAT HE ) ool Passes Requ  Cycle Time (lo	3)         3)	) minutes .500 Minutes .500 (Cat HB) (Cat HB)
Altitude Adj:         Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shovel         Machine Cycle Time vs         Selected Value v         Track Loaders –         Cycle Time Elements (min.):         Load:       NA         Wheel and Track         Cycle Time Factors         Material:         Stockpile:	Truck 0.600 0.830 0.498	Loader         1.000         0.830         0.830         Number of Loading To         n Rating:       NA         c Rating:       NA         iption:	Source (CAT HE (CAT HE ) ool Passes Requ  Cycle Time (lo	3)         3)	) .500 minutes Source (Cat HB)
Altitude Adj:         Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shovel         Machine Cycle Time vs         Selected Value v         Track Loaders –         Cycle Time Elements (min.):         Load:       NA         Wheel and Track         Cycle Time Factors         Material:         Stockpile:	Truck 0.600 0.830 0.498	Loader         1.000         0.830         0.830         Number of Loading To         n Rating:       NA         c Rating:       NA         iption:	Source (CAT HE (CAT HE ) ool Passes Requ  Cycle Time (lo	3)         3)	) minutes .500 Minutes .500 (Cat HB) (Cat HB)
Altitude Adj:         Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shovel         Machine Cycle Time vs         Selected Value v         Track Loaders –         Cycle Time Elements (min.):         Load:       NA         Wheel and Track         Cycle Time Factors         Material:         Stockpile:         Truck Ownership:	Truck 0.600 0.830 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.40 0.40 0.40 0.60 0.60 0.60 0.60 0.60	Loader         1.000         0.830         0.830         Number of Loading To         n Rating:       NA         c Rating:       NA         iption:	Source (CAT HE (CAT HE ) ool Passes Requ  Cycle Time (lo	3)         3)	) minutes .500 Minutes (Cat HB) (Cat HB) (Cat HB)
Altitude Adj:         Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shovel         Machine Cycle Time vs         Selected Value v         Track Loaders –         Cycle Time Elements (min.):         Load:       NA         Wheel and Track         Cycle Time Factors         Material:         Stockpile:         Truck Ownership:         Operation:	Truck 0.600 0.830 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49	Loader         1.000         0.830         0.830         Number of Loading To         n Rating:       NA         c Rating:       NA         iption:	Source (CAT HE (CAT HE ool Passes Requ Dol Passes Requ Cycle Time (lo n loaders -	3)         0         0	) minutes .500 Minutes (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Altitude Adj:         Job Efficiency:         Net Correction:         Loading Tool Cycle Time:         Excavators and Front Shovel         Machine Cycle Time vs         Selected Value v         Track Loaders –         Cycle Time Elements (min.):         Load:       NA         Wheel and Track         Cycle Time Factors         Material:         Stockpile:         Truck Ownership:         Operation:	Truck 0.600 0.830 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.498 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49	Loader         1.000         0.830         0.830         Number of Loading To         n Rating:       NA         c Rating:       NA         iption:	Source (CAT HE (CAT HE ) ool Passes Requ Dol Passes Requ Cycle Time (lo n loaders -	3)         0         0	) minutes .500 Minutes (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)

#### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

maintained 3.0

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	7656.00	8.00	3.00	11.00	857	9.027
2	2745.60	-5.00	3.00	-2.00	3005	0.978

Return Route:

Haul Time: 10.005 minutes

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2745.60	5.00	3.00	8.00	2155	1.421
2	7656.00	-8.00	3.00	-5.00	3706	2.130

Return Time:	3.551	minutes
Total Truck Cycle Time:	19.083	minutes

Loading Tool unit						
Production	491.27	LCY/Hour	Adjusted for job ef	ficiency:	407.75	LCY/Hour
Truck Unit Production						
	99.37	LCY/Hour	Adjusted for job ef	ficiency:	82.48	_ LCY/Hour
Optimal No. of Trucks:	5	Truck(s)	Selected Number of	Trucks:	5	Truck(s)
		Adjusted hour	ly truck team production:	412.40	LCY/H	lour
	А	•	k/loader team production:	407.75	LCY/H	lour
	Adj	usted multiple truck	k/loader team production:	407.75	LCY/H	lour
JOB TIME AN	D COST					

Fleet size:	1	Team(s)	Total job time:	673.62	Hours
Unit cost:	\$2.886	/LCY	Total job cost:	\$792,720	

Climax Mine, M-1977-493

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## TRUCK/LOADER TEAM WORK

Site: Climax Mine		Permi	t Acti	on: March 201	9	Permit/Job#: M1977493		
PROJECT IDENT	<b>TIFICATION</b>							
Task #: F04A		State: C	olora	do	Abb	previation:	None	2
Date: 3/15/2	2019 0	County: S	umm	it		Filename:	NA	
User: JLE								
Agency or o	organization nan	ne: DRMS	5					
HOURLY EQUIP	MENT COST	-			Shift ba	sis: <u>1 per day</u>	Y	
			E	Equipment Descri	ption			
Tr	uck Loader Tea	m -Truck:	Cat '		1			
		-Loader:		5950H				
Suppor	rt Equipment -L			D6T XL				
Dood Mo	-Du intenance –Moto	mp Area:	NA	T 12M				
Road Ma		ter Truck:		er Tanker, 5,000	Gal			
	vv a	ter fruck.	vv at	er Taliker, 5,000	Gui.			
Cost Breakdown:	Truck/Loa	der Team		Support 1	Equipment	Mair	ntenan	ce Equipment
	Truck	Loader		Load Area	Dump Area	Motor Grader		Water Truck
TT. 11 1 !	100	1	00	100	NA	1	00	100
6Utilization-machine:		-		100	INA	-		
Ownership cost/hour:	\$66.13	\$26		\$52.66	NA	\$30.	.73	\$25.30
	\$66.13 \$55.75	-	.14					•
Ownership cost/hour:		\$26	.14	\$52.66	NA	\$30. \$30.		\$25.30 \$36.60 NA
Ownership cost/hour: Operating cost/hour:	\$55.75	\$26 \$30	.14 .84	\$52.66 \$46.34	NA NA	\$30. \$30.	.60 NA	\$36.60
Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour:	\$55.75 NA	\$26 \$30 \$0	.14 .84 0	\$52.66 \$46.34 NA	NA NA NA	\$30. \$30. N	.60 NA .00	\$36.60 NA \$0.00
Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own.	\$55.75 NA NA	\$26 \$30 \$0	.14 .84 0 .00	\$52.66 \$46.34 NA \$0.00	NA NA NA NA	\$30. \$30. N \$0.	.60 NA .00 .00	\$36.60 NA
Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour:	\$55.75 NA NA NA	\$26 \$30 \$0 \$0	.14 .84 0 .00 .00 .90	\$52.66 \$46.34 NA \$0.00 \$0.00	NA NA NA NA	\$30. \$30. N \$0. \$0.	.60 NA .00 .00 .69	\$36.60 NA \$0.00 \$0.00
Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour: Operator cost/hour:	\$55.75 NA NA NA \$31.17	\$26 \$30 \$0 \$0 \$40	.14 .84 0 .00 .00 .90	\$52.66 \$46.34 NA \$0.00 \$0.00 \$41.52	NA NA NA NA NA	\$30. \$30. N \$0. \$28.	.60 NA .00 .00 .69	\$36.60 NA \$0.00 \$0.00 \$21.23

## MATERIAL QUANTITIES

Initial volume: Loose volume:	274,670 274,670	CCY LCY	Swell factor:	1.000	
Source of estimated volume: Source of estimated swell factor:					
Material Purchase Cost:		\$0.00			
Total Cost:		\$0.00			

## **HOURLY PRODUCTION**

Truck Capacity:							
Truck Payload (weight) Basi			D 1/4	av			
Material weight:	1,600		Pounds/L	ĊŶ			
Description:	Top Soil		D 1.				
Rated Payload:	87,000		Pounds				
Payload Capacity:	54.38		_ 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					
Aujusted Volume.	51.40	LUI					
Final	Truck Volume	Based on Nu	mber of Lo	ader Passes:	31.61	LCY	
Loading Tool Capacity							
Poted Conseitur	4.300	LCY (ł	nannad)	Buck	et Size Class:	NA	
Rated Capacity: Bucket Fill Factor:	1.050		moist loam	(100	110%) 1.050		
Adjusted Capacity:	4.515	LCY	moist ioan	(100-	110%) 1.050		
Aujusted Capacity.	4.515						
Job Condition Corrections	<u>.</u>		Site 2	Altitude (ft.):	<u>11000</u> feet		
	Truck	Load		Source			
Altitude Adj:	0.600	1.00		(CAT HB			
Job Efficiency:	0.830	0.83	30	(CAT HB	3)		
Net Correction:	0.498	0.83	30				
Loading Tool Cycle Time:	1	Number of L	oading Too	l Passes Requ	uired to Fill	7	passes
Excavators and Front Shove	<u>ls:</u>				Truck:	7	_
Machine Cycle Time v Selected Value			NA NA				
Track Loaders –			1111				
Cycle Time Elements (min.):		·					
Load: NA	N	laneuver:	NA		Dump: 0.1	00	
Wheel and Trac	k Loaders - Una	adjusted Bas	ic Loader C	•	oad, dump, naneuver):	0.500 <sup>m</sup>	ninutes
Cycle Time Factors	1				Factor (min.)	Source	
Material:	Mixed mater	rial 0.02			0.020	(Cat HB	)
Stockpile:	Dumped by	truck 0.02			0.020	(Cat HB	)
Truck Ownership:	Common ow 0.04	nership of t	rucks and lo	aders -	-0.040	(Cat HB	)
Operation:	Constant ope	eration -0.04			-0.040	(Cat HB	)
Dump Target:	Nominal tar				0.000	(Cat HB	
			ycle Time A	djustment:	-0.040	minutes	<u> </u>
			ed Loader C		0.460	minutes	
			Load Time		2.860	minutes	

#### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

Truck Travel (Haul & Return) Time: maintained 3.0

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

Haul Rout Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
3eg #	(Ft)	Distance	Grade (%)	(%)	(%)	(fpm)	Time (min)	
1	7656.	00	8.00	3.00	11.00	857	9.027	
2	2745.	60	-5.00	3.00	-2.00	3005	0.978	
					Haul Time:	10.005	minutes	
Return Ro								
Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	Time (min)	
1	2745.	60	5.00	3.00	8.00	2155	1.421	
2	7656.	00	-8.00	3.00	-5.00	3706	2.130	
				Total True	Return Time: ck Cycle Time:	-		
Loading To Prod Fruck Unit Prod	uction	491.27	LCY/Hour		Adjusted for jo	ob efficiency:	407.75	_ LCY/Hour
	-	99.37	LCY/Hour		Adjusted for jo	ob efficiency:	82.48	_ LCY/Hour
ptimal No. of T	rucks:	5	Truck(s)		Selected Numb	er of Trucks:	5	Truck(s)
	Adjusted hourly truck team production:412.40LCY/HourAdjusted single truck/loader team production:407.75LCY/HourAdjusted multiple truck/loader team production:407.75LCY/Hour							
		А						
JOB TIN	/IE ANI							
<u>JOB TIN</u> Fleet				truck/loader			75 LCY/F	Iour

## BULLDOZER WORK

Climax Mine Permit Action:			March 2019	Permit/Jo	b#: <u>M1977493</u>
ROJECT IDENTIFI	CATION				
Task #: F05	State:	Colorado		Abbreviation:	None
Date: 3/14/2019	County:	Summit		Filename:	NA
User: JLE					
Agency or organ	nization name:	RMS			
OURLY EQUIPME	NT COST				
Basic Machine: Cat	t D8T - 8SU				
Horsepower: 310					
	mi-Universal				
Attachment: NA					
	er day				
<b>_</b>	RG)				
ost Breakdown:					
			Utilization %		
Ownership Cost/Hour:		\$93.62	NA		
Operating Cost/Hour:		\$73.35	100		
Ripper own.		\$0.00	NA		
Cost/Hour:					
Ripper op. Cost/Hour: Operator Cost/Hour:		\$0.00 \$41.52	0 NA		
Total Fleet Cost/Hour:	\$208.49 \$833.97				
IATERIAL QUANT	ITIES				
Initial Volume: 274, Swell factor: 1.00	-				
	,670 LCY				
Source of estimated volu		40.5 acres			
Source of estimated swe	ell Cat Hand	book			
factor:					
IOURLY PRODUCT	<u>'ION</u>				
Average push distance:	250 feet				
Unadjusted hourly	377.8 LCY	′hr	<u> </u>		
production:	577.0 LC 17				
L					
Materials consistency	Loose	stockpile 1.2			
		-			
description:					
description:					
description: Average push	0 %				
description: Average push gradient:					
	0 %				
description: Average push gradient: Average site altitude:	11,000 feet				
description: Average push gradient:				_	

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Adjusted unit production:	215.57 LCY/hr
Adjusted fleet production:	862.28 LCY/hr

Fleet size:	4 Dozer(s)
Unit cost:	\$0.967/LCY

Total job time:	318.54 Hours
Total job cost:	\$265,654

## BULLDOZER WORK

Climax Mine	Climax Mine Permit Action:		March 2019	Permit/Job	o#: <u>M1977493</u>
PROJECT IDENTIFI	<b>CATION</b>				
Task #: F05A	State:	Colorado		Abbreviation:	None
Date: <u>3/14/2019</u>	County:	Summit		Filename:	NA
User: JLE					
Agency or organ	ization name: <u>DR</u>	MS			
HOURLY EQUIPME	NT COST				
Basic Machine: Cat	D8T - 8SU		_		
Horsepower: 310			-		
<b>•</b> 1	ni-Universal				
Attachment: NA					
	er day				
Data Source: (CF	RG)				
Cost Breakdown:			Utilization %		
Ownership Cost/Hour:		\$93.62	NA		
Operating Cost/Hour:		\$73.35	100		
Ripper own.		\$0.00	NA		
Cost/Hour:					
Ripper op. Cost/Hour: Operator Cost/Hour:		\$0.00 \$41.52	0 NA		
MATERIAL QUANT Initial Volume: 274, Swell factor: 1.00	670 0	_			
Loose volume: 274,	670 LCY	_			
Source of estimated volu	ime: 6" Over 3	40.5 acres			
Source of estimated swe		book			
factor:					
HOURLY PRODUCT	ION				
Average push distance:	250 feet				
Unadjusted hourly production:	377.8 LCY/	ĥr			
Materials consistency description:	Looses	tockpile 1.2			
Average push gradient:	0 %				
Average site altitude:	11,000 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:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Adjusted unit production:	357.13 LCY/hr
Adjusted fleet production:	1428.52 LCY/hr

Fleet size:	4 Dozer(s)
Unit cost:	\$0.584/LCY

Total job time:	192.28 Hours
Total job cost:	\$160,353

## SAFEGUARDING UNDERGROUND OPENINGS

Task description: Climax Mine		Tenmile Tunnel, Bulkhead Closure         Permit Action:       March 2019		Permit/Job#: M1977493		
<u>PROJEC</u>	CT IDENTIFI	<u>CATION</u>				
Task	G01	State: Colorado		Abbreviation:	None	
#:						

#### **UNIT COSTS**

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Bulkhead closure cost	North and South Portal	USER PROVIDED ITEM	2.00	2	\$347,412.00	\$694,824.00

Job Hours: 0.00

Total Cost: \$694,824.00
#### PUMPING WORK

e: Climax Mine	Permit Act	ion: March 2019	Permit/Job#:	M1977493
PROJECT IDENTIFI				
Task #: <u>G02</u>	State: Colora			one
Date: 3/14/2019	County: Summ	It	Filename: N	A
User: JLE				
Agency or organ	ization name: DRMS			
HOURLY EQUIPMEN	NT COST			
	Description		Quantity	
Make and Model:	Trash pump - 70MT, 6 in.		2	_
Attachment 1:	Suction hose - 6 in. diam.,	25 ft.	1	
Attachment 2:	Discharge hose - 6 in. D., 2	25 ft.	388	
Labor Unit 1:	Pump operator		2	_
Horsepower:	70			
	er day			
6	0.80			
× ×	S Tons)			
Cost Breakdown:		1		
	¢104.50	Utilization %		
Ownership Cost/H		NA		
Operating Cost/H		100		
Operator Cost/H Total Unit Cost/H		NA		
Total Unit Cost/H	.0u1. \$224.35	_		
Total Fleet Cost/I	Hour: \$224.33			
<b>PUMPING QUANTIT</b>	IES			
Initial Pond Volu	ume: 38,519.00		Conversion factor:	201.9735
Final Pond Volu	,	gallons		201.9755
Total Pond Inflow Sur	) ) ) =	<u>g</u> uirons	Unit inflow rate in	
	rea: 3,210,319	Sq. ft.	gph/sq. ft.:	0.3516
Total Pond Inflow Vol		1		
per H	our: 1,128,748.16	gallons		
Source of	f estimated volume: AM0	6 Cost Estimate		
PUMPING TIME				
	mum Pump Capacity:	80,000	gph/pump	
	imated Suction Head:	0	feet	
	ated Discharge Head:	305	feet	
Lotin	Total Head:	305	feet	
	CPB Pump Capacity:	71,700	gph/pump	
	Site Altitude:	11,000	feet	
Adjuste	ed Pumping Capacity:	143,400	gph	
	usted Pumping Time:	54.25	hours	
	uring Initial Pumping:	61,237,478	gallons	
		481.29	Hours	
Net Unad	usted Pumping Time:	401.29	liouis	
	le Adjustment Factor:	0.8800	(3% rule)	
Altituc Pu				

<u> </u>			Total job time:	388.26	Hours
Unit cost:	\$0.001262	/Gallon	Total job cost:	\$87,098	

### SAFEGUARDING UNDERGROUND OPENINGS

Climax I	Mine	Permit Action: March 2019		Permit/Job#: M1977493		
<u>PROJEC</u>	<u>CT IDENTIFI</u>	<u>CATION</u>				
Task	G03	State: Colorado		Abbreviation:	None	
#:		County: Summit		Filename:	NA	

### **UNIT COSTS**

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Construction of Checkdams	NA	USER PROVIDED ITEM	1.00	1	\$40,000.00	\$40,000.00

Job Hours: 0.00

Total Cost: \$40,000.00

Climax Mine, M-1977-493

March 2019, DRMS Cost Estimate

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# TRUCK/LOADER TEAM WORK

Site: Climax Mine		Permit Act	ion: March 201	19	Permit/Job#: <u>M1977493</u>		
PROJECT IDENT	<b>IFICATION</b>						
Task #: H01A		State: Colora	ado	Abb	previation: N	None	
Date: 3/15/20 User: JLE	019 C	County: Summ	it		Filename: N	NA	
	rganization nam	ne: DRMS					
HOURLY EQUIP	MENT COST			Shift ba	sis: <u>1 per day</u>		
		]	Equipment Descr	iption			
Tru	ick Loader Tear		740	-			
Suppor	t Equipment -Lo		Г 950H D6T XL				
Suppor	1 1	mp Area: NA	DOTAL				
Road Main	ntenance – Moto		Г 12М				
	***						
	-Wat	er Truck: Wat	ter Tanker, 5,000	Gal.			
Cost Preskdown.					Moint		
<u>Cost Breakdown</u> :	Truck/Load	der Team	Support	Equipment		enance Equipment Water Truck	
Cost Breakdown:					Mainte Motor Grader		
	Truck/Load	der Team	Support	Equipment	Motor	Water Truck	
Cost Breakdown:	Truck/Load Truck	der Team Loader	Support Load Area	Equipment Dump Area	Motor Grader	Water Truck0100	
Utilization-machine:	Truck/Load Truck 100	der Team Loader 100	Support Load Area 100	Equipment Dump Area NA	Motor Grader 10	Water Truck           0         100           3         \$25.30	
Utilization-machine: Ownership cost/hour:	Truck/Loa Truck 100 \$66.13	der Team Loader 100 \$26.14	Support Load Area 100 \$52.66	Equipment Dump Area NA NA	Motor Grader 10 \$30.7	Water Truck           0         100           3         \$25.30           0         \$36.60	
Utilization-machine: Ownership cost/hour: Operating cost/hour:	Truck/Load Truck 100 \$66.13 \$55.75	der Team Loader 100 \$26.14 \$30.84	Support Load Area 100 \$52.66 \$46.34	Equipment Dump Area NA NA NA	Motor Grader 10 \$30.7 \$30.6	Water Truck           0         100           3         \$25.30           0         \$36.60           A         NA	
Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour:	Truck/Loa Truck 100 \$66.13 \$55.75 NA	der Team Loader 100 \$26.14 \$30.84 0	Support Load Area 100 \$52.66 \$46.34 NA	Equipment Dump Area NA NA NA NA	Motor Grader 10 \$30.7 \$30.6 NA	Water Truck           0         100           3         \$25.30           0         \$36.60           A         NA           0         \$0.00	
Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own.	Truck/Loa Truck 100 \$66.13 \$55.75 NA NA	der Team Loader 100 \$26.14 \$30.84 0 \$0.00	Support Load Area 100 \$52.66 \$46.34 NA \$0.00	Equipment Dump Area NA NA NA NA NA	Motor Grader 10 \$30.7 \$30.6 NA \$0.0	Water Truck           0         100           3         \$25.30           0         \$36.60           A         NA           0         \$0.00           0         \$0.00	
Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour:	Truck/Load Truck 100 \$66.13 \$55.75 NA NA NA	der Team Loader 100 \$26.14 \$30.84 0 \$0.00 \$0.00	Support Load Area 100 \$52.66 \$46.34 NA \$0.00 \$0.00	Equipment Dump Area NA NA NA NA NA	Motor Grader 10 \$30.7 \$30.6 NA \$0.0 \$0.0	Water Truck           0         100           3         \$25.30           0         \$36.60           A         NA           0         \$0.00           0         \$0.00           9         \$21.23	
Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour: Operator cost/hour:	Truck/Loa Truck 100 \$66.13 \$55.75 NA NA NA NA \$31.17	der Team Loader 100 \$26.14 \$30.84 0 \$0.00 \$0.00 \$40.90	Support Load Area 100 \$52.66 \$46.34 NA \$0.00 \$0.00 \$41.52	Equipment Dump Area NA NA NA NA NA NA	Motor Grader 10 \$30.7 \$30.6 N/ \$0.0 \$0.0 \$0.0 \$28.6 \$90.0	Water Truck           0         100           3         \$25.30           0         \$36.60           A         NA           0         \$0.00           0         \$0.00           9         \$21.23	

MATERIAL QUANTITIES

Initial volume:	7,260	CCY	Swell factor:	1.000	
Loose volume:	7,260	LCY			
Source	e of estimated volume:	6" over 9 acre	es		
Source of	estimated swell factor:	Cat Handbook	κ.		
Ν	Material Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

# **HOURLY PRODUCTION**

Truck Payload (weight) Basis:         Material weight:       1,600       Pounds/LCY         Description:       Top Soil       Pounds         Rated Payload:       87,000       Pounds         Payload Capacity:       54.38       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 Number of Loader Passes:       31.61       LCY         Loading Tool Capacity       Bucket Size Class:       NA         Rated Capacity:       4.300       LCY (heaped)         Bucket Fill Factor:       1.050       Other - moist loam       (100-110%) 1.050         Adjusted Capacity:       4.515       LCY         Job Condition Corrections:       Site Altitude (ft.): 10900 feet         Image: Colored to the fill on the f	
Description:       Top Soil         Rated Payload:       87,000       Pounds         Payload Capacity:       54.38       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 Number of Loader Passes:       31.61       LCY         Loading Tool Capacity       Bucket Size Class:       NA         Rated Capacity:       4.300       LCY (heaped)       1.050         Bucket Fill Factor:       1.050       Other - moist loam       (100-110%) 1.050         Adjusted Capacity:       4.515       LCY         Job Condition Corrections:       Site Altitude (ft.): 10900 feet	
Rated Payload:       87,000       Pounds         Payload Capacity:       54.38       LCY         Truck Bed (volume) Basis:       LCY         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:       31.61       LCY         Loading Tool Capacity:       Bucket Size Class:       NA         Rated Capacity:       4.300       LCY (heaped)       1.050         Bucket Fill Factor:       1.050       Other - moist loam       (100-110%) 1.050         Adjusted Capacity:       4.515       LCY         Job Condition Corrections:       Site Altitude (ft.): 10900 feet	
Payload Capacity:       54.38       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 Number of Loader Passes:       31.61       LCY         Loading Tool Capacity       Bucket Size Class:       NA         Rated Capacity:       4.300       LCY (heaped)         Bucket Fill Factor:       1.050       Other - moist loam       (100-110%) 1.050         Adjusted Capacity:       4.515       LCY         Job Condition Corrections:       Site Altitude (ft.): 10900 feet	
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:       31.61       LCY         Loading Tool Capacity       Bucket Size Class:       NA         Rated Capacity:       4.300       LCY (heaped)       1.050         Bucket Fill Factor:       1.050       Other - moist loam       (100-110%) 1.050         Adjusted Capacity:       4.515       LCY         Job Condition Corrections:       Site Altitude (ft.): 10900 feet	
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:       31.61       LCY         Loading Tool Capacity         Bucket Size Class:       NA         Rated Capacity:       4.300       LCY (heaped)	
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:       31.61       LCY         Loading Tool Capacity         Bucket Size Class:       NA         Rated Capacity:       4.300       LCY (heaped)	
Heaped Volume:       31.40       LCY         Average Volume:       27.80       LCY         Adjusted Volume:       31.40       LCY         Final Truck Volume Based on Number of Loader Passes:       31.61       LCY         Loading Tool Capacity       Bucket Size Class:       NA         Rated Capacity:       4.300       LCY (heaped)         Bucket Fill Factor:       1.050       Other - moist loam       (100-110%) 1.050         Adjusted Capacity:       4.515       LCY         Job Condition Corrections:       Site Altitude (ft.): 10900 feet	
Average Volume:       27.80       LCY         Adjusted Volume:       31.40       LCY         Final Truck Volume Based on Number of Loader Passes:       31.61       LCY         Loading Tool Capacity       Bucket Size Class:       NA         Rated Capacity:       4.300       LCY (heaped)         Bucket Fill Factor:       1.050       Other - moist loam       (100-110%) 1.050         Adjusted Capacity:       4.515       LCY         Job Condition Corrections:       Site Altitude (ft.): 10900 feet         Truck       Loader       Source	
Adjusted Volume:       31.40       LCY         Final Truck Volume Based on Number of Loader Passes:       31.61       LCY         Loading Tool Capacity       Bucket Size Class:       NA         Rated Capacity:       4.300       LCY (heaped)       1.050       Other - moist loam       (100-110%) 1.050         Bucket Fill Factor:       1.050       Other - moist loam       (100-110%) 1.050       1.050         Job Condition Corrections:       Site Altitude (ft.):       10900 feet         Truck       Loader       Source	
Final Truck Volume Based on Number of Loader Passes: 31.61       LCY         Loading Tool Capacity       Bucket Size Class: NA       NA         Rated Capacity:       4.300       LCY (heaped)       Image: Size Class: S	
Loading Tool Capacity       Bucket Size Class:       NA         Bucket Size Class:       NA         Rated Capacity:       4.300       LCY (heaped)         Bucket Fill Factor:       1.050       Other - moist loam       (100-110%) 1.050         Adjusted Capacity:       4.515       LCY         Job Condition Corrections:       Site Altitude (ft.): 10900 feet         Truck       Loader       Source	
Bucket Size Class: NA         Rated Capacity:       4.300       LCY (heaped)         Bucket Fill Factor:       1.050       Other - moist loam       (100-110%) 1.050         Adjusted Capacity:       4.515       LCY         Job Condition Corrections:       Site Altitude (ft.): 10900 feet         Truck       Loader       Source	
Rated Capacity:       4.300       LCY (heaped)         Bucket Fill Factor:       1.050       Other - moist loam       (100-110%) 1.050         Adjusted Capacity:       4.515       LCY         Job Condition Corrections:       Site Altitude (ft.): 10900 feet         Truck       Loader       Source	
Bucket Fill Factor:       1.050       Other - moist loam       (100-110%) 1.050         Adjusted Capacity:       4.515       LCY         Job Condition Corrections:       Site Altitude (ft.): 10900 feet         Truck       Loader       Source	
Adjusted Capacity:     4.515     LCY       Job Condition Corrections:     Site Altitude (ft.):     10900       Truck     Loader     Source	
Job Condition Corrections:       Site Altitude (ft.): 10900 feet         Truck       Loader       Source	
Truck Loader Source	
Altitude Adj: 0.600 1.000 (CAT HB)	
· · · · · · · · · · · · · · · · · · ·	
Job Efficiency:         0.830         0.830         (CAT HB)	
Net Correction:         0.498         0.830	
<u>Loading Tool Cycle Time:</u> Number of Loading Tool Passes Required to Fill 7	passes
Excavators and Front Shovels:	_
Machine Cycle Time vs. Job Condition Rating:       NA         Selected Value within this Basic Rating:       NA	
Track Loaders – Material Description:	
Cycle Time Elements (min.):	
Load: NA Maneuver: NA Dump: 0.100	
Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, 0.500 maneuver):	ninutes
Cycle Time Factors Factor (min.) Source	2
Material: Mixed material 0.02 0.020 (Cat HB	3)
Stockpile: Dumped by truck 0.02 0.020 (Cat HB	s)
Truck Ownership:Common ownership of trucks and loaders - 0.04-0.040(Cat HB	3)
Operation: Constant operation -0.04 -0.040 (Cat HB	3)
Dump Target:Nominal target 0.000.040(Cat HB	
Net Cycle Time Adjustment: -0.040 minutes	
Adjusted Loader Cycle Time: 0.460 minutes	5
Net Load Time per Truck: <b>2.860</b> minutes	

#### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

maintained 3.0

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4857.00	8.00	3.00	11.00	857	5.761
2	2258.00	0.00	3.00	3.00	3005	1.728

Return Route:

Haul Time: **7.489** minutes

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2745.60	5.00	3.00	8.00	2155	1.421
2	7656.00	-8.00	3.00	-5.00	3706	2.130

Return Time:	3.551	minutes
Total Truck Cycle Time:	16.567	minutes

491.27	LCY/Hour	Adjusted for job e	fficiency:	407.75	_ LCY/Hour
114.46	LCY/Hour	Adjusted for job e	fficiency:	95.01	LCY/Hour
4	Truck(s)	Selected Number of	f Trucks:	4	Truck(s)
	Adjusted single truck	380.02 380.02 <b>380.02</b>	LCY/H LCY/H LCY/H	Iour	
	4	114.46     LCY/Hour       4     Truck(s)       Adjusted hour       Adjusted single truck	114.46     LCY/Hour     Adjusted for job er	114.46       LCY/Hour       Adjusted for job efficiency:         4       Truck(s)       Selected Number of Trucks:         Adjusted hourly truck team production:       380.02         Adjusted single truck/loader team production:       380.02	114.46       LCY/Hour       Adjusted for job efficiency:       95.01         4       Truck(s)       Selected Number of Trucks:       4         Adjusted hourly truck team production:       380.02       LCY/F         Adjusted single truck/loader team production:       380.02       LCY/F

Fleet size:	1	Team(s)	Total job time:	19.10	Hours
Unit cost:	\$2.694	/LCY	Total job cost:	\$19,558	

Climax Mine, M-1977-493

March 2019, DRMS Cost Estimate

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# TRUCK/LOADER TEAM WORK

Task description:	3 Dam,	Load and Hau	ll Biosolids to 3 Da	am Rise		
Site: Climax Mine		Permit A	ction: March 202	19	Permit/Job#:	M1977493
PROJECT IDENT	<u>IFICATION</u>					
$\begin{array}{r} \text{Task #:} \\ \text{Date:} \\ \text{User:} \end{array} \begin{array}{r} \text{H01B} \\ 3/15/2 \\ \text{JLE} \end{array}$	019 0	State: Cold County: Sum	orado mit		reviation: No Filename: NA	
Agency or o	rganization nan	ne: DRMS				
HOURLY EQUIP	MENT COST	, -		Shift ba	sis: <u>1 per day</u>	
			Equipment Descr	iption		
	uck Loader Tear	-Loader: C	at 740 AT 950H	-		
Suppor	t Equipment -La -Du	oad Area: Ca mp Area: N	at D6T XL A			
Road Mai	ntenance – Moto	or Grader: C.	AT 12M ater Tanker, 5,000	Gal.		
Cost Breakdown:	Truck/Loa	der Team	Support	Equipment	Maintena	ance Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	NA	100	100
Ownership cost/hour:	\$66.13	\$26.14	\$52.66	NA	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$30.84	\$46.34	NA	\$30.60	\$36.60
%Utilization-riper:	NA	0	NA NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00		NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.17	\$40.90	\$41.52	NA	\$28.69	\$21.23
Unit Subtotals:	\$153.05	\$97.89	\$140.52	NA	\$90.02	\$83.13
Number of Units:	5	1	1	0	1	1
Group Subtotals:	Work:	\$863.14	Support:	\$140.52	Maint:	\$173.15
Total work team cost/		1				

Initial volume:	7,260	CCY	Swell factor:	1.000	
Loose volume:	7,260	LCY			-
Source	e of estimated volume:	6" over 9 acres	S		
Source of	estimated swell factor:	Cat Handbook			
Material Purchase Cost:		\$0.00			
	Total Cost:	\$0.00			

# **HOURLY PRODUCTION**

Truck Capacity:							
Truck Payload (weight) Basi			D 1/1	<u>av</u>			
Material weight:	1,600		Pounds/L	ĊŶ			
Description:	Top Soil		D 1.				_
Rated Payload:	87,000		Pounds				
Payload Capacity:	54.38		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					
Aujusted Volume.	51.40	LUI					
Final	Truck Volume	Based on Nu	umber of Lo	ader Passes:	31.61	LCY	
Loading Tool Capacity							
	4 200	LOV 4	1	Buck	et Size Class:	NA	
Rated Capacity:	4.300		heaped)	(100	1100() 1.050		
Bucket Fill Factor:	1.050		- moist loam	i (100-	110%) 1.050		
Adjusted Capacity:	4.515	LCY					
Job Condition Corrections	<u>:</u>		Site A	Altitude (ft.):	<u>10900</u> feet		
	Truck	Load	ler	Source			
Altitude Adj:	0.600	1.00	00	(CAT HB	3)		
Job Efficiency:	0.830	0.83	30	(CAT HB	8)		
Net Correction:	0.498	0.83	30				
Loading Tool Cycle Time:		Number of L	oading Tool	l Passes Requ	ired to Fill	7	passes
Excavators and Front Shove	ls:				Truck:	1	_
Machine Cycle Time v Selected Value			NA NA				
Track Loaders –			1171				
Cycle Time Elements (min.)		-F					
Load: NA	N	Ianeuver:	NA		Dump: 0.1	00	
Wheel and Trac	k Loaders - Un	adjusted Bas	ic Loader C	•	-	0.500 <sup>n</sup>	ninutes
	I			n	naneuver):		
Cycle Time Factors		10.02			Factor (min.)	Source	<u></u>
Material:	Mixed mate				0.020	(Cat HB	
Stockpile:	Dumped by		m. also	adama	0.020	(Cat HB	<u>)                                    </u>
Truck Ownership:	Common ov 0.04	vnersnip of ti	iucks and lo	aders -	-0.040	(Cat HB	)
Operation:	Constant op	eration -0.04			-0.040	(Cat HB	)
Dump Target:					0.000	(Cat HB	
Dump Turget.	r tonniar tar		ycle Time A	diustment.	-0.040	minutes	
			ed Loader C		0.460	minutes	
			Load Time		2.860	minutes	

#### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

Truck Travel (Haul & Return) Time: maintained 3.0 Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route.

Hau Koule:								
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
1	12038.00	5.00	3.00	8.00	1123	10.841		

				Haul Time:	10.841	minutes
Return Ro	ute:					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	12038.00	-5.00	3.00	-2.00	3706	3.349

Return Time:	3.349	minutes
Total Truck Cycle Time:	19.717	minutes

Loading Tool unit Production Truck Unit Production	491.27	LCY/Hour	Adjusted for job eff	iciency:	407.75	LCY/Hour
	96.18	LCY/Hour	Adjusted for job eff	iciency:	79.83	LCY/Hour
Optimal No. of Trucks:	5	Truck(s)	Selected Number of Trucks:		5	Truck(s)
	A	Adjusted hourl Adjusted single truck Adjusted multiple truck	399.14 399.14 <b>399.14</b>	LCY/F LCY/F LCY/F	Iour	
JOB TIME AND	O COST					

Fleet size:	1	Team(s)	Total job time:	18.19	Hours
Unit cost:	\$2.948	/LCY	Total job cost:	\$21,405	_

### BULLDOZER WORK

Climax Mine	Pe	rmit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
ROJECT IDENTIFI	CATION				
Task #: H02	State:	Colorado		Abbreviation:	None
Date: 3/15/2019	County:	Summit		Filename:	NA
User: JLE	·				
Agency or organ	ization name:	RMS			
HOURLY EQUIPME	NT COST				
	D7R DS Series II L	GP			
Horsepower: 240			-		
	night		-		
Attachment: NA			-		
	er day		-		
Data Source: (CR			-		
Cost Breakdown:			-		
COST DICAKUOWII			Utilization %		
Ownership Cost/Hour:		\$66.14	NA		
Operating Cost/Hour:		\$63.91	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
Initial Volume: 14,52 Swell factor: 1.00	20 0	_			
Loose volume: 14,52	20 LCY				
Source of estimated volu					
Source of estimated swel	ll Cat Hand	lbook			
factor:					
HOURLY PRODUCT	ION				
Average push distance:	200 feet				
Unadjusted hourly	289.3 LCY	/hr			
production:					
-					
Materials consistency	Loose	stockpile 1.2			
description:					
	0				
Average push	0 %				
gradient:	11.000.0				
Average site altitude:	11,000 feet				
Material					
Material weight:	1,600 lbs/LCY				
Weight description:	Top Soil				
weight description.	106 201				

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9453

Adjusted unit production:	273.48 LCY/hr		
Adjusted fleet production:	273.48 LCY/hr		

Fleet size:	1 Dozer(s)
Unit cost:	\$0.627/LCY

Total job time:	53.09 Hours
Total job cost:	\$9,109

### BULLDOZER WORK

	P	ermit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
ROJECT IDENTIFI	ICATION				
Task #: 101	State:	Colorado		Abbreviation:	None
Date: 3/15/2019	County:	Summit		Filename:	NA
User: JLE					
Agency or organ	nization name: <u>D</u>	RMS			
OURLY EQUIPME	NT COST				
Basic Machine: Ca	t D8T - 8SU				
Horsepower: 310					
	mi-Universal				
	hank ripper				
	ber day				
*	RG)				
ost Breakdown:					
			Utilization %		
Ownership Cost/Hour:		\$93.62	NA		
Operating Cost/Hour:		\$73.35	100		
Ripper own. Cost/Hour:		\$8.93	NA		
Ripper op. Cost/Hour:		\$3.89	50		
Operator Cost/Hour:		\$41.52	NA		
Total Fleet Cost/Hour:	\$221.31				
IATERIAL QUANT Initial Volume: 1,61 Swell factor: 1.12	<b>ITIES</b> 13				
IATERIAL QUANTInitial Volume:1,61Swell factor:1.12Loose volume:1,81	<b>ITIES</b> 13 25 15 LCY				
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volume       1	ITIES       13       25       15 LCY       ume:     Climax	  dbook			
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volt       Source of estimated swell	ITIES       13       25       15 LCY       ume:     Climax	 dbook			
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volume       1	ITIES       13       25       15 LCY       ume:     Climax	dbook			
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volt       Source of estimated swell	ITIES 13 25 15 LCY ume: Climax ell Cat Han	dbook			
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volu       1,81         Source of estimated vo	TTIES 13 25 15 LCY ume: Climax ell Cat Han <u>CION</u>	dbook			
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volu       1,81         Source of estimated swell       1,81         Source of estimated volu       1,81         Source of estimated volu       1,81         Source of estimated swell       1,81         Source of estimates       1,81         Source of	TTIES 13 25 15 LCY ume: Climax cat Han CION 250 feet				
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volu       1,81         Source of estimated sweet       1,61         Source of estimated volu       1,81         Source of estimated sweet       1,81         Source of estimated sweet       1,81         Source of estimated sweet       1,81         Mathematical Sweet       1,81         Source of estimated sweet       1,81         Source of	TTIES 13 25 15 LCY ume: Climax ell Cat Han <u>CION</u>				
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volu       1,81         Source of estimated swell       1,81         Source of estimated volu       1,81         Source of estimated volu       1,81         Source of estimated swell       1,81         Source of estimatestimatestout       1,81 <t< td=""><td>TTIES 13 25 15 LCY ume: Climax cat Han CION 250 feet</td><td></td><td></td><td></td><td></td></t<>	TTIES 13 25 15 LCY ume: Climax cat Han CION 250 feet				
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volu       1,81         Source of estimated sweet       1,61         Source of estimated volu       1,81         Source of estimated sweet       1,81         Source of estimated sweet       1,81         Source of estimated sweet       1,81         Mathematical Sweet       1,81         Source of estimated sweet       1,81         Source of	ITIES         13         25         15 LCY         ume:       Climax         cat Han	7/hr	  ankment 0.9		
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volt       Source of estimated swell         Source of estimated swell       factor:         COURLY PRODUCT       Average push distance:         Unadjusted hourly       production:	ITIES         13         25         15 LCY         ume:       Climax         cat Han		 ankment 0.9		
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volu       Source of estimated swell         Source of estimated swell       factor:         COURLY PRODUCT       Average push distance:         Unadjusted hourly       production:         Materials consistency       description:	ITIES         13         25         15 LCY         ume:       Climax         cat Han	7/hr	 ankment 0.9		
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated voluce       1,81         Source of estimated swell       1,81         Source of estimated voluce       1,81         Materials consistency       1,81         Materials consistency       1,81         Average push       1,81	ITIES         13         25         15 LCY         ume:       Climax         cat Han	7/hr	  ankment 0.9		
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volumes       1,81         Source of estimated sweet       1,81         Average push distance:       1,90         Unadjusted hourly       1,90         production:       1,90         Materials consistency       1,90         Average push       1,90 <tr< td=""><td>ITTIES         13         25         15 LCY         ume:       Climax         cat Han        </td><td>7/hr</td><td>  ankment 0.9</td><td></td><td></td></tr<>	ITTIES         13         25         15 LCY         ume:       Climax         cat Han	7/hr	  ankment 0.9		
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated voluce       1,81         Source of estimated swell       1,81         Source of estimated voluce       1,81         Materials consistency       1,81         Materials consistency       1,81         Average push       1,81	ITIES         13         25         15 LCY         ume:       Climax         cat Han	7/hr	  ankment 0.9		
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volt       Source of estimated swell         Source of estimated swell       factor:         COURLY PRODUCT       Average push distance:         Unadjusted hourly       production:         Materials consistency       description:         Average push       gradient:         Average site altitude:       Average site altitude:	ITIES         13         25         15 LCY         ume:       Climax         Cat Han	7/hr	 ankment 0.9		
IATERIAL QUANT         Initial Volume:       1,61         Swell factor:       1.12         Loose volume:       1,81         Source of estimated volumes       1,81         Source of estimated sweet       1,81         Average push distance:       1,90         Unadjusted hourly       1,90         production:       1,90         Materials consistency       1,90         Average push       1,90 <tr< td=""><td>ITTIES         13         25         15 LCY         ume:       Climax         cat Han        </td><td>7/hr</td><td>  ankment 0.9</td><td></td><td></td></tr<>	ITTIES         13         25         15 LCY         ume:       Climax         cat Han	7/hr	  ankment 0.9		

Job Condition Correction Factor	_	Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4447

Adjusted unit production:	168.01 LCY/hr
Adjusted fleet production:	168.01 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$1.317/LCY

Total job time:	10.80 Hours
Total job cost:	\$2,390

Climax Mine, M-1977-493

March 2019, DRMS Cost Estimate

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# TRUCK/LOADER TEAM WORK

Task description:	Pond Sł	10p, Load and H	Iaul topsoil to Po	ond Shop		
Site: Climax Mine		Permit Act	tion: March 201	19	Permit/Job#:	M1977493
PROJECT IDENT	TIFICATION					
Task #: $I02$ Date: $3/15/2$ User: JLE		State: Color County: Summ			oreviation: N Filename: N	one A
	organization nam	ne: DRMS				
HOURLY EQUIP	MENT COST			Shift ba	sis: <u>1 per day</u>	
			Equipment Descr	iption		
Tr	uck Loader Tear		740	•		
	<u> </u>		Т 950Н			
Suppor	rt Equipment -Lo		D6T XL			
Road Mai	-Du Intenance –Moto	mp Area: NA	T 12M			
Koau Wa			ter Tanker, $5,000$	Gal.		
Cost Breakdown:	Truck/Loa	der Team	11	Equipment	Mainter	nance Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	NA	100	100
Ownership cost/hour:	\$66.13	\$26.14	\$52.66	NA	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$30.84	\$46.34	NA	\$30.60	\$36.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.17	\$40.90	\$41.52	NA	\$28.69	\$21.23
Unit Subtotals:	\$153.05	\$97.89	\$140.52	NA	\$90.02	\$83.13
Number of Units:	2	1	1	0	1	1
Group Subtotals:	Work:	\$403.99	Support:	\$140.52	Maint:	\$173.15
Total work team cost						

Initial volume:	538	CCY	Swell factor:	1.000	
Loose volume:	538	LCY			
Source	e of estimated volume:	6" over 9 acres	5		
Source of estimated swell factor:		Cat Handbook			
I	Material Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			
	-				

# **HOURLY PRODUCTION**

Truck Capacity:					
Truck Payload (weight) Bas Material weight:	1,600	Pour	nds/LCY		
Description:	Top Soil				
Rated Payload:	87,000	Pour	nds		
Payload Capacity:	54.38	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 1	Based on Number of	of Loader Passes:	31.61	LCY
Loading Tool Capacity					
<u> </u>			Bucl	ket Size Class:	NA
Rated Capacity:	4.300	LCY (heaped)			
Bucket Fill Factor:	1.050	Other - moist	loam (100	-110%) 1.050	
Adjusted Capacity:	4.515	LCY			
Job Condition Corrections	<u>:</u>	:	Site Altitude (ft.):	10900 feet	
	Truck	Loader	Source	•	
Altitude Adj:	0.600	1.000	(CAT HI	B)	
Job Efficiency:	0.830	0.830	(CAT HI	B)	
Net Correction:	0.498	0.830			
Loading Tool Cycle Time:		Number of Loading	Tool Passes Req		7 passes
Excavators and Front Shove	els:			Truck:	, 
Machine Cycle Time v	s. Job Condition				
Selected Value	within this Basi	c Rating: <u>NA</u>			
Track Loaders -		iption:			
Cycle Time Elements (min.)					
Load: NA	M	laneuver: NA		Dump: 0.1	100
Wheel and Trac	k Loaders - Una	adjusted Basic Loac	•	oad, dump,	0.500 minutes
Cycle Time Factors				Factor (min.)	Source
Material:		rial 0.02		0.020	(Cat HB)
Stockpile:				0.020	(Cat HB)
Truck Ownership:	Common ow 0.04	vnership of trucks a	nd loaders -	-0.040	(Cat HB)
Operation:		eration -0.04		-0.040	(Cat HB)
Dump Target:	· ·			0.000	(Cat HB)
			me Adjustment:	-0.040	minutes
			ler Cycle Time:	0.460	minutes
		Net Load 7	Fime per Truck:	2.860	minutes

#### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

Haul Time:

Truck Travel (Haul & Return) Time: maintained 3.0 Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

3.155

minutes

Haul Route.

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2624.00	8.00	3.00	11.00	857	3.155

Return Ro	ute:					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2624.00	-8.00	3.00	-5.00	3706	0.744

Return Time:	0.744	minutes
Total Truck Cycle Time:	9.426	minutes

Loading Tool unit Production Truck Unit Production	491.27	_ LCY/Hour	Adjusted for job ef	ficiency:	407.75	_ LCY/Hour
	201.18	LCY/Hour	Adjusted for job ef	ficiency:	166.98	LCY/Hour
Optimal No. of Trucks:	2	Truck(s)	Selected Number of	f Trucks:	2	Truck(s)
		Adjusted hour	ly truck team production:	333.97	LCY/H	Iour
	А	•	k/loader team production:	333.97	LCY/H	Iour
	Adj	usted multiple truck	k/loader team production:	333.97	LCY/H	Iour
JOB TIME ANI	<u>) COST</u>					

Fleet size:	1	Team(s)	Total job time:	1.61	Hours
Unit cost:	\$2.149	/LCY	Total job cost:	\$1,156	

#### BULLDOZER WORK

Task description:	Pond Shop, Spre	ad topsoil			
e: Climax Mine	Per	mit Action:	March 2019	Permit/Job	#: <u>M1977493</u>
PROJECT IDENTIFI	CATION				
Task #:     IO3       Date:     3/15/2019       User:     JLE	State: County:	Colorado Summit			None I03
Agency or organ	ization name: DR	MS			
HOURLY EQUIPME	NT COST				
Horsepower: 240 Blade Type: Stra Attachment: 3-sh	hight nank ripper er day	GP			
Cost Breakdown: Ownership Cost/Hour:		\$66.14	Utilization % NA		
Operating Cost/Hour: Ripper own.		\$63.91	100		
Cost/Hour:		\$6.02	NA		
Ripper op. Cost/Hour: Operator Cost/Hour:		\$2.06 \$41.52	50 NA		
Total Fleet Cost/Hour:         MATERIAL QUANTI         Initial Volume:       538         Swell factor:       1.000         Loose volume:       538	0	-			
Source of estimated volu Source of estimated swel factor:		book			
HOURLY PRODUCT	ION				
Average push distance: Unadjusted hourly production:	200 feet 289.3 LCY/	hr			
Materials consistency description:	Compac	cted fill or en	nbankment 0.9		
Average push gradient: Average site altitude:	0 %				
-					
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:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7090

Adjusted unit production:	205.11 LCY/hr
Adjusted fleet production:	<b>205.11</b> LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.876/LCY

Total job time:	2.62 Hours
Total job cost:	\$471

Climax Mine, M-1977-493

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# TRUCK/LOADER TEAM WORK

Task description:	Mayno	wer isr,	Loau a	nd Haul Subsoil	to TSF			
Site: Climax Mine	Site:     Climax Mine     Permit Action:     March 2019						#: <u>N</u>	A1977493
PROJECT IDENT	<b>TIFICATION</b>							
Task #: J01A		State:	Colora	ado	Abb	previation:	None	2
Date: 3/15/2	019 0	County:	Summ	it		Filename:	NA	
User: JLE								
Agency or o	rganization nan	ne: DRM	MS					
HOURLY EQUIP	MENT COST	-			Shift ba	sis: <u>1 per day</u>	4	
			I	Equipment Descri	iption			
Trı	uck Loader Tea	m -Truck:	Cat		•			
		-Loader:		Г 950Н				
Suppor	t Equipment -L			D6T XL				
Pood Mai	-Du ntenance –Moto	imp Area:	NA	Г 12М				
Koau Mai		ter Truck:		er Tanker, 5,000	Gal			
		tor rrack.	,, a		Sui:			
Cost Breakdown:								
COSt DI Cakuowii.	Truck/Loa	der Team		Support	Equipment	Main	ntenan	ce Equipment
Cost Breakuown.	Truck/Loa Truck	der Team Loader		Support Load Area	Equipment Dump Area	Main Motor Grader		ce Equipment Water Truck
			100			Motor Grader		
	Truck	Loader	100 26.14	Load Area	Dump Area	Motor Grader	00	Water Truck
%Utilization-machine:	Truck 100	Loader \$2		Load Area	Dump Area NA	Motor Grader 1	00 73	Water Truck
%Utilization-machine: Ownership cost/hour:	Truck 100 \$66.13	Loader \$2	26.14	Load Area 100 \$52.66	Dump Area NA NA	Motor Grader 1 \$30. \$30.	00 73	Water Truck 100 \$25.30
%Utilization-machine: Ownership cost/hour: Operating cost/hour:	Truck 100 \$66.13 \$55.75	Loader \$2 \$2	26.14 30.84	Load Area 100 \$52.66 \$46.34	Dump Area NA NA NA	Motor Grader 1 \$30. \$30.	00 73 60 NA	Water Truck 100 \$25.30 \$36.60
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own.	Truck 100 \$66.13 \$55.75 NA	Loader \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2	26.14 30.84 0	Load Area 100 \$52.66 \$46.34 NA	Dump Area NA NA NA NA	Motor Grader 1 \$30. \$30. N	00 73 60 NA 00	Water Truck 100 \$25.30 \$36.60 NA
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour:	Truck 100 \$66.13 \$55.75 NA NA	Loader \$ \$	26.14 30.84 0 \$0.00	Load Area 100 \$52.66 \$46.34 NA \$0.00	Dump Area NA NA NA NA NA	Motor Grader 1 \$30. \$30. \$30. \$30. \$30. \$30.	00 73 60 NA 00 00	Water Truck 100 \$25.30 \$36.60 NA \$0.00
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour:	Truck 100 \$66.13 \$55.75 NA NA NA	Loader \$: \$: \$: \$: \$: \$: \$: \$: \$:	26.14 30.84 0 \$0.00 \$0.00	Load Area 100 \$52.66 \$46.34 NA \$0.00 \$0.00	Dump Area NA NA NA NA NA	Motor Grader 1 \$30. \$30. \$30. \$30. \$30. \$30. \$30. \$30.	00 73 60 VA 00 00 69	Water Truck 100 \$25.30 \$36.60 NA \$0.00 \$0.00
%Utilization-machine:Ownership cost/hour:Operating cost/hour:%Utilization-riper:%Utilization-riper:Ripper own.cost/hour:Ripper op. cost/hour:Operator cost/hour:	Truck 100 \$66.13 \$55.75 NA NA NA \$31.17	Loader \$: \$: \$: \$: \$: \$: \$: \$: \$: \$: \$: \$: \$:	26.14 30.84 0 \$0.00 \$0.00 40.90	Load Area 100 \$52.66 \$46.34 NA \$0.00 \$0.00 \$41.52	Dump Area NA NA NA NA NA NA	Motor Grader 1 \$30. \$30. \$30. \$30. \$30. \$0. \$0. \$28.	00 73 60 VA 00 00 69	Water Truck 100 \$25.30 \$36.60 NA \$0.00 \$0.00 \$21.23

Total work team cost/hour: <u>\$1,176.81</u>

#### **MATERIAL QUANTITIES**

Initial volume:	179,080	CCY	Swell factor:	1.000
Loose volume:	179,080	LCY		
Source of	e of estimated volume: estimated swell factor: Material Purchase Cost: Total Cost:		× ×	019 Climax Estiamte)

# **HOURLY PRODUCTION**

<u>Truck Capacity:</u>					
Truck Payload (weight) Basi	<u>s:</u>				
Material weight:	2,650	Pounds			
Description:	Decomposed	rock - 25% Rock, 75%	6 Earth		
Rated Payload:	87,000	Pounds	1		
Payload Capacity:	32.83	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			
_					
	T 1 X 7 1 X		1 D	21.61	
Final	I ruck Volume	Based on Number of I	Loader Passes:	31.61	LCY
Loading Tool Capacity					
			Buck	et Size Class: N.	A
Rated Capacity:	4.300	LCY (heaped)			
Bucket Fill Factor:	1.050	Other - moist loa	um (100-	110%) 1.050	
Adjusted Capacity:	4.515	LCY	(100		
j					
ob Condition Corrections		Site	e Altitude (ft.):	11000 feet	
		1	. ,	11000	
	Truck	Loader	Source		
		1 000			
Altitude Adj:	0.600	1.000	(CAT HE		
Altitude Adj:           Job Efficiency:	0.600	1.000 0.830			
Job Efficiency:	0.830	0.830	(CAT HE		
•			(CAT HE		
Job Efficiency:     Net Correction:	0.830 0.498	0.830 0.830	(CAT HE (CAT HE		nasses
Job Efficiency:       Net Correction:	0.830 0.498	0.830	(CAT HE (CAT HE	ired to Fill	7 passes
Job Efficiency: Net Correction: Loading Tool Cycle Time:	0.830 0.498	0.830 0.830	(CAT HE (CAT HE		7 passes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove	0.830 0.498 Is:	0.830 <b>0.830</b> Number of Loading To	(CAT HE (CAT HE	ired to Fill	7 passes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v	0.830 0.498 <u>ls:</u> s. Job Condition	0.830 <b>0.830</b> Number of Loading To n Rating: <u>NA</u>	(CAT HE (CAT HE	ired to Fill	7 passes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v	0.830 0.498 N ls: s. Job Condition within this Basi	0.830 <b>0.830</b> Number of Loading To n Rating: <u>NA</u> c Rating: <u>NA</u>	(CAT HE (CAT HE	ired to Fill	7 passes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders –	0.830 0.498 Is: s. Job Condition within this Basic Material Descr	0.830 <b>0.830</b> Number of Loading To n Rating: <u>NA</u> c Rating: <u>NA</u>	(CAT HE (CAT HE	ired to Fill	7 passes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders –	0.830 0.498 Is: s. Job Condition within this Basic Material Descr	0.830 <b>0.830</b> Number of Loading To n Rating: <u>NA</u> c Rating: <u>NA</u>	(CAT HE (CAT HE	ired to Fill	7 passes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.):	0.830 0.498 Is: s. Job Condition within this Basic Material Descr	0.830 <b>0.830</b> Number of Loading To n Rating: <u>NA</u> c Rating: <u>NA</u> iption:	(CAT HE (CAT HE	ired to Fill Truck:	/ · · ·
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v	0.830 0.498 Is: s. Job Condition within this Basic Material Descr	0.830 <b>0.830</b> Number of Loading To n Rating: <u>NA</u> c Rating: <u>NA</u>	(CAT HE (CAT HE	ired to Fill	/ · · ·
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v. Selected Value v. Track Loaders – Cycle Time Elements (min.): Load: NA	0.830 0.498 N Is: s. Job Condition within this Basic Material Descr	0.830 0.830 Number of Loading To n Rating: NA c Rating: NA iption: NA Ianeuver: NA	(CAT HE (CAT HE	ired to Fill Truck: Dump:0.100	
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v. Selected Value v. Track Loaders – Cycle Time Elements (min.): Load: NA	0.830 0.498 N Is: s. Job Condition within this Basic Material Descr	0.830 <b>0.830</b> Number of Loading To n Rating: <u>NA</u> c Rating: <u>NA</u> iption:	(CAT HE (CAT HE ) ool Passes Requ	bired to Fill Truck: Dump:0.100 Dad, dump,0	/ · · ·
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track	0.830 0.498 N Is: s. Job Condition within this Basic Material Descr	0.830 0.830 Number of Loading To n Rating: NA c Rating: NA iption: NA Ianeuver: NA	(CAT HE (CAT HE ) ool Passes Requ	Dump: 0.100	500 minutes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors	0.830 0.498 1s: s. Job Condition within this Basic Material Descr Material Descr Material Descr	0.830 0.830 Number of Loading To n Rating: <u>NA</u> c Rating: <u>NA</u> iption: <u>NA</u> iption: <u>NA</u> idaneuver: <u>NA</u>	(CAT HE (CAT HE ) ool Passes Requ	Dump: 0.100 Dump: 0.100 Dad, dump, 0. Factor (min.)	500 minutes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v. Selected Value v. Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors Material:	0.830 0.498 0.498 1s: s. Job Condition within this Basic Material Descr Material Descr Material Descr Material Descr Material Descr	0.830 0.830 Number of Loading To n Rating: NA c Rating: NA iption: NA iption: NA adjusted Basic Loader rial 0.02	(CAT HE (CAT HE ) ool Passes Requ	Dump: 0.100 Dump: 0.100 bad, dump, 0. Factor (min.) 0.020	500 minutes Source (Cat HB)
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v. Selected Value v. Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors Material: Stockpile:	0.830 0.498 N Is: s. Job Condition within this Basic Material Descr Material Descr Material Descr Material Descr Material Descr Material Descr	0.830 0.830 Number of Loading To n Rating: NA c Rating: NA iption: NA iption: NA adjusted Basic Loader rial 0.02 truck 0.02	(CAT HE (CAT HE ) ool Passes Requ Cycle Time (lo	Dump: 0.100 Dump: 0.100 Dad, dump, 0. Factor (min.)	500 minutes
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v. Selected Value v. Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors Material:	0.830 0.498 1s: s. Job Condition within this Basic Material Descr Material Descr Materi	0.830 0.830 Number of Loading To n Rating: NA c Rating: NA iption: NA iption: NA adjusted Basic Loader rial 0.02	(CAT HE (CAT HE ) ool Passes Requ Cycle Time (lo	ired to Fill         Truck:	500 minutes 500 [Cat HB] (Cat HB)
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors Material: Stockpile: Truck Ownership:	0.830 0.498 0.498 N Is: s. Job Condition within this Basic Material Descr Material Des	0.830 0.830 Number of Loading To n Rating: <u>NA</u> c Rating: <u>NA</u> iption: <u>NA</u> iption: <u>NA</u> interver: <u>NA</u> adjusted Basic Loader rial 0.02 truck 0.02 vnership of trucks and	(CAT HE (CAT HE ) ool Passes Requ Cycle Time (lo	bired to Fill         Truck:	500 minutes 500 [Cat HB] (Cat HB) (Cat HB) (Cat HB)
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Tract Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	0.830 0.498 1s: s. Job Condition within this Basic Material Descr Material Descr Material Descr Material Descr Material Descr Material Descr Material Descr Material Descr Common ow 0.04 Constant ope	0.830 0.830 Number of Loading To n Rating: NA c Rating: NA iption: NA iption: NA adjusted Basic Loader rial 0.02 truck 0.02 vnership of trucks and eration -0.04	(CAT HE (CAT HE ) ool Passes Requ Cycle Time (lo	bired to Fill Truck: Dump:0.100 pad, dump, naneuver):0. Factor (min.) 0.020 0.020 -0.040 -0.040	500 minutes 500 [Cat HB] (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors Material: Stockpile: Truck Ownership:	0.830 0.498 0.498 N Is: s. Job Condition within this Basic Material Descr Material Des	0.830 0.830 Number of Loading To n Rating: NA c Rating: NA iption: NA iption: NA adjusted Basic Loader rial 0.02 truck 0.02 vnership of trucks and eration -0.04 get 0.00	Cycle Time (loaders -	aired to Fill         Truck:         Dump:       0.100         bad, dump,       0.         pad, dump,       0.         Factor (min.)       0.020         0.020       -0.040         -0.040       0.000	500 minutes 500 [Cat HB] (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	0.830 0.498 1s: s. Job Condition within this Basic Material Descr Material Descr Material Descr Material Descr Material Descr Material Descr Material Descr Material Descr Common ow 0.04 Constant ope	0.830 0.830 Number of Loading To n Rating: NA c Rating: NA iption: NA iption: NA adjusted Basic Loader rial 0.02 truck 0.02 vnership of trucks and eration -0.04 get 0.00 Net Cycle Time	Cycle Time (loaders -	aired to Fill         Truck:         Dump:       0.100         bad, dump,       0.         pad, dump,       0.         Factor (min.)       0.020         -0.040       -0.040         -0.040       -0.040         -0.040       -0.040	500 minutes 500 Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Job Efficiency: Net Correction: Loading Tool Cycle Time: Excavators and Front Shove Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	0.830 0.498 1s: s. Job Condition within this Basic Material Descr Material Descr Material Descr Material Descr Material Descr Material Descr Material Descr Material Descr Common ow 0.04 Constant ope	0.830 0.830 Number of Loading To n Rating: NA c Rating: NA iption: NA iption: NA adjusted Basic Loader rial 0.02 truck 0.02 vnership of trucks and eration -0.04 get 0.00	Cycle Time (loaders - Adjustment: Cycle Time:	aired to Fill         Truck:         Dump:       0.100         bad, dump,       0.         pad, dump,       0.         Factor (min.)       0.020         0.020       -0.040         -0.040       0.000	500 minutes 500 [Cat HB] (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)

#### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

Truck Travel (Haul & Return) Time: maintained 3.0

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

Haul Route:

Seg #	Haul Distance (Ft) 3115.00	Grade (%) 6.30	Roll. Res (%) 3.00	Total Res (%) 9.30	Velocity (fpm) 983	Travel Time (min) 3.271	
2	11300.00	-7.70	3.00	-4.70	2721	4.281	
Return Ro	ite:			Haul Time:	7.552	minutes	
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
1	11300.00	7.70	3.00	10.70	1610	7.101	
2	3115.00	-6.30	3.00	-3.30	3706	0.874	
Loading Too	al unit		Total True	Return Time: ck Cycle Time:	-		
-	uction 491.27	LCY/Hour		Adjusted for jo	ob efficiency:	407.75	LCY/Hour
	90.07	LCY/Hour		Adjusted for jo	ob efficiency:	74.76	LCY/Hour
Optimal No. of T	rucks: 5	Truck(s)		Selected Numb	er of Trucks:	5	Truck(s)
				team productio			
		Adjusted single					
	F	Adjusted multiple	e truck/loader	team productio	n: 373.	79 LCY/I	Hour
JOB TIM	IE AND COST						
Fleet	size: 1	Team(s)	Т	otal job time:	479.0	9 Hou	irs
Unit	cost: \$3.148	/LCY	Т	otal job cost:	\$563,8	01	

Climax Mine, M-1977-493

March 2019, DRMS Cost Estimate

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# TRUCK/LOADER TEAM WORK

Task #:       J01B       State:       Colorado       Abbreviation:       No         Date:       3/15/2019       County:       Summit       Filename:       NA         User:       JLE       Agency or organization name:       DRMS       DRMS         HOURLY EQUIPMENT COST       Shift basis:       1 per day         Equipment Description       Truck Loader Team -Truck:       Cat 740       -         -Loader:       CAT 950H       -       -       -         Support Equipment -Load Area:       Cat D6T XL       -       -         -Dump Area:       NA       -       -       -         -Water Truck:       Water Tanker, 5,000 Gal.       -       Maintenace	
Date:       3/15/2019       County:       Summit       Filename:       NA         User:       JLE       Agency or organization name:       DRMS       Shift basis:       1 per day         HOURLY EQUIPMENT COST       Shift basis:       1 per day       Equipment Description         Truck Loader Team -Truck:       Cat 740       -Loader:       CAT 950H         Support Equipment -Load Area:       Cat D6T XL       -Dump Area:       NA         Road Maintenance –Motor Grader:       CAT 12M       -Water Truck:       Water Tanker, 5,000 Gal.         Cost Breakdown:       Truck/Loader Team       Support Equipment       Maintenance	
User: JLE Agency or organization name: DRMS HOURLY EQUIPMENT COST Equipment Description Truck Loader Team -Truck: Cat 740 -Loader: CAT 950H Support Equipment -Load Area: Cat D6T XL -Dump Area: NA Road Maintenance -Motor Grader: CAT 12M -Water Truck: Water Tanker, 5,000 Gal. <u>Cost Breakdown:</u> Truck/Loader Team Support Equipment Maintenance	A
Agency or organization name:       DRMS         HOURLY EQUIPMENT COST       Shift basis: 1 per day         Equipment Description       Equipment Description         Truck Loader Team -Truck:       Cat 740         -Loader:       CAT 950H         Support Equipment -Load Area:       Cat D6T XL         -Dump Area:       NA         Road Maintenance –Motor Grader:       CAT 12M         -Water Truck:       Water Tanker, 5,000 Gal.	
HOURLY EQUIPMENT COST       Shift basis: 1 per day         Equipment Description       Equipment Description         Truck Loader Team -Truck:       Cat 740         -Loader:       CAT 950H         Support Equipment -Load Area:       Cat D6T XL         -Dump Area:       NA         Road Maintenance –Motor Grader:       CAT 12M         -Water Truck:       Water Tanker, 5,000 Gal.	
Equipment Description         Truck Loader Team -Truck:       Cat 740         -Loader:       CAT 950H         Support Equipment -Load Area:       Cat D6T XL         -Dump Area:       NA         Road Maintenance – Motor Grader:       CAT 12M         -Water Truck:       Water Tanker, 5,000 Gal.         Cost Breakdown:       Truck/Loader Team       Support Equipment       Maintenance	
Truck Loader Team -Truck:       Cat 740         -Loader:       -Loader:         CAT 950H         Support Equipment -Load Area:       Cat D6T XL         -Dump Area:       NA         Road Maintenance –Motor Grader:       CAT 12M         -Water Truck:       Water Tanker, 5,000 Gal.         Cost Breakdown:       Truck/Loader Team       Support Equipment	
-Loader:       CAT 950H         Support Equipment -Load Area:       Cat D6T XL         -Dump Area:       NA         Road Maintenance –Motor Grader:       CAT 12M         -Water Truck:       Water Tanker, 5,000 Gal.         Cost Breakdown:       Truck/Loader Team       Support Equipment       Maintenance	
Support Equipment -Load Area:       Cat D6T XL         -Dump Area:       NA         Road Maintenance –Motor Grader:       CAT 12M         -Water Truck:       Water Tanker, 5,000 Gal.         Cost Breakdown:       Truck/Loader Team       Support Equipment       Maintena	
-Dump Area:       NA         Road Maintenance – Motor Grader:       CAT 12M         -Water Truck:       Water Tanker, 5,000 Gal.         Cost Breakdown:       Truck/Loader Team       Support Equipment       Maintena	
Road Maintenance – Motor Grader:       CAT 12M         -Water Truck:       Water Tanker, 5,000 Gal.         Cost Breakdown:       Truck/Loader Team       Support Equipment       Maintena	
-Water Truck:       Water Tanker, 5,000 Gal.         Cost Breakdown:       Truck/Loader Team       Support Equipment       Maintena	
	ance Equipment
TruckLoaderLoad AreaDump AreaMotorGrader	Water Truck
%Utilization-machine: 100 100 100 NA 100	100
Ownership cost/hour:         \$66.13         \$26.14         \$52.66         NA         \$30.73	\$25.30
Operating cost/hour:         \$55.75         \$30.84         \$46.34         NA         \$30.60	\$36.60
%Utilization-riper: NA 0 NA NA NA	NA
Ripper own. cost/hour:NA\$0.00\$0.00NA\$0.00	\$0.00
Ripper op. cost/hour:         NA         \$0.00         \$0.00         NA         \$0.00	\$0.00
Operator cost/hour:         \$31.17         \$40.90         \$41.52         NA         \$28.69	\$21.23
Unit Subtotals:         \$153.05         \$97.89         \$140.52         NA         \$90.02	\$83.13
Number of Units:         5         1         1         0         1	1
Group Subtotals: Work: \$863.14 Support: \$140.52 Maint:	\$173.15

Total work team cost/hour: \$1,176.81

#### **MATERIAL QUANTITIES**

Initial volume:	179,080	CCY	Swell factor:	1.000
Loose volume:	179,080	LCY		
Source	ce of estimated volume:	6" over 222	acres (Rev. Feb 2	019 Climax Estiamte)
Source of estimated swell factor:		Cat Handbo	ook	
l	Material Purchase Cost:	\$0.00		
	Total Cost:	\$0.00		

# **HOURLY PRODUCTION**

Truck Capacity:						
Truck Payload (weight) Basi			D 1. /I	CN		
Material weight:	1,600 Top Soil		Pounds/L	LΥ		
Description: Rated Payload:	Top Soil 87,000		Pounds			
Payload Capacity:	54.38		LCY			
Payload Capacity.						
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	umber of Lo	ader Passes	31.61	LCY
Loading Tool Capacity	Truck volume	Dused on re		adel 1 asses.		LC1
<u></u>				Buck	et Size Class:	NA
Rated Capacity:	4.300		heaped)			
Bucket Fill Factor:	1.050	Other -	- moist loan	n (100-	110%) 1.050	
Adjusted Capacity:	4.515	LCY				
Job Condition Corrections	<u>:</u>		Site .	Altitude (ft.):	<u>11000</u> feet	
	Truck	Load	der	Source		
Altitude Adj:	0.600	1.00	00	(CAT HB	5)	
Job Efficiency:	0.830	0.83	30	(CAT HB	3)	
Net Correction:	0.498	0.83	30			
Loading Tool Cycle Time:		Number of L	oading Too	l Passes Requ	ired to Fill	7 passes
Excavators and Front Shove	els:				Truck:	·
Machine Cycle Time v Selected Value			NA			
		<u> </u>	NA			
Track Loaders –		npuon:				
Cycle Time Elements (min.) Load: NA		Ianeuver:	ΝA		Dump: 0.1	00
	N		NA		Dump: 0.1	
Wheel and Trac	k Loaders - Un	adjusted Bas	sic Loader C	•	oad, dump,	0.500 minutes
Cycle Time Factors					Factor (min.)	Source
Material:	Mixed mate				0.020	(Cat HB)
Stockpile:	Dumped by				0.020	(Cat HB)
Truck Ownership:	Common ov 0.04	wnership of t	rucks and lo	aders -	-0.040	(Cat HB)
Operation:		eration -0.04	ļ		-0.040	(Cat HB)
Dump Target:	-				0.000	(Cat HB)
1 0	·	-	ycle Time A	djustment:	-0.040	minutes
			ed Loader C		0.460	minutes
			t Load Time		2.860	minutes

#### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

maintained 3.0

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3115.00	6.30	3.00	9.30	983	3.271
2	11300.00	-7.70	3.00	-4.70	2721	4.281

Return Route:

Haul Time: 7.552 minutes

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	11300.00	7.70	3.00	10.70	1610	7.101
2	3115.00	-6.30	3.00	-3.30	3706	0.874

Return Time:	7.975	minutes
Total Truck Cycle Time:	21.054	minutes

Loading Tool unit Production Truck Unit Production	491.27	LCY/Hour	Adjusted for job ef	fficiency:	407.75	_ LCY/Hour
	90.07	LCY/Hour	Adjusted for job ef	fficiency:	74.76	LCY/Hour
Optimal No. of Trucks:	5	Truck(s)	Selected Number o	f Trucks:	5	Truck(s)
			ly truck team production:	373.79	LCY/H	lour
		Adjusted single truck	373.79	LCY/H	lour	
	Ad	Adjusted multiple truck/loader team production: 373			LCY/H	lour
			· -			

Fleet size:	1	Team(s)	Total job time:	479.09	Hours
Unit cost:	\$3.148	/LCY	Total job cost:	\$563,801	

# BULLDOZER WORK

Climax Mine		Permit Action:	March 2019	Permit/Job#: <u>M1977493</u>			
<b>PROJECT IDENTIF</b>	ICATION						
Task #:       J02A         Date:       3/15/2019         User:       JLE	Sta			Abbreviation: Filename:	None NA		
Agency or orga	anization name:	DRMS					
IOURLY EQUIPMI	ENT COST						
Basic Machine: Ca	at D8T - 8SU						
Horsepower: 31	10		-				
Blade Type: Se	emi-Universal		-				
Attachment: N.			-				
	per day		-				
	CRG)		-				
Cost Breakdown:		I	Litilization 0/				
Ownership Cost/Hour		\$93.62	<u>Utilization %</u> NA				
Ownership Cost/Hour: Operating Cost/Hour:		\$93.62	<u> </u>				
Ripper own.							
Cost/Hour:		\$0.00	NA				
Ripper op. Cost/Hour:		\$0.00	0				
Operator Cost/Hour:		\$41.52	NA				
Total unit Cost/Hour: Total Fleet Cost/Hour:	\$208.49 <b>\$416.99</b>	ψ11.52	NA				
Total unit Cost/Hour: Total Fleet Cost/Hour: <u>IATERIAL QUANT</u> Initial Volume: <u>179</u> Swell factor: <u>1.0</u>	\$208.49 <b>\$416.99</b> <b>FITIES</b> 9,080		NA				
Total unit Cost/Hour: Total Fleet Cost/Hour: <u>IATERIAL QUANT</u> Initial Volume: <u>179</u> Swell factor: <u>1.0</u>	\$208.49 <b>\$416.99</b> <b>FITIES</b> 9,080 000 <b>9,080</b> LCY lume:6" Or	ver 244 Acres					
Total unit Cost/Hour: Total Fleet Cost/Hour: Initial Volume: 179 Swell factor: 1.0 Loose volume: 179 Source of estimated vo Source of estimated sw	\$208.49 <b>\$416.99</b> <b>FITIES</b> 9,080 000 <b>9,080</b> LCY lume: <u>6" Ov</u> vell Cat H	ver 244 Acres					
Total unit Cost/Hour:         Total Fleet Cost/Hour:         Initial Fleet Cost/Hour:         Initial Volume:       179         Swell factor:       1.0         Loose volume:       179         Source of estimated vo       Source of estimated sw         factor:       1	\$208.49 \$416.99 <b>FITIES</b> 9,080 00 9,080 LCY lume: 6" Or rell Cat F TION	ver 244 Acres Iandbook					
Total unit Cost/Hour: Total Fleet Cost/Hour: Initial Volume: 179 Swell factor: 10 Loose volume: 179 Source of estimated vo Source of estimated sw factor: IOURLY PRODUCT Average push distance: Unadjusted hourly	\$208.49 \$416.99 FITIES 9,080 000 9,080 LCY lume: 6" Ov Cat F Cat F TION : 250 fee 377.8 L	ver 244 Acres Iandbook					
Total unit Cost/Hour:         Total Fleet Cost/Hour:         Initial Volume:       179         Swell factor:       1.0         Loose volume:       179         Source of estimated vo       Source of estimated sw         factor:       1000000000000000000000000000000000000	\$208.49 \$416.99 <b>EITTIES</b> 9,080 000 9,080 LCY lume: 6" Or Cat F Cat F TION : 250 fee 377.8 L Lor 0 %	ver 244 Acres Iandbook t					
Total unit Cost/Hour:         Total Fleet Cost/Hour:         Initial Volume:       179         Swell factor:       1.0         Loose volume:       179         Source of estimated sw       factor:         IOURLY PRODUCC       Average push distance:         Unadjusted hourly       production:         Materials consistency       description:         Average push       gradient:         Average site altitude:       Average site altitude:	\$208.49 \$416.99 FITIES 9,080 000 9,080 LCY lume: 6" Or Cat F Cat F TION : 250 fee 377.8 L Lor 0 % 11,000 feet	t CY/hr bse stockpile 1.2					
Total unit Cost/Hour:         Total Fleet Cost/Hour:         Initial Volume:       179         Swell factor:       1.0         Loose volume:       179         Source of estimated vo       Source of estimated sw         factor:       1000000000000000000000000000000000000	\$208.49 \$416.99 <b>EITTIES</b> 9,080 000 9,080 LCY lume: 6" Or Cat F Cat F TION : 250 fee 377.8 L Lor 0 %	t CY/hr bse stockpile 1.2					

ob 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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5187

Adjusted unit production:	195.96 LCY/hr
Adjusted fleet production:	<b>391.92</b> LCY/hr

Fleet size:	2 Dozer(s)
Unit cost:	\$1.064/LCY

Total job time:	456.93 Hours
Total job cost:	\$190,534

### BULLDOZER WORK

Utilization % Operating Cost/Hour:Operating Cost/Hour:\$73.35Ripper own. Cost/Hour:\$0.00NARipper op. Cost/Hour:\$0.00Operator Cost/Hour:\$0.00Operator Cost/Hour:\$208.49Total unit Cost/Hour:\$208.49Fotal Fleet Cost/Hour:\$208.49Swell factor:1.000LOSE volume: $179,080$ Swell factor:1.000Loose volume: $179,080$ Source of estimated volume: $6^{\circ}$ over 222 acres (Rev. Feb 2019 Climax Estimate)Source of estimated swellCat Handbookfactor:250 feetUnalysted hourly production: $377.8$ LCY/hrMaterials consistency description:Loose stockpile 1.2Average push gradient: Average site altitude:0 %gradient: Average site altitude:0 %	<u>ROJECT IDENTIFI</u>	Pe	rmit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
Date:       3/15/2019       County:       Summit       Filename:       NA         Agency or organization name:       DRMS         OURLY EQUIPMENT COST         Basic Machine:       Cat D8T - 8SU         Horsepower:       310         Blade Type:       Semi-Universal         Attachment:       NA         Shift Basi:       Ipe day         Data Source:       (CRG)         state Transformer       \$93.62         Matachment:       NA         Shift Basi:       Ipe day         Data Source:       (CRG)         state Transformer       \$93.62         Matachment:       NA         Shift Basi:       Ipe day         Data Source:       (CRG)         statestown:       \$0.00         Ownership Cost/Hour:       \$93.62         Ripper own.       \$0.00         Cost/Hour:       \$208.49         Fotal unit Cost/Hour:       \$208.49         Total Fleet Cost/Hour:       \$208.49         Swell Factor:       1000         Loose volume:       179.080         Swell factor:       1000         Source of estimated swell       Cat Handbook         actor: <th></th> <th><b>CATION</b></th> <th></th> <th></th> <th></th> <th></th>		<b>CATION</b>				
User:       JLE         Agency or organization name:       DRMS         OURLY EQUIPMENT COST         Basic Machine:       Cat D8T - 8SU         Horsepower:       310         Basic Machine:       Cat D8T - 8SU         Materials Source:       (CRG)         Data Source:       (CRG)         Downership Cost/Hour:       \$93.62         Source Ocst/Hour:       \$93.62         Na       Source Ocst/Hour:         Source Ocst/Hour:       \$0.00         Neiper opt.       \$0.00         Operator Cost/Hour:       \$208.49         Total unit Cost/Hour:       \$208.49         Total Fleet Cost/Hour:       \$208.49         Total Fleet Cost/Hour:       \$208.49         Source of estimated volume:       Cat Handbook         Source of estimated volume:       Cat Handbook         Cat Handbook       Cat Handbook         Factor:       377.8 LCY/hr         Unadjusted h	Task #: J02B	State:	Colorado		Abbreviation:	None
Agency or organization name:       DRMS         OULLY EQUIPMENT COST         Bisde Machine:       Cat D87 - 88U         Horsepower:       310         Bilade Type:       Semi-Universal         Attachment:       NA         Shift Basis:		County:	Summit		Filename:	NA
OURLY EOUPMENT COST       Basic Machine:     Cat D87 - 8SU       Horsepower     310       Blade Type:     Semi-Universal       Attachment:     NA       Shirt Basis:     1 per day       Data Source:     (CRG)       still asis:     1 per day       Data Source:     (CRG)       still asis:     1 per day       Data Source:     (CRG)       still asis:     1 per day       Operating Cost/Hour:     \$93.62       Cost/Hour:     \$93.60       Cost/Hour:     \$0.00       Cost/Hour:     \$0.00       Cost/Hour:     \$208.49       Fotal Piet Cost/Hour:     \$208.49       Fotal Flet Cost/Hour:     \$208.49       Fotal Flet Cost/Hour:     \$208.49       Fotal Flet Cost/Hour:     \$208.49       Fotal Flet Cost/Hour:     \$208.49       Source of estimated volume:     6" over 222 acres (Rev. Feb 2019 Climax Estimate)       Source of estimated volume:     Cat Handbook       actor:     Cat Handbook       Materials consistency     Loose stockpile 1.2       Unadjusted hourly     377.8 LCY/hr       moduction:     10.00 feet	User: JLE					
Basic Machine:       Cat DST - 8SU         Horsepower:       310         Blade Type:       Semi-Universal         Attachment:       NA         Shift Basis:       1 per day         Data Source:       (CRG)         was Breakdown: <ul> <li>(CRG)</li> <li>(CRG)</li> </ul> Ownership Cost/Hour:       \$93.62       NA         Operating Cost/Hour:       \$73.35       100         Ripper own.       \$0.00       NA         Cost/Hour:       \$0.00       0         Operating Cost/Hour:       \$0.00       0         Cost/Hour:       \$208.49	Agency or organ	ization name: DF	RMS			
Horsepower:       310         Blade Type:       Semi-Universal         Attachment:       NA         Shift Basis:       1 per day         Data Source:       (CRG)         Stift Basis:       1 per day         Data Source:       (CRG)         Stift Basis:       1 per day         Data Source:       (CRG)         Stift Basis:       1 per day         Data Source:       (CRG)         Source of cost/Hour:       \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	OURLY EQUIPME	NT COST				
Blade Type:       Semi-Universal         Attachment:       NA         Shift Basi:       1 per day         Data Source:       (CRG)         sst Breakdown:	Basic Machine: Cat	D8T - 8SU				
Attachment:       NA         Shift Basis:       1 per day         Data Source:       (CRG)         st Breakdown:           Ownership Cost/Hour:       \$93.62       NA         Operating Cost/Hour:       \$93.62       NA         Operating Cost/Hour:       \$93.62       NA         Operating Cost/Hour:       \$0.00       NA         Ripper own.       \$0.00       NA         Cost/Hour:       \$0.00       0         Operator Cost/Hour:       \$208.49         Total Piet Cost/Hour:       \$208.49         Total Fleet Cost/Hour:       \$41.52         Swell factor:       1000         Loose volume:       179,080         Swell factor:       6" over 222 acres (Rev. Feb 2019 Climax Estimate)         Source of estimated swell       Cat Handbook         actor:       Cat Handbook         Source of estimated swell       250 feet         Unadjusted hourly       377.8 LCY/hr         roduction:       250 feet         Unadjusted hourly       377.8 LCY/hr         werage push       0 %         Average push       0 %	Horsepower: 310	)				
Shift Basis: $1 \text{ per day}$ Data Source: $(CRG)$ Set Breakdown: $Utilization \%$ Ownership Cost/Hour:       \$93.62       NA         Operating Cost/Hour:       \$173.35       100         Ripper own.       \$0.00       NA         Cost/Hour:       \$0.00       NA         Ripper op. Cost/Hour:       \$0.00       0         Operator Cost/Hour:       \$208.49         Fotal Fleet Cost/Hour:       \$208.49         Fotal Fleet Cost/Hour:       \$208.49         Fotal Fleet Cost/Hour:       \$208.0         Swell factor:       1.000         Loose volume:       179,080 LCY         Source of estimated swell       Cat Handbook         factor:       Cat Handbook         Materials consistency       Loose stockpile 1.2         Verage push distance:       250 feet         Unadjusted hourly       377.8 LCY/hr         worduction:       Loose stockpile 1.2         Average push       0 %         gradient:       11,000 feet		ni-Universal				
Data Source:       (CRG)         post Breakdown:       Utilization %         Ownership Cost/Hour:       \$93.62       NA         Operating Cost/Hour:       \$73.35       100         Ripper own.       \$0.00       NA         Ripper op. Cost/Hour:       \$0.00       0         Operator Cost/Hour:       \$0.00       0         Operator Cost/Hour:       \$208.49         Total unit Cost/Hour:       \$208.49         Total Fleet Cost/Hour:       \$208.49         Source of cost/Hour:       \$208.49         Loose volume:       179,080         Swell factor:       1.000         Loose volume:       179,080 LCY         Source of estimated volume:       6" over 222 acres (Rev. Feb 2019 Climax Estimate)         Cat Handbook       Cat Handbook         factor:       Cat Handbook         OURLY PRODUCTION       377.8 LCY/hr         Average push distance:       250 feet         Unadjusted hourly       377.8 LCY/hr         Materials consistency       Loose stockpile 1.2         description:       40 %         Average push       0 %         gradient:       11,000 feet						
bast Breakdown:       Utilization %         Ownership Cost/Hour:       \$93.62       NA         Operating Cost/Hour:       \$73.35       100         Ripper own.       \$0.00       NA         Ripper op. Cost/Hour:       \$0.00       0         Operator Cost/Hour:       \$0.00       0         Operator Cost/Hour:       \$208.49         Total unit Cost/Hour:       \$208.49         Total Unit Cost/Hour:       \$208.49         Total Unit Cost/Hour:       \$208.49         Total Fleet Cost/Hour:       \$41.52         NA       \$208.49         Swell factor:       1.000         Loose volume:       179,080         Source of estimated volume:       6" over 222 acres (Rev. Feb 2019 Climax Estimate)         Source of estimated swell       Cat Handbook         factor:       Cat Handbook         Materials consistency       Loose stockpile 1.2         Materials consistency       Loose stockpile 1.2         description:       0 %         gradient:       11,000 feet						
Utilization % NAOwnership Cost/Hour:\$93.62NAOperating Cost/Hour:\$73.35100Ripper own. Cost/Hour:\$0.00NARipper op. Cost/Hour:\$0.000Operator Cost/Hour:\$208.49Fotal unit Cost/Hour:\$208.49Fotal Fleet Cost/Hour:\$208.49Source of estimated volume:179,080Source of estimated volume:6" over 222 acres (Rev. Feb 2019 Climax Estimate)Source of estimated swellCat Handbookactor:250 feetUnadjusted hourly production:377.8 LCY/hrMaterials consistency tescription:Loose stockpile 1.2Average push fadient: Average site altitude:0 %Yerage site altitude:0 %	Data Source: (CF	(G)				
Ownership Cost/Hour:       \$93.62       NA         Operating Cost/Hour:       \$73.35       100         Ripper own.       \$0.00       NA         Ripper op. Cost/Hour:       \$0.00       0         Operator Cost/Hour:       \$0.00       0         Operator Cost/Hour:       \$0.00       0         Operator Cost/Hour:       \$208.49         Fotal unit Cost/Hour:       \$208.49         Fotal Fleet Cost/Hour:       \$416.99         Initial Volume:       179,080         Swell factor:       1.000         Loose volume:       179,080 LCY         Source of estimated volume:       6" over 222 acres (Rev. Feb 2019 Climax Estimate)         Cat Handbook       Cat Handbook         lactor:       250 feet         Unadjusted hourly       377.8 LCY/hr         roduction:	ost Breakdown:		I			
Operating Cost/Hour: $\$73.35$ 100         Ripper ov. $\$0.00$ NA         Ripper op. Cost/Hour: $\$0.00$ 0         Operator Cost/Hour: $\$0.00$ 0         Total unit Cost/Hour: $\$208.49$ Total unit Cost/Hour: $\$208.49$ Total Fleet Cost/Hour: $\$208.49$ Total Fleet Cost/Hour: $\$41.52$ NA $\$416.99$ IATERIAL QUANTITIES         Initial Volume:       179,080         Lose volume:       179,080 LCY         Source of estimated volume:       6" over 222 acres (Rev. Feb 2019 Climax Estimate)         Cat Handbook       Cat Handbook         factor:       Cat Handbook         OURLY PRODUCTION       377.8 LCY/hr         Materials consistency       Loose stockpile 1.2         description:       Loose stockpile 1.2         Average push       0 %         gradient:       11,000 feet						
Ripper own. Cost/Hour:       \$0.00       NA         Ripper op. Cost/Hour:       \$0.00       0         Operator Cost/Hour:       \$208.49         Total unit Cost/Hour:       \$208.49         Total Fleet Cost/Hour:       \$208.49         Total Fleet Cost/Hour:       \$208.49         Initial Volume:       179,080         Swell factor:       1.000         Loose volume:       179,080 LCY         Source of estimated volume:       6" over 222 acres (Rev. Feb 2019 Climax Estimate)         Source of estimated swell       Cat Handbook         factor:       Cat Handbook         OURLY PRODUCTION       377.8 LCY/hr         Materials consistency       Loose stockpile 1.2         description:       0 %         gradient:       0 %         gradient:       11,000 feet						
Cost/Hour:       30.00       NA         Ripper op. Cost/Hour:       \$0.00       0         Operator Cost/Hour:       \$208.49         Fotal unit Cost/Hour:       \$208.49         Fotal Fleet Cost/Hour:       \$208.49         Fotal Fleet Cost/Hour:       \$208.49         Fotal Fleet Cost/Hour:       \$416.99         ATERIAL QUANTITIES       Initial Volume:         Initial Volume:       179,080         Swell factor:       1.000         Loose volume:       6" over 222 acres (Rev. Feb 2019 Climax Estimate)         Source of estimated volume:       6" over 222 acres (Rev. Feb 2019 Climax Estimate)         Source of estimated swell       Cat Handbook         actor:       Cat Handbook         Waterials consistency       250 feet         Unadjusted hourly       377.8 LCY/hr         moduction:       Loose stockpile 1.2         Materials consistency       Loose stockpile 1.2         lescription:       11,000 feet			\$73.35	100		
Ripper op. Cost/Hour:       \$0.00       0         Operator Cost/Hour:       \$41.52       NA         Fotal unit Cost/Hour:       \$208.49         Fotal Init Cost/Hour:       \$41.52       NA         Fotal Fleet Cost/Hour:       \$41.52       NA         Fotal Init Cost/Hour:       \$208.49         Fotal Fleet Cost/Hour:       \$41.52       NA         Fotal Fleet Cost/Hour:       \$41.59         Initial Volume:       179,080         Swell factor:       1.000         Loose volume:       179,080 LCY         Source of estimated volume:       6" over 222 acres (Rev. Feb 2019 Climax Estimate)         Cat Handbook       Cat Handbook         Cat Handbook       Cat Handbook         Cource of estimated swell       Cat Handbook         Average push distance:       250 feet         Unadjusted hourly       377.8 LCY/hr         production:       Loose stockpile 1.2         Materials consistency       Loose stockpile 1.2         description:       0 %         Average push       0 %         gradient:       11,000 feet			\$0.00	NA		
Operator Cost/Hour:       \$41.52       NA         Fotal unit Cost/Hour:       \$208.49         Fotal Fleet Cost/Hour:       \$416.99         Initial Volume:       179,080         Swell factor:       1.000         Loose volume:       179,080 LCY         Source of estimated volume:       6" over 222 acres (Rev. Feb 2019 Climax Estimate)         Cat Handbook       Cat Handbook         Source of estimated swell       Cat Handbook         Source of estimated swell       250 feet         Materials consistency       Loose stockpile 1.2         Materials consistency       Loose stockpile 1.2         Average push       0 %         gradient:       0 %         Average site altitude:       11,000 feet			\$0.00	0		
Total unit Cost/Hour:       \$208.49         Total Fleet Cost/Hour:       \$416.99         Initial Volume:       179,080         Swell factor:       1.000         Loose volume:       179,080 LCY         Source of estimated volume:       6" over 222 acres (Rev. Feb 2019 Climax Estimate)         Source of estimated swell       Cat Handbook         factor:       Cat Handbook         OURLY PRODUCTION       250 feet         Average push distance:       250 feet         Unadjusted hourly       377.8 LCY/hr         production:       Loose stockpile 1.2         Materials consistency       Loose stockpile 1.2         Average push       0 %         gradient:       11,000 feet						
Source of estimated volume:       6" over 222 acres (Rev. Feb 2019 Climax Estimate)         Source of estimated swell       Cat Handbook         Factor:       Cat Handbook         OURLY PRODUCTION       Average push distance:         Average push distance:       250 feet         Unadjusted hourly       377.8 LCY/hr         production:       Loose stockpile 1.2         Materials consistency       Loose stockpile 1.2         Average push       0 %         gradient:       11,000 feet	Initial Volume: <u>179</u> , Swell factor: <u>1.00</u>	080	_			
Source of estimated swell       Cat Handbook         factor:       Cat Handbook         OURLY PRODUCTION       250 feet         Average push distance:       250 feet         Unadjusted hourly       377.8 LCY/hr         production:       Loose stockpile 1.2         Materials consistency       Loose stockpile 1.2         Average push       0 %         gradient:       11,000 feet	Loose volume: <u>179</u> ,	000 LC I	_			
Unadjusted hourly       377.8 LCY/hr         production:       377.8 LCY/hr         Materials consistency       Loose stockpile 1.2         description:       0 %         gradient:       11,000 feet				7. Feb 2019 Climax Est	timate)	
Unadjusted hourly       377.8 LCY/hr         production:       377.8 LCY/hr         Materials consistency       Loose stockpile 1.2         description:       0 %         gradient:       11,000 feet						
Unadjusted hourly       377.8 LCY/hr         production:       377.8 LCY/hr         Materials consistency       Loose stockpile 1.2         description:       0 %         gradient:       11,000 feet	factor:	ION				
description:	factor: OURLY PRODUCT					
gradient: Average site altitude: 11,000 feet	factor: OURLY PRODUCT Average push distance: Unadjusted hourly	250 feet	/hr			
Average site altitude: 11,000 feet	factor: <b>OURLY PRODUCT</b> Average push distance: Unadjusted hourly production: Materials consistency	250 feet 377.8 LCY				
Material weight: 1,600 lbs/LCY	factor: OURLY PRODUCT Average push distance: Unadjusted hourly production: Materials consistency description: Average push	250 feet 377.8 LCY, Loose :				
	factor:	250 feet 377.8 LCY, Loose : 0 %				

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

Net correction: 0.8593

Adjusted unit production:	324.64 LCY/hr
Adjusted fleet production:	649.28 LCY/hr

Fleet size:	2 Dozer(s)
Unit cost:	\$0.642/LCY

Total job time:	275.81 Hours
Total job cost:	\$115,011

Task description:	<u>MO</u> Mayflower TSF		DER WOR le the Top Su			
e: Climax Mine	Pe	rmit Action:	March 2019		Permit/Job#:	M1977493
PROJECT IDENTIF	ICATION					
Task #: J03	State:	Colorado		Abbr	eviation: No	ne
Date: $3/15/2019$		Summit			ilename: NA	
User: JLE						
Agency or orga	nization name: DI	RMS				
HOURLY EQUIPME	ENT COST					
Basic Machin	e: CAT 12M			Horsepower:	158	
Ripper Attachmer	nt:			Shift Basis:	1 per da	ıy
				Data Source:	(CRG)	)
Cost Breakdown:			1			
0	anahin Cast/II		¢20.72	Utilization %		
	ership Cost/Hour:		\$30.73 \$30.60	NA 100		
	ership Cost/Hour:		\$0.00	NA		
	rating Cost/Hour:		\$0.00			
Öp	erator Cost/Hour:		\$28.69	NA		
Tota	l Unit Cost/Hour:		\$90.02			
Total	Fleet Cost/Hour:	\$180	.04			
MATEDIAL OUANT	TTIES					
MATERIAL QUANT		4. 222.00				
	to be graded or rippe				acr	es
Sourc	e of estimated acreag	e: <u>Climax</u>				
HOURLY PRODUC	<u>FION</u>					
	Average Grader Sp		1.50	mph		
	Selected Applica		,	grading (0-2.5 m		
	Selected Blade An		0	degrees		
Width	Effective Blade Ler of blade overlap per	-	$\frac{12.00}{2.00}$	feet feet		
	or ripping width per		10.00	feet		
	l Hourly Unit Produc		1.8182	acres/ho	our	
Job Condition Correction	1 Factors		S	ite Altitude: 1100	<u>00</u> feet	
		Source				
Altitude Adj:	0.95	(CAT HB	)			
Job Efficiency:	0.90	(1sh/d, fav	.)			
Net Correction:	0.8550	multiplier				
А	djusted Hourly Unit	Production:	1.5545	acres/Hour		
	djusted Hourly Fleet		3.1091	acres/Hour		
JOB TIME AND CO	<u>ST</u>					
JOB TIME AND CO	<u>ST</u> <u>2</u> Grader(s)		Total job time	:71.40	0 Но	urs

Postmining Channel Construction	on				Task No.	K01					
									XX	Variable	
Date :	21-Mar-19	Permit	M1977493	Site:	Climax Mi	ne			XX	Formula	
User:	JLE			State : Colorado			County:	Lake/Summit			
Agency Name: Colorado Divisio	on of Reclam	ation, Mi	ning and Sa	afety					XX	Climax Estir	nate
Permit Action:	March 201	9			Task Desc	cription: East Side	e Channel Co	onstruction			
			Width		Width	Excavated	Excavated	Riprap Thickness	Perimeter,	Area for Geotextile (excl. anchor	
Channel ID	Length	Depth	(bottom)	Side Slopes	( <b>Top</b> )	Vol./LF	Vol. (total)	(2xD50)	P	trenches)	Riprap Vol.
	(ft)	(ft)	(ft)	(XH:1V)	(ft)	(CY)	(CY)	(ft)	(ft)	(SY)	(CY)
MF Pond Spillway to SD Crest	5,684	6.0	6.0	2.0	30.0	4.0000	22,736	** Climax	32.83	27,051	#VALUE!
Tenmile Extensoin	5,000	6.0	6.0	2.0	30.0	4.0000	20,000	**Climax	32.83	26,018	#VALUE!
Mayflower Extension	11,400	6.0	16.0	2.0	40.0	6.2222	70,933	**Climax	42.83	66,922	#VALUE!
T- 4 - 1-	22.094				0.0	0.0000	0		0.00	0	
Totals	22,084	-					113,669			119,991	#VALUE!
Materials Needed:		Geotexti		119,991		**Riprap (CY):		74,809		Excavation (CY):	113,669
		Geotexi	c (31).	117,771		Kipiap (C1).		74,009		(01).	115,007
Material Costs:		Geot	extile (SY):	\$ 0.94		***	Riprap (CY):	\$ 32.08	Exca	vation (CY):	\$ -
Labor Cost:				\$ 0.26			<b>F F ( = )</b>	***		(- )	\$ 2.40
Equipment Cost:				\$ -				***			\$ 1.39
Means Reference		33 32 1	916 1500			31 37 1310 0100	)		31 23 16	42 0310	
Totals:		Geotexti	le (\$):	\$ 143,989.20		Riprap (\$):		\$ 2,399,872.72	Excavation (	CY):	\$ 430,806.77
Hours:		Geotexti	le (Hrs):	384.0	)	Riprap (Hrs):		9,652.8	Excavation (	Hrs):	2,841.73
		SY/HR	312.5			CY/HR	7.750		CY/HR	40.00	
Total Post-Mining Chann				12,878.48	_						
Total Post-Mining Chan	nei Reconstr	uction Co	ost:	\$ 2,974,668.69							
** Quantity of Geotextile and Ri *** Rip-Rap Purchase and Place											

# **DEMOLITION WORK**

Climax Mi	ne		Permit Action: March 2019		Permit/Job#: M1977493			
ROJECT	' IDENT	<b>IFICATION</b>						
Task 1 #:	K02	S	tate: Colorado		Abbrevia	tion: Non	e	
Date:	3/15/2019	9 Cou	unty: Summit		Filen	ame: NA		
Lleon	пе		•					
Age	•	rganization nan	ne: DRMS			T	••••••	
	ency or o	rganization nan	ne: <u>DRMS</u>			Locat	ion adjustment:	
Ago J <b>NIT COST</b>	ency or o <u>FS</u> re or	rganization nan	ne: <u>DRMS</u> Demolition Men Selection	<sup>1</sup> Quantity	Unit	Locat Unit Cost	<u>ion adjustment:</u> Total Cost	
Ag J <u>NIT COST</u> 00.00 % Structur	ency or o <u>FS</u> re or		Demolition Men	Quantity		Unit		

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	489.41	(unadjusted):	\$1,842,048.00	location):	\$1,842,048.00

### BULLDOZER WORK

Climax Mine		Pe	rmit Action:	March 2019	Permit/Jo	ob#: <u>M1977</u>
ROJECT IDENTIFI	CATION					
Task #:		State:	Colorado		Abbreviation:	None
Date: <u>3/15/2019</u> User: JLE	Co	ounty:	Summit		Filename:	NA
	•					
Agency or organ	ization name	: <u>D</u>	RMS			
HOURLY EQUIPME	NT COST					
	D8T - 8SU					
Horsepower: 310						
	ni-Universal					
	nank ripper					
	er day					
Data Source: (CR	(G)					
Cost Breakdown:			1			
Ownership Cost/Hour:			\$93.62	<u>Utilization %</u> NA		
Operating Cost/Hour:			\$93.62	100		
Ripper own.				100		
Cost/Hour:			\$8.93	NA		
Ripper op. Cost/Hour:			\$1.95	25		
Operator Cost/Hour:			\$41.52	NA		
IATERIAL QUANTIInitial Volume:33,8'Swell factor:1.00'Loose volume:33,8'	73		_			
Source of estimated volu		limax				
Source of estimated swell factor:	li C	at Hanc	lbook			
lactor.						
HOURLY PRODUCT	<u>ION</u>					
Average push distance:	250	feet				
		8 LCY	/hr			
01	1//					
Unadjusted hourly	511					
01						
Unadjusted hourly production:		Compa	acted fill or en	nbankment 0.9		
Unadjusted hourly		Compa	acted fill or en	nbankment 0.9		
Unadjusted hourly production: Materials consistency description:		Compa	acted fill or en	nbankment 0.9		
Unadjusted hourly production: Materials consistency description: Average push	0 %	Compa	acted fill or en	nbankment 0.9		
Unadjusted hourly production: Materials consistency description: Average push gradient:	0 %		acted fill or en	nbankment 0.9		
Unadjusted hourly production: Materials consistency description: Average push			icted fill or en	mbankment 0.9		
Unadjusted hourly production: Materials consistency description: Average push gradient: Average site altitude:	0 % 11,000 fee	t	acted fill or en	mbankment 0.9		
Unadjusted hourly production: Materials consistency description: Average push gradient:	0 %	t	acted fill or en	nbankment 0.9		
Unadjusted hourly production: Materials consistency description: Average push gradient: Average site altitude:	0 % 11,000 fee	t LCY		mbankment 0.9		

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4447

Adjusted unit production:	168.01 LCY/hr
Adjusted fleet production:	<b>336.02</b> LCY/hr

Fleet size:	2 Dozer(s)
Unit cost:	\$1.306/LCY

Total job time:	100.81 Hours
Total job cost:	\$44,227

Climax Mine, M-1977-493

March 2019, DRMS Cost Estimate

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# TRUCK/LOADER TEAM WORK

Task description:	Mayflov	wer Acid, Load	l and Haul Subsoi	il to site			
Site: Climax Mine		Permit A	ction: March 20	19	Permit/Job	b#: <u>M</u>	1977493
PROJECT IDEN	TIFICATION						
Task #: L02A	Δ	State: Colo	rado	Abb	previation:	None	
Date: 3/15/	2019 C	County: Sum	mit		Filename:	NA	
User: JLE							
Agency or	organization nam	ne: DRMS					
HOURLY EQUI	DMENT COST	, ,		Shift he	sist 1 par de		
HOUKLI EQUI	I MENI COSI	-			sis: <u>1 per da</u>	<u>y</u>	
Т	ruck Loader Tear	m - Truck: C	Equipment Descr at 740	iption			
1	ruck Louder Tear		AT 950H				
Suppo	ort Equipment -Le		t D6T XL				
		mp Area: NA					
Road Ma	aintenance – Moto		AT 12M ater Tanker, 5,000	Cal			
	- •• at	ter fruck. w		Gai.			
Cost Breakdown:	Truck/Loa	der Team	Support	Equipment	Mai	ntenanc	e Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader		Vater Truck
%Utilization-machine:	100	100	100	NA	]	100	100
Ownership cost/hour:	\$66.13	\$26.14	\$52.66	NA	\$30	.73	\$25.30
Operating cost/hour:	\$55.75	\$30.84	\$46.34	NA	\$30	.60	\$36.60
%Utilization-riper:	NA	0	NA	NA	]	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0	0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0	.00	\$0.00
Operator cost/hour:	\$31.17	\$40.90	\$41.52	NA	\$28	.69	\$21.23
Unit Subtotals:	\$153.05	\$97.89	\$140.52	NA	\$90	0.02	\$83.13
Number of Units:	3	1	1	0		1	1
Group Subtotals:	Work:	\$557.04	Support:	\$140.52	Ma	int: \$	173.15
Total work team cos	t/hour: <u>\$870.71</u>						

### **MATERIAL QUANTITIES**

Initial volume:	605	CCY	Swell factor:	1.000	
Loose volume:	605	LCY			
Source	e of estimated volume:	6" over 3/4	of an acre, Climax		
Source of estimated swell factor:		Cat Handbo	ok		
Ν	Aaterial Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

# **HOURLY PRODUCTION**

Truck Capacity:	•				
Truck Payload (weight) Bas Material weight:		D	ал су		
e	2,650	Pound			
Description:	-	ock - 25% Rock, 759			
Rated Payload:	87,000	Pound	S		
Payload Capacity:	32.83	LCY			
True als De d (see lasses) De sier					
Truck Bed (volume) Basis: Struck Volume:	24.20	LCY			
		LCY			
Heaped Volume: Average Volume:		LCY			
Adjusted Volume:	31.40	LCY			
Final	Truck Volume B	ased on Number of	Loader Passes:	31.61	LCY
Loading Tool Capacity					
		1	Buck	et Size Class: <u>N</u>	A
Rated Capacity:	4.300	LCY (heaped)			
Bucket Fill Factor:	1.050	Other - moist lo	am (100-	-110%) 1.050	
Adjusted Capacity:	4.515	LCY			
Job Condition Correction	<u>s:</u>	Sit	te Altitude (ft.):	<u>10400</u> feet	
	Truck	Loader	Source		
Altitude Adj:	0.600	1.000	(CAT HE	3)	
Job Efficiency:	0.830	0.830	(CAT HE	3)	
Net Correction:	0.498	0.830			
Loading Tool Cycle Time	<u>.</u> N	umber of Loading T	ool Passes Requ	uired to Fill	7 passes
Excavators and Front Shov	els:			Truck:	1
Machine Cycle Time	vs. Job Condition within this Basic				
	- Material Descri	<u> </u>			
Cycle Time Elements (min.	-				
Load: NA	Ma	aneuver: NA		Dump: 0.100	)
Wheel and Tra	ck Loaders - Unad	ljusted Basic Loader	•	- U	.500 minutes
	I		I	naneuver):	
Cycle Time Factors Material		al 0 02		Factor (min.) 0.020	Source (Cat HB)
Stockpile				0.020	(Cat HB)
Truck Ownership		hership of trucks and	l loaders -		
	0.04	iership of trucks allo	10aucis -	-0.040	(Cat HB)
Operation		ration -0.04		-0.040	(Cat HB)
Dump Target				0.000	(Cat HB)
		Net Cycle Time	- Adjustment	-0.040	minutes
		Adjusted Loade		0.460	 minutes
			me per Truck:	2.860	minutes
		THE LOAU TH	ine per fruek.	2.000	minutes
### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

maintained 3.0

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1656.00	4.00	3.00	7.00	1281	1.447
2	2568.00	-8.00	3.00	-5.00	2721	1.013

Return Route:

Haul Time: **2.460** minutes

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2568.00	8.00	3.00	11.00	1610	1.681
2	1656.00	-4.00	3.00	-1.00	3706	0.490

Return Time:	2.171	minutes
Total Truck Cycle Time:	10.158	minutes

Loading Tool unit						
Production	491.27	LCY/Hour	Adjusted for job e	fficiency:	407.75	LCY/Hour
Truck Unit Production						
	186.69	LCY/Hour	Adjusted for job e	fficiency:	154.95	_ LCY/Hour
Optimal No. of Trucks:	3	Truck(s)	Selected Number o	f Trucks:	3	Truck(s)
		Adjusted hou	rly truck team production:	464.85	LCY/H	lour
	А	djusted single truc	k/loader team production:	407.75	LCY/H	lour
	Adj	usted multiple truc	k/loader team production:	407.75	LCY/H	lour

Fleet size:	1	Team(s)	Total job time:	1.48	Hours
Unit cost:	\$2.135	/LCY	Total job cost:	\$1,292	

Climax Mine, M-1977-493

# TRUCK/LOADER TEAM WORK

Task description:	Mayflov	wer Acid, Load	and Haul Topsoi	il		
Site: Climax Mine		Permit Act	tion: March 201	19	Permit/Job#:	M1977493
PROJECT IDEN	TIFICATION					
Task #: L02E	3	State: Colora	ado	Abb	previation: No	one
	2019 <b>C</b>	County: Summ	nit		Filename: NA	4
User: JLE						
Agency or	organization nan	ne: DRMS				
HOURLY EQUI	PMENT COST	-		Shift ba	sis: <u>1 per day</u>	
			Equipment Descr	iption		
Т	ruck Loader Tea		740			
Sunn	ort Equipment -L		T 950H D6T XL			
Supp		mp Area: NA				
Road Ma	aintenance – Moto		Т 12М			
	-Wat	ter Truck: Wa	ter Tanker, 5,000	Gal.		
Cost Breakdown:	Truck/Loa			Equipment		ance Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
6Utilization-machine:	100	100	100	NA	100	100
Ownership cost/hour:	\$66.13	\$26.14	\$52.66	NA	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$30.84	\$46.34	NA	\$30.60	\$36.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.17	\$40.90	\$41.52	NA	\$28.69	\$21.23
Unit Subtotals:	\$153.05	\$97.89	\$140.52	NA	\$90.02	\$83.13
Number of Units:	3	1	1	0	1	1
Group Subtotals:	Work:	\$557.04	Support:	\$140.52	Maint:	\$173.15
Total work team cos	t/hour: <b>\$870.71</b>		1			

## **MATERIAL QUANTITIES**

Initial volume:605CCYLoose volume:605LCY	
Source of estimated volume: _6" over	3/4 acre, Climax
Source of estimated swell factor: Cat Ha	ndbook
Material Purchase Cost: \$0.00	
Total Cost: \$0.00	

# **HOURLY PRODUCTION**

Truck Capacity:							
Truck Payload (weight) Basi				17.7			
Material weight:	1,600		Pounds/LC	Ŷ			
Description:	Top Soil		Derrado				
Rated Payload:	87,000		Pounds				
Payload Capacity:	54.38		LCY				
Truck Dad (volume) Desig							
Truck Bed (volume) Basis: Struck Volume:	24.20	LCY					
=							
Heaped Volume:	31.40	LCY LCY					
Adjusted Volume:	<u>27.80</u> 31.40	LCY					
Aujusted Volume.	51.40						
Final	Truck Volume	Based on Nur	mber of Load	ler Passes:	31.61	LCY	
Loading Tool Capacity							
Rated Capacity:	4.300	LCY (h	eaned)	Bucke	et Size Class:	NA	
Bucket Fill Factor:	1.050		moist loam	(100	110%) 1.050		
Adjusted Capacity:	4.515	LCY	moist ioam	(100-	11070) 1.030		
Augusted Capacity.	4.515	Lei					
Job Condition Corrections				titude (ft.):	<u>10400</u> feet		
	Truck	Load		Source			
Altitude Adj:	0.600	1.00		(CAT HB			
Job Efficiency:	0.830	0.83	0	(CAT HB	)		
Net Correction:	0.498	0.83	0				
Loading Tool Cycle Time:		Number of Lo	ading Tool I	Passes Requi		7	passes
Excavators and Front Shove	<u>ls:</u>				Truck:	,	
Machine Cycle Time v Selected Value			NA NA				
Track Loaders –							
Cycle Time Elements (min.):							
Load: NA	N	Maneuver:	NA		Dump: 0	.100	
Wheel and Trac	k Loaders - Ur	adjusted Basi	c Loader Cy		ad, dump, aneuver):	0.500	minutes
Cycle Time Factors					Factor (min	.) Source	ce
Material:	Mixed mate	erial 0.02			0.020	(Cat H	(B)
Stockpile:	Dumped by	truck 0.02			0.020	(Cat H	(B)
Truck Ownership:	Common ov 0.04	wnership of tr	ucks and load	ders -	-0.040	(Cat H	(B)
Operation:		peration -0.04			-0.040	(Cat H	(B)
Dump Target:	Nominal ta				0.000	(Cat H	
r		-	cle Time Ad	justment:	-0.040	minut	
			d Loader Cy		0.460	minut	
			Load Time p		2.860	minut	

### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

maintained 3.0

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1656.00	4.00	3.00	7.00	1281	1.447
2	2568.00	-8.00	3.00	-5.00	2721	1.013

Return Route:

Haul Time: **2.460** minutes

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2568.00	8.00	3.00	11.00	1610	1.681
2	1656.00	-4.00	3.00	-1.00	3706	0.490

Return Time:	2.171	minutes
Total Truck Cycle Time:	10.158	minutes

Loading Tool unit						
Production	491.27	LCY/Hour	Adjusted for job et	fficiency:	407.75	LCY/Hour
Truck Unit Production		_				
	186.69	LCY/Hour	Adjusted for job et	fficiency:	154.95	LCY/Hour
Optimal No. of Trucks:	3	Truck(s)	Selected Number o	f Trucks:	3	Truck(s)
		Adjusted hou	rly truck team production:	464.85	LCY/H	Iour
	А		k/loader team production:	407.75	LCY/H	Iour
	Adj	usted multiple truc	k/loader team production:	407.75	LCY/H	Iour

Fleet size:	1	Team(s)	Total job time:	1.48	Hours
Unit cost:	\$2.135	/LCY	Total job cost:	\$1,292	

## BULLDOZER WORK

Task description:	Mayflower Ac	id, Spread Sul	osoil		_
: Climax Mine	]	Permit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
PROJECT IDENTIF	ICATION				
Task #: <u>L03A</u> Date: <u>3/15/2019</u>	State			Abbreviation: Filename:	None NA
User: JLE					
Agency or orga	nization name:	ORMS			
HOURLY EQUIPME	ENT COST				
Basic Machine: Ca	t D7R DS Series II	LGP			
Horsepower: 24	0				
	raight				
Attachment: NA					
	oer day				
	RG)				
	,				
Cost Breakdown:		1	TT:11 .1 0/		
		<b>A5511</b>	<u>Utilization %</u>		
Ownership Cost/Hour:		\$66.14	NA		
Operating Cost/Hour:		\$63.91	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
MATERIAL QUANT Initial Volume: 605 Swell factor: 1.00 L cose volume: 605	; 00				
Loose volume: 605	LCY				
Source of estimated vol Source of estimated swo factor:		r 3/4 acres, Clin ndbook	nax		
HOURLY PRODUC	<u>FION</u>				
Average push distance:	250 feet				
Unadjusted hourly production:	230.4 LC	Y/hr			
Materials consistency description:	Loos	e stockpile 1.2			
Average push gradient:	0 %				
Average site altitude:	10,400 feet				
Material weight:	2,650 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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5187

Adjusted unit production:	119.51 LCY/hr
Adjusted fleet production:	119.51 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$1.436/LCY

Total job time:	5.06 Hours
Total job cost:	\$869

## BULLDOZER WORK

Climax Mine	Pe	ermit Action:	March 2019	Permit/Jo	ob#: <u>M1977493</u>
ROJECT IDENTIFI	CATION				
Task #: L03B	State:	Colorado		Abbreviation:	None
Date: $3/15/2019$	County:	Summit		Filename:	NA
User: JLE	County.	Julilit		T fichume.	1111
Agency or organ	ization name: DI	RMS			
HOURLY EQUIPME	NT COST				
Basic Machine: Cat	D7R DS Series II I	.GP			
Horsepower: 240	)		-		
	aight		-		
Attachment: NA			_		
Shift Basis: <u>1 p</u> Data Source: (CF	er day RG)		-		
Cost Breakdown:	,		-		
<u>Cost Droukdo wii</u> .			Utilization %		
Ownership Cost/Hour:		\$66.14	NA		
Operating Cost/Hour:	-	\$63.91	100		
Ripper own.		\$0.00	NA		
Cost/Hour:		\$0.00	0		
Ripper op. Cost/Hour: Operator Cost/Hour:		\$0.00	0 NA		
MATERIAL QUANTInitial Volume:605Swell factor:1.00Loose volume:605					
Source of estimated volu Source of estimated swe factor:		3/4 acres, Clin lbook	nax		
HOURLY PRODUCT	ION				
Average push distance: Unadjusted hourly production:	250 feet 230.4 LCY	/hr			
Materials consistency description:	Loose	stockpile 1.2			
Average push gradient:	0 %				
Average site altitude:	10,400 feet				
Material weight:	1,600 lbs/LCY				
Weight description:	Top Soil				
weight description.					

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

Net correction: 0.8593

Adjusted unit production:	197.98 LCY/hr
Adjusted fleet production:	<b>197.98</b> LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.867/LCY

Total job time:	<b>3.06</b> Hours
Total job cost:	\$524

Climax Mine, M-1977-493

# TRUCK/LOADER TEAM WORK

Task description:	Robinso	on TSF, Load a	nd Haul Topsoil			
Site: Climax Mine		Permit A	ction: March 201	19	Permit/Job#:	M1977493
PROJECT IDENT	<b>IFICATION</b>					
Task #: M01		State: Colo			previation: No	
Date: 3/15/2 User: JLE	019 0	County: Sum	mit		Filename: NA	L
Agency or o	rganization nam	ne: DRMS				
HOURLY EQUIP	MENT COST	-		Shift ba	sis: <u>1 per day</u>	
			Equipment Descr	iption		
Trı	ick Loader Tear		ut 740 AT 950H			
Suppor	t Equipment -Lo		at 950H at D6T XL			
Suppor		mp Area: N				
Road Mai	ntenance – Moto		AT 12M			
	-Wat	er Truck: W	ater Tanker, 5,000	Gal.		
Cost Breakdown:	Truck/Loa	-1- л Т	Course out		Maintan	
Cost Dreakdown:	Truck/LOa			Equipment	Motor	ance Equipment Water Truck
	Truck	Loader	Load Area	Dump Area		
%Utilization-machine:	Truck 100	Loader 100		NA	Grader 100	100
			100	•	Grader	
%Utilization-machine:	100	100	100 \$52.66	NA	Grader 100	100
%Utilization-machine: Ownership cost/hour:	100 \$66.13	100 \$26.14	100 \$52.66 \$46.34	NA NA	Grader 100 \$30.73	100 \$25.30
%Utilization-machine: Ownership cost/hour: Operating cost/hour:	100 \$66.13 \$55.75	100 \$26.14 \$30.84	100 \$52.66 \$46.34 NA	NA NA NA	Grader 100 \$30.73 \$30.60	100 \$25.30 \$36.60
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own.	100 \$66.13 \$55.75 NA	100 \$26.14 \$30.84 0	100 \$52.66 \$46.34 NA \$0.00	NA NA NA NA	Grader 100 \$30.73 \$30.60 NA	100 \$25.30 \$36.60 NA
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour:	100 \$66.13 \$55.75 NA NA	100 \$26.14 \$30.84 0 \$0.00	100 \$52.66 \$46.34 NA \$0.00 \$0.00	NA NA NA NA NA	Grader 100 \$30.73 \$30.60 NA \$0.00	100 \$25.30 \$36.60 NA \$0.00
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour:	100 \$66.13 \$55.75 NA NA NA	100 \$26.14 \$30.84 0 \$0.00 \$0.00	100 \$52.66 \$46.34 NA \$0.00 \$0.00 \$41.52	NA NA NA NA NA	Grader 100 \$30.73 \$30.60 NA \$0.00 \$0.00	100 \$25.30 \$36.60 NA \$0.00 \$0.00
%Utilization-machine: Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour: Operator cost/hour:	100 \$66.13 \$55.75 NA NA NA \$31.17	100 \$26.14 \$30.84 0 \$0.00 \$0.00 \$40.90	100 \$52.66 \$46.34 NA \$0.00 \$0.00 \$41.52	NA NA NA NA NA NA	Grader 100 \$30.73 \$30.60 NA \$0.00 \$0.00 \$28.69	100 \$25.30 \$36.60 NA \$0.00 \$0.00 \$21.23

## **MATERIAL QUANTITIES**

Initial volume:	100,000	CCY	Swell factor:	1.000	
Loose volume:	100,000	LCY			
Source of estimated volume:					
Source of	estimated swell factor:	Cat Handbo	ook		
Material Purchase Cost:		\$0.00			
	Total Cost:	\$0.00			

# **HOURLY PRODUCTION**

Truck Capacity:							
Truck Payload (weight) Bas		_					
Material weight:	1,600		unds/LCY				
Description:	Top Soil						
Rated Payload:	87,000		unds				
Payload Capacity:	54.38	LC	ĽΥ				
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:	31.61	LCY	ř
Loading Tool Capacity							
_		1		Bucke	et Size Class:	NA	
Rated Capacity:	4.300	LCY (heape			10		
Bucket Fill Factor:	1.050	Other - mois	st loam	(100-1	10%) 1.050		
Adjusted Capacity:	4.515	LCY					
Job Condition Corrections	<u>:</u>		Site Altit	ude (ft.): <u>1</u>	0400 feet		
	Truck	Loader		Source			
Altitude Adj:	0.600	1.000		(CAT HB)			
Job Efficiency:	0.830	0.830	(	(CAT HB)	)		
Net Correction:	0.498	0.830					
Loading Tool Cycle Time:		Number of Loadin	g Tool Pas	sses Requi		7	passes
Excavators and Front Shove	els:				Truck:	,	
Machine Cycle Time v							
Selected Value	within this Basi	c Rating: NA					
Track Loaders –	Material Descr	iption:					
Cycle Time Elements (min.)	:						
Load: NA	N	laneuver: NA			Dump: (	0.100	
Wheel and Trac	k Loaders - Un	adjusted Basic Lo	ader Cycle		ad, dump, aneuver):	0.500	minutes
Cycle Time Factors					Factor (mir	n.) Sou	irce
Material:	Mixed mater	rial 0.02			0.020	(Cat	
Stockpile:	Dumped by				0.020	(Cat	
Truck Ownership:	Common ov	vnership of trucks	and loader	rs -	-0.040		HB)
	0.04						·
Operation:		eration -0.04			-0.040	(Cat	
Dump Target:	Nominal tar				0.000	(Cat	
		Net Cycle 7			-0.040		utes
		Adjusted Lo			0.460		utes
		Net Load	l Time per	Truck:	2.860	min	utes

### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

Truck Travel (Haul & Return) Time: maintained 3.0 Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Haul Kout						
Seg #	Haul Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel
	(Ft)		(%)	(%)	(fpm)	Time (min)
1	4270.00	0.00	3.00	3.00	3005	2.213

				Haul Time:	2.213	minutes
Return Rou	ite:					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4270.00	0.00	3.00	3.00	3005	1.588

Return Time:	1.588	minutes
Total Truck Cycle Time:	9.328	minutes

Loading Tool unit						
Production	491.27	LCY/Hour	Adjusted for job eff	iciency:	407.75	LCY/Hour
Truck Unit Production						
	203.30	LCY/Hour	Adjusted for job eff	ïciency:	168.74	LCY/Hour
-						
Optimal No. of Trucks:	2	Truck(s)	Selected Number of	Trucks:	2	Truck(s)
		A dimete d h ann	1 4	227 49	LCV/	 T
			ly truck team production:	337.48	LCY/F	iour
	1	Adjusted single truck	k/loader team production:	337.48	LCY/F	Iour
	Ad	justed multiple truck	k/loader team production:	337.48	LCY/H	Iour
JOB TIME AN	D COST					

Fleet size:	1	Team(s)	Total job time:	296.32	Hours
Unit cost:	\$2.127	/LCY	Total job cost:	\$212,656	

## BULLDOZER WORK

Climax Mine	Pe	rmit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
<b>ROJECT IDENTIFI</b> Task #: M02	CATION State:	Colorado		Abbreviation:	None
Date: 3/15/2019	County:	Summit		Filename:	NA
User: JLE					
Agency or organ	nization name: DF	RMS			
HOURLY EQUIPME	NT COST				
Basic Machine: Cat	t D6T LGP				
Horsepower: 200	)				
	aight				
Attachment: NA					
	er day				
Data Source: (CI	RG)				
<u>Cost Breakdown</u> :			Utilization %		
Ownership Cost/Hour:		\$50.71	NA		
Operating Cost/Hour:		\$42.03	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
MATERIAL QUANT         Initial Volume:       100,         Swell factor:       1.00         Loose volume:       100,         Source of estimated volu       Source of estimated swe	000 0 00 LCY ume: <u>Climax</u> 's				
factor:					
HOURLY PRODUCT	<u>TION</u>				
Average push distance: Unadjusted hourly production:	150 feet 212.5 LCY	/hr	_		
Materials consistency description:	Loose	stockpile 1.2			
	0 %				
Average push gradient:					
gradient: Average site altitude:	11,100 feet				
gradient:				_	

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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	0.940	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8078

Adjusted unit production:	171.66 LCY/hr
Adjusted fleet production:	343.32 LCY/hr

Fleet size:	2 Dozer(s)
Unit cost:	\$0.782/LCY

Total job time:	<b>291.27</b> Hours
Total job cost:	\$78,213

Climax Mine, M-1977-493

# TRUCK/LOADER TEAM WORK

Task description:	1 Dalli,	Load and Haul	Topson/Biosonu	<b>S</b>			
Site: Climax Mine		Permit Act	tion: March 201	19	Permit/Job#:	M1977493	
PROJECT IDEN	<b>TIFICATION</b>						
Task #: N01	State: Color			previation: No			
Date: $3/15/2$ User: JLE	2019	9 County: Summit Filename: NA					
Agency or	organization nan	ne: DRMS					
HOURLY EQUI	PMENT COST			Shift ba	sis: <u>1 per day</u>		
		-	Equipment Descr	iption			
Т	ruck Loader Tea	m -Truck: Cat	740	1			
			Т 950Н				
Suppo	ort Equipment -L	oad Area: Cat imp Area: NA	D6T XL				
Road Ma	aintenance – Moto		T 12M				
			ter Tanker, 5,000	Gal.			
Cost Breakdown:	Truck/Loa	dan Taam	Cumport	Equimment	Maintan	nas Equinment	
Cost breakdown:	Truck/Loa	Loader	Load Area	Equipment Dump Area	11		
	TTUCK	Loader	Load Alea	Dump Area	Grader	Water Huek	
	100	100	100	NA	100	100	
o Utilization-machine:							
	\$66.13	\$26.14	\$52.66	NA	\$30.73	\$25.30	
		\$26.14 \$30.84	\$52.66 \$46.34	NA NA	\$30.73 \$30.60	\$25.30 \$36.60	
Ownership cost/hour: Operating cost/hour: %Utilization-riper:	\$66.13						
Ownership cost/hour: Operating cost/hour:	\$66.13 \$55.75	\$30.84	\$46.34	NA	\$30.60	\$36.60	
%Utilization-riper: Ripper own.	\$66.13 \$55.75 NA	\$30.84	\$46.34 NA	NA NA	\$30.60 NA	\$36.60 NA	
Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour:	\$66.13 \$55.75 NA NA	\$30.84 0 \$0.00	\$46.34 NA \$0.00	NA NA NA	\$30.60 NA \$0.00	\$36.60 NA \$0.00	
Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour:	\$66.13 \$55.75 NA NA NA	\$30.84 0 \$0.00 \$0.00	\$46.34 NA \$0.00 \$0.00	NA NA NA NA	\$30.60 NA \$0.00 \$0.00	\$36.60 NA \$0.00 \$0.00	
Ownership cost/hour: Operating cost/hour: %Utilization-riper: Ripper own. cost/hour: Ripper op. cost/hour: Operator cost/hour:	\$66.13 \$55.75 NA NA NA \$31.17	\$30.84 0 \$0.00 \$0.00 \$40.90	\$46.34 NA \$0.00 \$0.00 \$41.52	NA NA NA NA	\$30.60 NA \$0.00 \$0.00 \$28.69	\$36.60 NA \$0.00 \$0.00 \$21.23	

Initial volume: Loose volume:	34,936 <b>34,936</b>	CCY LCY	Swell factor:	1.000	
Sourc	e of estimated volume:	Climax Esti	iamte		
Source of estimated swell factor:		Cat Handbo	ook		
Ν	Aaterial Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

# **HOURLY PRODUCTION**

Truck Capacity:	•				
<u>Truck Payload (weight) Bas</u> Material weight:	ruck Payload (weight) Basis: Material weight: 1,600		ds/LCY		
Description:	Top Soil	Fouli	us/LC I		
Rated Payload:	87,000	Poun	ds		
Payload Capacity:	54.38	LCY			
Tuyloud Cupuolity.	51.50				
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 l	Based on Number of	f Loader Passes:	31.61	LCY
Loading Tool Capacity					
Rated Capacity:	4.300	LCY (heaped)		tet Size Class: <u>N</u>	A
Bucket Fill Factor:	1.050	Other - moist l		110%) 1.050	
Adjusted Capacity:	4.515	LCY	X	,	
Job Condition Corrections	<u>:</u>	S	Site Altitude (ft.):	<u>11000</u> feet	
	Truck	Loader	Source		
Altitude Adj:	0.600	1.000	(CAT HE	3)	
Job Efficiency:	0.830	0.830	(CAT HE	3)	
Net Correction:	0.498	0.830			
Loading Tool Cycle Time:	N	Number of Loading	Tool Passes Requ	iired to Fill	7 passes
Excavators and Front Shove	-	C		Truck:	7
Machine Cycle Time v Selected Value	vs. Job Condition within this Basic				
Track Loaders –					
Cycle Time Elements (min.)	:				
Load: NA	M	laneuver: NA		Dump: 0.100	)
Wheel and Trac	k Loaders - Una	adjusted Basic Load	•	oad, dump, naneuver): 0	.500 minutes
Cycle Time Factors				Factor (min.)	Source
Material:				0.020	(Cat HB)
Stockpile:				0.020	(Cat HB)
-		nership of trucks ar	nd loaders -	-0.040	(Cat HB)
Truck Ownership:	0.04				
Truck Ownership: Operation:	0.04 Constant ope			-0.040	(Cat HB)
Truck Ownership:	0.04 Constant ope	get 0.00	:	-0.040 0.000	(Cat HB)
Truck Ownership: Operation:	0.04 Constant ope	get 0.00 Net Cycle Tin	ne Adjustment:	-0.040 0.000 -0.040	(Cat HB) minutes
Truck Ownership: Operation:	0.04 Constant ope	get 0.00 Net Cycle Tin Adjusted Load	ne Adjustment: ler Cycle Time: 'ime per Truck:	-0.040 0.000	(Cat HB)

#### Truck Cycle Time:

Truck Exchange Time: 0.60

March 2019, DRMS Cost Estimate

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Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

Truck Travel (Haul & Return) Time: maintained 3.0

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Haul Route:						
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	5280.00	0.00	3.00	3.00	3005	2.549

						Haul Time:	2.549	n	ninutes	
]	Return Rou Seg #	ute: Haul D (Ft)	istance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	5280.00	)	0.00	3.00	3.00	3005	1.924		
					Total Truc	Return Time: k Cycle Time:			minutes minutes	
	oading Too Produ Unit Produ	uction	491.27	LCY/Hour		Adjusted for jo	ob efficiency:	40	7.75	LCY/Hour
Truck	Unit Prodi	<u> </u>	189.64	LCY/Hour		Adjusted for jo	ob efficiency:	15	7.40	LCY/Hour
Optima	al No. of Tr	ucks:	3	Truck(s)		Selected Numb	er of Trucks:		3	Truck(s)
	Adjusted hourly truck team production:472.19LCY/HourAdjusted single truck/loader team production:407.75LCY/HourAdjusted multiple truck/loader team production:407.75LCY/Hour					our				
:	JOB TIM	IE AND	COST							
	Fleet	size:	1	Team(s)	То	otal job time:	85.68	8	Hour	S

 Unit cost:
 \$2.135
 /LCY
 Total job cost:
 \$74,602

## BULLDOZER WORK

Task description:	1 Dam, Spread	Topsoil/Bioso	olids		
Site: Climax Mine	Per	mit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
<u>PROJECT IDENTIFI</u>	<u>CATION</u>				
Task #: N02	State:	Colorado		Abbreviation:	None
Date: $3/15/2019$	County:	Summit		Filename:	NA
User: JLE					
Agency or organ	ization name: DR	MS			
HOURLY EQUIPME	NT COST				
Basic Machine: Cat	D6T LGP				
Horsepower: 200			-		
	aight		-		
Attachment: NA			-		
Shift Basis: 1 p	er day		-		
Data Source: (CF	RG)		-		
Cost Breakdown:					
COSt DICARGOWII.		Ì	Utilization %		
Ownership Cost/Hour:		\$50.71	NA		
Operating Cost/Hour:		\$42.03	100		
Ripper own.					
Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
Total unit Cost/Hour:	\$134.26				
Total Fleet Cost/Hour:	\$154.20 \$268.52				
Total Preet Cost/Hour.	<i>\$</i> 200.32				
MATERIAL QUANT	ITIES				
Initial Volume: 34,9	36				
Swell factor: 1.00					
	36 LCY				
100se volume	50 LC 1				
Source of estimated volu	ime: Climax's	Estimate			
Source of estimated swe	ll Cat Hand	book			
factor:					
HOURLY PRODUCT	ION				
Average push distance:	150 feet				
Unadjusted hourly	212.5 LCY/	hr			
production:		111			
Materials consistency	Loose s	tockpile 1.2			
description:					
Average push	0 %				
gradient:	5 /0				
Average site altitude:	11,100 feet				
Material weight:	1,600 lbs/LCY				
Weight description:	Top Soil				
Job Condition Correction	Factor		Source		
Operator S		750	(AVG.)		
- r			()		

Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	0.940	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8078

Adjusted unit production:	171.66 LCY/hr	
Adjusted fleet	<b>343.32</b> LCY/hr	
production:	<b>575.52</b> LC 1/11	

Fleet size:	2 Dozer(s)
Unit cost:	\$0.782/LCY

Total job time:	101.76 Hours
Total job cost:	\$27,325

## BULLDOZER RIPPING WORK

]	Task description:         Roads; rip switchback access roads from McNulty OSF to LBM							
Site:	Climax Mine	Pe	Permit Action: March 2		)	Permit/Job#:	M1977493	
P	ROJECT IDENTIFI	CATION						
	Task #:         O01           Date:         3/15/2019           User:         JLE	State: County:	Colorado Summit				Ione IA	
	Agency or organi	ization name: DI	RMS					
H	OURLY EQUIPMEN	NT COST						
	Basic Machine:			_	Horsepower:	574		
	Ripper Attachment:	1-Shank Ripper	•	_	Shift Basis: Data Source:	1 per 0 (CR0		
					Data Source.	(CK	J)	
<u>Co</u>	ost Breakdown:							
	Owner	ship Cost/Hour:		\$129.20	Utilization % NA			
		ting Cost/Hour:		\$127.20	100			
	1	ship Cost/Hour:		\$18.04	NA	-		
	Ripper Opera	ting Cost/Hour:		\$10.15	100	-		
	Oper	ator Cost/Hour:		\$41.52	NA	- -		
	Total V	Unit Cost/Hour:		\$320.73				
	Total F	Fleet Cost/Hour:	\$641	.46				

	MATERIAL Q	<b>UANTITIES</b>	Selec	Selected estimating method: Area					
	Alternate Method	<u>s:</u>							
Seismic	:: NA		Bank Volume:	NA	BCY		NA		
Area		acres	Rip Depth (ft):	1.00	Volume:	83,829		BCY or CCY	
		Source of estimation	ated quantity: 18,860	LF Road at 120 fe	et wide			_	
	HOURLY PRO	<b>DDUCTION</b>						_	
	Seismic:								
		Se	eismic Velocity:	NA	feet/seco	ond			
	Area:								
			Ripping Depth:	4.49	mph				
			Ripping Width:	6.74	degrees				
		0	Ripping Length:	500.00	feet				
			ge Dozer Speed:	88.00	feet				
			Aaneuver Time:	0.25	feet				
		Productio	on per unit area:	0.783	acres/ho	our			
	Job Condition Co	rrection Factors							
	Una	adjusted Hourly U	Unit Production:	0.783	Acres/h	r			
			Site Altitude:	13,000	feet				
			Altitude Adj:	0.89	(CAT H	(B)			
			Job Efficiency:	0.83	(1 shift/	day)			
			Net Correction:	0.74	multipli	er			
			ourly Unit Production:	0.58	Acres/hr				
		Adjusted He	ourly Fleet Production:	1.16	Acres/hr				
	JOB TIME AN	D COST							
	Fleet size:	2	Grader(s)	Total job time:	4	4.94	Hours	5	
	Unit cost:	\$554.838	Per acre	Total job cost:	\$2	8,829			

## BULLDOZER RIPPING WORK

	Task description:	Roads; rip other site roads				
Site:	Climax Mine	Permit Action:	March 201	9	Permit/Job#: <u>M197</u>	7493
<u>P</u>	PROJECT IDENTIFIC	ATION				
	Task #: O02	State: Colorado		Abbro	eviation: None	
	Date: 3/15/2019	County: Summit		F	ilename: NA	
	User: JLE					
	Agency or organiz	ation name: DRMS				
H	<b>IOURLY EQUIPMEN</b>	T COST				
	Basic Machine:	Cat D8T - 8SU		Horsepower:	310	
	Ripper Attachment:	3-Shank Ripper		Shift Basis:	1 per day	
	rapper radionitient.		_	Data Source:	(CRG)	
C	Cost Breakdown:			-		
				Utilization %		
		nip Cost/Hour:	\$93.62	NA		
		ng Cost/Hour:	\$73.35	100		
	Ripper Ownersh		\$8.93	NA		
	Ripper Operati	0	\$7.78	100		
		tor Cost/Hour: nit Cost/Hour:	\$41.52 \$225.20	NA		
				-		
	Total Flo	eet Cost/Hour: \$450	).40	-		
<u>N</u>	MATERIAL QUANTIT	TIES Selec	cted estimatin	g method: Area	ı	
A	Alternate Methods:					
Seismic:	NA	Bank Volume:	NA	BCY	NA	
Area:	15.45 acro		1.00	Volume:	24,926	BCY or CCY
	Source of	f estimated quantity: DRMS	Estimate bas	ed on Climax's ro	ad lengths provided	
T		· · ·	Estimate das			
	HOURLY PRODUCTIO	<u>JN</u>				
<u>S</u>	eismic:			C l	1	
		Seismic Velocity:	NA	feet/seco	ond	
<u>A</u>	Area:					
		verage Ripping Depth:	2.56	mph		
		verage Ripping Width:	7.08	degrees		
		erage Ripping Length:	500.00	feet		
		Average Dozer Speed:	88.00	feet		
		erage Maneuver Time:	0.25	feet		
	Pr	oduction per unit area:	0.822	acres/ho	bur	
Jo	ob Condition Correction Fa	<u>ictors</u>				
	Unadjusted He	ourly Unit Production:	0.822	Acres/h	r	
		Site Altitude:	13,000	feet		
		Altitude Adj:	0.93	(CAT H	(B)	
		Job Efficiency:	0.83	(1 shift/	,	
		Net Correction:	0.77	multipli		
	Adju	sted Hourly Unit Production:	0.63	Acres/hr		
		sted Hourly Fleet Production:	1.27	Acres/hr		

Climax Mine, M-1977-493 March 2019, D			9, DRMS Cost Estimate	]	Page 130 of 180	
Fleet size:	2	Grader(s)	Total job time:	12.17	Hours	
Unit cost:	\$354.918	Per acre	Total job cost:	\$5,483		

Climax Mine, M-1977-493

# TRUCK/LOADER TEAM WORK

Task description:	Roads, I	load and H	aul Top	soil/Biosolid	S			
Site: Climax Mine		Permit Action: March 2019		19	Permit/Job#: M197			
PROJECT IDENT	<b>IFICATION</b>							
Task #: 003		State: C	Colorado		Abl	previation:	Non	e
Date: $3/18/20$	)19 C		ummit			Filename:	NA	c
User: JLE						-		
Agency or or	rganization nam	e: DRM	S					
HOURLY EQUIPM	MENT COST				Shift ba	sis: <u>1 per da</u>	<u>y</u>	
			Eaui	ipment Descr	ription			
Tru	ick Loader Tean	n -Truck:	Cat 740	-	- <b>F</b>			
		-Loader:	CAT 95					
Support	t Equipment -Lo	ad Area: mp Area:	Cat D67 NA	ΓXL				
Road Mair	-Dul		CAT 12	2M				
Roud Main		er Truck:		anker, 5,000	Gal.			
Cost Breakdown:	Truck/Load	ler Team		Support	Equipment	Mai	ntenai	nce Equipment
	Truck	Loader	Lo	oad Area	Dump Area	Motor Grader		Water Truck
%Utilization-machine:	100		100	100	NA	]	100	100
Ownership cost/hour:	\$66.13	\$26	5.14	\$52.66	NA	\$30	.73	\$25.30
Operating cost/hour:	\$55.75	\$30	0.84	\$46.34	NA	\$30	.60	\$36.60
%Utilization-riper:	NA		0	NA	NA	]	NA	NA
Ripper own. cost/hour:	NA	\$0	0.00	\$0.00	NA	\$0	.00	\$0.00
Ripper op. cost/hour:	NA	\$0	0.00	\$0.00	NA	\$0	.00	\$0.00
Operator cost/hour:	\$31.17	\$40	.90	\$41.52	NA	\$28	.69	\$21.23
Unit Subtotals:	\$153.05	\$97	.89	\$140.52	NA	\$90	.02	\$83.13
Number of Units:	3		1	1	0		1	1
Group Subtotals:	Work:	\$557.04		Support:	\$140.52	Ma	int:	\$173.15
Total work team cost/l						·		
	108,755		CCV	C	factor: 1.000			
Initial volume: Loose volume:	108,755		CCY LCY	Swell	factor: <u>1.000</u>			
Loose volume.	100,75	-						

Source of estimated volume:1 Ft orSource of estimated swell factor:Cat HaMaterial Purchase Cost:\$0.00Total Cost:\$0.00

1 Ft over 67.41 acres
Cat Handbook
\$0.00

# **HOURLY PRODUCTION**

Truck Capacity:							
Truck Payload (weight) Basi Material weight:	<u>1,600</u>		Pounds/L0	٧			
Description:	Top Soil		Founds/LA	_1			
Rated Payload:	87,000		Pounds				
Payload Capacity:	54.38		LCY				
Tayload Capacity.			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 Nu	mber of Loa	dar Dassas.	31.61	LCY	
Loading Tool Capacity	Truck Volume	Dased on Nu		del 1 asses.			
<u></u>				Buck	et Size Class:	NA	
Rated Capacity:	4.300	LCY (h	eaped)				
Bucket Fill Factor:	1.050	Other -	moist loam	(100-	110%) 1.050		
Adjusted Capacity:	4.515	LCY					
Job Condition Corrections	<u>:</u>		Site A	ltitude (ft.):	<u>11000</u> feet		
	Truck	Load	er	Source			
Altitude Adj:	0.600	1.00	0	(CAT HB	5)		
Job Efficiency:	0.830	0.83	0	(CAT HB	5)		
Net Correction:	0.498	0.83	0				
Loading Tool Cycle Time:	]	Number of Lo	oading Tool	Passes Requ	ired to Fill	7	passes
Excavators and Front Shove	els:				Truck:	1	
Machine Cycle Time v Selected Value			NA NA				
		<u> </u>					
Track Loaders – Cycle Time Elements (min.)							
Load: NA		Ianeuver:	NA		Dump: 0.	.100	
Wheel and Trees		- diverse d Deesi	a Landar Ca				ninutes
Wheel and Trac	K Loaders - Un	aujusted Basi	c Loader Cy		naneuver):	0.500	mnutes
Cycle Time Factors					Factor (min.		
Material:					0.020	(Cat HE	,
Stockpile:					0.020	(Cat HE	3)
Truck Ownership:	Common ov 0.04	wnership of tr	ucks and loa	iders -	-0.040	(Cat HE	3)
Operation:		eration -0.04			-0.040	(Cat HE	3)
Dump Target:					0.000	(Cat HE	
1 0		·	cle Time A	djustment:	-0.040	minute	<u> </u>
			d Loader Cy		0.460	minute	S
		Net	Load Time	per Truck:	2.860	minute	S

### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

Truck Travel (Haul & Return) Time: maintained 3.0 Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	5280.00	0.00	3.00	3.00	3005	2.549

Return Ro	ute:			Haul Time:	2.549	minutes
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	5280.00	0.00	3.00	3.00	3005	1.924

Return Time:	1.924	minutes
Total Truck Cycle Time:	10.000	minutes

Loading Tool unit Production Truck Unit Production	491.27	_ LCY/Hour	Adjusted for job e	fficiency:	407.75	_ LCY/Hour
_	189.64	LCY/Hour	Adjusted for job e	fficiency:	157.40	LCY/Hour
Optimal No. of Trucks:	3	Truck(s)	Selected Number of Trucks:		3	Truck(s)
		Adjusted hour	ly truck team production:	472.19	LCY/H	our
	А	djusted single truck	k/loader team production:	407.75	LCY/H	our
	Adj	usted multiple truck	c/loader team production:	407.75	LCY/H	our
JOB TIME ANI	<u>) COST</u>					

Fleet size:	1	Team(s)	Total job time:	266.72	Hours
Unit cost:	\$2.135	/LCY	Total job cost:	\$232,234	_

## BULLDOZER WORK

	P	ermit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
PROJECT IDENTIFI	CATION				
Task #: 004	State:	Colorado		Abbreviation:	None
Date: 3/18/2019	County:	Summit		Filename:	NA
User: JLE					
Agency or organ	ization name: <u>D</u>	RMS			
HOURLY EQUIPME	NT COST				
Basic Machine: Cat	D6T LGP				
Horsepower: 200					
Blade Type: Stra	aight				
Attachment: NA					
	er day				
Data Source: (CF	(G)				
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hour:		\$50.71	NA		
Operating Cost/Hour:		\$42.03	100		
Ripper own.		\$0.00	NA		
Cost/Hour:					
Ripper op. Cost/Hour: Operator Cost/Hour:		\$0.00 \$41.52	0 NA		
Total unit Cost/Hour:	\$134.26				
Total Fleet Cost/Hour:	\$402.78				
ATERIAL QUANT	<u>ITIES</u>				
Initial Volume: 108,					
Swell factor: 1.00	0				
Swell factor: 1.00		 			
Swell factor:1.00Loose volume:108,	0 755 LCY	  ver 67.41 acre	s		
Swell factor: 1.00	0 <b>755</b> LCY 1me: _1 Foot o	ver 67.41 acre dbook	S		
Swell factor:1.00Loose volume:108,Source of estimated volu	0 755 LCY 1me: <u>1</u> Foot o		s		
Swell factor: 1.00 Loose volume: 108, Source of estimated volu Source of estimated swe factor:	0 <b>755</b> LCY 1me: <u>1 Foot o</u> 11 Cat Han		s		
Swell factor: 1.00 Loose volume: 108, Source of estimated volu Source of estimated swe factor:	0 755 LCY 1me: <u>1 Foot o</u> 11 Cat Han <u></u>		S		
Swell factor: 1.00 Loose volume: 108, Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance:	0 <b>755</b> LCY ume: <u>1 Foot o</u> 11 Cat Han <u></u> <u>TION</u> <u>150 feet</u>	dbook	<u>s</u>		
Swell factor: 1.00 Loose volume: 108, Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly	0 755 LCY 1me: <u>1 Foot o</u> 11 Cat Han <u></u>	dbook	<u>s</u>		
Swell factor: 1.00 Loose volume: 108, Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance:	0 <b>755</b> LCY ume: <u>1 Foot o</u> 11 Cat Han <u></u> <u>TION</u> <u>150 feet</u>	dbook	S		
Swell factor: 1.00 Loose volume: 108, Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly production:	0 <b>755</b> LCY 1me: <u>1 Foot o</u> 11 Cat Han  <b>TON</b> <u>150 feet</u> 212.5 LCY	dbook Z/hr	S		
Swell factor: 1.00 Loose volume: 108, Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly production: Materials consistency	0 <b>755</b> LCY 1me: <u>1 Foot o</u> 11 Cat Han  <b>TON</b> <u>150 feet</u> 212.5 LCY	dbook	S		
Swell factor: 1.00 Loose volume: 108, Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly production:	0 <b>755</b> LCY 1me: <u>1 Foot o</u> 11 Cat Han  <b>TON</b> <u>150 feet</u> 212.5 LCY	dbook Z/hr	S		
Swell factor: 1.00 Loose volume: 108, Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly production: Materials consistency description:	0 <b>755</b> LCY 1me: <u>1 Foot o</u> 11 Cat Han  <b>TON</b> <u>150 feet</u> 212.5 LCY	dbook Z/hr	<u>s</u>		
Swell factor: 1.00 Loose volume: 108, Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly production: Materials consistency	0 <b>755</b> LCY Ime: <u>1 Foot o</u> 11 Cat Han <u>TON</u> <u>150 feet</u> 212.5 LCY Loose	dbook Z/hr	S		
Swell factor: 1.00 Loose volume: 108, Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly production: Materials consistency description: Average push	0 <b>755</b> LCY Ime: <u>1 Foot o</u> 11 Cat Han <u>TON</u> <u>150 feet</u> 212.5 LCY Loose	dbook Z/hr	S		
Swell factor:1.00Loose volume:108,Source of estimated volu Source of estimated swe factor:HOURLY PRODUCTAverage push distance: Unadjusted hourly production:Materials consistency description:Average push gradient: Average site altitude:	0 <b>755</b> LCY Ime: <u>1 Foot o</u> Il Cat Han <u></u>	dbook Z/hr	S		
Swell factor: 1.00 Loose volume: 108, Source of estimated volu Source of estimated swe factor: HOURLY PRODUCT Average push distance: Unadjusted hourly production: Materials consistency description: Average push gradient:	0 <b>755</b> LCY Ime: <u>1 Foot o</u> Il Cat Han <u></u>	dbook Z/hr	S		

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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	0.940	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8078

Adjusted unit production:	171.66 LCY/hr
Adjusted fleet production:	<b>514.98</b> LCY/hr

Fleet size:	3 Dozer(s)
Unit cost:	\$0.782/LCY

Total job time:	211.18 Hours
Total job cost:	\$85,061

# Task: P01

## Date: March 18, 2019

\*Climax's estimate to remove 300,000 cubic yards of sediment from the lake

General	
Clearing and Grubbing	\$10,000
Haul Roads	\$30,000
Subtotal	\$40,000
Pre-Excavation Work and Water Management	
Diversions and Dewatering	\$379,070
Subtotal	\$379,070
Sediment and Subsoil Removal	
Develop Access into Robinson Lake	\$15,000
Develop Access into Fill Area	\$10,000
Excavate and Haul Sediments to Fill Area (300K cy)	\$1,620,000
Excavate, Haul and Place Native Materials (10% over-exc.)	\$162,000
Subtotal	\$1,807,000
Finish Work	
Final Re-contouring at Robinson Lake	\$45,000
Final Re-contouring at Fill Area	\$22,500
Regrade and Re-establish Cover on Face of 2-Dam to Pre-existing Condition	\$40,000
Subtotal	\$107,500
Total	<u>\$2,333,570</u>

Climax Mine, M-1977-493

# TRUCK/LOADER TEAM WORK

Task description:	5 Dam,	Load and Haul	Subsoil to site			
Site: Climax Mine		Permit Act	ion: March 201	19	Permit/Job#:	M1977493
PROJECT IDEN	TIFICATION					
Task #: _ Q01A		State: Colora		Abb		one
Date: 3/18/	2019 0	County: Summ	nit		Filename: N	A
User: JLE						
Agency or	organization nam	ne: DRMS				
				~		
HOURLY EQUI	<u>PMENT COST</u>			Shift ba	sis: <u>1 per day</u>	
			Equipment Descr	iption		
Т	ruck Loader Tear		<u>740</u> Г 950Н			
Suppo	ort Equipment -Lo		D6T XL			
Suppo		mp Area: NA	DOT AL			
Road Ma	aintenance – Moto	or Grader: CA	Г 12М			
	-Wat	er Truck: Wat	ter Tanker, 5,000	Gal.		
Cost Breakdown:	Truck/Loa	dan Taam	Summont	Equipment	Mainta	nance Equipment
Cost Dreakuown:	Truck/Loa	Loader	Load Area	Dump Area	Motor	Water Truck
		200000	20001100	2 amp 1 a cu	Grader	
%Utilization-machine:	100	100	100	NA	100	100
Ownership cost/hour:	\$66.13	\$26.14	\$52.66	NA	\$30.73	\$25.30
Operating cost/hour:	\$55.75	\$30.84	\$46.34	NA	\$30.60	\$36.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.17	\$40.90	\$41.52	NA	\$28.69	\$21.23
Unit Subtotals:	\$153.05	\$97.89	\$140.52	NA	\$90.02	\$83.13
Number of Units:	5	1	1	0	1	1
Group Subtotals:	Work:	\$863.14	Support:	\$140.52	Maint:	\$173.15
Total work team cos	t/hour: \$1,176.8	1				

## **MATERIAL QUANTITIES**

Initial volume: 21 Loose volume:	,780 <b>21.780</b>	CCY LCY	Swell factor:	1.000		
		6" over 27 acres, revised Feb. 2019 Climax Estimate				
Source of estimated swell factor:						
Mater	rial Purchase Cost:	\$0.00				
	Total Cost:	\$0.00				

# **HOURLY PRODUCTION**

Truck Capacity:					
Truck Payload (weight) Bas		D 1			
Material weight:	2,650	Pound			
Description:	-	ock - 25% Rock, 759			
Rated Payload:	87,000	Pound	S		
Payload Capacity:	32.83	LCY			
Truck Bed (volume) Basis:	24.20				
Struck Volume:		LCY			
Heaped Volume:		LCY			
Average Volume:		LCY			
Adjusted Volume:	31.40	LCY			
Final	Truck Volume B	ased on Number of I	Loader Passes:	31.61	LCY
Loading Tool Capacity					
	4		Buck	ket Size Class: <u>N</u>	IA
Rated Capacity:	4.300	LCY (heaped)	4.00	1100() 1.070	
Bucket Fill Factor:	1.050	Other - moist lo	am (100-	-110%) 1.050	
Adjusted Capacity:	4.515	LCY			
Job Condition Correction	<u>s:</u>	Sit	te Altitude (ft.):	<u>10400</u> feet	
	Truck	Loader	Source		
Altitude Adj:	0.600	1.000	(CAT HE	3)	
Job Efficiency:	0.830	0.830	(CAT HE	3)	
Net Correction:	0.498	0.830			
Loading Tool Cycle Time	<u>.</u> N	umber of Loading T	ool Passes Requ		7 passes
Excavators and Front Shov	els:			Truck:	/
Machine Cycle Time	vs. Job Condition within this Basic				
	- Material Descri	<u> </u>			
Cycle Time Elements (min.	-				
Load: NA	Ma	neuver: NA		Dump: 0.100	)
Wheel and Tra	ck Loaders - Unad	ljusted Basic Loader	•	oad, dump, 0 naneuver):	.500 minutes
Cycle Time Factors	5		-	Factor (min.)	Source
Material		al 0.02		0.020	(Cat HB)
Stockpile				0.020	(Cat HB)
Truck Ownership		nership of trucks and	l loaders -	-0.040	(Cat HB)
Operation		ration $-0.04$		-0.040	(Cat HB)
Dump Target				0.000	(Cat HB) (Cat HB)
		Net Cycle Time	- Adjustment.	-0.040	minutes
		Adjusted Loade		0.460	minutes
			me per Truck:	2.860	minutes
		INCI LUAU III	ine per fluek.	2.000	minutes

### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

maintained 3.0

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2956.80	5.00	3.00	8.00	1123	2.754
2	10771.20	-7.00	3.00	-4.00	3005	3.695

Return Route:

Haul Time: 6.449 minutes

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	10771.20	7.00	3.00	10.00	1736	6.301
2	2956.80	-5.00	3.00	-2.00	3706	0.831

Return Time:	7.132	minutes
Total Truck Cycle Time:	19.108	minutes

Loading Tool unit						
Production	491.27	LCY/Hour	Adjusted for job ef	ficiency:	407.75	LCY/Hour
Truck Unit Production						
	99.24	LCY/Hour	Adjusted for job ef	ficiency:	82.37	_ LCY/Hour
Optimal No. of Trucks:	5	_ Truck(s)	Selected Number of	f Trucks:	5	Truck(s)
		Adjusted hour	rly truck team production:	411.86	LCY/H	Iour
	А	•	k/loader team production:	407.75	LCY/H	Iour
	Adj	usted multiple truc	k/loader team production:	407.75	LCY/H	Iour

Fleet size:	1	Team(s)	Total job time:	53.41	Hours
Unit cost:	\$2.886	/LCY	Total job cost:	\$62,859	

Climax Mine, M-1977-493

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# TRUCK/LOADER TEAM WORK

Task description:	5 Dam,	Load and haul t	opsoil to site			
Site: Climax Mine		Permit Act	ion: March 201	19	Permit/Job#:	M1977493
PROJECT IDENT	<u>TIFICATION</u>					
Task #: Q01B		State: Colora	ado	Abb	previation: N	lone
Date: 3/18/2	019 C	County: Summ	nit		Filename: N	ΙA
User: JLE						
Agency or o	rganization nam	ne: DRMS				
HOURLY EQUIP	MENT COST	-		Shift ba	sis: <u>1 per day</u>	
		]	Equipment Descr	iption		
Tru	uck Loader Tear			-		
			Г 950Н			
Suppor	t Equipment -Le	mp Area: Cat	D6T XL			
Road Mai	ntenance – Moto		Г 12М			
itoud iviu			ter 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	100	NA	100	100
Ownership cost/hour:	\$66.13	\$26.14	\$52.66	NA	\$30.73	\$\$25.30
Operating cost/hour:	\$55.75	\$30.84	\$46.34	NA	\$30.60	\$36.60
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$31.17	\$40.90	\$41.52	NA	\$28.69	\$21.23
Unit Subtotals:	\$153.05	\$97.89	\$140.52	NA	\$90.02	\$83.13
Number of Units:	5	1	1	0	1	. 1
Group Subtotals:	Work:	\$863.14	Support:	\$140.52	Maint:	\$173.15
Total work team cost/	hour: <u>\$1,176.8</u>	1	1			

## **MATERIAL QUANTITIES**

Initial volume: Loose volume:	21,780 <b>21,780</b>	CCY Swell factor: 1.000	
Source of		\$0.00	

# **HOURLY PRODUCTION**

Truck Capacity:							
Truck Payload (weight) Basi			Davida /I. C				
Material weight:	1,600		Pounds/LC	_ Y			
Description:	Top Soil		D 1				
Rated Payload:	87,000		Pounds				
Payload Capacity:	54.38		LCY				
<u>Fruck Bed (volume) Basis:</u>	24.20	LCV					
Struck Volume:	24.20	LCY					
Heaped Volume:	31.40	LCY LCY					
5	27.80						
Adjusted Volume: _	31.40	LCY					
Final	Truck Volume	Based on Nu	mber of Load	der Passes:	31.61	LCY	
loading Tool Capacity							
Rated Capacity:	4.300	LCY (h	eaned)	Bucke	et Size Class:	NA	
Bucket Fill Factor:	1.050		moist loam	(100 1	110%) 1.050		·
Adjusted Capacity:	4.515	LCY	moist ioaili	(100-)	11070/1.030		
Aujusted Capacity.	4.515						
ob Condition Corrections	<u>:</u>		Site A	ltitude (ft.):	<u>10400</u> feet		
	Truck	Load		Source			
Altitude Adj:	0.600	1.00		(CAT HB)			
Job Efficiency:	0.830	0.83	0	(CAT HB)	)		
Net Correction:	0.498	0.83	0				
Loading Tool Cycle Time:		Number of Lo	bading Tool	Passes Requi	red to Fill	7	passes
Excavators and Front Shove	<u>ls:</u>				Truck:	1	
Machine Cycle Time v Selected Value			NA NA				
		· _					
Track Loaders – Cycle Time Elements (min.):		inpuon					
Load: NA		Aaneuver:	NA		Dump: 0.1	00	
				1 57 (1			
Wheel and Trac	k Loaders - Un	adjusted Basi	c Loader Cy		ad, dump, aneuver):	0.500	minutes
Cycle Time Factors					Factor (min.)	Sourc	
Material:	Mixed mate				0.020	(Cat H	B)
Stockpile:	Dumped by	truck 0.02			0.020	(Cat H	B)
Truck Ownership:	Common ov	wnership of tr	ucks and loa	ders -	-0.040	(Cat H	B)
	0.04				-0.040	(Cat H	D)
Operation:	Constant op	eration -0.04			-0.040	(Cat H	B)
Dump Target:	Nominal tar	get 0.00			0.000	(Cat H	B)
		Net Cy	cle Time Ad	ljustment:	-0.040	minut	es
		Adjuste	d Loader Cy	cle Time:	0.460	minut	es
		Net	Load Time p	er Truck:	2.860	minute	es

### Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	1.000	Minutes
Truck Load Time:	2.860	Minutes	Adjusted for site altitude:	2.860	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.667	Minutes

Truck Travel (Haul & Return) Time: maintained 3.0 Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2956.80	5.00	3.00	8.00	1123	2.754
2	10771.20	-7.00	3.00	-4.00	3005	3.695

Return Route:

Haul Time: **6.449** minutes

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	10771.20	7.00	3.00	10.00	1736	6.301
2	2956.80	-5.00	3.00	-2.00	3706	0.831

Return Time:	7.132	minutes
Total Truck Cycle Time:	19.108	minutes

Loading Tool unit						
Production	491.27	LCY/Hour	Adjusted for job et	ficiency:	407.75	LCY/Hour
Truck Unit Production		_				
_	99.24	LCY/Hour	Adjusted for job et	ficiency:	82.37	LCY/Hour
Order IN. (Traile	F	$\mathbf{T}$ (1)	0.1. (. 1 N	С. <b>Т.</b>	F	$\mathbf{T}_{\mathbf{x}} \rightarrow \mathbf{I}_{\mathbf{x}}$
Optimal No. of Trucks:	5	Truck(s)	Selected Number o	I Trucks:		Truck(s)
		Adjusted hour	ly truck team production:	411.86	LCY/H	Hour
	А	djusted single truc	k/loader team production:	407.75	LCY/F	Hour
	Adj	usted multiple truc	k/loader team production:	407.75	LCY/H	Iour
JOB TIME ANI	) COST					

000	
	1

Fleet size:	1	Team(s)	Total job time:	53.41	Hours
Unit cost:	\$2.886	_ /LCY	Total job cost:	\$62,859	

## BULLDOZER WORK

Climax Mine	Pe	rmit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
PROJECT IDENTIFICTask #:Q02ADate:3/18/2019User:JLE	State: County:	Colorado Summit		Abbreviation: Filename:	None NA
Agency or organi		RMS			
Horsepower: 310 Blade Type: Sem Attachment: NA	D8T - 8SU ni-Universal rr day				
Cost Breakdown: Ownership Cost/Hour:		\$93.62	<u>Utilization %</u> NA		
Operating Cost/Hour: Ripper own. Cost/Hour:		\$73.35 \$0.00	100 NA		
Ripper op. Cost/Hour: Operator Cost/Hour:		\$0.00 \$41.52	0 NA		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANTI Initial Volume: 21,78					
Swell factor: 1.000					
Source of estimated volu Source of estimated swel factor:		,	Feb 2019 Climax Esti	mate	
HOURLY PRODUCT	ION				
Average push distance: Unadjusted hourly production:	250 feet 377.8 LCY	/hr			
Materials consistency description:	Looses	stockpile 1.2			
Average push gradient:	0 %				
Average site altitude:	10,400 feet				
Material weight:	2,650 lbs/LCY				

Weight description: Decomposed rock - 25% Rock, 75% Earth

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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5187

Adjusted unit production:	195.96 LCY/hr
Adjusted fleet production:	<b>391.92</b> LCY/hr

## JOB TIME AND COST

Fleet size:	2 Dozer(s)
Unit cost:	\$1.064/LCY

 Total job time:
 55.57 Hours

 Total job cost:
 \$23,173
### BULLDOZER WORK

Climax Mine	Pe	rmit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
PROJECT IDENTIFI Task #: Q02B Date: 3/18/2019 User: JLE	CATION State: County:	Colorado Summit		Abbreviation: Filename:	None NA
	nization name: DF	RMS			
HOURLY EQUIPME	<u>NT COST</u>				
Horsepower: 310 Blade Type: Ser Attachment: NA Shift Basis: 1 p	ni-Universal				
Cost Breakdown:			Utilization %		
Ownership Cost/Hour:		\$93.62	NA		
Operating Cost/Hour:		\$73.35	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$41.52	NA		
Total Fleet Cost/Hour:         MATERIAL QUANT         Initial Volume:       21,7         Swell factor:       1.00         Loose volume:       21,7         Source of estimated volu       Source of estimated swe	280 00 280 LCY ume:6" Over 2		Feb 2019 Climax Est	timate	
factor: HOURLY PRODUCT Average push distance:	250 feet				
Unadjusted hourly production: Materials consistency	377.8 LCY,	/hr stockpile 1.2			
description:					
Average push	0 %				
Average push gradient: Average site altitude:	0 %				

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:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.8593	
Adjusted unit 32 production:	24.64 LCY/hr	
Adjusted fleet	10 28 I CV/hr	

649.28 LCY/hr

production:

Fleet size:	2 Dozer(s)
Unit cost:	\$0.642/LCY

Total job time:	33.54 Hours
Total job cost:	\$13,988

## **REVEGETATION WORK**

Т	ask descrip	otion:	Revegetation	, Seeding Stand	lard Mixture		
Site:	Climax M	ſine		Permit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
<u>PI</u>		IDENTIFIC		a: Calarada		Abbreviation:	None
	Task #:	R01	Stat				None
	Date:	3/18/2019	Count	y: Summit		Filename:	NA
	User:	JLE					
	Age	ency 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 Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	Cost /Acre \$106.29
Disc harrowing, o deep (MEANS 52 91 13.25 0100)	\$100.29
Total Tilling Cost/Acre	\$106.29

## **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alpine Bluegrass	0.11	2.53	\$1.46
Arizona Fescue - Redondo	0.45	5.17	\$5.45
Mountain Brome - Bromar	1.70	2.73	\$7.57
Cinquefoil, Slender	0.04	3.90	\$17.18
Currant, Wax	0.16	0.55	\$9.72
Rocky Mountain Fescue	0.17	2.73	\$1.08
Lupine, Silver	1.74	1.02	\$124.67
Slender Wheatgrass - Native	0.68	2.48	\$1.96
Vetch, American	1.33	0.60	\$136.09
Flax, Lewis Blue	0.45	2.99	\$7.61
Spike Muhly	0.09	3.31	\$0.89

Timothy - Climax	0.25	7.17	\$0.40
Tufted Hairgrass	0.17	9.76	\$1.86
Penstemon, Rocky Mountain	0.27	4.23	\$8.16
Yarrow, Western	0.05	3.04	\$2.14
Totals Seed Mix	7.66	52.20	\$326.23

#### Application

Description		Cost /Acre
Drill Seeding (DRMS Survey Cost)		\$232.00
	<b>Total Seed Application Cost/Acre</b>	\$232.00

### **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

### Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$68.78
Power mulcher (MEANS 32 91 13.16 0350)	\$92.78
Total Mulch Application Cost/Acre	\$161.56

#### **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:	1466	Cost /Acre:	\$1,402.08
Estimated Failure Rate:	10%	Cost /Acre*:	\$558.23
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost: \$2,055,449.28			
Reseeding Job Cost: \$81,836.52			

Reseeding Job Cost:	\$81,836.52
Total Job Cost:	\$2,137,286
Job Hours:	1,466.00

## **REVEGETATION WORK**

ite: Climax N	Climax Mine		e Permit Action: March 2019		Permit/Jo	b#: <u>M1977493</u>
<b>PROJECT</b>	IDENTIFI	CATION				
Task #: Date: User:	R02 3/18/2019 JLE	State: County:	Colorado Summit		Abbreviation: Filename:	None NA
Age FERTILIZ		ization name: DF	RMS			

#### 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 Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)		<b>Cost /Acre</b> \$106.29
	Total Tilling Cost/Acre	\$106.29

## **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alpine Bluegrass	0.22	5.05	\$2.93
Arizona Fescue - Redondo	0.90	10.33	\$10.91
Mountain Brome - Bromar	3.40	5.46	\$15.13
Cinquefoil, Slender	0.08	7.80	\$34.37
Currant, Wax	0.32	1.10	\$19.43
Rocky Mountain Fescue	0.34	5.46	\$2.15
Lupine, Silver	3.48	2.04	\$249.34
Slender Wheatgrass - Native	1.36	4.96	\$3.92
Vetch, American	2.66	1.20	\$272.17
Flax, Lewis Blue	0.90	5.97	\$15.21
Spike Muhly	0.18	6.61	\$1.77

Timothy - Climax	0.50	14.35	\$0.80
Tufted Hairgrass	0.34	19.51	\$3.73
Penstemon, Rocky Mountain	0.54	8.46	\$16.31
Yarrow, Western	0.10	6.08	\$4.28
Totals Seed Mix	15.32	104.40	\$652.45

#### Application

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$919.12
	Total Seed Application Cost/Acre	\$919.12

### **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hydromulch, 1 ton/ac. rate {Materials Only}	1.00	ACRE	\$496.58	\$496.58
Total Mulch Materials Cost/Acre				\$496.58

#### Application

Description		Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)		\$629.20
	<b>Total Mulch Application Cost/Acre</b>	\$629.20

### **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	s: 263	Cost /Acre:	\$2,803.64
Estimated Failure Rate	e: 10%	Cost /Acre*:	\$1,571.57
*Selected Replanting Work Items	s: SEEDING		
Initial Job Cost: \$737,357.32			
Reseeding Job Cost: \$41,332.29			
Total Job Cost: <b>\$778,690</b>			
Job Hours: <b>263.00</b>			

## **REVEGETATION WORK**

Т	ask descrip	otion:	Revegetation, Se	eding Alpin	e		
Site:	Climax M	line	Pe	rmit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
<u> PI</u>	ROJECT	IDENTIFIC R03	CATION State:	Colorado		Abbreviation:	None
	Date:	3/18/2019	County:	Summit		Filename:	NA
	User: Age	JLE ency or organiz	zation name:	RMS			

## **FERTILIZING**

#### Materials

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

### Application

Description	Cost /Acre
	\$
Total Fertilizer Application Co	st/Acre \$0.00

## TILLING

Description Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)		<b>Cost /Acre</b> \$106.29
	Total Tilling Cost/Acre	\$106.29

## **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alpine Bluegrass	0.22	5.05	\$2.93
Alpine Fescue	0.65	19.40	\$11.60
Cinquefoil, Slender	0.03	2.92	\$12.89
Currant, Wax	0.20	0.69	\$12.15
Rocky Mountain Fescue	0.34	5.46	\$2.15
Lupine, Silver	0.35	0.21	\$25.08
Slender Wheatgrass - Native	1.37	5.00	\$3.95
Flax, Lewis Blue	0.43	2.85	\$7.27
Spike Muhly	0.09	3.31	\$0.89
Timothy, Alpine - Native	0.17	5.07	\$4.21
Tufted Hairgrass	0.17	9.76	\$1.86

Yarrow, Western	0.05	3.04	\$2.14
	4.07	62.76	
Totals Seed Mix	4.07	02.70	\$87.10

#### Application

Description		Cost /Acre
Drill Seeding (DRMS Survey Cost)		\$232.00
	Total Seed Application Cost/Acre	\$232.00

## **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
<b>Total Mulch Materials Cost/Acre</b>				\$576.00

#### Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Power mulcher (MEANS 32 91 13.16 0350)		\$92.78
	Total Mulch Application Cost/Acre	\$161.56

#### **NURSERY STOCK PLANTING**

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

No. of Acres:	227	Cost /Acre:	\$1,162.95
Estimated Failure Rate:	10%	Cost /Acre*:	\$319.10
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$263,989.65
Reseeding Job Cost:	\$7,243.57
Total Job Cost:	\$271,233
Job Hours:	227.00

## **REVEGETATION WORK**

Climax N	Aine	Per	rmit Action:	March 2019	Permit/Jo	b#: <u>M1977493</u>
OJECT	<b>IDENTIFICA</b>	<u>FION</u>				
T = =1= #	R04	State:	Colorado		Abbreviation:	None
Task #:						
Task #: Date:	3/18/2019	County:	Summit		Filename:	NA

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

## **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alpine Bluegrass	0.44	10.10	\$5.86
Alpine Fescue	1.30	38.80	\$23.19
Cinquefoil, Slender	0.06	5.85	\$25.77
Currant, Wax	0.40	1.38	\$24.29
Rocky Mountain Fescue	0.68	10.93	\$4.30
Lupine, Silver	0.70	0.41	\$50.16
Slender Wheatgrass - Native	2.74	10.00	\$7.89
Flax, Lewis Blue	0.86	5.70	\$14.53
Spike Muhly	0.18	6.61	\$1.77
Timothy, Alpine - Native	0.34	10.15	\$8.42
Tufted Hairgrass	0.34	19.51	\$3.73

Yarrow, Western	0.10	6.08	\$4.28
		125 52	
Totals Seed Mix	8.14	125.52	\$174.20

#### Application

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$919.12
Total Seed Application Cost/Acre	\$919.12

## **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hydromulch, 1 ton/ac. rate {Materials Only}	1.00	ACRE	\$496.58	\$496.58
Total Mulch Materials Cost/Acre				\$496.58

Application

Description		Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)		\$629.20
	Total Mulch Application Cost/Acre	\$629.20

## 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:	475	Cost /Acre:	\$2,325.39
Estimated Failure Rate:	10%	Cost /Acre*:	\$1,093.32
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$1,104,560.25
Reseeding Job Cost:	\$51,932.70
Total Job Cost:	\$1,156,493
Job Hours:	475.00

## **REVEGETATION WORK**

Т	ask descrip	otion:	Revegetation, Seeding	g - Wetland		
Site:	ite: Climax Mine		Permit A	Permit Action: March 2019		b#: <u>M1977493</u>
<u>P</u> I	ROJECT	IDENTIFI	<u>CATION</u>			
	Task #: Date: User:	R05 3/18/2019 JLE		orado nmit	Abbreviation: Filename:	None NA
	Age	ency or organ	nization name: DRMS			
Fl	ERTILIZ	ING				

#### 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
Aquatic Sedge	0.38	10.05	\$68.10
Black Sedge	0.44	3.92	\$194.87
Merten's Rush	0.00	1.47	\$0.59
Cinquefoil, Slender	0.24	23.40	\$103.10
Mannagrass, Northwest	0.22	1.83	\$2.33
Elephant Head	0.16	4.02	\$79.87
Reedgrass, Canadian (or Blue Joint)	0.12	12.34	\$25.05
Reedgrass, Northern - Native	0.18	18.51	\$24.93
Larkspur, Showy	0.18	2.28	\$8.48
Timothy, Alpine - Native	0.40	11.94	\$9.90
Tufted Hairgrass	0.26	14.92	\$2.85
Monkey Flower	0.24	24.44	\$35.88
Totals Seed Mix	2.82	129.12	\$555.93

Application

Description	Cost /Acre
Broadcast seeding [DMG]	\$267.22
Total Seed Applica	tion Cost/Acre \$267.22

### **MULCHING and MISCELLANEOUS**

#### Materials

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

Application

Description		
		\$
	<b>Total Mulch Application Cost/Acre</b>	\$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:	25	Cost /A	Acre:	\$823.15
Estimate	ed Failure Rate:	10%	Cost /Ac	cre*:	\$823.15
*Selected Replanti	ng Work Items:	SEEDING			
Initial Job Cost:	\$20,578.75				
Reseeding Job Cost:	\$2,057.88		-		
Total Job Cost:	\$22,637		-		
Job Hours:	25.00		_		

## SAFEGUARDING UNDERGROUND OPENINGS

	Task desc	cription:	Seal Undergr	ound Mine C	Opening				
Site:	Climax N	Aine	Pe	ermit Action:	March 2019	]	Permit/Job#:	M1977493	
	<u>PROJEC</u>	T IDENTIFIC	CATION						
	Task #:	S01	State:	Colorado		Abbreviation:	None		
	Date: User:	3/18/2019 JLE	County:	Summit		Filename:	NA		
	A	Agency or organiz	zation name:	DRMS					

### **UNIT COSTS**

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Storke Portal	12' x14'	Shaft closure - concrete cap, poured- in-place (per Cubic Feet)	336.00	CF	\$3.89	\$1,307.04
Seal No. 3 Gallery	8' x 8'	Shaft closure - concrete cap, poured- in-place (per Cubic Feet)	128.00	CF	\$3.89	\$497.92

Job Hours: \_\_\_\_\_\_ 30.00

Total Cost: \$1,804.96

Climax Mine, M-1977-493

## EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Мо	Mobilization - Year 1						
e: Climax Mine		Permit Action: March 2019				Permit/Job#: M1977493		
PROJECT IDE	NTIFICATI	<u>ON</u>						
Task #: T0	1	State: Co	olorado		Abbre	eviation: None		
Date: 3/1 User: JLI	8/2019 E	County: Su	ımmit		Fi	lename: NA		
Agency	or organization	n name: DRMS						
EQUIPMENT 1	<b>FRANSPOR</b>	T RIG COST						
	c Tractor Desc		RIC ON-HIGH		Shift ba Cost Data Sou UCK TRACTO	<u>1</u>	ta	
_					P (2ND HALF,			
Truc	k Trailer Desc	ription: G				ROP DECK EQU	IPMENT	
			ŗ	RAILER	(25T, 50T, AN	ND 100T)		
Cost Breakdown:								
Available Rig C	anacities	0-25 Tons	26-50 Tons	51	+ Tons			
	Cost/Hour:	\$16.63	\$18.37		22.33			
1	g Cost/Hour:	\$44.38	\$46.13		50.07			
	r Cost/Hour:	\$27.66	\$27.66	\$27.66				
	r Cost/Hour:	\$0.00	\$25.39		25.39			
	t Cost/Hour:	\$88.67	\$117.55		125.45			
NON ROADAB	LE EQUIPN							
Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit	
Description	Unit (TONS)	Cost/hr/ unit	Cost/hr/unit	Size	Cost/hr/ fleet	Cost/hr/ fleet	Cost/ fleet	
Cat 740	36.49	\$66.13	\$117.55	15	\$2,755.20	\$1,763.25	\$3,750.00	
CAT 950H	20.13	\$26.14	\$88.67	3	\$344.43	\$266.01	\$750.00	
Cat D6T XL	23.25	\$52.66	\$88.67	3	\$423.99	\$266.01	\$750.00	
Cat D8T - 8SU	53.08	\$102.55	\$125.45	4	\$912.00	\$501.80	\$1,000.00	
Cat D9T - 9SU	66.13	\$123.06	\$125.45	4	\$994.04	\$501.80	\$1,000.00	
Cat D7R DS Series II LGP	34.57	\$66.14	\$117.55	5	\$918.45	\$587.75	\$1,250.00	
Cat D10T - 10SU	93.31	\$145.47	\$125.45	1	\$270.92	\$125.45	\$250.00	
CAT 12M	16.01	\$30.73	\$88.67	3	\$358.20	\$266.01	\$750.00	
Trash pump - 70MT, 6 in.	0.80	\$6.59	\$88.67	1	\$95.26	\$88.67	\$250.00	
Drill/Broadcast Seeder with Tractor	25.00	\$15.54	\$88.67	4	\$416.84	\$354.68	\$1,000.00	
Power Mulcher (Bowie LD-90)	6.00	\$8.33	\$88.67	2	\$194.00	\$177.34	\$500.00	
Broderson IC-250- 3B, 61', 16.3MT	- 14.38	\$19.37	\$88.67	3	\$324.12	\$266.01	\$750.00	
CAT 963D	22.29	\$50.51	\$88.67	3	\$417.54	\$266.01	\$750.00	

Subtotals: **\$8,424.99 \$5,430.79 \$12,750.00** 

#### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/	Fleet Size	Haul Trip	Return Trip
	unit		Cost/hr/ fleet	Cost/hr/ fleet
Water Tanker, 5,000 Gal.	\$83.13	3	\$249.39	\$249.39
Fuel Tanker, 6x4, 210 HP	\$59.64	4	\$238.56	\$238.56
Light Duty Pickup, 4x4, 3/4 T.	\$77.14	5	\$385.70	\$385.70
Generic 12-18 cy, 6x4	\$97.40	6	\$584.40	\$584.40
		Subtotals:	\$1,458.05	\$1,458.05

#### **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	DENVER	
Total one-way travel distance:	88.00	miles
Average Travel Speed:	65.00	mph
Total Non-Roadable Mob/Demob Cost *	\$332,616.87 \$3,947.95	

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	1.35	1.35
Return Time (Hours):	1.35	1.35
Loading Time (Hours):	8.00	NA
Unloading Time (Hours):	8.00	NA
Subtotals:	18.71	2.71

#### JOB TIME AND COST

Total job time:	37.42	Hours

Total job cost: \$336,565

Climax Mine, M-1977-493

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Mo	bilization - Year	• 2				
te: Climax Mine Permit Action			Action: Marc	h 2019		Permit/Job#: <u>N</u>	11977493
PROJECT IDE	NTIFICATI	<u>ION</u>					
Task #: TO	2	State: Co	olorado		Abbre	eviation: None	
	5/2019		mmit			ilename: M493	
User: JLI	Ξ						
Agency	or organization	n name: DRMS					
EQUIPMENT 7	FRANSPOR	T RIG COST					
					Shift ba	sis: 1 per da	\$7
					Cost Data Sou	<b>L</b>	
Trucl	x Tractor Desc	ription: GENE	RIC ON-HIGH			OR, 6X4, DIESEI	L POWERED,
_					P (2ND HALF,		
Truc	k Trailer Desc	ription: G				ROP DECK EQU	IPMENT
				RAILER	R (25T, 50T, A)	ND 1001)	
Cost Breakdown:							
Available Rig C	anacities	0-25 Tons	26-50 Tons	51	+ Tons		
	Cost/Hour:	\$16.63	\$18.37		522.33		
	g Cost/Hour:	\$44.38	\$46.13		550.07		
	r Cost/Hour:	\$27.66	\$27.66		527.66		
	r Cost/Hour:	\$0.00	\$25.39		527.00 525.39		
1	t Cost/Hour:	\$88.67	\$117.55		125.45		
Total Olli	i Cost/Hour.	φ00.07	\$117.55	ψ	123.43		
NON ROADAB	LE EQUIP	MENT:					
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	\$66.13	\$117.55	15	\$2,755.20	\$1,763.25	\$3,750.00
CAT 950H	20.13	\$26.14	\$88.67	3	\$344.43	\$266.01	\$750.00
Cat D6T XL	23.25	\$52.66	\$88.67	3	\$423.99	\$266.01	\$750.00
Cat D8T - 8SU	53.08	\$102.55	\$125.45	4	\$912.00	\$501.80	\$1,000.00
Cat D9T - 9SU	66.13	\$123.06	\$125.45	4	\$994.04	\$501.80	\$1,000.00
Cat D7R DS	34.57	\$66.14	\$117.55	5	\$918.45	\$587.75	\$1,250.00
Series II LGP					<b>***</b>	****	<b>**</b>
Cat D10T - 10SU	93.31	\$145.47	\$125.45	1	\$270.92	\$125.45	\$250.00
CAT 12M	16.01	\$30.73	\$88.67	3	\$358.20	\$266.01	\$750.00
Trash pump -	0.80	\$6.59	\$88.67	1	\$95.26	\$88.67	\$250.00
70MT, 6 in. Drill/Broadcast	25.00	\$15.54	\$88.67	4	\$416.84	\$354.68	\$1.000.00
Seeder with	23.00	φ1 <b>3.</b> 34	φοο.υ7	+	φ+10.04	φ <i>33</i> 4.00	\$1,000.00
Tractor							
Power Mulcher	6.00	\$8.33	\$88.67	2	\$194.00	\$177.34	\$500.00
(Bowie LD-90)	0.00	<b>\$0.00</b>	+00.07	_	<i>412100</i>	+	400000
Broderson IC-250	- 14.38	\$19.37	\$88.67	3	\$324.12	\$266.01	\$750.00
3B, 61', 16.3MT							
CAT 963D	22.29	\$50.51	\$88.67	3	\$417.54	\$266.01	\$750.00

Subtotals: **\$8,424.99 \$5,430.79 \$12,750.00** 

#### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/	Fleet Size	Haul Trip	Return Trip
	unit		Cost/hr/ fleet	Cost/hr/ fleet
Water Tanker, 5,000 Gal.	\$83.13	3	\$249.39	\$249.39
Fuel Tanker, 6x4, 210 HP	\$59.64	4	\$238.56	\$238.56
Light Duty Pickup, 4x4, 3/4 T.	\$77.14	5	\$385.70	\$385.70
Generic 12-18 cy, 6x4	\$97.40	6	\$584.40	\$584.40
		Sub	otals: \$1 459 05	¢1 459 05

Subtotals: \$1,458.05 \$1,458.05

### **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: Total one-way travel distance: Average Travel Speed:	DENVER 88.00 65.00	miles mph
Total Non-Roadable Mob/Demob Cost *	\$332,616.87	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$3,947.95	

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	1.35	1.35
Return Time (Hours):	1.35	1.35
Loading Time (Hours):	8.00	NA
Unloading Time (Hours):	8.00	NA
Subtotals:	18.71	2.71

Total job time:	37.42	Hours
Total job cost:	\$336,565	

Climax Mine, M-1977-493

## EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Mo	bilization - Year	3				
: Climax Mine		Permit	Action: Marc	h 2019		Permit/Job#: <u>N</u>	11977493
PROJECT IDE	NTIFICATI	ON					
Task #: T03	}	State: Co	olorado		Abbre	eviation: None	
	5/2019		mmit			ilename: M493	
	or organization	n name: DRMS					
EOLIIDMENT 7		T DIC COST					
EQUIPMENT 1	KANSPUK	I KIG COST			01 : 6 1		
					Shift ba Cost Data Sour	<u>1</u>	<u>.</u>
Truck	Tractor Desc	ription: GENE	RIC ON-HIGH			DR, 6X4, DIESEI	L POWERED,
Trucl	c Trailer Desc	ription: G	ENERIC FOLD		P (2ND HALF,	2006) ROP DECK EQU	IPMENT
Truch		Inpuon. O			(25T, 50T, A)		
			-		(231, 301, 71	(2 1001)	
Cost Breakdown:							
Available Rig C	apacities	0-25 Tons	26-50 Tons	51	+ Tons		
Ownership	Cost/Hour:	\$16.63	\$18.37	\$	522.33		
Operating	Cost/Hour:	\$44.38	\$46.13	\$	50.07		
	Cost/Hour:	\$27.66	\$27.66	9	627.66		
	Cost/Hour:	\$0.00	\$25.39		525.39		
1	Cost/Hour:	\$88.67	\$117.55		125.45		
NON ROADAB	LE EQUIPI	MENT:					
Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit (TONS)	Cost/hr/ unit	Cost/hr/unit	Size	Cost/hr/ fleet	Cost/hr/ fleet	Cost/ fleet
Cat 740	36.49	\$66.13	\$117.55	15	\$2,755.20	\$1,763.25	\$3,750.00
CAT 950H	20.13	\$26.14	\$88.67	3	\$344.43	\$266.01	\$750.00
Cat D6T XL	23.25	\$52.66	\$88.67	3	\$423.99	\$266.01	\$750.00
Cat D8T - 8SU	53.08	\$102.55	\$125.45	4	\$912.00	\$501.80	\$1,000.00
Cat D9T - 9SU	66.13	\$123.06	\$125.45	4	\$994.04	\$501.80	\$1,000.00
Cat D7R DS Series II LGP	34.57	\$66.14	\$117.55	5	\$918.45	\$587.75	\$1,250.00
Cat D10T - 10SU	93.31	\$145.47	\$125.45	1	\$270.92	\$125.45	\$250.00
CAT 12M	16.01	\$30.73	\$88.67	3	\$358.20	\$266.01	\$750.00
Trash pump - 70MT, 6 in.	0.80	\$6.59	\$88.67	1	\$95.26	\$88.67	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$15.54	\$88.67	4	\$416.84	\$354.68	\$1,000.00
Power Mulcher (Bowie LD-90)	6.00	\$8.33	\$88.67	2	\$194.00	\$177.34	\$500.00
Broderson IC-250- 3B, 61', 16.3MT	14.38	\$19.37	\$88.67	3	\$324.12	\$266.01	\$750.00
CAT 963D	22.29	\$50.51	\$88.67	3	\$417.54	\$266.01	\$750.00

Subtotals: **\$8,424.99 \$5,430.79 \$12,750.00** 

#### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/	Fleet Size	Haul Trip	Return Trip
	unit		Cost/hr/ fleet	Cost/hr/ fleet
Water Tanker, 5,000 Gal.	\$83.13	3	\$249.39	\$249.39
Fuel Tanker, 6x4, 210 HP	\$59.64	4	\$238.56	\$238.56
Light Duty Pickup, 4x4, 3/4 T.	\$77.14	5	\$385.70	\$385.70
Generic 12-18 cy, 6x4	\$97.40	6	\$584.40	\$584.40
		Sub	otals: \$1 459 05	¢1 459 05

Subtotals: \$1,458.05 \$1,458.05

### **EQUIPMENT HAUL DISTANCE and Time**

DENVER 88.00 65.00	miles mph
\$332,616.87	
\$3,947.95	
_	88.00 65.00 \$332,616.87

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	1.35	1.35
Return Time (Hours):	1.35	1.35
Loading Time (Hours):	8.00	NA
Unloading Time (Hours):	8.00	NA
Subtotals:	18.71	2.71

Total job time:	37.42	Hours
Total job cost:	\$336,565	

Hydrologic Protection		Climax Mine	<u>M-19</u>	977-493					Dat	<u>e</u>	<u>18-Mar-19</u>	
<u>Task No. V01</u>		2016 Reclamation Cost Estimate							ft p	ume: 10,000 ac- er year atment		
					:	\$ Total Cost /	\$ Total Cost - 5	Total Cost - 8	\$	Total Cost - 10	\$ Total Cost - 15	\$ Total Cost - 20
Specific Task	Quantity	Unit		\$/Unit		Year	Years	Years		Years	Years	Years
Labor (water/maintenance/electrician) (8 FTE per Year)	8	FTE	\$	60,000.00	\$	480,000.00	\$ 2,400,000.00	\$ 3,840,000.00	\$	4,800,000.00	\$ 7,200,000.00	\$ 9,600,000.00
Site Supervisor (1 FTE per Year)	1	FTE	\$	80,000.00	\$	80,000.00	\$ 400,000.00	\$ 640,000.00	\$	800,000.00	\$ 1,200,000.00	\$ 1,600,000.00
Lime (11,300 Ton per Year)	11300	Ton	\$	150.00	\$	1,695,000.00	\$ 8,475,000.00	\$ 13,560,000.00	\$	16,950,000.00	\$ 25,425,000.00	\$ 33,900,000.00
Sulfuric Acid (4 Load per Year)	4	Loads	\$	7,500.00	\$	30,000.00	\$ 150,000.00	\$ 240,000.00	\$	300,000.00	\$ 450,000.00	\$ 600,000.00
Other Reagents (polymer) (40k Lbs per Year)	40000	lbs	\$	2.25	\$	90,000.00	\$ 450,000.00	\$ 720,000.00	\$	900,000.00	\$ 1,350,000.00	\$ 1,800,000.00
Power	1	Year	\$	675,000.00	\$	675,000.00	\$ 3,375,000.00	\$ 5,400,000.00	\$	6,750,000.00	\$ 10,125,000.00	\$ 13,500,000.00
Natural Gas	1	Year	\$	315,000.00	\$	315,000.00	\$ 1,575,000.00	\$ 2,520,000.00	\$	3,150,000.00	\$ 4,725,000.00	\$ 6,300,000.00
Vehicle	1	Unit	\$	15,000.00	\$	15,000.00	\$ 75,000.00	\$ 120,000.00	\$	150,000.00	\$ 225,000.00	\$ 300,000.00
Loader (1 Loader)	1	Unit	\$	60,000.00	\$	60,000.00	\$ 300,000.00	\$ 480,000.00	\$	600,000.00	\$ 900,000.00	\$ 1,200,000.00
Outside Services	1	Year	\$	50,000.00	\$	50,000.00	\$ 250,000.00	\$ 400,000.00	\$	500,000.00	\$ 750,000.00	\$ 1,000,000.00
Pump Maintenance	1	Year	\$	200,000.00	\$	200,000.00	\$ 1,000,000.00	\$ 1,600,000.00	\$	2,000,000.00	\$ 3,000,000.00	\$ 4,000,000.00
Road Maintenance	1	Year	\$	150,000.00	\$	150,000.00	\$ 750,000.00	\$ 1,200,000.00	\$	1,500,000.00	\$ 2,250,000.00	\$ 3,000,000.00
Building Maintenance	1	Year	\$	150,000.00	\$	150,000.00	\$ 750,000.00	\$ 1,200,000.00	\$	1,500,000.00	\$ 2,250,000.00	\$ 3,000,000.00
Electrical Maintenance	1	Year	\$	100,000.00	\$	100,000.00	\$ 500,000.00	\$ 800,000.00	\$	1,000,000.00	\$ 1,500,000.00	\$ 2,000,000.00
			TOTA	AL	\$	4,090,000.00	\$ 20,450,000.00	\$ 32,720,000.00	\$	40,900,000.00	\$ 61,350,000.00	\$ 81,800,000.00
									Pr	oposed Amount		
Reduced Amount to Treat	Cost Per Year	*8 Year Plan	10 Y	'ears	15	Years	20 Years	8 Year Full		10 year Full		
8,100 Acre-Feet (5 Years)	\$ 3,312,900.00	\$ 16,564,500.00	\$ 1	6,564,500.00	\$	16,564,500.00	\$ 16,564,500.00	\$ 26,503,200.00	\$	33,129,000.00		
3570 Acre Feet (3 Years)	\$ 1,460,130.00	\$ 4,380,390.00	\$	7,300,650.00	\$	14,601,300.00	\$ 21,901,950.00					
Total		\$ 20,944,890.00	\$ 2	3,865,150.00	\$	31,165,800.00	\$ 38,466,450.00					

## SITE MAINTENANCE

	Task desc	cription:	Maintenance	and Environ	mental Control	l		
Site:	Climax N	Aine	Pe	rmit Action:	March 2019	P	ermit/Job#:	M1977493
	<b>PROJEC</b>	T IDENTIFIC	ATION					
	Task #:	W01	State:	Colorado		Abbreviation:	None	
	Date: User:	3/18/2019 JLE	County:	Summit		Filename:	Na	
		Agency or organiz	ation name:	DRMS				

### UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Dust Control	80.00	USER PROVIDED ITEM	1.00	1	\$37,637.00	\$37,637.00
Interceptor Drainage Control	80.00	USER PROVIDED ITEM	1.00	1	\$418,268.00	\$418,268.00
Rill and Gully Maintenance	80.00	USER PROVIDED ITEM	1.00	1	\$33,585.00	\$33,585.00
Road Maintenance	80.00	USER PROVIDED ITEM	1.00	1	\$31,687.00	\$31,687.00

Job Hours: 0.00

Total Cost: \$521,177.00

## **DEMOLITION WORK**

	Task desc	cription:	<b>Demolition 1</b>	- Former Mi	ne				_
Site:	Climax N	Aine	Pe	rmit Action:	March 2019	H	Permit/Job#:	M1977493	
	<u>PROJEC</u>	T IDENTIFIC	ATION						
	Task #:	X01	State:	Colorado		Abbreviation:	None		
	Date: User:	3/21/2019 JLE	County:	Summit		Filename:	NA		
	A	Agency or organiz	zation name:	DRMS					

#### <u>UNIT COSTS</u> <u>95.90 %</u>

## Location adjustment:

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Demolish 6 CRUSHER SWCH HSE	80x38x15 (-) 30%	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	35,077.00	CF	\$0.19	\$6,594.48
Demolish MILL LIME SILO	60x16x16	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	15,360.00	CF	\$0.19	\$2,887.68
Demolish 6 CRUSHER SECONDARY	160x90x87	Plant (3S) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,252,800.00	CF	\$0.27	\$334,497.60
Demolish 6 CRUSHER PRIMARY	60x110x72	Plant (3S) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	475,200.00	CF	\$0.27	\$126,878.40
Demolish 6 CRUSHER OFFICE	30x72x16	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	34,560.00	CF	\$0.19	\$6,497.28
Demolish COVERED STORAGE	60x25x14	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	21,000.00	CF	\$0.19	\$3,948.00
Demolish TENMILE TUNNEL SHOP	34x26x16 (-) 30%	Bldg. (SN) demo./on-site disposal in	10,880.00	CF	\$0.19	\$2,045.44

		existing pit or cut - Max.				
Demolish TENMILE TUNL OFC	50x20x12	10,000 ft. haul Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	12,000.00	CF	\$0.19	\$2,256.00
Demolish TENMILE TUNL CMP HSE	18x18x12 (-) 30%	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,991.00	CF	\$0.19	\$562.31
Demolish TENMILE TUNL DMP HSE	40x12x10 (-) 30%	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,692.00	CF	\$0.19	\$694.10
Demolish POND SHOP	60x40x20 (-) 30%	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	36,923.00	CF	\$0.21	\$7,679.98
Demolish POND SHOP DOCKS	200x20x3	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	12,000.00	CF	\$0.19	\$2,256.00
Demolish TENMILE COHEREX STA	22x40x10	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	8,800.00	CF	\$0.19	\$1,654.40
Demolish 6 CRUSHER SWCH HSE- Floor	80x38	Floor, concrete, demolition only, average reinforcing - 10 in. thick	3,040.00	SF	\$1.33	\$4,043.20
Demolish 6 CRUSHER SWCH HSE- Footing	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	236.00	LF	\$5.03	\$1,187.08
Demolish 6 CRUSHER OFFICE - Floor	30x72x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	2,160.00	SF	\$1.06	\$2,289.60
Demolish 6 CRUSHER OFFICE - Footings	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	204.00	LF	\$5.03	\$1,026.12

		Т	1			
Demolish 6 CRUSHER PRIMARY - Floor	60x110x12"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	6,600.00	SF	\$1.59	\$10,494.00
Demolish 6 CRUSHER SECONDARY - Floor	160x90X12"	In. thick Floor, concrete, demolition only, average reinforcing - 12 in. thick	14,400.00	SF	\$1.59	\$22,896.00
Demolish 6 CRUSHER SECONDARY - Footing	2Tx3W	Footing, concrete, average reinforcing - 2.0 ft. x 3 ft.	500.00	LF	\$10.06	\$5,030.00
Demolish COVERED STORAGE - Floor	60x25x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	1,500.00	SF	\$1.06	\$1,590.00
Demolish COVERED STORAGE - Footing	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	170.00	LF	\$5.03	\$855.10
Demolish MILL LIME SILO - Floor	60x16x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	960.00	SF	\$1.06	\$1,017.60
Demolish MILL LIME SILO - Footing	1Tx2W	Footing, concrete, average reinforcing - 1.0 ft. x 2 ft.	152.00	LF	\$3.35	\$509.20
Demolish POND SHOP - Floor	60x40x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	2,400.00	SF	\$1.06	\$2,544.00
Demolish POND SHOP - Footing	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	200.00	LF	\$5.03	\$1,006.00
Demolish TENMILE COHEREX STA - Floor	22x40x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	880.00	SF	\$1.06	\$932.80
Demolish TENMILE COHEREX STA - Footing	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	124.00	LF	\$5.03	\$623.72
Demolish TENMILE TUNL CMP HSE - Floor	18x16X8"	Floor, concrete, demolition only, average	324.00	SF	\$1.06	\$343.44

		reinforcing - 8				
Demolish TENMILE TUNL CMP HSE - Footing	1.5Tx2W	in. thick Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	72.00	LF	\$5.03	\$362.16
Demolish TENMILE TUNL DMP HSE - Floor	40x12x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	480.00	SF	\$1.06	\$508.80
Demolish TENMILE TUNL DMP HSE - Footing	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	104.00	LF	\$5.03	\$523.12
Demolish TENMILE TUNNEL SHOP - Floor	34x26x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	884.00	SF	\$1.06	\$937.04
Demolish TENMILE TUNNEL SHOP - Footing	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	120.00	LF	\$5.03	\$603.60
Demolish DOMESTIC WATER PLANT- SUPERSTRUCTURE	45X81X24 (- ) 30%	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	67,480.00	CF	\$0.21	\$14,035.84
Demolish DOMESTIC WATER PLANT- SUPERSTRUCTURE - Floor	45x81x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	3,645.00	SF	\$1.06	\$3,863.70
Demolish DOMESTIC WATER PLANT- SUPERSTRUCTURE - Footing	1Tx2W	Footing, concrete, average reinforcing - 1.0 ft. x 2 ft.	252.00	LF	\$3.35	\$844.20
Demolish 3 MILL - SUPERSTRUCTURE	725X180X80 (-) 30%	Plant (3S) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	10,440,000.00	CF	\$0.27	\$2,787,480.00
Demolish 3 MILL - Floor	725x18x12"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	130,500.00	SF	\$1.59	\$207,495.00
Demolish 3 MILL - Footing	2Tx3W	Footing, concrete, average reinforcing - 2.0 ft. x 3 ft.	1,810.00	LF	\$10.06	\$18,208.60

		1	1		_	
Demolish GATEHOUSE - Superstructure	64x40x10	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	25,600.00	CF	\$0.19	\$4,812.80
Demolish GATEHOUSE - Floor	64x40x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	2,560.00	SF	\$1.06	\$2,713.60
Demolish GATEHOUSE - Footing	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	206.00	LF	\$5.03	\$1,036.18
Demolish PHILLIPSON MAPP GAS HOUSE - Superstructure	20x45x8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	7,200.00	CF	\$0.19	\$1,353.60
Demolish PHILLIPSON MAPP GASS HSE - Floor	20x45x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	900.00	SF	\$1.06	\$954.00
Demolish PHILLIPSON MAPP GASS HOUSE - Footing	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	130.00	LF	\$5.03	\$653.90
Demolish OPEN PIT FUEL TANKS	100x25x8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	20,000.00	CF	\$0.19	\$3,760.00
Demolish OPEN PIT FUEL TANKS - Floor	100x25x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	2,500.00	SF	\$1.06	\$2,650.00
Demolish OPEN PIT FUEL TANKS - Footing	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	250.00	LF	\$5.03	\$1,257.50
Demolish DOMESTIC WATER TANK	44x44x40	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	77,440.00	CF	\$0.21	\$16,107.52
Demolish DOMESTIC WATER TANK - Floor	44x44x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	1,936.00	SF	\$1.06	\$2,052.16

Demolish DOMESTIC WATER TANK - Footing	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	176.00	LF	\$5.03	\$885.28
Demolish PHILLIPSON WAREHOUSE	76x94x42 (-) 30%	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	230,807.00	CF	\$0.21	\$48,007.86
Demolish PHILLIPSON WAREHOUSE - Floor	76x94x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	7,144.00	SF	\$1.06	\$7,572.64
Demolish PHILLIPSON WAREHOUSE - Footing	1.5Tx3W	Footing, concrete, average reinforcing - 1.5 ft. x 3 ft.	340.00	LF	\$7.55	\$2,567.00
Demolish OPEN PIT PHASE 1 SHOP	146x56x52 (- ) 30%	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	327,040.00	CF	\$0.21	\$68,024.32
Demolish OPEN PIT PHASE 1 SHOP - Floor	146x56x12"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	8,176.00	SF	\$1.59	\$12,999.84
Demolish OPEN PIT PHASE 1 SHOP - Footing	2Tx3W	Footing, concrete, average reinforcing - 2.0 ft. x 3 ft.	404.00	LF	\$10.06	\$4,064.24
Demolish OPEN PIT OFFICES	40x80x25 (-) 30%	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	61,538.00	CF	\$0.21	\$12,799.90
Demolish OPEN PIT OFFICES - Floor	40x80x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	3,200.00	SF	\$1.06	\$3,392.00
Demolish OPEN PIT OFFICES - Footing	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	240.00	LF	\$5.03	\$1,207.20
Demolish OPEN PIT PHASE 2 SHOP	400x80x70 (- ) 30%	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,895,385.00	CF	\$0.21	\$394,240.08

Demolish OPEN PIT PHASE 2 SHOP - Floor	400x80x12"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	35,200.00	SF	\$1.59	\$55,968.00
Demolish OPEN PIT PHASE 2 SHOP - Footing	2Tx3W	Footing, concrete, average reinforcing - 2.0 ft. x 3 ft.	1,040.00	LF	\$10.06	\$10,462.40
Demolish OPEN PIT WASH BAY	90x105x60 (- ) 30%	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	436,154.00	CF	\$0.21	\$90,720.03
Demolish OPEN PIT WASH BAY - Floor	90x105x12"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	9,450.00	SF	\$1.59	\$15,025.50
Demolish OPEN PIT WASH BAY - Footing	2Tx3w	Footing, concrete, average reinforcing - 2.0 ft. x 3 ft.	390.00	LF	\$10.06	\$3,923.40

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	0.00	(unadjusted):	\$4,358,912.54	location):	\$4,180,197.13

# DEMOLITION WORK

: <u>Climax N</u>	Aine	Pe	rmit Action:	March 2019	]	Permit/Job#:	M1977493
<b>PROJEC</b>	T IDENTIFI	CATION					
Task #:	X02	State:	Colorado		Abbreviation:	None	
Date: User:	3/21/2019 JLE	County:	Summit		Filename:	Na	

# <u>UNIT COSTS</u>

#### <u>95.90 %</u>

## Location adjustment:

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
CHALK MTN PUMP HOUSE- SUPERSTRUCTURE	25x25x20	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	9,615.30	CF	\$0.21	\$1,999.98
CHALK MTN PUMP HOUSE- SUPERSTRUCTURE - Floor	25x25x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	625.00	SF	\$1.06	\$662.50
CHALK MTN PUMP HOUSE- SUPERSTRUCTURE - Footing	1.5Tx2W	Footing, concrete, average reinforcing - 1.5 ft. x 2 ft.	100.00	LF	\$5.03	\$503.00
OPEN PIT SHOP SUB- SUPERSTRUCTURE	25x25x15	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	9,375.00	CF	\$0.19	\$1,762.50
OPEN PIT SHOP SUB- SUPERSTRUCTURE - Floor	25x25x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	625.00	SF	\$1.06	\$662.50
CHALK MOUNTAIN / ROBINSON LAKE SUB	20x8x8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,280.00	CF	\$0.19	\$240.64
CAVR SUBSTATION- SUPERSTRUCTURE	28x20x15	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	8,400.00	CF	\$0.19	\$1,579.20

CAVR SUBSTATION- SUPERSTRUCTURE - Floor	10x20x12"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	200.00	SF	\$1.59	\$318.00
OLD HOSPITAL SUB- SUPERSTRUCTURE	60x30x8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	14,400.00	CF	\$0.19	\$2,707.20
OLD HOSPITAL SUB- SUPERSTRUCTURE - Floor	44x8x12"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	325.00	SF	\$1.59	\$516.75
DOMESTIC WATER SUB- WOOD STRUCTURE	20x20x8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,200.00	CF	\$0.19	\$601.60
DOMESTIC WATER SUB- WOOD STRUCTURE - Floor	8x4x12"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	32.00	SF	\$1.59	\$50.88
IRECO PLANT SUB- SUPERSTRUCTURE	20x20x8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,200.00	CF	\$0.19	\$601.60
IRECO PLANT SUB- SUPERSTRUCTURE - Floor	12x12x6"	Floor, concrete, demolition only, average reinforcing - 6 in. thick	144.00	SF	\$0.80	\$115.20
TAILING DELIVERY HOUSE SUBSTATION	8x8x8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	512.00	CF	\$0.19	\$96.26
TAILING DELIVERY HOUSE SUBSTATION - Containment Cell	8x8x18"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	64.00	SF	\$1.59	\$101.76
OPEN PIT UTIL LINES- 21 POLES	21 Poles	Utility Poles, Wood 35' - 45' high (each pole)	21.00	EA	\$258.00	\$5,418.00
OPEN PIT UTIL LINES- 21 POLES - Line	4977 LF	Disposal of utility pole cross arms and hardware surplus material	4,977.00	LF	\$0.01	\$49.77
TAILING UTILITY LINE- 25 POLES	25 Poles	Utility Poles, Wood 35' - 45' high (each pole)	25.00	EA	\$258.00	\$6,450.00

Climax Mine, M-1977-493

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TAILING UTILITY LINE- 25 POLES - Line	5925 LF	Disposal of utility pole cross arms and hardware surplus material	5,295.00	LF	\$0.01	\$52.95
				Tot	al Cost	

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	0.00	(unadjusted):	\$24,490.29	location):	\$23,486.19

## **DEMOLITION WORK**

imax Mine	Permit Action:	March 2019	P	ermit/Job#:	M1977493
OJECT IDENTIFI	CATION				
Task X03 #:	State: Colorado		Abbreviation:	None	
Date: 3/21/2019 User: JLE	County: Summit		Filename:	NA	
C ]	DJECT IDENTIFIC Task X03 #: Date: 3/21/2019	DJECT IDENTIFICATION         Task       X03       State:       Colorado         #:	DJECT IDENTIFICATION         Cask       X03       State:       Colorado         #:	DJECT IDENTIFICATION         Cask       X03       State:       Colorado       Abbreviation:         #:	DJECT IDENTIFICATION         Cask       X03       State:       Colorado       Abbreviation:       None         #:

#### <u>UNIT COSTS</u> <u>95.90 %</u>

# Location adjustment:

Dimensions Menu Sele		Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Explosives Shed (Powder Storage)	13x8x8 (-) 30%	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	640.00	CF	\$0.19	\$120.32
Train Shack at Ten Mile North Portal	50x20x14	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	10,769.23	CF	\$0.19	\$2,024.62
Mayflower Coherex Station	Coherex		1,064.00	CF	\$0.19	\$200.03
Mayflower Coherex Station - Floor	36x30x2	Floor, concrete, demolition only, average reinforcing - 12 in. thick	2,160.00	SF	\$1.59	\$3,434.40
Mayflower Coherex Station - Floor 2	Coherex Station -		1,500.00	SF	\$1.59	\$2,385.00
Supply Canal393 CFNo. 2Pipeline -Pipe groutingImage: Second Sec		USER PROVIDED ITEM	393.00	CF	\$34.00	\$13,362.00
Mill Return Pipeline - Pipe grouting	56 CF	USER PROVIDED ITEM	56.00	CF	\$34.00	\$1,904.00
Supply Canal No. 2 Pipeline - 3 Dam,	80x2x8	Slab on grade, concrete, demolition only	47.41	CY	\$156.50	\$7,419.67

Concrete		- Rod				
Footing		reinforcing				
Mayflower Flood Bypass Tunnel	10x10x35((x2)	USER PROVIDED ITEM	2.00	Each	\$265,000.00	\$530,000.00
New Mill	1105x805x320	Plant (3S)	11,497,500.00	CF	\$0.27	\$3,069,832.50
Bldg	(-) 30%	demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul				
3 Dam Pumpstation	63x30x30 (-)	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	43,616.00	CF	\$0.21	\$9,072.13
Coarse Ore Dome	Unknown	USER PROVIDED ITEM	1.00	Each	\$175,000.00	\$175,000.00
New Scale House	80x16x16	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	15,754.00	CF	\$0.21	\$3,276.83
5-Dam Powerline	2500 LF	Disposal of utility pole and hardware surplus material	2,500.00	LF	\$0.02	\$50.00
5 Dam Utility Poles	13	Utility Poles, Wood 35' - 45' high (each pole)	13.00	EA	\$258.00	\$3,354.00
Raw Water 64x64x66 Tank		Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	270,336.00	CF	\$0.21	\$56,229.89
Raw Water 64x64x12" Tank - Floor		Floor, concrete, demolition only, average reinforcing - 12 in. thick	8,192.00	SF	\$1.59	\$13,025.28
Mill Water Tank	64x64x66	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	270,336.00	CF	\$0.21	\$56,229.89
Mill Water Tank - Floor	66x64x12"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	8,192.00	SF	\$1.59	\$13,025.28
Mayflower Cyclone Station	22x26x18	Bldg. (MN) demo./on-site disposal in existing pit or	10,296.00	CF	\$0.21	\$2,141.57

		cut - Max. 10,000 ft. haul				
Mayflower Cyclone Station - Floor	22x26x12"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	1,144.00	SF	\$1.59	\$1,818.96

				<b>Total Cost</b>	
		Subtotal		(adjusted for	
Job Hours:	0.00	(unadjusted):	\$3,963,906.37	location):	\$3,801,386.21

## **DEMOLITION WORK**

	Task dese	cription:	Disposal of R	eagents				
Site:	ite: Climax Mine		Permit Action:		March 2019	Permit/Job#:		M1977493
	PROJEC	<u>CT IDENTIFIC</u>	CATION					
	Task #:	Y01	State:	Colorado		Abbreviation:	None	
	Date: User:	3/21/2019 JLE	County:	Summit		Filename:	NA	
	A	Agency or organiz	zation name:	DRMS				

#### UNIT COSTS

### Location adjustment: 95.90 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
POLYCHLORINATED	156	USER	156.00	EA	\$601.25	\$93,795.00
BIPHENYL	Capacitors	PROVIDED ITEM				
RADIATION	25	USER	25.00	EA	\$1,000.00	\$25,000.00
SOURCES		PROVIDED ITEM				
Reagents (Various see Climax Estimate)	19816	Hazardous waste removal - Bulk liquids, large quantities (over 2,500 gal.)	19,816.00	GAL	\$2.38	\$47,162.08
pH Adjustment	56	USER PROVIDED ITEM	56.00	Ton	\$1.50	\$84.00
Flocculent	2063	USER PROVIDED ITEM	2,063.00	lbs	\$1.50	\$3,094.50

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	0.00	(unadjusted):	\$169,135.58	location):	\$162,201.02